























① GEN INFO 	② INSP ADJ 	
③ CHAS 	④ POWR TR 	
⑤ COOL 	⑥ ENG 	
⑦ CARB 	⑧ ELEC 	
⑨ APPX 	⑩ 	
⑪ 	⑫ 	
⑬ 	⑭ 	
⑮ 	⑯ 	
⑰ 	⑱ 	⑲ 
⑳ 	㉑ 	㉒ 

ILLUSTRATED SYMBOLS

(Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

- ① General information
- ② Periodic inspection and adjustment
- ③ Chassis
- ④ Power train
- ⑤ Cooling system
- ⑥ Engine
- ⑦ Carburetion
- ⑧ Electrical
- ⑨ Appendices










Illustrated symbols ⑩ to ⑮ are used to identify the specifications which appear.

- ⑩ Filling fluid
- ⑪ Lubricant
- ⑫ Tightening
- ⑬ Wear limit, clearance
- ⑭ Engine speed
- ⑮ Ω , V, A

Illustrated symbols ⑯ to ㉒ in the exploded diagram indicate grade of lubricant and location of lubrication point.

- ⑯ Apply locking agent (LOCTITE®)
- ⑰ Apply engine oil
- ⑱ Apply gear oil
- ⑲ Apply molybdenum disulfide oil
- ⑳ Apply wheel bearing grease
- ㉑ Apply low-temperature lithium-soap base grease
- ㉒ Apply molybdenum disulfide grease

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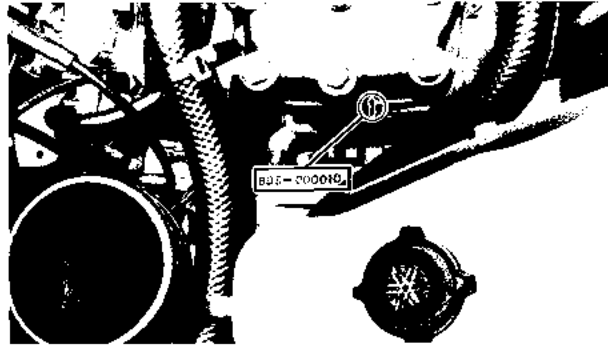
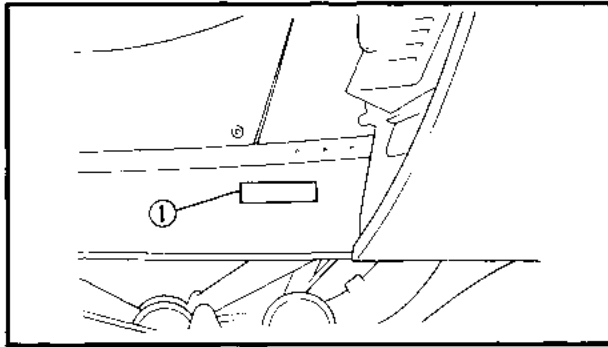
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GENERAL INFORMATION

MACHINE IDENTIFICATION

FRAME SERIAL NUMBER

The frame serial number ① is located on the right-hand side of the frame (just below the front of the seat).

ENGINE SERIAL NUMBER

The engine serial number ① is located on the right-hand side of the crankcase.

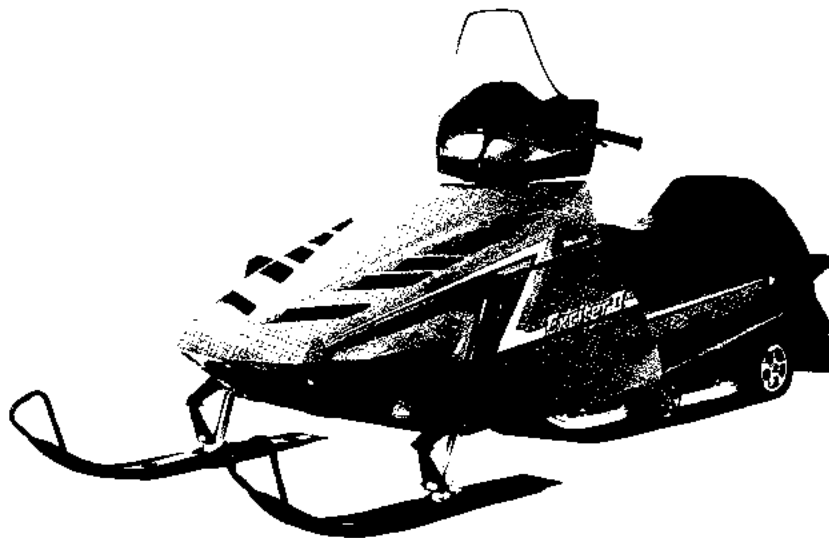
NOTE: _____

The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

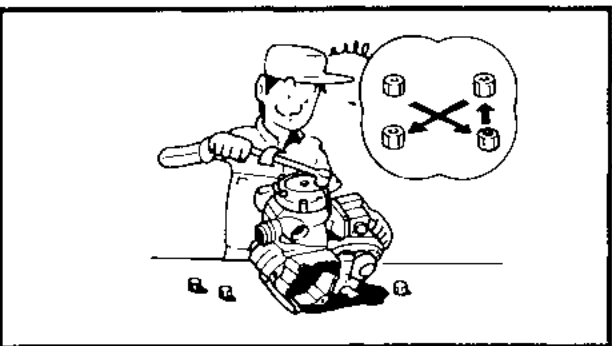
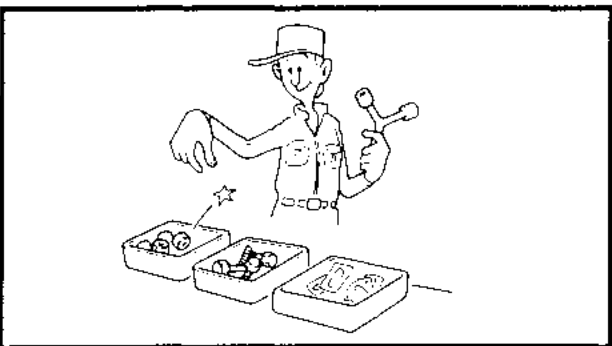
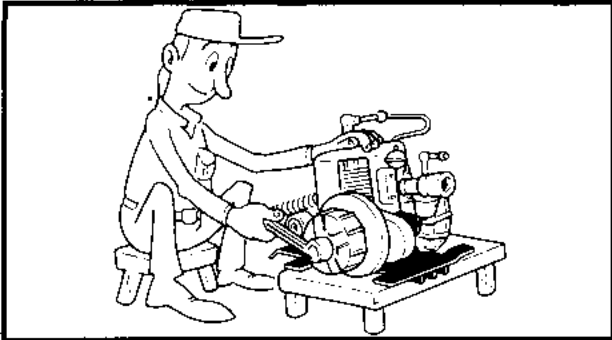
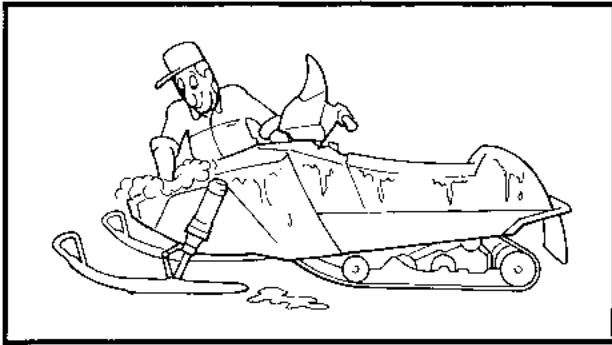
Starting Serial Number	
EX570R	88R-000101
EX570ER	88S-000101

NOTE: _____

Designs and specifications are subject to change without notice.



1



IMPORTANT INFORMATION
PREPARATION FOR REMOVAL AND DIS-ASSEMBLY

1. Remove all dirt, mud, dust, and foreign material before removal and disassembly. While cleaning, take care to protect the electrical parts, such as relays, switches, motor, resistors, controllers, etc., from high pressure water splashes.

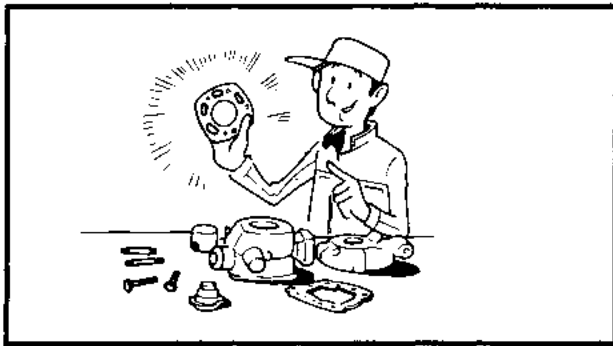
2. Use proper tools and cleaning equipment. Refer to "SPECIAL TOOLS" .

3. When disassembling the machine, keep mated parts together. This includes gears, cylinders, pistons, and other parts that have been "mated" through normal wear. Mated parts must be reused as an assembly or replaced.

4. During disassembly of the machine , clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are reinstalled correctly.

5. Keep away from fire.

6. Be sure to keep to tightening torque specifications. When tightening bolts, nuts, and screws, start with larger-diameter pieces, and proceed from an inner-positioned one to an outer-positioned one in a criss-cross pattern.



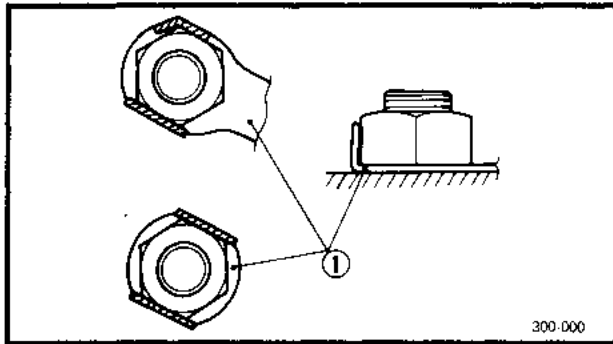
ALL REPLACEMENT PARTS

1. We recommend to use Yamaha genuine parts for all replacements. Use oil and/or grease recommended by Yamaha for assembly and adjustment.

1

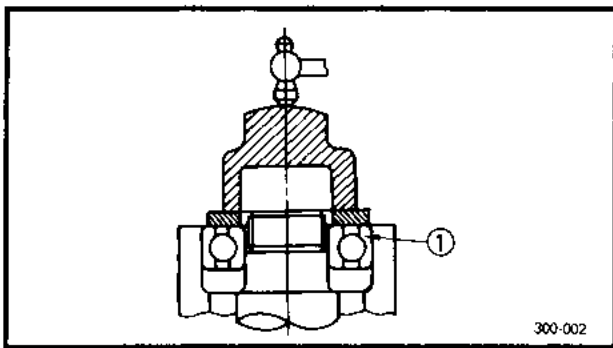
GASKETS, OIL SEALS, AND O-RINGS

1. All gaskets, seals, and O-rings should be replaced when an engine is overhauled. All gasket surfaces, oil seal lips, and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.



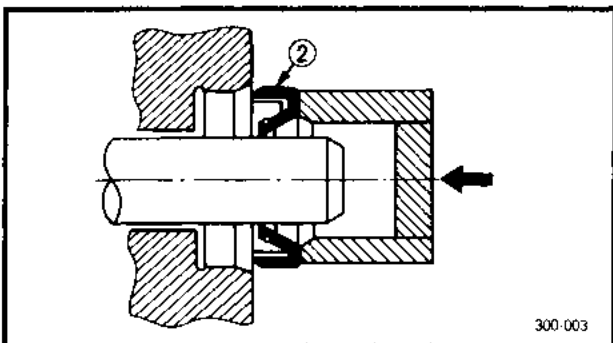
LOCK WASHERS/PLATES AND COTTER PINS

1. All lock washers/plates ① and cotter pins must be replaced when they are removed. Lock tab(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened.

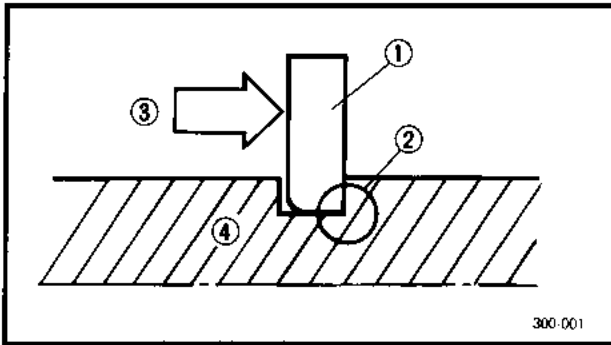


BEARINGS AND OIL SEALS

1. Install the bearing(s) ① and oil seal(s) ② with their manufacturer's marks or numbers facing outward. (In other words, the stamped letters must be on the side exposed to view.) When installing oil seal(s), apply a light coating of light-weight lithium base grease to the seal lip(s). Oil the bearings liberally when installing.



CAUTION:
Do not use compressed air to spin the bearings dry. This causes damage to the surface of the bearings.

**CIRCLIPS**

1. All circlips should be inspected carefully before reassembly. Always replace piston pin clips after one use. Replace misshapen circlips. When installing a circlip ①, make sure that the sharp edged corner ② is positioned opposite to the thrust ③ it receives. See the sectional view.

④ Shaft

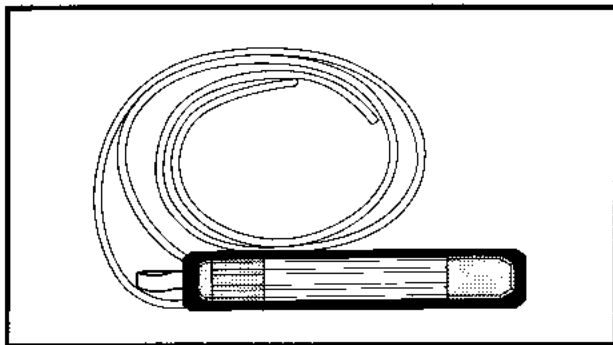
SPECIAL TOOLS

The some special tools are necessary for complete accurate tune-up and assembly. Using the correct special tool will help prevent damage that can be caused by the use of improper tools or improvised techniques.

NOTE:

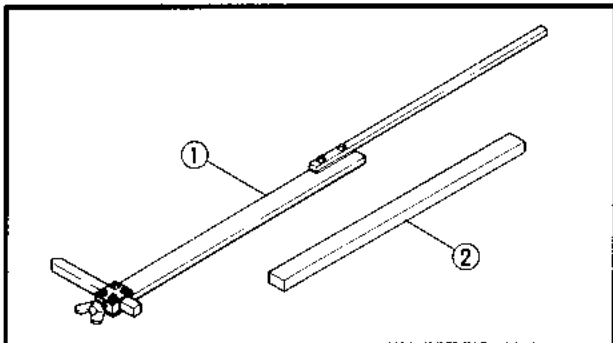
Be sure to use the correct part number when ordering the tool, since the part number differs according to the area as shown below. The first part number is for Europe, and the last part is for the U.S.A. and Canada.

e.g. 90890 - ***** , YU. *****

**FOR TUNE UP**

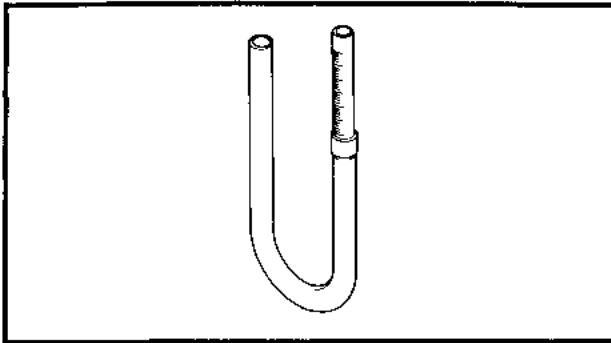
1. Vacuum Gauge
P/N —, YS-33275

This gauge is used for carburetor synchronization.



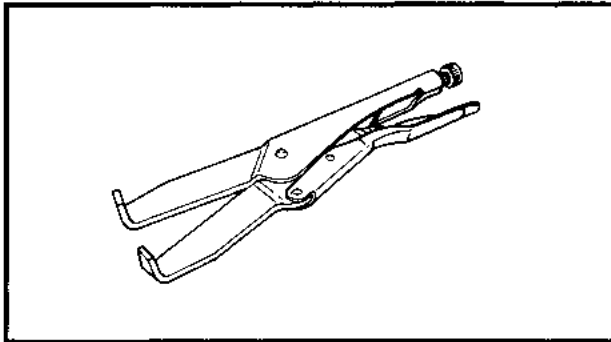
2. Sheave Gauge
P/N —, YS-91047 ①
P/N —, YS-33274 ②

This gauge is used to measure sheave distance and for offset adjustment.



3. Fuel Level Gauge
P/N 90890-01312, YM-01312-A

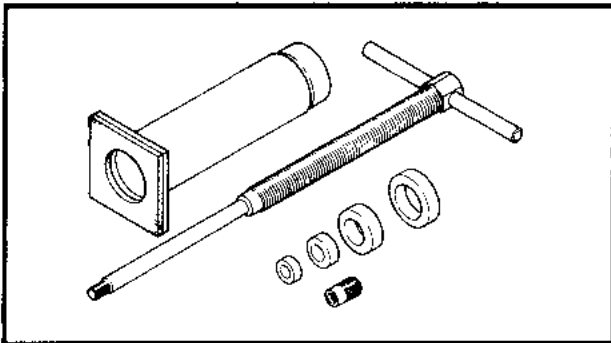
This gauge is used to measure the fuel level in the float chamber.



FOR ENGINE SERVICE

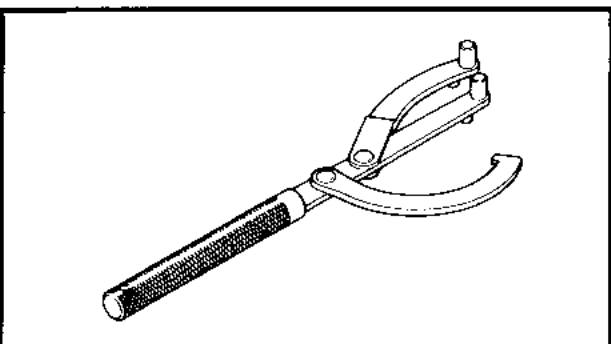
1. Universal Clutch Holder
P/N 90890-04086, YM-91042

This tool is used to hold the starter pulley.



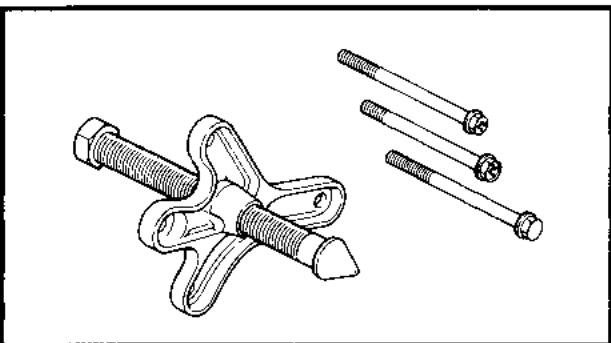
2. Piston Pin Puller
P/N 90890-01304, YU-01304

This tool is used to remove the piston pin.



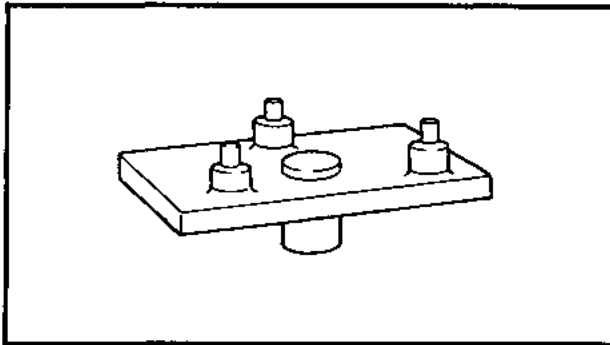
3. Universal Rotor Holder
P/N 90890-01235, YU-01235

This tool is used to hold the CDI magneto.



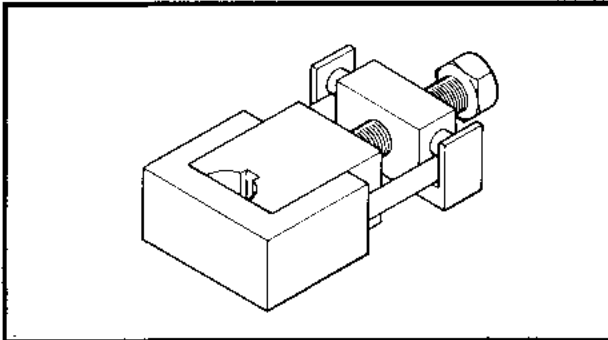
4. Rotor Puller
P/N 90890-01362, YU-33270

This tool is used to remove the magneto rotor.



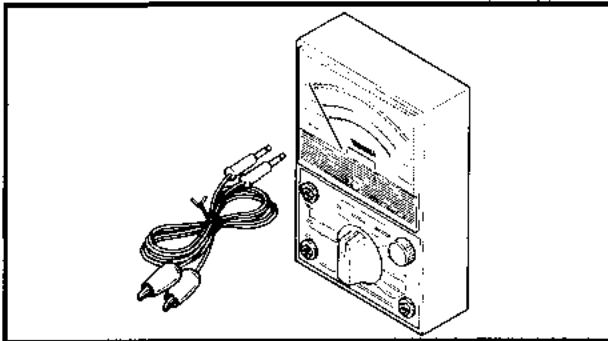
5. Clutch Separator Adapter
P/N — , YS-34480

This tool is used when disassembling and assembling the primary sheave.



6. Track Clip Installer
P/N — , YS-91045

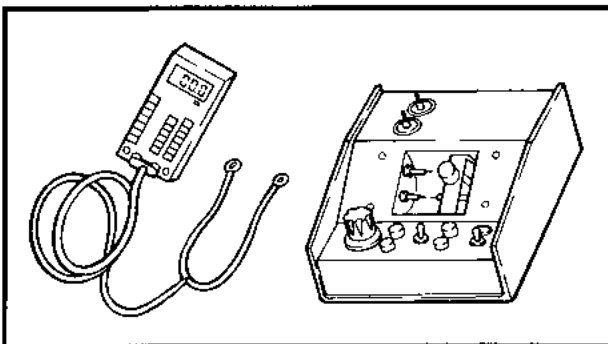
This tool is used for installing the track clip.



FOR ELECTRICAL SERVICE

1. Pocket Tester
P/N 90890-03112, YU-03112

This instrument is necessary for checking the electrical components.



2. Electro Tester
P/N 90890-03021, YU-33260

This instrument is invaluable for checking the electrical system.

1

PERIODIC INSPECTIONS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable machine operation and a longer service life. In addition, the need for costly overhaul work will be greatly reduced. This information applies to machines already in service as well as new machines that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE TABLE

Item	Remarks	Pre-operation check (Daily)	Initial 1 Month or 800 km (500 Mi) (40 hr)	Every
				Seasonally or 3,200 km (2,000 Mi) (160 hr)
Spark Plug:	Check condition adjust the gap and clean. Replace if necessary.			●
Engine Oil:	Check oil level.	●		●
	* Air bleed the oil pump if necessary.			●
*Oil Filter:	Check condition. Replace if necessary.			●
Fuel:	Check fuel level.	●		
*Fuel Filter:	Check condition. Replace if necessary.			●
*Fuel Line:	Check fuel hose for cracks or damage. Replace if necessary.			●
*Oil Line:	Check oil hose for cracks or damage. Replace if necessary.			●
Engine Coolant	Check coolant level.	●		
	* Air bleed the cooling system if necessary.			●
Carburetor	Check throttle lever operation.	●		
	* Adjust the jets.,	Whenever operating condition (elevation/temperature) is changed.		
*Water Pump Belt	Check wear and damage. Replace if necessary.			●
	Adjust water pump belt if necessary.			●
Manual Starter:	Check operation and rope damage. * Replace if necessary.	●		
Engine Stop Switch:	Check operation * Repair if necessary.	●		
Throttle Override System:	Check operation. * Repair if necessary.	●		
Throttle Lever:	Check operation. * Repair if necessary.	●		
*Exhaust System:	Check for leakage. Retighten or replace gasket if necessary.			●
*Decarbonization:	More frequently if necessary.			●
Drive V-belt Guard:	Check cracks, bends or damage. * Replace if necessary.	●		
Drive V-belt:	Check wear and damage. Replace if necessary.	●		
Drive Track/Idler Wheels:	Check deflection, wear and damage. * Adjust/replace if necessary.		** ●	●
Slide Runner	Check wear and damage.	●		
	* Replace if necessary.			●

*: It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

** : Perform after 1 Month or 50 km (31 Mi) (2hr) and every 1 Month or 400 km (250 Mi)(20 hr).

PERIODIC MAINTENANCE TABLE



2

Item	Remarks	Pre-operation check (Daily)	Initial 1 Month or 800 km (500 Mi) (40 hr)	Every
				Seasonally or 3,200 km (2,000 Mi) (160 hr)
Brake/ Parking Brake	Check operation.	●		
	* Adjust free play and/or replace pads if necessary.			●
*Drive Chain Oil	Check oil level.		●	
	Replace.			●
*Drive Chain:	Check deflection. Adjust if necessary.		**●	
Ski/ Ski Runner	Check wear and damage.	●		
	* Replace if necessary.			●
Steering System	Check operation.	●		
	* Adjust toe-out if necessary.			●
Lights:	Check operation. Replace bulbs if necessary.	●		
Battery	Check fluid level.	●		
	* Check specific gravity and breather pipe operation. Charge/Correct if necessary.			●
	Check engagement and shift speed.			●
*Primary Sheave	Adjust if necessary.		Whenever operating elevation is changed.	
	Check wear and damage. Replace if necessary.			●
	Lubricate with specified grease.			●
*Secondary Sheave	Lubricate with specified grease.			●
	Adjust if necessary.		Whenever operating elevation is changed.	
*Steering Column Bearing:	Lubricate with specified grease.			●
*Ski and Front Suspension:	Lubricate with specified grease.			●
*Suspension Component:	Lubricate with specified grease.			●
* Brake Cable End and Lever End/ Throttle Cable End	Lubricate with specified grease.			●
	Check cable damage. Replace if necessary.			●
Shroud Latches:	Make sure the shroud latches are hooked.	●		
Fittings/Fasteners:	Check tightness. * Repair if necessary.	●		
Service Tools/Spare Parts:	Check proper placement.	●		

*: It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

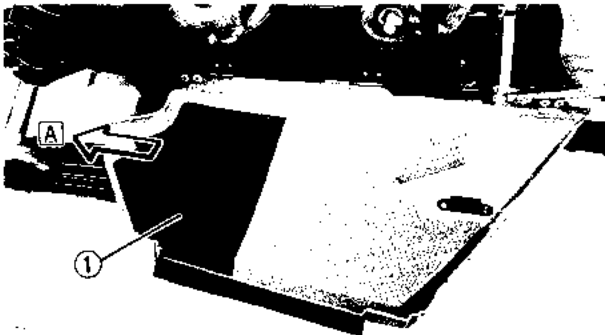
** : Perform after 1 Month or 50 km (31 Mi) (2hr) and every 1 Month or 400 km (250 Mi)(20 hr).



SIDE COWLING

Removal

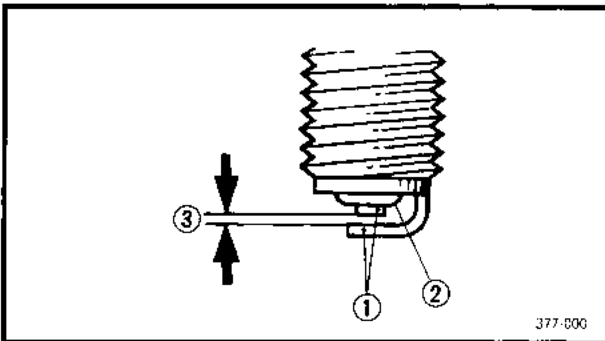
1. Open the shroud.
2. Remove:
 - Screws ①



3. Remove:
 - Side cowlings (left and right) ①
 - Pull it forward [A] .

Installation

Reverse the "Removal" procedure.

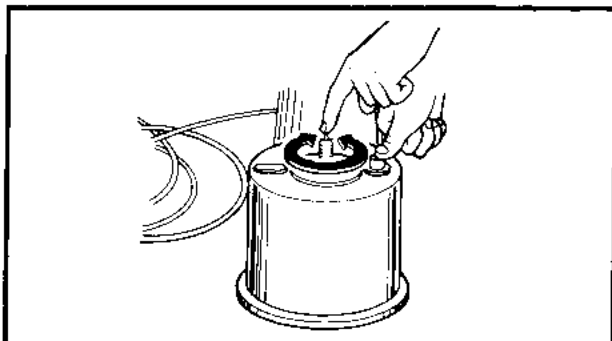


**ENGINE
SPARK PLUG**

1. Remove:
 - Spark plug
2. Inspect:
 - Electrode ①
Wear/Damage→Replace.
 - Insulator color ②
3. Measure:
 - Plug gap ③
Out of specification→Regap.
Use Wire Thickness Gauge.

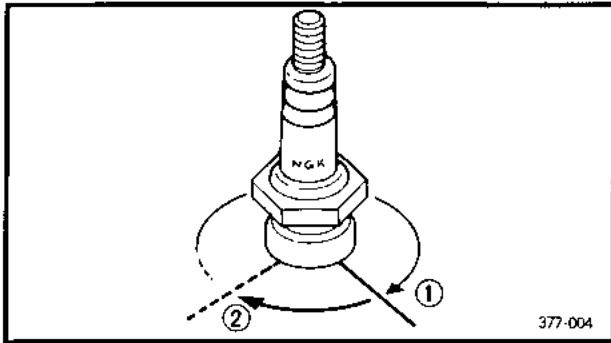
Spark Plug Gap:
0.7 ~0.8 mm (0.028 ~ 0.032 in)

Clean the plug with a spark plug cleaner if necessary.



Standard spark plug:
BR9ES (NGK)

Before installing a spark plug, clean the gasket surface and plug surface.



4. Tighten:
- Spark plug



Spark Plug:
28 Nm (2.8 m·kg, 20 ft·lb)

NOTE:

Finger-tighten ① the spark plug before torquing ② to specification.

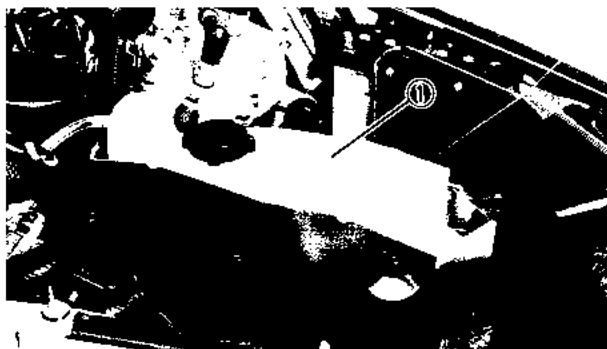
OIL PUMP**Air Bleeding****CAUTION:**

The oil pump and delivery line must be bled on the following occasions:

- When any portion of the oil system has been disconnected.
- When the machine has been turned on its side.
- Whenever the oil tank has been run empty.
- During predelivery.

1. Remove:

- Drive V-belt guard (See page 2-16)
- Carburetors (See page 7-2)



2. Fill:

- Oil tank ①



Oil tank capacity
3.0 L (2.6 Imp qt, 3.2 US qt)
Recommended oil:
Yamalube 2-cycle oil

3. Place a rag under the oil pump assembly to catch oil.

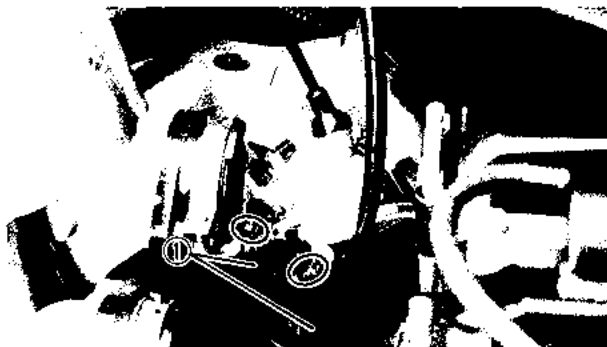
4. Disconnect:

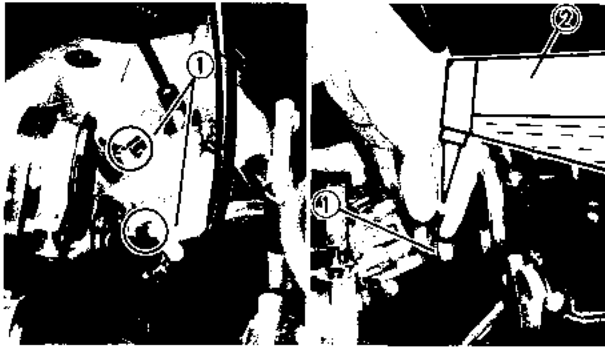
- Oil hoses ①

5. Keep the oil running out until air bubbles disappear from the oil hoses ①

6. Connect:

- Oil hoses ①





7. Disconnect:

- Oil delivery hoses ①

8. Feed the "Yamalube 2-cycle oil" into the oil delivery hoses ① using a oil can ② for complete air bleeding.

9. Connect:

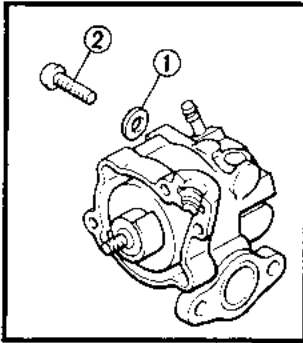
- Oil delivery hoses ①



10. Remove:

- Bleed screw ①
- Gasket (bleed screw)

11. Keep the oil running out until air bubbles disappear from bleed hole.

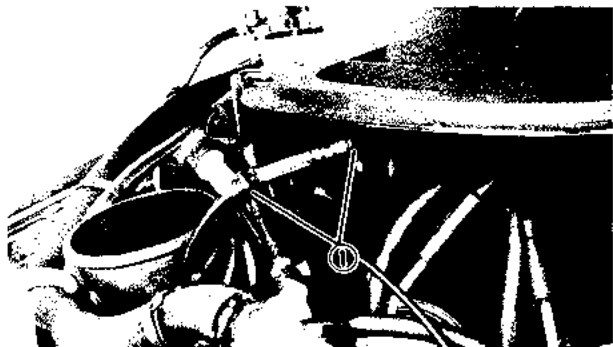


12. Inspect:

- Gasket (bleed screw) ①
Wear/Damage → Replace.

13. Install:

- Gasket (bleed screw)
- Bleed screw ②



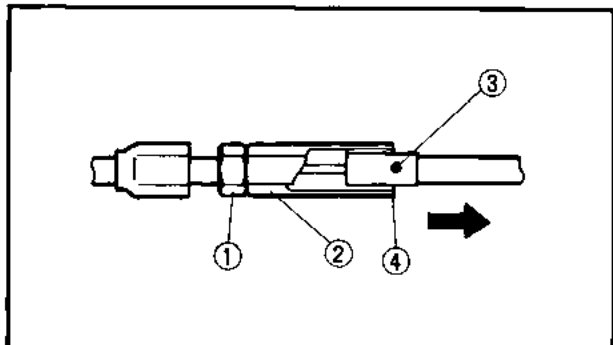
Cable Adjustment

NOTE:

Before adjusting the oil pump cable, the throttle cable free play should be adjusted.

1. Pull back the adjuster cover ① .

2. Adjust:
Oil pump cable



Adjusting steps:

- Loosen the locknut ① .
- Hold the throttle lever at full-throttle position.
- Turn the adjuster ② in or out until the adjustment mark ③ is aligned with the end ④ of the adjuster.
- Tighten the locknut and install the rubber caps from both sides.

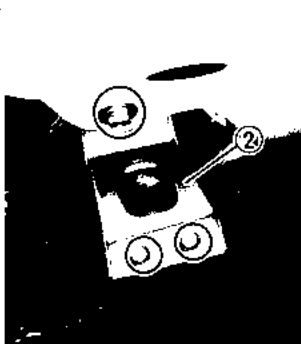
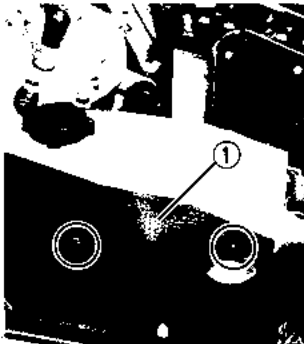


2



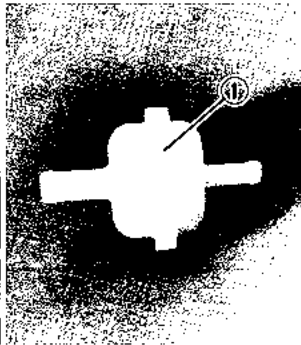
ENGINE OIL LINE INSPECTION

1. Inspect:
 - Oil hoses ①
 - Oil delivery hoses ②Crack/Damage→Replace.



OIL FILTER INSPECTION

1. Remove:
 - Cover (oil tank-right) ①
 - Oil tank stay ②



2. Disconnect:
 - Oil hoses

NOTE: _____
Plug the oil hoses so that the oil will not run out of the oil tank and oil pump.

3. Inspect:
 - Oil filter ①Contamination→Replace.

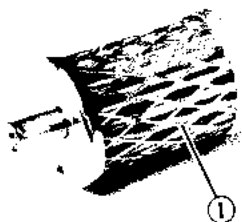
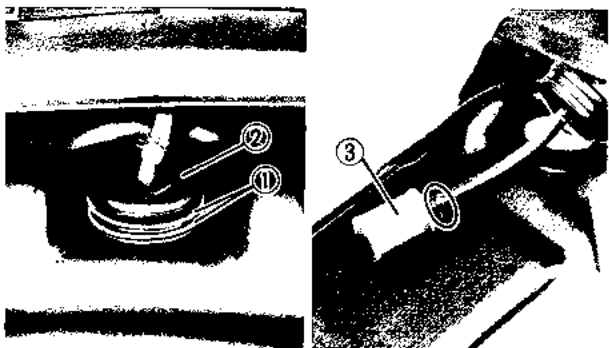
**Recommended replacement interval:
Every season**

4. Reverse the removal procedure.



FUEL LINE INSPECTION

1. Inspect:
 - Fuel hoses
 - Fuel delivery hosesCrack/Damage→Replace.



FUEL FILTER INSPECTION

1. Remove:
 - Seat ①

2. Disconnect:
 - Tail/brake light coupler ①

3. Remove:
 - Spring bands ①
 - Cap ②
 - Fuel filter ③

4. Inspect:
 - Fuel filter ①
Contamination → Replace.

**Recommended replacement interval:
Every season**

5. Reverse the removal procedure.

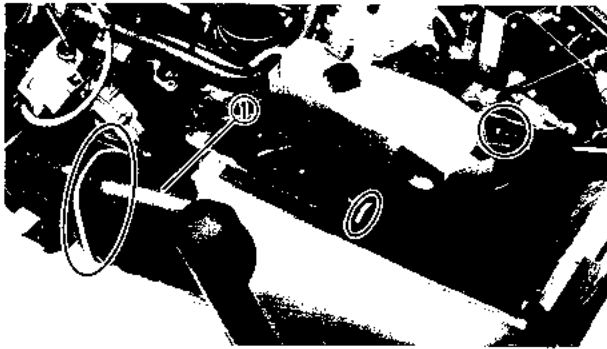
COOLING SYSTEM

Coolant Replacement

NOTE: _____

The coolant should be changed at least seasonally.

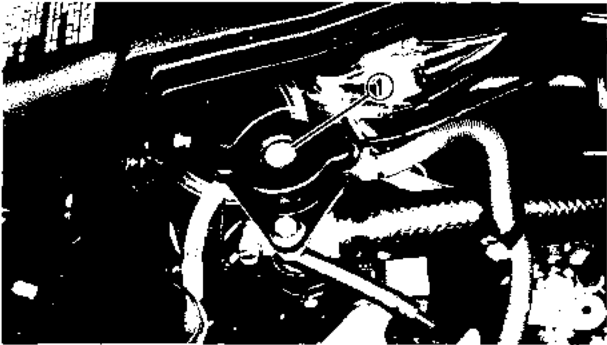
1. Place the machine on a level surface.
2. Remove:
 - Side cowling (right) (See page 2-3)
 - Seat



3. Remove:
- Muffler ①



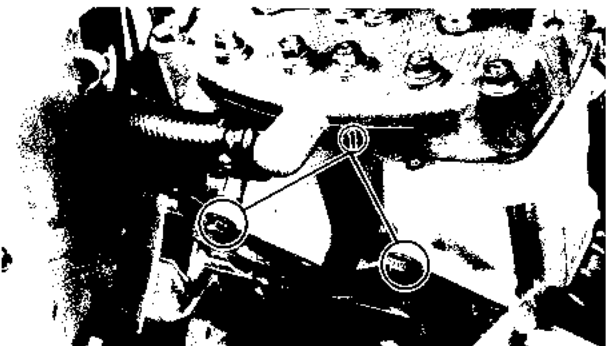
4. Remove:
- Exhaust pipe ①



5. Remove:
- Coolant filler cap ①

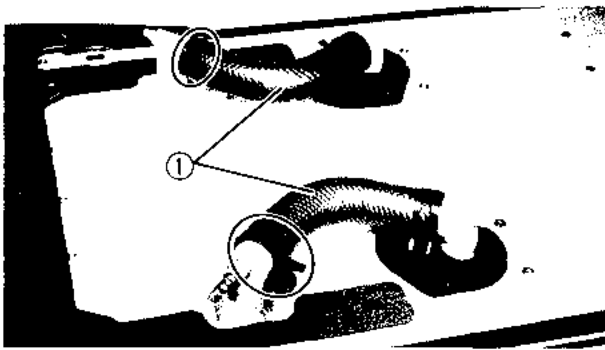
⚠ WARNING

Do not remove the coolant filler cap ① especially when the engine is hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. When the engine has cooled, place thick rag like a towel over the radiator cap, slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.



6. Place an open container under the drain bolts ①.
7. Remove:
- Drain bolts
8. Drain the coolant.

NOTE: _____
Lift up the tail of the machine to drain the coolant.



9. Disconnect:
 - Coolant hoses (rear) ①
10. Drain the coolant.

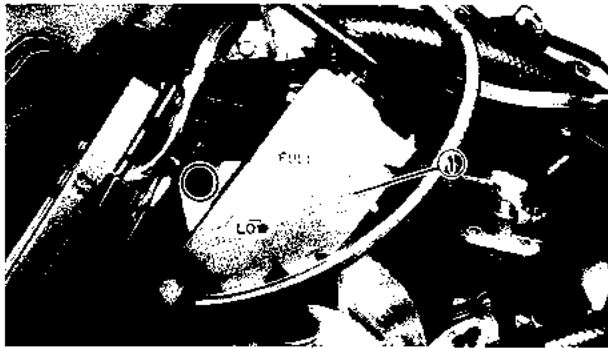
NOTE: _____
Lift up the front of the machine to drain the coolant completely.

⚠ WARNING _____


Coolant is poisonous. It is harmful or fatal if swallowed.

- If coolant is swallowed, induce vomiting immediately. Get immediate medical attention.
- If coolant splashes in eyes, flush with water. Call a physician.
- If coolant splashes on skin or clothes, wash immediately with soap and water.


2



11. Remove the reservoir tank ① and drain the coolant.
12. Install:
 - Reservoir tank
13. Inspect:
 - Gaskets (drain bolt)
Damage → Replace.
14. Install:
 - Gaskets
 - Drain bolts
 - Exhaust pipe/gaskets
 - Muffler

	Drain bolt:
	32 Nm (3.2 m·kg, 23 ft·lb)
	Bolts (exhaust pipe):
	23 Nm (2.3 m·kg, 17 ft·lb)

15. Fill:
 - Cooling system

	Recommended Coolant:
	High quality ethylene glycol anti-freeze containing corrosion inhibitor
	Coolant and water mixed ratio:
	60% : 40%
	Total amount:
	4.2 L (3.7 Imp qt, 4.4 US qt)
	Reservoir tank capacity:
0.25 L (0.22 Imp qt, 0.26 US qt)	

CAUTION:

- Hard water or salt water is harmful to the engine parts; use boiled or distilled water if you can't get soft water.
- Do not use water containing impurities or oil.

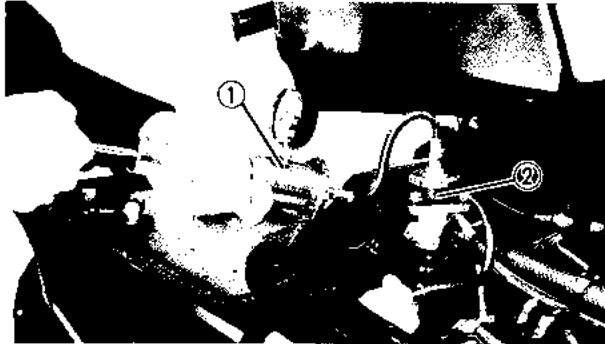
16. Bleed air from the cooling system.

17. Inspect:

- Cooling system
Decrease of pressure (leaks) → Repair as required. (See page 6-4)

Inspection steps:

- Attach the Cooling System Tester ① (90890-01325, YU-22460-01) to the coolant filler ②.
- Apply 100 kPa (1.0 kg/cm², 14 psi).
- Measure the pressure with gauge.



Air Bleeding

1. Bleed air from the cooling system.

Air bleeding steps:

- Pour the coolant into the filler neck to the specified level ①.
- Loosen the bleed bolt ② of heat exchanger.
- Keep the coolant running out until air bubbles disappear.
- Tighten the bleed bolt.

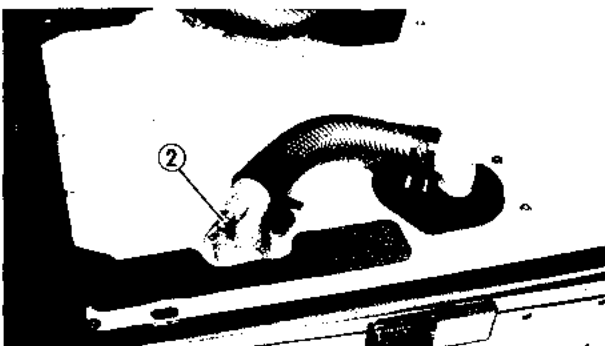
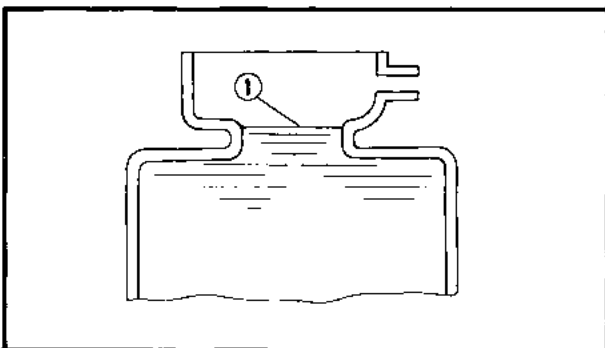


Bleed bolt:
6 Nm (0.6 m·kg, 4.3 ft·lb)

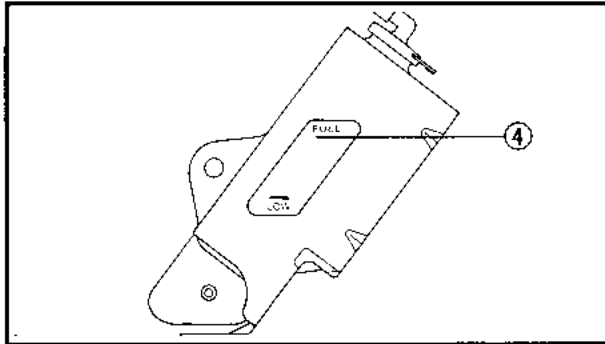
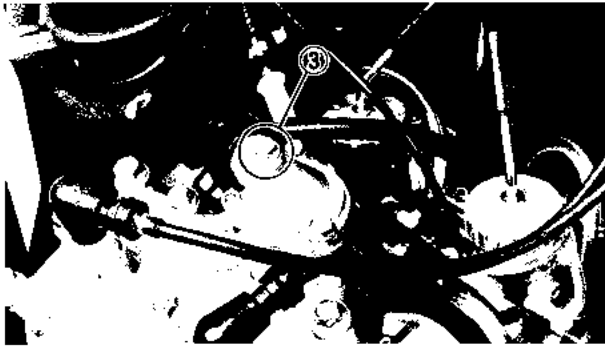
- Add coolant to fill the filler neck again.
- Loosen the bleed bolt ③ of cylinder head.
- Keep the coolant running out until air bubbles disappear.
- Tighten the bleed bolt.



Bleed bolt:
6 Nm (0.6 m·kg, 4.3 ft·lb)



2



- Add coolant to fill the filler neck to the specified level ①.
- With the track off the ground, run the engine at 4,000 rpm until the thermostat opens and the coolant freely circulates. If the coolant level decreases in the filler pipe, with the engine running, add coolant until the level is once again at the top of the filler neck, and install the cap.

⚠ WARNING

A broken track, track fittings, or debris thrown by the track could be dangerous to an operator or bystanders. Observe the following precautions:

- Do not allow anyone to stand behind the machine when the engine is running.
-
- Pour the coolant into the reservoir tank until the coolant level reaches "FULL" level mark ④.

2. Inspect:

- Cooling system
- Coolant leakage → Repair.



Water Pump Belt Deflection Adjustment

1. Remove:
 - Muffler
2. Check:
 - Drive belt deflection
 Out of specification → Adjust.



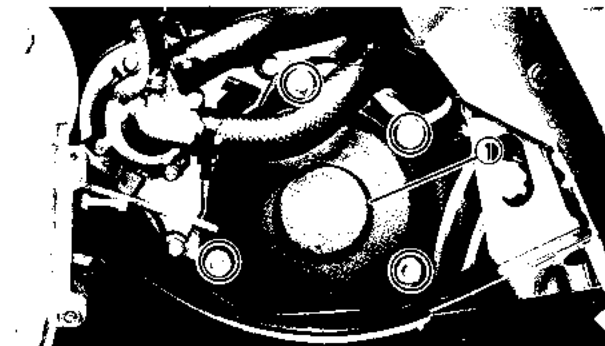
Drive belt deflection
8 ~ 15 mm (0.3 ~ 0.6 in)/
5 kg (11 lb)

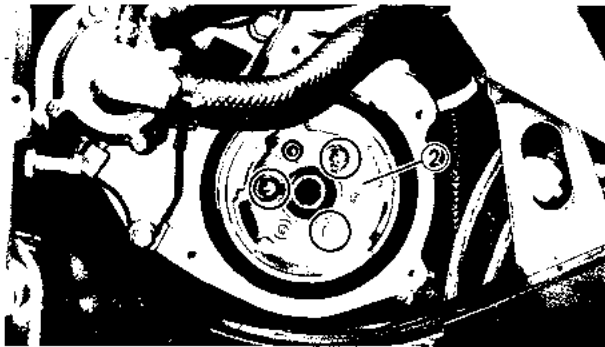
3. Adjust:

- Drive belt deflection

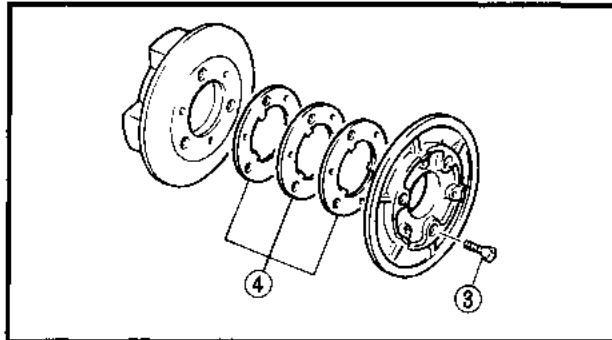
Adjustment steps:

- Remove the recoil stater ①.
- Attach the Primary Sheave Holder (90890-01701, YS-01880) to hold the primary sheave.
- Remove the starter pulley ②.
- Remove the screws ③ of the starter pulley.





2



- Adjust the drive belt deflection by adding or removing a shim ④ .

Add shim	Tension becomes lower.
Remove shim	Tension becomes higher.

Shim size

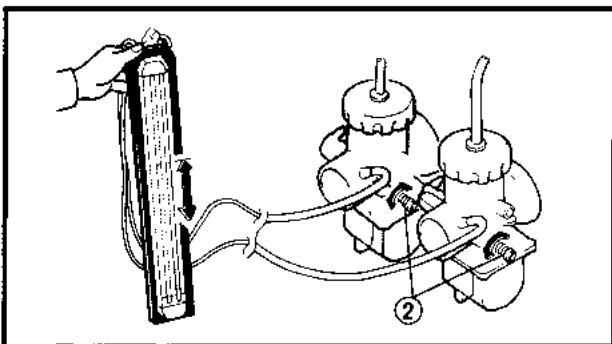
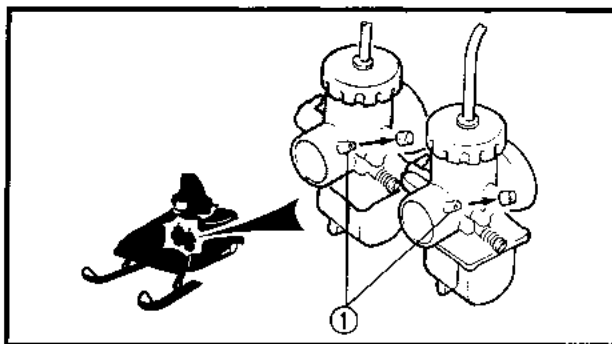
Part Number	Thickness
82M-15721-00	0.5 mm (0.02 in)
82M-15722-00	1.0 mm (0.04 in)

- Install the starter pulley and drive belt.
- Recheck the drive belt deflection. If out of specification, readjust the drive belt deflection.

4. Tighten:



Starter pulley bolt:
23 Nm (2.3 m·kg, 17 ft·lb)
Recoil starter bolt:
10 Nm (1.0 m·kg, 7.2 ft·lb)



ENGINE IDLE SPEED ADJUSTMENT

1. Adjust:
- Engine idle speed

Adjustment steps:

- Remove the rubber caps ① from the carburetor vacuum fittings and connect the vacuum gauge hoses (—, YU-08030) to the fittings.
- Start the engine and let it warm up.
- Turn the throttle stop screws ② in or out so that the vacuum readings are the same.
- Turn the throttle stop screws in or out to adjust the engine idle speed.

Turning in	Idle speed becomes higher.
Turning out	Idle speed becomes lower.

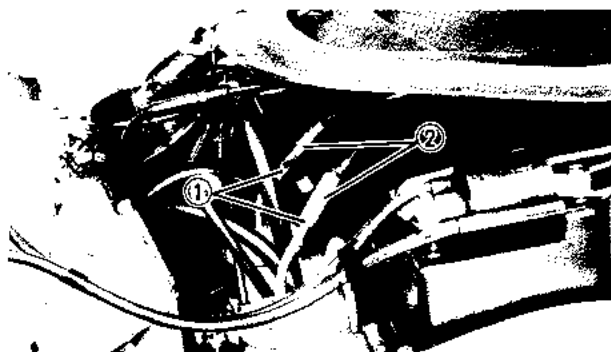
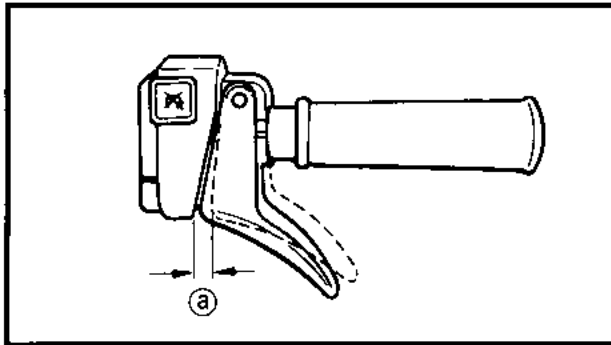


Engine idle speed:
1,400 ~ 1,600 r/min



NOTE:

- Turning amount of left and right screws should be same.
- After adjusting the engine idle speed, the throttle cable free play should be adjusted.
- Adjust the carburetor switches. (See page 7-6)



THROTTLE CABLE ADJUSTMENT

NOTE:

Before adjusting the throttle cable free play, the engine idle speed should be adjusted.

1. Measure:

- Throttle cable free play ①
- Out of specification → Adjust.



Throttle cable free play:
1.0 ~ 2.0 mm (0.04 ~ 0.08 in)

2. Adjust:

- Throttle cable free play

Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② in or out until the specified free play is obtained.

Turning in	Free play is increased.
Turning out	Free play is decreased.

- Tighten the locknut.

NOTE:

Make sure that the cable free play on both carburetors is equal to maintain proper carburetor synchronization.

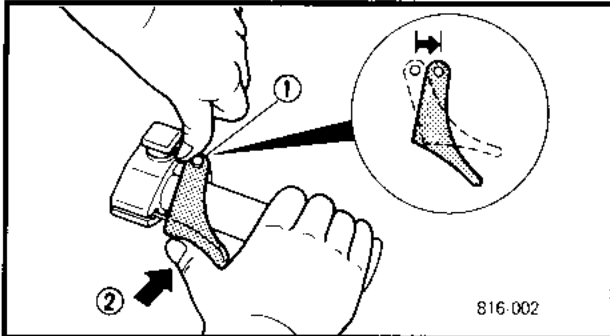
THROTTLE OVERRIDE SYSTEM (T.O.R.S.)
CHECK

⚠ WARNING

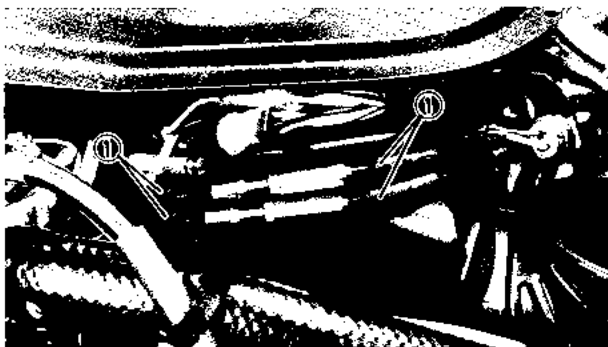
When checking T.O.R.S.:

- Be sure the parking brake is applied.
- Be sure the throttle lever moves smoothly.
- Do not run the engine up to clutch engagement rpm. Otherwise, the machine could start moving forward unexpectedly, which could cause an accident.

2

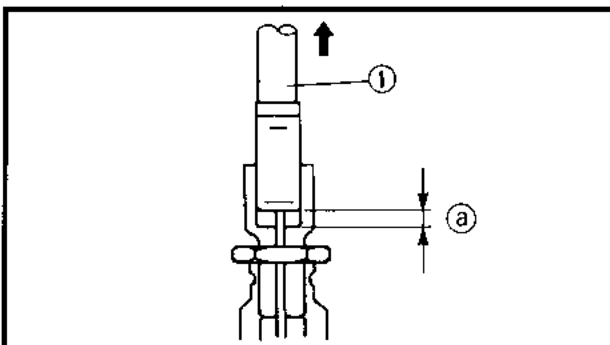


1. Start the engine.
2. Hold the pivot point of the throttle lever away from the throttle switch ①.
3. Press ② the throttle lever gradually. The T.O.R.S. warning light should flash and the engine should not exceed 2800 to 3000 r.p.m. If the engine exceeds 2800 to 3000 r.p.m. → Repair the T.O.R.S. (See page 8-26)




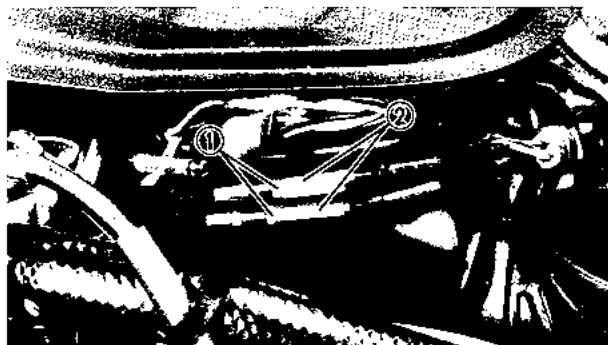
STARTER (CHOKE) CABLE ADJUSTMENT

1. Pull back the adjuster cover ①.



2. Pull the outer tube of the starter cable ① upward at the carburetor.
3. Measure:
 - Starter cable free play ②
 Out of specification → Adjust.

 Free play ②:
0.5 ~ 1.5 mm (0.02 ~ 0.06 in)



4. Adjust:
- Starter cable free play

Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② in or out until the specified free play is obtained.

Turning in	Free play is increased.
------------	-------------------------

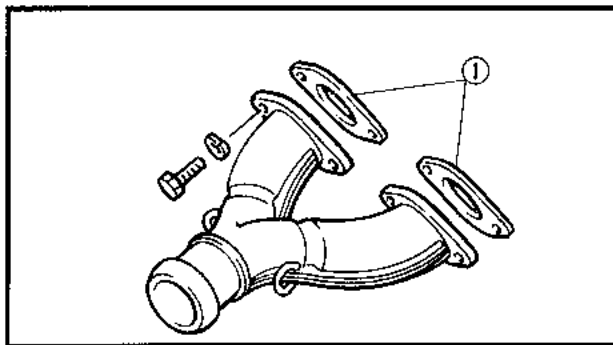
Turning out	Free play is decreased.
-------------	-------------------------

- Tighten the locknut and push in the adjuster cover.

2

NOTE: _____

Make sure that the cable free play on both cables is equal.

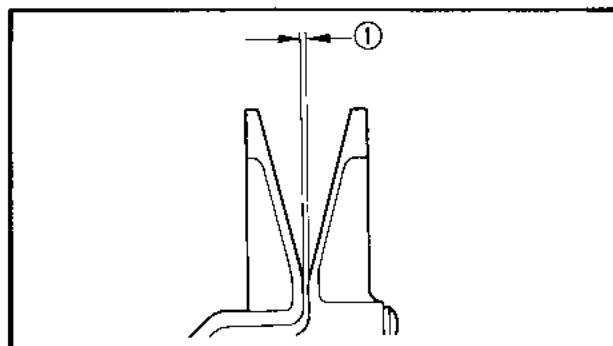


EXHAUST SYSTEM

1. Inspect:
- Exhaust pipe gasket (s) ①
Damage→Replace.
Exhaust gas leakage→Repair.
2. Tighten:



Exhaust pipe bolt:
23 Nm (2.3 m·kg, 17 ft·lb)



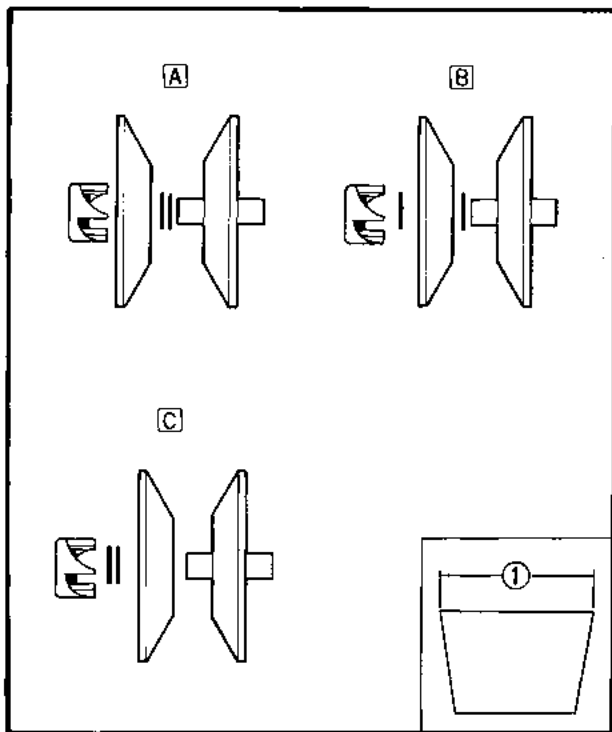
**POWER TRAIN
DRIVE V-BELT**

⚠ WARNING _____

- Be sure there is a 2.0 mm (0.08 in) gap ① between secondary fixed and sliding sheaves when installing the NEW belt.
If there is no gap, the clutch engagement speed will be reduced. The machine may move unexpectedly when the engine is started.
- The spacer of the secondary sheave should be adjusted. (See page 4-12)

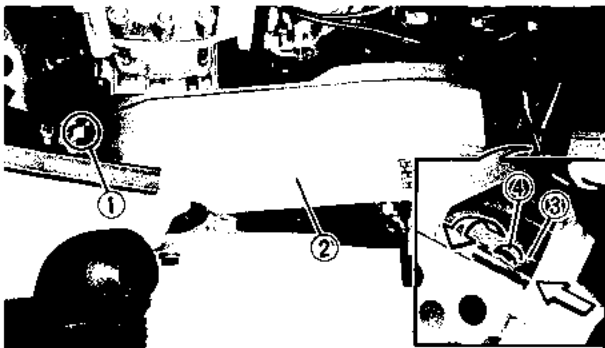
CAUTION: _____

To ensure proper clutch performance, the spacers in the secondary clutch must be repositioned as the V-belt wears.



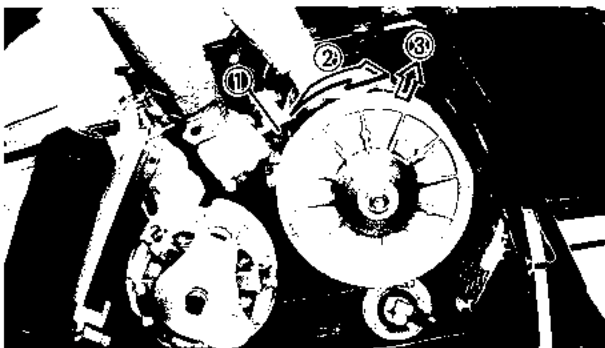
	V-belt Width ①	Quantity of Spacer
A	35 mm (1.38 in) or more	2 spacers
B	34 mm (1.34 in)	1 spacer
C	33 mm (1.30 in)	No spacer
	32 mm (1.25 in) or less	Replace the V-belt

2



1. Remove:
- Side cowling (left) (See page 2-3)
 - Bolt (drive V-belt guard) ①
 - Drive V-belt guard ②

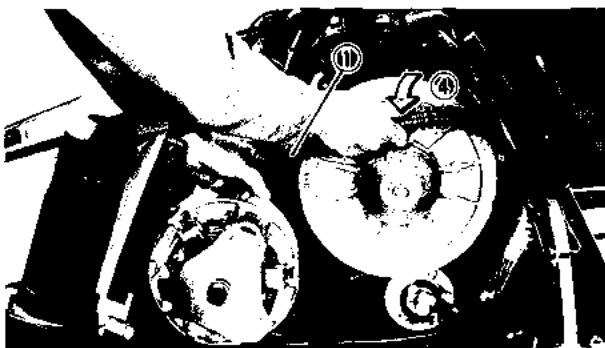
NOTE: Press the holding pin ③ all the way in until it releases from the hook ④, then rotate it 90° and pull it out.

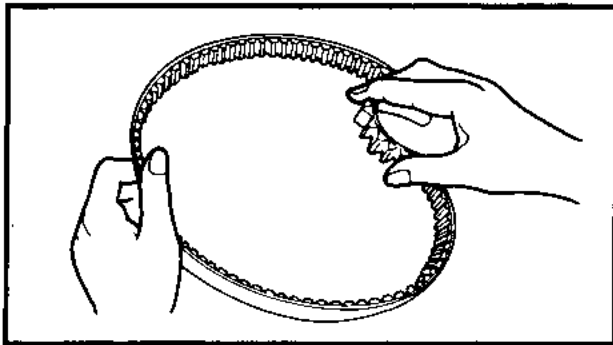


2. Remove:
- Drive V-belt ①

Removal steps:

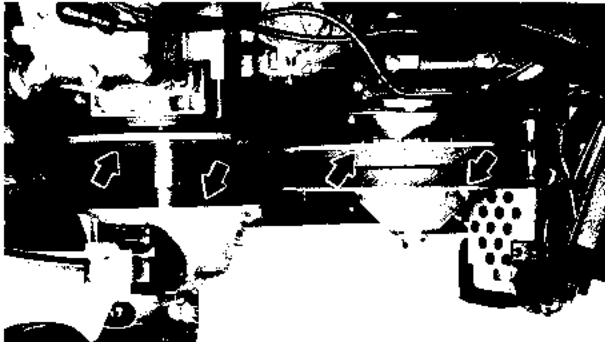
- Rotate the secondary sliding sheave clockwise ② and push ③ it so that it separates from the fixed sheave.
- Pull ④ the belt up over the secondary fixed sheave.
- Remove the belt from the secondary sheave and primary sheave.





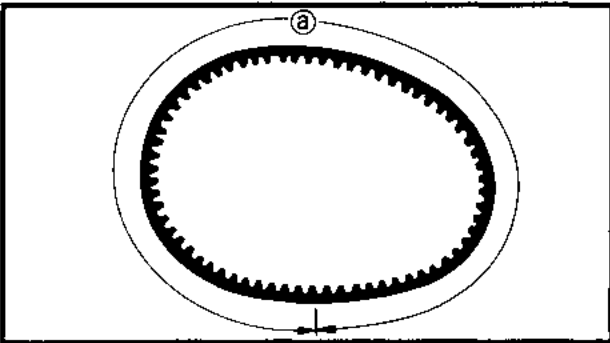
3. Inspect:

- Drive V-belt
Crack/Wear/Damage → Replace.
Oil or grease adhered to the V-belt → Check the primary and secondary sheaves.



4. Inspect:

- Primary sheave
- Secondary sheave
Oil or grease adhered to the primary and secondary sheaves → Remove the oil or grease using a rag soaked in lacquer thinner or solvent. Check the primary and secondary sheaves.



5. Measure:

- Drive V-belt length (a)
Out of specification → Replace.



Drive V-belt length:
1,130 ~ 1,118 mm (44.5 ~ 44.0 in)

2

ENGAGEMENT SPEED CHECK

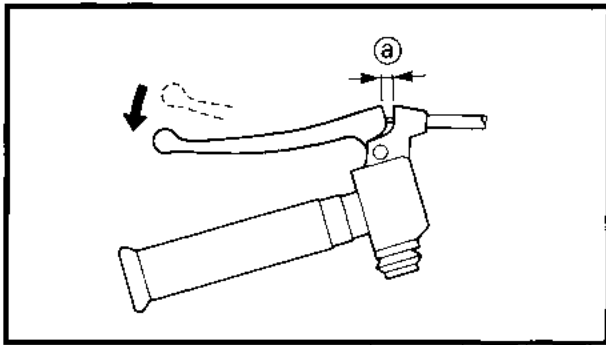
1. Place the machine on a level area of hard packed snow.
2. Check:
 - Clutch engagement speed

Checking steps:

- Start the engine, and open the throttle lever gradually.
- Check the engine speed when the machine starts moving forward.
Out of specification → Adjust the primary sheave. (See page 2-41)



Engagement speed:
Approx 3,800 r/min



BRAKE ADJUSTMENT

1. Measure:

- Brake lever free play **a**
Out of specification → Adjust.



Brake lever free play:
0.3 ~ 1.0 mm (0.012 ~ 0.039 in)

2. Adjust:

- Brake lever free play

Adjustment steps:

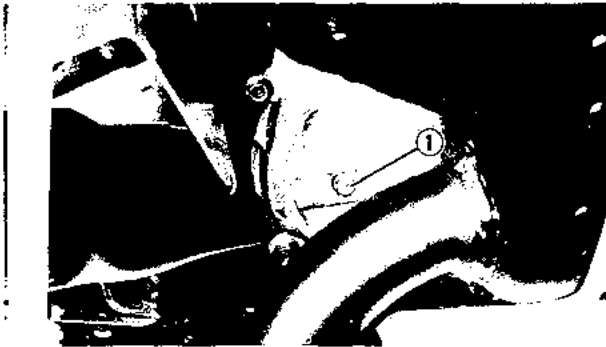
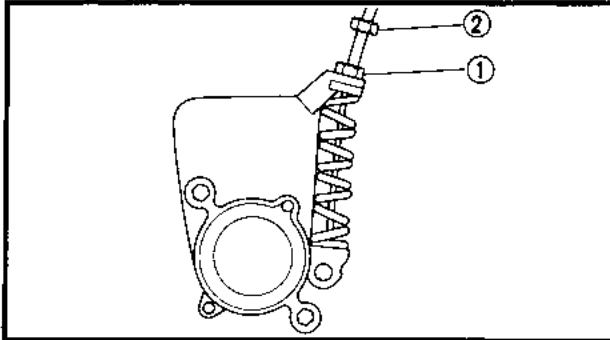
- Loosen the locknut **①**.
- Turn the adjuster **②** in or out until the specified distance is obtained.

Turning in	Free play is increased.
------------	-------------------------

Turning out	Free play is decreased.
-------------	-------------------------

- Tighten the locknut **①**.

2



DRIVE CHAIN

Oil Level Inspection

1. Place the machine on a level surface.
2. Remove:
 - Side cowling (right) (See page 2-3)
3. Place a rag under the checking hole (oil level).
4. Remove:
 - Checking bolt **①**
 - Gasket (checking bolt)
5. Inspect:
 - Oil level (drive chain housing)
Oil flows out → Oil level is correct.
Oil does not flow out → Oil level is low.
Add oil until oil flows out.



Recommended oil:
Gear oil API GL-3 SAE #75
or #80



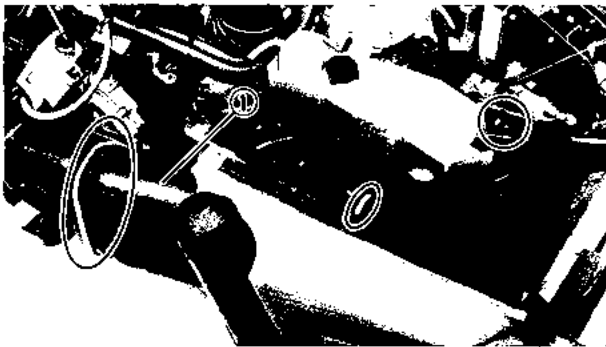
6. Inspect:

- Gasket (checking bolt)
Damage → Replace.

7. Tighten:

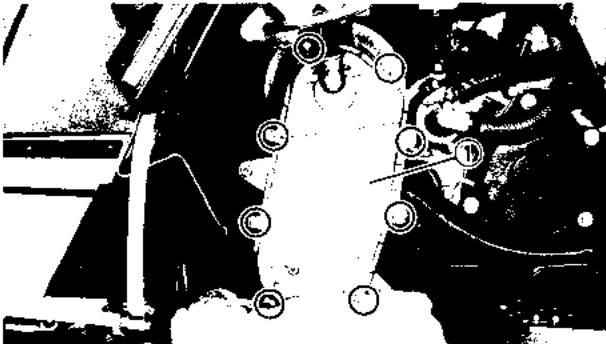


Checking bolt:
10 Nm (1.0 m • kg, 7.2 ft • lb)



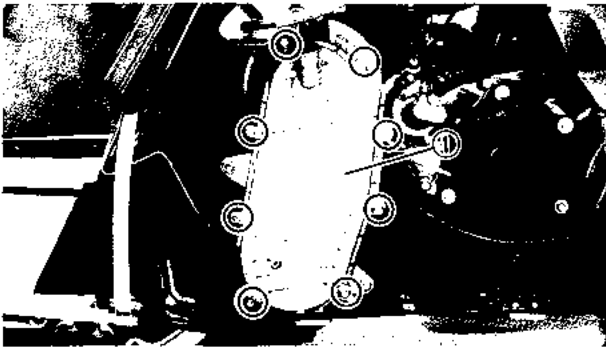
Oil Replacement

1. Remove:
 - Muffer ①



2. Place some rags under the drive chain housing.

3. Remove:
 - Chain housing cover ①
 - Drain the oil.
 - Gasket (chain housing cover)



4. Install:
 - Gasket (chain housing cover)
 - Chain housing cover ①

CAUTION:

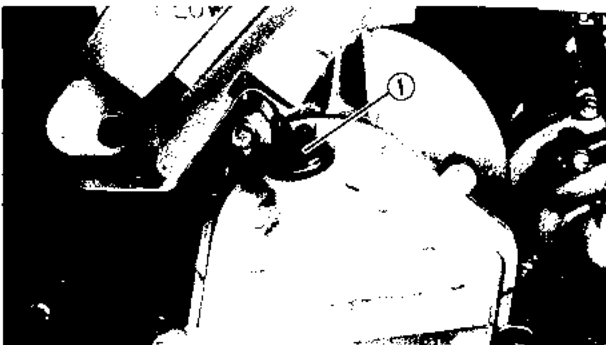
Always use a new gasket (chain housing cover).

NOTE:

- Tighten the bolts in stages using a crisscross pattern.
- Before installing the chain housing cover, the drive chain slack should be adjusted.



Bolt (chain housing cover):
 Small diameter (M6)
 10 Nm (1.0 m·kg 7.2 ft·lb)
 Large diameter (M8)
 23 Nm (2.3 m·kg, 17 ft·lb)



5. Remove:
 - Filler cap ①
6. Fill:
 - Drive chain housing

CAUTION:

Be sure no foreign material enters the chain housing case.



2

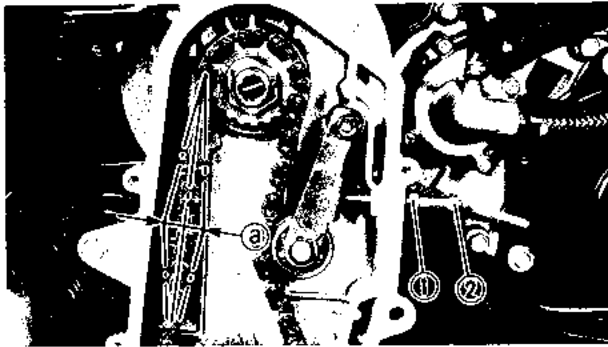


Recommended oil:
 Gear oil API GL-3 SAE #75
 or #80
Oil capacity:
 250 cm³ (8.8 Imp oz, 8.5 US oz)

7. Install:
- Muffler

Chain Slack Adjustment

1. Remove:
 - Muffler
2. Place some rags under the drive chain housing.
3. Remove:
 - Chain housing cover



4. Check:
 - Drive chain slack (a)
 Out of specification → Adjust.



Drive chain slack:
 8 ~ 15 mm (0.31 ~ 0.59 in)

5. Adjust:
 - Drive chain slack

Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② in or out until the specified free slack is obtained.

Turning in	Free play is decreased.
Turning out	Free play is increased.

- Tighten the locknut ①.

6. Proceed to steps 4 through 7 of "Oil Replacement".

TRACK TENSION ADJUSTMENT

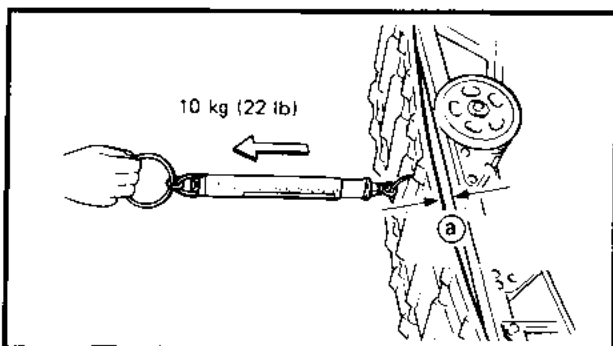
⚠ WARNING


A broken track, track fittings, or debris thrown by the track could be dangerous to an operator or bystanders. Observe the following precautions.

- Do not allow anyone to stand behind the machine when the engine is running.
- When the rear of the machine is raised to allow the track to spin, a suitable stand must be used to support the rear of the machine. Never allow anyone to hold the rear of the machine off the ground to allow the track to spin. Never allow anyone near a rotating track.
- Inspect track condition frequently. Replace the track if it is damaged to the depth where fabric reinforcement material is visible.
- Never install studs (cleats) closer than three inches from the edge of the track.

2

1. Place the machine with the right side facing down.
2. Measure:
 - Track deflection (a)
Pull at the track center window by a force of 10 kg (22 lb) using a spring scale.
Out of specification → Adjust.



 **Track deflection:**
25 ~ 30 mm/10 kg
(0.98~ 1.18 in/22 lb)

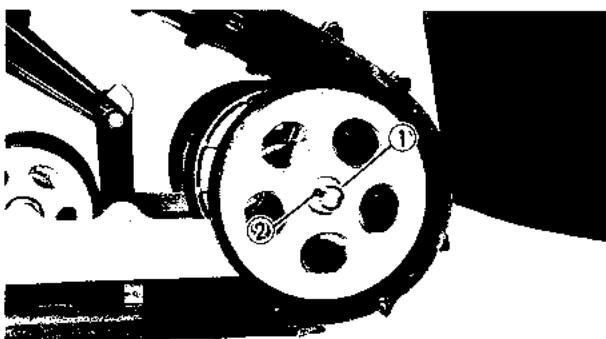
3. Adjust:
 - Track deflection

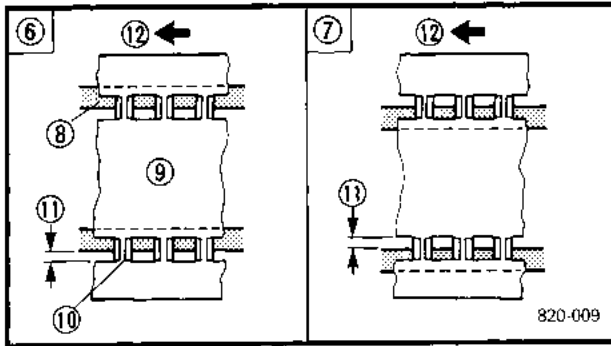
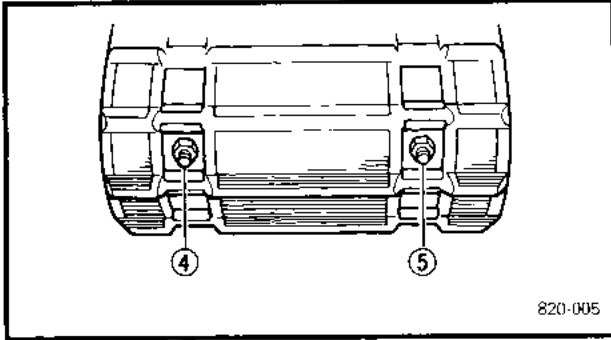
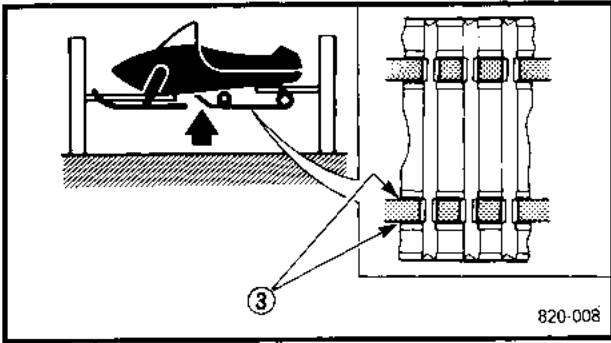
Adjustment steps:

- Lift the rear of the machine onto a suitable stand to raise the track off the ground.
- Loosen the rear axle nut ①.

NOTE:

It is not necessary to remove the cotter pin ②.





- a. Start the engine and rotate the track one or two turns. Stop the engine.
- b. Check the track alignment with the slide runner ③ .
If the alignment is incorrect, turn the left and right adjusters to adjust.

Track alignment	⑥ Shifted to right	⑦ Shifted to left
④ Left adjuster	Turn out	Turn in
⑤ Right adjuster	Turn in	Turn out

- ⑧ Slide runner ⑨ Track
⑩ Track metal ⑪ Gap ⑫ Forward

- c. Adjust track deflection to the specified amount.

Track deflection	More than Specified	Less than Specified
④ Left adjuster	Turn in	Turn out
⑤ Right adjuster	Turn in	Turn out

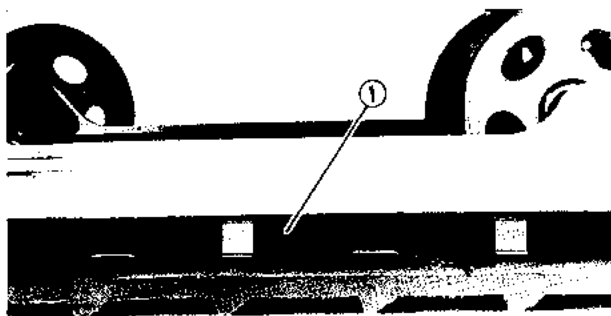
CAUTION:

The adjusters should be turned an equal amount.

- Recheck alignment and deflection. If necessary, repeat steps a to c until proper adjustment is achieved.
- Tighten the rear axle nut.

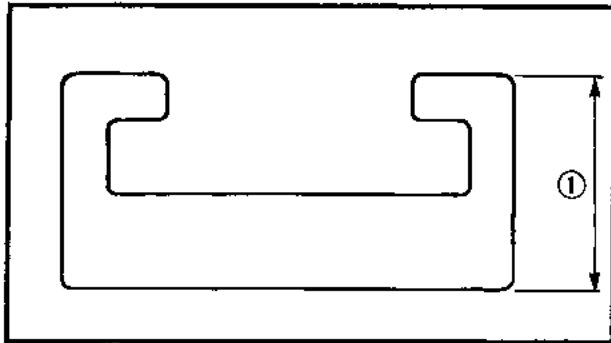


Rear axle nut:
75 Nm (7.5 m·kg, 54 ft·lb)



SLIDE RUNNER INSPECTION

1. Inspect:
 - Slide runner ①
Cracks/Damage/Wear→Replace.

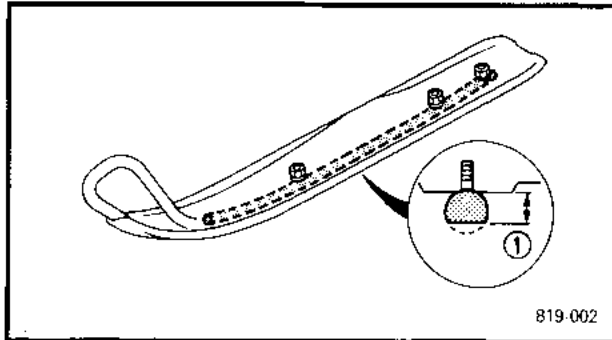


2. Measure:

- Slide runner thickness ①
Out of specification → Replace.
(See page 4-33)



Wear limit:
10 mm (0.39 in)



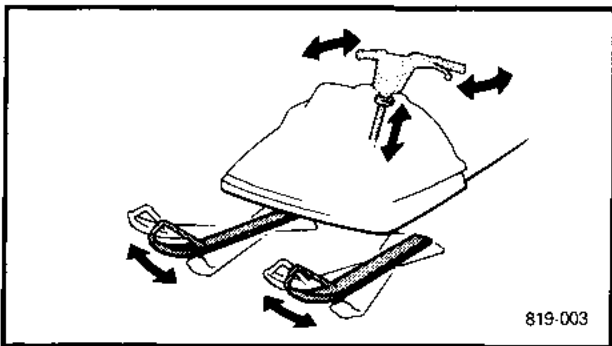
CHASSIS
SKI/SKI RUNNER

1. Check:

- Ski
- Ski runner
Wear/Damage → Replace.



Ski runner wear limit ① :
4.5 mm (0.18 in)

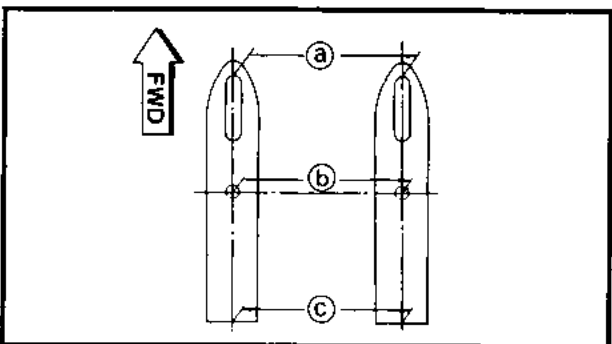


STEERING SYSTEM

Free Play check

1. Check:

- Steering system free play
Push the handlebar up and down and back and forth.
Turn the handlebar slightly to the right and left.
Excessive free play → check to be sure the handlebar, tie rod ends and relay rod ends are installed securely in position. If free play still exists, check the steering bearing front suspension links and ski mounting area for wear, and replace if necessary.
(See page 3-6)



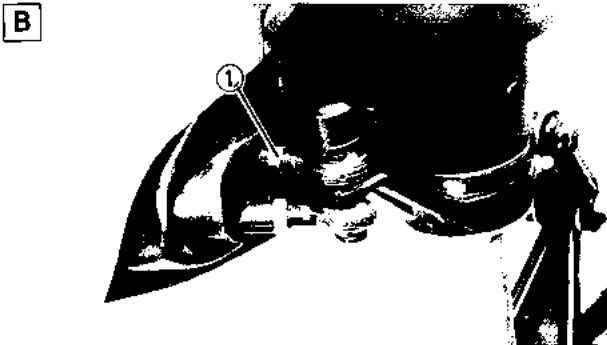
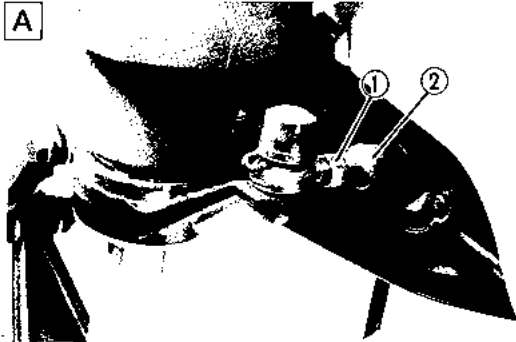
Toe-Out Adjustment

1. Place the machine on a level surface.
2. Check:
 - Ski toe-out
Direct the skis straight forward.
Out of specification → Adjust.



Ski toe - out (a - c):
0.0 ~ 15.0 mm (0.0 ~ 0.6 in)
Ski stance (center to center) (b) :
920 mm (36.2 in)

2



3. Adjust:
- Ski toe-out

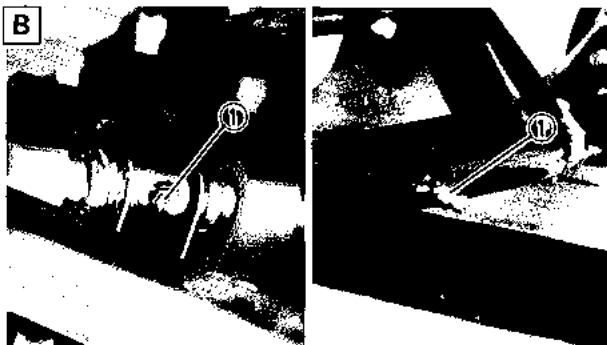
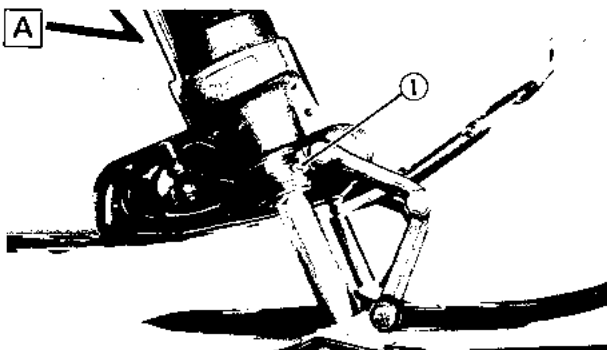
Adjustment steps:

- Loosen the locknuts (tie rod) (1) .
- Turn the relay rod (2) in or out until the specified toe-out is obtained.
- Tighten the locknuts (tie rod) (1) .



Locknut (tie rod):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®

- A Left side
- B Right side



LUBRICATION

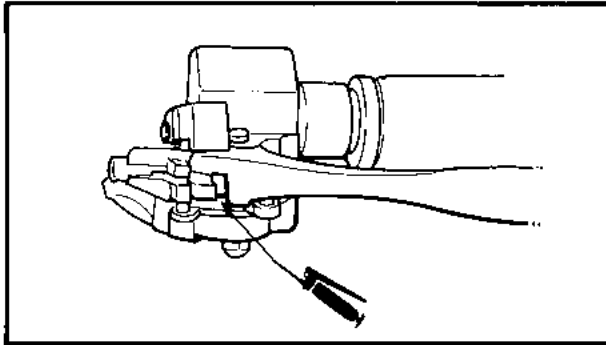
Front and Rear Suspension

1. Inject grease through nipples (1) using a grease gun.



Esso Beacon 325 Grease or
Aeroshell Grease #7A.

- A Front
- B Rear



Brake Lever, Brake Cable End and Throttle Lever

1. Lubricate the brake lever pivot, brake cable end and throttle lever.

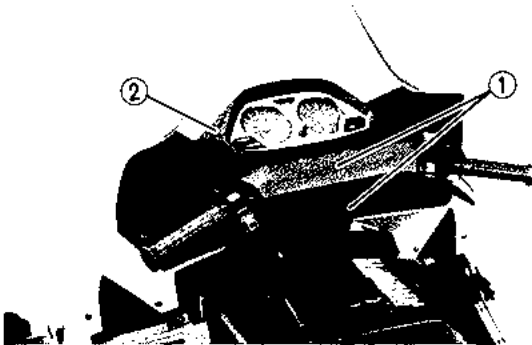


Esso Beacon 325 Grease.

⚠ WARNING

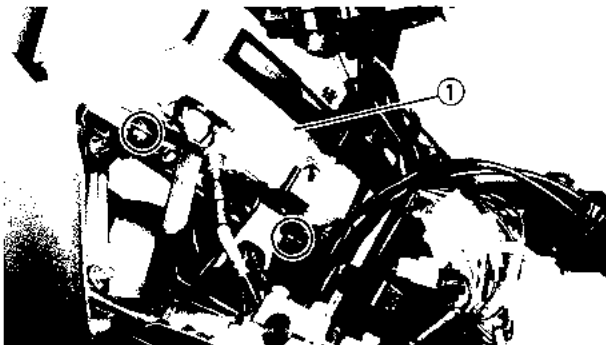
Apply a dab of grease to the cable end only. Do not grease the brake/throttle cables themselves because they could become frozen, which could cause loss of control.

2



ELECTRICAL HEADLIGHT AND METER LIGHT BULB REPLACEMENT

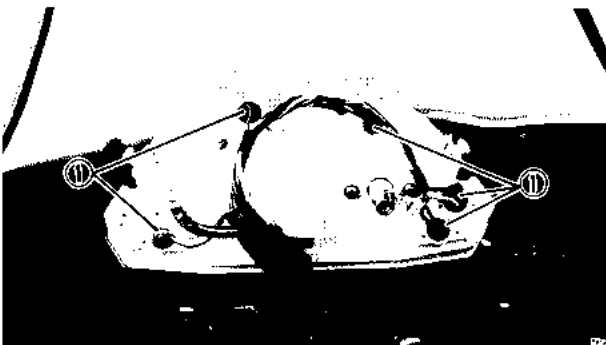
1. Remove:
 - Handbar covers (rear and front) ①
 - Meter cover ② (See page 3-2)



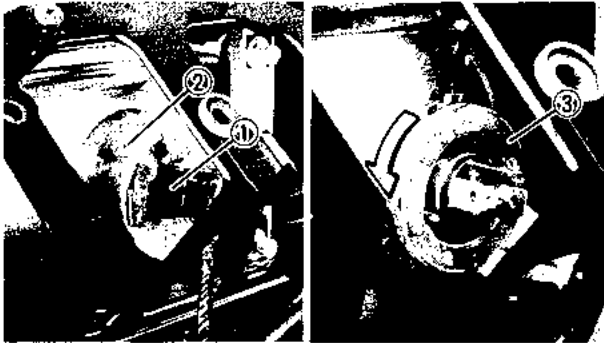
2. Remove:
 - Meter assembly ①

NOTE:

Speedometer cable and meter light coupler do not need removing.



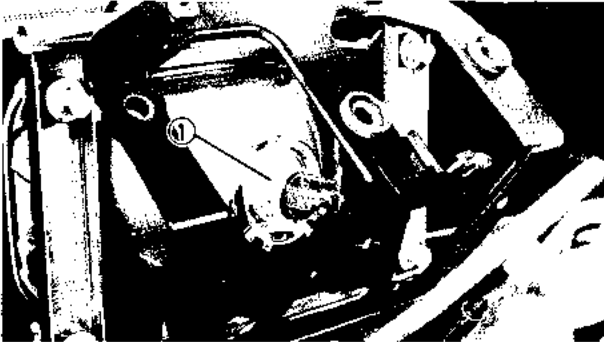
3. Remove:
 - Bulb (defective)
Pull out the bulb holder ① from the meter case and pull out the bulb from bulb holder.
4. Install:
 - Bulb (new)



5. Disconnect:
 - Headlight coupler ①
6. Remove:
 - Cover ② (bulb holder)
 - Bulb holder ③

NOTE: _____
While pushing the bulb holder ③, turn it counter-clockwise.

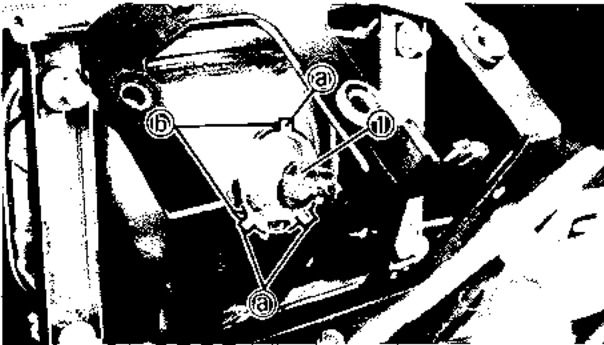
2



7. Remove:
 - Bulb (defective) ①

⚠ WARNING _____

Keep flammable products (and your hands) away from the bulb while it is on; it will be hot. Do not touch the bulb until it cools down.

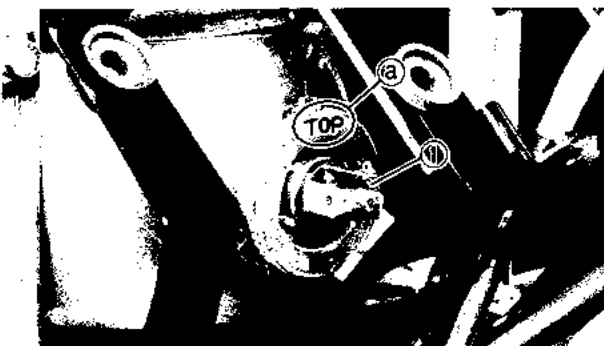


8. Install:
 - Bulb (new) ①

NOTE: _____
Make sure the projections ① on the bulb are meshed with the slots ② on the light case.

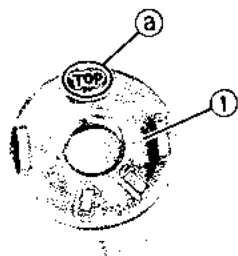
CAUTION: _____

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb and illuminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.



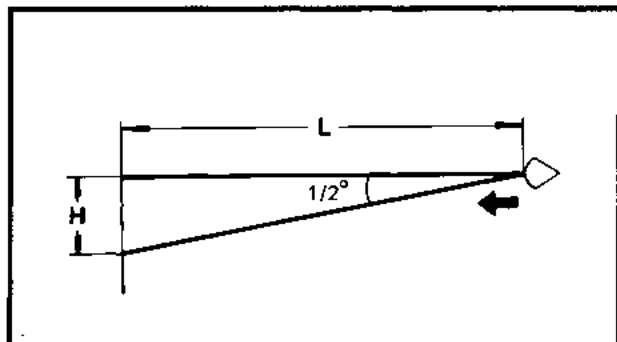
9. Install:
 - Bulb holder ①

NOTE: _____
• Install the bulb holder so that the "TOP" mark ① faces upward.
• While pushing the bulb holder ①, turn it clockwise.



10. Install:
- Cover (bulb holder) ①

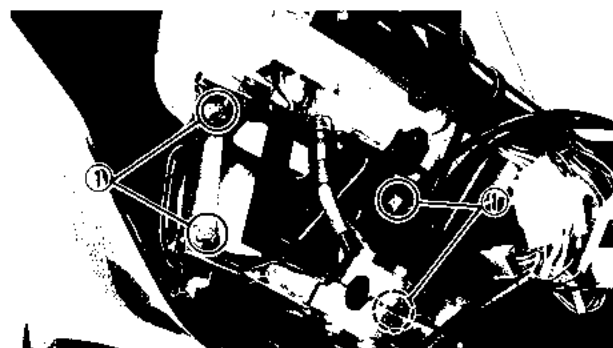
NOTE: _____
Install the bulb holder cover so that the "TOP" mark ③ faces upward.



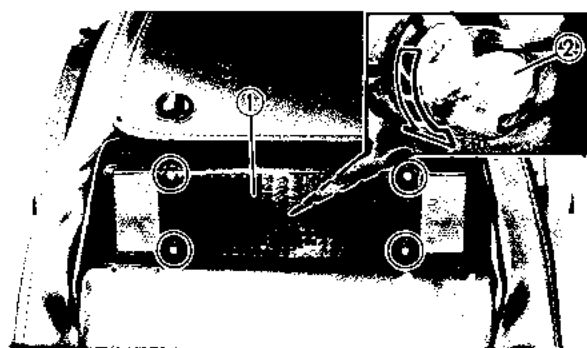
HEADLIGHT BEAM ADJUSTMENT

1. Place the machine on a level place.
2. Inspect:
 - Headlight beam direction
The high beam should be directed downward at an angle of $1/2^\circ$ to the horizontal line. If not, adjust the direction.

L	3.0 m (10 ft)	7.6 m (25 ft)
H	26 mm (1.0 in)	66 mm (2.6 in)



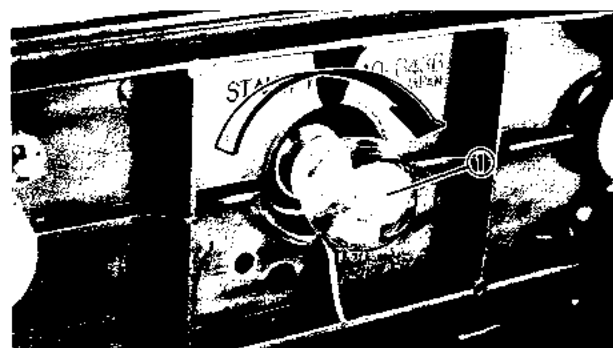
3. Remove:
 - Handlebar covers (rear and front)
 - Meter cover (See page 3-2)
4. Adjust:
 - Headlight beam direction
Adjust the headlight beam by tightening or loosening the adjusters ①.



TAIL/BRAKE LIGHT BULB REPLACEMENT

1. Remove:
 - Tail/brake light lens ①
2. Remove:
 - Bulb (defective) ②

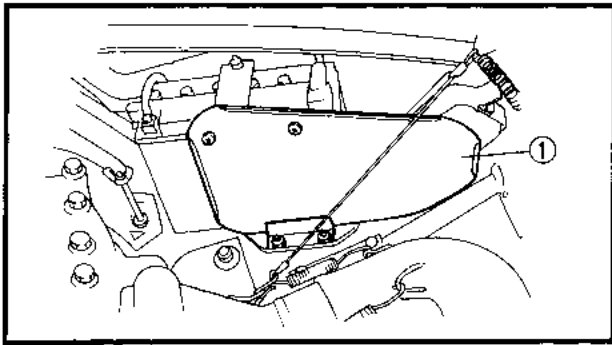
NOTE: _____
While pushing the bulb ②, turn it counter clockwise.



3. Install:
 - Bulb (new) ①

NOTE: _____
While pushing the bulb ①, turn it clockwise.

- Tail/Brake light lens



BATTERY INSPECTION (for EX570ER)

1. Remove:

- Protector plate (battery) ①

2. Inspect:

- Battery fluid level

Fluid level should be between upper ① and lower ② level marks.

Incorrect → Refill.

CAUTION:

Refill with distilled water only; tap water contains minerals harmful to a battery.

3. Check:

- Specific gravity

Less than 1.280 → Recharge battery.

Charging current:

1.6 amps/10 hrs

Specific gravity:

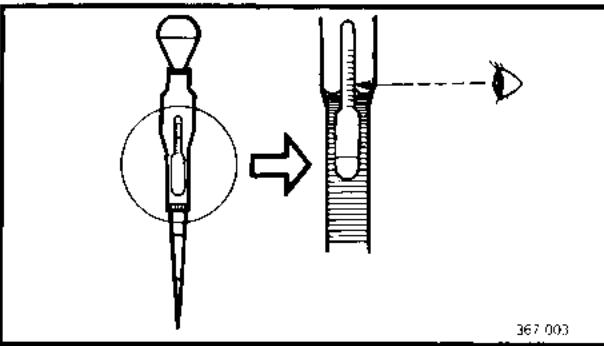
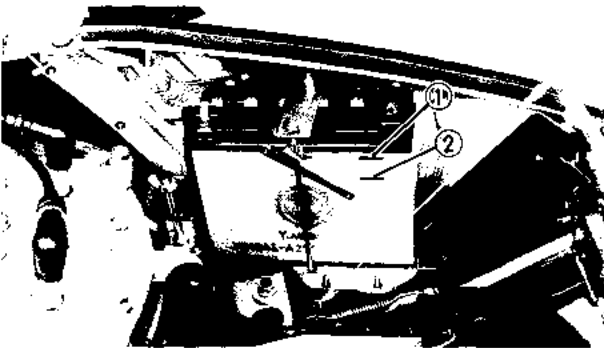
1.280 at 20°C (68°F)

Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate one cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.

CAUTION:

Always charge a new battery before using it to ensure maximum performance.



367 003

**⚠ WARNING**

Battery electrolyte is dangerous; it contains sulfuric acid and therefore is poisonous and highly caustic.

Always follow these preventive measures:

- Avoid bodily contact with electrolyte as it can cause severe burns or permanent eye injury.
- Wear protective eye gear when handling or working near batteries.

Antidote (EXTERNAL):

- SKIN – Flush with water.
- EYES – Flush with water for 15 minutes and get immediate medical attention.

Antidote (INTERNAL):

- Drink large quantities of water or milk, and follow with milk of magnesia, beaten egg, or vegetable oil. Get immediate medical attention.

Batteries also generate explosive hydrogen gas, therefore you should always follow these preventive measures:

- Charge batteries in a well-ventilated area.
- Keep batteries away from fire, sparks, or open flames (e.g., welding equipment, lighted cigarettes, etc.)
- DO NOT SMOKE when charging or handling batteries.

KEEP BATTERIES AND ELECTROLYTE OUT OF REACH OF CHILDREN.

4. Inspect:

- Battery terminals
 Dirty terminal → Clean with wire brush.
 Poor connection → Correct.

NOTE: _____

After cleaning the terminals, apply grease lightly to the terminals.



5. Inspect:

- Breather hose ①
 Obstruction → Remove.
 Damage → Replace.

6. Connect:

- Breather hose ①
 Be sure the hose is properly attached and routed.

CAUTION:

When inspecting the battery, be sure the breather hose is routed correctly. If the breather hose touches the frame or exits in such a way as to cause battery electrolyte or gas to exit onto the frame, structural and cosmetic damage to the snowmobile can occur.

7. Install:
- Protector plate (battery)

FUSE INSPECTION (for EX570ER)

1. Remove:
- Fuse ①

- ② Spare fuse

2. Inspect:
- Fuse
Defective → Replace.
Blown fuse (new) → Inspect circuit.

NOTE:

Install new fuses of proper amperage.

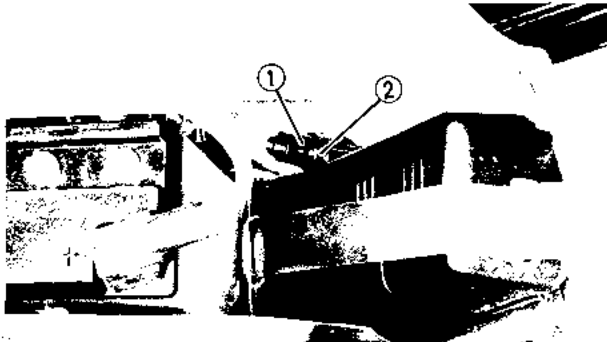
Description	Amperage	Quantity
Main	10A	1
Spare	10A	1

Replacement steps:

- Turn off the ignition and the circuit.
- Install a new fuse of proper amperage.
- Turn on the switches to verify operation of electrical device.
- If fuse blows again immediately, check circuit in question.

⚠ WARNING

Do not use fuses of higher amperage rating than recommended. Extensive electrical system damage and fire could result from substitution of a fuse of improper amperage.



2



TUNING

CARBURETOR TUNING

The carburetor is set at the factory to run at temperatures of 0°C ~ -20°C (32°F ~ -4°F) at sea level. If the machine has to be operated under conditions other than specified above, the carburetor must be reset as required. Special care should be taken in carburetor setting so that the piston will not be damaged or seized.

CAUTION:

In this model, the engine oil is mixed with the fuel just before the fuel enters the carburetors. During initial fuel flow to the carburetor it is not always possible to supply the optimum fuel/oil mixture depending on the throttle opening. Therefore, after the carburetors have been tuned or maintained, or after the float chamber is removed for cleaning or jet replacement, be sure to idle the engine for about three minutes in order to avoid engine trouble.

CAUTION:

Before performing the carburetor tuning, make sure that the following items are set to specification.

- Engine idle speed adjustment
- Throttle cable free play adjustment
- Carburetor synchronization
- Starter cable adjustment
- Oil pump cable free play adjustment

Carburetor Tuning Data

1. Standard specifications

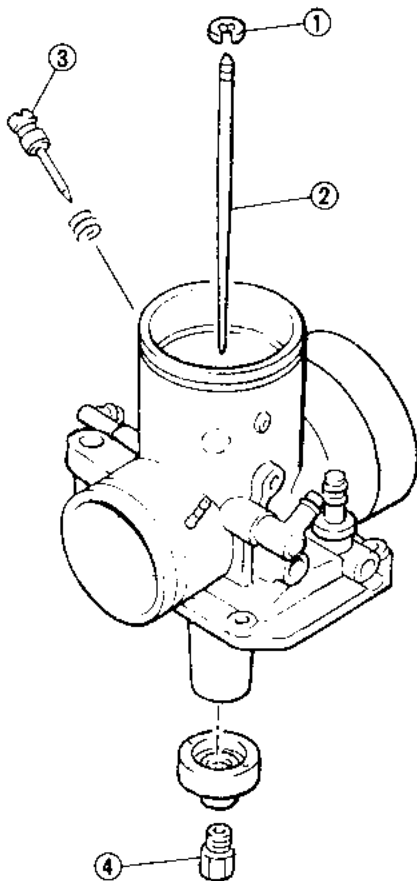
Model	VM38 X 2
Manufacturer	MIKUNI
I.D. Mark	(L) 88R-00L (R) 88R-00R
Main jet (M.J.)	#310
Pilot jet (P.J.)	#42.5
Jet needle (J.N.)	6FL 82-3
Pilot screw (P.S.)	5/8 turns out
Float height	17.1 ~ 19.1 mm (0.67 ~ 0.75 in)
Idle speed	1,400 ~ 1,600 r/min

2. High altitude tuning

Use the following guide to select main jets according to variations in elevation and temperature.

Altitude	Temperature				
	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	20°C (68°F)
0 ~ 100 m (0 ~ 300 ft)	→ #320, JN: 3rd ←		← #310 (STD), JN: 3rd (STD) →		
100 ~ 600 m (300 ~ 2,000 ft)	→ #310 (STD), JN: 3rd (STD) ←		← #300, JN: 3rd →		
600 ~ 1,200 m (2,000 ~ 4,000 ft)	→ #300, JN: 3rd ←		← #290, JN: 3rd →		
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)	→ #280, JN: 3rd ←		← #270, JN: 3rd, AS: 7/8 →		
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)	→ #260, JN: 3rd ←		← #270, JN: 3rd, AS: 7/8 →		
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)	→ #250, JN: 3rd ←		← #240, JN: 2rd, AS: 7/8 →		

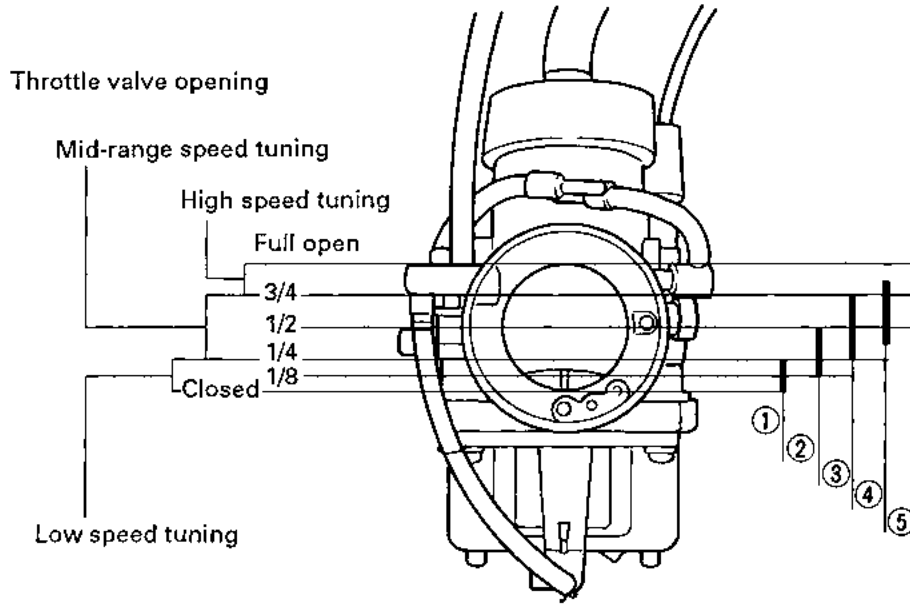
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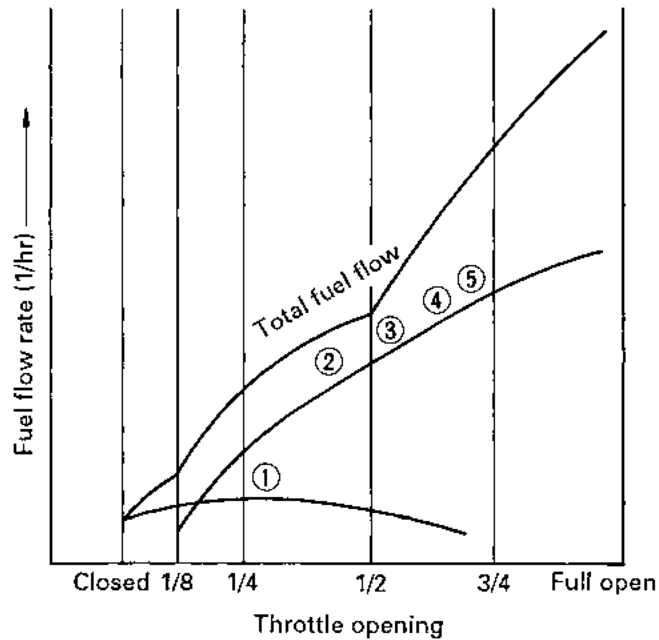
NOTE: These jetting specifications are subject to change. Consult the latest technical information from Yamaha to be sure you have the most up-to-date jetting specifications.

- ① Clip
- ② Jet needle
- ③ Air screw
- ④ Main jet

Guide for carburetion



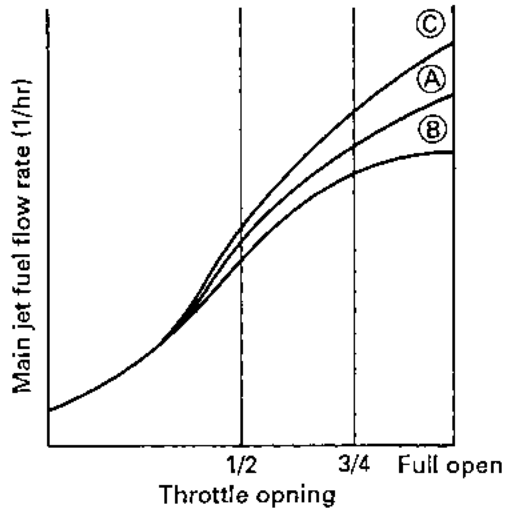
- ① Throttle stop screw, air screw, pilot jet pilot outlet, bypass, fuel level
- ② Throttle valve cutaway
- ③ Jet needle
- ④ Needle jet
- ⑤ Main jet



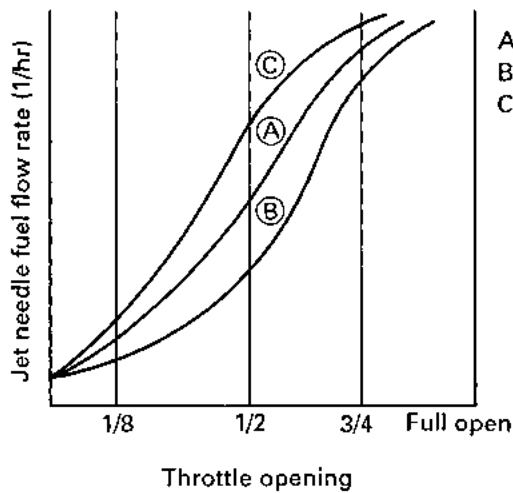
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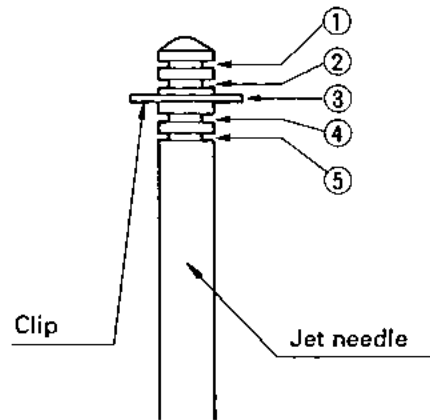
2



- A: Standard main jet
- B: Main jet whose diameter is 10% smaller than standard
- C: Main jet whose diameter is 10% larger than standard



- A: No. 3 position
- B: No. 2 position
- C: No. 4 position



CAUTION:

If the Air Silencer Box is removed from the carburetors, the change in pressure in the intake will create a LEAN MIXTURE that could likely result in severe engine damage. The Air Silencer Box has no effect on performance characteristics and it must be secured to the carburetor during carb tuning and adjustment and it must always be in place when the engine is operated. Examine the Silencer regularly for cleanliness and freedom from obstruction.



Low Speed Tuning

The carburetor is built so that low speed tuning can be done by adjusting the air screw ① and throttle stop screw ②.

CAUTION:

The engine should never be run without the air intake silencer and air chamber installed; severe engine damage may result.

1. Tighten the air screw ① lightly, and back it out from its lightly seated position.

Standard tuning out:
5/8

2. Start the engine, and allow it to warm up for a few minutes. The warm-up is complete when the engine responds normally to the throttle opening.

WARNING

Do not move the throttle enough to reach the following engagement speed. The snowmobile could accidentally start to move forward.

Engine revolutions: 3,000 r/min

3. Adjust the throttle stop screws evenly until the engine speed is at 2,000 ~ 2,500 r/min.

4. Slowly loosen the pilot screws evenly. As the pilot screw is loosened, the mixture will become leaner, and engine speed will increase. Adjust the pilot screws to attain the highest possible engine speed.

2

5. Finally, set the engine idle speed by tuning the throttle stop screws in (to increase engine speed) or out (to decrease engine speed).



Standard idle speed:
1,400 ~ 1,600 r/min

6. If the engine low speed performance is still poor in high elevation under extreme conditions, the standard pilot jets may need to be replaced to obtain proper pilot air/fuel mixture.

NOTE: _____
In this case, set the carburetor on the richer side; use a larger number pilot jet.

Standard pilot jet: #42.5

7. By repeating steps 1 to 5 above, adjust the idle speed.

Middle-Range and High Speed Tuning

No adjustment is normally required, but adjustment is sometimes necessary depending on temperatures and/or altitude.

Middle-range speed and high speed tuning (from 1/4 to full-throttle) can be done by adjusting the main jet.

CAUTION: _____

The engine should never be run without the air intake silencer and air chamber installed; severe engine damage may result.

1. Start the engine and run it at high speed to make sure the engine operates smoothly.
2. Stop the engine, and remove the spark plug. Then, check the spark plug color.

NOTE:

Check the spark plug color using the "CHAPTER 9 . APPENDIX, Spark Plug Color Chart" section.

3. The main jet should be adjusted on the basis of the following chart.

Standard Main Jet: #310

⚠ WARNING

Never remove the main jet cover while the engine is hot. Fuel will flow out of the float chamber which could ignite and cause damage to the snowmobile and possible injury to the mechanic. Place a rag under the carburetor so fuel does not spread. Place the main jet cover in a clean place. Keep it away from fire. After assembling the carburetor, firmly tighten the intake silencer joint clamps and intake manifold clamps. Make sure the throttle cable is in place, and the throttle operates smoothly.

2

Main jet selection chart		
Spark plug color	Check up	Remedy
No.1	Good (carburetor is tuned properly.)	
No.2	Bad (Mixture is too rich.)	Replace main jet with one-step smaller one.
No.3	Bad (Mixture is too lean.)	Replace main jet with one-step larger one.
No.4	Bad (Due to too lean a mixture, piston is damaged or seized.)	Replace the piston and spark plug. Tune the carburetor again, starting with low-speed tuning.
No.5	Bad (Due to too lean a mixture, the engine knocks.)	Check the piston for holes or seizure. Check the cooling system, gasoline octane rating and ignition timing. After replacing the spark plug, tune the carburetor again, starting with low-speed tuning.
No.6	Bad (Due to lean a mixture, the spark plug melts.)	Check the piston for holes or seizure. Check the cooling system, gasoline octane rating and ignition timing. After replacing the spark plug with colder type, tune the carburetor again starting with low-speed tuning.

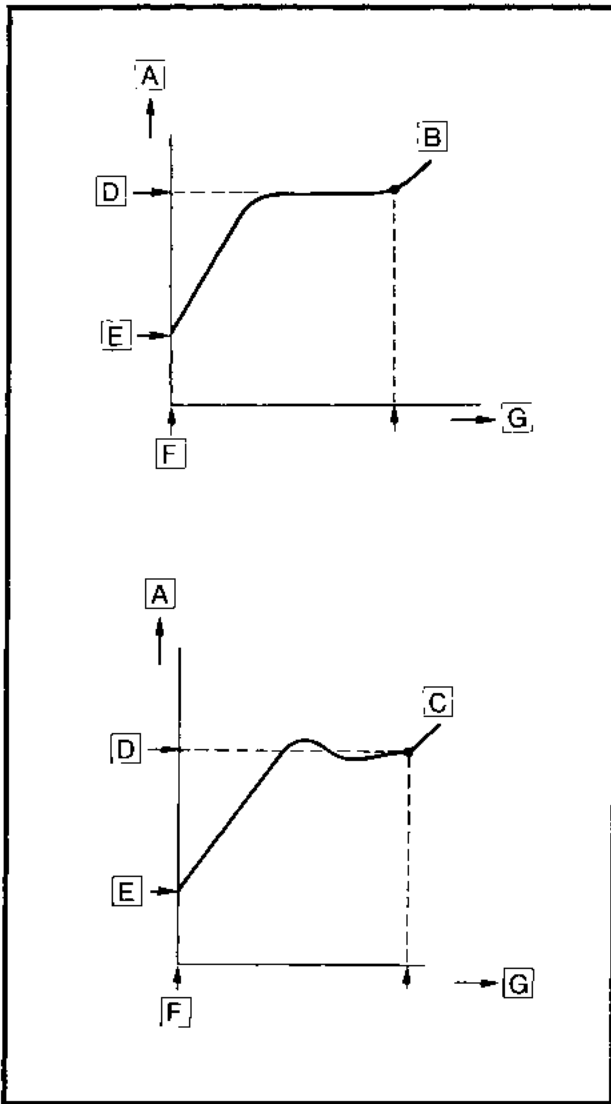
Troubleshooting

2

Trouble	Check point	Remedy	Adjustment
Hard starting	Insufficient fuel	Add gasoline	
	Excessive use of starter (Excessively opened choke)	Clean spark plug	Return starter level to its seated position.
	Fuel passage is clogged or frozen	Clean	Parts other than carburetor. <ul style="list-style-type: none"> • Clogged fuel tank air vent, clogged fuel filter, or clogged fuel passage Carburetor <ul style="list-style-type: none"> • Clogged or frozen air vent clogged valve. • If water collects in float chamber, clean. (Also check for ice)
	Overflow	Correct	
Poor idling (Related symptoms) <ul style="list-style-type: none"> • Poor performance at low speeds • Poor acceleration • Slow response to throttle • Engine tends to stall 	Improper idling speed adjustment <ul style="list-style-type: none"> • Pilot screw 	Adjust idling speed	Tighten pilot screw lightly, and check throttle opening. If incorrect, back it out to specification. Start the engine and turn pilot screw in or out 1/4 turn each time. When the engine runs faster, back out throttle stop screw so the engine idles at specified speed. Tightened too much – Engine speed is higher. Backed out too much – Engine does not idle.
	<ul style="list-style-type: none"> • Throttle stop screw 	Adjust	
	Damaged pilot screw	Replace pilot screw	
	Clogged bypass hole	Clean	
	Clogged or loose pilot jet	Clean and retighten	Remove pilot jet, and blow it out with compressed air.
	Air leaking into carburetor joint	Retighten clamp screws	
	Defective starter valve seat	Clean or replace	
	Overflow	Correct	
Poor performance at mid-range speeds (Related symptoms) <ul style="list-style-type: none"> • Momentary slow response to throttle • Poor acceleration 	Clogged or loose pilot jet	Clean and retighten	Remove pilot jet, and blow it out with compressed air.
	Lean mixtures	Overhaul carburetor	
Poor performance at normal speeds (Related symptoms) <ul style="list-style-type: none"> • Excess fuel consumption • Poor acceleration 	Clogged air vent	Clean	Remove the air vent pipe, and clean.
	Clogged or loose main jet	Clean and retighten	Remove main jet, and blow it out with compressed air.
	Overflow	Check float and float valve and clean	

Trouble	Check point	Remedy	Adjustment	
Poor performance at high speeds (Related symptoms) • Power loss • Poor acceleration	Starter valve is left open	Fully close valve	Return starter lever to its home position.	
	Clogged air vent	Remove and clean		
	Clogged or loose main jet	Clean and retighten	Remove main jet, and clean with compressed air, then install.	
	Clogged fuel pipe	Clean or replace		
	Dirty fuel tank	Clean fuel tank		
	Air leaking into fuel line	Check joint and retighten		
	Low fuel pump performance	Repair pump or replace		
	Clogged fuel filter	Replace		
Abnormal combustion (Mainly backfire)	Clogged intake	Check for ice, and remove		
	Lean mixtures	Clean carburetor and adjust		
	Dirty carburetor	Clean carburetor		
Dirty or clogged fuel pipe	Dirty or clogged fuel pipe	Clean or replace fuel pipe		
	Overflow (Related symptoms) • Poor idling • Poor performance at low, mid-range, and high speeds • Excessive fuel consumption • Hard starting • Power loss • Poor acceleration	Clogged air vent	Clean	
		Clogged float valve	Disassemble and clean	Clean while taking care not to scratch valve seat.
		Scratched or unevenly worn float valve or valve seat	Clean or replace float valve and valve seat	Replace if seat is damaged.
		Broken float	Replace float	
		Incorrect float level • Worn float tang • Worn pin • Deformed float arm	If not within the specified range, check the following parts and replace any defective part. • Replace float • Replace arm pin • Replace float	Replace float assembly.

2



CLUTCH TUNING

The clutch may require tuning depending upon the area of operation and desired handling characteristics. The clutch can be tuned by changing engagement and shifting speed. Clutch engagement speed is defined as the engine speed where the machine first begins to move from a complete stop.

Shifting speed is the engine speed when the machine passes a point 200 ~ 300 m (650 ~ 1,000 ft) from the starting position after the machine has been started at full-throttle from a dead stop.

Normally, when a machine reaches shift speed, the vehicle speed increases but the engine speed remains nearly constant. Under unfavorable conditions (wet snow, icy snow, hills, or rough terrain) however engine speed may decrease after the engine speed has reached shifting speed.

- A Engine speed
- B Good condition
- C Bad condition
- D Clutch shifting speed
- E Clutch engagement speed
- F Starting position 200 ~ 300 m (650 ~ 1,000 ft)
- G Travelled distance

**High Altitude Tuning**

High altitude specifications should be applied for operation at an altitude of more than 900 meters (3,000 ft).

Clutch Setting Data

Item		0 ~ 1,000 m (0 ~ 3,500 ft)(STD)	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,350 ~ 3,000 m (4,500 ~ 10,000 ft)
Engagement speed		Approx 3,800 rpm	←	←
Shifting speed		Approx 7,300 rpm	←	←
Weight	Q'ty	3 pcs	←	←
	Part No.	90386 - 08182	←	←
Weight rivet	Material	Steel	←	Aluminum
	Part No.	90261 - 06015	←	90261 - 06028
Primary spring	Part No.	90501 - 553G6	90501-604G0	←
	Set weight	25.0 kg (55.1 lb)	24.0 kg (53.0 lb)	←
	Spring rate	2.25 kg/mm (22 N/mm, 126 lb/in)	3.0 kg/mm (29 N/mm, 168 lb/in)	←
	Color	White-Yellow-White	Pink-Yellow-Pink	←
Secondary spring	Part No.	88R - 17684 - 01	←	←
	Twist angle	50°	←	←
	Color	Pink	←	←

2

Primary Spring

Part number	Spring rate	Preload	Color	Wire DIA.	Outside DIA.	Number turns
90501-524G5	15.0 kg/mm (15 N/mm, 84 lb/in)	25.0 kg (55.1 lb)	Go-Y-Go	5.2 mm (0.20 in)	60 mm (2.36 in)	5.08
90501-524G4	1.75 kg/mm (17 N/mm, 98 lb/in)	25.0 kg (55.1 lb)	R-Y-R	5.2 mm (0.20 in)	60 mm (2.36 in)	4.64
90501-553G0	2.00 kg/mm (20 N/mm, 112 lb/in)	25.0 kg (55.1 lb)	L-Y-L	5.5 mm (0.22 in)	60 mm (2.36 in)	5.10
90501-553G6 (STD)	2.25 kg/mm (22 N/mm, 126 lb/in)	25.0 kg (55.1 lb)	W-Y-W	5.5 mm (0.22 in)	60 mm (2.36 in)	4.61
90501-584G2	2.50 kg/mm (25 N/mm, 140 lb/in)	24.0 kg (53.0 lb)	Y	5.8 mm (0.23 in)	60 mm (2.36 in)	4.95
90501-584G1	2.75 kg/mm (27 N/mm, 154 lb/in)	24.0 kg (53.0 lb)	G-Y-G	5.8 mm (0.23 in)	60 mm (2.36 in)	4.70
90501-604G0	3.00 kg/mm (29 N/mm, 168 lb/in)	24.0 kg (53.0 lb)	P-Y-P	6.0 mm (0.24 in)	60 mm (2.36 in)	4.80

Go Gold W White
 Y Yellow G Green
 R Red P Pink
 L Blue

GEARING SELECTION

The reduction ratio of driven gear to drive gear must be set according to the snow condition. If there are many rough surfaces or unfavorable snow conditions, the drive/driven gear ratio should be made larger. If there are few rough surfaces or better snow condition; the ratio should be made smaller.

Gear Ratio Chart

The following drive and driven gears and chains are available as options. The figures in upper lines represent the driven and drive gear ratios, while those in lower lines represent the number of chain links.

NOTE:

Do not set the gearing to any of the indicated (x) settings.

Driven gear \ Drive gear	Drive gear					
	16	17	18	20	21	22
29	1.81 64	X	X	1.45 66	X	1.32 68
33	X	1.94 68	*1.83 68	1.65 68	X	1.50 70
35	2.19 68	2.06 68	X	1.75 70	1.67 70	X

Drive gear options		
Yamaha Parts No.	Rexnord Parts No.	Sprocket Teeth
*88F-17682-60	None	16 T
88F-17682-70	EY-19647	17 T
*88F-17682-80	EY-19347	18 T
88F-17693-00	EY-20333	20 T
88F-17693-10	EY-19399	21 T
88F-17693-20	EY-19440	22 T

* Yamaha machine only use

Driven gear options		
Yamaha Parts No.	Rexnord Parts No.	Sprocket Teeth
88F-47548-90	EY-18988	29 T
*88F-47587-00	EY-18989	33 T
88F-47587-20	EY-18294	35 T

Chain options		
Yamaha Parts No.	Rexnord Parts No.	No. of links
94860-01064	S37TNB11 CHAIN 2'.0"LG (64P)	64
94860-01066	S37TNB11 CHAIN 2'.0"-3/4"LG (66P)	66
*94860-01068	S37TNB11 CHAIN 2'.1"-1/2"LG (68P)	68
94860-01070	S37TNB11 CHAIN 2'.2"-1/4"LG (70P)	70

*Standard

High Altitude Tuning

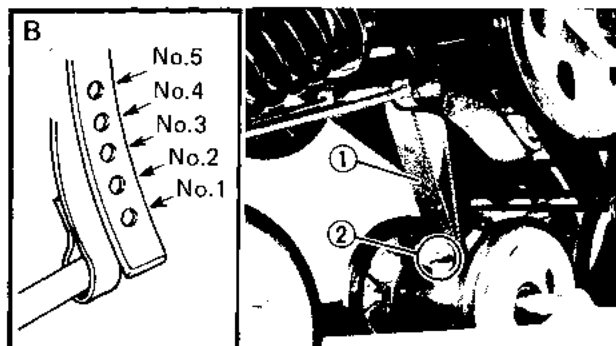
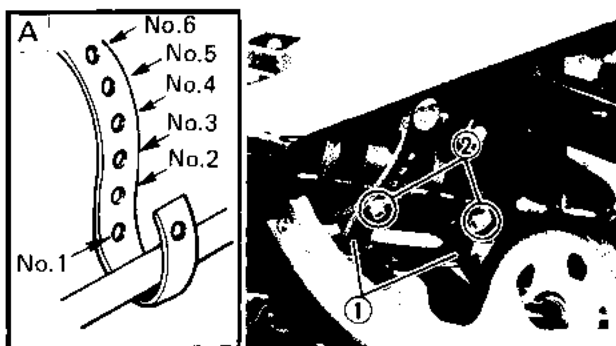
High altitude specifications should be applied to operation at an altitude of more than 900 meters (3,000 ft).

		1,000 m (3,500 ft)(STD)	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,350 ~ 1,950 m (4,500 ~ 6,500 ft)	1,800 ~ 3,000 m (6,000 ~ 10,000 ft)
Secondary gear ratio		18/33 (0.545)	17/33	17/35	16/35 (0.457)
Drive gear	Part No.	88F-17682-80	88F-17682-70	←	88F-17682-60
	Teeth	18	17	←	16
Driven gear	Part No.	88F-47587-00	←	88F-47587-20	←
	Teeth	33	←	35	←
Chain	Part No.	94860-01068	←	←	←
	No. of links	68	←	←	←

2

SLIDE RAIL SUSPENSION TUNING

The spring preload is a determining factor in machine stability. Consider the course condition and the rider's weight when setting spring preload. The suspension should be set as soft as possible without impairing the stability of the machine.



Stopper Band Setting

1. Adjust:
 - Stopper band length

NOTE:


This adjustment will affect the stability and maneuverability of the machine.

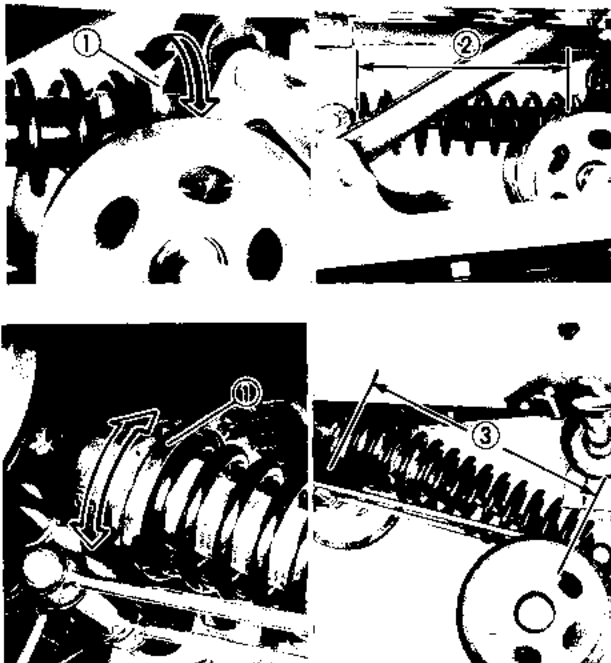
Adjustment steps.

- Remove the stopper band ① securing bolt ② and washers.
- Adjust the length of stopper band .

Standard Setting:
 Front [A] : No. 3 hole
 Rear [B] : No 1 hole

2

Front A :			
Hole No.	Maneuverability	Performance of straight running	Performance of starting acceleration
No. 1 ↑ ↓ No. 6	Less ↑ ↓ Better	Less ↑ ↓ Better	Better ↑ ↓ Less
Rear B :			
Hole No.	Riding comfort	Stability	
No. 1 ↑ ↓ No. 5	Better ↑ ↓ Less	Less ↑ ↓ Better	
• Tighten the bolt (stopper band).			
 Nut (stopper band): 4 Nm (0.4 m • kg, 2.9 ft • lb)			



Spring Preload

1. Adjust:

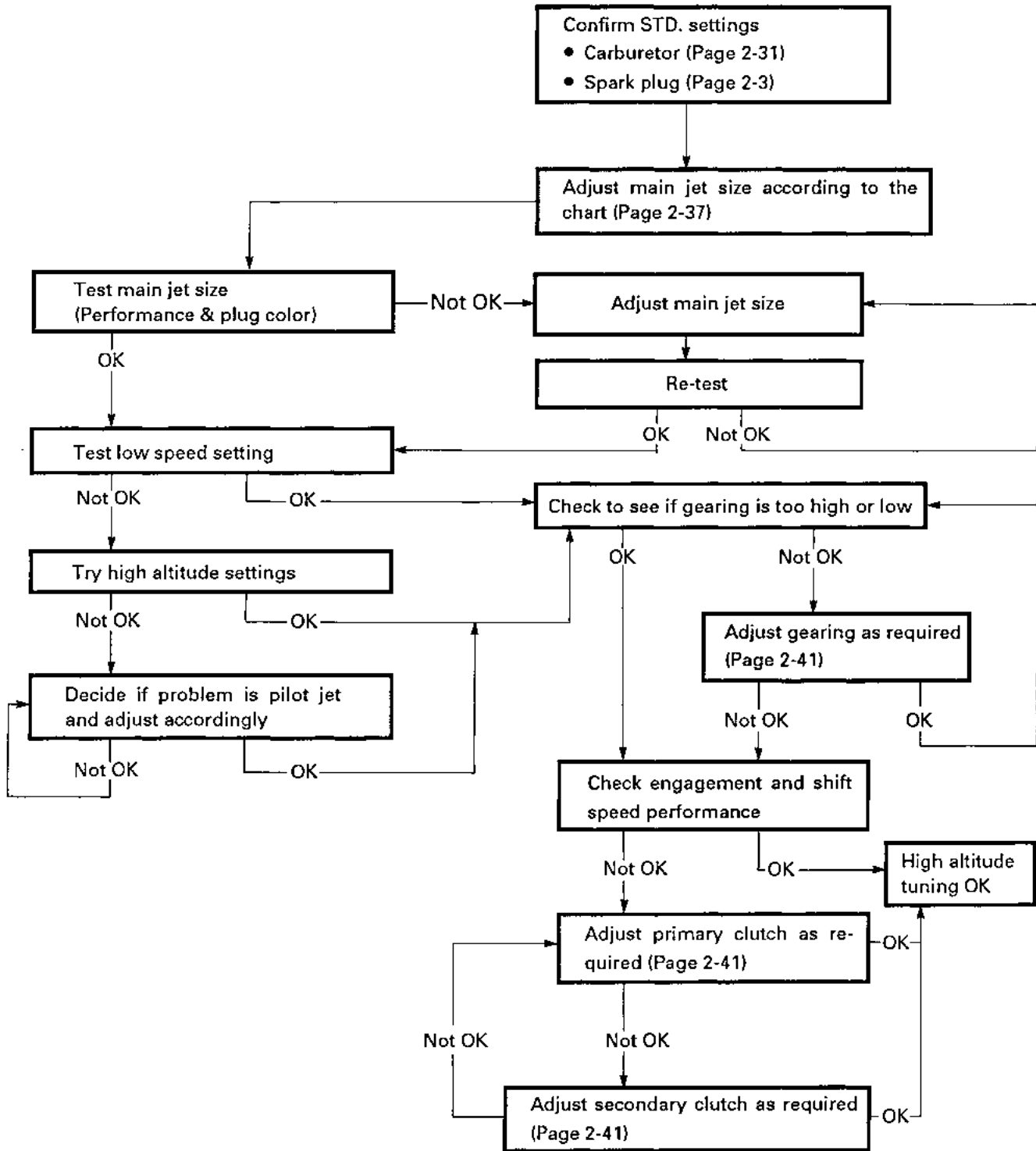
- Spring preload

Adjustment steps:		
• Turn the spring seat ① in or out.		
Spring length	Shorter ↔ Longer	
Preload	Harder ↔ Softer	
Standard	②	193.3 mm(7.6 in)
spring length	③	261.8 mm(10.3 in)
A Front B Rear		

HIGH ALTITUDE TUNING

To attain the best performance in high altitude conditions, carefully tune the snowmobile as outlined below.

2

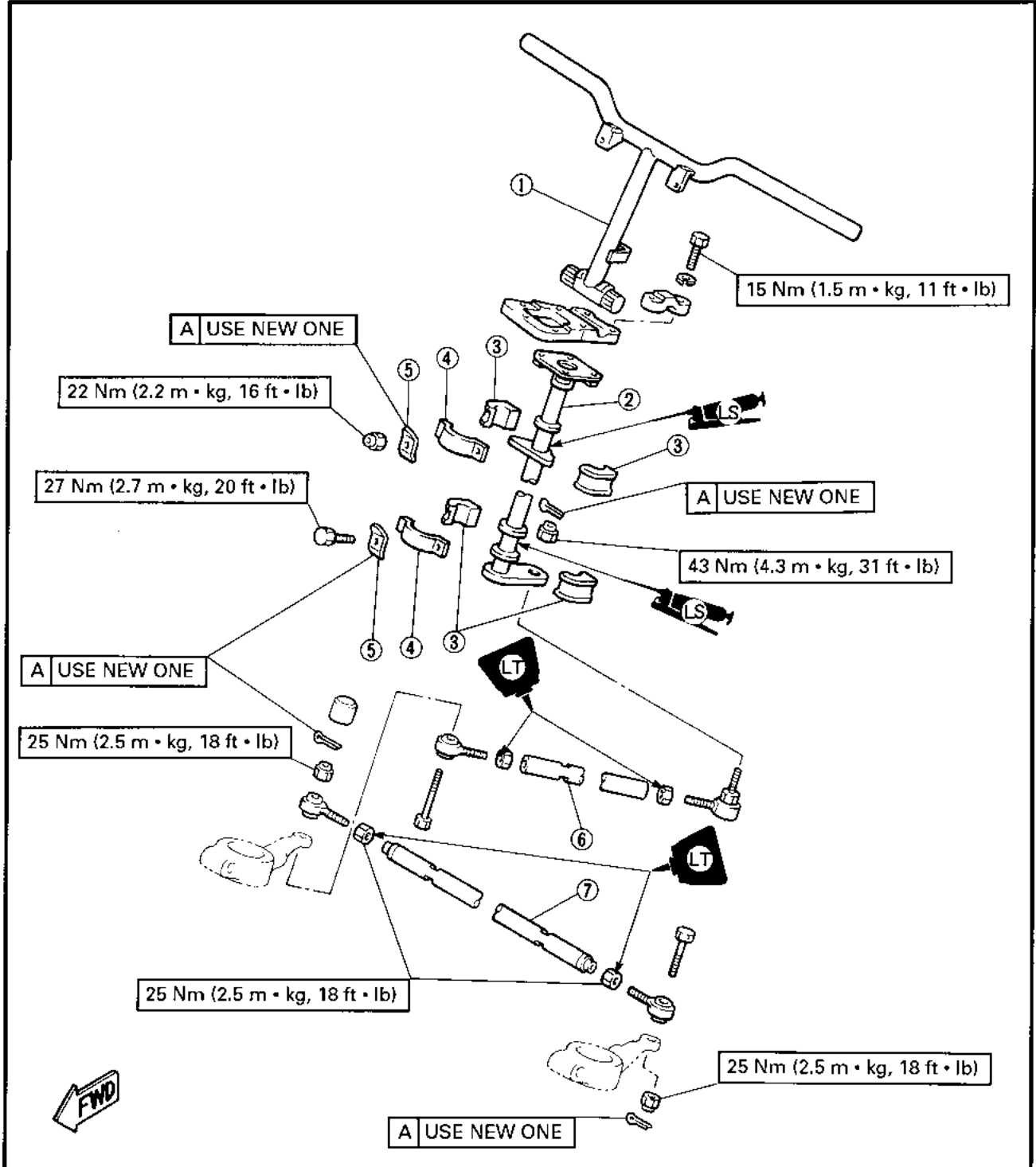


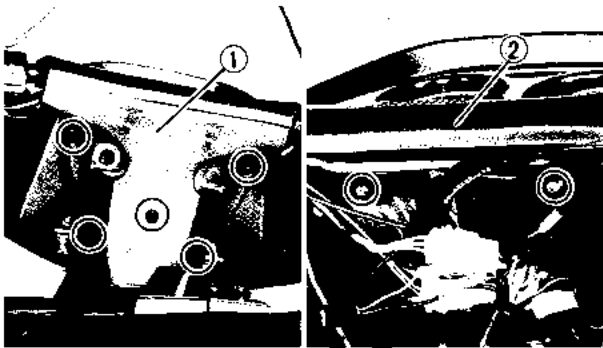


CHASSIS

STEERING

- ① Handlebar
- ② Steering column
- ③ Bearing
- ④ Bearing holder
- ⑤ Lock washer
- ⑥ Relay rod
- ⑦ Tie-rod



**REMOVAL**

1. Remove:

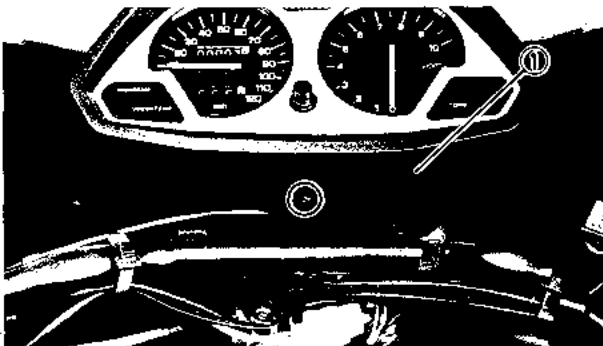
- Handlebar cover (rear) ①
- Handlebar cover (front) ②

NOTE:

Disconnect the grip warmer switch coupler when removing the handlebar cover (rear).

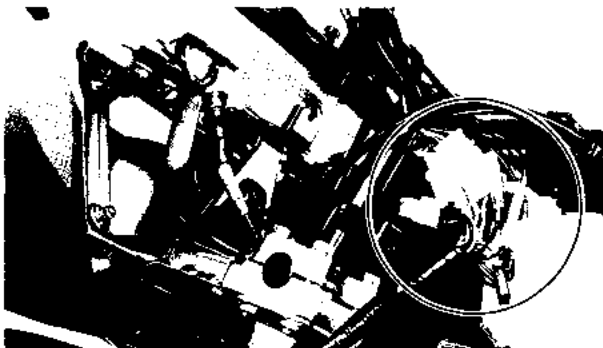
2. Remove:

- Meter cover ①



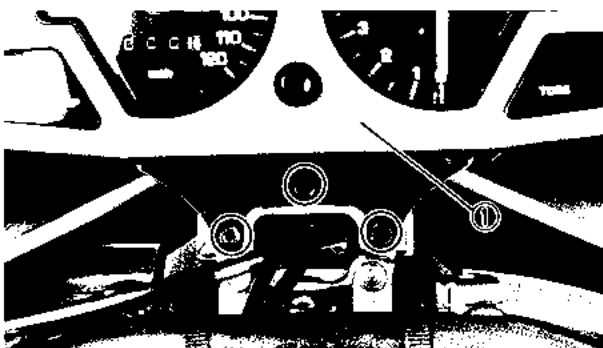
3. Disconnect:

- Meter light coupler
- Headlight coupler
- Speedometer cable
- Handlebar switch coupler (right)
- Brake light switch coupler
- Headlight beam switch coupler
- Grip warmer leads



4. Remove:

- Upper cowling (with meter assembly) ①

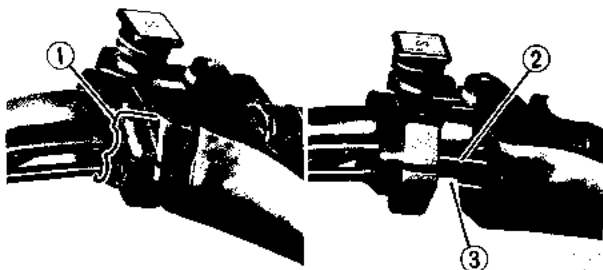


5. Remove:

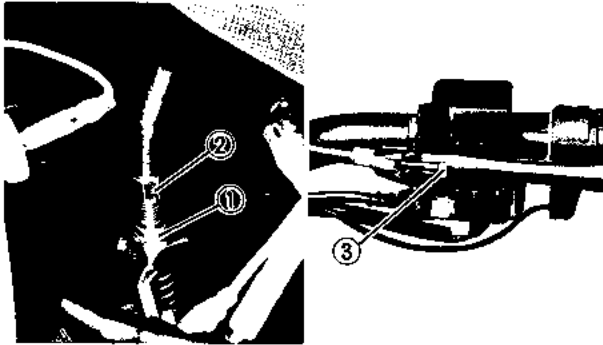
- Holder (throttle cable) ①

6. Disconnect:

- Throttle cable ②
- Oil pump cable ③ (from throttle lever)



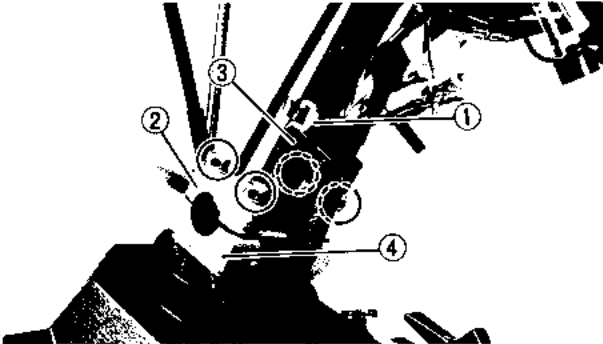
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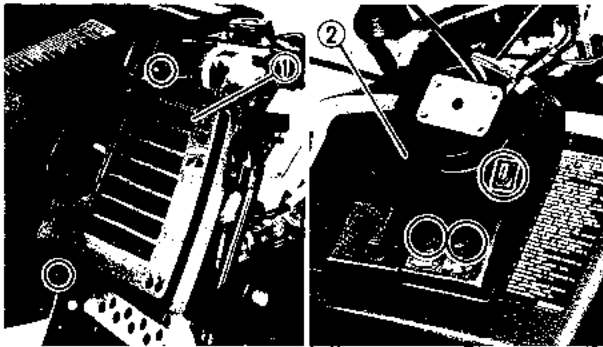
7. Remove:
- Brake cable

Removal steps:

- Loosen the locknut (1).
- Turn in the adjuster fully (2).
- Disconnect the brake cable end (3) from the brake lever.



8. Remove:
- Band (1)
 - Handlebar holders (upper) (2)
 - Handlebar (3)
 - Handlebar holder (lower) (4)

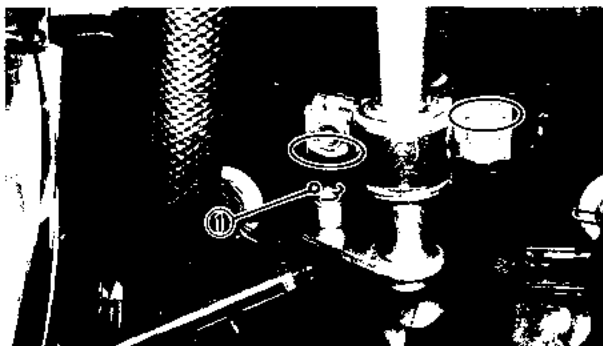


9. Remove:
- Side covers (left and right) (1)
 - Center cover (2)

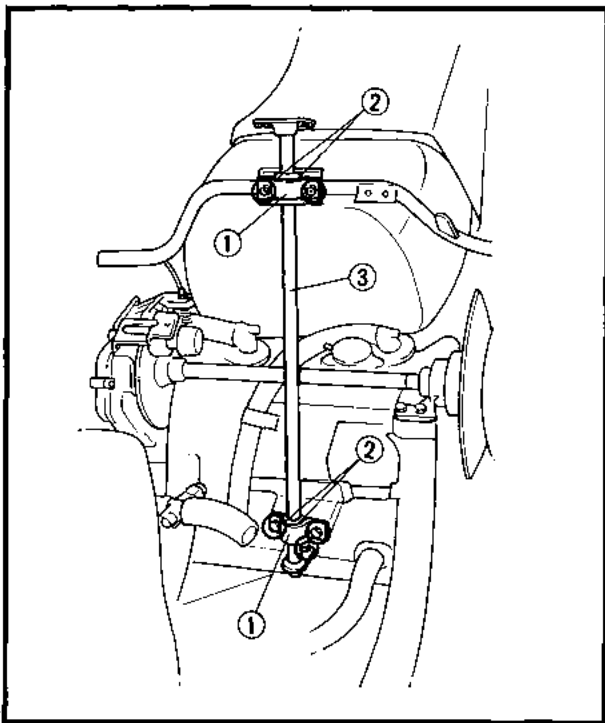
NOTE:

Remove the holding nuts (main switch, "STARTER" lever and fuel cock) when removing the center cover.

10. Remove:
- Carburetors (See page 7-2)
 - Intake silencer
 - Engine assembly (See page 5-1)



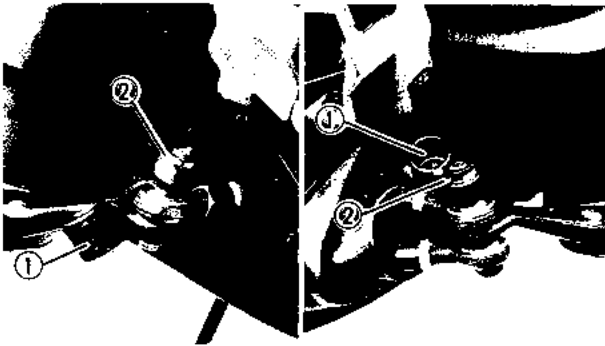
11. Straighten:
- Lock washer tabs (upper and lower)
12. Remove:
- Cotter pin (1)



13. Remove:
- Nuts
 - Bolts
 - Lock washers
 - Bearing holders ①
 - Bearings ②
 - Steering column ③

NOTE: _____
 When removing the relay rod from the steering column, the relay rod end needs to be held fixed in order to facilitate the lock nut removal.

3

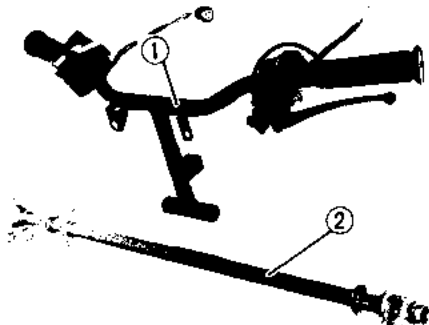


14. Remove:
- Cap ①
 - Cotter pins ②

- Ⓐ Left side
- Ⓑ Right side



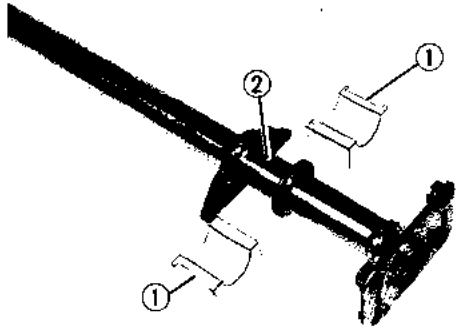
11. Remove:
- Relay rod ①
 - Tie rod ②



INSPECTION

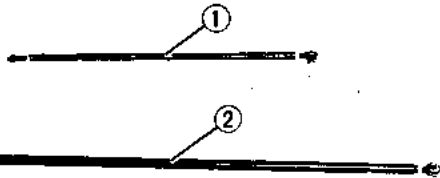
1. Inspect:
- Handlebar ①
 - Steering column ②
- Bends/Cracks/Damage → Replace.

⚠ WARNING _____
 Do not attempt to straighten a bent column.
 This may dangerously weaken the column.



2. Inspect:

- Bearings (steering column) ①
Wear/Damage → Replace.
- Steering column ② (bearing contact surfaces)
Scratches/Wear/Damage → Replace.



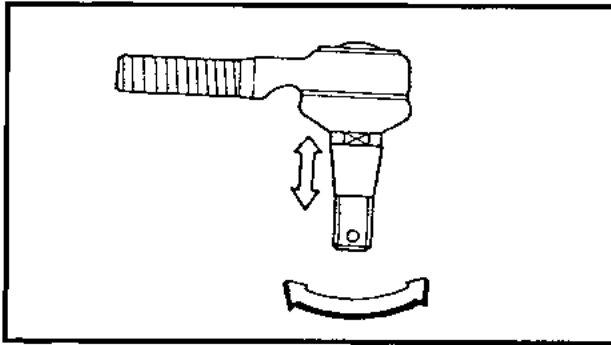
3. Inspect:

- Relay rod ①
- Tie-rod ②
Bends/Cracks/Damage → Replace.

WARNING

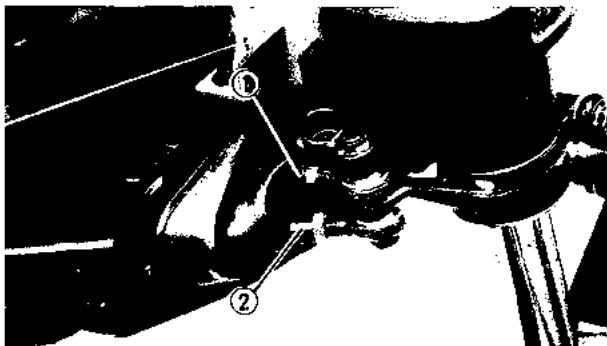
Do not attempt to straighten a bent rod. This may dangerously weaken the rod.

3



4. Check:

- Tie-rod end movement
Tie-rod end free play exists → Replace.
- Tie-rod end turns roughly → Replace.



INSTALLATION

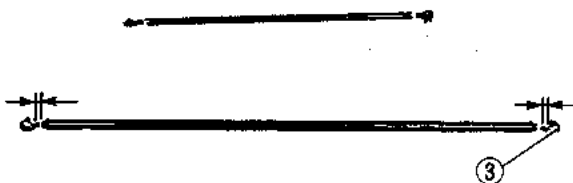
Reverse the "REMOVAL" procedure. Note the following points.

1. Install:

- Tie-rod ①
- Relay rod ②

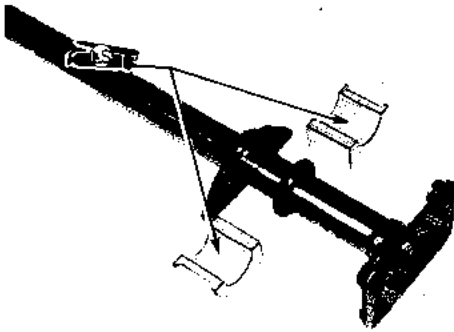
NOTE:

- Install the rod end ③ with left-hand threads onto the tie-rod on the right side.
- The threads on both rod-ends must be the same length.



Lock nut (tie-rod end):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®

Nut (suspension bracket-tie-rod):
25 Nm (2.5 kg, 18 ft · lb)



4. Apply
 - Low temperature lithium soap base grease (to bearing inner surface)
5. Tighten:



Bearing holder nut:
22 Nm (2.2 m · kg, 16 ft · lb)
Bearing holder bolt:
27 Nm (2.7 m · kg, 20 ft · lb)
Relay rod nut:
43 Nm (4.3 m · kg, 31 ft · lb)

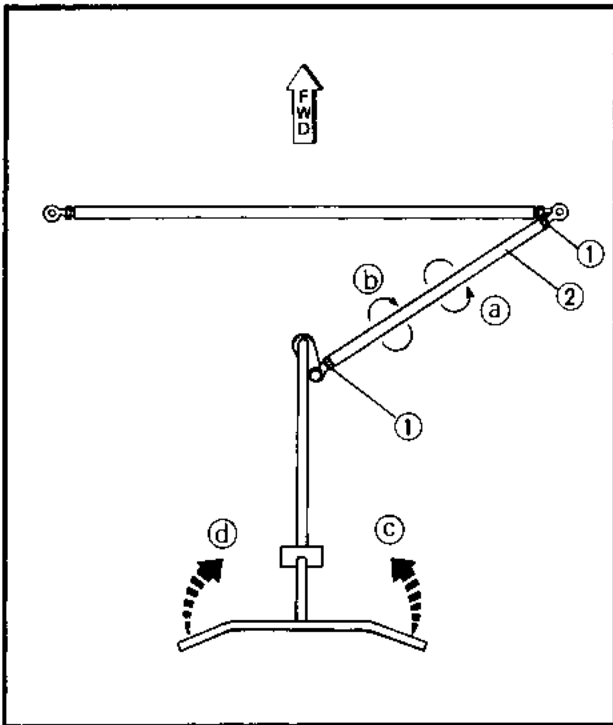
CAUTION:

Always use a new lock washer and cotter pin.

NOTE:

Bend the lock washer top along the bolts and nuts flats.

3



6. Adjust:

- skis

Adjustment steps:

- Temporarily install the handlebar.
- Hold the handlebar straight, and check to see that the skis are at right angles to the handlebar.
- Loosen the locknuts (steering relay rod) ① .
- Direct the skis in parallel to the moving direction.
- With the skis thus, turn the relay rod ② either way to adjust the handlebars at right angles with respect to the direction of movement.

Turning the relay rod in direction ①

The handlebars move in direction ③

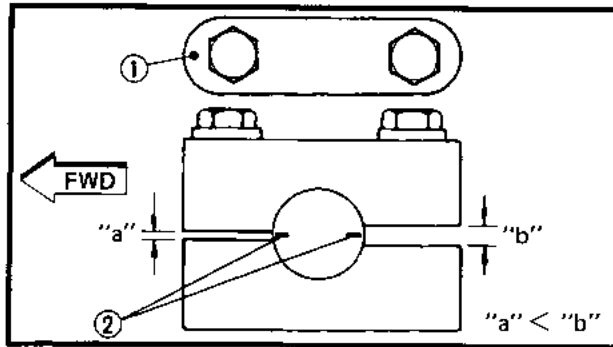
Turning the relay rod in direction ②

The handlebars move in direction ④

- Tighten the locknuts (steering relay rod) ① .



Locknut (steering relay rod):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®



7. Tighten:



Handlebar holder bolt:
15 Nm (1.5 m · kg, 11 ft · lb)

NOTE:

- The upper handlebar holder should be installed with the punch mark ① forward.
- Align the punch marks ② with the handlebar holder gaps respectively.
- Tighten the bolts to specification so that the front clearance "a" is smaller than rear clearance "b".

CAUTION:

First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.

3

8. Tighten:



Upper cowling bolt:
3 Nm (0.3 m · kg, 2.2 ft · lb)

9. Adjust:

- Brake lever free play (See page 2-18)

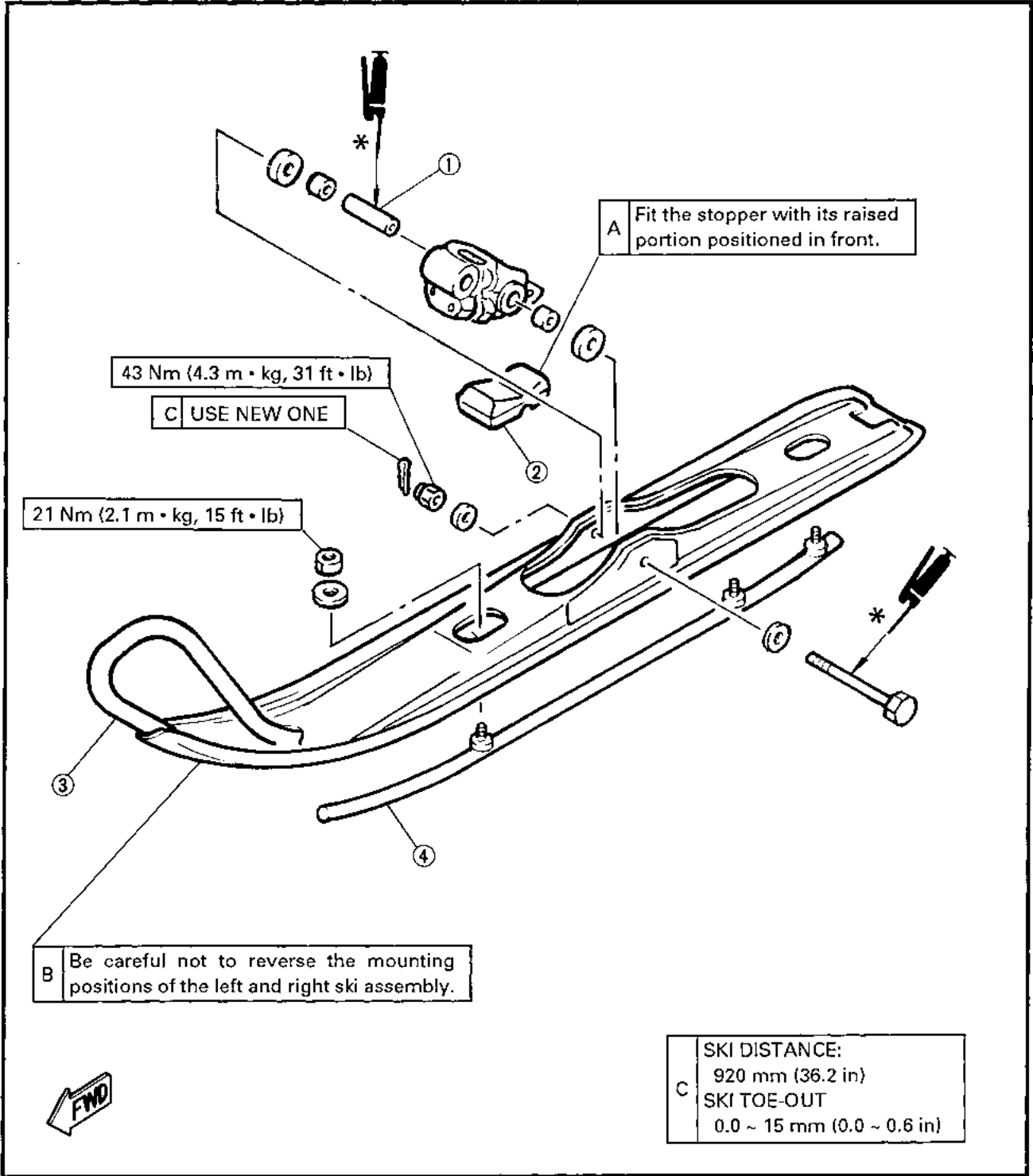
SKI

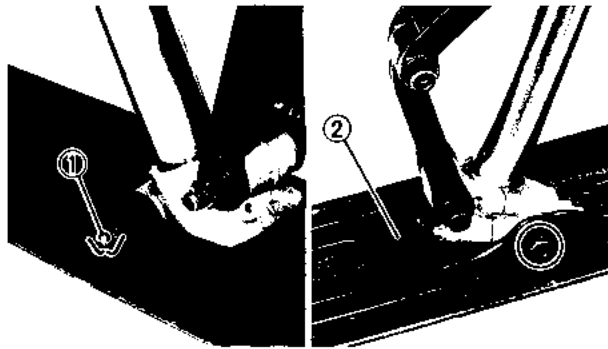
- ① Collar
- ② Ski stopper
- ③ Ski
- ④ Ski runner



Recommended grease:
 ESSO Beacon 325 grease or
 Aeroshell grease #7A

3

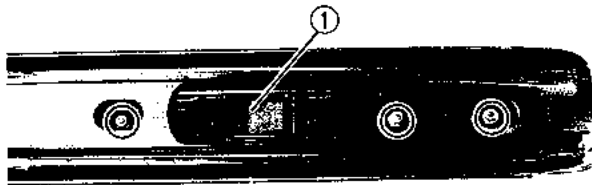




REMOVAL

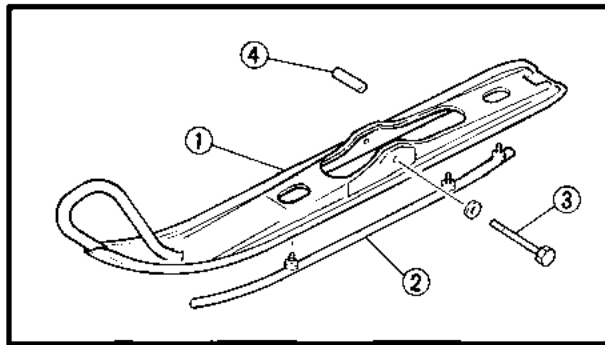
1. Elevate the ski by placing a suitable stand under the chassis.

2. Remove:
- Cotter pin ①
 - Ski ②
 - Washers
 - Collar



3. Remove:
- Ski stopper ①
 - Ski runner

3




INSPECTION

1. Inspect:
- Ski ①
 - Ski runner ②
Wear/Cracks/Damage → Replace.
 - Mounting bolt ③
 - Collar ④
Wear/Damage → Replace.

INSTALLATION

Reverse the "REMOVAL" procedure.
Note the following points.

1. Tighten:

	<p>Ski runner nut: 21 Nm (2.1 m • kg, 15 ft • lb)</p>
---	--

2. Install:
- Ski stopper

NOTE:

- Fit the stopper with its raised portion positioned in front.
- Be careful not to reverse the mounting positions of the left and right ski assemblies.



3. Tighten:



Mounting nut:
43 Nm (4.3 m • kg, 31 ft • lb)

NOTE:

Lubricate the collar and mounting bolt before installing the ski.



Recommended grease:
ESSO Beacon 325 grease or
Aeroshell grease #7A

CAUTION:

Always use a new cotter pin.

3

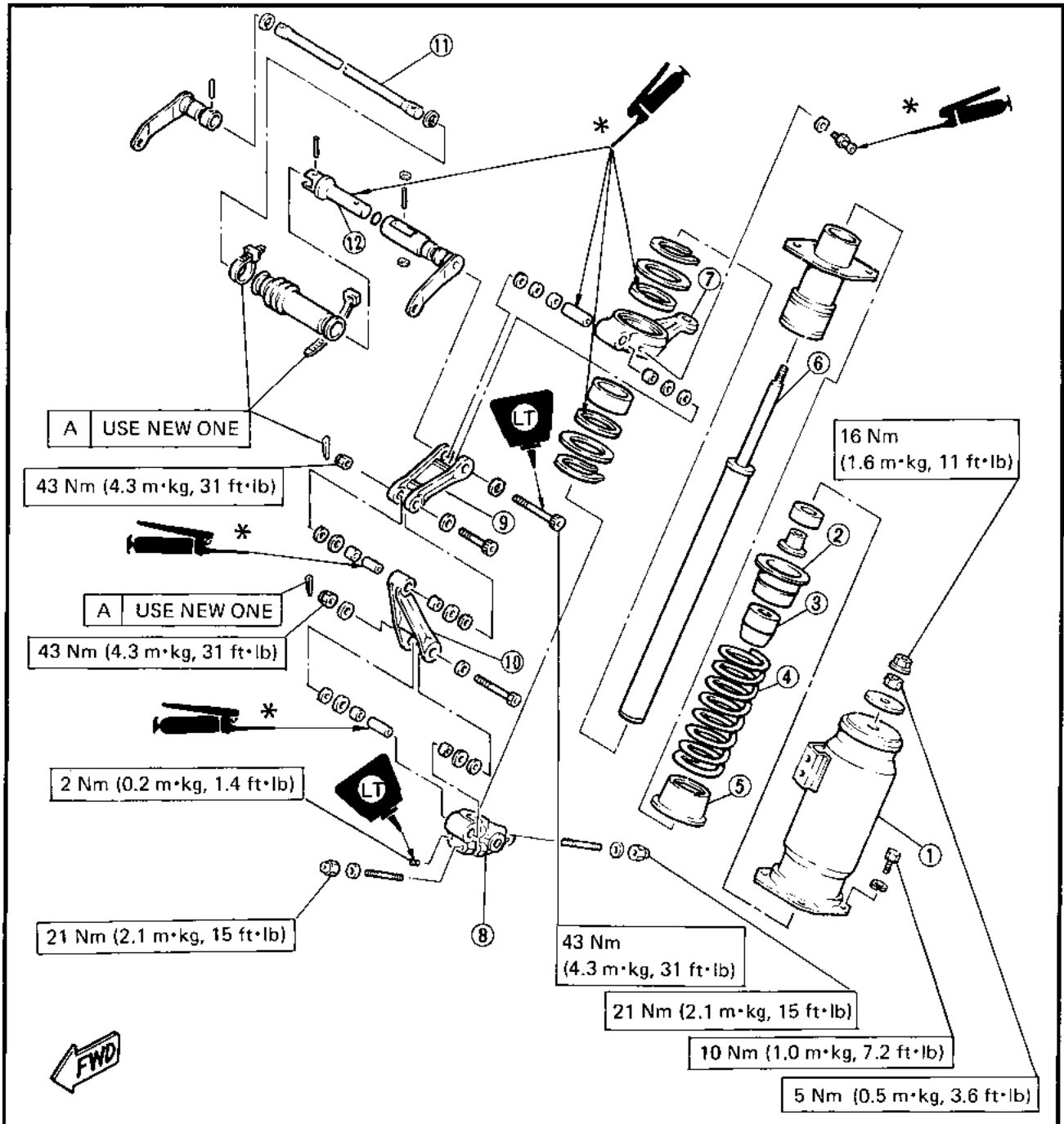


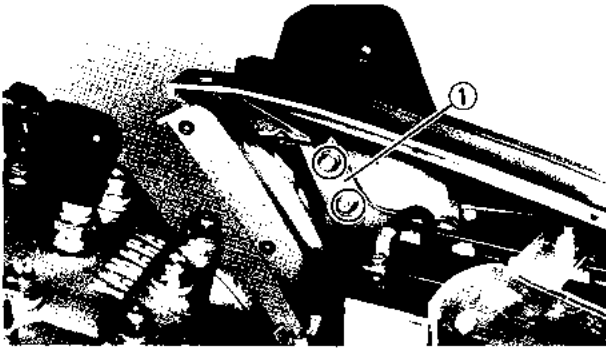
FRONT SUSPENSION

- ① Absorber holder
- ② Spring seat (upper)
- ③ Dumper
- ④ Spring
- ⑤ Spring seat (lower)
- ⑥ Shock absorber
- ⑦ Suspension arm
- ⑧ Suspension bracket
- ⑨ Front arm (upper)
- ⑩ Front arm (lower)
- ⑪ Stabilizer rod
- ⑫ Stabilizer slider



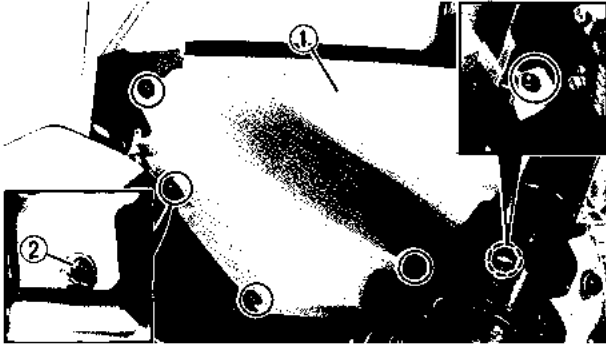
Recommended grease:
 ESSO Beacon 325 grease or
 Aeroshell grease #7A





REMOVAL

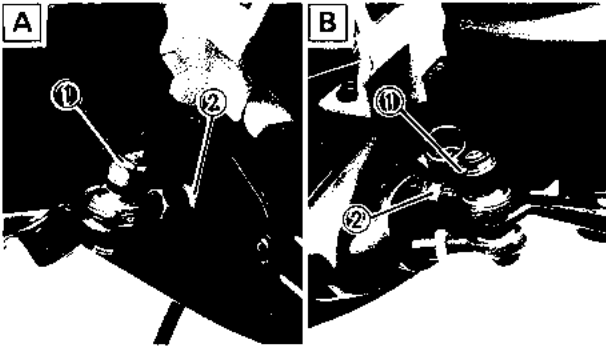
1. Remove:
 - Side cowling (See page 2-3)
 - Bracket ①



2. Remove:
 - Hoods ①

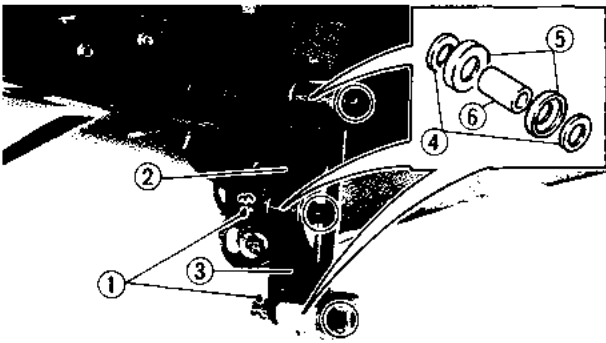
NOTE: _____
 When removing the hood, the nuts ② may fall off.
 Be careful not to lose these parts.

3

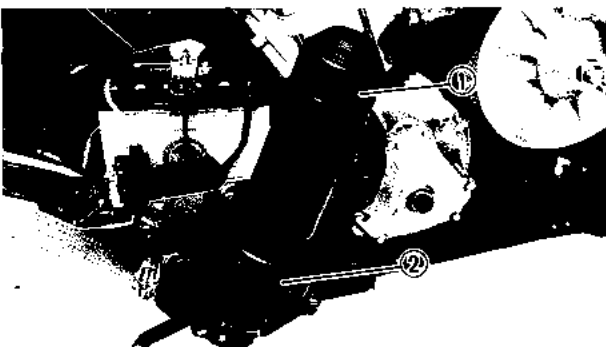


3. Remove:
 - Ski (See page 3-9)
4. Remove:
 - Cotter pin ①
 - Tie-rod ②

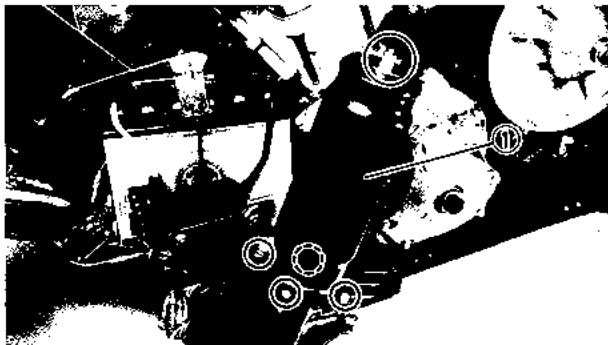
A Left
B Right



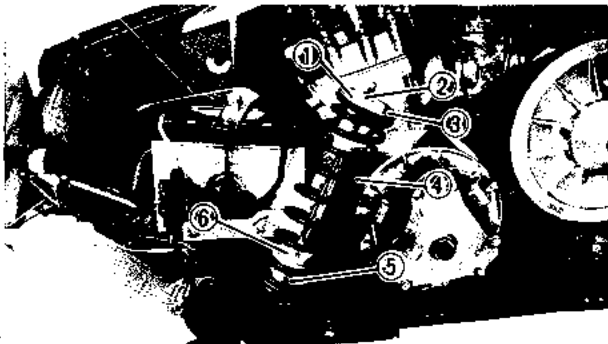
5. Remove:
 - Cotter pins ①
 - Front arm (upper) ②
 - Front arm (lower) ③
 - Washers ④
 - Bushing ⑤
 - Collars ⑥



6. Remove:
 - Cap (suspension) ①
 - Protector ②

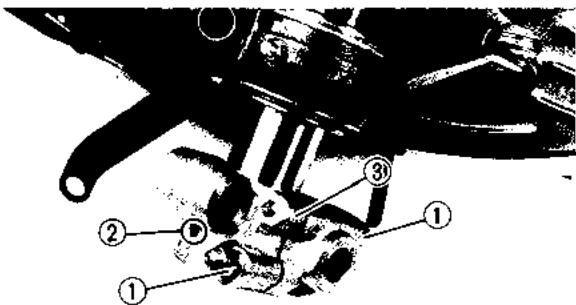


7. Remove:
- Absorber holder ①



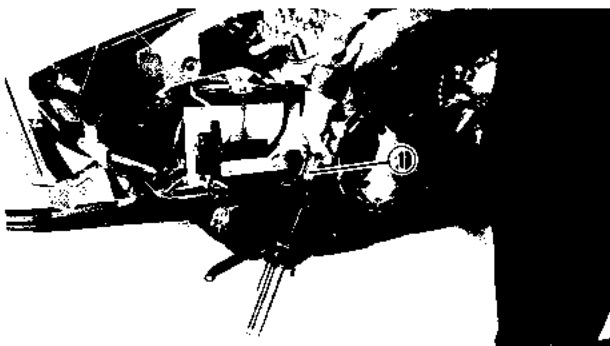
8. Remove:
- Spacer collar ①
 - Flange plate ②
 - Spring seat (upper) ③
 - Spring ④
 - Spring seat (lower) ⑤
 - Absorber cover ⑥

3

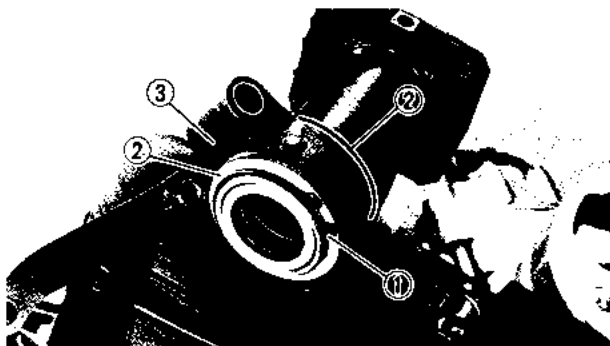


9. Loosen:
- Nuts ①
 - Set screw ②

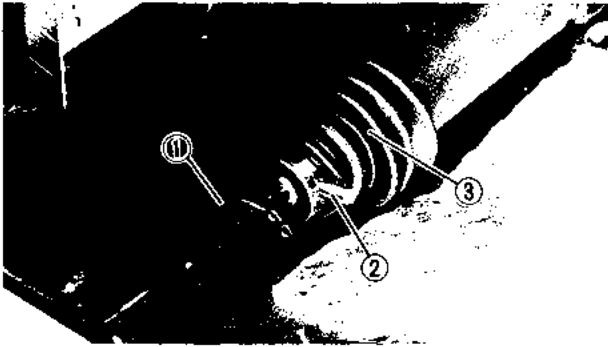
10. Remove:
- Suspension bracket ③



11. Remove:
- Shock absorber ①



12. Remove:
- Circlip ①
 - Washer ②
 - Suspension arm ③

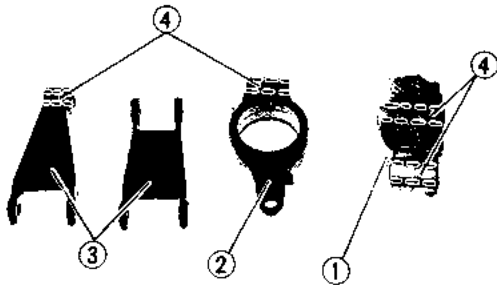


13. Remove:
- Muffer
 - Circlip ①
 - Pin ②
 - Stabilizer slider ③

NOTE: _____
 Pull left side of the stabilizer bar to inside, then remove the circlip.

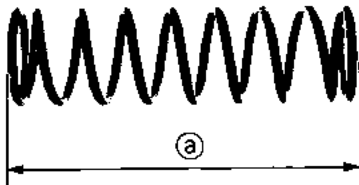
INSPECTION

1. Inspect:
- Shock absorber
 Oil leaks/Bend/Damage → Replace.




2. Inspect:
- Suspension brackets ①
 - Suspension arm ②
 - Front arms ③
 - Bushings ④
 Cracks/Wear/Damage → Replace.

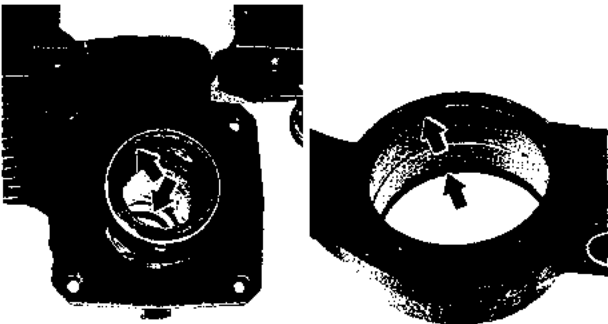
3. Inspect:
- Spring
 Wear/Cracks/Damage → Replace.



4. Measure:
- Spring free length (a)
 Out of specification → Replace.

	Spring free length limit: 235.0 mm (9.25 in)
---	--

5. Inspect:
- Oil seals
 Damage → Replace.



3

6. Inspect:

- Stabilizer slider

Unsmooth movement → Apply a low temperature grease into the stabilizer slider.



Recommended grease:
 ESSO Beacon 325 grease or
 Aeroshell grease #7A

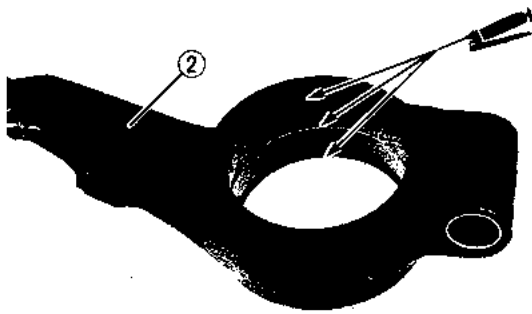
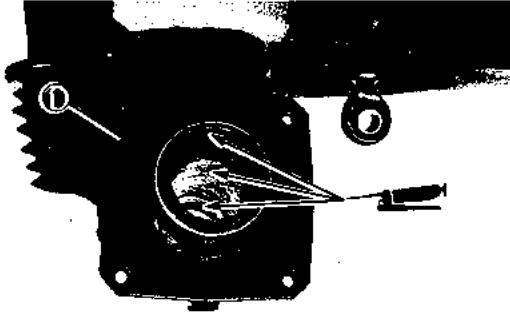
INSTALLATION

Reverse the "REMOVAL" procedure.

Note the following points.

1. Lubricate:

- Bushing (suspension support) ①
- Bushing (suspension arm) ②
- Oil seal lips



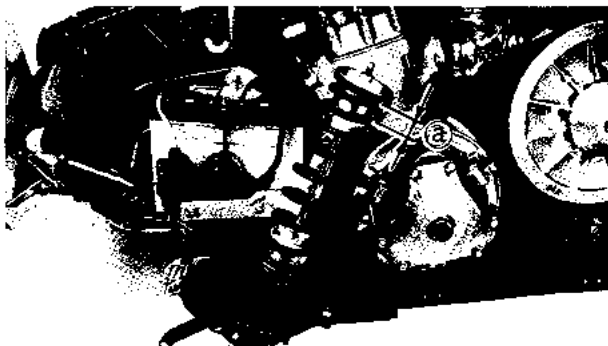
Recommended grease:
 ESSO Beacon 325 grease or
 Aeroshell grease #7A

3

2. Tighten:



- Suspension bracket nut:
 21 Nm (2.1 m • kg, 15 ft • lb)
- Set screw:
 2 Nm (0.2 m • kg, 1.4 ft • lb)
 LOCTITE®
- Absorber holder bolt:
 10 Nm (1.0 m • kg, 7.2 ft • lb)
- Shock absorber nut:
 5 Nm (0.5 m • kg, 3.6 ft • lb)
- Locknut (shock absorber):
 16 Nm (1.6 m • kg, 11 ft • lb)



NOTE:

Install the spring with the small pitch side ③ upward.



3. Tighten:



Front arm nut:
43 Nm (4.3 m • kg, 31 ft • lb)

NOTE:

Be sure install the front arms so that the "UPPER" mark is positioned to the upper and the "LOWER" mark is positioned to the lower.

CAUTION:

Always use a new cotter pin.

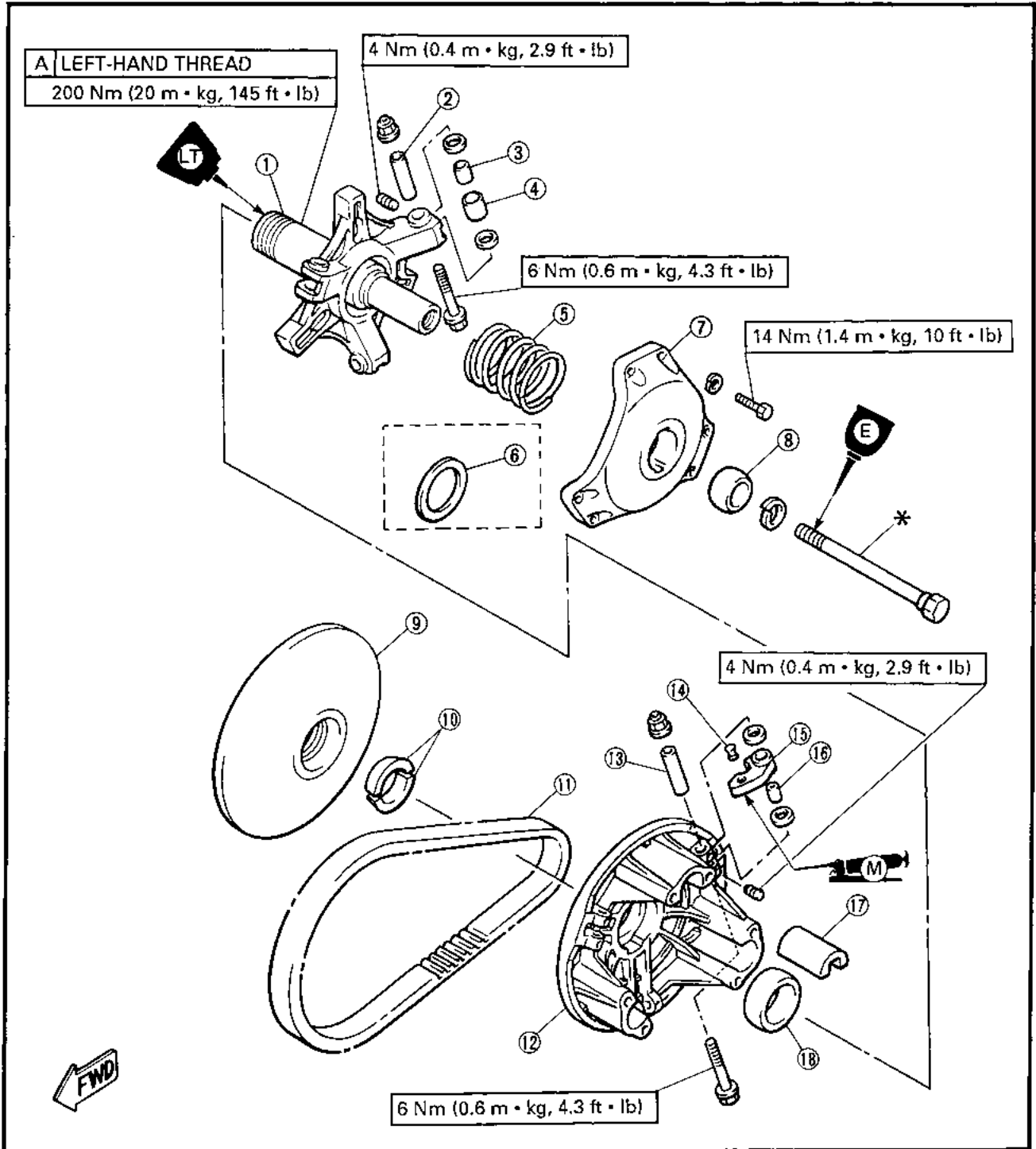
3

POWER TRAIN

PRIMARY SHEAVE AND DRIVE V-BELT

- | | |
|-------------------------|------------------|
| ① Spider | ⑩ Stopper |
| ② Collar | ⑪ V-belt |
| ③ Bushing | ⑫ Sliding sheave |
| ④ Roller | ⑬ Collar |
| ⑤ Primary sheave spring | ⑭ Rivet |
| ⑥ Shim | ⑮ Weight |
| ⑦ Primary sheave cap | ⑯ Bushing |
| ⑧ Bushing | ⑰ Slider |
| ⑨ Fixed sheave | ⑱ Bushing |

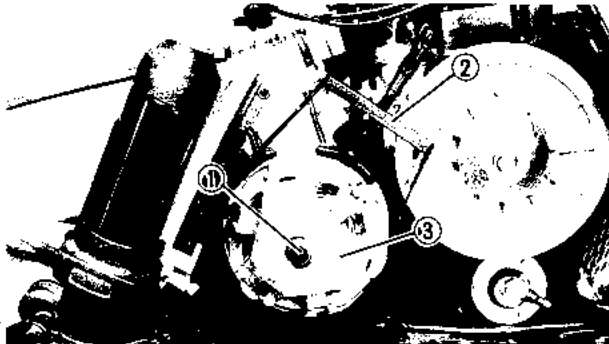
- ***
1. Tighten the bolt.
120 Nm (12 m • kg, 87 ft • lb)
 2. Loosen the bolt completely.
 3. Retighten the bolt.
60 Nm (6.0 m • kg, 43 ft • lb)



REMOVAL

1. Remove:

- Side cowling (left) (See page 2-3)
- Drive V-belt guard
- Drive V-belt (See page 2-16)



2. Remove:

- Bolt (primary sheave) ①

NOTE:

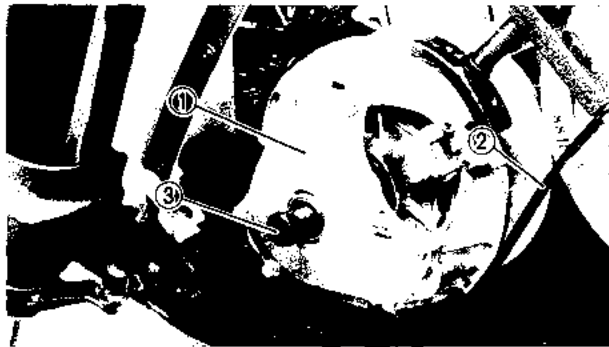
Use the Primary Sheave Holder (90890-01701, YS-01880) ② to hold the primary sheave ③ .

3. Remove:

- Primary sheave assembly ①

NOTE:

Use the Primary Sheave Holder (90890-01701, YS-01880) ② and Primary Sheave Puller (—, YS-01881-1, YS-38517) ③ .



DISASSEMBLY

1. Remove:

- Bolts (primary sheave cap) ①

NOTE:

Attach the Sheave Compressor (—, YS-28891) ① to compress the primary sheave spring.



2. Remove:

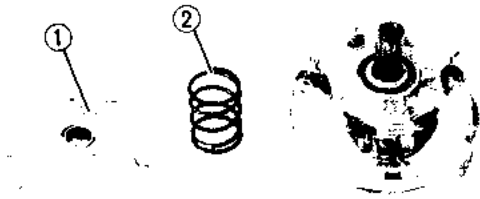
- Sheave compressor ①

NOTE:

Slowly loosen the wing nut ① of the sheave compressor to release primary sheave spring tension.

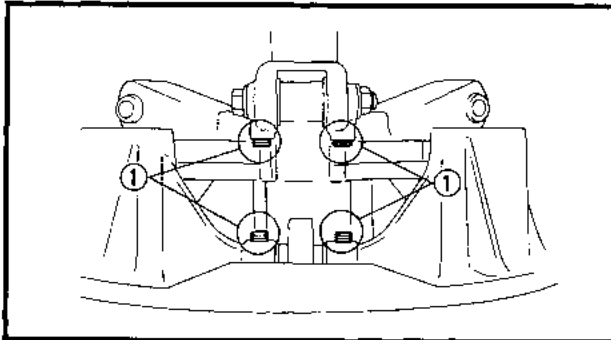


4



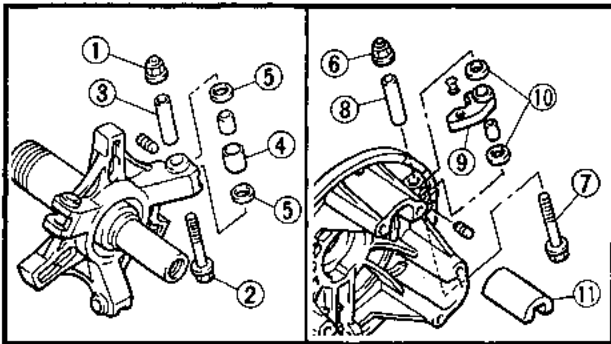
3. Remove:

- Primary sheave cap ①
- Primary sheave spring ②



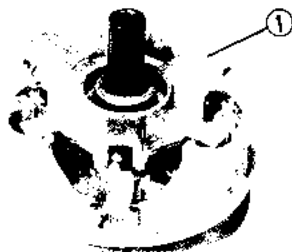
4. Loosen:

- Set screws ①



5. Remove:

- Nut ①
- Bolt ②
- Collar ③
- Roller ④
- Washers ⑤
- Nut ⑥
- Bolt ⑦
- Collar ⑧
- Weight ⑨
- Washers ⑩
- Slider ⑪



6. Remove:

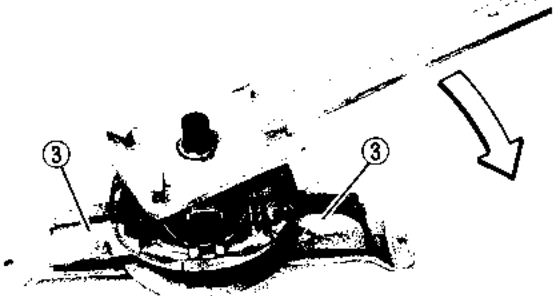
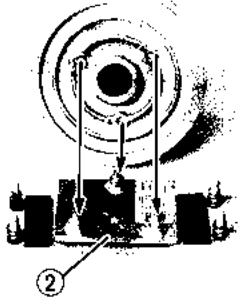
- Spider ①

NOTE: _____
Special tools and LOCTITE® are necessary for assembling the spider and fixed sheave. If these are unavailable, avoid disassembling.



Removal steps:

- Immerse the primary sheave assembly in approximately 80° ~ 100° C (176° ~ 212° F) water for several minutes.
- Hold the lower piece of the Clutch Spider Separator (—, YS-28890-B) ① on a rigid table using a suitable mounting bolts. Then, install the Clutch Separator Adapter (—, YS-34480) ② onto the separator.



- Fit the primary sheave assembly onto the adapter, and secure the supporting plates ③.

NOTE:

Securely fit the projections of the adapter into the fixed sheave holes.

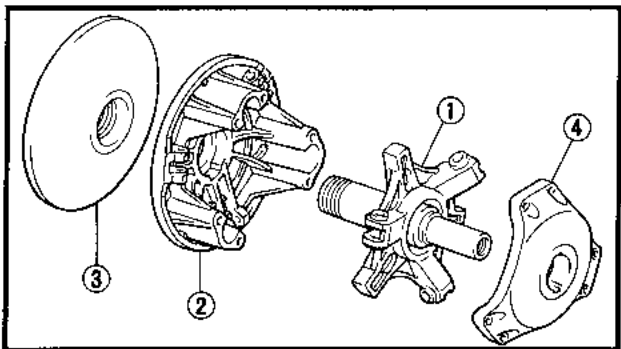
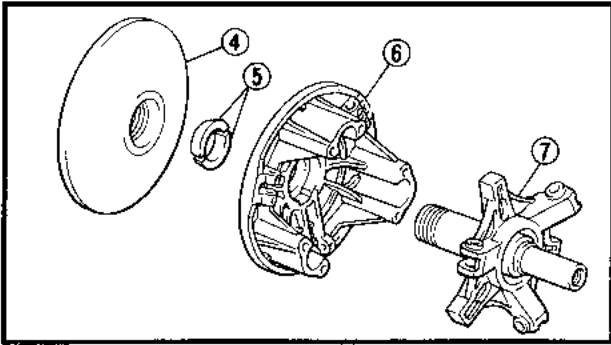
- Set the bar wrench onto the spider and turn the special tool clockwise to loosen the spider.

CAUTION:

- Spider has a left-hand thread.
- To loosen the spider, high torque is required so be sure that the spider, fixed sheave and special tool are placed securely. Loosen the spider carefully to prevent cracks and/or damage to the sheaves and spider.

- Remove the fixed sheave ④, fixed sheave stopper ⑤, and sliding sheave ⑥ from the spider ⑦.

4



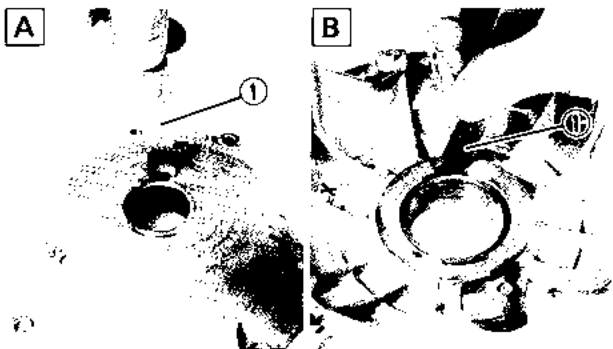
INSPECTION


1. Inspect:

- Spider (tapered portion) ①
 - Sliding sheave ②
 - Fixed sheave ③
 - Primary sheave cap ④
- Cracks/Damage → Replace.

2. Measure:

- Bushing-to-sheave clearance
- Out of specification → Replace bushing.
Use a feeler gauge ①



	Bush clearance (primary sheave cap) [A] :
	0.25 mm (0.01 in)
	Bush clearance (sliding sheave):
	0.25 mm (0.01 in) [B] :



3. Inspect:

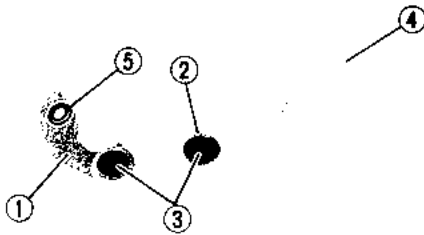
- Primary sheave spring ①
Cracks/Damage → Replace.

4. Measure:

- Primary sheave spring free length ①
Out of specification → Replace.

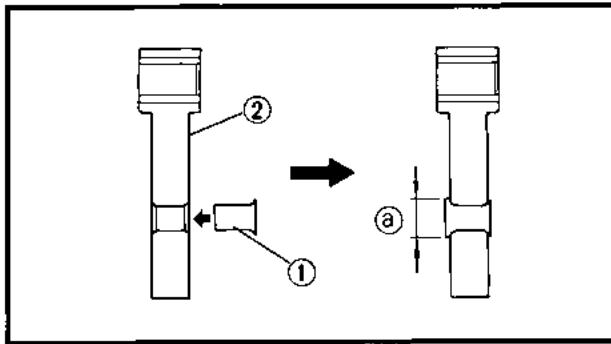


Primary sheave spring free length:
72.5 ~ 78.5 mm (2.85 ~ 3.09 in)



5. Inspect:

- Weight ①
- Roller ②
- Bushing ③
- Slider ④
- Rivet ⑤
- Collar
- Wear/Scratches/Damage → Replace.

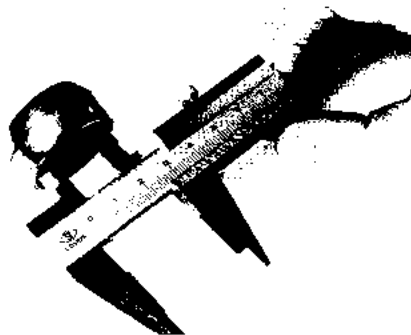


Rivet replacement steps:

- Remove old rivet with the appropriate drill.
- Insert the rivet ① from the ID mark ② side.
- Press or peen the rivet head so that the diameter of rivet head measures to 8.2 mm (0.32 in) or larger ①.

NOTE: _____
Refer to chart on 2-42 for rivet application.

4



6. Measure:

- Bushing inside diameter (primary sheave cap)
Out of specification → Replace.



Bushing inside diameter (primary sheave cap):
new: 28.0 mm (1.10 in)
<wear limit: 28.2 mm (1.11 in)>



7. Measure:

- Bushing inside diameter (sliding sheave)
Out of specification → Replace.



Bushing inside diameter (sliding sheave):
new: 40.0 mm (1.57 in)
<wear limit: 40.2 mm (1.58 in)>


4

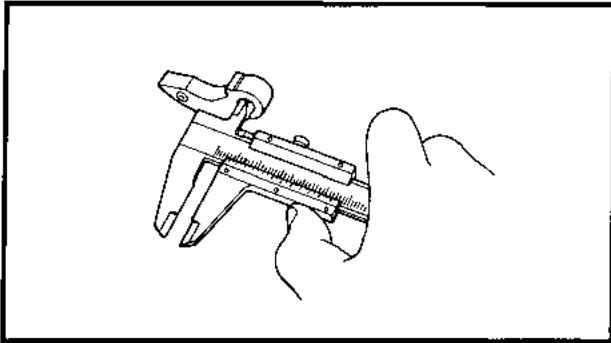
- 8 .Inspect:
- Weight pin hole
Excessive Wear/Damege → Replace.

- 9 .Inspect:
- Roller collar hole
Excessive Wear/Damege → Replace.


10. Measure:
- Roller bushing inside diameter
Out of specification → Replace as a set.



 Roller bushing inside diameter:
new: 8.0 mm (0.31 in)
<wear limilt: 8.2 mm (0.32 in)>



11. Measure:
- Weight bushing inside diameter
Out of specification → Replace as a set.

 Weight bushing inside diameter:
new: 8.0 mm (0.31 in)
<wear limilt: 8.2 mm (0.32 in)>



ASSEMBLY

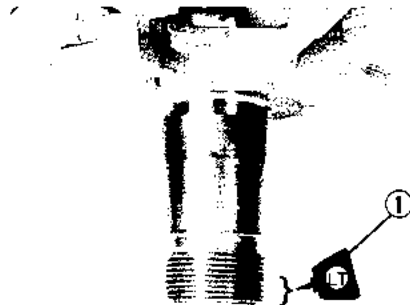
Reverse the "DISASSEMBLY" procedure.
Note the following points.

1. Install:
- Sliding sheave
(onto spider)

NOTE: _____
Be sure the sliding sheave match mark (x) is aligned with the spider match mark (x).

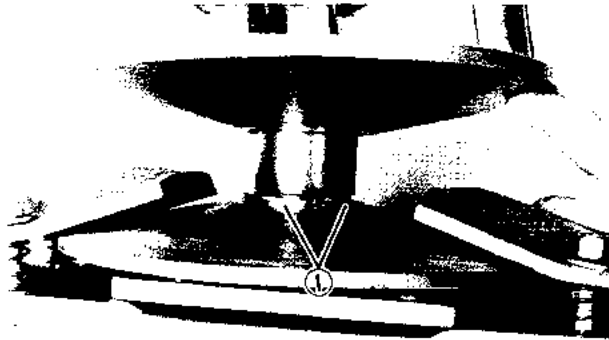
2. Install:
- Fixed sheave
(onto spider)

NOTE: _____
Apply LOCTITE® ① to the first 4 threads of the spider.



CAUTION:

LOCTITE® should be applied only to the area specified. Never apply to the bushings and other areas.

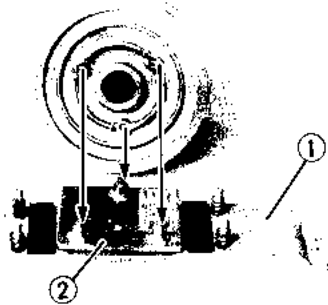


3. Install:

- Fixed sheave stoppers ①

NOTE:

Stopper tapered portion should face fixed sheave.



4. Tighten:

- Spider

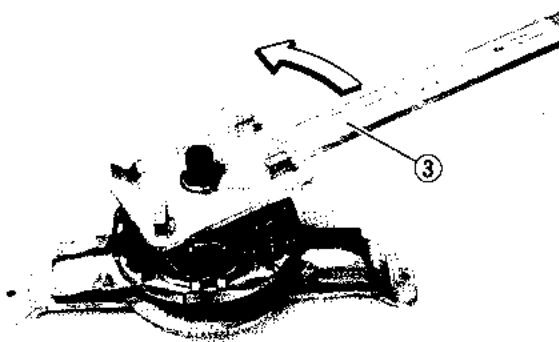
Tightening steps:

- Finger-tighten the spider until it stopped by fixed sheave stopper.
- Hold the fixed sheave with the Clutch Spider Separator (—, YS-28890-B) ①.

NOTE:

Securely fit the projections of the Clutch Separator Adapter ② into the fixed sheave holes.

- Tighten the spider to specification using the bar wrench ③.



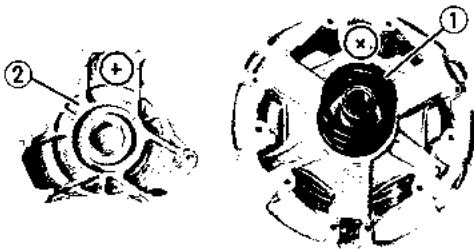
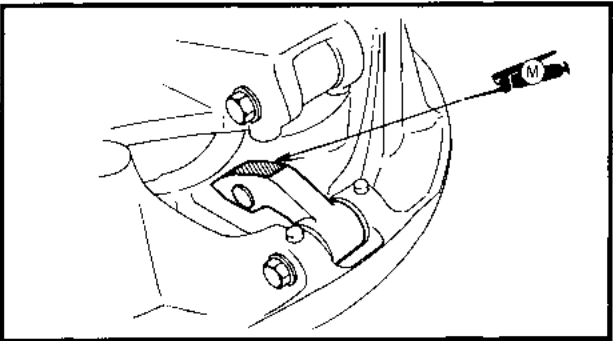
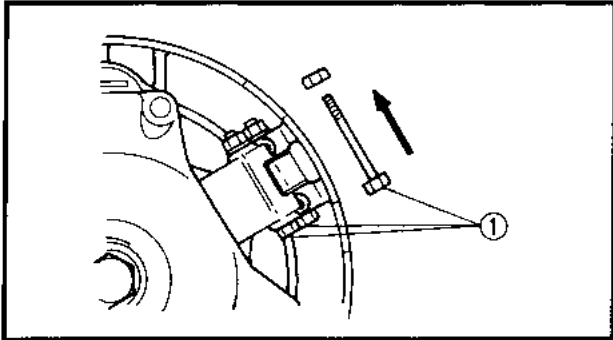
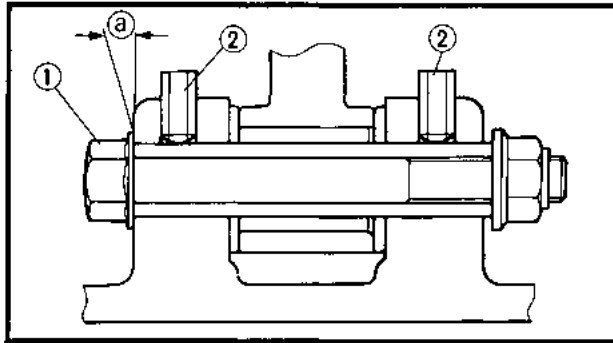
Spider:
200 Nm (20 m • kg, 145 ft • lb)

CAUTION:

Spider has a left-hand thread.

WARNING

- Do not operate the primary sheave until the LOCTITE® has dried completely. Wait 24 hours before operating primary sheave.
- Since the tightening torque is high, make sure the spider, fixed sheave, and special tool are placed securely. Tighten the spider carefully to prevent cracks and/or damage to the sheaves and spider.



5. Install:
- Weight and roller

Installing steps:

- Tighten the bolt ①.



Bolt:
6 Nm (0.6 m • kg, 4.3 ft • lb)

- Tighten the set screw ② so that clearance ③ between bolt and sheave surface is 0 mm (0 in).



Set screw:
4 Nm (0.4 m • kg, 2.9 ft • lb)

NOTE: _____
To maintain the balance of primary sheave, the bolt ① must be installed with their threaded portions pointing in a counter clockwise direction, as illustration.

6. Lubricate:
- Weight (roller contact surface)
(with thin coat)



Molybdenum disulfide grease

7. Install:
- Primary sheave spring ①
 - Primary sheave cap ②

NOTE: _____
Be sure the sheave cap match mark "X" is aligned with the spider match mark "X".

8. Tighten:



Primary sheave cap bolt:
14 Nm (1.4 m • kg, 10 ft • lb)

4



INSTALLATION

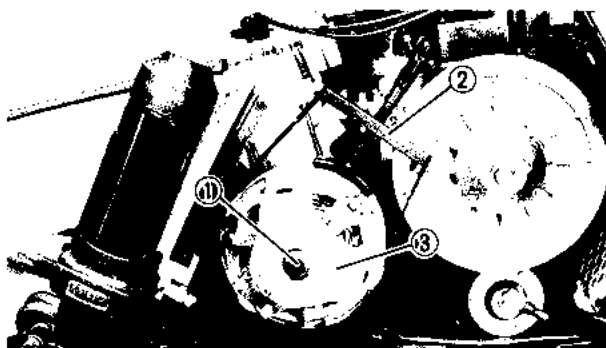
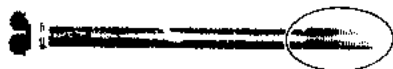
Reverse the "REMOVAL" procedure.

Note the following points.

1. Install:
 - Primary sheave assembly

CAUTION:

Be sure to remove any oil and/or grease from the tapered portion of the crankshaft and spider using a cloth dampened with thinner.



2. Apply:
 - YAMALUBE 2-cycle oil/equivalent grease (to threads of primary sheave bolt)

3. Tighten:
 - Bolt (primary sheave) ①

Tightening steps:

- Hold the primary sheave ③ using the Primary Sheave Holder (90890-01701,YS-01880) ② and tighten the bolt (primary sheave) to specification.



Bolt (primary sheave):
 (initial tightening)
 120 Nm (12 m • kg, 87 ft • lb)

- Loosen the bolt (primary sheave) completely.
- Retighten the bolt (primary sheave) to specification.



Bolt (primary sheave):
 60 Nm (6.0 m • kg, 43 ft • lb)

4. Install:
 - Drive V-belt

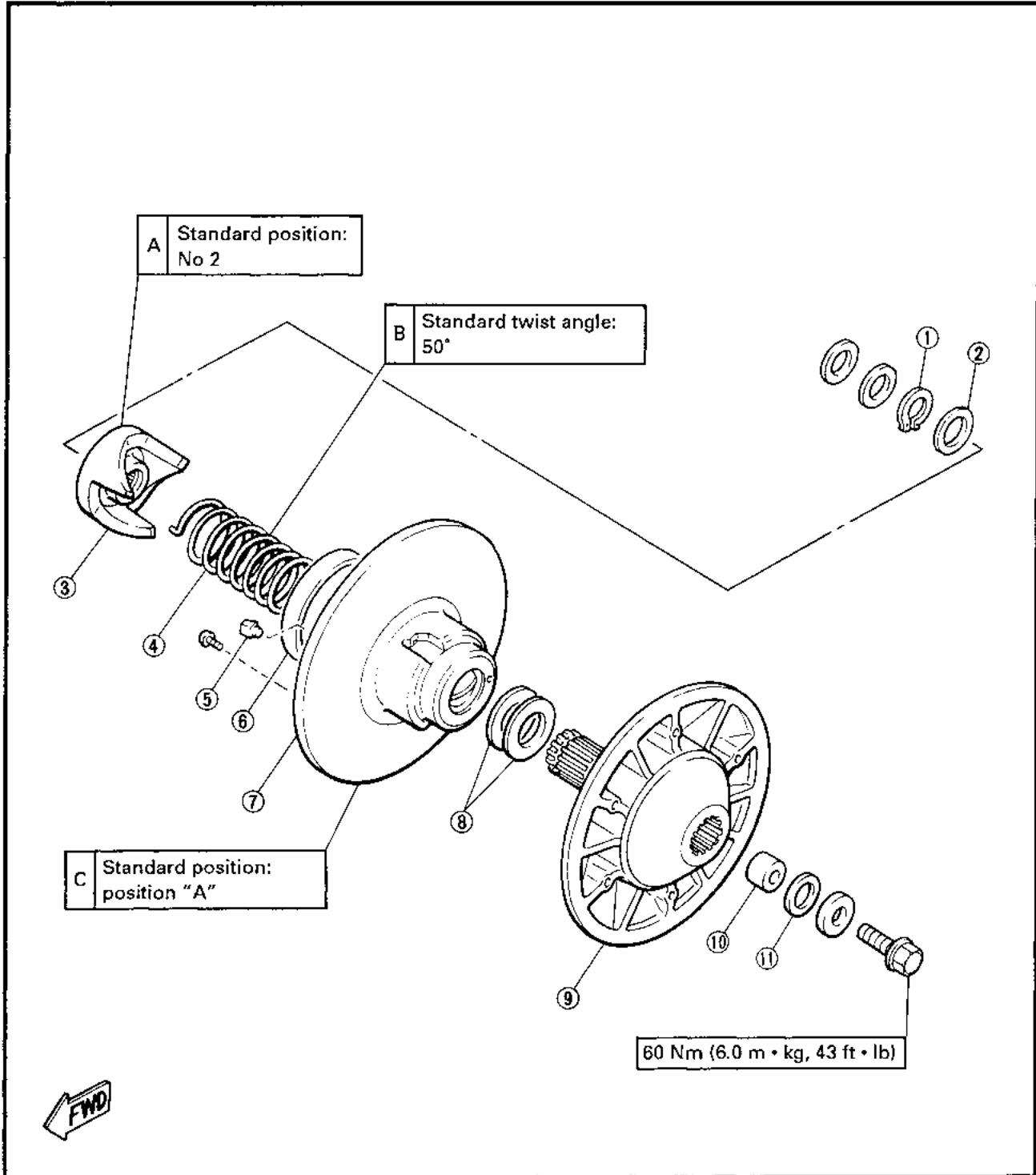
NOTE:

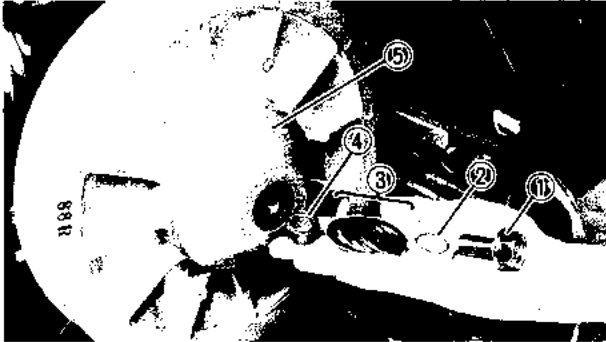
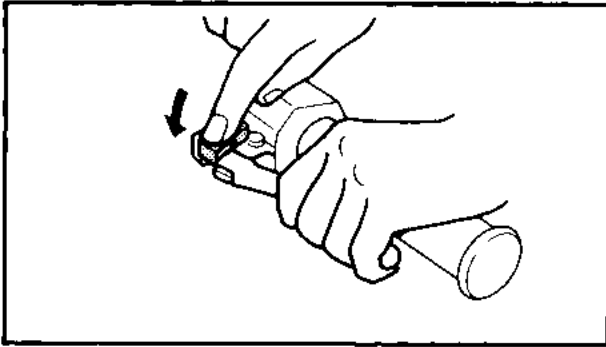
Before installing the V-belt, clean the oil off the fixed sheaves and sliding sheaves using a cloth dampened with thinner.

SECONDARY SHEAVE

- ① Circlip
- ② Washer
- ③ Spring seat
- ④ Secondary spring
- ⑤ Ramp shoe
- ⑥ Sliding bushing
- ⑦ Sliding sheave
- ⑧ Shim
- ⑨ Fixed sheave
- ⑩ Collor
- ⑪ Shim

4





REMOVAL

1. Remove:

- Side cowling (left) (See page 2-3)
- Drive V-belt guard
- Drive V-belt (See page 2-16)

2. Apply the brake to lock the secondary sheave.

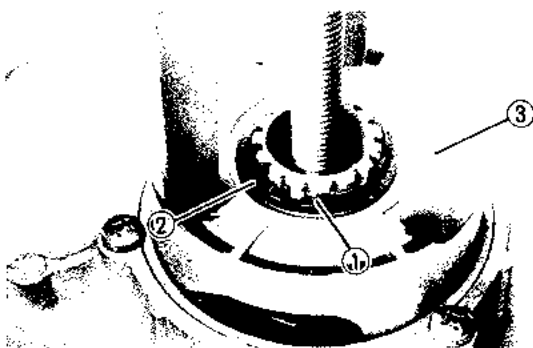
3. Remove:

- Bolt (secondary sheave) ①
- Washer ②
- Shim (s) ③
- Collar ④
- Secondary sheave ⑤

DISASSEMBLY

⚠ WARNING

- Use extreme **CAUTION** when disassembling the secondary sheave as serious injury can occur from the sudden release of spring tension. Use the Sheave Compressor (—,YS-28891) to contain the spring tension before removing the retaining clip.
- Do not attempt the procedure unless you have the proper tools and understand the instructions thoroughly.

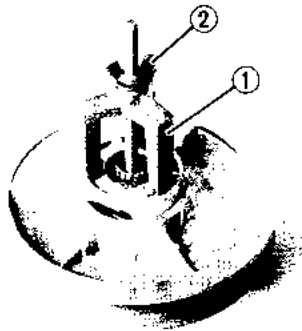


1. Remove:

- Circlip ①
- Washer ②

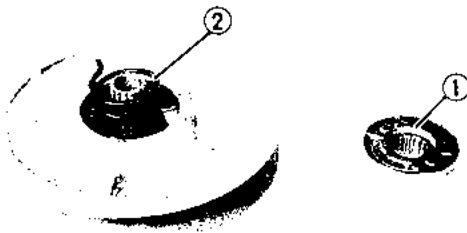
NOTE:

Attach the Sheave Compressor (—,YS-28891) ③ to compress the secondary sheave spring.



2. Remove:
- Sheave compressor ①

NOTE: Slowly loosen the wing nut ② of the sheave compressor to release the secondary sheave spring tension.

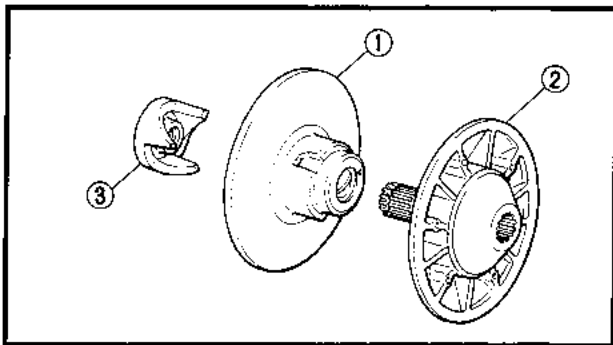


3. Remove:
- Spring seat ①
 - Secondary sheave spring ②



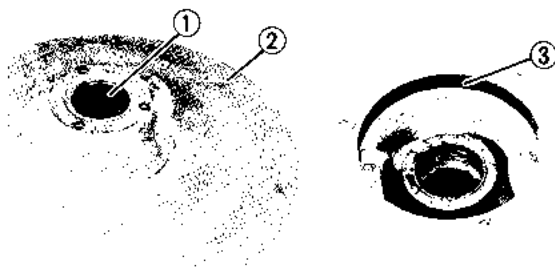
4. Remove:
- Sliding sheave ①
 - Shim (s) (drive V-belt) ② (from fixed sheave)

4

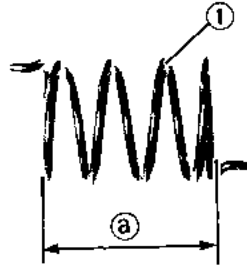


INSPECTION

1. Inspect:
- Sliding sheave ①
 - Fixed sheave ②
 - Spring seat ③
- Cracks/Damage → Replace.



2. Inspect:
- Bushing (sliding sheave) ①
 - Sliding sheave (V-belt contact surface) ②
 - Sliding bushing ③
- Scratches/Wear/Damage → Replace.
Unsymmetrical wear/Damage → Replace.




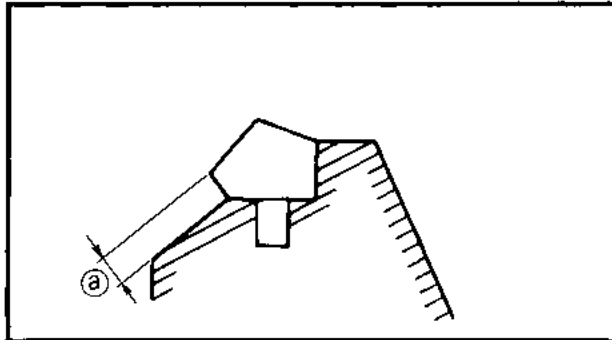
3. Inspect:

- Secondary sheave spring ①
Cracks/Damage → Replace.

4. Measure:


- Torsion spring free length ②
Less than specification → Replace.

 Free length limit :
82 ~ 86 mm (3.23 ~ 3.38 in)



5. Measure:

- Ramp shoe thickness ③
Out of specification → Replace.


 Wear limit:
1.0 mm (0.04 in)

ASSEMBLY

Reverse the "DISASSEMBLY" procedure.
Note the following points.

1. Lubricate:

- Bushing surface (thin coat)

 Recommended Grease:
Esso Beacon 325 grease or
Aeroshell grease #7A

2. Install:

- Secondary sheave spring ①

NOTE:

Hook the end of the secondary sheave spring onto the spring hole in the sliding sheave.

Standard spring position:
Position "A"

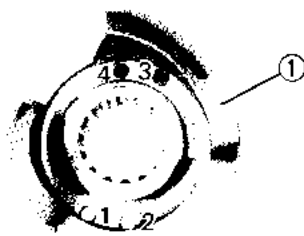
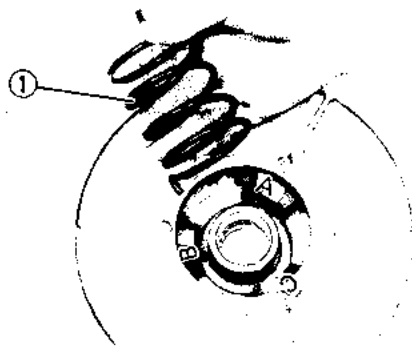
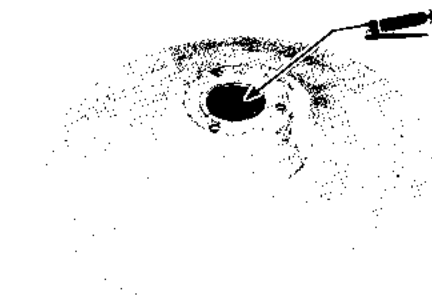
3. Install:

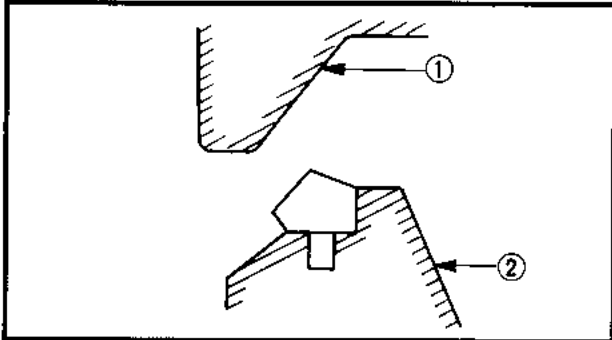
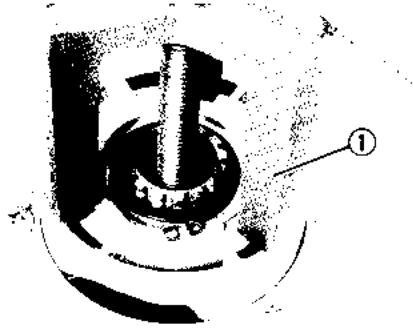
- Spring seat ①

NOTE:

Hook the end of the secondary sheave spring onto the spring hole in the spring seat.

Standard spring position:
Position "2"





4

Installation steps:

- Slide the washer and circlip onto the bolt of the Sheave Compressor (—, YS-28891) ①, and then attach the compressor to the secondary sheave.

CAUTION:

- Always use a new circlip.
- Turn in the screw for the sheave compressor so that the spring seat splines engage with the fixed sheave splines.

NOTE:

Turn in this screw to a position where the spring seat cam ① does not come in contact with the sliding sheave cam ②.

- Turn the sliding sheave the specified degrees, in the counterclockwise direction.
- Holding the sliding sheave and fixed sheave in this position.


Standard twist angle:
50°

- Turn in the screw for the sheave compressor so that the spring seat engages with the sliding sheave.
- Install the washer and circlip in proper position.


INSTALLATION

Reverse the "REMOVAL" procedure. Note the following points.

1. Lubricate:
 - Splines (fixed sheave)

	<p>Recommended grease: Esso beacon 325 grease or Aero shell grease #7A</p>
---	---

2. Tighten:

	<p>Secondary sheave bolt: 60 Nm (6.0 m · kg, 43 ft · lb)</p>
---	---


3. Adjust:
 - Sheave distance
 - Sheave offset
 - Free play (clearance)

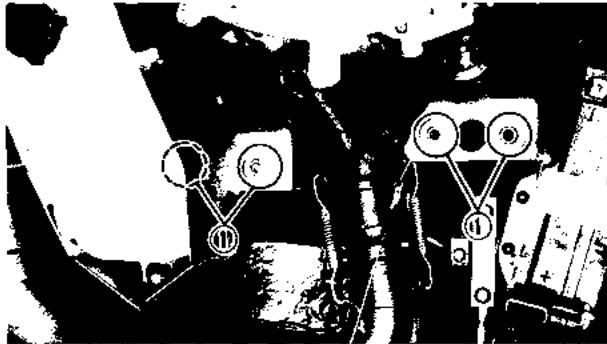


SHEAVE DISTANCE AND OFFSET ADJUSTMENT

1. Measure:

- Sheave distance ①
Use the Sheave Gauge (—, YS-91047).
Out of specification → Adjust.

 **Sheave distance:**
267 ~ 270 mm (10.5 ~ 10.6 in)

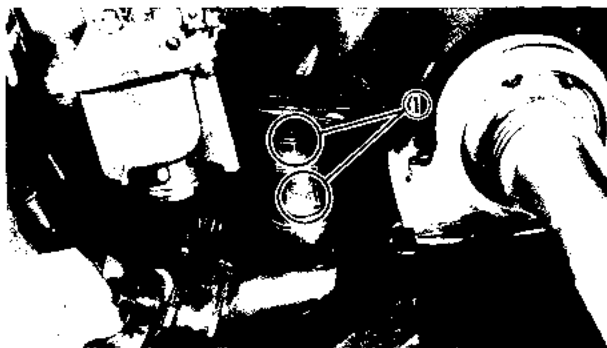



2. Adjust:

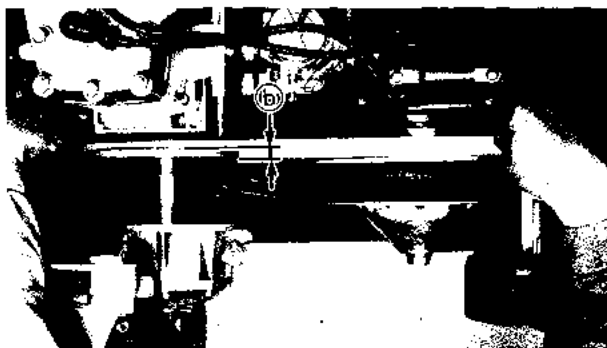
- Sheave distance

Adjustment steps:

- Check the engine mounting bracket, dampers and frame for bend, crack and weathering. Repair or replace as required.
- Loosen the engine mounting nuts ①.
- Adjust the position of the engine so that the sheave distance is within the specification with the crankshaft and juckshaft parallel to each other.
- Tighten the engine mounting nuts ①.




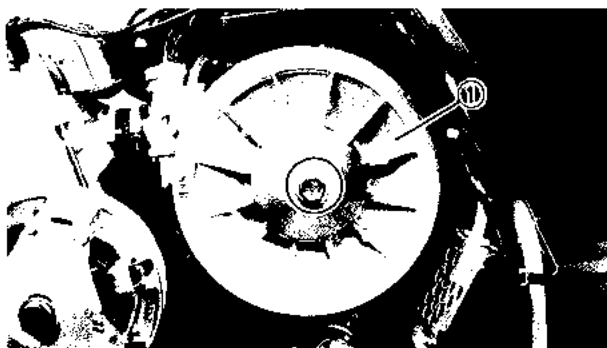
 **Mounting nut:**
40 Nm (4.0 m · kg, 29 ft · lb)



3. Measure:

- Sheave offset ②
Use the Sheave Gauge (—, YS-91047).
Out of specification → Adjust.

 **Sheave offset:**
14.5 ~ 17.5 mm (0.57 ~ 0.69 in)

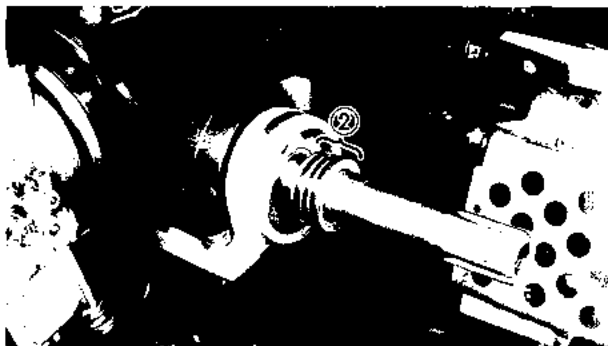


4. Adjust:

- Sheave offset

Adjustment steps:

- Apply the brake to lock the secondary sheave.
- Remove the bolt (secondary sheave) and secondary sheave ①.




- Adjust the sheave offset by adding or removing shim (s) ② .

Adding shim	Offset is increased.
Removing shim	Offset is decreased.

Shim size	
Part Number	Thickness
90201-252F1	0.5 mm (0.02 in)
90201-25527	1.0 mm (0.04 in)
90201-25526	2.0 mm (0.08 in)

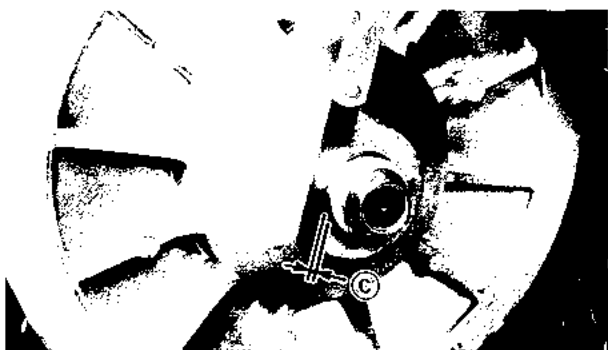
- Install the secondary sheave and bolt (secondary sheave).

 Bolt (secondary sheave):
60 Nm (6.0 m • kg, 43 ft • lb)


- Recheck the sheave offset. If out of specification, repeat the above steps.

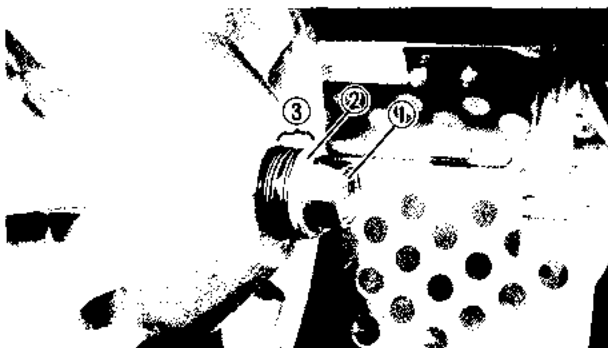
NOTE:
When adjusting the sheave offset, the secondary sheave free play (clearance) should be adjusted.

4



5. Measure:
- Secondary sheave free play (clearance) ③ .
Use a feeler gauge.
Out of specification → Adjust.


 Secondary sheave free play (clearance):
0.5 ~ 1.0 mm (0.02 ~ 0.04 in)



6. Adjust:
- Secondary sheave free play (clearance)

Adjustment steps:

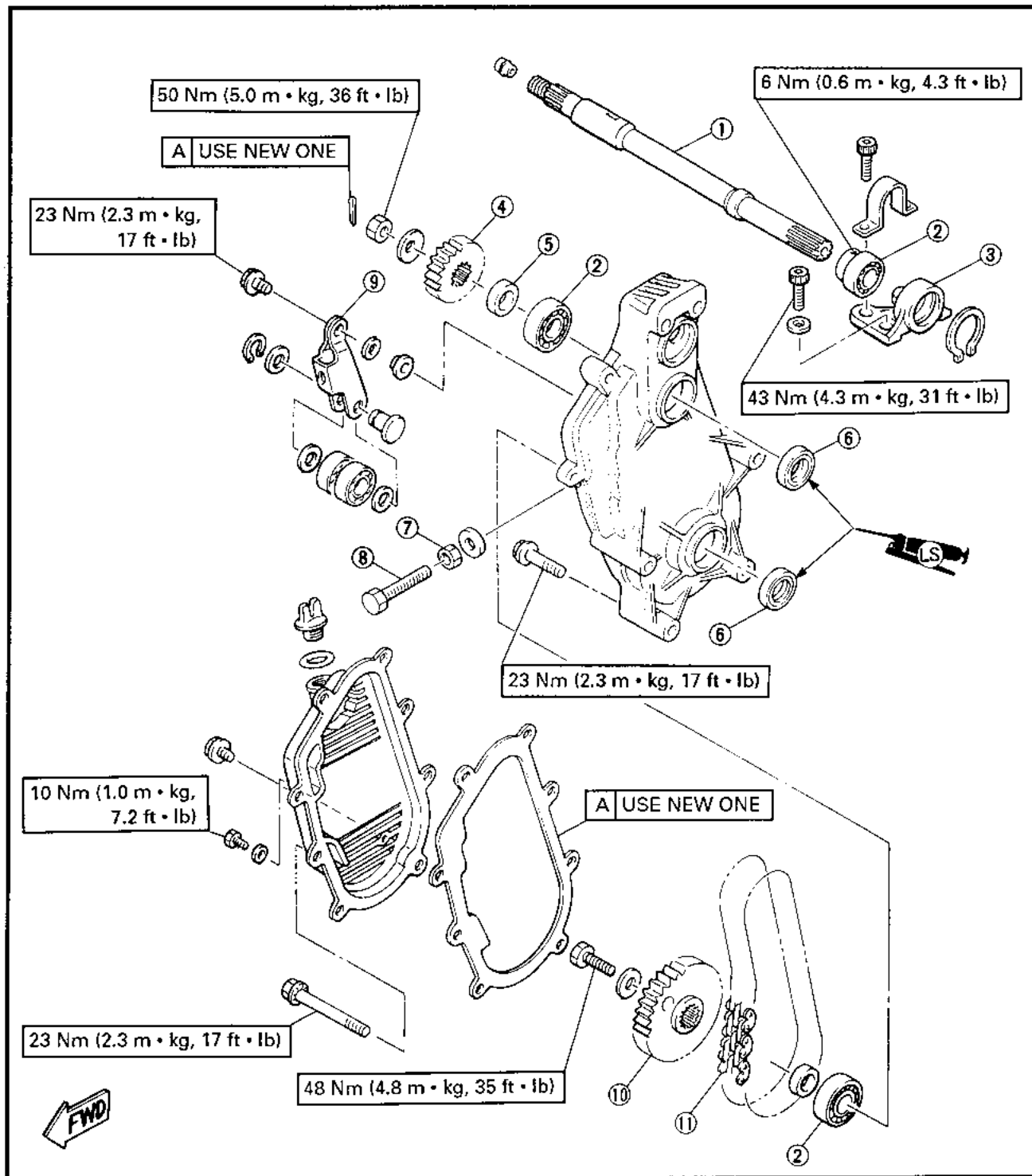
- Apply the brake to lock the secondary sheave.
- Remove the bolt (secondary sheave ①) and washer ② .
- Adjust the secondary sheave free play (clearance) by adding or removing a shim(s) ③ .

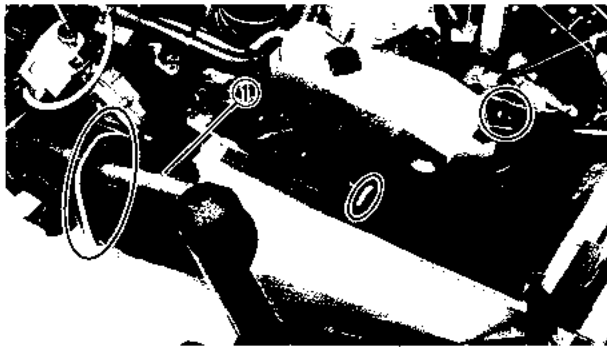
Adding shim	Free play is decreased.
Removing shim	Free play is increased.
Shim size	
Part Number	Thickness
90201-222F0	0.5 mm (0.02 in)
90201-225A4	1.0 mm (0.04 in)
<ul style="list-style-type: none"> • Install the washer and bolt (secondary sheave), and tighten the bolt. 	
	Bolt (secondary sheave): 60 Nm (6.0 m·kg, 43 ft·lb)
<ul style="list-style-type: none"> • Recheck the secondary sheave free play (clearance). If out of specification, repeat the above steps. 	

DRIVE CHAIN HOUSING AND JACKSHAFT

- ① Jackshaft
- ② Bearing
- ③ Bearing holder
- ④ Drive sprocket
- ⑤ Collar
- ⑥ Oil seal
- ⑦ Locknut
- ⑧ Adjuster
- ⑨ Drive chain tensioner
- ⑩ Driven sprocket
- ⑪ Drive chain

4

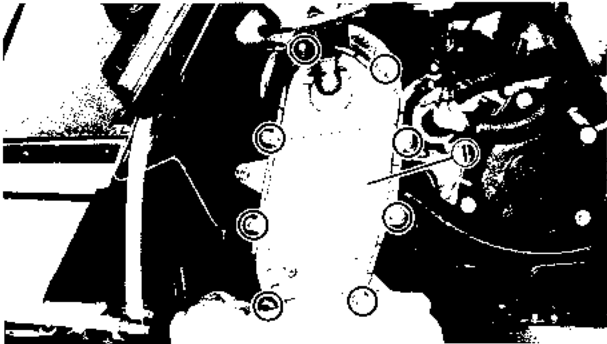




REMOVAL

1. Remove

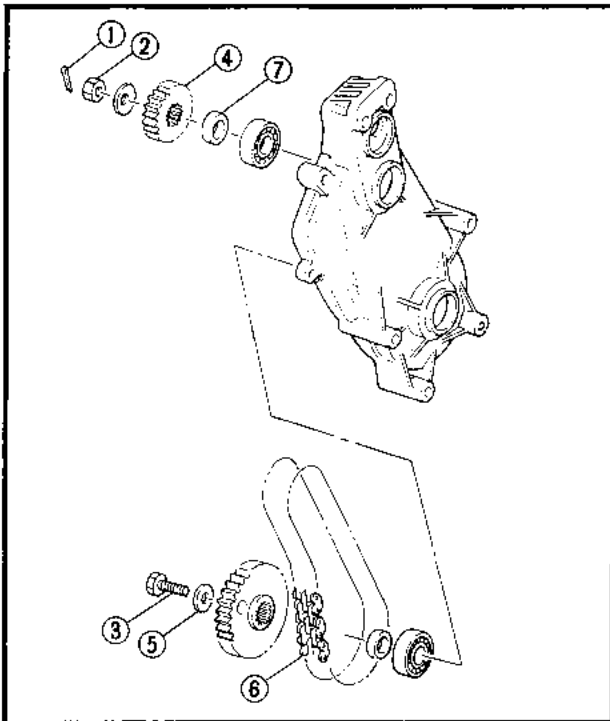
- Side cowlings (See page 2-3)
- Muffler ①
- Secondary sheave (See page 4-10)



2. Remove:

- Chain housing cover ① (See page 2-19)

3. Drain the oil.

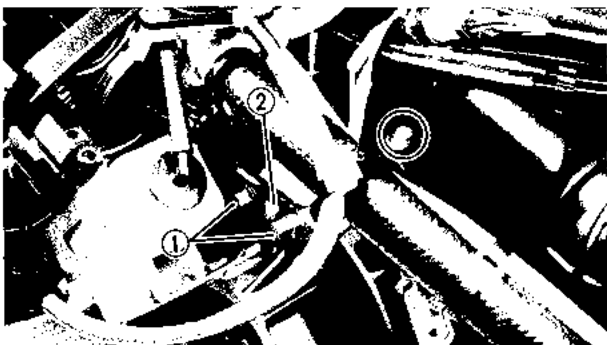


4. Remove:

- Cotter pin ①
- Nut (drive sprocket) ②
- Bolt (driven sprocket) ③
- Drive sprocket ④
- Driven sprocket ⑤
- Drive chain ⑥
- Collar ⑦

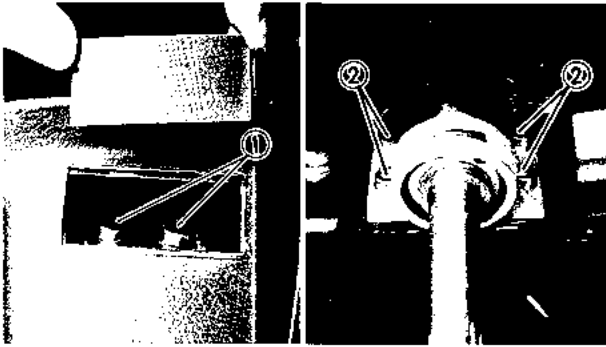
NOTE:

- Apply the brake to lock the jackshaft when removing the nut (drive sprocket) and bolt (driven sprocket).
- Loosen the adjuster (fully) when removing the drive sprocket, driven sprocket and drive chain.



5. Remove:

- Bolts (brake caliper body) ①
- Stay (intake silencer) ②

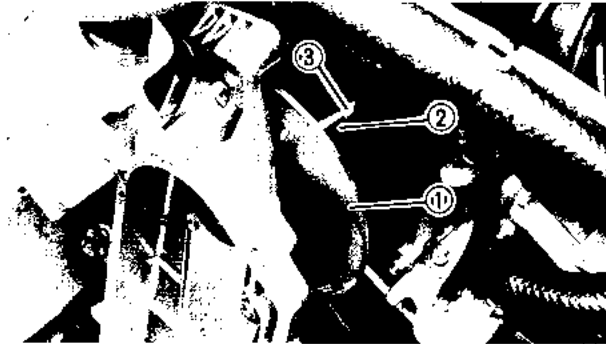


6. Remove:

- Bolts ① (intake silencer)
- Bolts ② (bearing housing)

NOTE: _____

Remove the bolts (bearing housing) while lifting up the intake silencer.



7. Remove:

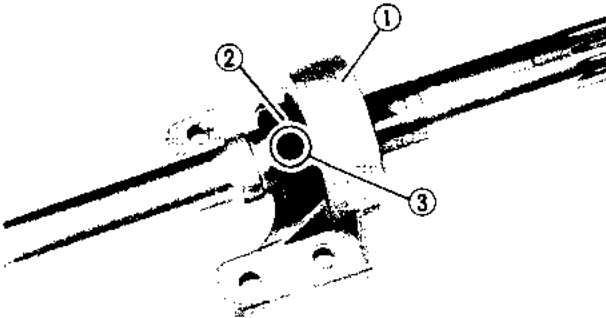
- Brake disc ①
- Woodruff key ②
- Jackshaft ③

8. Remove:

- Bearing housing ①
- Inner race holder ②

NOTE: _____

Loosen the screw (inner race holder) ③ .



9. Loosen:

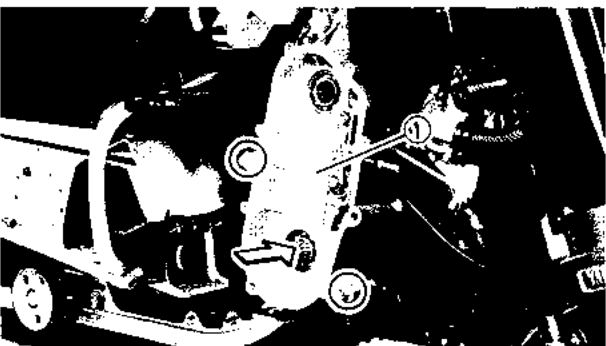
- Track (See page 4-31)

10. Remove:

- Speedometer gear assembly (See page 4-38)
- Bearing holder
- Drive chain housing ①

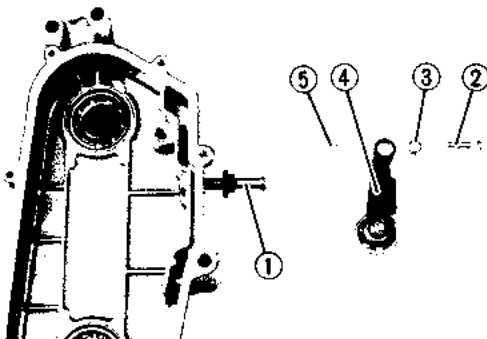
NOTE: _____

Push the front axle to the left to remove the drive chain housing.

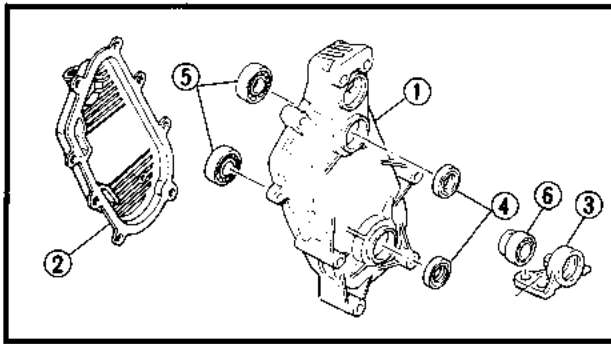


11. Remove:

- Adjuster (chain tensioner) ①
- Bolt ②
- Collar ③
- Chain tensioner ④
- Washer ⑤



4



INSPECTION

1. Inspect:

- Drive chain housing ①
- Cover (drive chain housing) ②
- Bearing holder ③
Cracks/Damage → Replace.
- Oil seals (drive chain housing) ④
Damage/Wear → Replace.
- Bearings (drive chain housing) ⑤
Pitting/Damage → Replace.
- Bearing (bearing holder) ⑥
Pitting/Damage → Replace bearing and inner race holder as a set.



Replacement steps:

- Remove the circlip (bearing holder) ⑦ .
- Remove the bearing(s) ⑤ ⑥ using a general bearing puller.
- Install the new bearing(s).

NOTE:

Use a socket ⑧ that matches the outside diameter of the race of the bearing.

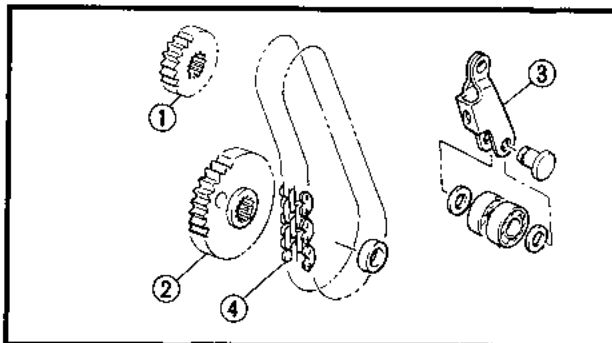
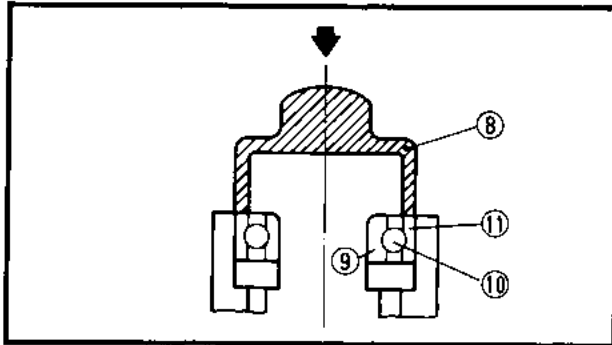
CAUTION:

Do not strike the inner race ⑨ of balls ⑩ of the bearing. Contact should be made only with the outer race ⑪ .

- Install the new circlip (bearing holder) .

CAUTION:

Always use a new circlip.

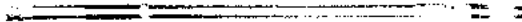


2. Inspect:

- Drive gear teeth ①
- Driven gear teeth ②
- Chain tensioner ③
Pitting/Wear/Damage → Replace.
- Drive chain ④
Wear/Damage → Replace.
Stiff → Clean or replace.

3. Inspect:

- Jackshaft
Scratches (Excessive)/Damage → Replace.

**INSTALLATION**


Reverse the "REMOVAL" procedure.

Note the following points.

1. Apply:

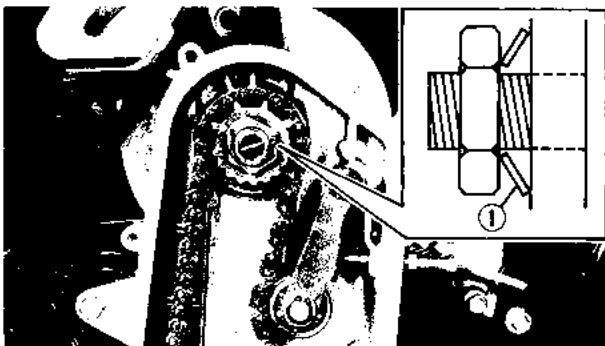
- Low temperature lithium soap base grease
(to oil seal lips)

2. Tighten:

	Chain tensioner bolt: 23 Nm (2.3 m • kg, 17 ft • lb) LOCTITE®
	Drive chain housing bolt: 23 Nm (2.3 m • kg, 17 ft • lb)
	Bearing housing bolt: 43 Nm (4.3 m • kg, 31 ft • lb)
	Brake caliper body bolt: 48 Nm (4.8 m • kg, 35 ft • lb)
	Drive sprocket nut: 50 Nm (5.0 m • kg, 36 ft • lb)
	Driven sprocket bolt: 48 Nm (4.8 m • kg, 35 ft • lb)
	Inner race holder screw: 6 Nm (0.6 m • kg, 4.3 ft • lb)

NOTE:

- Install the washer (drive sprocket) ① as shown in the illustration.
- Tighten the screw (inner race holder) after tightening the drive sprocket nut.



3. Adjust:

- Drive chain slack (See page 2-20)
- Sheave distance (See page 4-14)
- Sheave offset (See page 4-14)
- Track tension (See page 2-21)

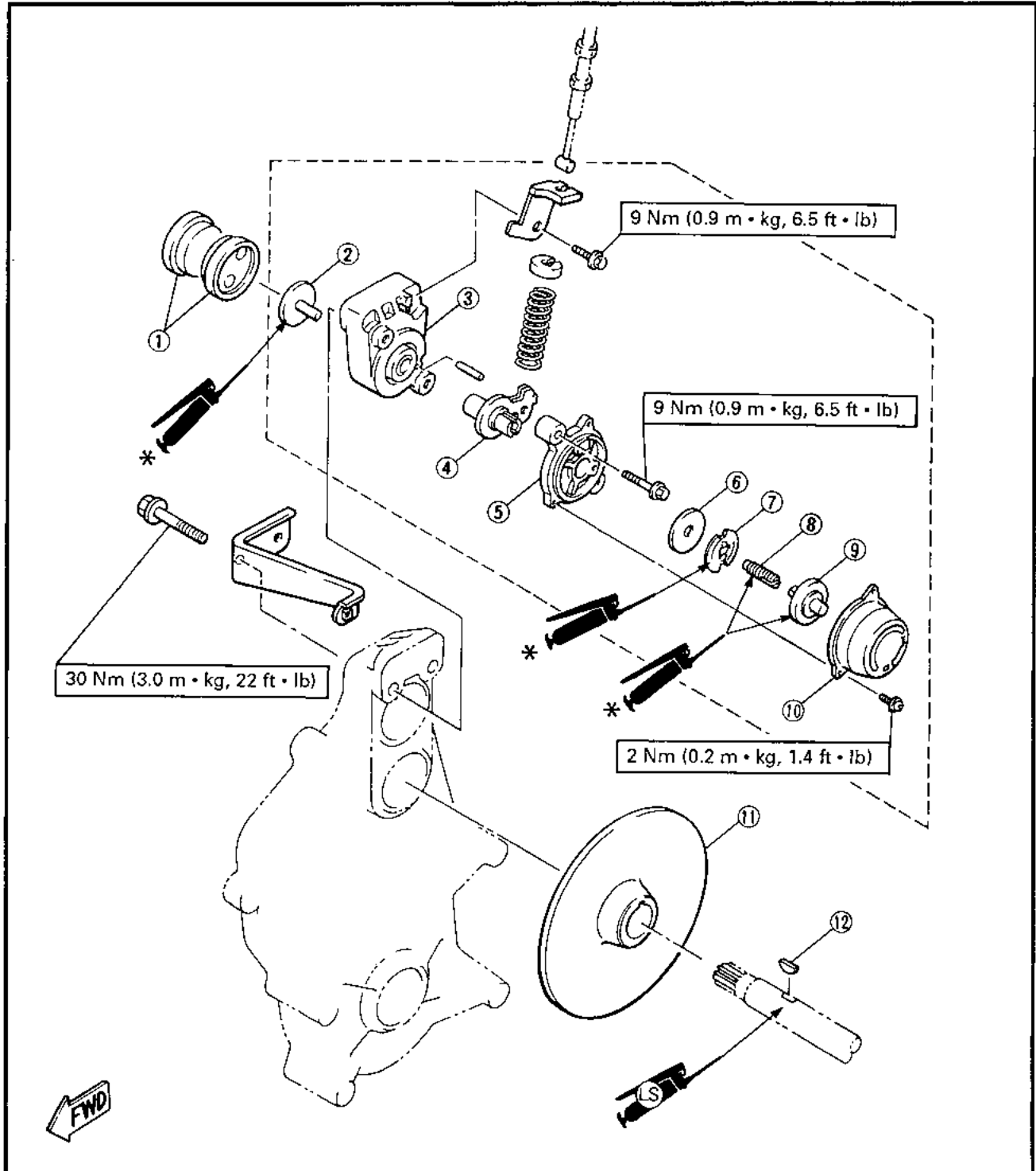
4. Fill:

- Drive chain housing (See page 2-19)



BRAKE

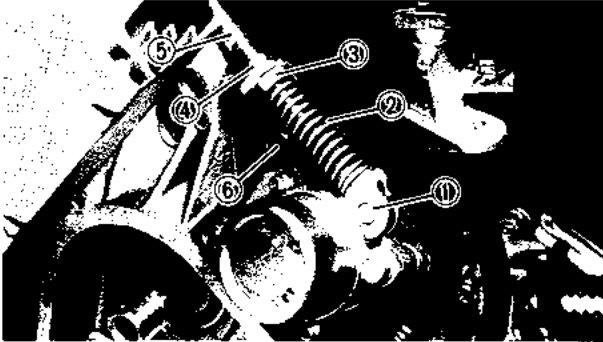
- ① Pad
 - ② Back up plate
 - ③ Caliper body
 - ④ Lever
 - ⑤ Stationary cover
 - ⑥ Washer
 - ⑦ One way lock 2
 - ⑧ Adjusting screw
 - ⑨ Adjusting ratchet
 - ⑩ End cover
 - ⑪ Brake disc
 - ⑫ Woodruff key
- * With silicone grease



REMOVAL

1. Remove:

- Side cowlings
- Muffler
- Secondary sheave (See page 4-11)
- Drive sprocket (See page 4-19)
- Bolts (brake caliper body) (See page 4-19)
- Brake pads



2. Remove:

- Brake cable ①
- Spring ②
- Spring holder ③

NOTE:

Loosen the locknut ④ and turn in the adjuster ⑤ fully to release the tension in the brake cable, then remove the bolt (cable holder) ⑥.

3. Remove:

- Bolts (bearing housing) (See page 4-19)
- Jackshaft
(with bearing housing)
- Brake disc
- Woodruff key

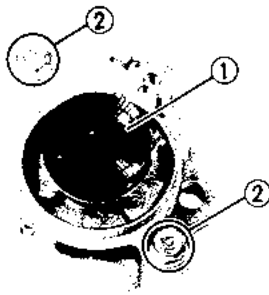
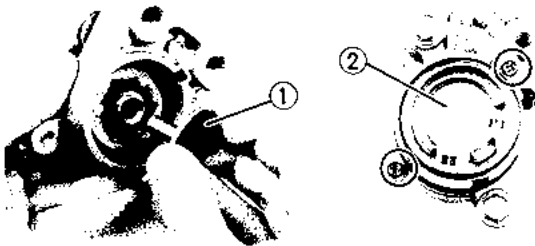
DISASSEMBLY

1. Remove:

- Back up plate ①
- End cover ②

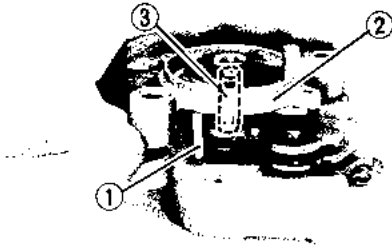
CAUTION:

Do not disassemble the torsion spring from the end cover and the guide.



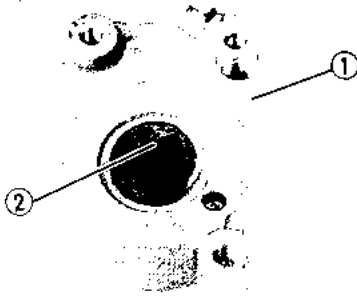
2. Remove:

- Adjusting ratchet ①
- Bolts (stationary cover) ②



3. Remove:

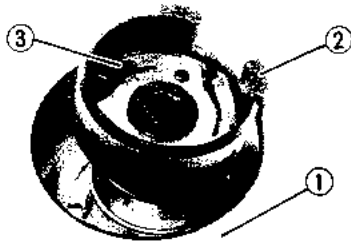
- Stopper pin ①
- Lever assembly ②
Turn it clockwise.
- Adjusting screw ③



INSPECTION

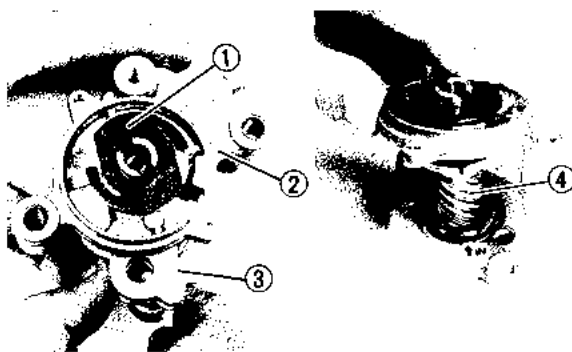
1. Inspect:

- Caliper body ①
Cracks/Damage → Replace.
- Spiral gear (caliper body) ②
Wear/Damage → Replace.



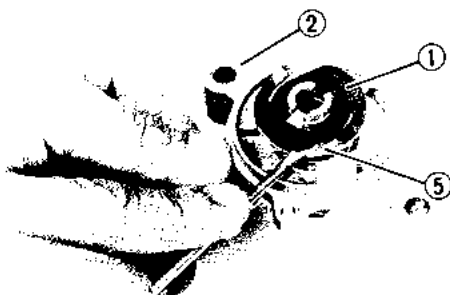
2. Inspect:

- End cover ①
- Guide ②
- One way lock 1 ③
Cracks/Wear/Damage → Replace the end cover unit.



3. Inspect:

- One way lock 2 ①
- Stationary cover ②
- Lever ③
- Spiral gear (lever) ④
Cracks/Wear/Damage → Replace.

**Replacement steps:**

- Remove the one way lock 2 ① using a thin flat-head screw driver.
- Remove the washer ⑤ and stationary cover ②
- Replace a damaged part(s) use a new one.
- Reassemble the removed part(s) and reverse the above steps.

CAUTION:

Always use a new one way lock 2.

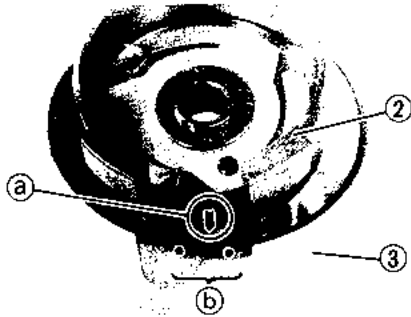
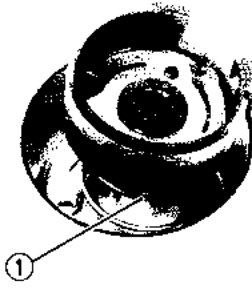
4. Inspect:

- Torsion spring ①

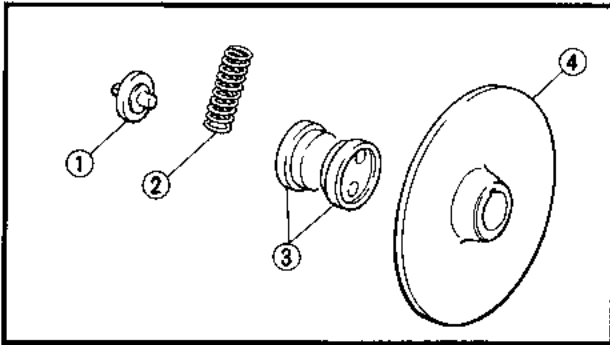
Fatigue/Damage → Replace end cover unit.

Inspection steps:

- Check the fatigue of the torsion spring by the projection mark (a) on the guide (2) located between the base marks (b) on the end cover (3). If projection mark (a) is not in the range between the base marks (b), replace the end cover unit.



4



5. Inspect:

- Adjusting ratchet ①
Cracks/Wear/Damage → Replace.
- Spring (brake cable) ②
Fatigue/Damage → Replace.
- Brake pad ③ thickness (See page 2-18)
- Brake disk ④
Bend/Cracks/Damage → Replace.

ASSEMBLY AND INSTALLATION

Reverse the "REMOVAL" and "DISASSEMBLY" procedures.

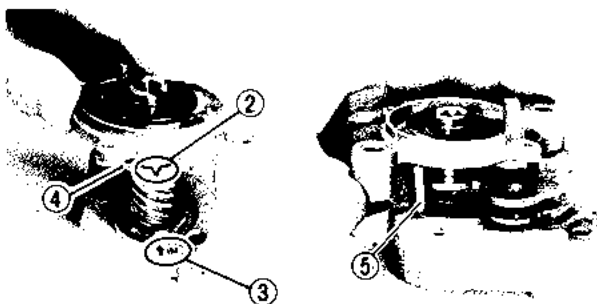
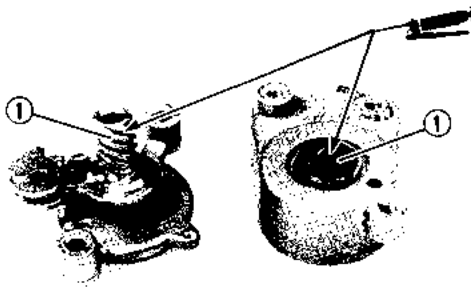
Note the following points.

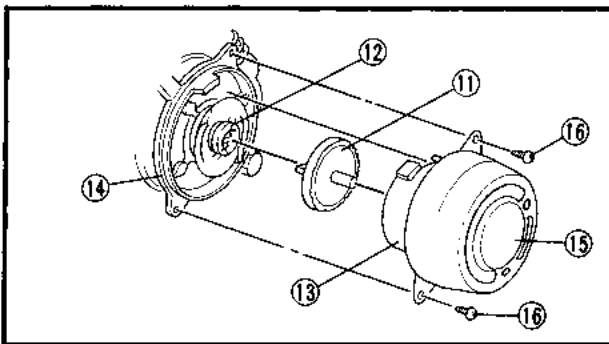
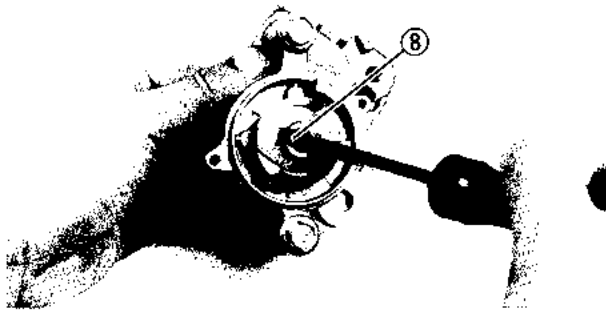
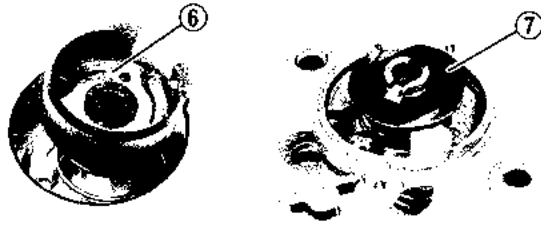
1. Assemble:

- Caliper body

Assemblage steps:

- Lubricate the spiral gears ① on the caliper body and lever with silicone grease.
- Align the projection mark ② on the lever with the "IN" mark ③ on the caliper body, screw the lever ④ counterclockwise to the caliper body.





- Install the stopper pin into the holes ⑤ on the caliper body and stationary cover, then tighten the bolts (stationary cover).



Bolt (stationary cover):
9 Nm (0.9 m • kg, 6.5 ft • lb)

- Lubricate the one way locks 1 ⑥ and 2 ⑦ with a lithium grease.
- Lubricate the adjusting screw ⑧ and back up plate ⑨ with a silicone grease.

- Insert the back up plate ⑨ into the lever shaft hole ⑩ .
- Screw in the adjusting screw ⑧ , and when it contacts lightly with the end of the back up plate, then back out the adjusting screw ⑧ 1/2 to ① turn.

- Fit the end of the adjusting ratchet ⑪ into the adjusting screw ⑫ , and align the cut in the guide ⑬ with the projection of the stationary cover ⑭ , then install the guide ⑬ , which is fitted to the end cover ⑮ twisting the end cover clockwise approximately 30 degrees and tighten the screws (end cover) ⑯ .



Screw (end cover):
2 Nm (0.2 m • kg, 1.4 ft • lb)


2. Install:

- Brake pads

NOTE:

When installing the brake pad at the caliper body side, make sure that projection ① on the brake pad are meshed with slot ② on the caliper body.

3. Tighten:

	Cable holder bolt: 9 Nm (0.9 m • kg, 6.5 ft • lb)
---	---

4. Adjust:

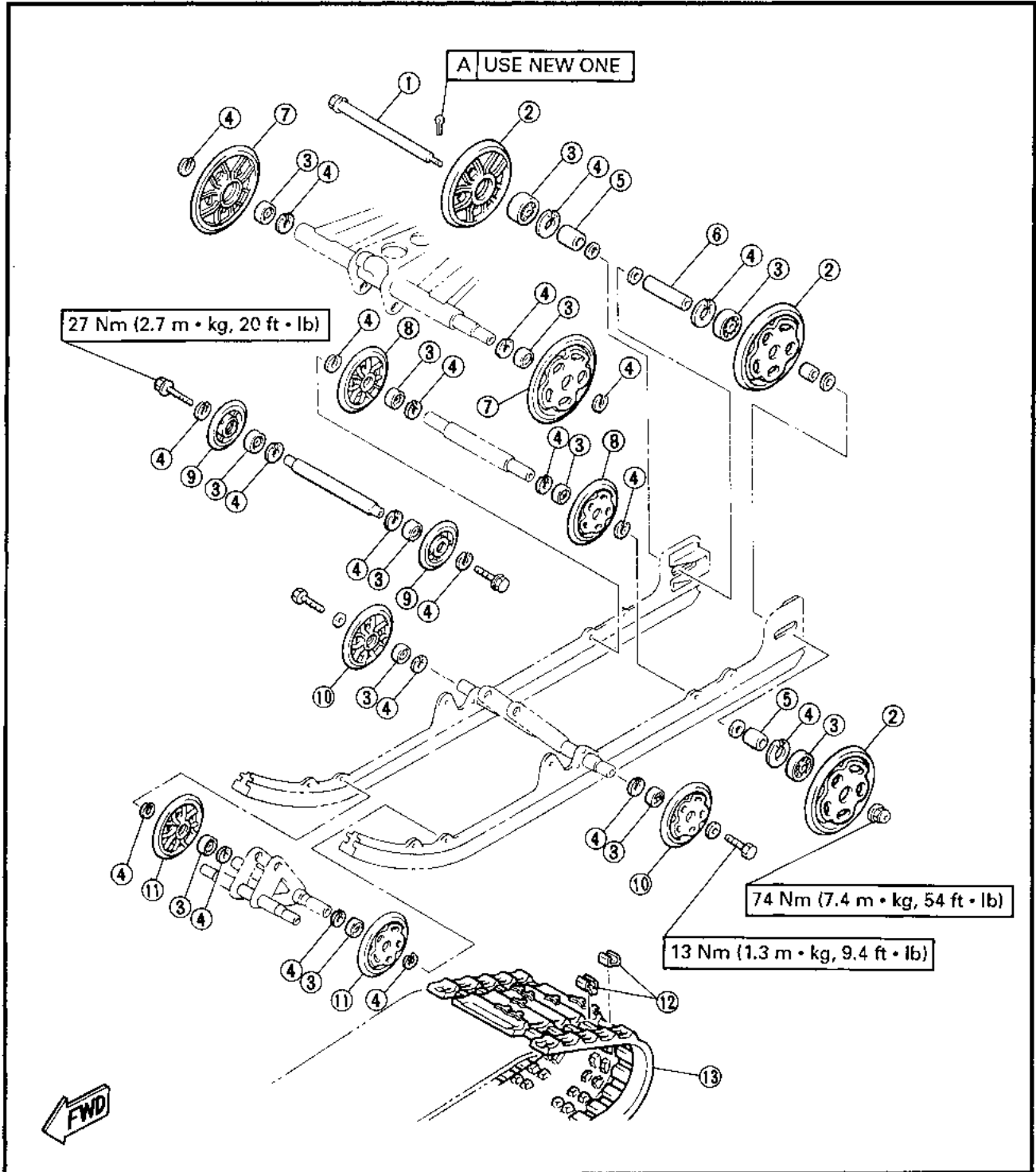
- Brake lever free play (See page 2-18)

4



SLIDE RAIL SUSPENSION

- ① Rear axle
- ② Guide wheel (rear)
- ③ Bearing
- ④ Circlip
- ⑤ Collar
- ⑥ Collar (center)
- ⑦ Suspension wheel
- ⑧ Suspension wheel (rear)
- ⑨ Guide wheel (center)
- ⑩ Suspension wheel (center)
- ⑪ Suspension wheel (front)
- ⑫ Slide metal
- ⑬ Track assembly



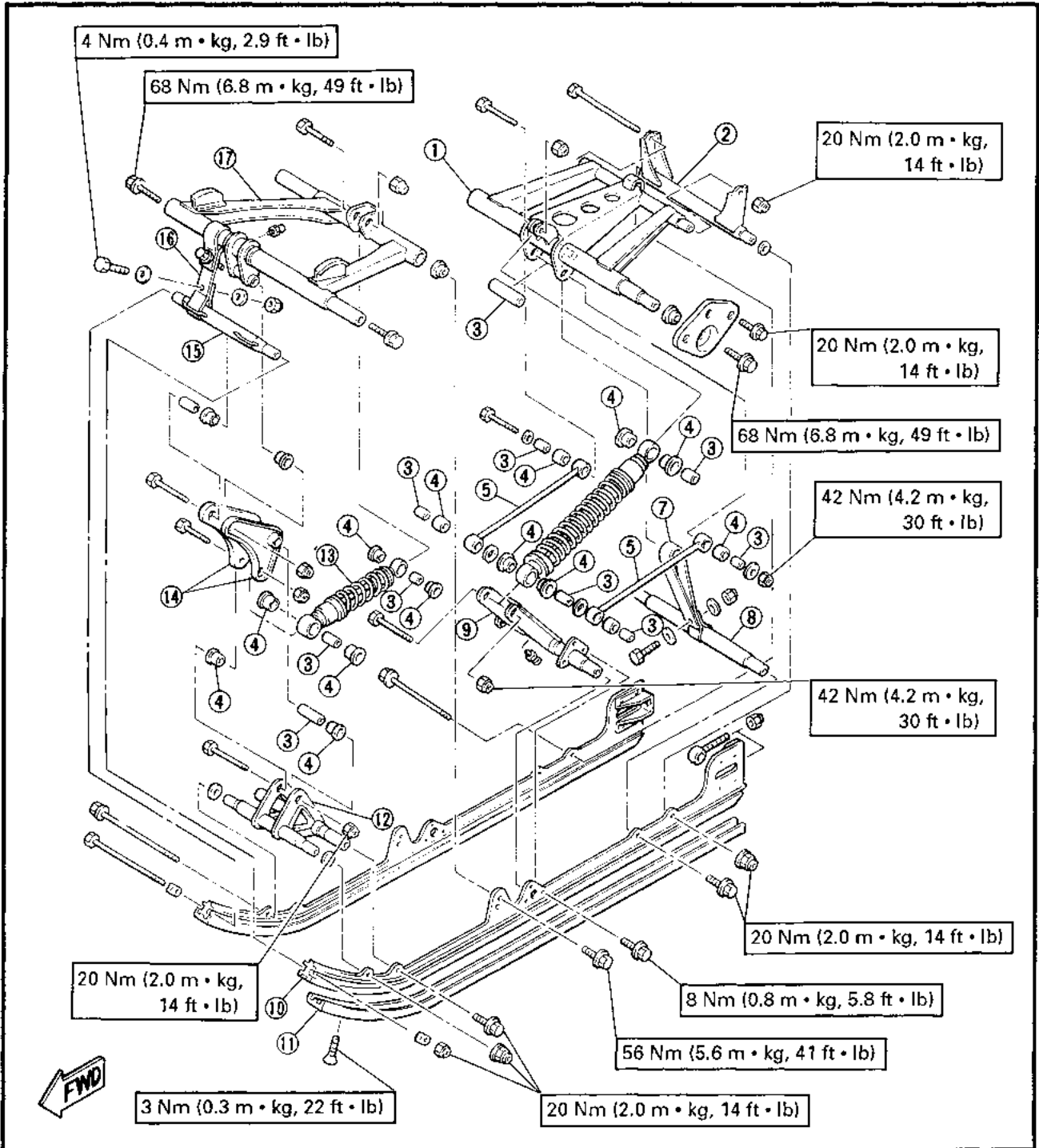
4

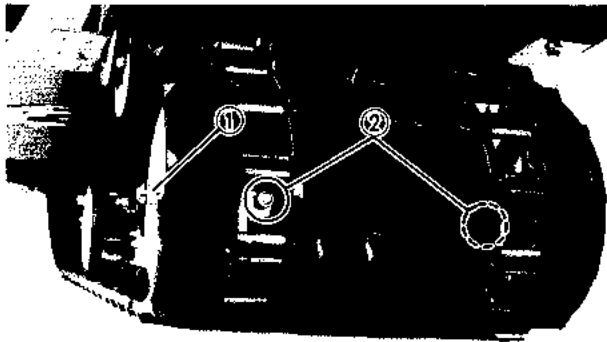
SLIDE RAIL SUSPENSION



- ① Rear pivot arm
- ② Pivot arm bracket
- ③ Collar
- ④ Bushing
- ⑤ Pull rod
- ⑥ Rear suspension
- ⑦ Rear stopper band
- ⑧ Bracket
- ⑨ Rear suspension bracket
- ⑩ Sliding frame
- ⑪ Slide runner
- ⑫ Suspension wheel bracket
- ⑬ Front suspension
- ⑭ Relay arm
- ⑮ Bracket
- ⑯ Front stopper band
- ⑰ Front pivot arm bracket

4



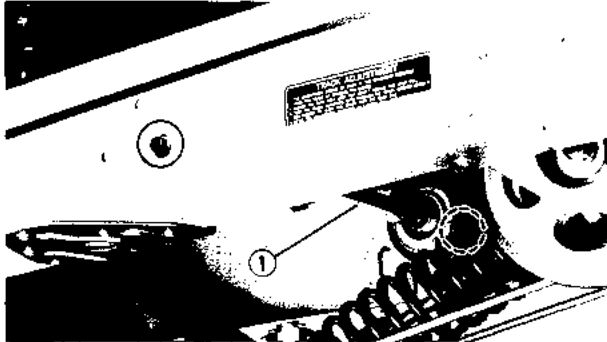


REMOVAL

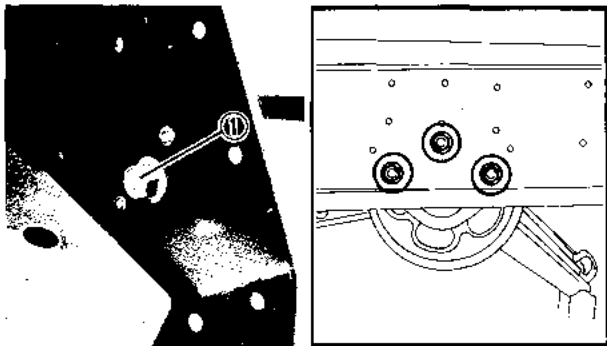
1. Remove:
 - Cotter pin (rear axle)
2. Loosen:
 - Track

NOTE:

Loosen the axle nut ① and adjusters (track tension) ②.



3. Remove:
 - Guide wheel (center) ①

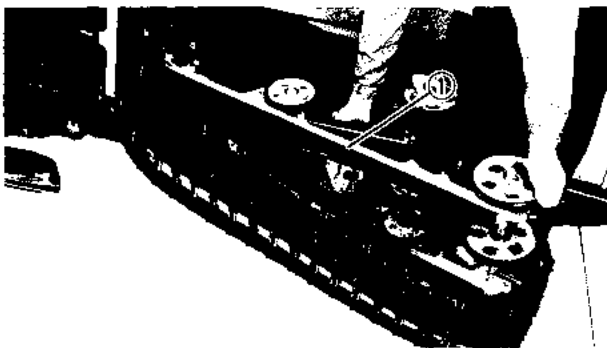


4. Remove:
 - Suspension mounting bolts

NOTE:

Loosen both right and left bolts (front) ① at the same time.

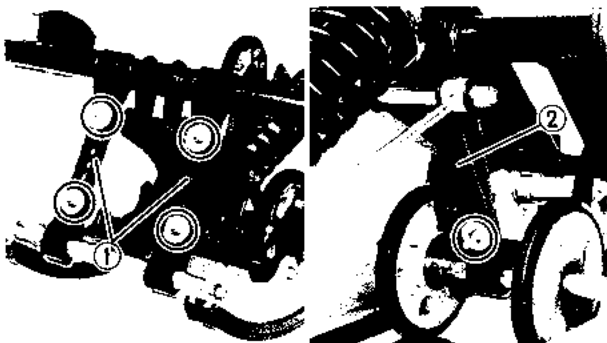
5. Place the machine with the left side facing down.

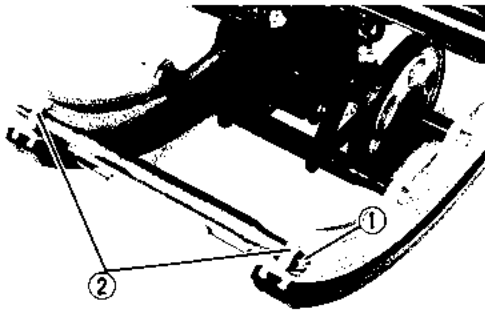


6. Remove:
 - Slide rail suspension ①

DISASSEMBLY

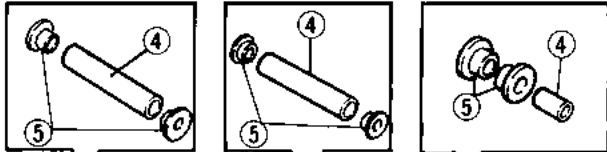
1. Remove:
 - Stopper bands (front ① and rear ②)





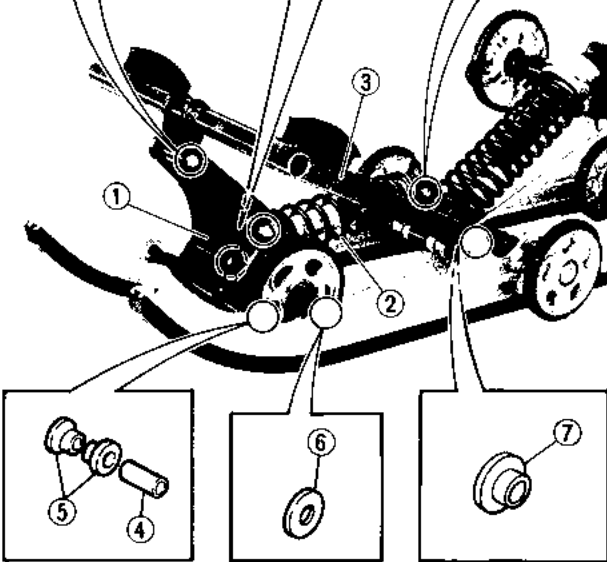
2. Remove:

- Bracket shaft ①
- Special washers ②

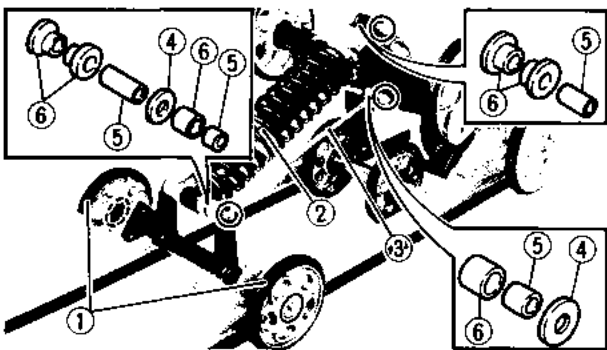


3. Remove:

- Suspension wheel bracket ①
- Front suspension ②
- Front pivot arm ③



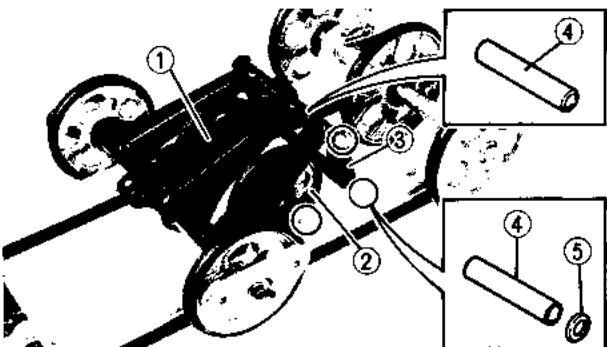
- ④ Collar
- ⑤ Bushing
- ⑥ Washer
- ⑦ Flange washer



4. Remove:

- Suspension wheels (center) ①
- Rear suspension ②
- Pull rods ③

- ④ Washer
- ⑤ Collar
- ⑥ Bushing

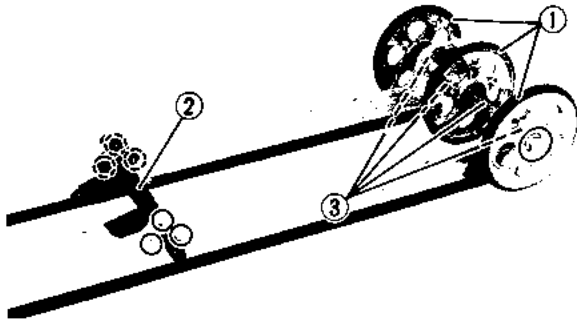


5. Remove:

- Rear pivot arm ①
- Suspension wheel ②
- Pivot arm bracket ③

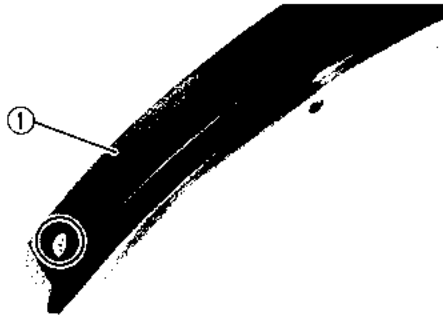
- ④ Collar
- ⑤ Washer

4



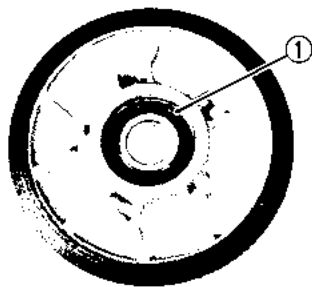
6. Remove:

- Guide wheels (rear) ①
- Rear suspension bracket ②
- Collars ③
- Washers



7. Remove:

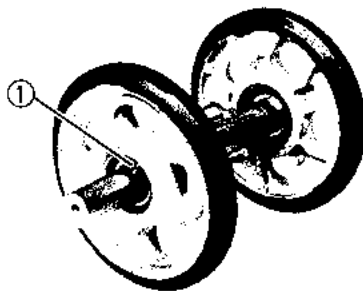
- Slide runner ①



INSPECTION

1. Inspect:

- Suspension wheel
- Guide wheel
- Cracks/Damage → Replace.
- Wheel bearing
- Wheel turns roughly → Replace.



Replacement steps:

- Remove the circlip ① .
- Remove the wheel using a general bearing puller.
- Install the wheel bearing (new) into the wheel.

NOTE:

Use a socket ② that matches the outside diameter ③ of the race of the bearing.

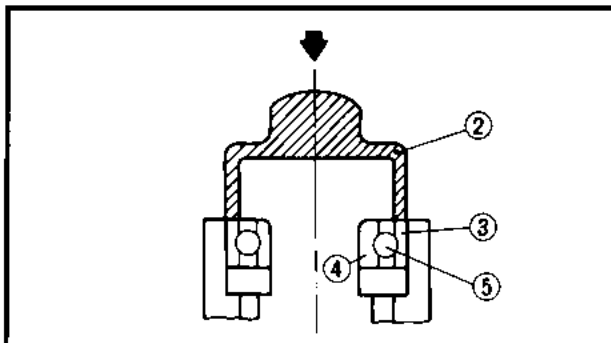
CAUTION:

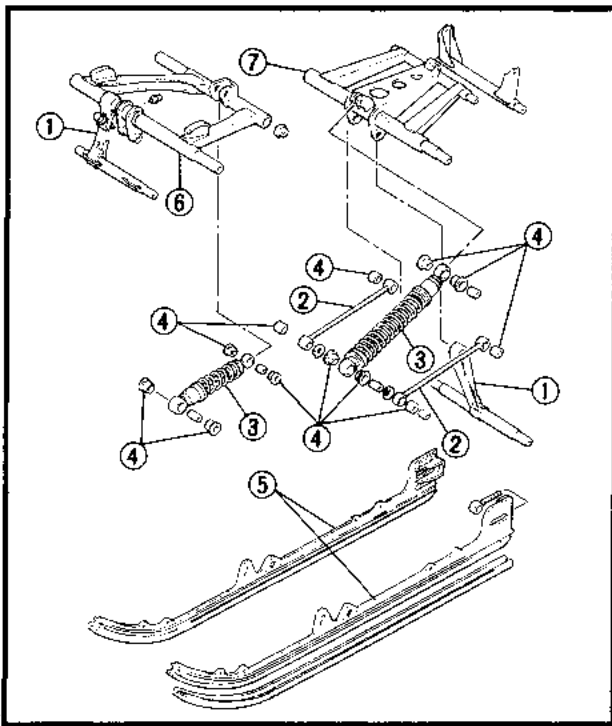
Do not strike the inner race ④ of balls of the bearing ⑤ . Contact should be made only with the outer race.

- Install the circlip.
- Install the wheel to the shaft.

CAUTION:

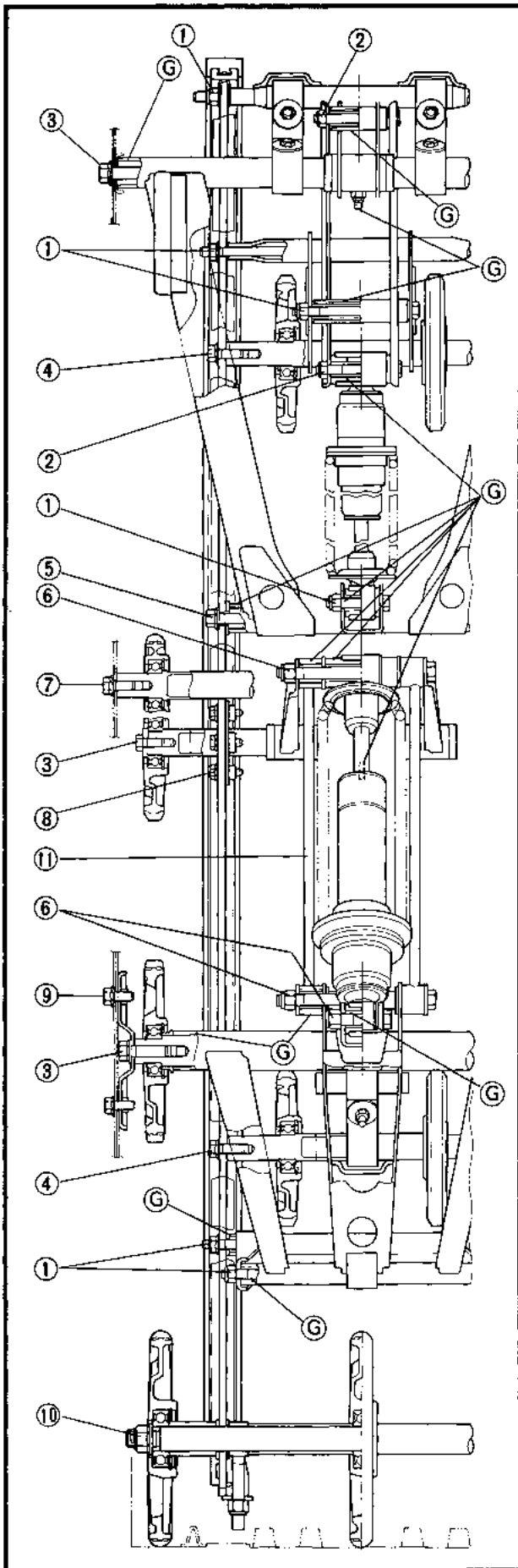
Always use a new circlip.





2. Inspect:

- Stopper band ①
Frayed/Damage → Replace.
- Pull rod ②
Bends/Damage → Replace.
- Shock absorber ③
Oil leaks/Damage → Replace.
- Bushings ④
Wear/Cracks/Damage → Replace.
- Sliding frame ⑤
- Front pivot arm ⑥
- Rear pivot arms ⑦
Cracks/Damage → Replace.



ASSEMBLY

Reverse the "DISASSEMBLY" procedure.

Note the following points.

1. Apply:

- Low temperature lithium soap base grease (to "G" mark points in the illustration)

2. Tighten



Slide runner screw:

3 Nm (0.3 m • kg, 2.2 ft • lb)

Nut ① :

20 Nm (2.0 m • kg, 14 ft • lb)

Nut ② :

20 Nm (2.0 m • kg, 14 ft • lb)

Bolt ③ :

68 Nm (6.8 m • kg, 49 ft • lb)

Bolt ④ :

20 Nm (2.0 m • kg, 14 ft • lb)

Bolt ⑤ :

56 Nm (5.6 m • kg, 41 ft • lb)

Nut ⑥ :

42 Nm (4.2 m • kg, 30 ft • lb)

Bolt ⑦ :

27 Nm (2.7 m • kg, 20 ft • lb)

Bolt ⑧ :

8 Nm (0.8 m • kg, 5.8 ft • lb)

Bolt ⑨ :

20 Nm (2.0 m • kg, 14 ft • lb)

Nut ⑩ :

74 Nm (7.4 m • kg, 54 ft • lb)

Bolt ⑪ :

13 Nm (1.3 m • kg, 9.4 ft • lb)

Stopper band nut:

4 Nm (0.4 m • kg, 2.9 ft • lb)

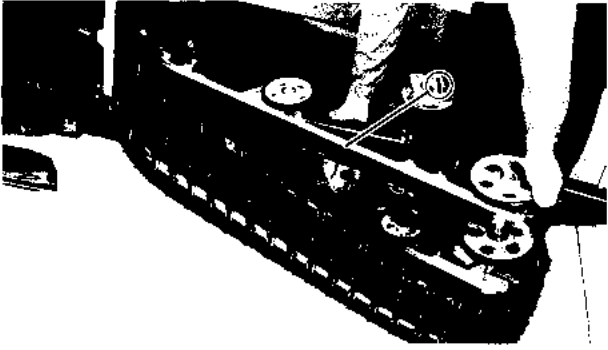
4

NOTE:

Install the pull rod ⑫ so that the rod is offset slightly toward the outside.

CAUTION:

Always use a new cotter pin.



INSTALLATION

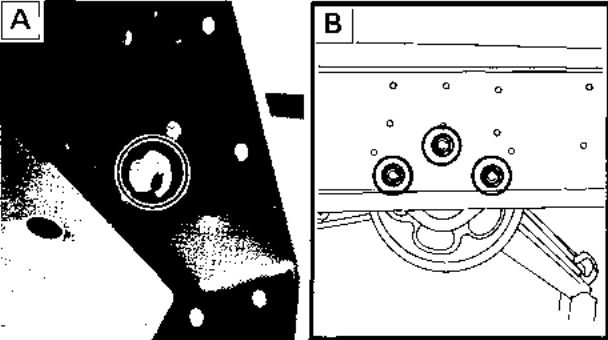
Reverse the "REMOVAL" procedure.

Note the following points.


1. Place the slide rail suspension ① into the track, and fit the front pivot arm holding bolts. Then fit the rear pivot arm bracket mounting bolts.

NOTE: _____

Do not tighten the bolts at this point. Finger - tighten the bolts.



2. Tighten:

	Suspension mounting bolts:
	Front A :
	68 Nm (6.8 m • kg, 49 ft • lb)
	Rear B :
20 Nm (2.0 m • kg, 14 ft • lb)	
Guide wheel bolt (center):	
27 Nm (2.7 m • kg, 20 ft • lb)	

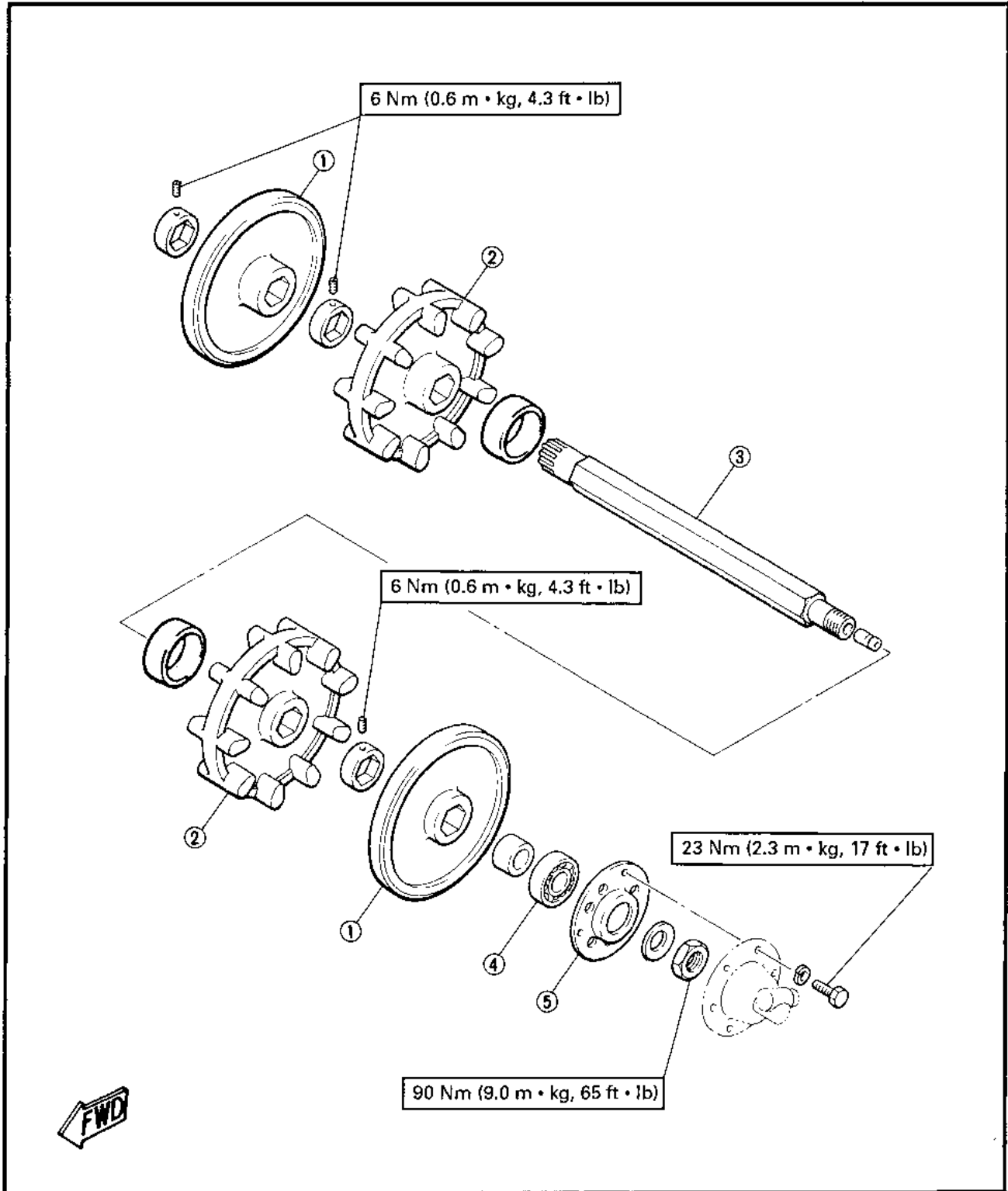
3. Adjust:

- Track tension (See page 2-21)
- Spring preload (See page 2-43)

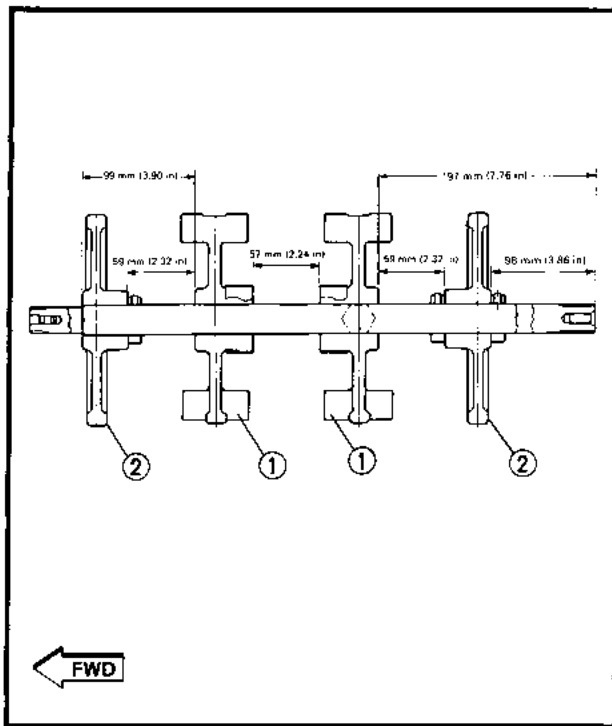
4

FRONT AXLE AND TRACK

- ① Guide wheel
- ② Sprocket wheel
- ③ Front axle
- ④ Bearing
- ⑤ Bearing holder



4



INSTALLATION

Reverse the "REMOVAL" procedure.

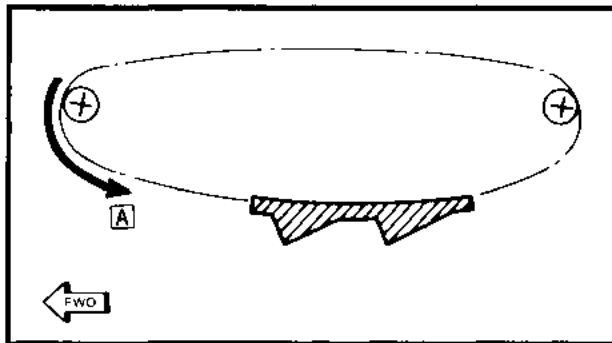
Note the following points.

1. Install:

- Sprocket wheels ①
- Guide wheels ②

NOTE:

- When pressing the sprocket wheels onto the front axle, align the lugs on each sprocket wheel.
- Locate each sprocket wheel and guide wheel on the axle where shown in the illustration.



2. Place the track in the chassis.

NOTE:

Be sure it is positioned as shown in the illustration.

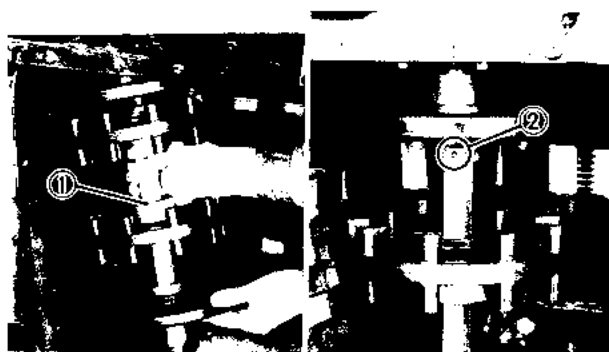
A TURNING DIRECTION

3. Install:


- Front axle ①

NOTE:

- Install the front axle, push up the splined end toward the chain housing, and install the threaded end into the speedometer gear housing side.
- Be sure the lugs correctly engage the track.



4. Tighten:

	Screw ② :
	6Nm (0.6 m·kg, 4.3 ft·lb)
	Front axle nut:
	90 Nm (9.0 m·kg, 65 ft·lb)
	Speedometer gear assembly bolt:
	23 Nm (2.3 m·kg, 17 ft·lb)



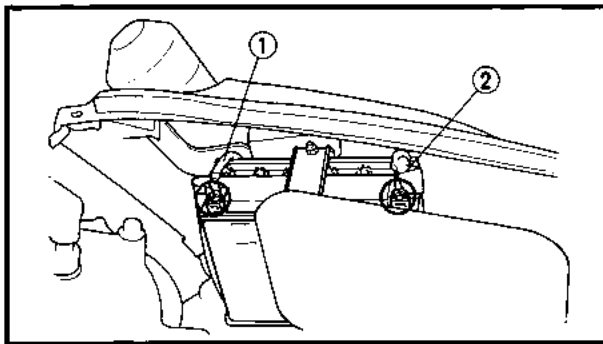
ENGINE OVERHAUL

ENGINE REMOVAL

NOTE:

It is not necessary to remove the engine in order to remove the following components:

- Cylinder head
- Cylinder
- Piston and piston ring
- Water pump
- Recoil starter
- Oil pump
- Primary sheave
- Starter motor



BATTERY LEADS (FOR EX570ER)

1. Disconnect:
 - Battery leads

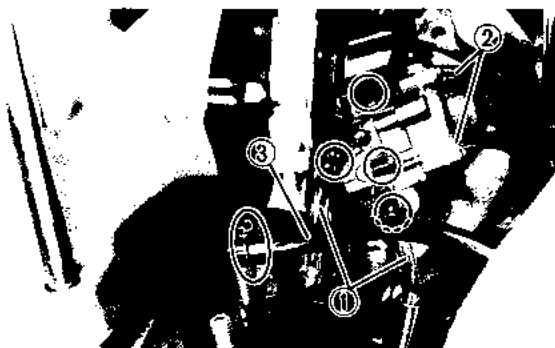
CAUTION:

Disconnect the negative lead ① first and then disconnect the positive lead ② .

5

HOSES

1. Drain:
 - Coolant (See page 2-7)
2. Remove:
 - Primary sheave (See page 4-2)
 - Carburetors (See page 7-2)

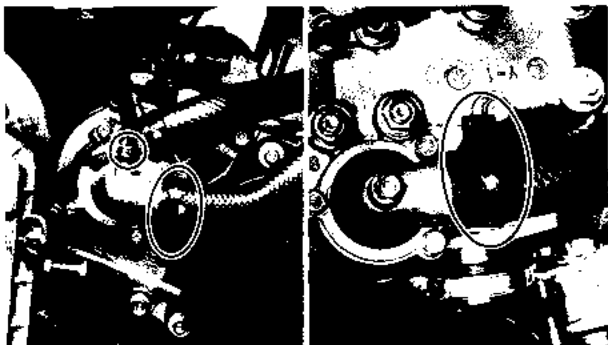


3. Disconnect:

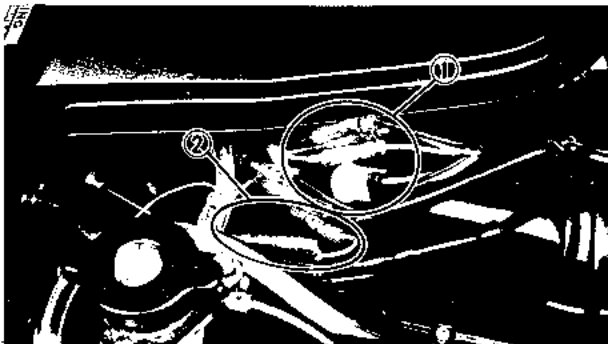
- Oil hoses ①
- Oil delivery hoses ②
- Pulser hose ③

NOTE:

Plug the oil hoses and oil delivery hoses so that oil does not run out.

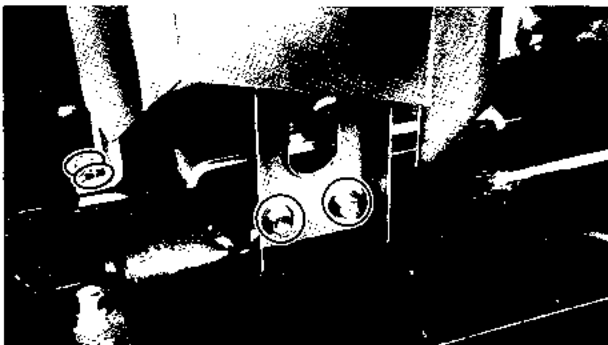


4. Disconnect:
- Coolant hoses



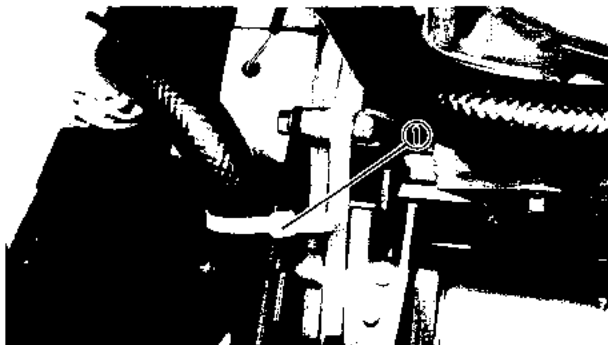
CABLE AND LEADS

1. Disconnect:
- Oil pump cable (from the throttle lever) (See page 3-2)
 - Spark plug leads
 - CDI magneto leads and coupler ①
 - Pickup coil leads ②
 - Bands

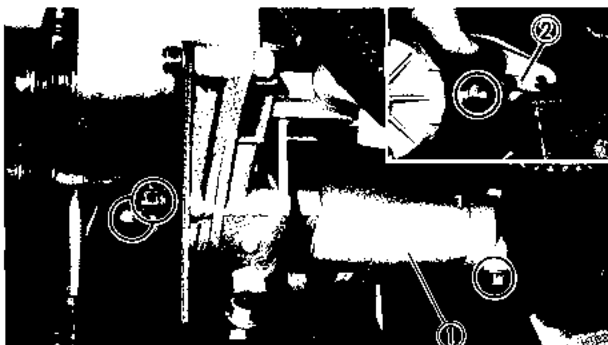


OIL TANK

1. Remove:
- Bolts (oil tank stay)



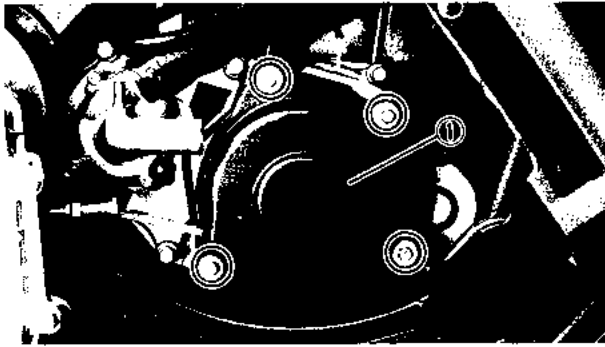
2. Remove:
- Band (coolant hose) ①



STARTER MOTOR (FOR EX570ER)

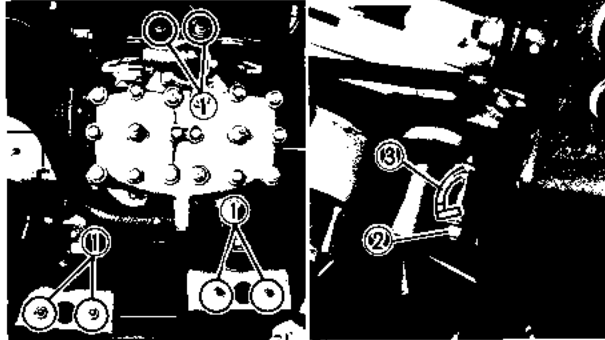
1. Remove:
- Starter motor ① .
2. Disconnect:
- Starter motor lead ② .

5

**RECOIL STARTER**

1. Remove:

- Recoil starter ①

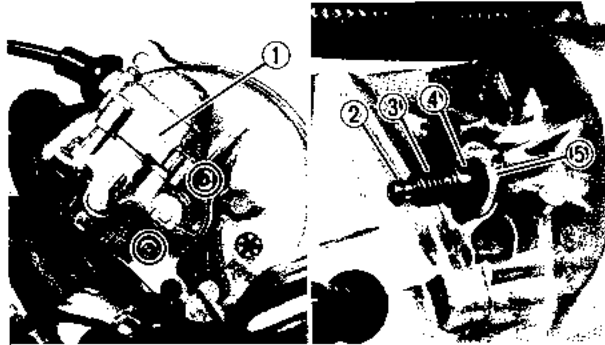
**ENGINE REMOVAL**

1. Remove:

- Nuts (engine bracket) ①
- Engine assembly

NOTE:

Remove the starter motor bolt ② and ground lead ③ before removing the engine assembly.

**DISASSEMBLY****OIL PUMP**

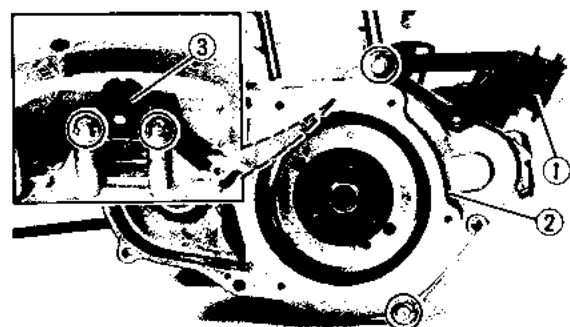
1. Remove:

- Oil pump ①
- Washer ②
- Worm gear shaft ③
- Collar ④
- Gasket ⑤

WATER PUMP

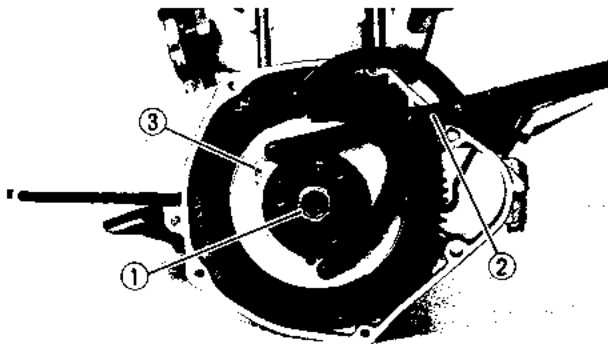
1. Remove:

- Coolant hose
- Water pump cover
- Impeller
- Water pump housing
- Starter pulley
- Water pump drive belt
- Impeller shaft assembly (See page 6-3)

**CDI MAGNETO**

1. Remove:

- Engine bracket ①
- Crankcase cover ②
- Pickup coil ③

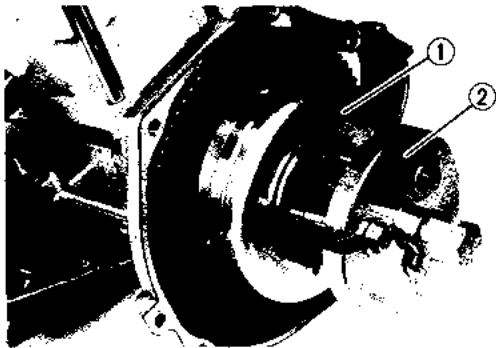


2. Remove:

- Nut (magneto rotor) ①
- Washer

NOTE:

Use the Universal Rotor Holder (90890-01235, YU-01235) ② to hold the magneto rotor ③ .

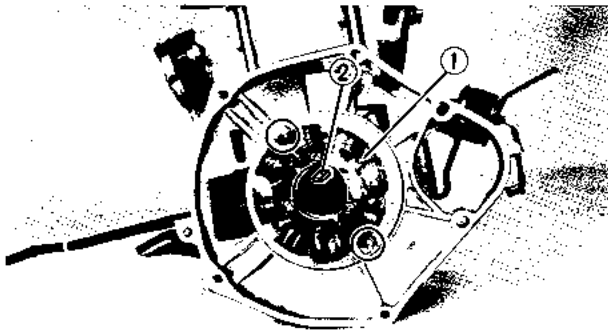


3. Remove:

- Magneto rotor ①

NOTE:

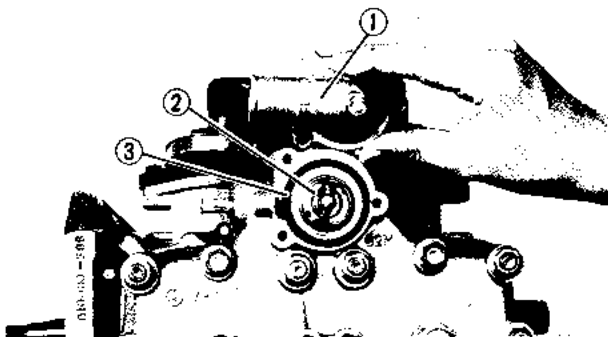
- Remove the magneto rotor using the Rotor Puller (90890-01362, YU-33270) ② .
- Fully tighten the tool holding bolts, but make sure the tool body is parallel with the magneto rotor. If necessary, one screw may be backed out slightly to level tool body.



4. Remove:

- Stator assembly ①
- Woodruff key ②

5



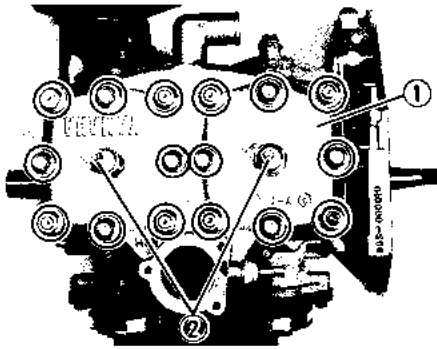
CYLINDER HEAD AND CYLINDER

1. Remove:

- Thermostatic valve cover ①
- Thermostatic valve ②
- O-ring ③

⚠ WARNING

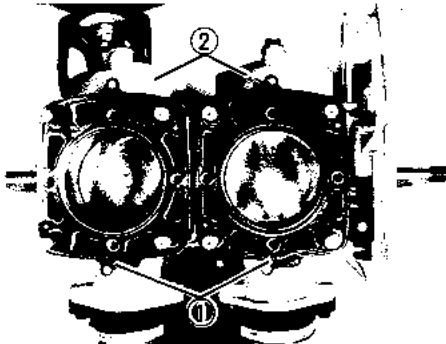
Handle the thermo-unit with special care. Never subject it to strong shock or allow it to be dropped. Should it be dropped, it must be replaced.



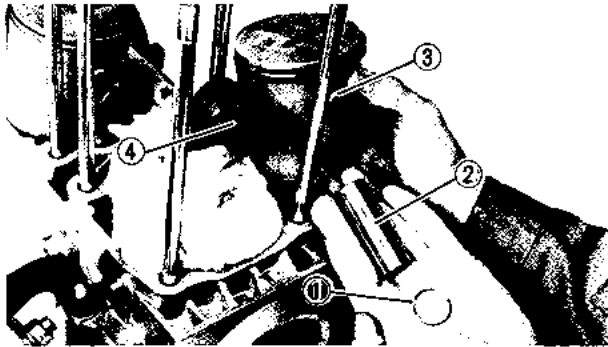
2. Remove:
 - Cylinder head ①

NOTE:

- Before removing the cylinder head, loosen the spark plug ②.
- The cylinder head holding nuts and bolts should be loosened 1/2 turn each time, and remove.



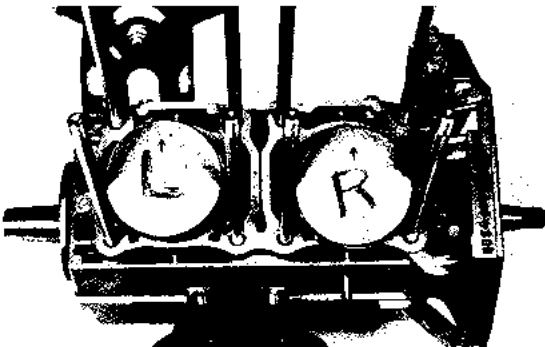
3. Remove:
 - Gaskets (cylinder head) ①
 - Cylinders ②
 - Gasket (cylinder)

**PISTON**

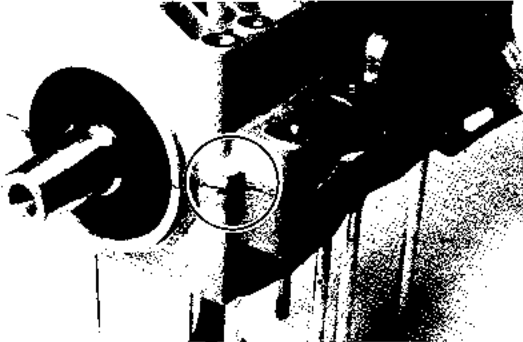
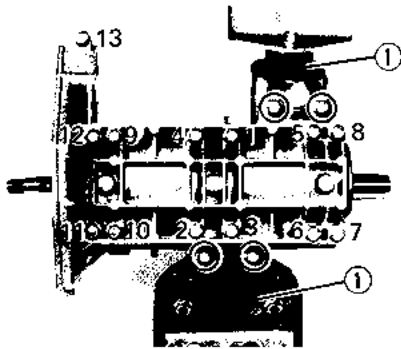
1. Remove:
 - Piston pin clip ①
 - Piston pin ②
 - Piston ③
 - Small end bearing ④

NOTE:

- Before removing the piston pin clip, cover the crankcase with a clean rag so you will not accidentally drop the clip into the crankcase.
- Before removing the piston pin, deburr the clip groove and pin hole area. If the piston pin groove is deburred and the piston pin is still difficult to remove, use Piston Pin Puller (90890-01304, YU-01304).
- Put identification marks on each piston head for reference during reinstallation.

**CAUTION:**

Do not use a hammer to drive the piston pin out.



CRANKCASE AND CRANKSHAFT

1. Remove:

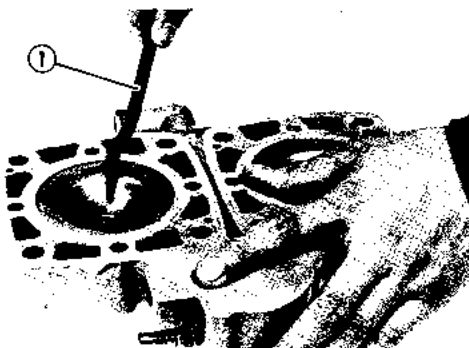
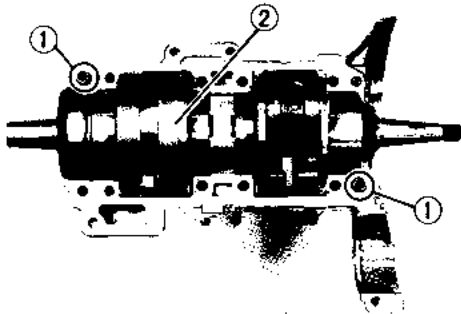
- Engine brackets ①
- Crankcase (lower)

NOTE:

- Remove the bolts starting with the highest numbered one.
- Loosen each bolt 1/4 turn, and remove them after all bolts are loosened.
- If the case halves are tightly stuck together, tap lightly on the tabs indicated on the crankcase with a soft-head hammer.
- The slits shown in the crankcase can be used to remove it.
- Be sure not to give damages the mating surface.

2. Remove:

- Dowel pins ①
- Crankshaft ②



INSPECTION AND REPAIR CYLINDER HEAD

1. Eliminate:

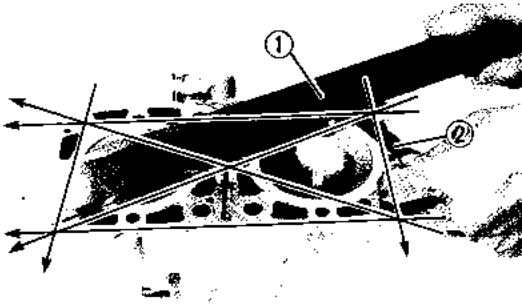
- Carbon deposit
(from combustion chamber)
Use rounded scraper ①.

CAUTION:

Do not use a sharp instrument and avoid damaging or scratching.

2. Inspect:

- Cylinder head water jacket
Crust of minerals/Rust → Remove.



3. Measure:

- Cylinder head warpage
Out of specification → Resurface.



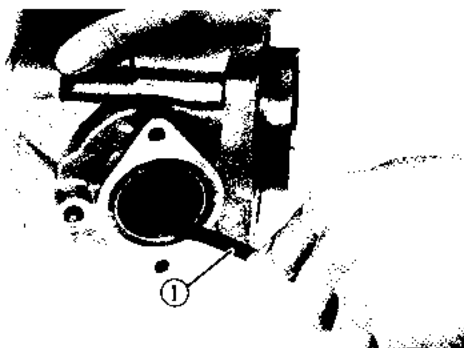
Warpage limit:
0.03 mm (0.0012 in)

Measurement and resurfacing steps:

- Attach a straight edge ① on the cylinder head and measure the warpage using a thickness gauge ② .
- If the warpage is out of specification, resurface the cylinder head.
- Place a 400 ~ 600 grit wet sandpaper on the surface plate, and resurface the head using a figure-eight sanding pattern.

NOTE:

Rotate the head several times to avoid removing too much material from one side.

**CYLINDER AND PISTON**

1. Eliminate:

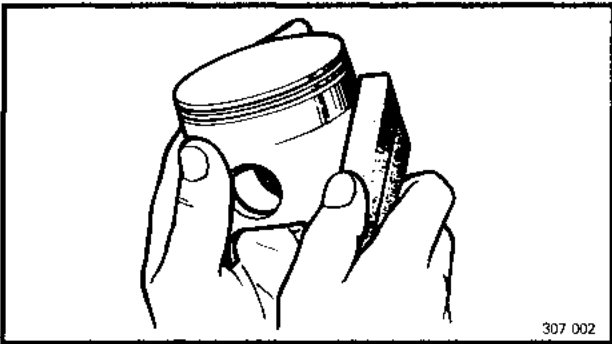
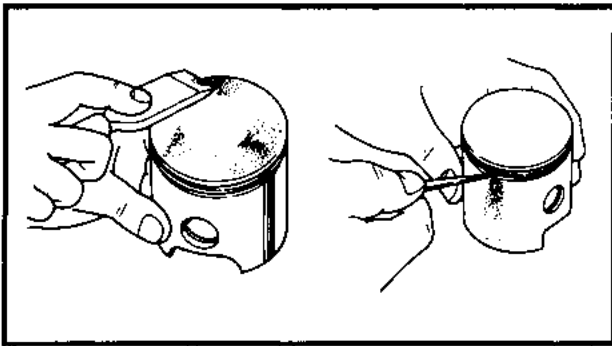
- Carbon deposits
Use a rounded scraper ① .

NOTE:

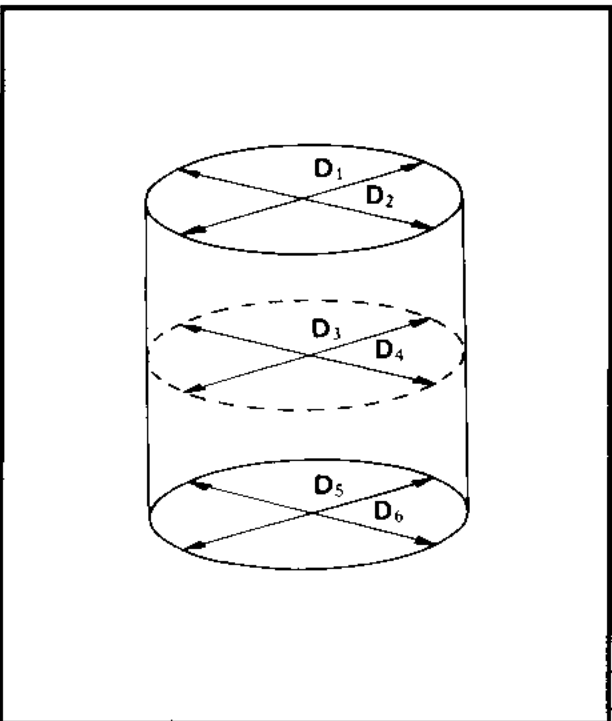
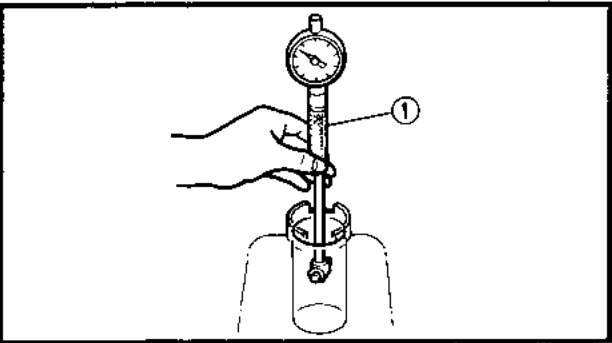
Do not use a sharp instrument and avoid damaging or scratching.

2. Inspect:

- Cylinder wall
Wear/Scratches → Hone or replace.
- Cylinder water jacket
Crust of minerals/Rust → Remove.



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3. Eliminate:
- Carbon deposits
(from piston crown and ring grooves)

4. Inspect:
- Piston crown
Burrs/Nicks/Damage → Replace.

5. Eliminate:
- Score marks and lacquer deposits
(from piston wall)
Use 600 ~ 800 grit wet sandpaper.

NOTE: _____
Sand in a crisscross pattern. Do not sand excessively.

6. Inspect:
- Piston wall
Wear/Scratches/Damage → Replace.

7. Measure:
- Piston-to-cylinder clearance

Measurement steps:

First step:

- Measure the cylinder bore "C" with a cylinder bore gauge ① .

NOTE: _____
Measure the cylinder bore "C" in parallel to and at right angles to the crankshaft. Then find the average of the measurements.

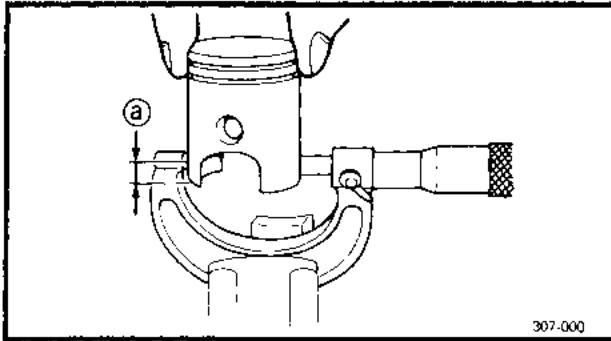
	Standard	Wear limit
Cylinder bore "C"	73.00 ~ 73.02 mm (2.874 ~ 2.875 in)	73.10 mm (2.878 in)
Taper "T"	—	0.05 mm (0.0019in)
Out of round "R"	—	0.01 mm (0.0004 in)

C = Maximum D

**T = (Maximum D¹ or D²) –
(Maximum D⁵ or D⁶)**

**R = (Maximum D¹, D³ or D⁵) –
(Minimum D², D⁴ or D⁶)**

- If out of specification, replace cylinder, and replace piston and piston rings as a set.



2nd step:

- Measure the piston skirt diameter "P" with a micrometer.
- ⓐ 10 mm (0.4 in) from the piston bottom edge.

	Piston size P
Standard	72.93 ~ 72.95 mm (2.874 ~ 2.875 in)

- If out of specification, replace piston and piston rings as a set.

3rd step:

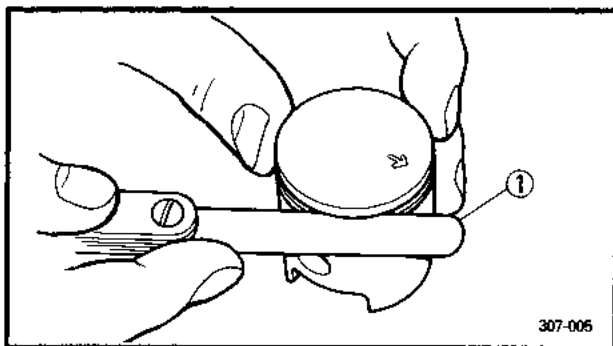
- Calculate the piston-to-cylinder clearance with the following formula:

$$\text{Piston-to-cylinder clearance} = \text{Cylinder bore "C"} - \text{Piston skirt diameter "P"}$$

- If out of specification, rebore or replace cylinder, and replace piston and piston rings as a set.

	Piston-to-cylinder clearance: 0.070 ~ 0.075 mm (0.0028 ~ 0.0030 in) Limit: 0.1 mm (0.004 in)
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PISTON RINGS

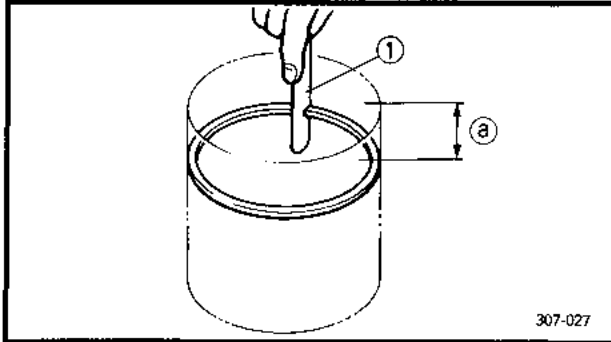
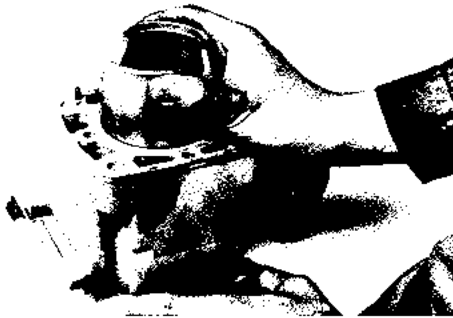
1. Measure:

- Side clearance
Out of specification → Replace piston and/or rings.
Use a feeler gauge ①.

NOTE:

Eliminate the carbon deposits from the piston ring grooves and rings before measuring the side clearance.

	Side clearance	Top	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
		2nd	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)



2. Install:

- Piston ring
(into the cylinder)
Push the ring with the piston crown.

NOTE:

Insert the ring into the cylinder, and push it approximately 20 mm (0.8 in) into the cylinder. Push the ring with the piston crown so that the ring will be at a right angle to the cylinder bore.

3. Measure:

- End gap
Out of specification → Replace rings as a set.
Use a feeler gauge ①.

End gap	Top	0.20 ~ 0.40 mm (0.008 ~ 0.016 in)
	2nd	0.20 ~ 0.40 mm (0.008 ~ 0.016 in)

① 20 mm (0.8 in)

5

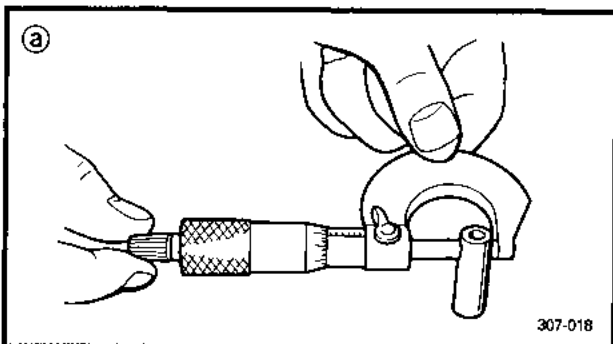
**PISTON PIN AND BEARING**

1. Inspect:

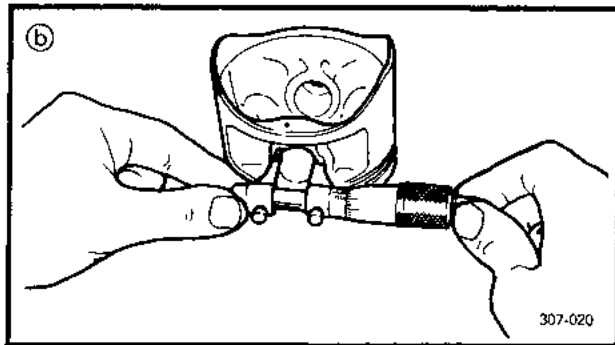
- Piston Pin
Blue discoloration/Grooves → Replace piston pin and inspect lubrication system.
- Small end bearing
Blue discoloration/Bearing turns roughly → Replace bearing and inspect lubrication system.

2. Measure:

- Outside diameter ② (piston pin)
Out of specification → Replace.



	Outside diameter (piston pin): 20.0 ~ 20.005 mm (0.787 ~ 0.788 in)
--	--



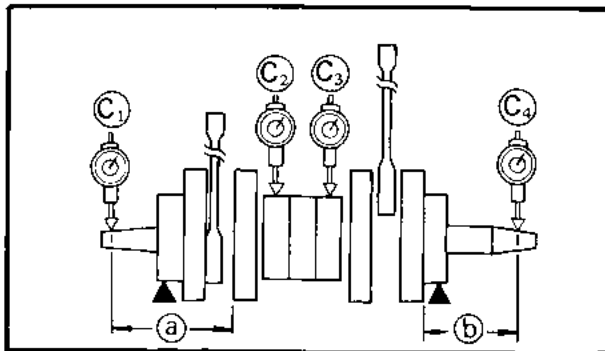
3. Measure:

- Piston pin-to-piston clearance
Out of specification Replace piston.

$$\text{Piston pin-to-piston clearance} = \text{Bore size (piston pin) } \textcircled{b} - \text{Outside diameter (piston pin) } \textcircled{a}$$



$$\text{Piston pin-to piston clearance} = 0.004 \sim 0.020 \text{ mm} \\ (0.00016 \sim 0.00079 \text{ in})$$



CRANKSHAFT

1. Measure:

- Runout
Use V-blocks and a Dial Gauge (90890-03097, YU-03097).
Out of specification → Replace or repair.

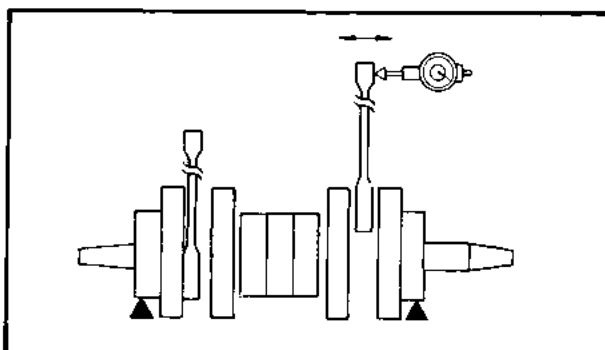


Runout limit:

C ¹	: 0.03 mm (0.012 in)
C ² , C ³	: 0.04 mm (0.0016 in)
C ⁴	: 0.05 mm (0.0020 in)

Ⓐ 80 mm (3.2 in)

Ⓑ 99 mm (3.9 in)



2. Measure:

- Small end free play
Use a dial gauge.
Out of specification → Replace the defective parts.



$$\text{Small end free play:} \\ 0.8 \sim 1.0 \text{ mm (0.031} \sim 0.039 \text{ in)}$$



3. Measure:

- Big end side clearance

Use a feeler gauge.

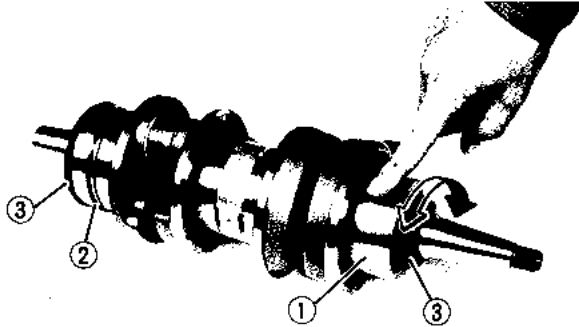
Out of specification → Replace the defective parts.



Big end side clearance:

0.25 ~ 0.75 mm

(0.010 ~ 0.030 in)



4. Inspect:

- Crankshaft bearing ①
Pitting/Damage → Replace.
- Stopper ring ②
Bend/Damage → Replace.
- Crankshaft oil seals ③
Wear/Damage → Replace.

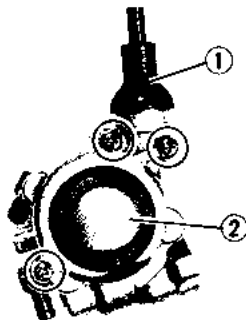
CAUTION:

Lubricate the bearing immediately after examining them to prevent rust.

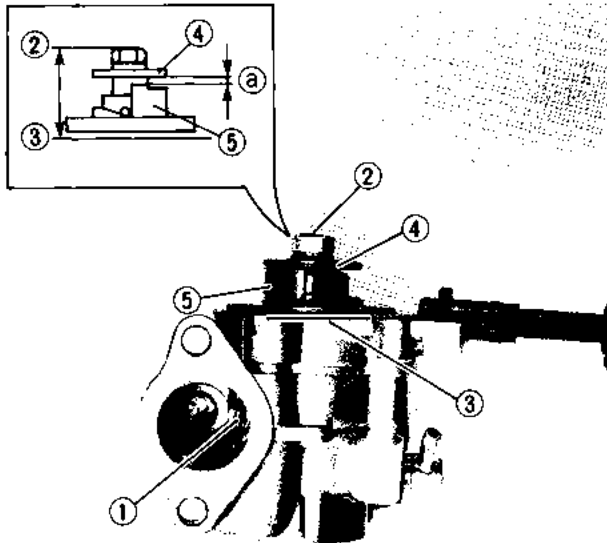
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CRANKCASE

1. Thoroughly wash the case halves in mild solvent.
2. Clean all the gasket mating surfaces and case mating surfaces thoroughly.
3. Inspect:
 - Crankcase
Cracks/Damage → Replace.

**OIL PUMP STROKE ADJUSTMENT**

1. Pull back the rubber cover ① of the oil pump cable.
2. Remove:
 - Oil pump cover ②
3. Wipe off the grease from the plunger top.



4. Measure:

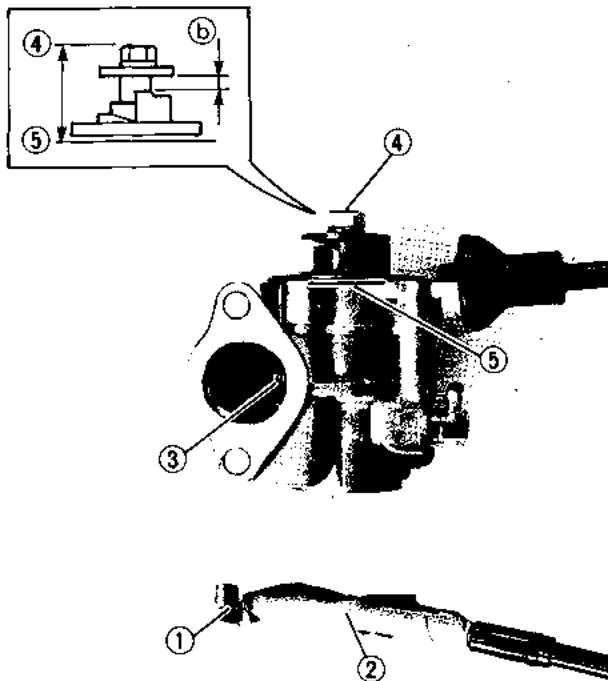
- Minimum pump stroke (a)
Out of specification → Adjust.



Minimum pump stroke (a) :
0.15 ~ 0.2 mm (0.0059 ~ 0.0079 in)

Measurement steps:

- Turn the pump worm gear (1) with your finger, until the plunger top (2) is at its maximum distance from the pump body mating surface (3) of the pump cover.
- Using a Feeler Gauge, measure the minimum pump stroke (a) between the adjusting plate (4) and the raised boss (5) on the adjusting pulley.
- If minimum pump stroke is not within the specified limits, perform the adjustment steps.



5. Measure:

- Maximum pump stroke (b)
Out of specification → Adjust.



Maximum pump stroke (b) :
1.62 ~ 1.8 mm (0.064 ~ 0.071 in)

Measurement steps:

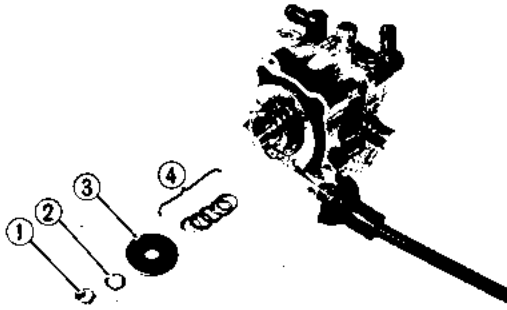
- Pull the oil pump cable (1) out of its sheath as far as it will go. The cable must be held in this taut position when measuring the maximum pump stroke.

NOTE:

It may be helpful to securely wrap duct tape (2) around the cable where it enters the sheath.

- Turn the pump worm gear (3) with your finger, until the plunger top (4) is at its maximum distance from the pump body (5).
- Using a Feeler Gauge, measure the maximum pump stroke (b).
- If maximum pump stroke is not within the specified limits, perform the adjustment steps.

5



6. Adjust:

- Oil pump stroke

Adjustment steps:

- Remove the locknut ①, spring washer ② and adjusting plate ③.
- Adjust the pump stroke by adding or removing a shim(s) ④.

Adding shim

Pump stroke is increased.

Removing shim

Pump stroke is decreased.

- Reinstall the adjusting plate, spring washer and locknut.

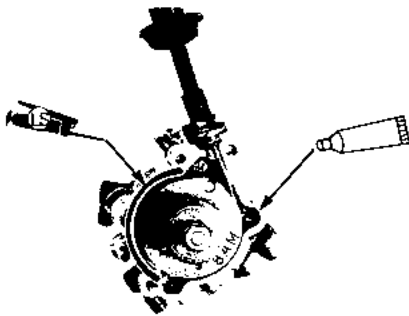
**Locknut (adjusting plate):**

7 Nm (0.7 m · kg, 5.1 ft · lb)

- Recheck the minimum and maximum pump stroke.

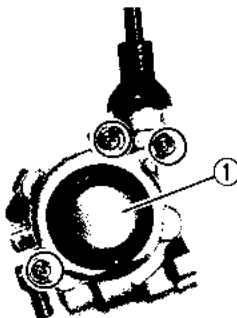
If out of specification limits, perform the above steps again.

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7. Apply:

- Lithium soap base grease (to outside of pump pulley)
- Yamaha Bond No.5® (ACC-11001-31-00) (to mating surface of oil pump cover)



8. Install:

- Oil pump cover ①

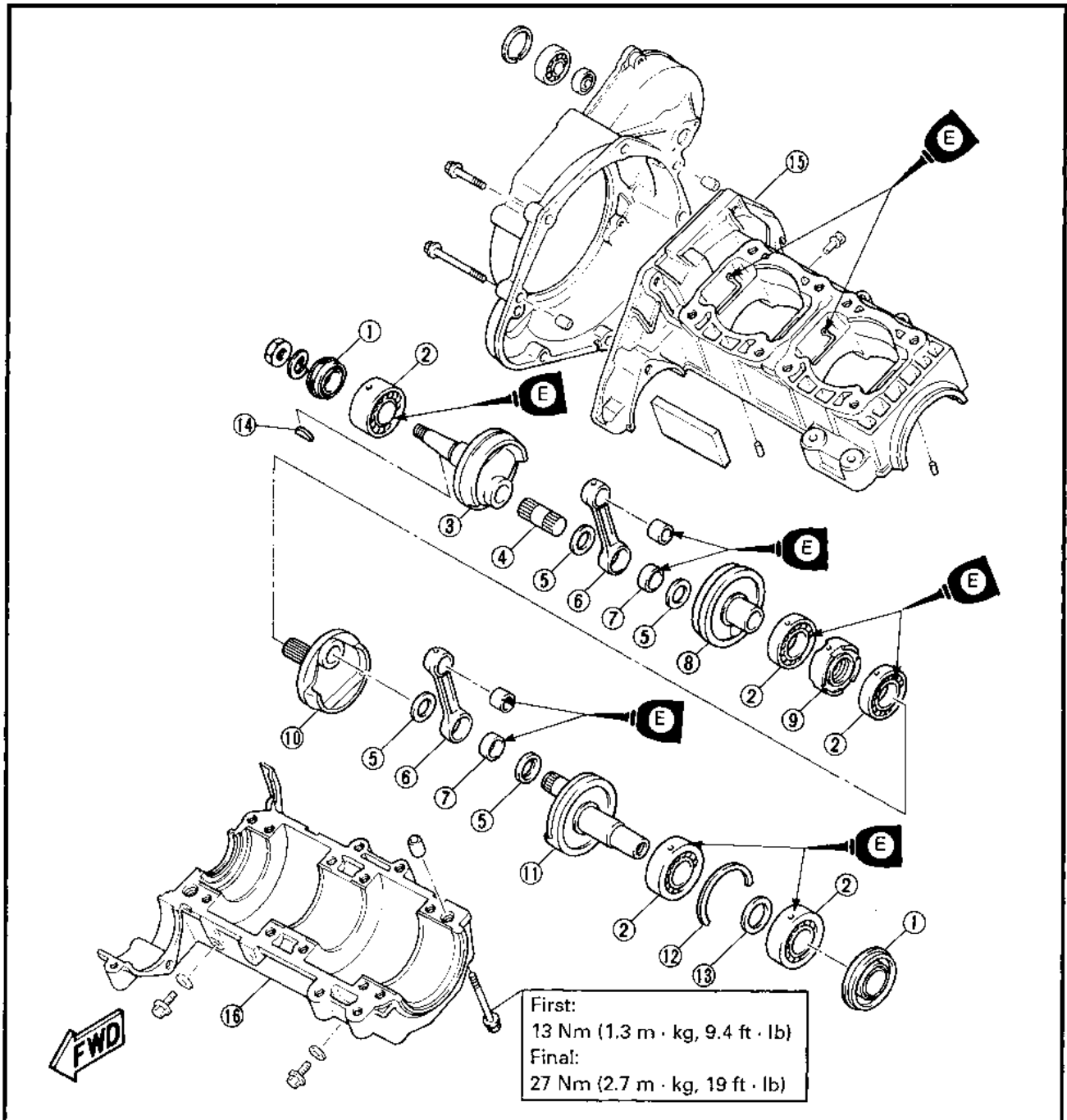
**Screw (oil pump cover):**

3 Nm (0.3 m · kg, 2.2 ft · lb)

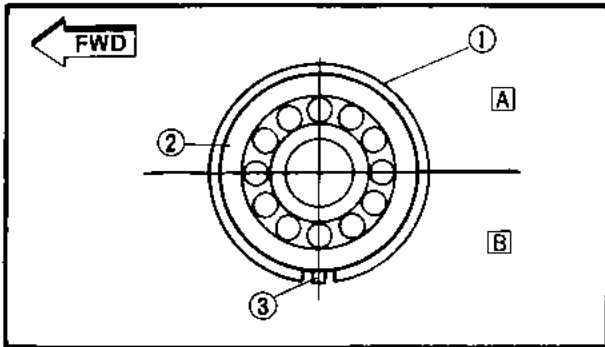


**ENGINE ASSEMBLY AND
ADJUSTMENT
CRANKCASE AND CRANKSHAFT**

- | | |
|-------------------|-------------------|
| ① Oil seal | ⑨ Labyrinth seal |
| ② Bearing | ⑩ Crank 2 |
| ③ Crank 4 | ⑪ Crank 1 |
| ④ Crank pin | ⑫ Stopper ring |
| ⑤ Washer | ⑬ Plain washer |
| ⑥ Connecting rod | ⑭ Woodruff key |
| ⑦ Big end bearing | ⑮ Upper crankcase |
| ⑧ Crank 3 | ⑯ Lower crankcase |
- * Yamaha bond No.5

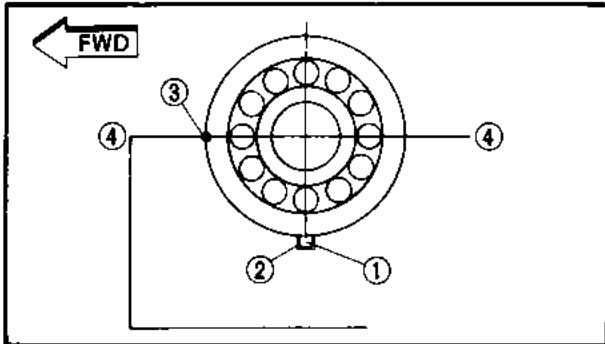


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1. Install:
- Stopper ring ①
(onto lower crankcase bearing ② (primary sheave side) as shown)

- ③ Knock pin
- Ⓐ Lower case
- Ⓑ Upper case

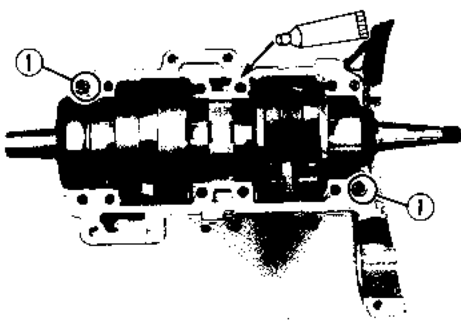
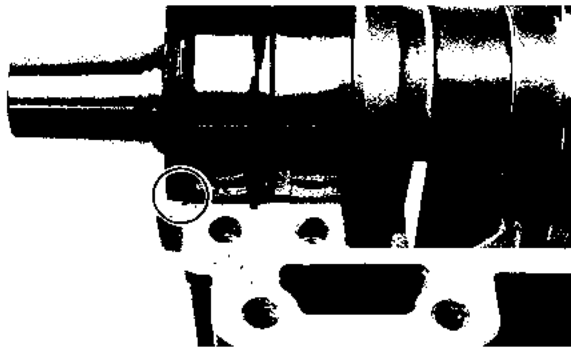


2. Install:
- Crankshaft assembly
(to upper crankcase)

NOTE: _____
Set the knock pins ① on the upper crankcase and labyrinth seal into the pin holes ② of the bearings and upper crankcase by turning the bearings and labyrinth seal. At the same time, align the bearing punched marks ③ with the crankcase mating surface ④.

CAUTION: _____
The oil seal lip must fit into the crankcase groove.

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3. Apply:
- Yamabond No. 5[®]
(to mating surfaces of both case halves)

4. Install:
- Dowel pins ①



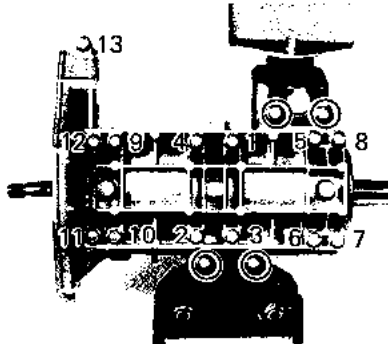
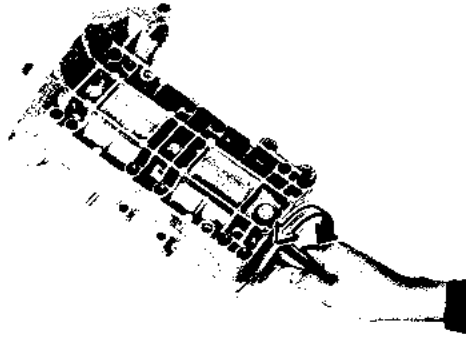
5. Install:
- Lower crankcase ①
(onto the upper crankcase ②)

NOTE: _____
Tap lightly on the case with a soft-head hammer.



CAUTION:

Before installing and torquing the crankcase bolts, be sure to check whether the crankshaft is turning smoothly.



6. Tighten:

- Bolts (Crankcase)

NOTE:

Tighten the bolts in order starting with the smallest number and torque the bolts in two stages.



Bolt (crankcase):

First:

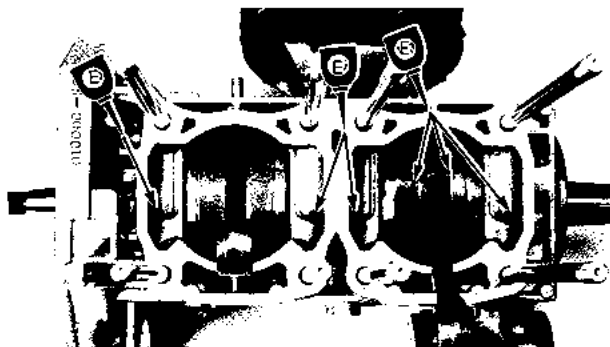
13 Nm (1.3 m • kg, 9.4 ft • lb)

Final:

27 Nm (2.7 m • kg, 19 ft • lb)

Bolt (engine bracket):

27 Nm (2.7 m • kg, 19 ft • lb)



7. Apply:

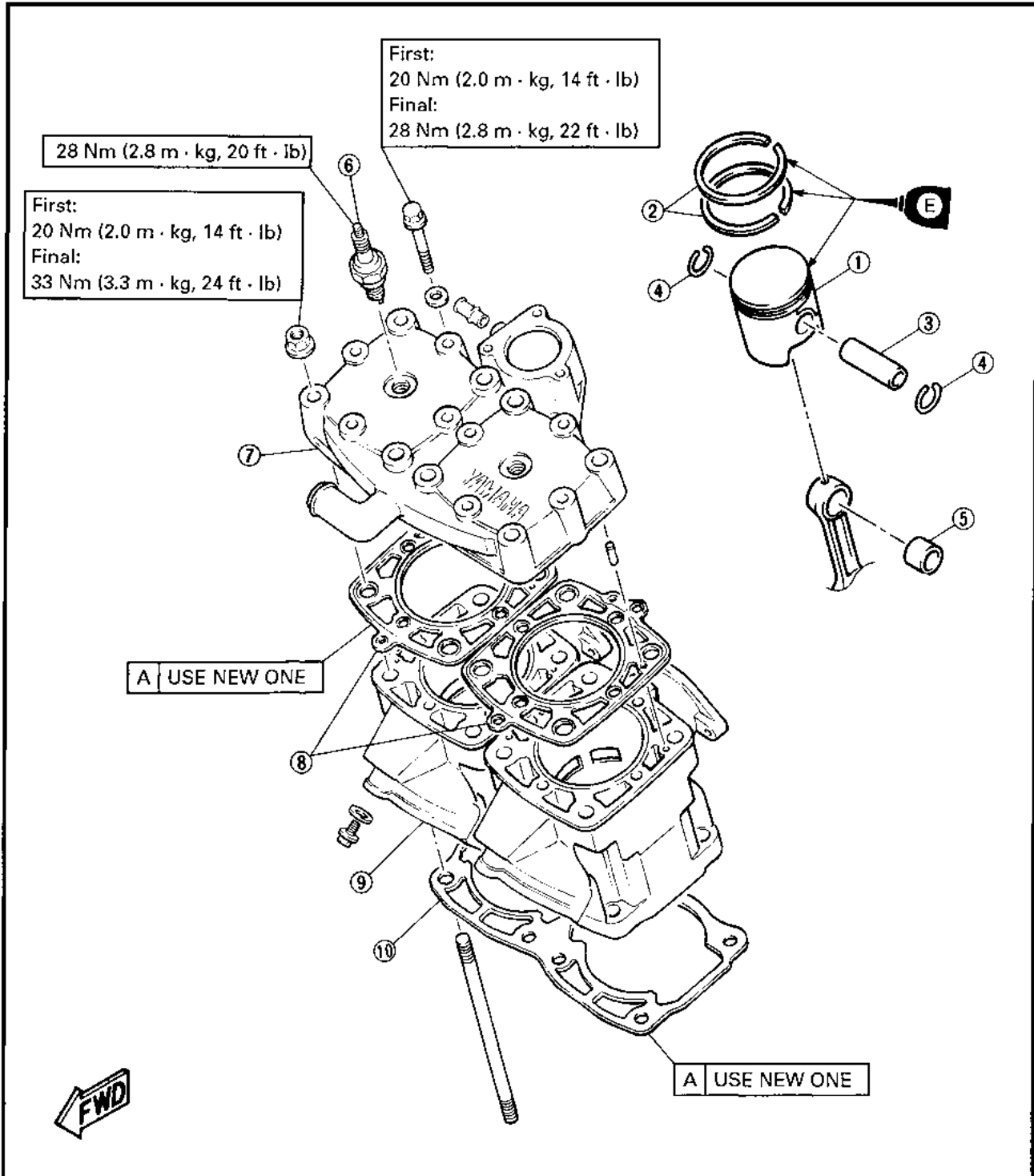
- 2-stroke engine oil
(to crankpin, bearing and oil delivery hole)



PISTON, CYLINDER AND CYLINDER HEAD

- ① Piston
- ② Piston ring
- ③ Piston pin
- ④ Piston pin clip
- ⑤ Small end bearing
- ⑥ Spark plug
- ⑦ Cylinder head
- ⑧ Head gasket
- ⑨ Cylinder
- ⑩ Cylinder gasket

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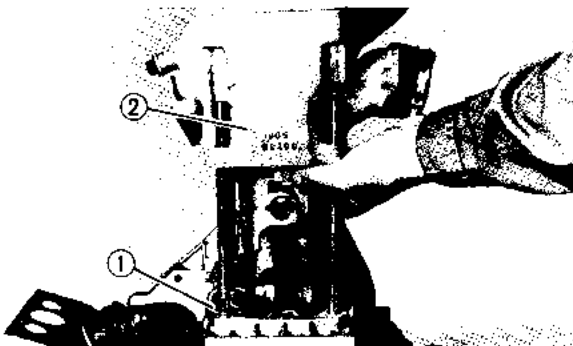
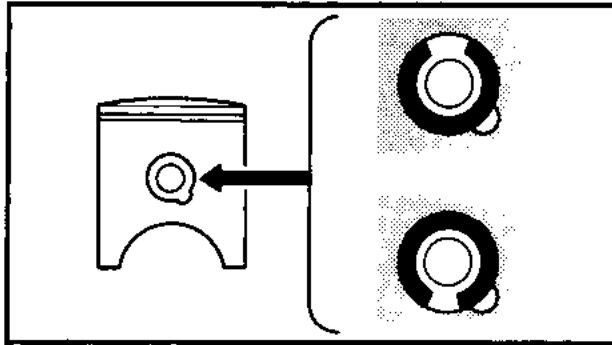
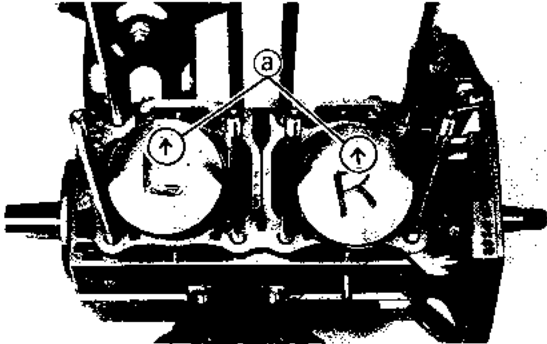
PISTON

1. Apply:

- 2-stroke engine oil (liberal coating)
(to piston pin, bearing, piston ring grooves and piston skirt areas)

2. Install:

- Small end bearing
- Piston
- Piston pin
- Piston pin clip
- Piston rings



NOTE:

- The arrow (a) on the piston must point to the front of the engine.
- Before installing the piston pin clip, cover the crankcase with a clean rag so you will not accidentally drop the pin clip and material into the crankcase.
- Position each piston very carefully in its original place.

CAUTION:

- Always use a new piston pin clip.
- Do not allow the clip open ends to meet the piston pin slot.

2. Check:

- Piston ring position

CAUTION:

- Make sure ring ends are properly fitted around ring locating pins in piston grooves.
- Be sure to check the manufacturer's marks or numbers stamped on the rings are on the top side of the rings.

CYLINDER AND CYLINDER HEAD

1. Install:

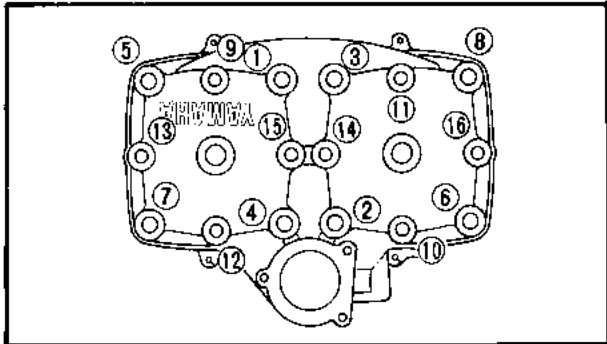
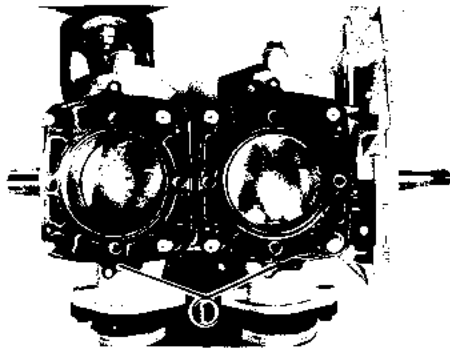
- Gasket (cylinder) ①
- Cylinder ②

CAUTION:

Always use a new gasket.

NOTE:

Install the cylinder with one hand while compressing the piston rings with the other hand.



2. Install:

- Gasket (cylinder head) ①
- Cylinder head

3. Tighten:

- Nuts (cylinder head)
- Bolts (cylinder head)

Tightening steps:

- Temporarily tighten the cylinder head nuts ①~⑧ and bolts ⑨ ~ ⑯ , in this order.

First step:

- Tighten the nuts ① ~ ⑧ and bolts ⑨ ~ ⑯ .



Nut (cylinder head):
20 Nm (2.0 m • kg, 14 ft • lb)
Bolt (cylinder head)
20 Nm (2.0 m • kg, 14 ft • lb)

Second step:

- Retighten the nuts ①~⑧ and bolts ① ~ ⑧ .



Nut (cylinder head):
33 Nm (3.3 m • kg, 24 ft • lb)
Bolt (cylinder head):
28 Nm (2.8 m • kg, 20 ft • lb)

4. Tighten:



Spark plug:
28 Nm (2.8 m • kg, 20 ft • lb)
Thermostatic valve cover bolt:
7 Nm (0.7 m • kg, 5.1 ft • lb)

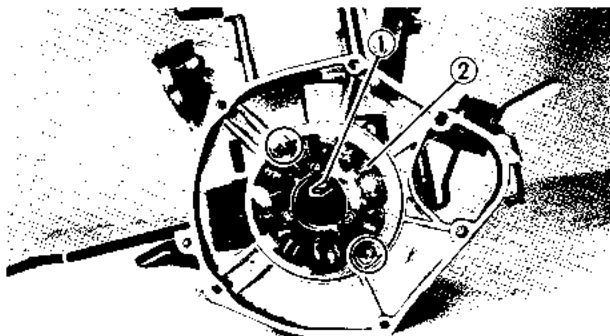
CDI MAGNETO

1. Install:

- Woodruff key ①
- Stator plate ②

CAUTION:

Be sure to remove any oil and/or grease from the tapered portion of the crankshaft using a cloth dampened with thinner.



5

**NOTE:**

Pass the magneto leads through the hole, and install the grommet into the crankcase.



Screw (stator plate):
7 Nm (0.7 m · kg, 5.1 ft · lb)

2. Install:

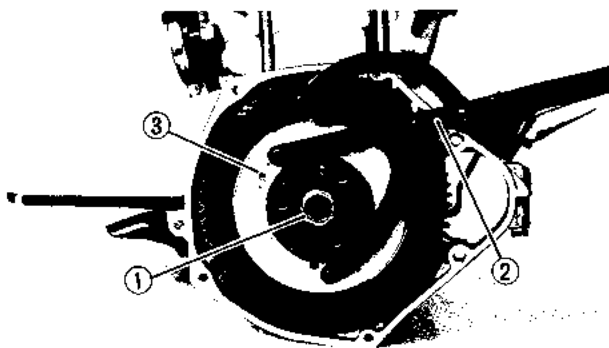
- Magneto rotor
- Washer
- Nut (magneto rotor)

CAUTION:

Be sure to remove any oil and/or grease from the tapered portion of the magneto rotor using a dampened cloth with thinner.

NOTE:

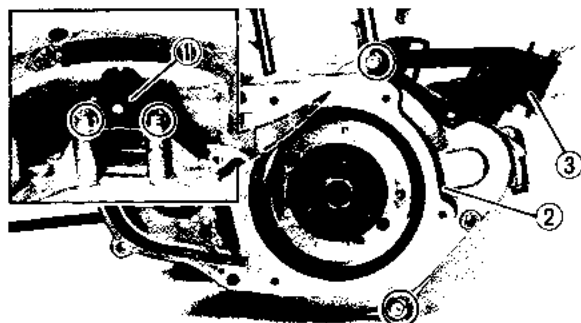
When installing the magneto rotor, make sure the woodruff key is properly seated in the keyway of the crankshaft.

**3. Tighten:**

Magneto rotor nut ①:
85 Nm (8.5 m · kg, 61 ft · lb)

NOTE:

Use the Universal Rotor Holder (90890-01235, YU-01235) ② to hold the magneto rotor ③.

**4. Install:**

- Pickup coil ①
- Crankcase cover ②
- Engine bracket ③



Bolt (crankcase cover):
23 Nm (2.3 m · kg, 17 ft · lb)

**WATER PUMP**

1. Install:

- Impeller shaft assembly (See page 6-6)
- Water pump drive belt
- Starter pulley
- Water pump housing
- Impeller
- Water pump cover
- Coolant hose

OIL PUMP

1. Install:

- Gasket
- Collar
- Worm gear shaft
- Washer
- Oil pump



Bolt (oil pump):
10 Nm (1.0 m • kg, 7.2 ft • lb)

REMounting ENGINE

Reverse the "ENGINE REMOVAL" procedure.
Note the following points.

1. Install:

- Engine assembly
- Nuts (engine bracket) ①

NOTE:

- Install the starter motor bolt ② and ground lead ③ before installing the engine assembly.
- Before tightening the nut (engine bracket-rear), the sheave distance should be adjusted.



Nut (engine bracket-front):
40 Nm (4.0 • kg, 29 ft • lb)

2. Tighten



Starter motor bolt:
23 Nm (2.3 m • kg, 17 ft • lb)

3. Fill:

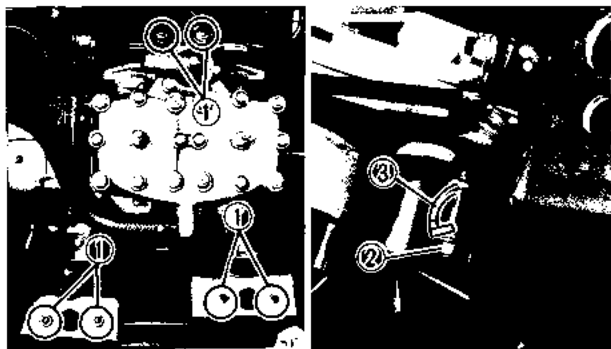
- Cooling system (See page 2-7)

4. Air bleed:

- Oil pump (See page 2-4)
- Cooling system (See page 2-10)

5. Adjust:

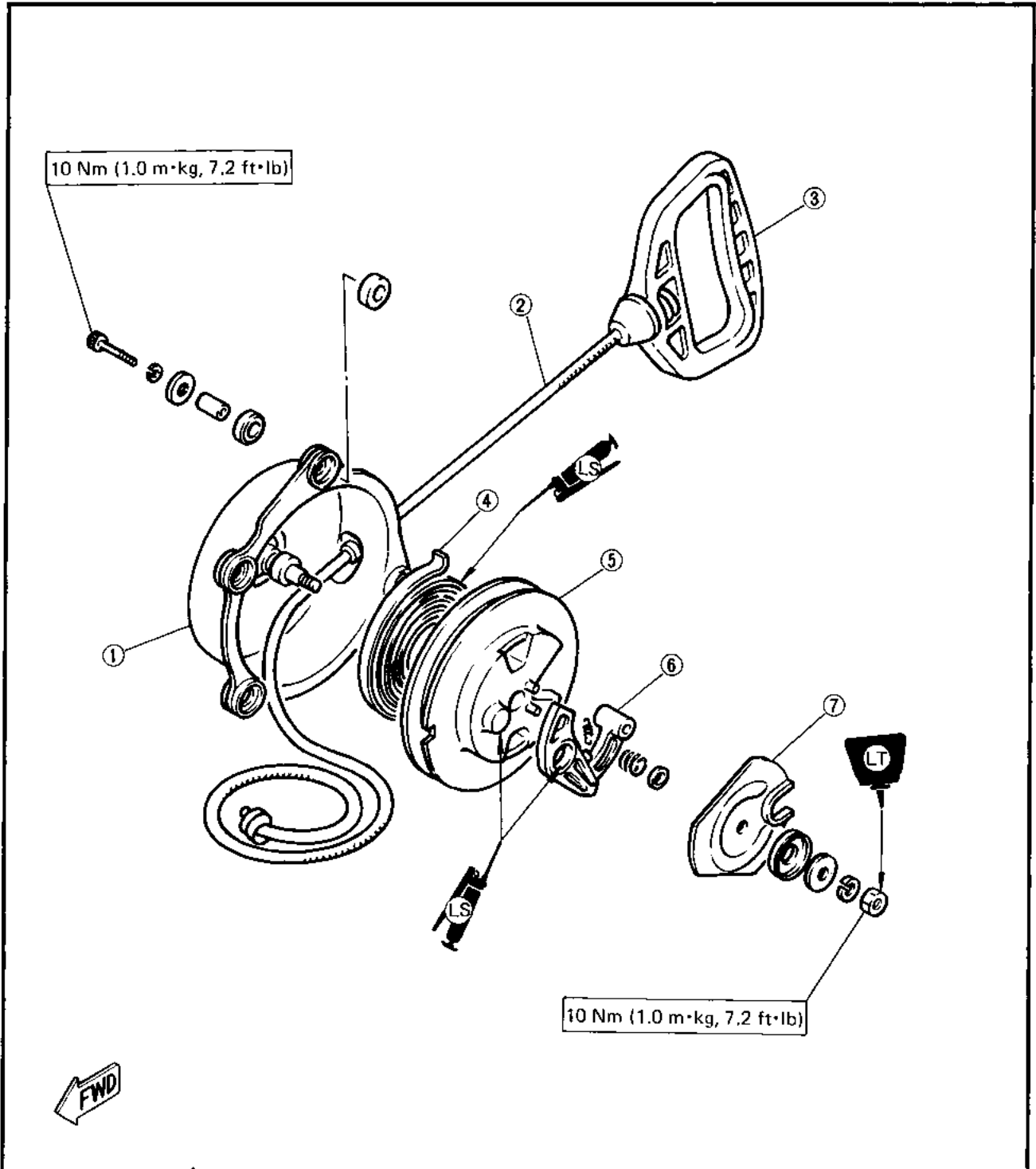
- Sheave distance (See page 4-15)
- Throttle cable (See page 2-13)
- Oil pump cable (See page 2-5)
- Starter cable (See page 2-14)



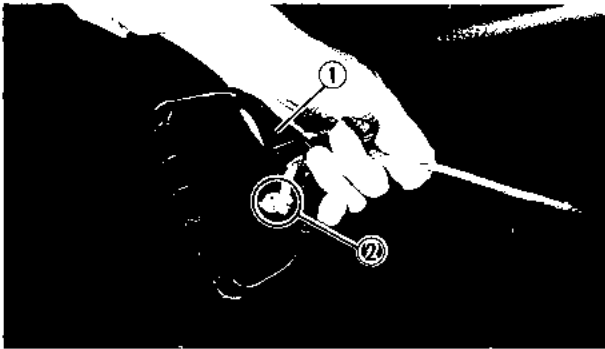


RECOIL STARTER

- ① Recoil starter case
- ② Starter rope
- ③ Starter handle
- ④ Starter spring
- ⑤ Sheave drum
- ⑥ Drive pawl
- ⑦ Drive plate



5

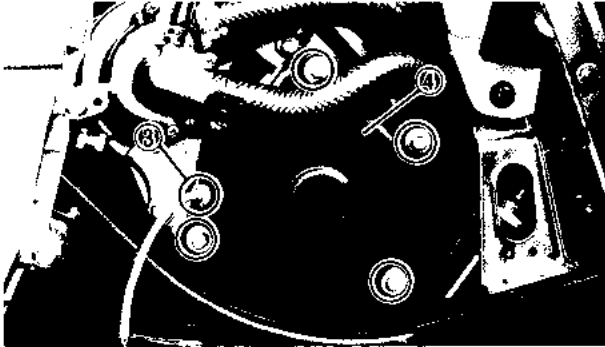


REMOVAL

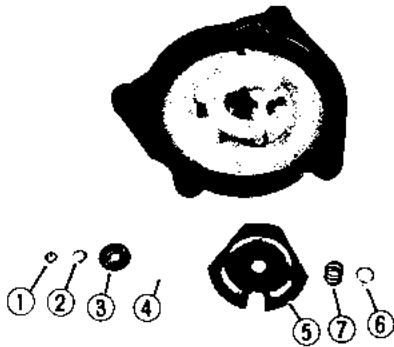
1. Remove:
 - Muffler
 - Starter handle ①
 - Recoil starter

NOTE:

To remove the starter handle, loosen the knot ② in the starter rope and then re-tie a knot ③ in the rope end so that it will not be pulled into the recoil starter case ④ .



5

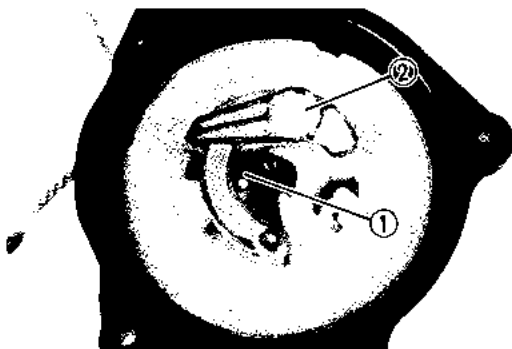


DISASSEMBLY

1. Remove:
 - Nut ①
 - Spring washer ②
 - Washer ③
 - Special washer ④
 - Drive plate ⑤
 - Spring seat ⑥
 - Spring ⑦

NOTE:

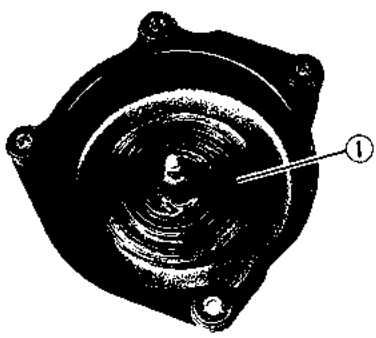
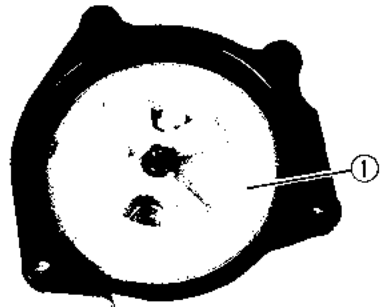
There is a spring (drive plate) ⑦ under the drive plate. Care should be taken so that it will not be lost.



2. Remove:
 - Return spring ①
 - Drive pawl ②

NOTE:

Care should be taken so that the return spring ① will not be lost.



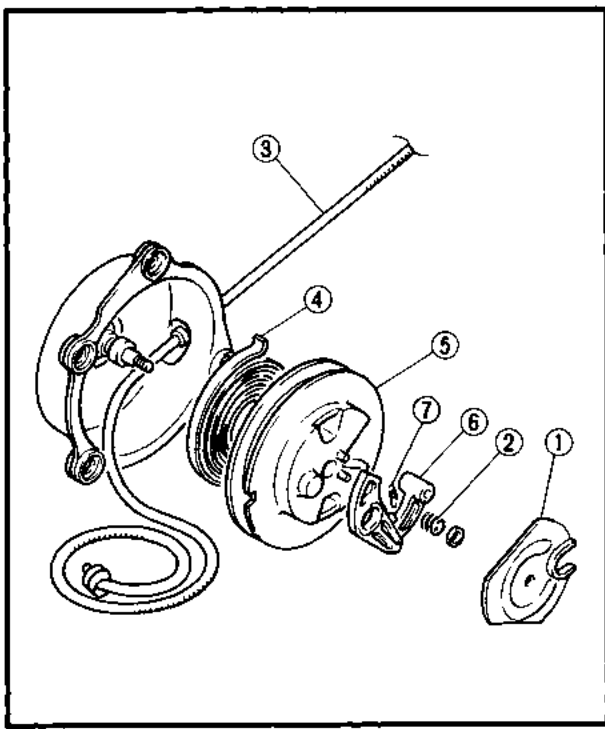
3. Untie the knot on the handle end of the starter rope. Allow the rope to be pulled into the starter case. This will release spring tension behind the sheave drum.

4. Remove:
- Sheave drum ①

⚠ WARNING

There is a starter spring under the sheave drum. Remove the drum carefully. Otherwise the spring could spring out and could possibly cause injury.

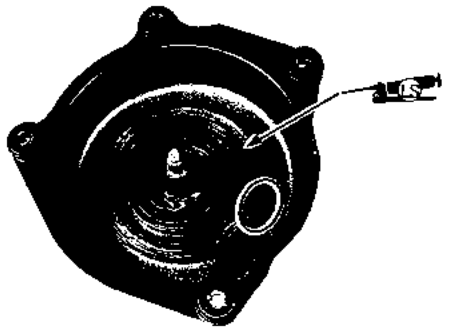
5. Remove:
- Starter spring ①



INSPECTION

1. Inspect:
- Drive plate ①
Cracks/Bends/Damage → Replace.
 - Spring (drive plate) ②
Wear/Damage → Replace.
 - Starter rope ③
Wear/Breaks/Damage → Replace.
 - Starter spring ④
Cracks/Bends/Damage → Replace.
 - Sheave drum ⑤
Cracks/Damage → Replace.
 - Drive pawl ⑥
 - Return spring ⑦
Wear/Cracks/Damage → Replace.

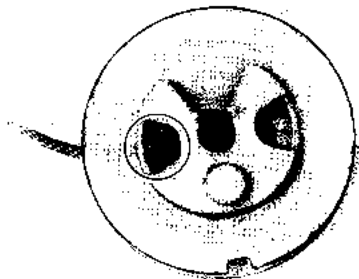
5



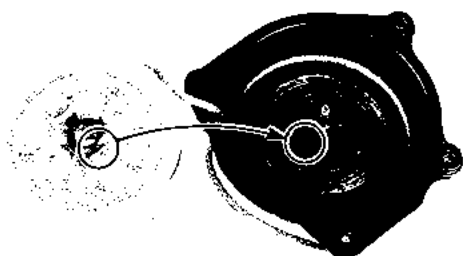
ASSEMBLY AND INSTALLATION

1. Hook the starter spring around the post in the starter case. Carefully wind the spring counterclockwise, and fit the spring into the case.

NOTE: After installing the spring thoroughly apply the low-temperature grease.



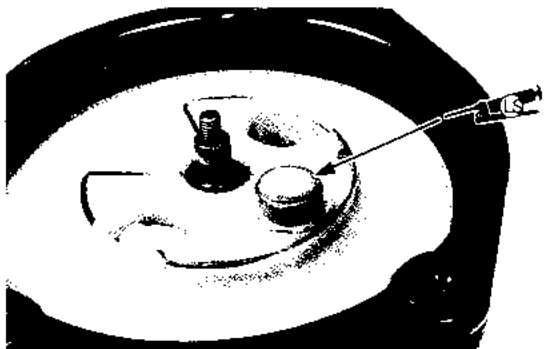
2. Pass the starter rope end into the sheave drum, and knot the rope end. Then fit the knot into the cutout in the sheave drum.



3. Wind:
- Starter rope (2 turns counterclockwise) (to sheave drum)
4. Install:
- Sheave drum (into starter case)

NOTE: _____

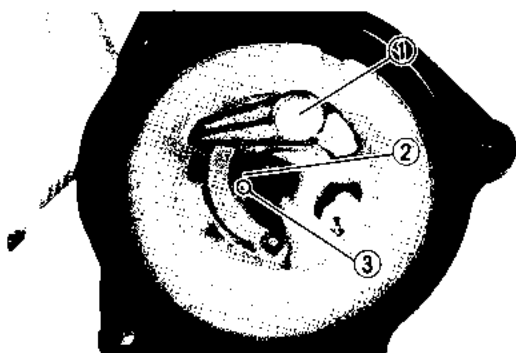
Be sure the inner hook on the starter spring hooks around the post on the sheave drum.



5. Apply:
- Grease (lightly) (to pivot point of the drive pawl)

	Low-temperature grease
--	-------------------------------

5



6. Install:
- Drive pawl ①
 - Return spring ②

NOTE: _____

Hook the return spring end to the drive pawl ①. Then, hook other end of the return spring to the post ③ on the sheave drum.

7. Install:
- Spring (drive plate)
 - Spring seat
 - Drive plate
 - Special washer
 - Washer
 - Spring washer
 - Nut



NOTE: _____

Be sure the cutout portion in the drive plate fits over the post on the drive pawl.

	<p>Nut (drive plate): 10 Nm (1.0 m • kg, 7.2 ft • lb) LOCTITE®</p>
--	---



8. Pull about four inches of starter rope from out of the cutout portion in the sheave drum, and rotate the sheave drum five times counterclockwise to preload the starter spring.
 Then knot the rope end so that it will not be pulled into the recoil starter case.

9. Install:
- Recoil starter
 - Starter handle

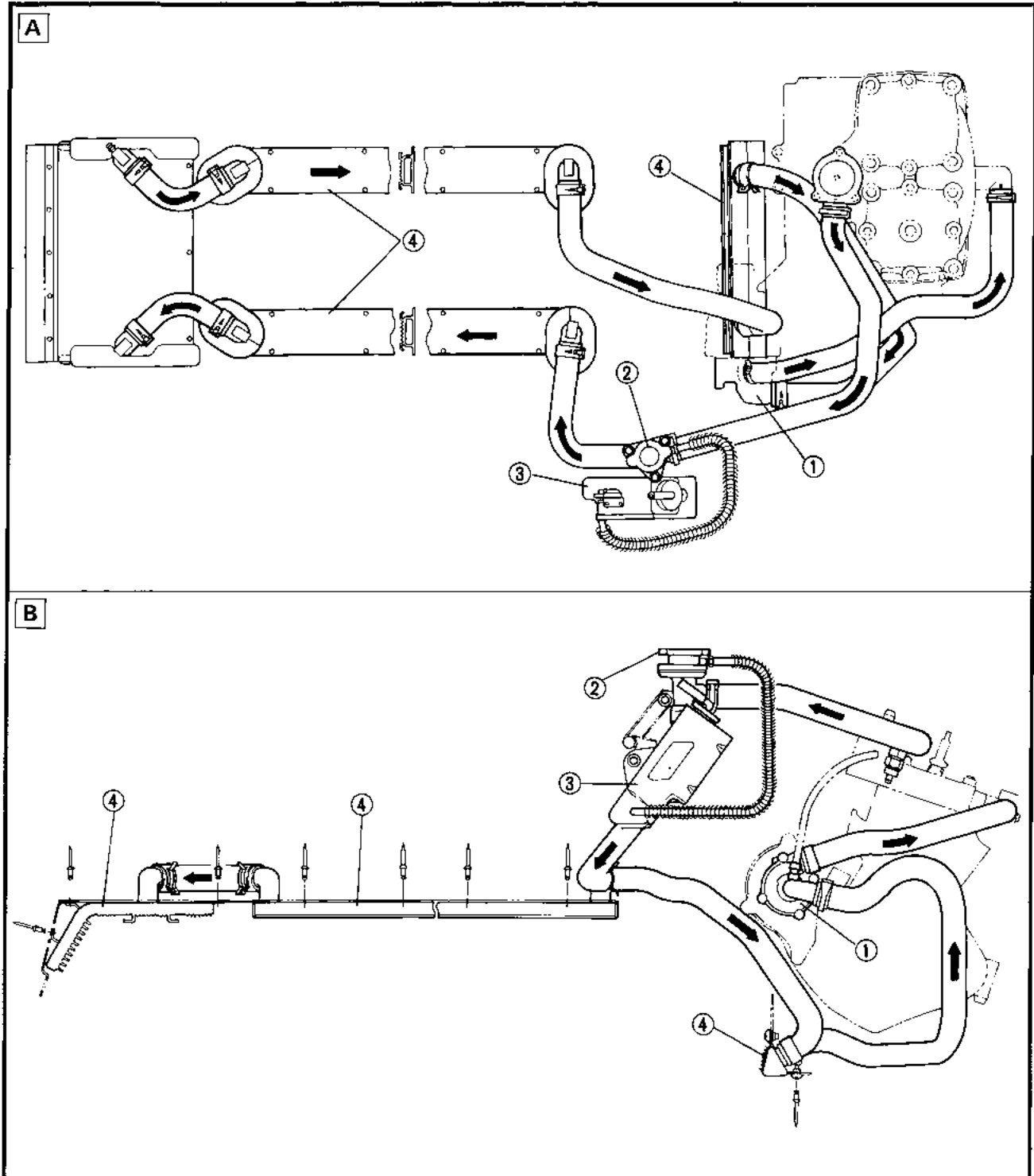
	<p>Bolt (recoil starter): 10 Nm (1.0 m • kg, 7.2 ft • lb)</p>
--	---

10. Check the starter for smooth operation. If it does not operate smoothly, repair it.



COOLING SYSTEM COOLANT FLOW

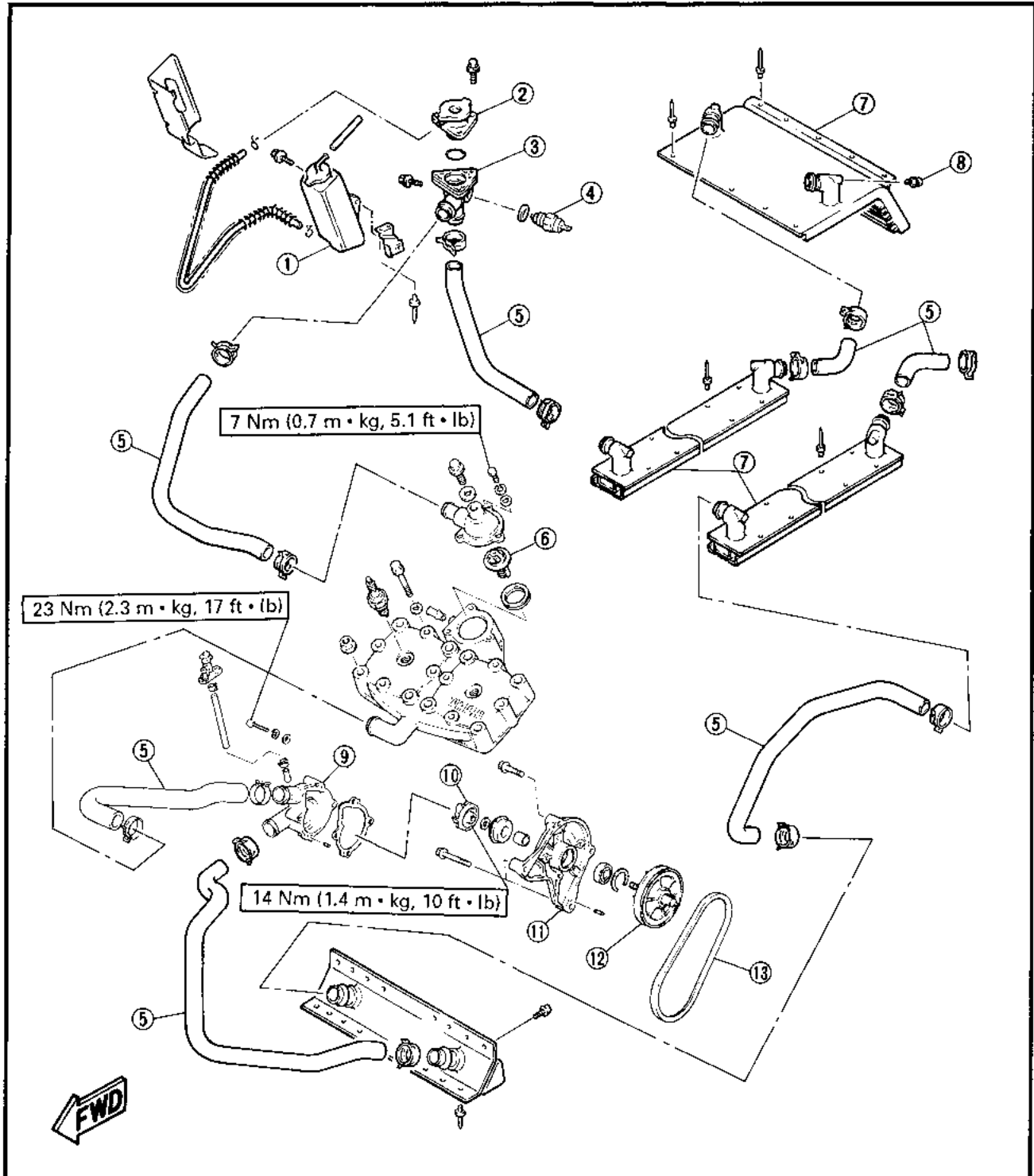
- ① Water pump
 - ② Coolant filler cap
 - ③ Reservoir tank
 - ④ Heat exchanger
- A Top view
 - B Side view

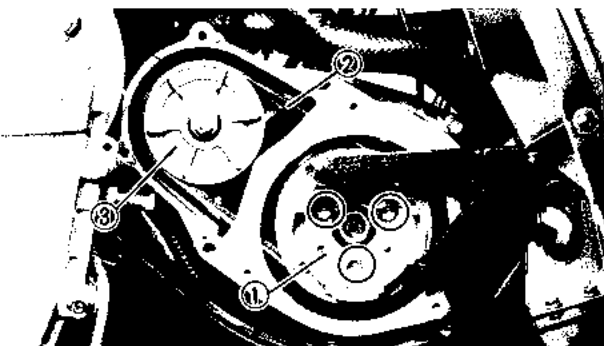
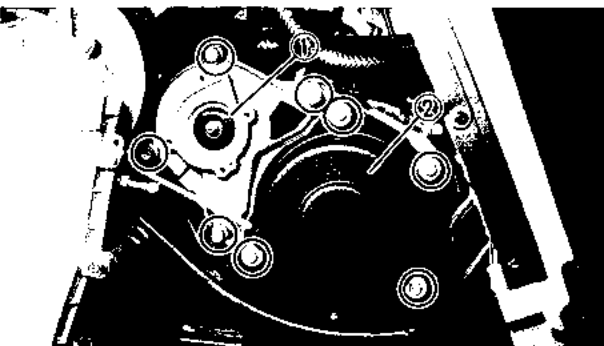
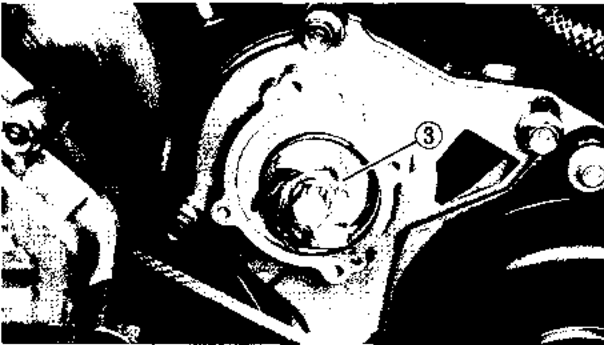
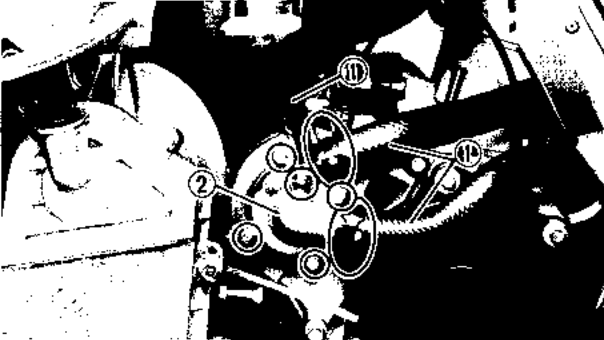
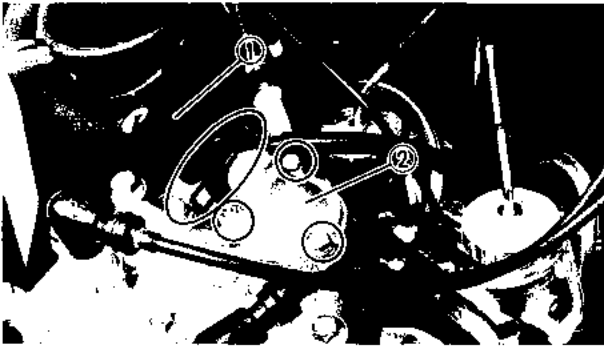


COOLING LINE

- ① Reservoir tank
- ② Coolant filler cap
- ③ Hose joint
- ④ Thermo switch
- ⑤ Coolant hose
- ⑥ Thermostatic valve
- ⑦ Heat exchanger
- ⑧ Bleed screw
- ⑨ Water pump cover
- ⑩ Impeller
- ⑪ Water pump housing
- ⑫ Impeller shaft assembly
- ⑬ Water pump drive belt

6





COOLING SYSTEM

REMOVAL

1. Place a rag under the coolant hose ① and disconnect the coolant hose.
2. Remove:
 - Thermostatic valve cover ②
 - Thermostatic valve
3. Drain the coolant. (See page 2-7)
4. Disconnect:
 - Coolant hoses ①
5. Remove:
 - Water pump cover ②
 - Gasket
 - Impeller ③

NOTE:

Attach the Primary Sheave Holder (90890-01701, YS-01880) to hold the primary sheave.

CAUTION:

The impeller has left-hand threads. Turn the impeller clockwise to loosen it.

6. Remove:

- Water pump housing ①
- Recoil starter assembly ②

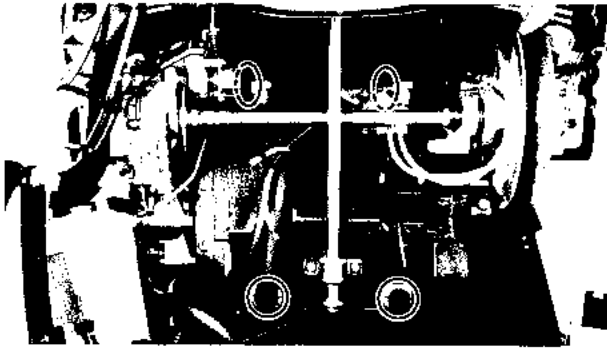
7. Remove:

- Starter pulley ①

NOTE:

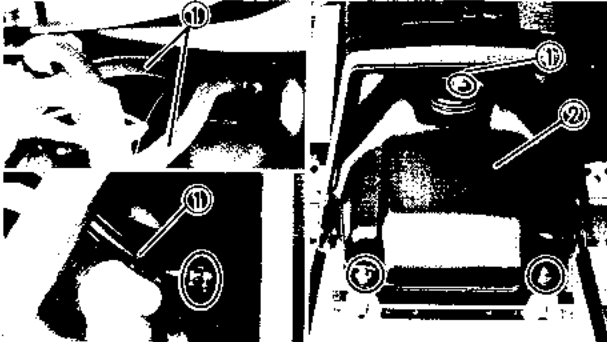
Attach the Universal Clutch Holder (90890-04086, YM-91042) to hold the starter pulley.

- Water pump drive belt ②
- Impeller shaft assembly ③



8. Remove:

- Engine assembly (See page 5-1)
- Intake silencer (See page 7-7)
- Coolant hoses



9. Remove:

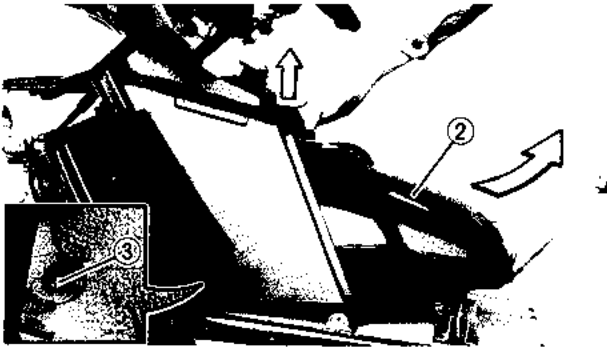
- Fuel hoses ①
- Fuel tank ②

⚠ WARNING

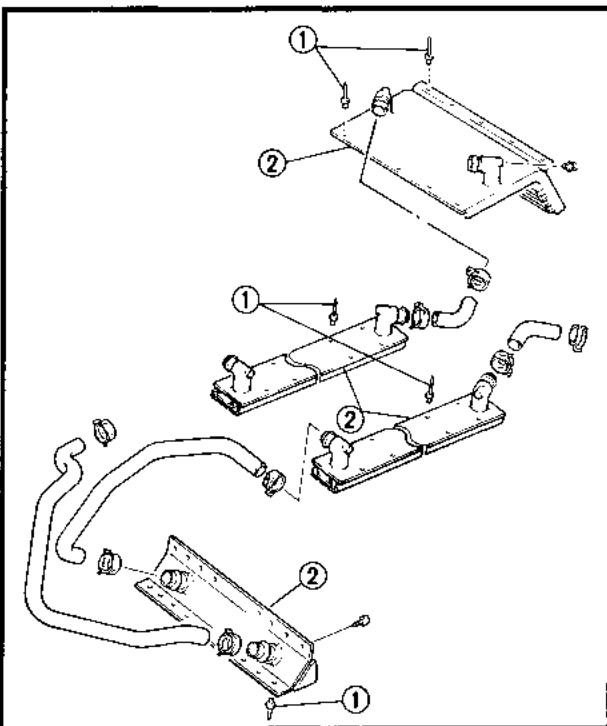
Turn the fuel cock to the "close" position and plug the fuel hoses so fuel dose not run out. Spilled fuel can be a fire hazard.

NOTE:

Remove the screw ③ on the center cover and pull back the fuel tank while lifting up the cover.

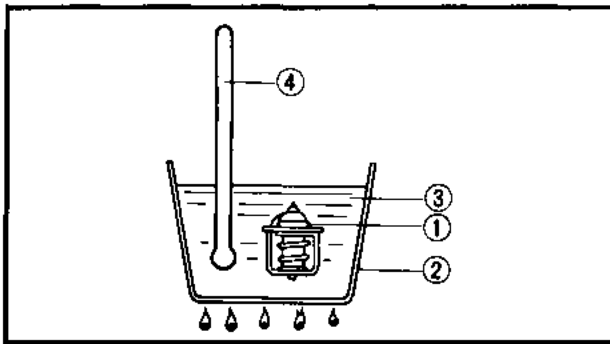


6



10. Remove:

- Slide rail suspension (See page 4-31)
- Track (See page 4-38)
- Rivets ①
- Heat exchangers ②



INSPECTION

1. Inspect:

- Thermostatic valve
Valve does not open at 50.0 ~ 55.0°C
(122 ~ 131°F) → Replace.

Inspection Steps:

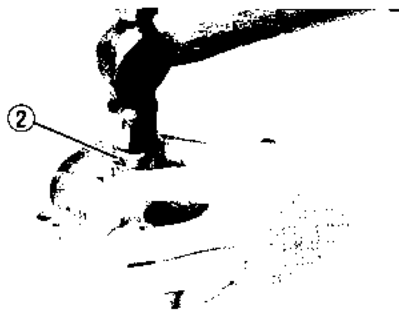
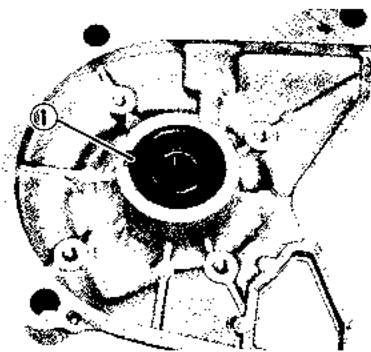
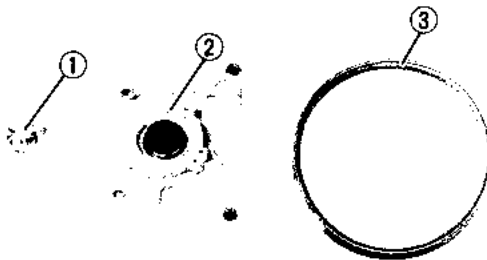
- Suspend thermostatic valve ① in a vessel ② .
- Place reliable thermometer in a water ③ .
- Heat water slowly.
- Observe thermometer ④ , while stirring water continually.

NOTE:

Thermostatic valve is sealed and its setting is preset. If its accuracy is in doubt, always replace it. A faulty unit could cause serious overheating or overcooling.

2. Inspect:

- Impeller ①
Cracks/Damage → Replace.
- Mechanical seat ②
- Water pump drive belt ③
Wear/Damage → Replace



3. Inspect:

- Bearing
Pitting/Damage → Replace.

Replacement steps:

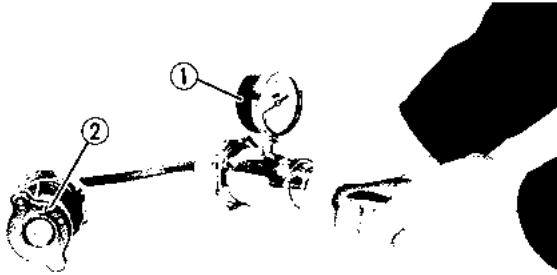
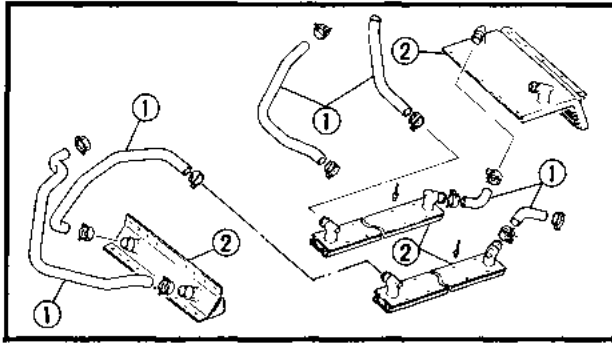
- Remove the circlip ① .
- Remove the bearing using a general bearing puller.
- Install the new bearing.

NOTE:

Use a socket ② that matches the outside diameter of the race of the bearing.

CAUTION:

Do not strike the inner race of balls of the bearing. Contact should be made only with the outer race.



4. Inspect:

- Coolant hoses ①
- Heat exchangers ②
Crack/Damage → Replace.

5. Measure:

- Filler cap opening pressure
Cap opens at pressure below the specified pressure → Replace.

Cap opening pressure:
80 ~ 100 kPa
(0.8 ~ 1.0 kg/cm², 11 ~ 14 psi)

Measurement steps:

- Attach the Cooling System Tester ① (90890-01325, YU-22460-01) to the coolant filler cap ② .
- Apply the specified pressure for 10 seconds, and make sure there is no pressure drop.

6

INSTALLATION

Reverse the "REMOVAL" procedure.

Note the following points.

1. Tighten:

	<p>Fuel tank nut: 10 Nm (1.0 m · kg, 7.2 ft · lb)</p> <p>Water pump housing bolt: 23 Nm (2.3 m · kg, 17 ft · lb)</p> <p>Impeller: 14 Nm (1.4 m · kg, 10 ft · lb)</p> <p>Thermostatic valve cover bolt: 7 Nm (0.7 m · kg, 5.1 ft · lb)</p>
--	---

2. Adjust:

- Water pump drive belt deflection
(See page 2-11)

3. Fill:

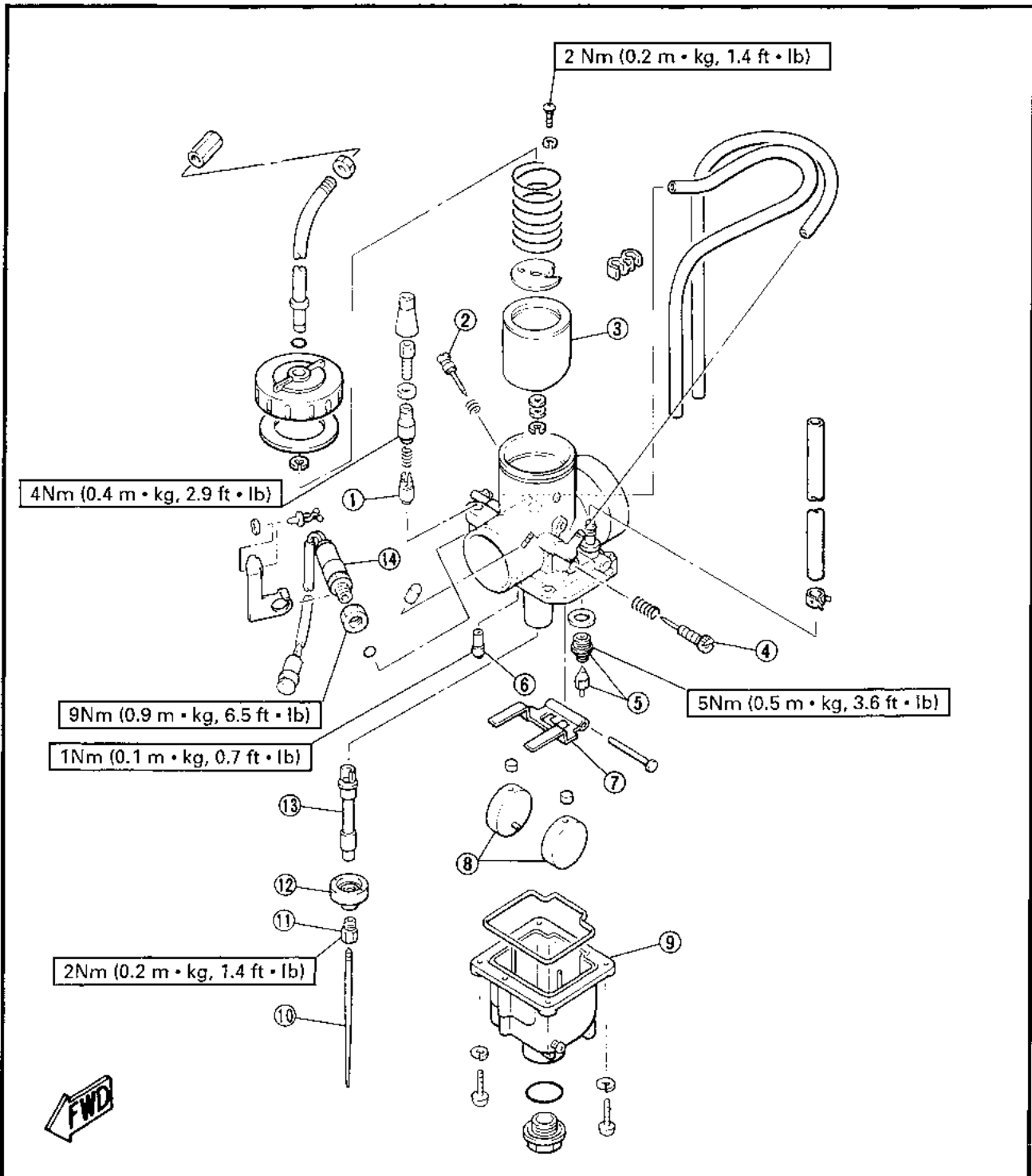
- Cooling system (See page 2-7)



CARBURETION

CARBURETOR

- ① Starter plunger
- ② Air screw
- ③ Piston valve
- ④ Throttle stop screw
- ⑤ Valve seat assembly
- ⑥ Pilot jet
- ⑦ Float arm
- ⑧ Float
- ⑨ Float chamber cover
- ⑩ Jet needle
- ⑪ Main jet
- ⑫ Main jet ring
- ⑬ Main nozzle
- ⑭ Carburetor switch





REMOVAL

NOTE:

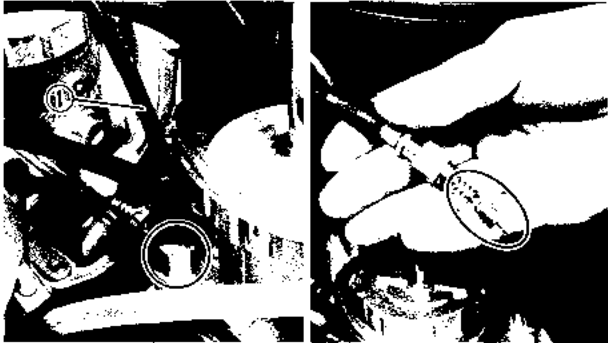
The following parts can be cleaned and inspected without disassembly.

- Starter plunger
- Main jet (left side)
- Pilot screw



1. Remove:

- Blind cover ①
- Bolts (intake silencer) ②

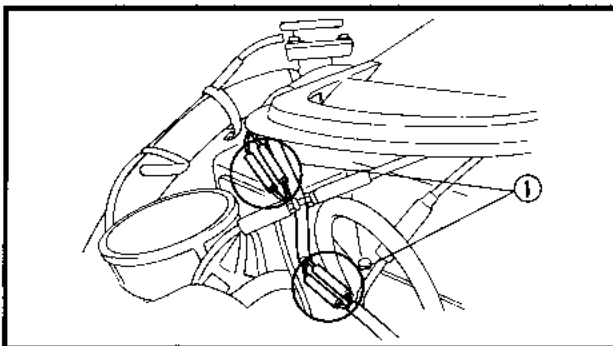


2. Disconnect:

- Starter cables ①
(with starter plunger)

CAUTION:

Take care so that the coil spring, starter cable adjuster and starter plunger do not fall off or are not lost. Also use special care not to scratch the starter plunger surface.



3. Disconnect:

- Carburetor switch (T.O.R.S.) leads ①

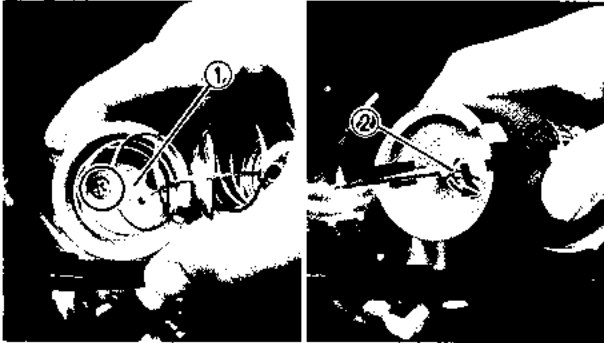
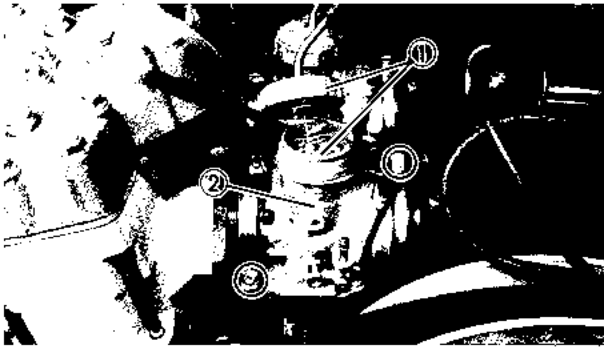


4. Disconnect:

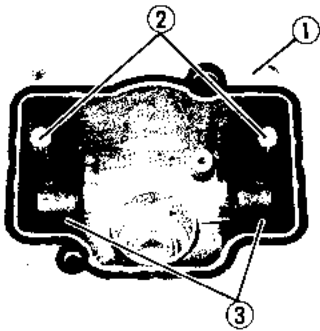
- Fuel delivery hoses ①
- Water hoses ②

WARNING

Turn the fuel cock to the "close" position and plug the fuel delivery hoses so that fuel does not run out. Spilled fuel can be a fire hazard.

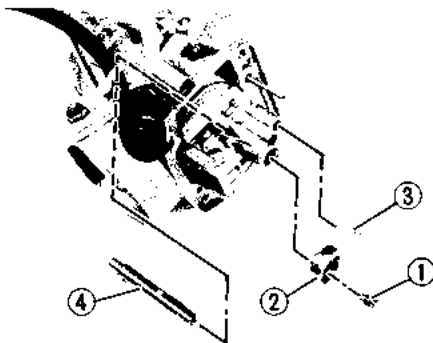


5. Loosen:
 - Screws (carburetor joint)
6. Remove:
 - Throttle valve assembly ①
 - Carburetor assembly ②
7. Drain:
 - Fuel
8. Remove:
 - Jet needle holder ①
 - Throttle cable end ②

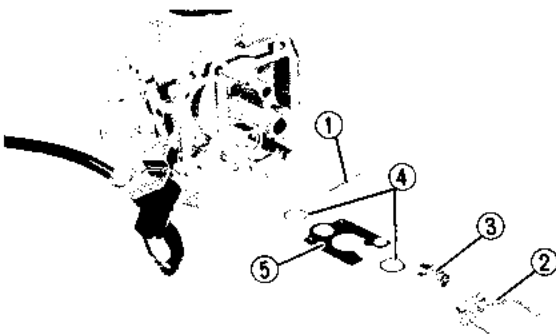


DISASSEMBLY

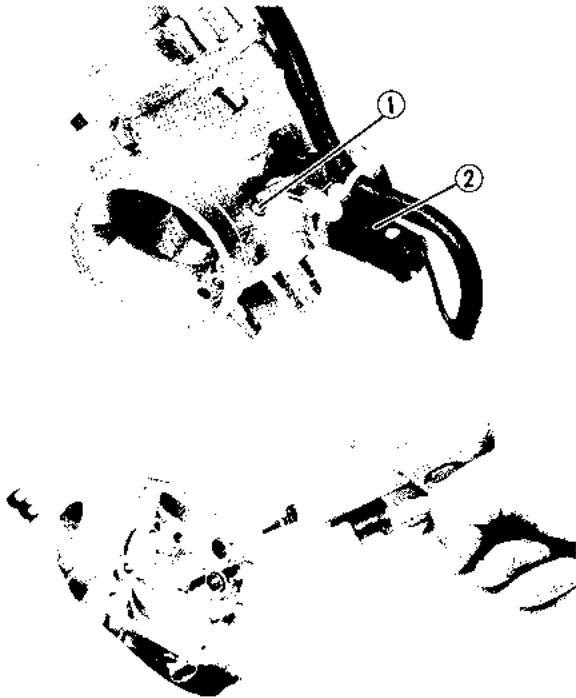
1. Remove:
 - Float chamber cover ①
 - Float pin caps ②
 - Floats ③



2. Remove:
 - Main jet ①
 - Main jet ring ②
 - Pilot jet ③
 - Main nozzle ④



3. Remove:
 - Pin ①
 - Float arm ②
 - Valve seat assembly ③
 - Gasket ④
 - Valve seat plate ⑤



4. Remove:

- Air screw ①
- Carburetor switch ②

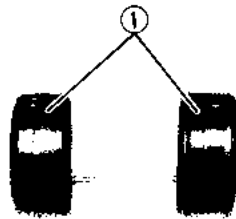
INSPECTION

1. Inspect:

- Carburetor body
- Fuel passage
Contamination → Clean.

NOTE:

- Use a petroleum based solvent for cleaning.
- Blow out all passages and jets with compressed air.

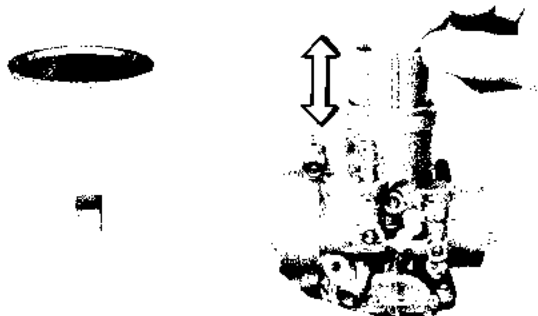
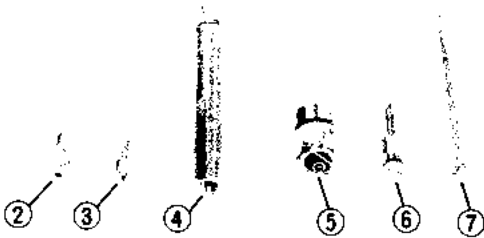


2. Inspect:

- Floats ①
Damage → Replace.
- Main jet ②
- Pilot jet ③
- Main nozzle ④
- Valve seat assembly ⑤
- Air screw ⑥
- Jet needle ⑦
Bends/Wear/Damage → Replace.
Contamination → Clean.

NOTE:

- Use a petroleum based solvent for cleaning.
- Blow out all passages and jets with compressed air.



3. Inspect:

- Throttle valve
Wear/Damage → Replace.

4. Check:

- Throttle valve movement
Stick → Replace carburetor body assembly.

**ASSEMBLY**

Reverse the "DISASSEMBLY" procedure. Note the following points.

NOTE:

- Before reassembling, wash all parts in clean gasoline.
- Always use a new gasket and O-ring.

1. Tighten:

**Valve seat assembly:**

5 Nm (0.5 m • kg, 3.6 ft • lb)

Pilot Jet:

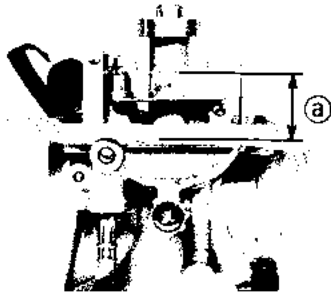
1 Nm (0.1 m • kg, 0.7 ft • lb)

Main Jet:

2 Nm (0.2 m • kg, 1.4 ft • lb)

2. Measure:

- Float height **a**
Out of specification → Adjust.

**Float height:**

17.1 ~ 19.1 mm (0.67 ~ 0.75 in)

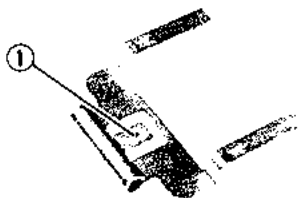
Measurement and adjustment steps:

- Hold the carburetor in an upside down position.
- Measure the distance from the carburetor body to the float arm using a gauge.

NOTE:

- Before measurement, remove the gasket between the carburetor body and float chamber.
- The float arm should be resting on the valve, but not compressing the needle valve.

- If the float arm height is not within specification, inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float arm height by bending the float arm tang **1** on the float.
- Recheck the float arm height.





INSTALLATION

Reverse the "REMOVAL" procedure.

Note the following points.

1. Tighten:



Jet needle holder screw:

2 Nm (0.2 m • kg, 1.4 ft • lb)

Starter plunger:

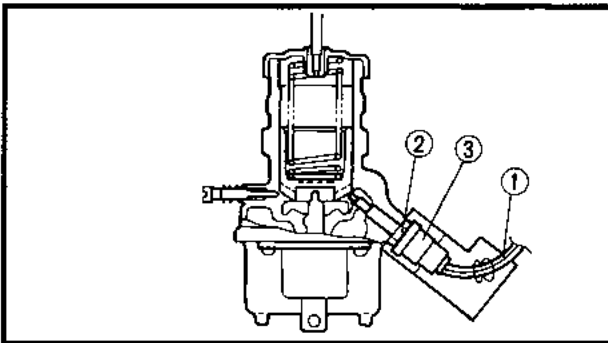
4 Nm (0.4 m • kg, 2.9 ft • lb)

2. Adjust:

- Engine idle speed (See page 2-12)
- Throttle cable free play (See page 2-12)
- Starter cable free play (See page 2-14)

3. Adjust:

- Carburetor switch (T.O.R.S.)



Adjustment steps:

- Be sure engine idle speed has been adjusted to specification. Shut off the engine.
- Disconnect the switch connectors. Connect the Pocket Tester (90890-03112, YU-03112) leads to the switch leads.
- Loosen the lead wires ① from the holder by opening the clamp.
- Loosen the locknut ② and turn the T.O.R.S. switch ③ counterclockwise until the switch is in the OFF position (circuit open).
- Turn the T.O.R.S. switch ③ clockwise until the T.O.R.S. switch is in the ON position (circuit closed). Then turn the T.O.R.S. switch clockwise 1/2 turn and tighten the locknut ②.



Locknut:

9 Nm (0.9 m • kg, 6.5 ft • lb)

- Clamp the lead wires to the holder and connect the connector.
- Repeat for the other carburetor switch.

FUEL LEVEL ADJUSTMENT

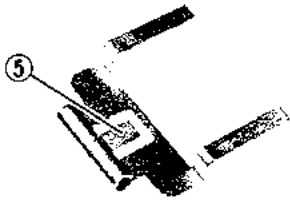
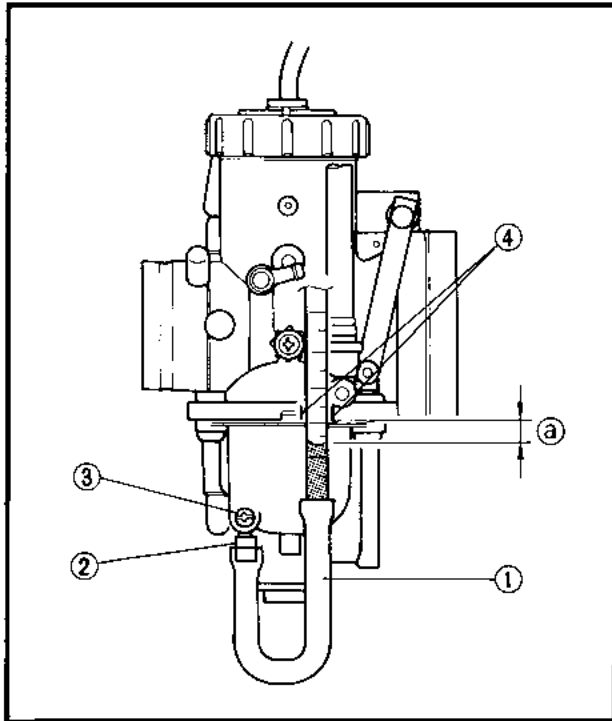
1. Measure:

- Fuel level
- Out of specification → Adjust.



Fuel level:

1.0 ~ 3.0 mm (0.04 ~ 0.12 in)



Measurement and adjustment steps:

- Place the machine on a level place.
- Attach the Fuel Level Gauge (90890-01312, YM-01312-A) ① to the float chamber nozzle.

NOTE:

Use the adapter (outside diameter $\varnothing 6$ hose) ② when attaching the Fuel Level Gauge.

- Loosen the drain screw ③ and start the engine.
- Place the tube between the guide marks ④ on the carburetor body.
- Measure the fuel level ⑥ with gauge.
- If the fuel level is incorrect, adjust the fuel level.
- Remove the carburetor.
- Inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float tang ⑤ on the float.
- Recheck the fuel level.

FUEL PUMP

OPERATION CHECK

1. Remove:

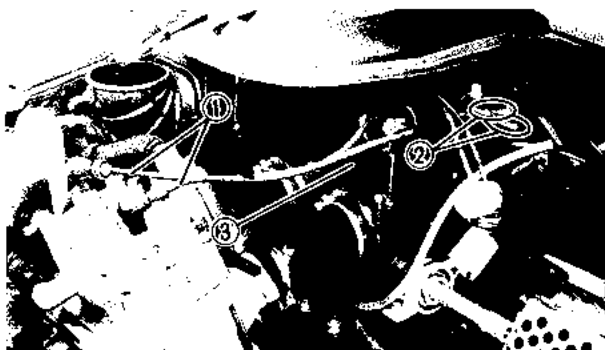
- Drive V-belt guard (See page 2-15)
- Drive V-belt
- Secondary sheave (See page 4-11)
- Carburetors (See page 7-2)

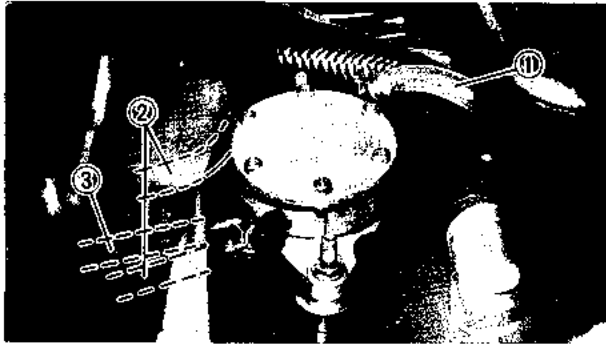
2. Disconnect:

- Spark plug leads ①
- Ignition coil leads ②

3. Remove:

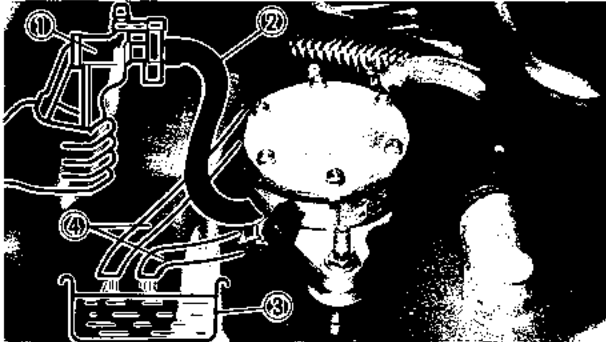
- Intake silencer ③





4. Inspect:

- Fuel hose ①
 - Fuel delivery hoses ②
 - Pulser hose ③
- Clog/Damage → Replace.

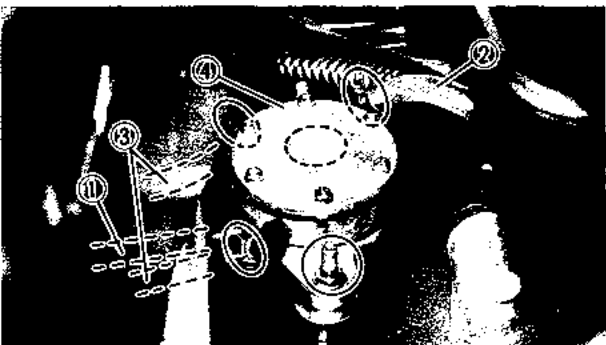


5. Check:

- Fuel pump operation

Checking steps:

- Connect a hand-operated vacuum pump ① (Such as Mighty - Vac®) to the pulser hose ② .
- Place a receptacle ③ under the fuel delivery hoses end ④ .
- Operate the hand-operated vacuum pump ① (Such as Mighty - Vac®), when checking the fuel flow from the fuel delivery hoses ④ .
- If fuel does not flow out, check the fuel cock.
- If no defects are observed on the fuel cock, replace the fuel pump assembly.
- To replace the fuel pump assembly, perform the following steps from 6 to 7.



6. Disconnect:

- Pulser hose ① (from the crankcase)
- Fuel hose ② (from the fuel tank)
- Fuel delivery hoses ③ (to the carburetor)

⚠ WARNING

Plug the fuel hose ② so that fuel does not run out of the fuel tank. Spilled fuel can be a fire hazard.

7. Replace:

- Fuel pump assembly ④

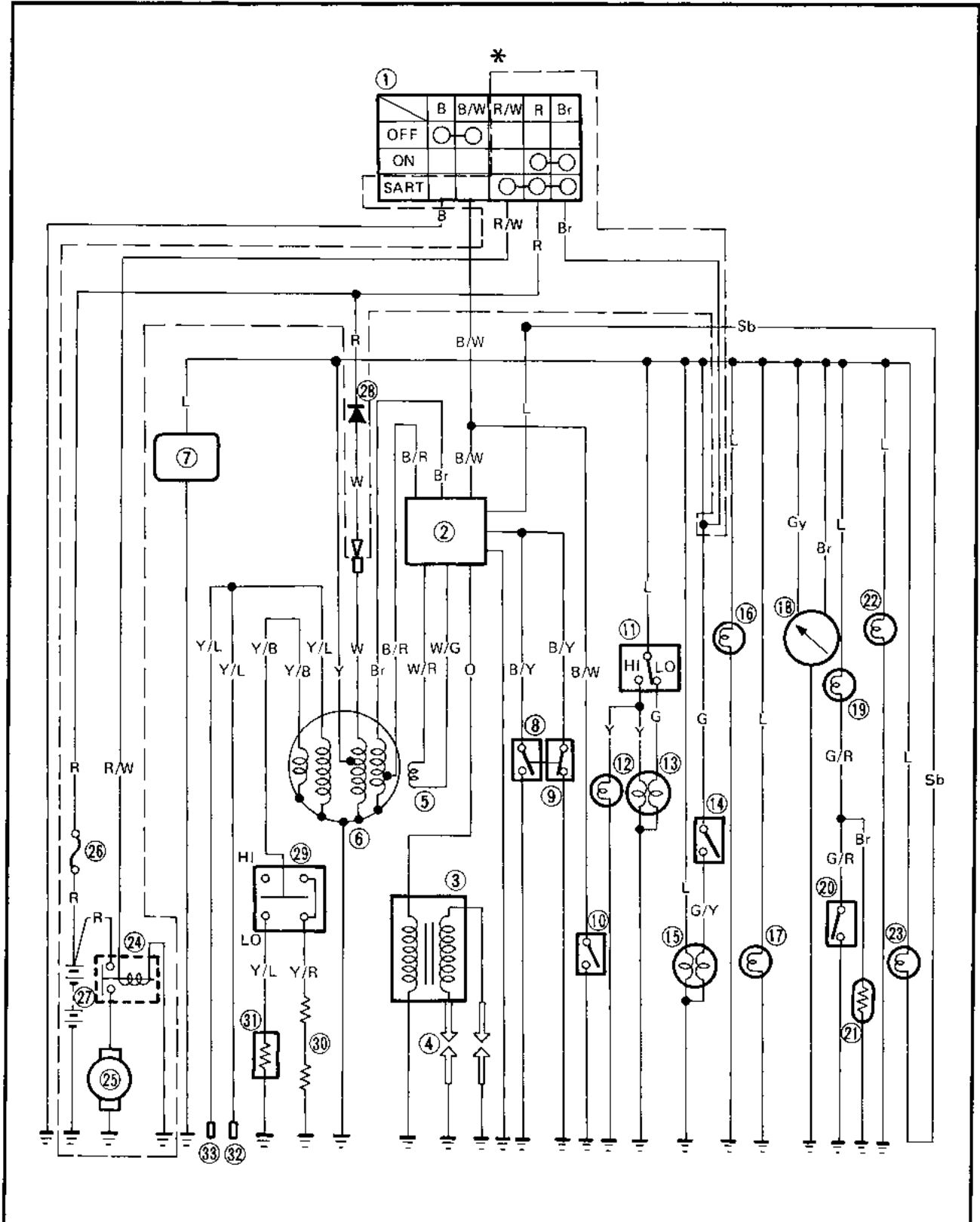


Nut (fuel pump assembly):
10 Nm (1.0 m · kg, 7.2 ft · lb)



ELECTRICAL

CIRCUIT DIAGRAM



8

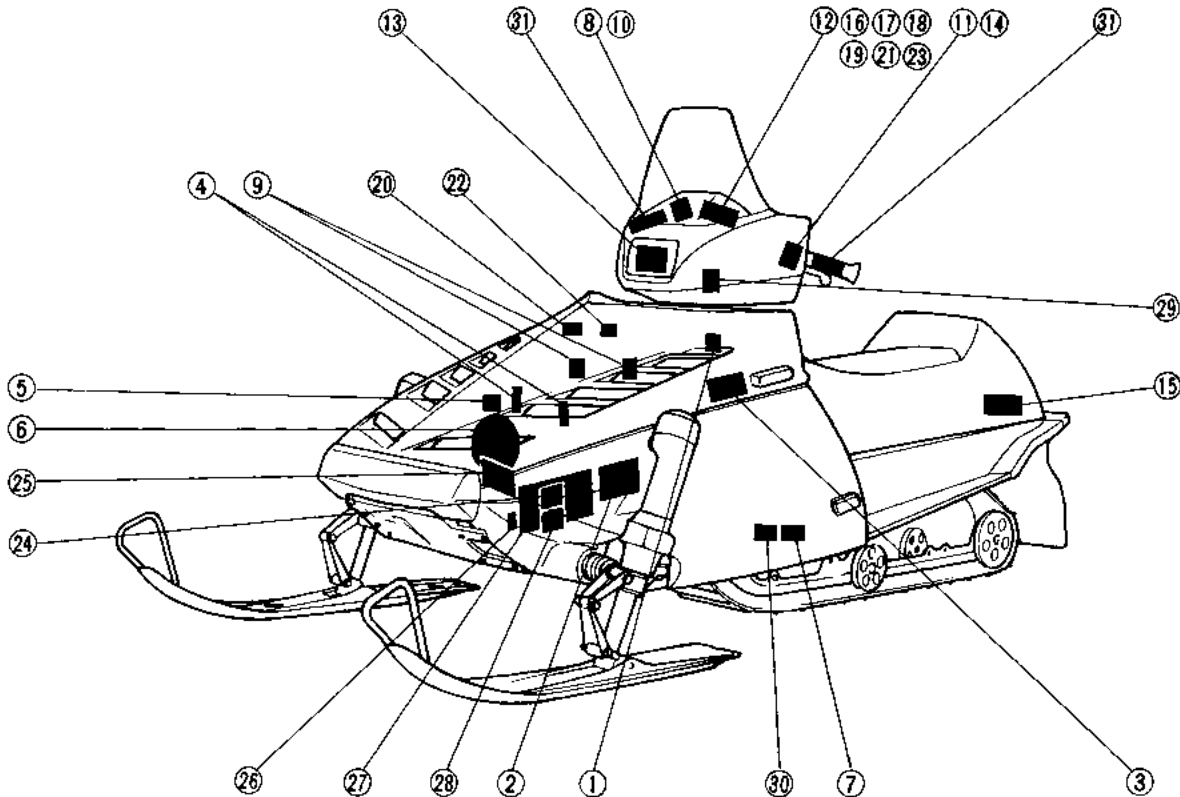


* For EX570 ER

- ① Main switch
- ② CDI unit
- ③ Ignition coil
- ④ Spark plug
- ⑤ Pickup coil
- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑧ Throttle switch
- ⑨ Carburetor switch (T.O.R.S.)
- ⑩ "ENGINE STOP" switch
- ⑪ Headlight beam switch
- ⑫ "HIGH BEAM" indicator light
- ⑬ Headlight
- ⑭ Brake light switch
- ⑮ Tail/brake light
- ⑯ Speedometer light
- ⑰ Tachometer light
- ⑱ Tachometer
- ⑲ "WATER TEMP" indicator light
- ⑳ Thermo switch
- ㉑ "WATER TEMP" indicator light checker
- ㉒ Level gauge light
- ㉓ "T.O.R.S." indicator light
- ㉔ Starter relay *
- ㉕ Starter motor *
- ㉖ Fuse *
- ㉗ Battery *
- ㉘ Rectifier *
- ㉙ Grip warmer switch
- ㉚ Resister
- ㉛ Grip warmer
- ㉜ To AC50W output (option)
- ㉝ To voltage regulator (option)

COLOR CODE

B	Black	Sb	Sky blue	G/R	Green/Red
L	Blue	Gy	Grey	Y/B	Yellow/Black
G	Green	W	White	Y/L	Yellow/Blue
Y	Yellow	B/Y	Black/Yellow	Y/R	Yellow/Red
R	Red	B/R	Black/Red	R/W	Red/White
O	Orange	B/W	Black/White	W/G	White/Green
Br	Brown	G/Y	Green/Yellow	W/R	White/Red

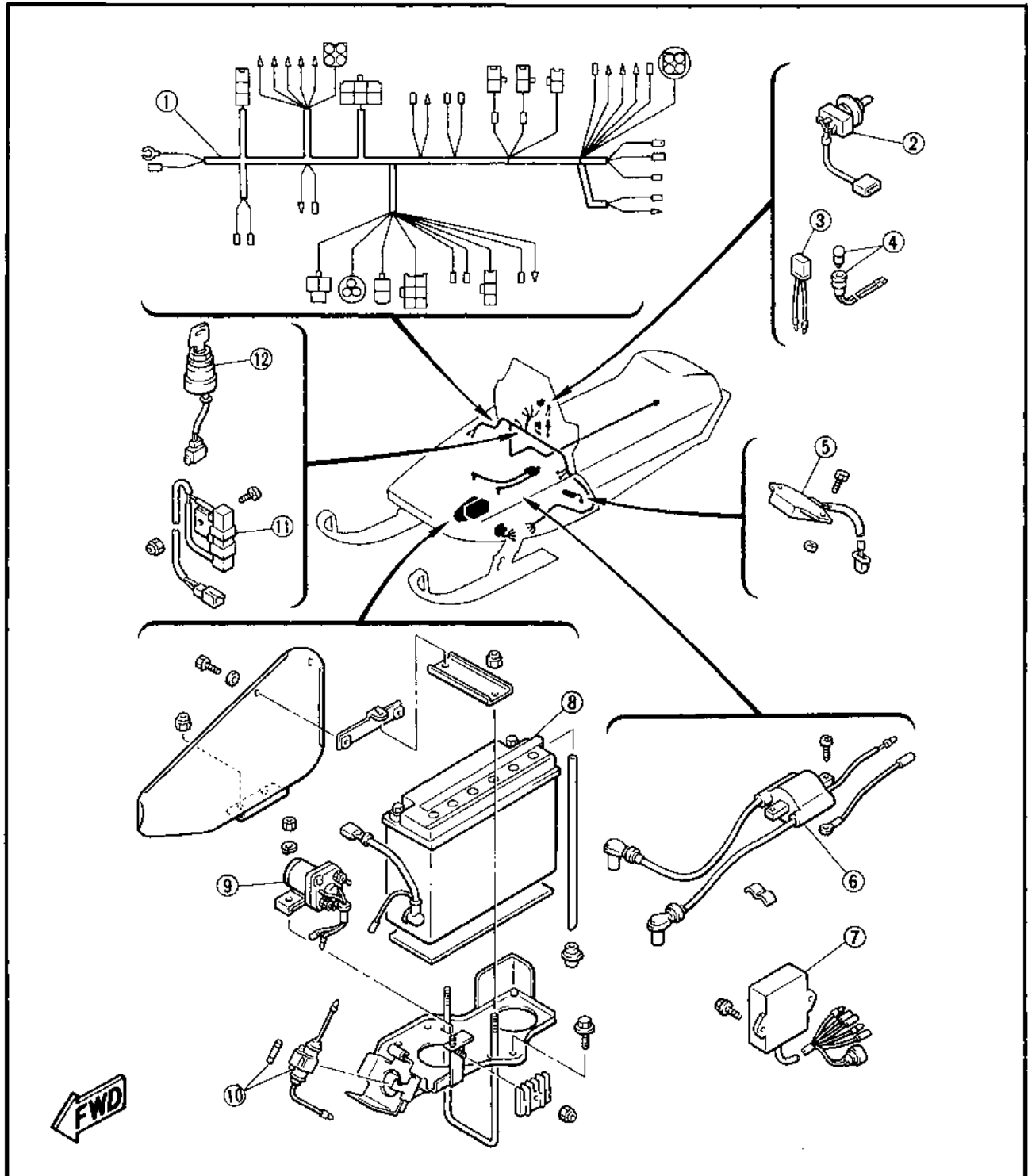




ELECTRICAL COMPONENT

* For EX570ER

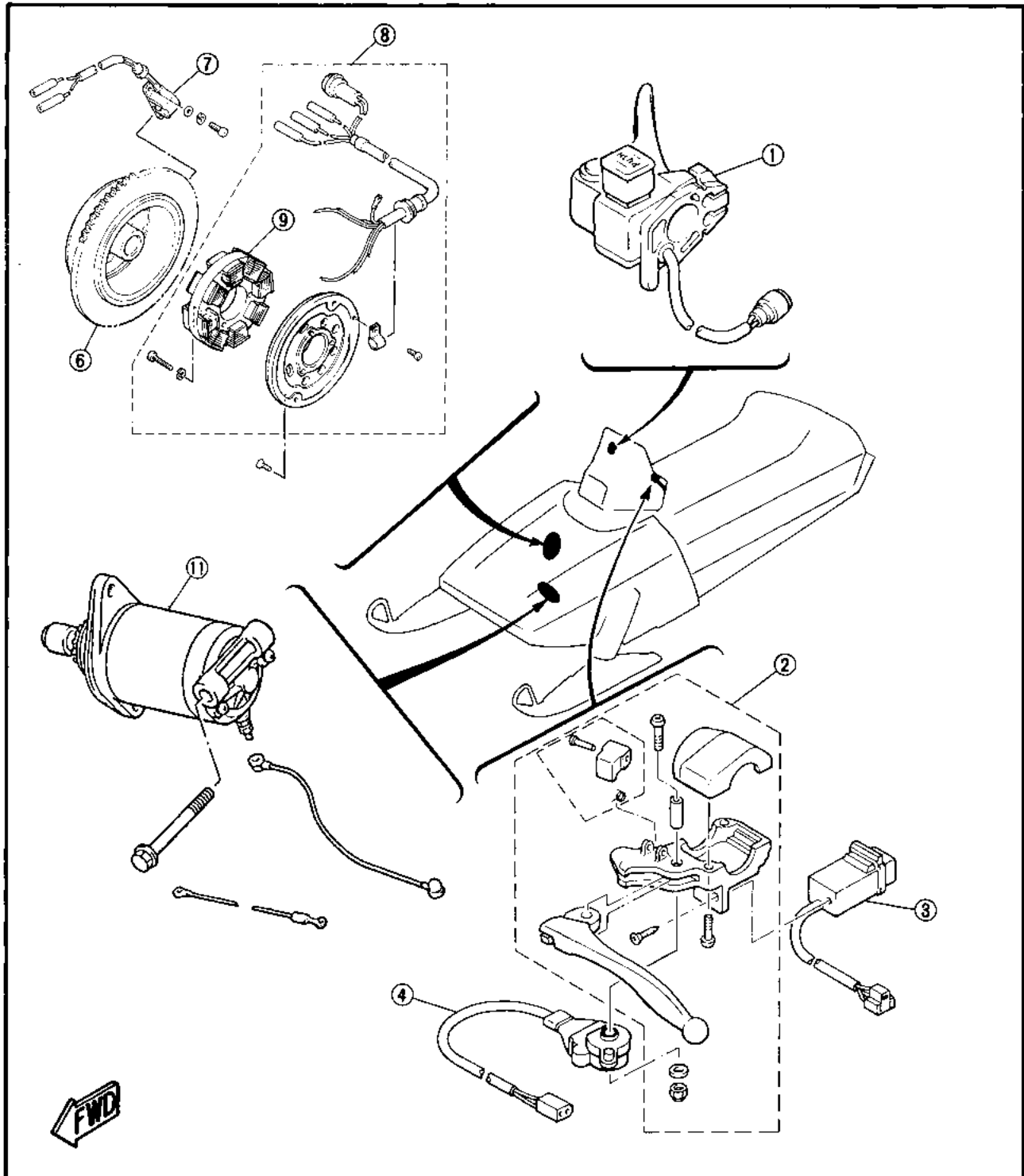
- | | |
|--|-------------------|
| ① Wireharness | ⑧ Battery * |
| ② Grip warmer switch | ⑨ Starter relay * |
| ③ "WATER TEMP" indicator light checker | ⑩ Fuse * |
| ④ "WATER TEMP" indicator light | ⑪ Resister |
| ⑤ Voltage regulator | ⑫ Main switch |
| ⑥ Ignition coil | |
| ⑦ CDI unit | |





* For EX570ER

- ① Handlebar switch assembly (right)
- ② Handlebar switch assembly (left)
- ③ High beam switch
- ④ Brake switch
- ⑤ Starter motor *
- ⑥ CDI magneto
- ⑦ Pick-up coil
- ⑧ Stator assembly
- ⑨ Stator coil



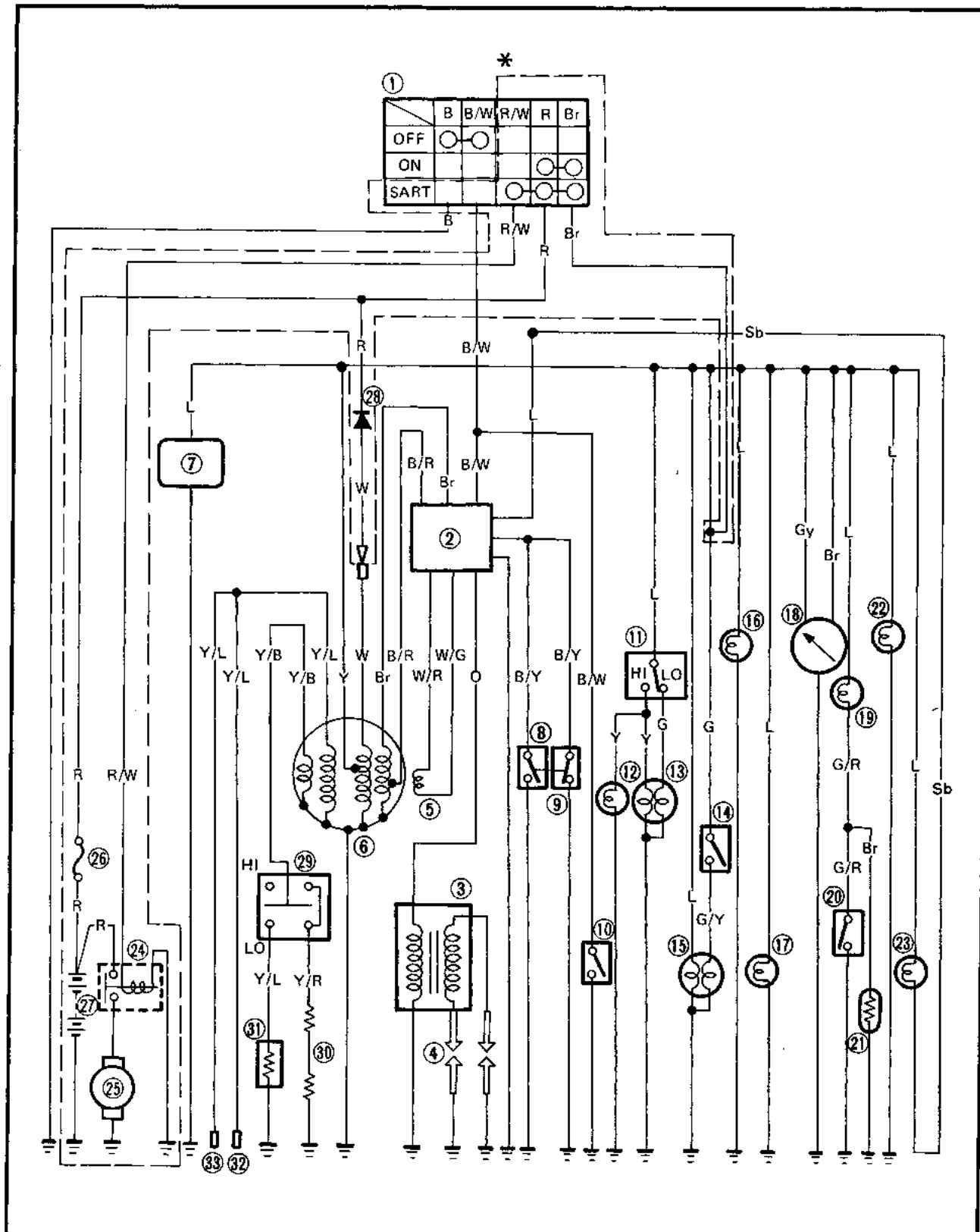


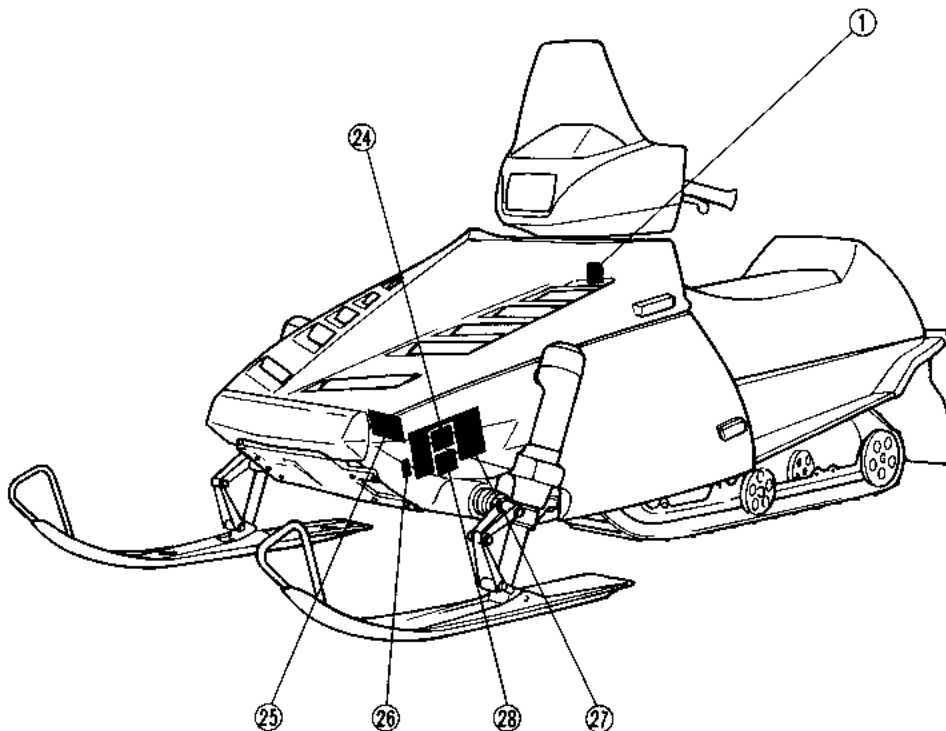
ELECTRICAL STARTING SYSTEM (FOR EX570ER)

CIRCUIT DIAGRAM

* For EX570ER

- ① Main switch
- ② Starter relay *
- ③ Starter motor *
- ④ Fuse *
- ⑤ Battery *
- ⑥ Rectifier *







TROUBLESHOOTING

STARTER MOTOR DOES NOT OPERATE.

WARNING

Before starter motor operation, push the "ENGINE STOP" switch to "OFF".

A

1. Connect:

- Starter relay terminals (battery side and starter motor side)

① Jumper lead

2. Check:

- Starter motor operation

↓ OK

B

1. Disconnect:

- Starter relay connector

2. Connect:

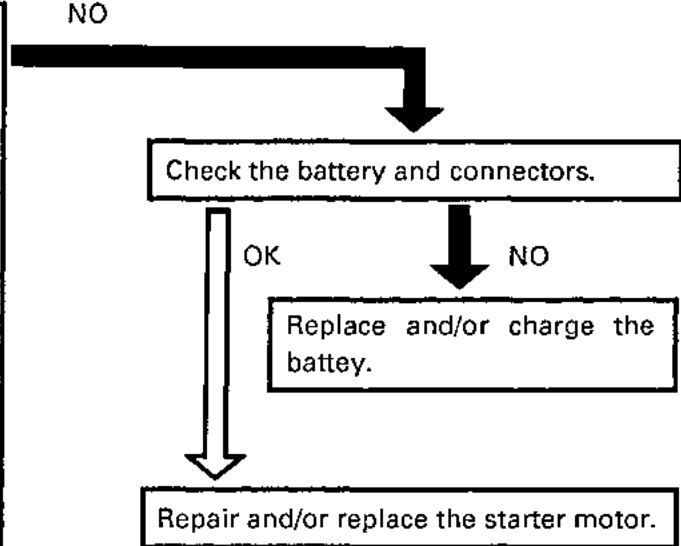
- Starter relay connector terminals

① Jumper lead

3. Check:

- Starter motor operation

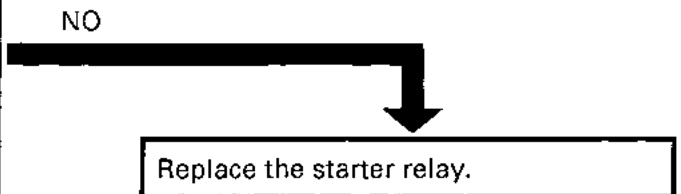
↓ OK
*

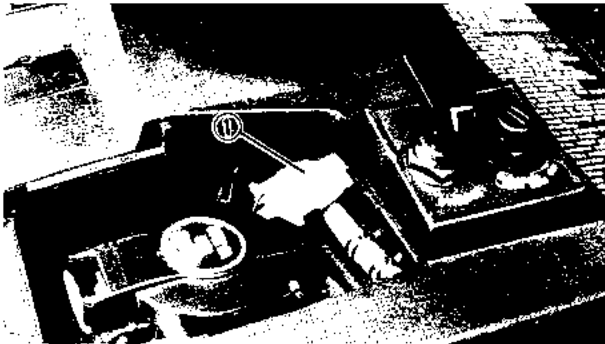
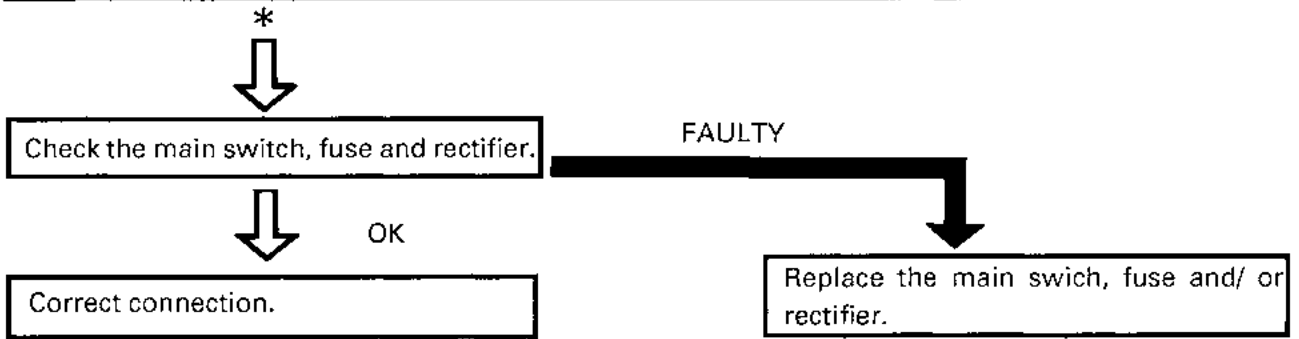


WARNING

A wire for the jumper lead ① must have the equivalent capacity as that of the battery lead or more, otherwise it may cause the jumper lead to be burned.

This check is likely to produce sparks, so be sure that no flammable gas or fluid is in the vicinity.





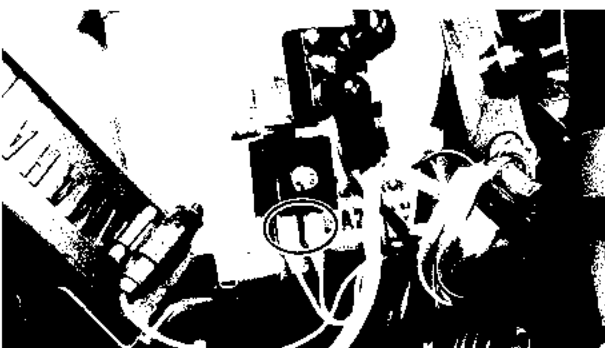
MAIN SWITCH (FOR EX570ER)

1. Disconnect:
 - Main switch coupler ①
2. Connect:
 - Pocket tester (90890-03112, YU-03112) (to main switch coupler)

3. Check:
 - Main switch continuity

Faulty → Replace.

Switch position	Color code				
	B	B/W	R/W	Br	R
OFF	○	○			
ON				○	○
START			○	○	○



RECTIFIER

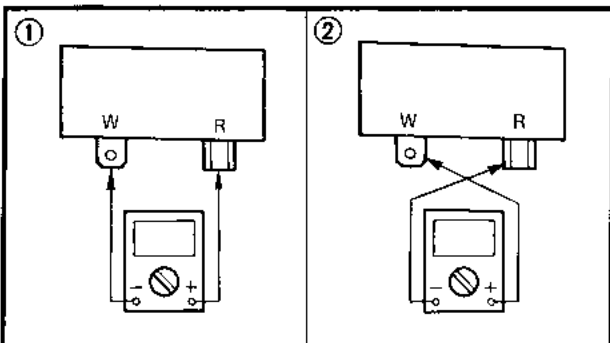
1. Disconnect:
 - Rectifier lead
2. Connect:
 - Pocket tester (to rectifier terminal)

3. Check:
 - Rectifier

Incorrect → Replace.

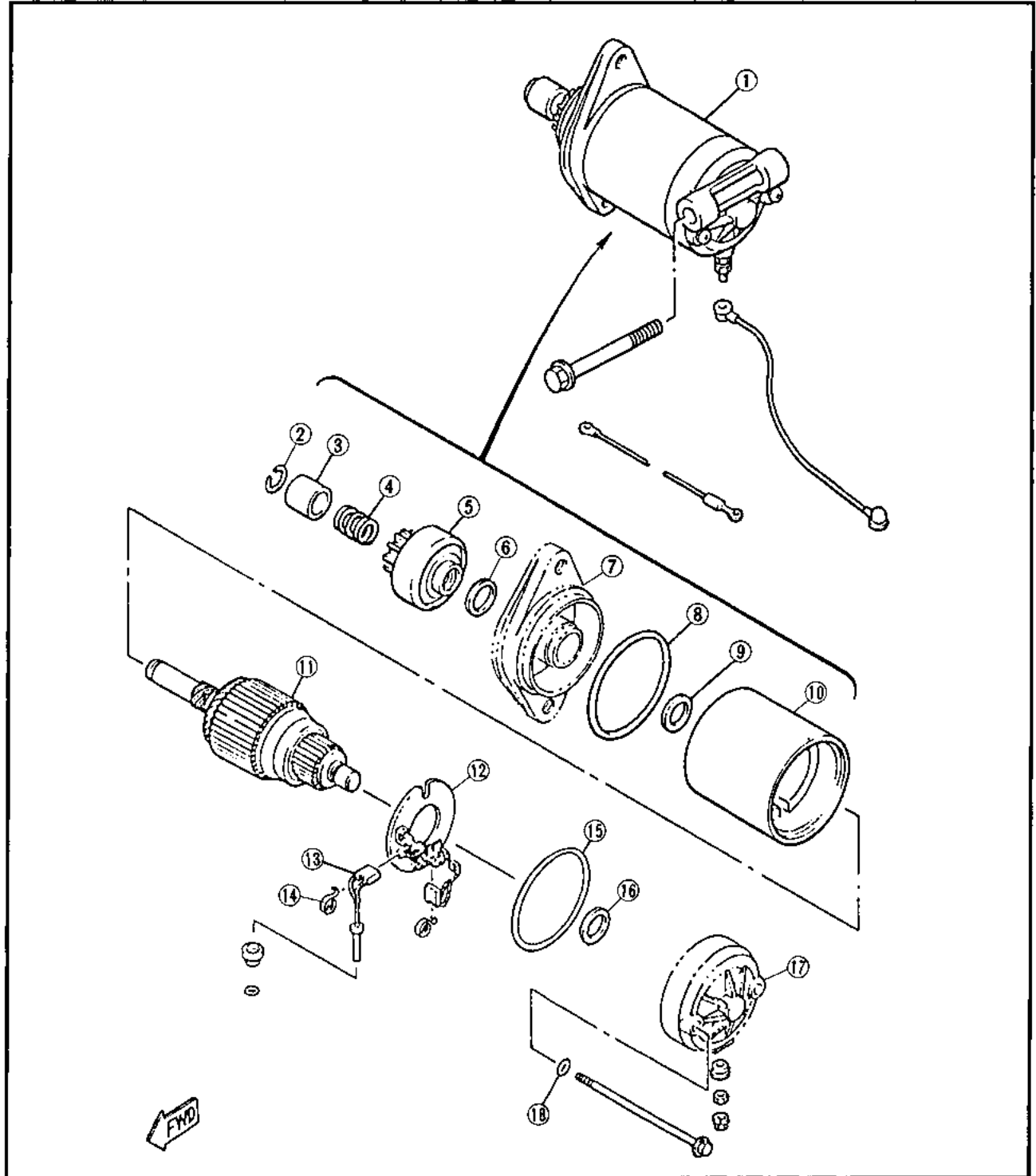
Tester connection	Good condition
①	○
②	x

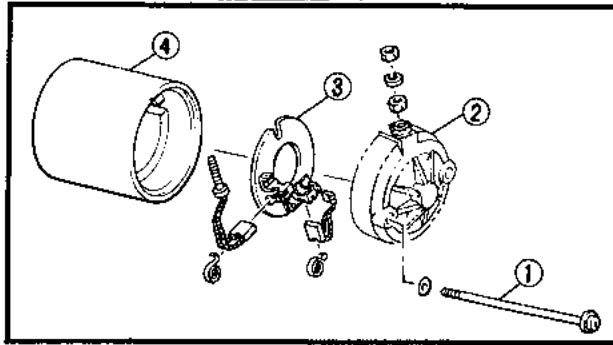
○ : Continuity x : No continuity



STARTER MOTOR

- ① Starter motor assembly
- ② Clip
- ③ Pinion stopper
- ④ Return spring
- ⑤ Pinion gear
- ⑥ Plain washer
- ⑦ Front cover
- ⑧ O-ring
- ⑨ Washer
- ⑩ Yoke
- ⑪ Armature coil
- ⑫ Brush plate
- ⑬ Brush
- ⑭ Brush spring
- ⑮ O-ring
- ⑯ Washer
- ⑰ Rear cover
- ⑱ O-ring



**Removal**

1. Remove

- Starter motor (See page 5-2)

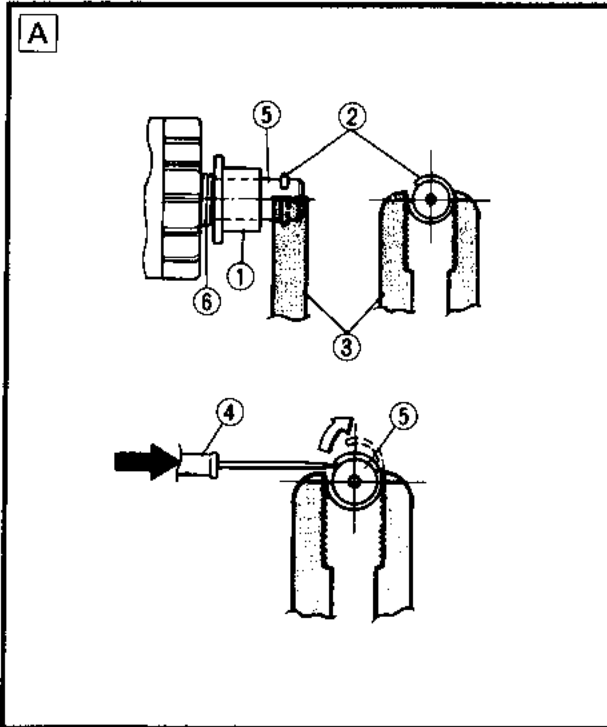
Disassembly

1. Remove:

- Rear cover securing bolts ①
- Rear cover ②
- Brush holder assembly ③
- Yoke ④

2. Remove:

- Pinion gear

**Removal steps:**

- Push in the pinion stopper ① .
- Hold the clip ② with a locking pliers ③ , and open the clip ② , with a slotted head screw driver ④ .

NOTE:

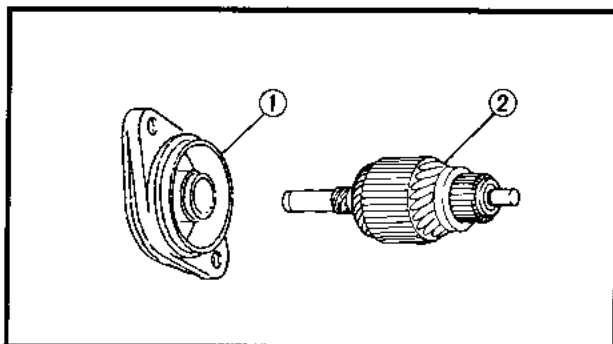
Take care not to scratch the armature shaft ⑤ .

- Clip ② will come out when locking pliers ③ is released.

CAUTION:

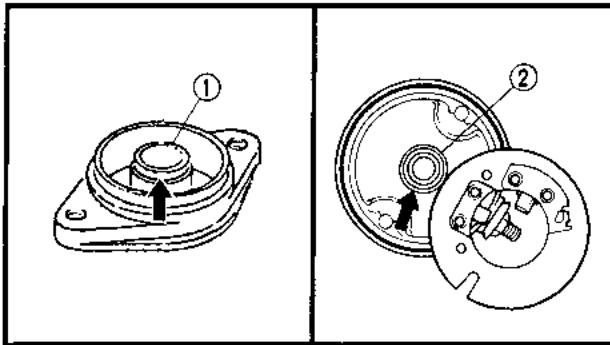
Support the pinion stopper ① so that the loosened pinion stopper ① and return spring ⑥ will not fall out.

- Remove the pinion gear.

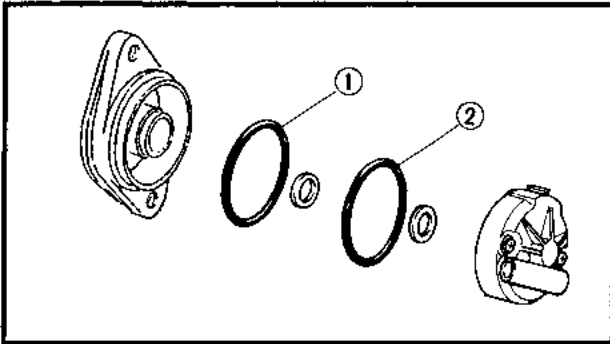


3. Remove:

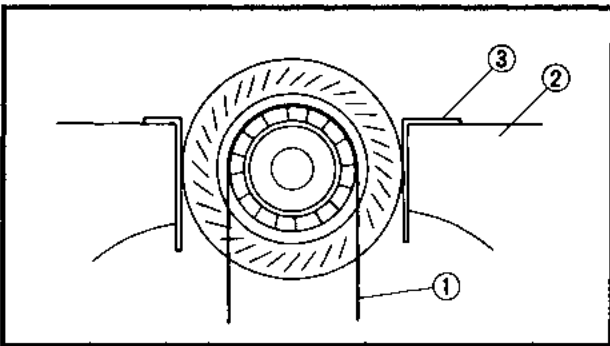
- Front cover ①
(from armature ②)

**Inspection****1. Inspect:**

- Bearings (front ① and rear ②)
Pitting/Damage → Replace.

**2. Inspect:**

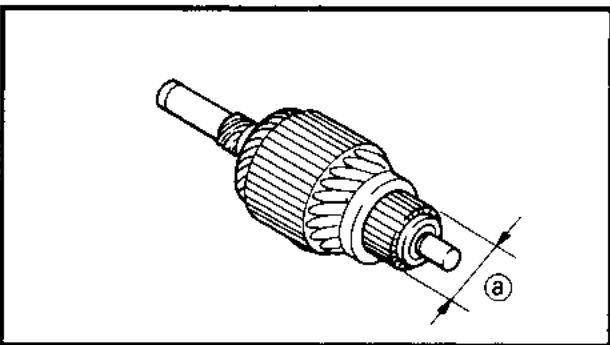
- O-rings (front ① and rear ②)
Damage → Replace.

**3. Inspect:**

- Commutator (outer surface)
Dirty → Clean it with #600 grit sandpaper ①.
Hold the armature in a vise ② and copper or aluminium plate ③ .

NOTE:

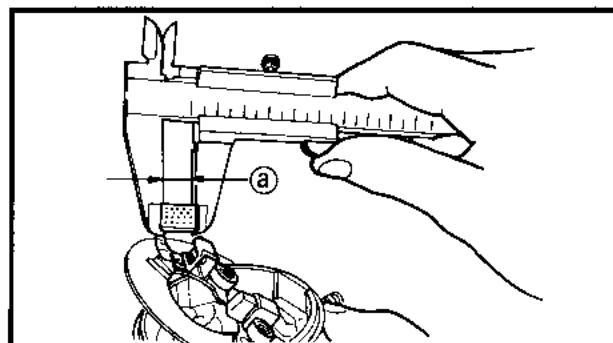
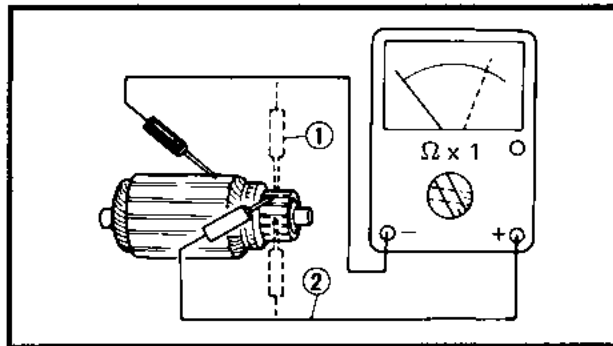
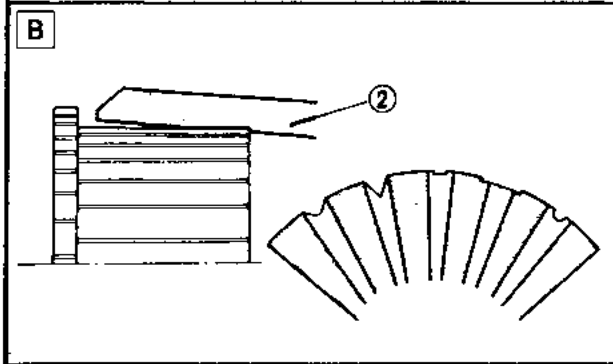
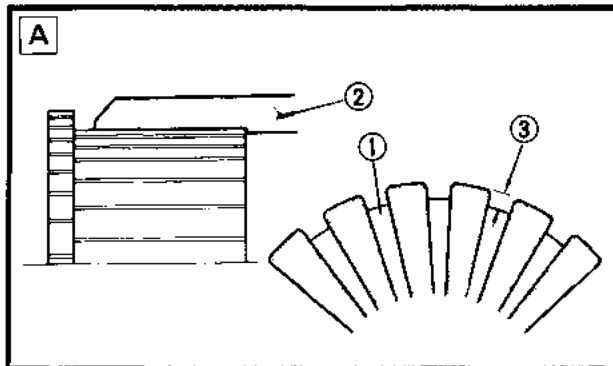
Lightly grip the armature with a vise.

**4. Measure:**

- Commutator (diameter)
Measure the diameter a of the commutator at points where the brush comes in contact.
Out of specification → Replace.



Commutator wear limit (a) :
27 mm (1.06 in)



5. Measure:

- Mica ① (insulation depth)
(between commutator segments)
Out of specification → Scrape mica to proper limits.
Use a hacksaw blade ② that is ground to fit.



Mica undercut ③ :
Limit: 0.6 mm (0.024 in)

NOTE:

- The mica insulation of the commutator must be undercut to ensure proper operation of the commutator.
- Carefully clean between the segments after the above steps.

- Ⓐ CORRECT
- Ⓑ INCORRECT

6. Measure:

- Armature coil resistance
(insulation/continuity)
Defect(s) → Replace starter motor.

Inspecting steps:

- Connect the pocket tester (90890-03112, YU-03112) for continuity check ① and insulation check ② .
- Measure the armature coil resistances.



Armature coil resistance:
Continuity check ① :
0.016Ω ± 6% at 20°C (68°F)
Insulation check ② :
More than 100 KΩ at 20° C (68°F)

- If the resistance is incorrect, replace the starter motor.

7. Measure:

- Brush length ①
Out of specification → Replace.



Brush length limit ① :
8.5 mm (0.33 in)

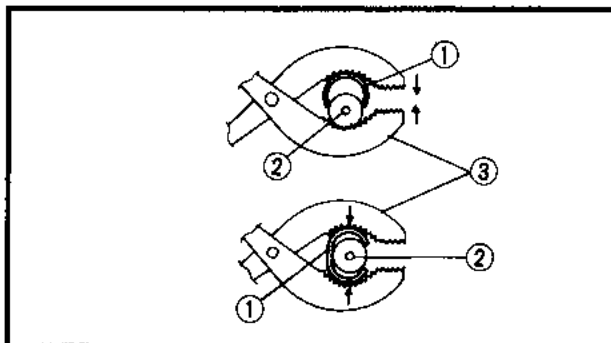
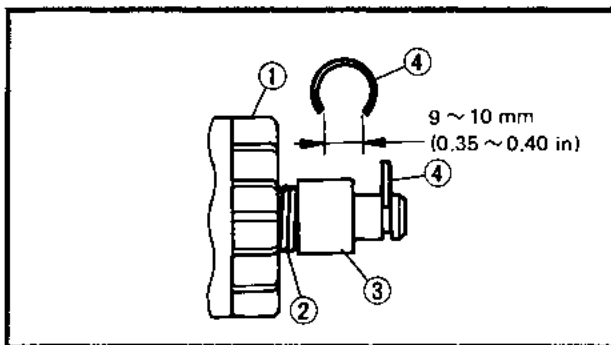
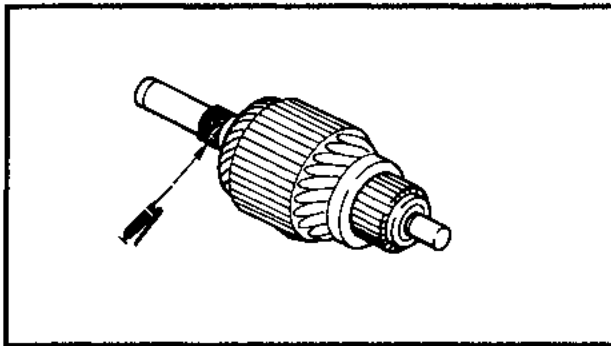
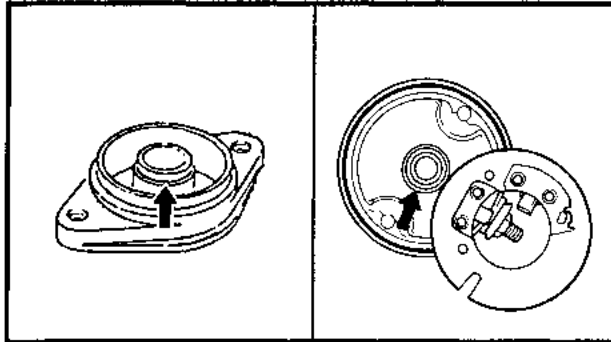


8. Measure:

- Brush spring pressure
Fatigue/Out of specification → Replace as a set.



Brush spring pressure:
800 ± 150 g (28.22 ± 5.30 oz)

**Assembly**

Reverse the "Disassembly" procedure.

Note the following points.

1. Before installing the front and rear covers, apply bearing grease to the bearings of the front and rear covers.
2. Make sure the rear cover and front cover are fitted with O-rings.
3. Before installing the pinion gear, apply grease to the worm gear portion of the armature shaft.

4. Install:

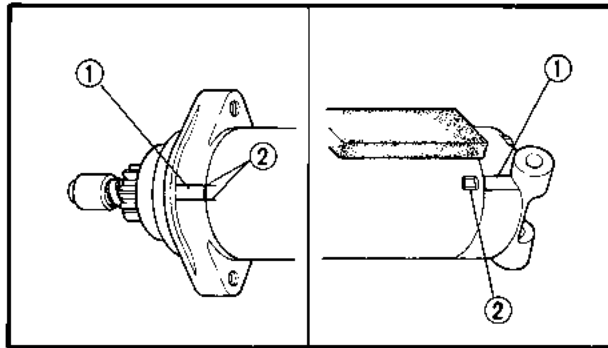
- Pinion gear ①
- Return spring ②
- Pinion stopper ③

5. Open the end of the new clip ④ about 9 ~ 10 mm (0.35 ~ 0.40 in).

CAUTION:

Always use a new clip.

6. Install the clip ① to the groove of the armature shaft ②, and press fit the clip ① to the groove with pliers ③.



7. When installing the rear cover assembly, take care not to scratch the brushes.

8. Install:

- Securing bolts (starter motor)

NOTE:

Align the match marks ① on the bracket with the match marks ② on the yoke.

Installation

Reverse the "Removal" procedure.

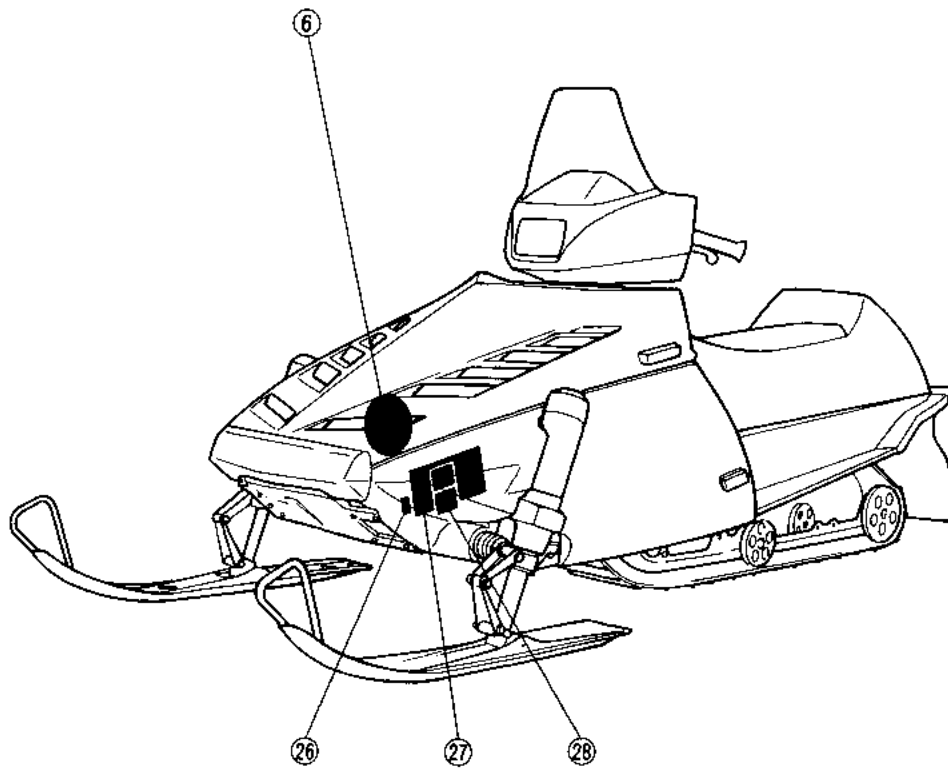
Note the following points.

1. Install:

- Starter motor



Bolt (starter motor):
21 Nm (2.1 m · kg, 15 ft · lb)






TROUBLESHOOTING

BATTERY IS NOT CHARGED.

A

1. Connect:
 - Pocket tester (to battery terminals)
2. Measure:
 - Battery voltage
 - Fluid gravity

 **Battery voltage:**
more than 12 V at 20 °C (68°F)


↓ OK

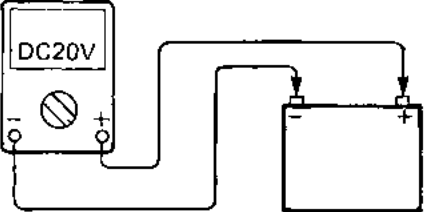
OUT OF SPECIFICATIONS
↓

• Check the battery. (See page 2-28)
• Replace and/or charge battery.

B

1. Start the engine and accelerate to 3,000 rpm.
2. Measure:
 - Charging voltage

 **Charging voltage:**
13.3 ~ 14.3 V/3,000 rpm.



CAUTION:
Never disconnect battery cables while generator is operating or rectifier and regulator will be damaged.

↓ LESS THAN 13.3V

Check the fuse, rectifier and charging coil.

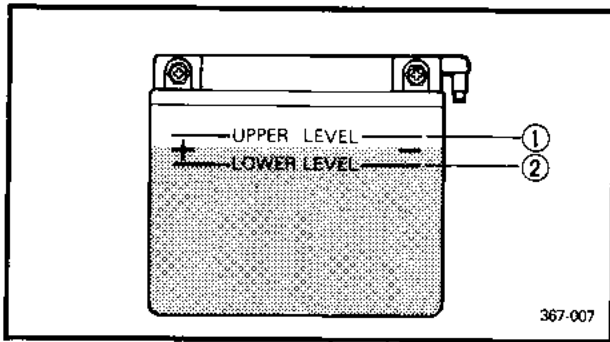
↓ OK

Correct connector.

FAULTY
↓

Replace the fuse, rectifier and/or charging coil.

8



BATTERY

Inspection

1. Inspect:

- Battery fluid level
Below lower level → Refill.

- ① Upper level
- ② Lower level

2. Check:

- Specific gravity (See page 2-28)
Less than 1.280 → Recharge battery.

Battery Storage

The battery should be stored if the vehicle is not to be used for a long period.

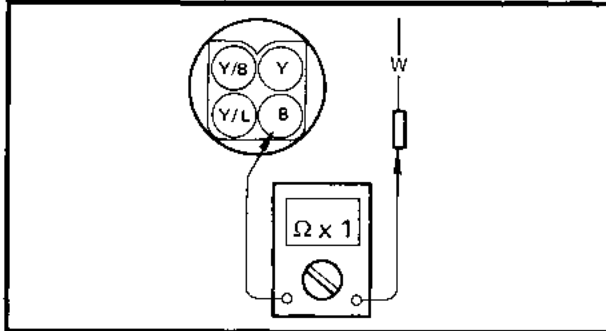
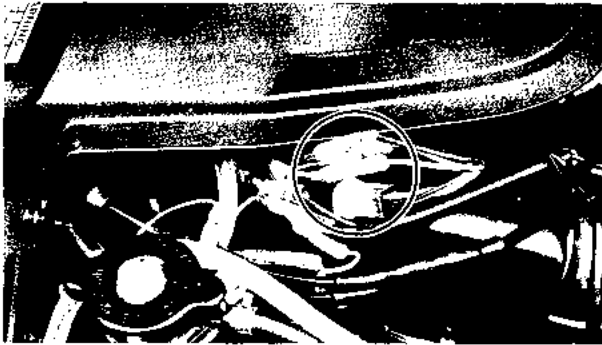
1. Remove:

- Battery

Battery storage and maintenance tips:

- Recharge the battery periodically.
- Store the battery in a cool, dry place.
- Recharge the battery before reinstalling.

Battery	
Electrolyte	Specific gravity: 1.280 at 20°C (68°F)
Initial charging rate	1.6 Amp for 10 hours (new battery)
Recharging rate	10 hours (or until specific gravity reaches 1.280)
Refill fluid	Distilled water (to maximum level line)
Refill period	Check once per month (or more often as required)



CHARGING COIL

1. Disconnect:

- CDI magneto coupler and lead (White)

2. Connect:

- Pocket tester (90890-03112, YS-03112)
(to CDI magneto coupler and lead)

3. Measure:

- Charging coil resistance
Out of specification → Replace.



Charging coil resistance:

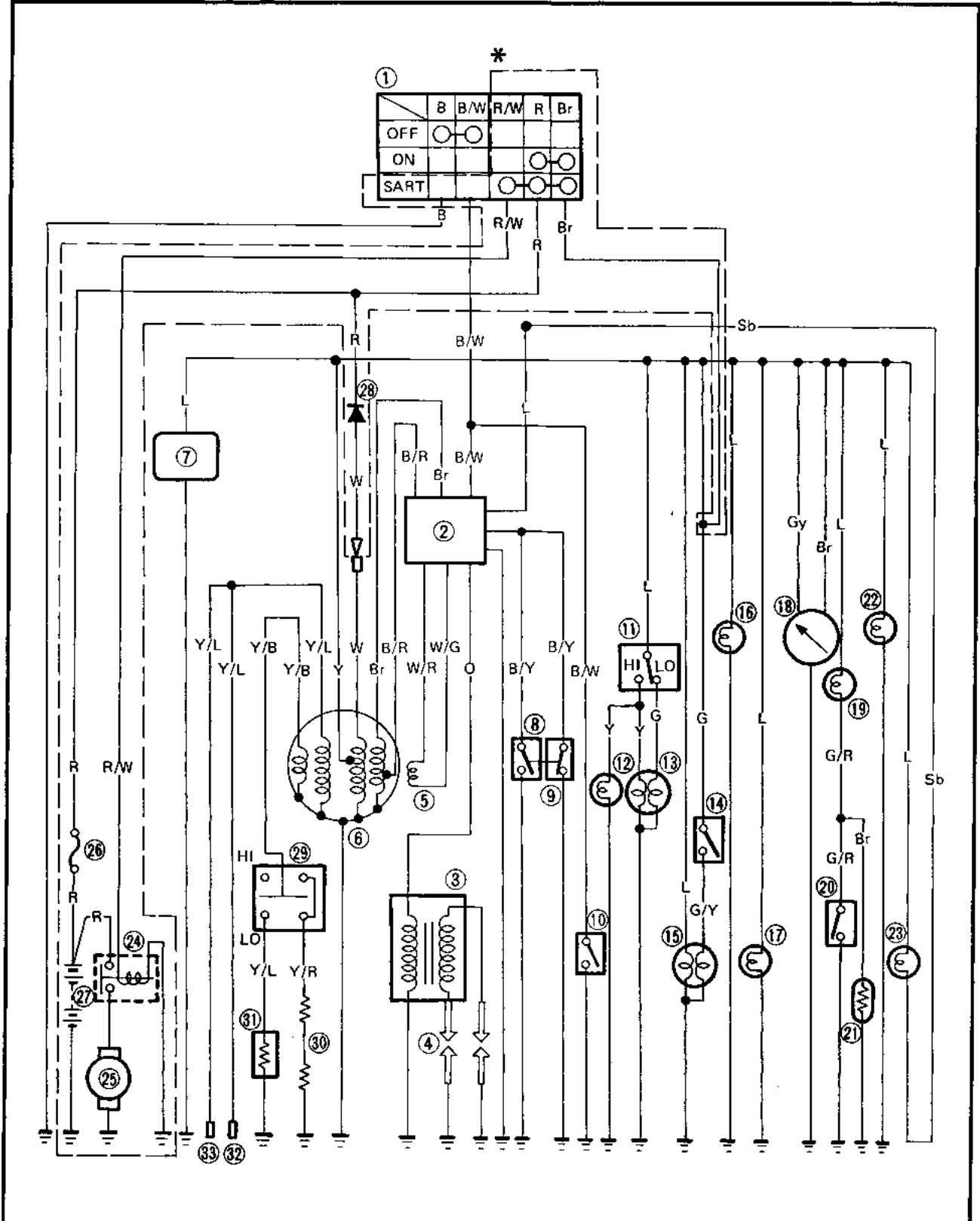
(White – Black)

$0.38\Omega \pm 10\%$ at 20° (68°F)

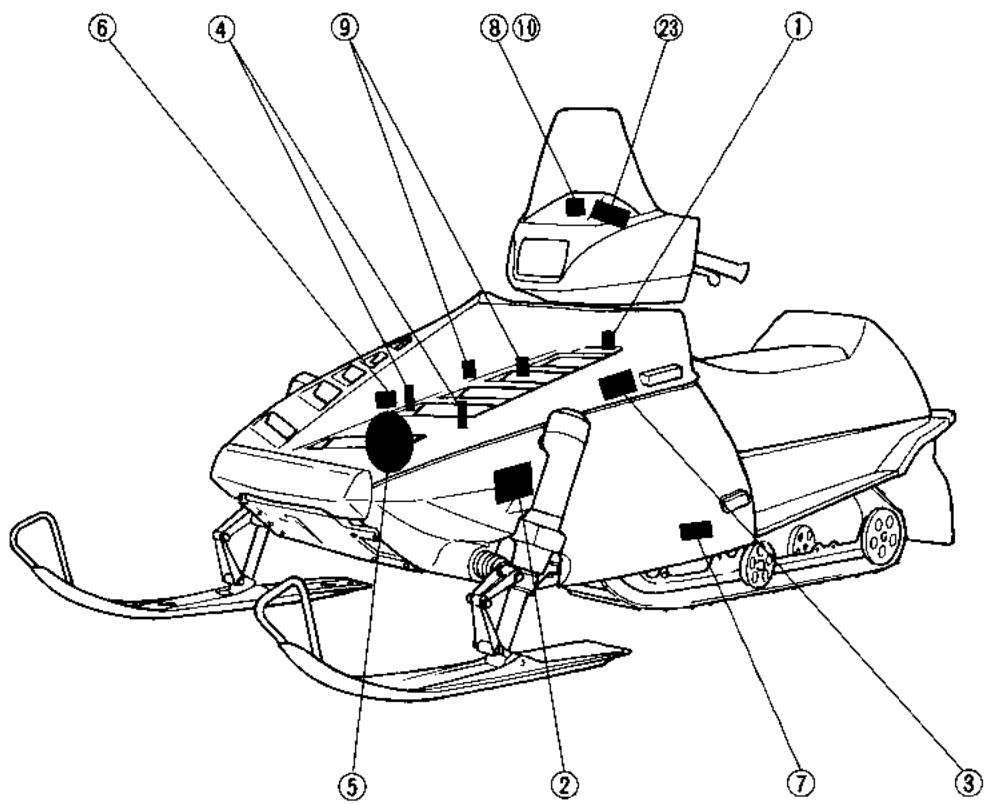


**IGNITION SYSTEM
CIRCUIT DIAGRAM**

- ① Main switch
- ② CDI unit
- ③ Ignition coil
- ④ Spark plug
- ⑤ Pickup coil
- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑧ Throttle switch
- ⑨ Carburetor switch
- ⑩ "ENGINE STOP" switch
- ⑪ "T.O.R.S." indicator light



8





TROUBLESHOOTING

NO SPARK OR WEAK SPARK.

A

1. Remove:
 - Spark plugs
2. Check:
 - Spark plug

**Standard spark plug:
BR9ES (NGK)**

**Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.031 in)**

377-000

OUT OF SPECIFICATION

Repair or replace the spark plug.

↓ OK

B

1. Remove:
 - Spark plug cap
2. Connect:
 - Pocket tester
(to spark plug cap)

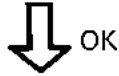


3. Measure:

- Spark plug cap resistance



Spark plug cap resistance:
 $5k\Omega \pm 10\%$ at 20°C (68°F)



OUT OF SPECIFICATION

Replace the spark cap.

C

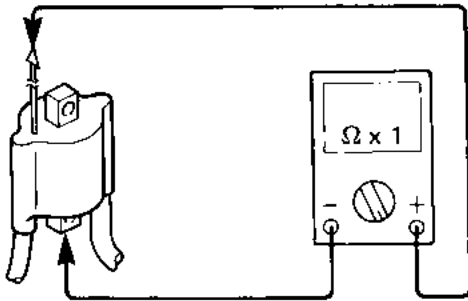
1. Disconnect:

- Ignition coil lead (Orange)
- Spark plug lead

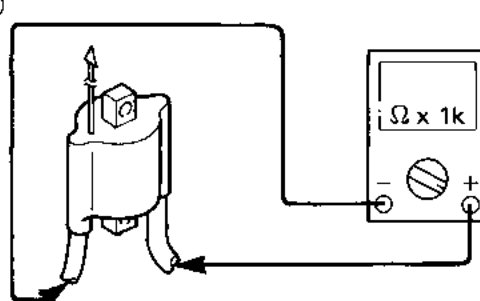
2. Connect:

- Pocket tester
 (to ignition coil and spark plug lead)

①



②



3. Measure:

- Primary coil resistance ①
- Secondary coil resistance ②



Primary coil resistance:
 $0.2\Omega \pm 20\%$ at 20°C (68°F)
Secondary coil resistance:
 $4.9k\Omega \pm 20\%$ at 20°C (68°F)



OUT OF SPECIFICATIONS

Replace the ignition coil.

Check the source coil and pickup coil.



FAULTY

Replace the source coil and/or pickup coil.

Check the "ENGINE STOP" switch, throttle switch, carburetor switch and main switch.



FAULTY

Replace the handlebar switch(right), carburetor switch and/or main switch.

Correct connection and/or replace CDI unit.

"T.O.R.S." INDICATOR LIGHT DOES NOT COME ON.

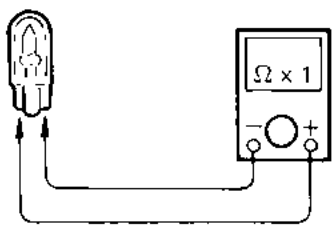
A

1. Remove:

- "T.O.R.S." indicator light bulb

2. Connect:

- Pocket tester



3. Check:

- Bulb

↓ OK

Check the throttle switch and carburetor switch.

↓ OK

Correct connection and/or replace the CDI unit.

NO CONTINUITY

Replace the bulb.

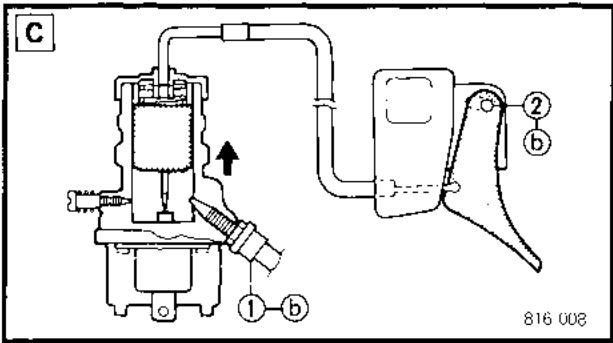
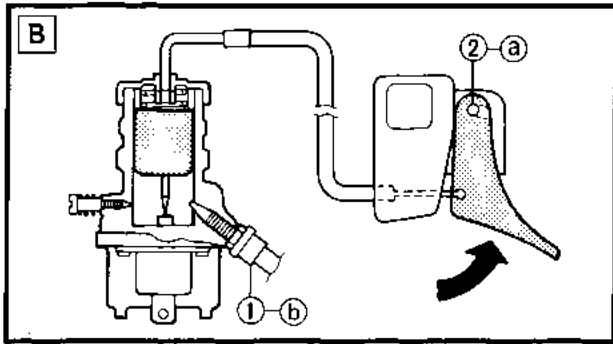
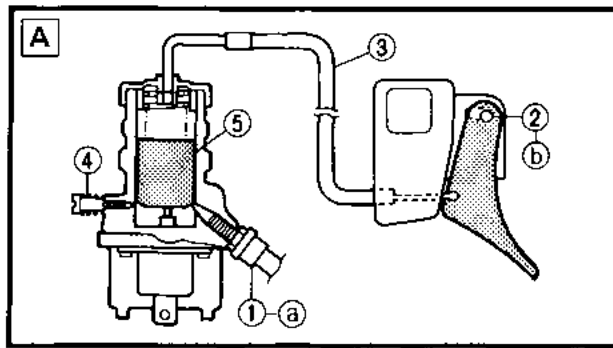
FAULTY

Replace the throttl switch and/or carburetor switch.

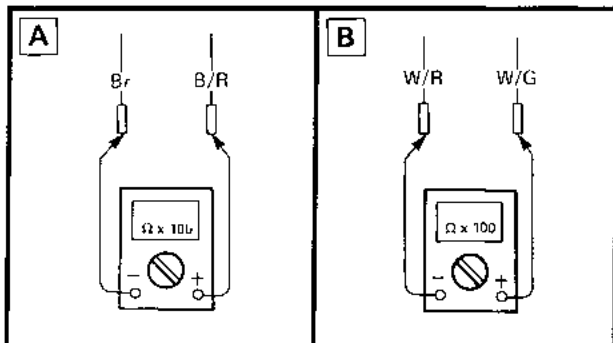
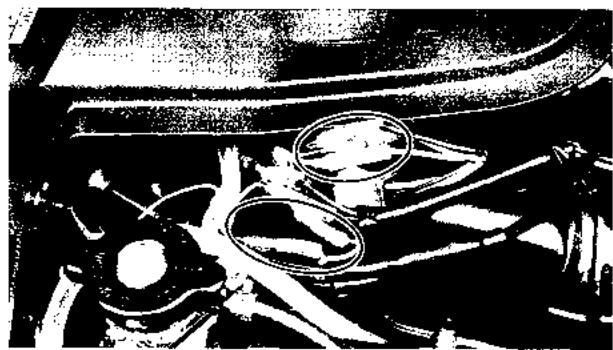
THROTTLE OVERRIDE SYSTEM (T.O.R.S.)

If the carburetor or throttle cable should malfunction during operation, the T.O.R.S. warning light turns on and off when the throttle lever is released.

The T.O.R.S. is designed to interrupt the ignition and keep the engine revolution between 2800 and 3000 r.p.m. if the carburetor fails to return to idle when the lever is released.



816 008



⚠ WARNING

- If T.O.R.S. warning light flashes, make sure that the cause of the malfunction has been corrected and that the engine can be operated without a problem before restarting the engine.
- Be sure to use the standard spark plug and spark plug cap which have resistance. Otherwise T.O.R.S. does not work properly.

MODE \ SWITCH	A) Idle or Starting	B) Run	C) Trouble		
	Throttle switch	OFF	ON	OFF	OFF
Carburetor switch (Left)	ON	OFF	OFF	ON	OFF
Carburetor switch (Right)	ON	OFF	ON	OFF	OFF
Engine	RUN	RUN	T.O.R.S Warning light turns on and off		

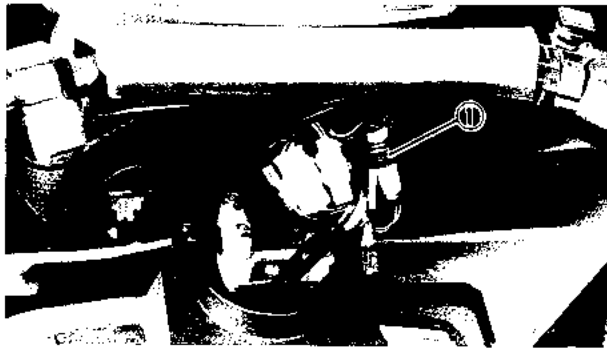
- ① Carburetor switch (T.O.R.S.)
- ② Throttle switch
- ③ Throttle cable
- ④ Throttle stop screw
- ⑤ Throttle valve
- ⓐ "ON"
- ⓑ "OFF"

SOURCE COIL AND PICKUP COIL

1. Disconnect:
 - CDI magneto leads (Brown, Black/Red)
 - Pickup coil leads (White/Red, White/Green)
2. Connect:
 - Pockup tester (90890-03112, YS-03112) (to CDI magneto leads and pickup coil leads)
3. Measure:
 - Source coil resistance **A**
 - Pickup coil resistance **B**
 Out of specification → Replace.

Source coil resistance:
(Brown, Black/Red)
530Ω ± 10% at 20°C (68°F)

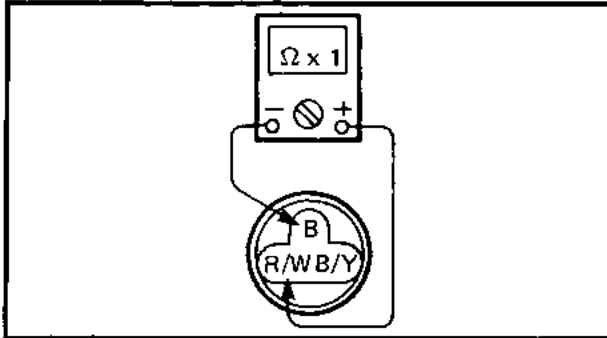
Pickup coil resistance:
(White/Red, White/Green)
220Ω ± 10% at 20°C (68°F)



HANDLEBAR SWITCH (RIGHT)

“ENGINE STOP” switch and Throttle Switch

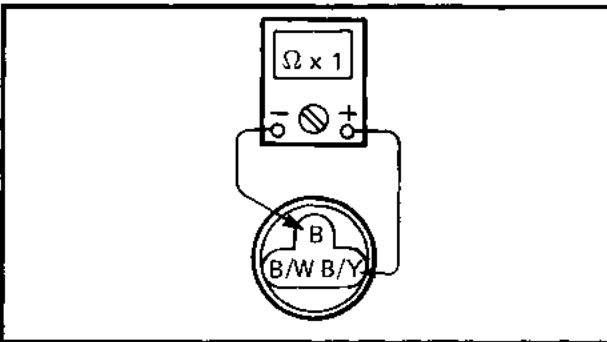
1. Disconnect:
 - Handlebar switch (right) coupler ①
2. Connect:
 - Pocket tester (90890 -03112, YU -03112)



3. Check:
 - “ENGINE STOP” switch continuity
 Faulty→Replace.

Switch position	Good condition
RUN (Pull)	x
OFF (Push)	○

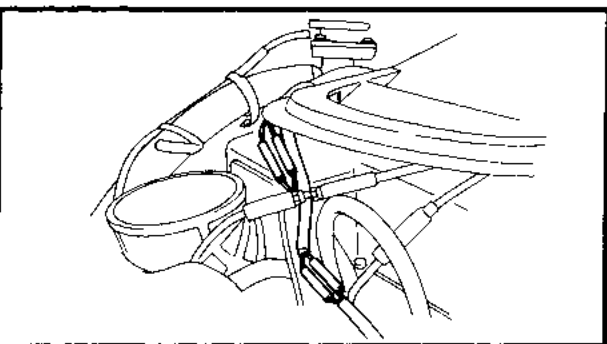
○ : Continuity x : No continuity



4. Check:
 - Throttle switch continuity
 Faulty→Replace.

Throttle switch position	Good condition
Throttle lever is operated.	○
Throttle lever is not operated.	x

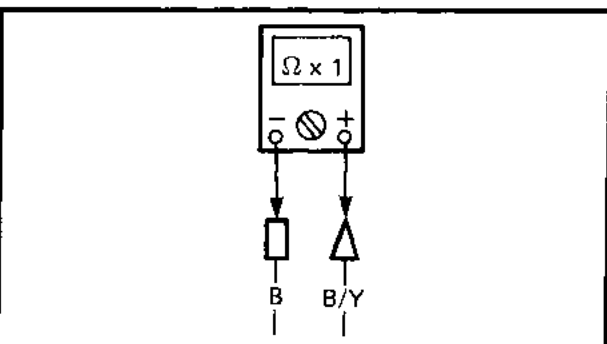
○ : Continuity x : No continuity



CARBURETOR SWITCH

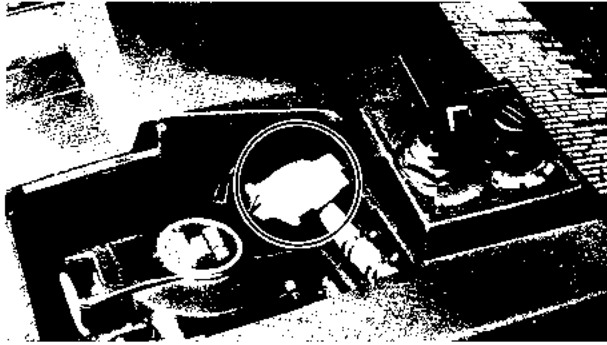
1. Disconnect:
 - Carburetor switch lead
2. Connect:
 - Pocket tester (90890 -03112, YU -03112)

3. Check:
 - Carburetor switch continuity
 Faulty→Adjust (See page 7-6) or replace.



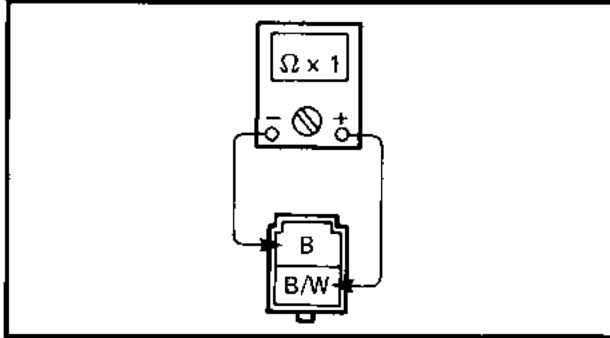
Carburetor switch position	Good condition
Throttle lever is operated.	x
Throttle lever is not operated.	○

○ : Continuity x : No continuity



MAIN SWITCH (FOR EX570R)

1. Disconnect:
 - Main switch coupler
2. Connect:
 - Pocket tester (90890 -03112, YU -03112)



3. Check:
 - Main switch continuity
Faulty → Replace.

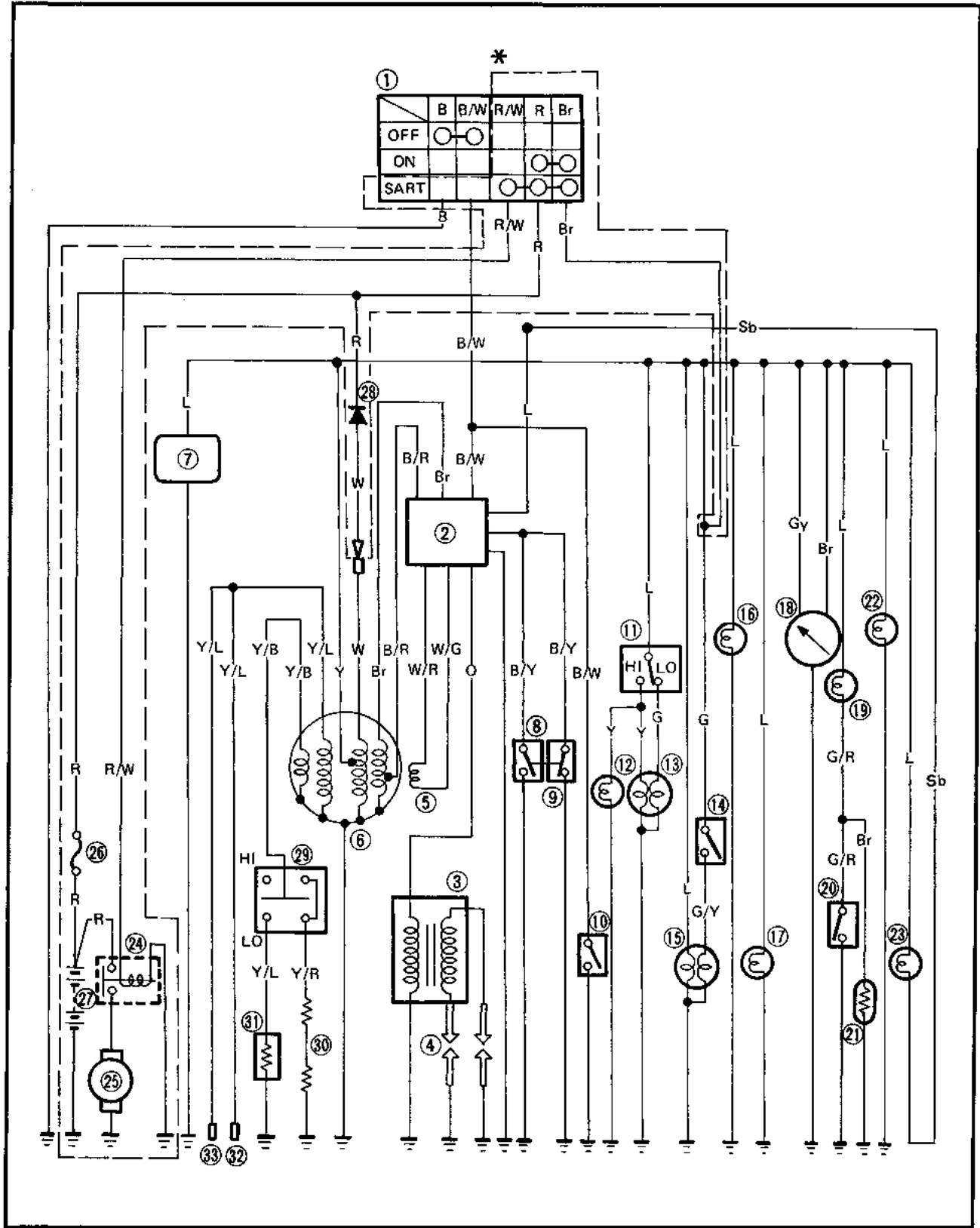
Switch position	Good condition
OFF	○
ON	x

○ : Continuity x : No continuity

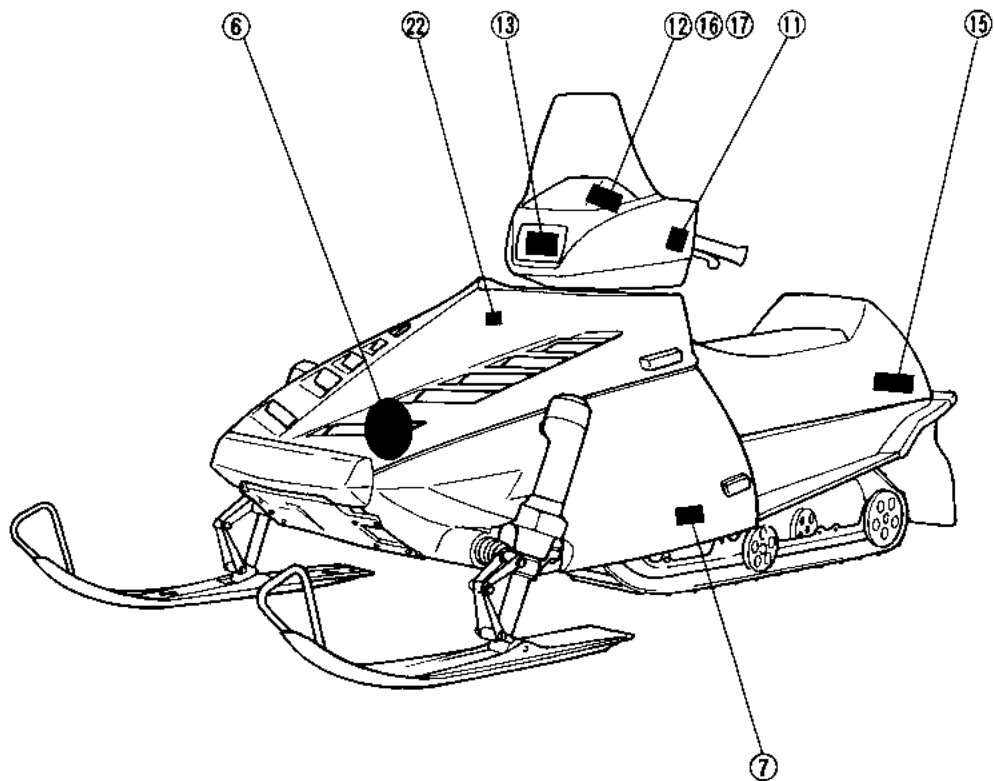


LIGHTING SYSTEM
CIRCUIT DIAGRAM

- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑪ Headlight beam switch
- ⑫ "HIGH BEAM" indicator light
- ⑬ Headlight
- ⑮ Tail/brake light
- ⑯ Speedometer light
- ⑰ Tachometer light
- ⑲ Level gauge light



8





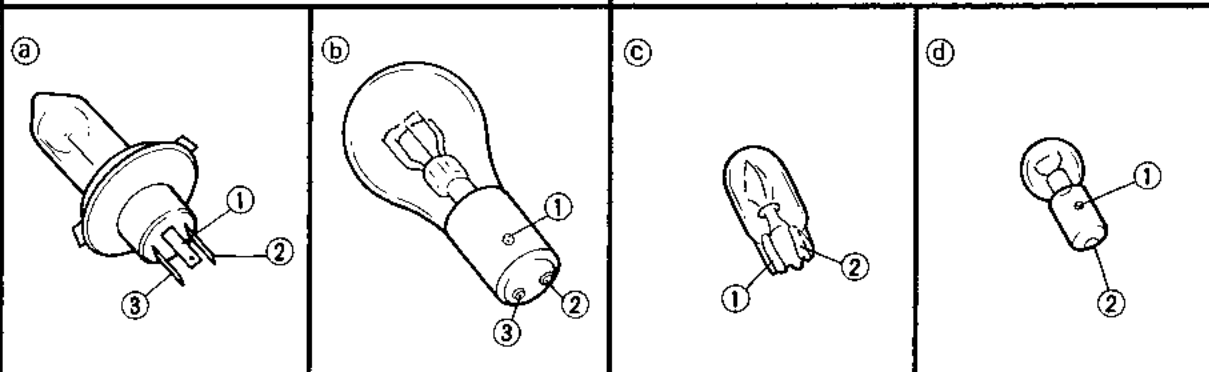
TROUBLESHOOTING

HEADLIGHT, "HIGH BEAM " INDICATOR LIGHT, TAIL LIGHT, METER LIGHT AND/OR LEVEL GAUGE LIGHT DO NOT COME ON.

1. Remove:
 - Headlight bulb
 - Tail/brake light bulb
 - Meter light bulb
 - "HIGH BEAM" indicator light bulb
 - Level gauge light bulb
2. Connect:
 - Pocket tester (to bulb terminals)

⚠ WARNING

Keep flammable products or your hands away from bulb while it is on; it will be hot. Do not touch bulb until it cools down.



- (a) Headlight
- (b) Tail/brake light
- (c) Meter and "HIGH BEAM" indicator light
- (d) Level gauge light

3. Check:
 - Bulbs

Terminal	Good condition
① - ②	○
① - ③	○
○ : Continuity	

NO CONTINUITY

Replace the bulb(s).

FAULTY

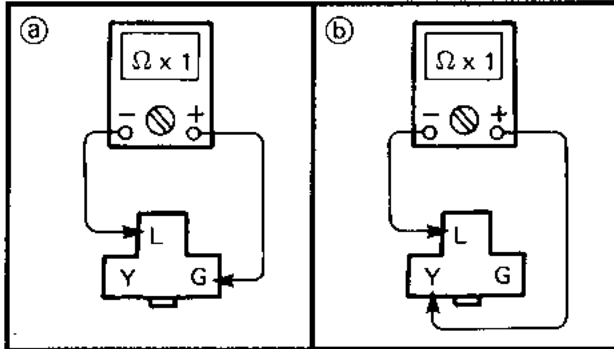
Replace the headlight beam switch and/or lighting coil.

OK
 Check the headlight beam switch and lighting coil.
 OK
 Correct connection and/or replace the voltage regulator.



HEADLIGHT BEAM SWITCH

1. Disconnect:
 - Headlight beam switch coupler
2. Connect:
 - Pockt tester (90890-03112, YS-03112)
(to headlight beam switch coupler)



3. Check:
 - Headlight beam switch continuity
Faulty → Replace.

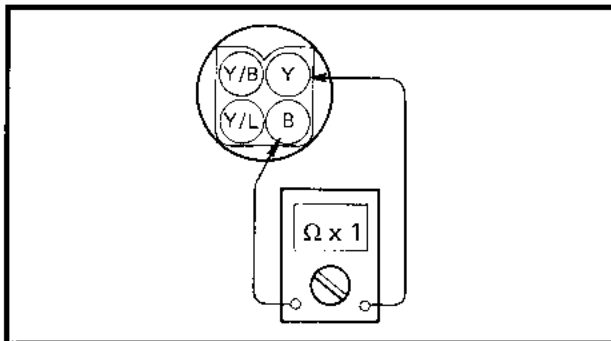
Switch position	Ⓐ Good condition	Ⓑ Good condition
HI	x	○
LO	○	x

○ : Continuity x : No continuity



LIGHTING COIL

1. Disconnect:
 - CDI magneto coupler
2. Connect:
 - Pocket tester (90890-03112, YS-03112)
(to CDI magneto coupler)



3. Measure:
 - Lighting coil resistance
Out of specification → Replace.

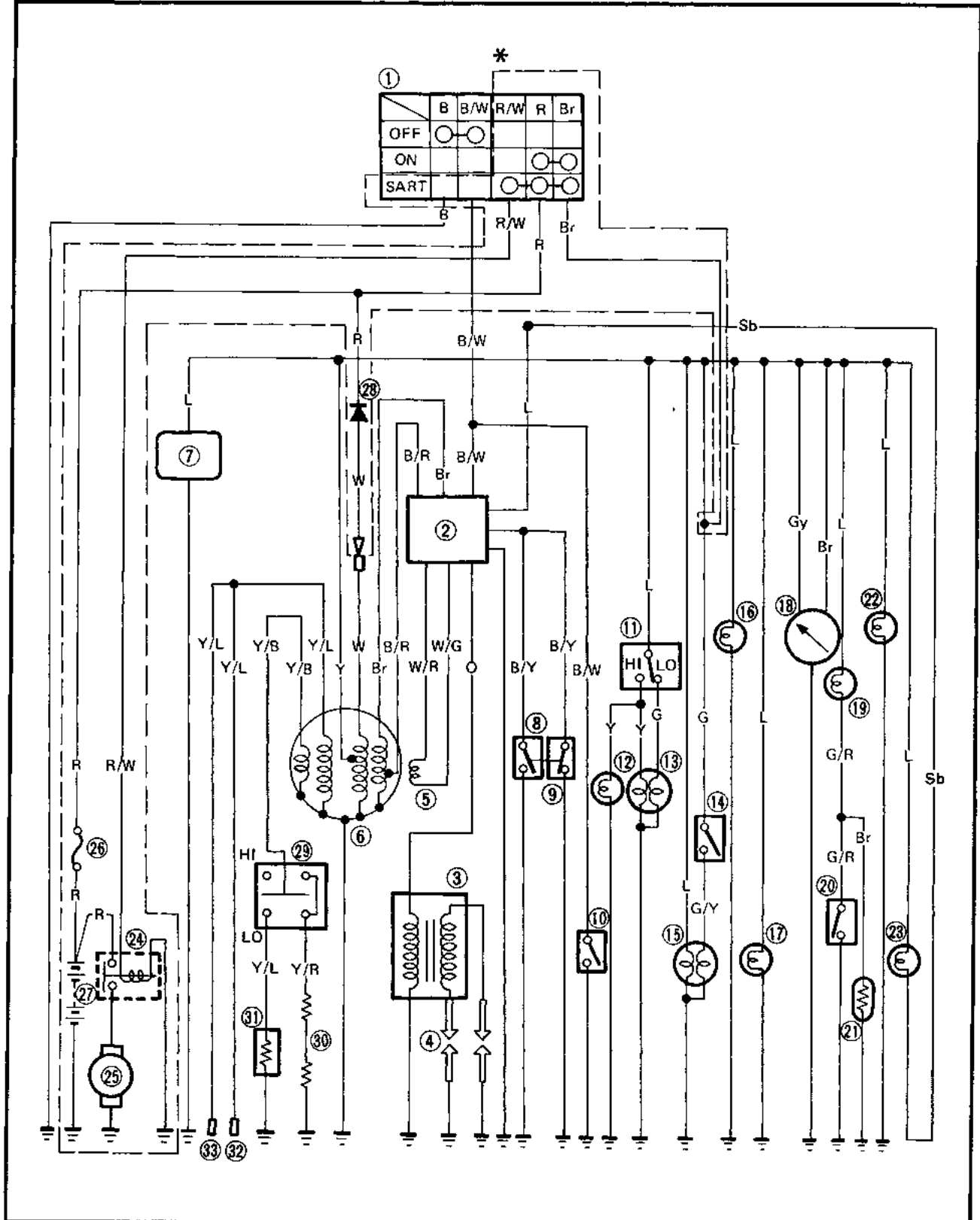
Lighting coil resistance:
(Yellow, Black)
0.36Ω ± 10% at 20°C (68°F)

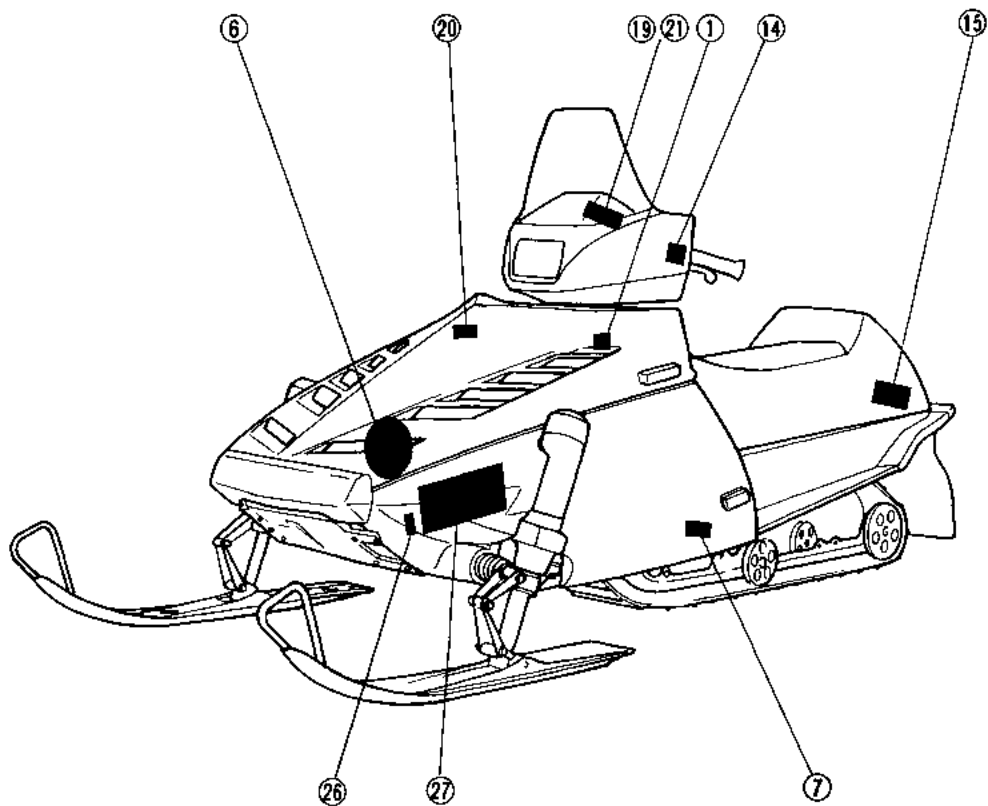


**SIGNAL SYSTEM
CIRCUIT DIAGRAM**

* For EX570ER

- ① Main switch
- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑭ Brake light switch
- ⑮ Tail/brake light
- ⑰ "WATER TEMP" indicator light
- ⑳ Thermo switch
- ㉑ "WATER TEMP" indicator light checker
- ㉒ Fuse *
- ㉓ Battery *





TROUBLESHOOTING

BRAKE LIGHT DOES NOT COME ON.

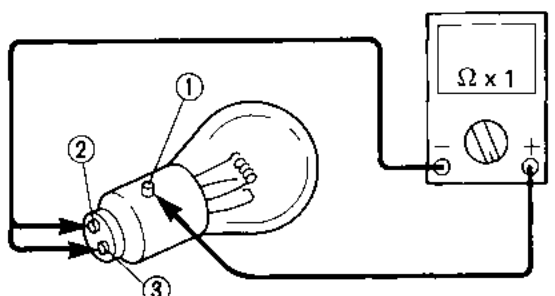
A

1. Remove:

- Tail/brake light bulb

2. Connect:

- Pocket tester (to bulb terminals)



3. Check:

- Tail/brake light bulb

Terminal	Good condition
① - ②	○
① - ③	○

○ : Continuity

NO CONTINUITY

Replace the bulb.

OK

Check the brake light switch.

FAULTY

Replace the brake light switch.

(FOR EX570R)
Check the lighting coil.

OK

OUT OF SPECIFICATION

Replace the lighting coil.

Correct connection and/or replace the voltage regulator.

(FOR EX570ER)
Check the main switch and fuse.

OK

FAULTY

Replace the main switch and/or fuse.

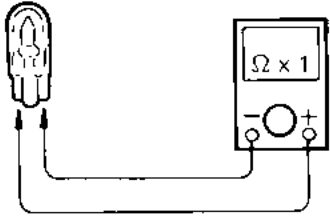
Replace and/or charge battery and/or correct connection.

"WATER TEMP" INDICATOR LIGHT DOES NOT COME ON.

A

1. Remove:
 • "WATER TEMP" indicator light bulb

2. Connect:
 • Pocket tester



3. Check:
 • Bulb

NO CONTINUITY

Replace the bulb.

OK

Check the lighting coil.

FAULTY

Replace the lighting coil.

OK

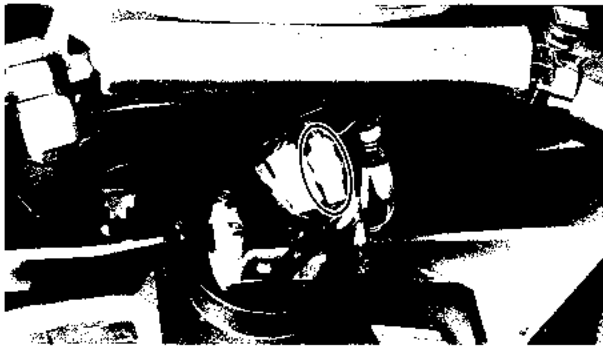
Check the thermo switch.

FAULTY

Replace the thermo unit.

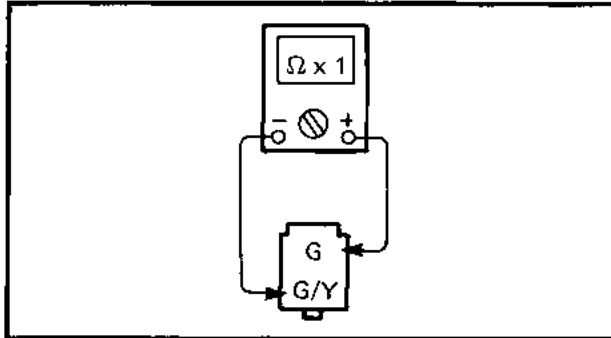
OK

Correct connection and/or replace the voltage regulator.



BRAKE LIGHT SWITCH

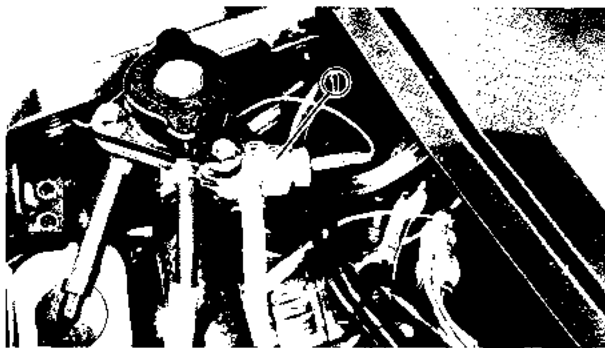
1. Disconnect:
 - Brake light switch coupler
2. Connect:
 - Pocket tester (90890-03112, YS-03112) (to brake light switch coupler)



3. Check:
 - Brake light switch continuity
 Faulty → Replace.

Switch position	Good condition
Brake lever is operate	○
Brake lever is not operate	x

○ : Continuity x : No continuity



THERMO SYSTEM

1. Disconnect the thermo switch lead (Green/Red) and remove the thermo switch ①.

CAUTION:

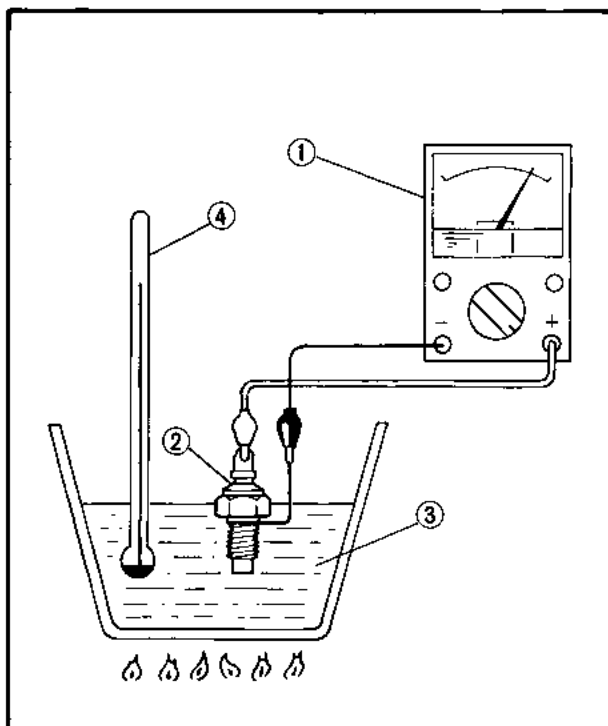
Handle the thermo switch with special care. Never subject it to strong or allow it to be dropped. Should it be dropped, it must be replaced.

2. Connect the pocket tester ① (90890 -03112, YU -03112) to the thermo switch ②.

NOTE:

Set the tester selector to " $\Omega \times 1$ " position.

3. Immerse the thermo switch in coolant ③ and check the thermo switch for operation.



Coolant temperature	Operation
Less than 98°C (209°F)	The switch is open. ($\infty\Omega$)
98°C (209°F) or more	The switch is closed. (0Ω)

④ Temperature gauge

**CAUTION:**

Never heat the coolant to a temperature of 120° C (248.5°F) or more.

4. If the thermo switch operation is incorrect, replace it.
5. Install the thermo switch, and connect thermo switch lead.



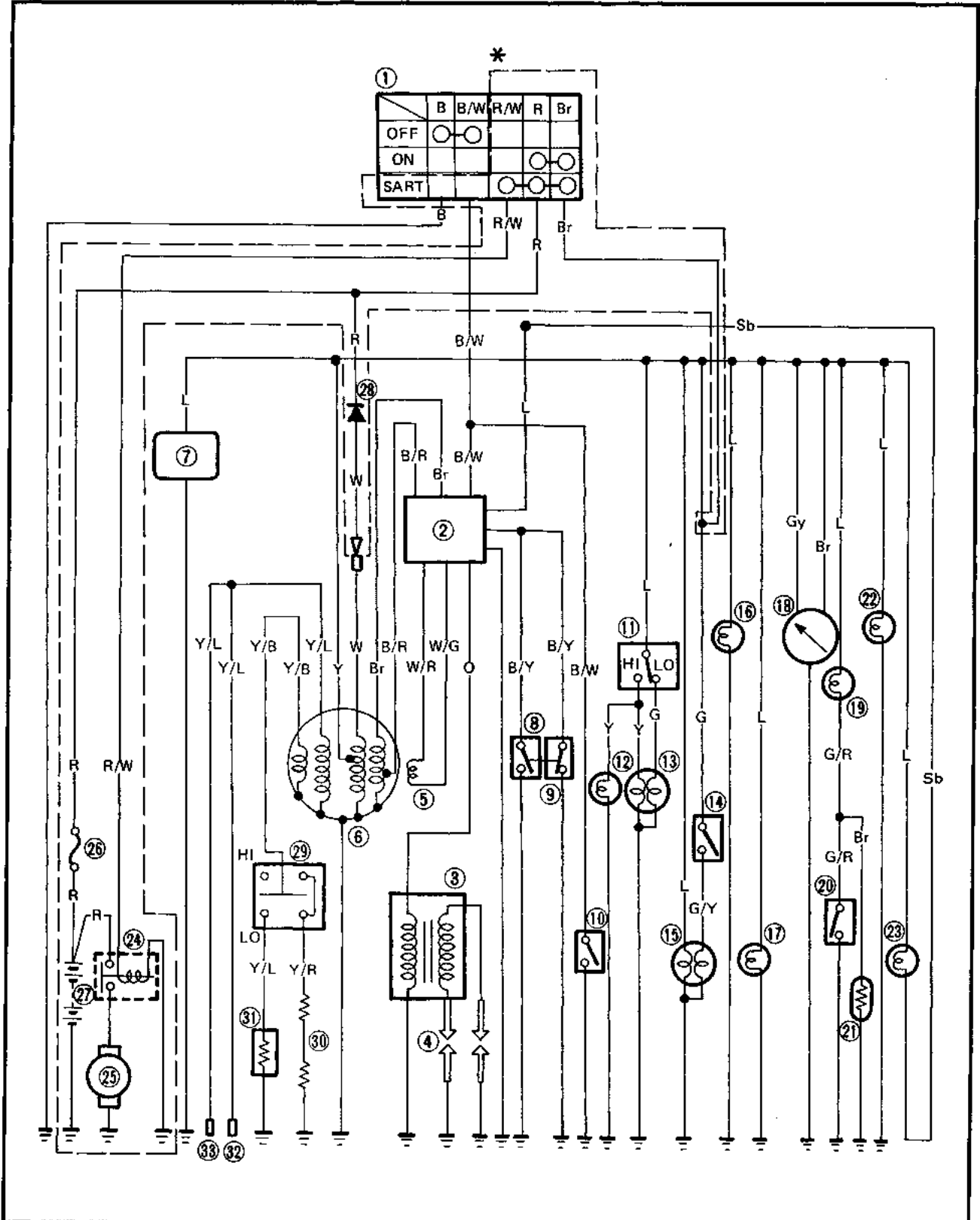
Thermo switch:
35 Nm (3.5 m · kg, 25 ft · lb)

CAUTION:

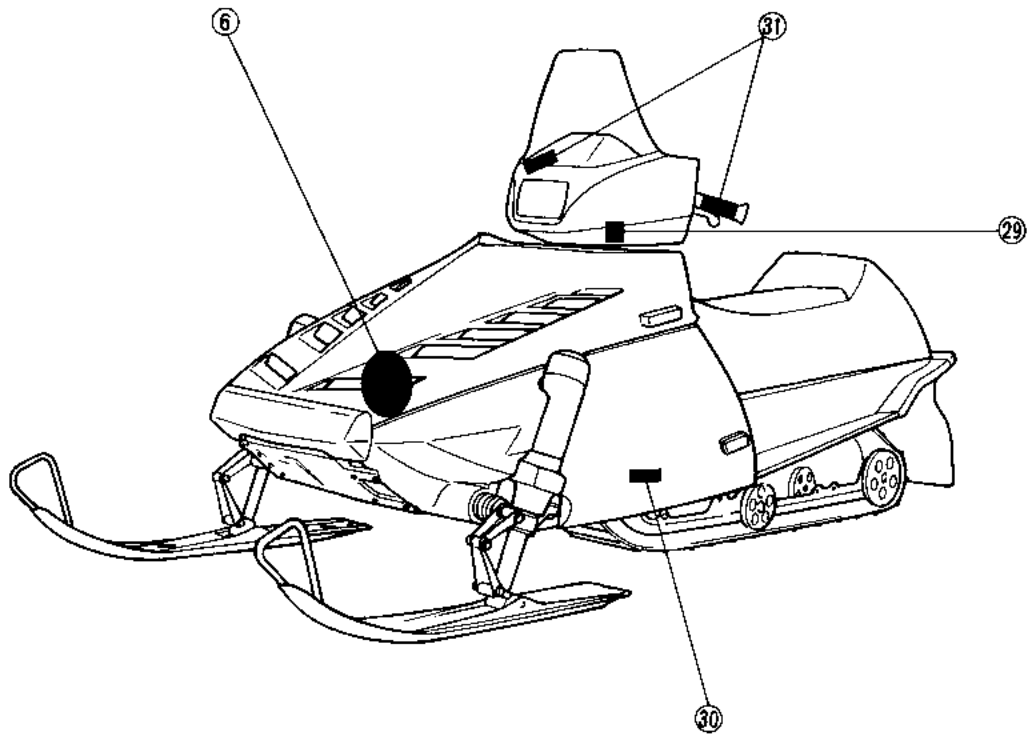
Avoid overtightening.

**GRIP WARMER SYSTEM
CIRCUIT DIAGRAM**

- ⑥ CDI magneto
- ⑲ Grip warmer switch
- ⑳ Grip warmer
- ㉑ Resister



8



TROUBLESHOOTING

GRIP WARMER DOES NOT OPERATE

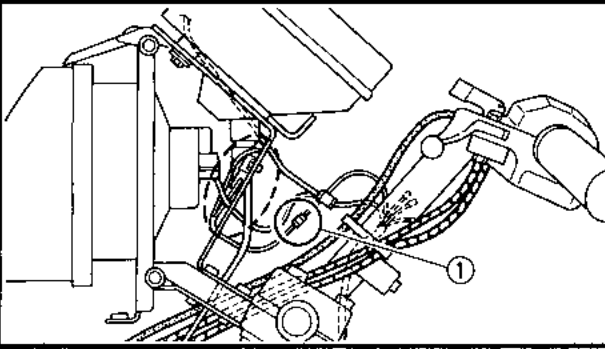
A

1. Disconnect:

- Resister coupler ①

2. Connect:

- Pocket tester (90890-03112, YS-03112) (to resister leads)



3. Check:

- Resister continuity

NO CONTINUITY

Replace the resister.

CONTINUITY


B

1. Disconnect:

- Grip warmer leads

2. Connect:

- Pocket tester (90890-03112, YS-03112) (to grip warmer leads)



3. Check:

- Grip warmer continuity

NO CONTINUITY

Replace the grip warmer.

CONTINUITY

*

8

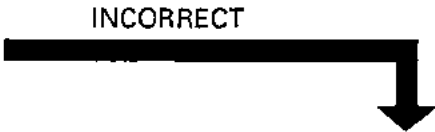


Check the grip warmer switch continuity.



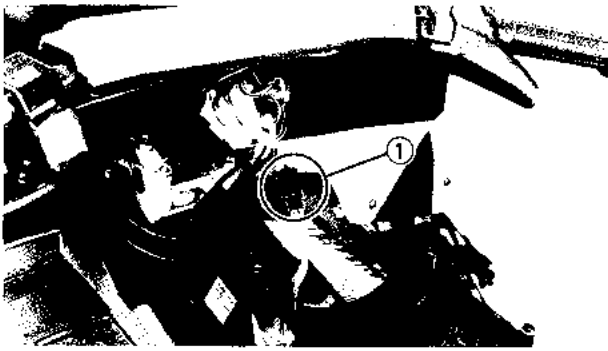
CORRECT

Replace the grip warmer coil and/or correct connection.



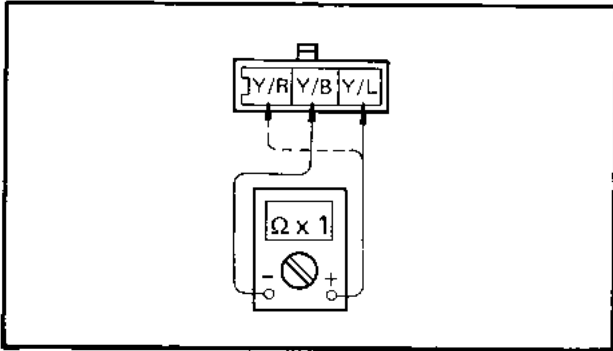
INCORRECT

Replace the grip warmer switch.



GRIP WARMER SWITCH INSPECTION

1. Disconnect:
 - Grip warmer switch connectors ①
2. Connect:
 - Pocket tester (90890-03112, YS-03112) (to grip warmer switch leads)
3. Check:
 - Grip warmer switch continuity
Faulty → Replace.

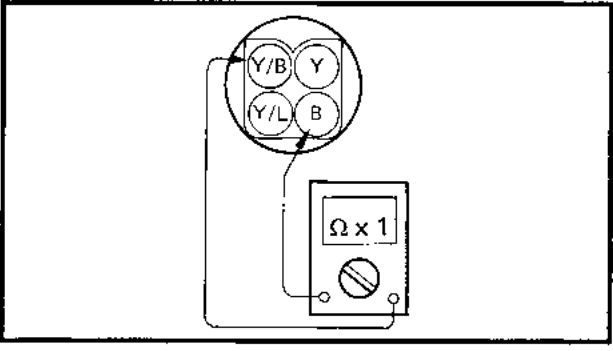



Switch position	Color code		
	Y/R	Y/B	Y/L
LO	○	○	○
OFF			
HI	○	○	



GRIP WARMER COIL INSPECTION

1. Disconnect:
 - Grip warmer coil leads (Yellow/Black and Black) ①
2. Connect:
 - Pocket tester (90890-03112, YS-03112) (to grip warmer coil leads)
3. Measure:
 - Grip warmer coil resistance.
Out of specification → Replace.



 **Grip warmer coil resistance:**
(Yellow/Black – Black)
 $1.6\Omega \pm 10\%$ at 20° (68°F)



APPENDICES

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	EX570R/EX570ER
Model Code Number:	EX570R: 88R EX570ER: 88S
Frame Starting Number:	EX570R: 88R-000101 EX570ER: 88S-000101
Engine Starting Number:	EX570R: 88R-000101 EX570ER: 88S-000101
Dimensions:	
Overall Length	2,680 mm (105.5 in)
Overall Width	1,065 mm (41.9 in)
Overall Height	1,245 mm (49.0 in)
Weight:	
Dry Weight (Without fuel and oil)	EX570R: 211,8 kg (467 lb) EX570ER: 218,9 kg (482.6 lb)
Minimum Turning Radius:	
Clockwise	4.5 m (14.8 ft)
Counterclockwise	4.4 m (14.4 ft)
Engine:	
Engine Type	Liquid cooled 2-stroke, piston port
Induction System	Piston valve
Cylinder Arrangement	Forward Inclined Paralled 2-cylinder
Displacement	569 cm ³ (34.7 cu. in)
Bore x Stroke	73 x 68 mm (2.87 x 2.68 in)
Compression Ratio	6.5 :1
Starting System	EX570R: Recoil Hand Starter EX570ER: Electric and Recoil Hand Starter
Lubrication System:	Separate Lubrication (YAMAHA AUTOLUBE)
Engine Oil:	
Type	YAMALUBE 2
Tank Capacity	3.0 L (2.6 Imp qt, 3.2 US qt)
Drive Chain Housing Oil:	
Type	Gear oil API "GL-3" SAE #75 or #80
Capacity	0.25 L (0.22 Imp qt, 0.26 US qt)
Coolant:	
Total Amount	4.2 L (3.70 Imp qt, 4.44 US qt)
Reservoir Tank Capacity	0.3 L (0.26 Imp qt, 0.32 US qt)
Fuel:	
Type	Regular gasoline (Pump Octance $\frac{R+M}{2}$; 86)
Tank Capacity	30.5 L (6.7 Imp gal, 8.1 US gal)
Carburetor:	
Type/Quantity	VM38/2
Manufacturer	MIKUNI
Spark Plug	
Type	BR9ES
Manufacturer	NGK
Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)



Model	EX570R/EX570ER
Transmission: Primary Reduction System Primary Reduction Ratio Clutch Type Secondary Reduction System Secondary Reduction Ratio Reverse System	V-Belt 3.87 ~ 0.83 Automatic centrifugal engagement Chain 1.83 No
Chassis: Frame Type Caster Ski Stance (Center to Center)	Monocock 24° 920 mm (36.2 in)
Suspension: Front Suspension Type Rear Suspension Type	Telescopic strut suspension Slide rail suspension
Track: Track Type Track Width Length on Ground Track Deflection	Internal drive type 381 mm (15.0 in) 760 mm (29.2in) 25 ~ 30 mm (0.98 ~ 1.18 in)/10 kg (22 lb)
Brake: Brake Type Operation Method	Caliper type disc brake Handle lever, left hand operated
Electrical: Ignition System/Manufacturer Generator System	CDI/MITSUBISHI Flywheel magneto
Bulb Wattage x Quantity: Headlight Tail/Brake Light Tachometer Light Speedometer Light Level Gauge Light Indicator Light "HIGH BEAM" "WATER TEMP" "T.O.R.S."	60W/55W x 1 8W/23W x 1 3.4W x 1 3.4W x 1 5W x 1 3.4W x 1 3.4W x 1 6V/3W x 1



MAINTENANCE SPECIFICATIONS

Engine

Model		EX570R/EX570ER	
Cylinder Head: Volume (with spark plug) <Warp Limit>		28.4 ~ 29.0 cm ³ <0.03mm (0.0012 in)> * Lines indicate straight edge measurement.	
Cylinder: Material Bore Size <Taper Limit> <Out-of-Round Limit>		Aluminum alloy with dispersion coating 73.00 ~ 73.02 mm (2.874 ~ 2.875 in) <0.01 mm (0.0004 in)> <0.005 mm (0.0002 in)>	
Piston: Piston Size (D) Measuring Point (a)			
Piston to-Cylinder Clearance <Limit>		0.070 ~ 0.075 mm (0.0028 ~ 0.0030 in) <0.1mm (0.004in)>	
Piston Ring: Sectional Sketch			
	Top Ring	Keystone B=1.2 mm (0.047 in) T=2.7 mm (0.106 in)	
	2nd Ring	Keystone B=1.2 mm (0.047 in) T= 2.7 mm (0.106 in)	
End Gap (Installed) :		0.20 ~ 0.40 mm (0.008 ~ 0.016 in)	
	Top Ring	0.20 ~ 0.40 mm (0.008 ~ 0.016 in)	
	2nd Ring	0.20 ~ 0.40 mm (0.008 ~ 0.016 in)	
Side Clearance		0.03 ~ 0.05 mm (0.0012 ~ 0.0020in)	
	Top Ring	0.03 ~ 0.05 mm (0.0012 ~ 0.0020in)	
	2nd Ring	0.03 ~ 0.05 mm (0.0012 ~ 0.0020in)	
Coating		Chrome Plated/Ferox Coating	
	Top Ring	Chrome Plated/Ferox Coating	
	2nd Ring	Chrome Plated/Ferox Coating	



Model	EX570R/EX570ER
<p>Crankshaft: Crank Width "A" Connecting Rod Small End Free Play "F" Connecting Rod Big End Side Clearance "D" Crankshaft Deflection "C": C₁ C₂, C₃ C₄ Measuring Points: 1 2 Crank Width "B"</p>	<p>61.95 ~ 62.00 mm (2.439 ~ 2.440 in) 0.8 ~ 1.0 mm (0.031 ~ 0.039 in) 0.25 ~ 0.75 mm (0.01 ~ 0.03 in) Below 0.03 mm (0.0012 in) Below 0.04 mm (0.0016 in) Below 0.05 mm (0.0020 in) 80 mm (3.15 in) 99 mm (3.90 in) 179.85 ~ 180.15 mm (7.080 ~ 7.093 in)</p> <div> </div>
<p>Big End Bearing: Type</p>	<p>Needle bearing</p>
<p>Small End Bearing: Type</p>	<p>Needle bearing</p>
<p>Carburetor: Type/Quantity Manufacturer I.D. Mark Main Jet (M.J.) Main Air Jet (M.A.J.) Pilot Jet (P.J.) Jet Needle (J.N.) Pilot Outlet (P.O.) Pilot Screw (P.S.) Throttle Valve (C. A.) Valve Seat Size (V.S.) Starter Jet (G.S.) Float Height (F.H.) Fuel Level Engine Idle Speed</p>	<p>VM38/2pcs. MIKUNI L: 88R-00L R: 88R-00R #310 ø2.5 #42.5 6FL82-3 ø0.8 5/8 #3.0 ø1.5 ø1.0 17.1 ~ 19.1 mm (0.67 ~ 0.75 in) 1.0 ~ 3.0 mm (0.04 ~ 0.12 in) 1,400 ~ 1,600 r/min</p>
<p>Fuel Pump: Type Manufacturer</p>	<p>DF52 MIKUNI</p>
<p>Oil Pump: Plunger Diameter Worm Gear Ratio Minimum Stroke Maximum Stroke Pump Cable Free Play</p>	<p>5.5 mm (0.22 in) 1/44 (0.023) 0.15 ~ 0.20 mm (0.006 ~ 0.008 in) 1.62 ~ 1.80 mm (0.064 ~ 0.071 in) 0.15 ~ 0.2 mm (0.006 ~ 0.008 in)</p>

Model		EX570R/EX570ER					
Cooling System: Water Pump Drive Belt Tension Filler Cap Opening Pressure Thermostat Opening Temperature Thermostat Valve Lift Water Pump Type Coolant Type Coolant Mixing Ratio (Coolant : Water) Coolant Capacity Reservoir Tank Capacity		8 ~ 15 mm/5 kg (0.3 ~ 0.6 in/11 lb) 80 ~ 100 kPa (0.8 ~ 1.0 kg/cm ² , 11 ~ 14 psi) 50 ~ 55°C (122 ~ 131°F) 8 mm (0.3 in) at 70°C (158.5F) Impeller Type Long Life Coolant 3 : 2 4.2 L (3.7 Imp qt, 4.4 US qt) 0.25 L (0.22 Imp qt, 0.26 US qt)					
High Altitude Settings							
Temperature		-30°C	-20°C	-10°C	0°C	10°C	20°C
Altitude		(-22°F)	(-4°F)	(14°F)	(32°F)	(50°F)	(68°F)
0 ~ 100 m (0 ~ 300 ft)		→ #320, JN: 3rd			← #310 (STD), JN: 3rd (STD)		
100 ~ 600 m (300 ~ 2,000 ft)		→ #310 (STD), JN: 3rd (STD)			← #300, JN: 3rd		
600 ~ 1,200 m (2,000 ~ 4,000 ft)		→ #300, JN: 3rd			← #290, JN: 3rd		
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)		→ #280, JN: 3rd			← #270, JN: 3rd, AS: 7/8		
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)		→ #260, JN: 3rd			← #270, JN: 3rd, AS: 7/8		
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)		→ #250, JN: 3rd			← #240, JN: 2nd, AS: 7/8		

NOTE:

These jetting specifications may be subject to change. Consult your technical literature from Yamaha to be sure you have the most up-to-date jetting specifications.

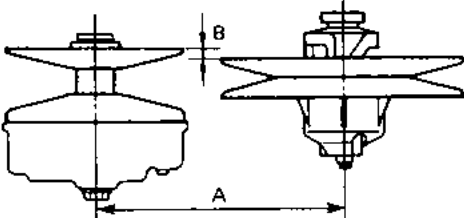
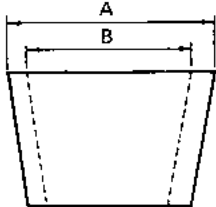


Tightening Torque:

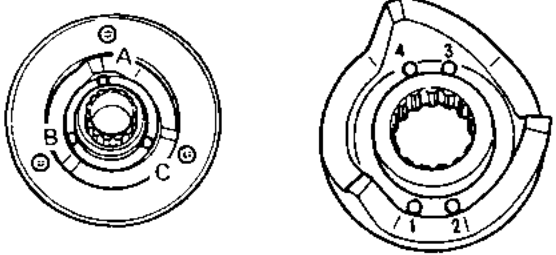
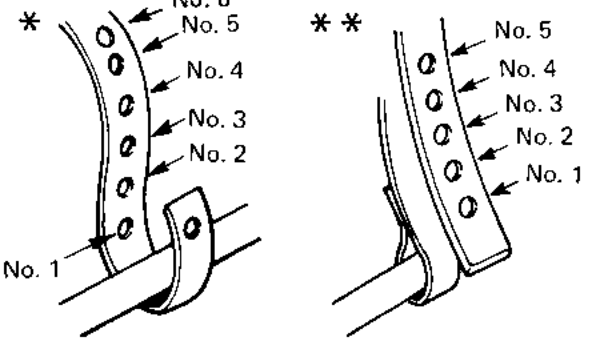
Part to be tightened	Tightening torque			Remarks
	Nm	m·kg	ft·lb	
Crankcase (first)	13	1.3	9.4	Tighten the bolts in two stages.
Crankcase (final)	27	2.7	19	
Engine Bracket and Crankcase	27	2.7	19	
Crankcase Cover	23	2.3	17	
Cylinder Head				Tighten the bolts and nuts in two stages.
Bolt (First)	20	2.0	14	
Bolt (Final)	28	2.8	20	
Nut (Final)	20	2.0	14	
Nut (Final)	33	3.3	24	
Spark Plug	28	2.8	20	
Thermostatic Valve Cover	7	0.7	5.1	
Starter Pulley	23	2.3	17	
Water Pump Housing	23	2.3	17	
Impeller	14	1.4	10	Left-Hand threads
Oil Pump	7	0.7	5.1	
Recoil Starter	10	1.0	7.2	
Engine Mounting Nut	40	4.0	29	
Carburetor				
Pilot Jet	1	0.1	0.7	
Valve Seat	5	0.5	3.6	
Main Jet	2	0.2	1.4	
Thermo Switch	28	2.8	20	
Coolant Drain Bolt	32	3.2	23	
Magneto Rotor Nut	85	8.5	61	
Starter motor bolt	23	2.3	17	



Power Train

Model	EX570R/EX570ER
<p>Transmission: Type Range of Ratio Engagement RPM Shift RPM Sheave Center Distance "A" Sheave Offset "B"</p> 	<p>V-belt Automatic 3.8 ~ 0.95:1 Approx 3,800 r/min Approx 7,300 r/min 267 ~ 270 mm (10.5 ~ 10.6 in) 14.5 ~ 17.5 mm (0.57 ~ 0.69 in)</p>
<p>V-Belt: Part Number Outside Circumference Width "A" Wear Limit "B"</p> 	<p>87X-17641-00 1.118 ~ 1.128 m (44.0 ~ 44.4 in) 35.0 mm (1.38 in) 32.0 mm (1.26 in)</p>
<p>Primary Sheave Spring: Part Number Color Code Outside Diameter Wire Diameter Pre-load/Set Length Spring Rate Number of Coils Free Length</p>	<p>90501-553G6 White- Yellow-White 60 mm (2.36 in) 5.5 mm (0.22 in) 25.0 kg (55.1 lb) 22.5 N/mm (2.25 kg/mm, 126 lb/in) 4.61 76.5 mm (3.01 in)</p>
<p>Primary Sheave Weight Arm: Part Number (with bushing) Weight Rivet Part Number Material Quantity</p>	<p>88R-17605-00 43 g (1.45 oz) 90261-06016 Steel 3 pcs.</p>
<p>Secondary Sheave Spring: Part Number Color Code Outside Diameter Wire Diameter Twist Angle</p>	<p>90508-50571 Pink 65 mm (2.56 in) 5.0 mm (0.20 in) 50°</p>



Model	EX570R/EX570ER
<p>Hole Position Sheave Side Spring Seat Side</p>  <p>Spring Rate Number of Coils Free Length Torque Cam Angle</p>	<p>A 2</p> <p>8.7 N/mm (0.89 kg/mm, 49.8 lb/in) 4.74 85.05 mm (3.35 in) 39°</p>
<p>Drive Chain: Type Number of Links Free Play</p>	<p>Silent 68 8.0 ~ 15.0 mm (0.31 ~ 0.59 in)</p>
<p>Gearing: Drive Gear Part Number Driven Gear Part Number</p>	<p>18T 88F-17682-80 33T 88F-47587-00</p>
<p>Track: Part Number Width Length Pitch Number of Links Deflection at 10 kg (22 lb)</p>	<p>82M-47110-00 381 mm (15.0 in) 3,072 mm (120.94 in) 64 mm (2.52 in) 48 25 ~ 30 mm (0.98 ~ 11.81 in)</p>
<p>Slide Rail Suspension: Front Travel Rear Travel Suspension Spring Rate Front Rear Suspension Spring Wire Diameter Front Rear</p>	<p>142 mm (5.59 in) 155 mm (6.10 in) 44 kg • mm/deg (3.81 in • lb/deg) 118 kg • mm/deg (10.02 in • lb/deg) 7.5 mm (0.3 in) 10.0 mm (0.4 in)</p>
<p>Suspension Setting Position: Stopper Band Hole Position Front * Rear **</p> 	<p>No.3 No.1</p>

Model	EX570R/EX570ER	
Shock Absorber: Damping Force (Extension) Front Rear Damping Force (Compression) Front Rear	200 kg/0.3 m/s 180 kg/0.3 m/s 95 kg/0.3 m/s 70 kg/0.3 m/s	
Slide Runner: Thickness Wear Limit	14.8 mm (0.58 in) 10 mm (0.40 in)	
Track Sprocket Wheel: Material Number of Teeth	Polyethylene 9T	
Rear Guide Wheel: Material Outside Diameter	Aluminum with rubber 178 mm (7.01 in)	
Brake: Pad Thickness Pad Wear Limit Disc Outside Diameter Disc Thickness Brake Lever Free Play	15.5 mm (0.61 in) 9.5 mm (0.37 in) 168 mm (6.61 in) 4 mm (0.16 in) 0.3 ~ 1.0 mm (0.012 ~ 0.039 in)	
High Altitude Setting:	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,350 ~ 3,000 m (4,500 ~ 10,000 ft)
Clutch Engagement RPM: Shift RPM:	Approx 3,800 r/min Approx 7,300 r/min ← ←	
Primary Sheave Weight Arm: Part Number (with bushing) Weight Rivet Part Number Material Quantity	88R-17605-00 43 g (1.45 oz) 90261-06015 Steel 3 pcs.	← ← 90261-06028 Aluminum ←
Primary Sheave Spring: Part Number Color Code Pre-load/Sheave Spring: Spring Rate Number of Coils Free Length	90501-604G0 Pink-Yellow-Pink 24.0 kg (53.0 lb) 30.0 N/mm (3.0 kg/mm, 168 lb/in) 4.80 72.5 ~ 78.5 mm (2.85 ~ 3.09 in)	
Secondary Sheave Spring: Part Number Color Code Twist Angle Hole Position Sheave Side Spring Seat Side	90508-50571 Pink 50° A 2 ← ← ← ← ←	



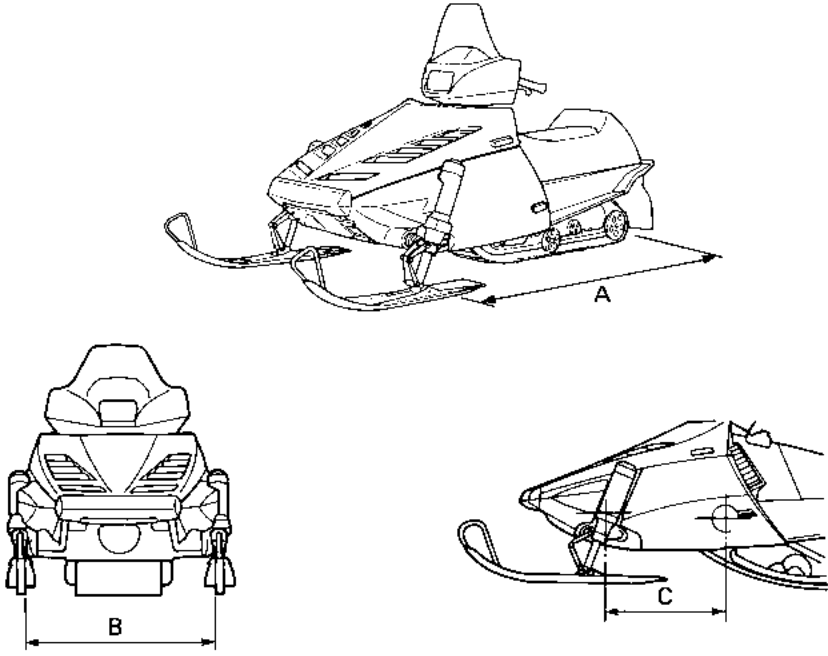
Tightening Torque:				Remarks
Parts to be tightened	Tightening torque			
	Nm	m·kg	ft·lb	
Primary Sheave (first)	120	12.0	85	Tighten the bolts in two stages. See NOTE.
Primary Sheave (final)	60	6.0	43	
Spider and Sliding Sheave	200	20.0	145	Left-hand thread. Apply LOCTITE®
Primary Sheave Cap and Sliding Sheave	14	1.4	10	
Roller and Weight (Primary Sheave)				
Bolt	6	0.6	4.3	
Screw	3	0.3	2.2	
Secondary Sheave	60	6.0	43	
Drive Sprocket	50	5.0	36	
Chain Tensioner	23	2.3	17	Apply LOCTITE®
Chain Housing and Frame	23	2.3	17	
Driven Sprocket	48	4.8	35	
Chain Housing Cover	10	1.0	7.2	
Chain Housing and Brake Caliper	48	4.8	35	
Bearing Holder (Jackshaft)	43	4.3	31	
Suspension Wheel	75	7.5	54	Apply LOCTITE®
Guide Wheel	74	7.4	54	
Sliding Frame and Slide Runner	3	0.3	2.2	
Slide Rail Suspension Mounting Bolt	68	6.8	49	
Rear Pivot Arm and Bracket	68	6.8	49	
Shock Absorber and Rear Pivot Arm	42	4.2	30	Apply LOCTITE®
Rear Pivot Arm and Rod	42	4.2	30	
Rear Suspension Bracket and Rod	42	4.2	30	
Front Pivot Arm and Sliding Frame	56	5.6	41	
Shock Absorber and Front Pivot Arm	20	2.0	14	
Shock Absorber and Relay Arm	20	2.0	14	
Bracket Shaft and Sliding Frame	20	2.0	14	
Coller (Guide wheel)	6	0.6	4.3	
Front Axle	90	9.0	65	
Speedometer Gear	23	2.3	17	

NOTE:

Tightening steps:

1. Tighten the bolt. 120Nm (12 m · kg, 85 ft · lb).
2. Loosen it completely.
3. Retighten it. 60Nm (6.0 m · kg, 43 ft · lb).

Chassis

Model	EX570R/EX570ER
Frame: Frame Material Seat Height Luggage Box Location	Aluminum and steel 620 mm (24.4 in) Rear Side of Seat
Steering: Steering Angle (Left) (Right) Ski Alignment Toe-out Size Distance "A" Distance "B" Distance "C" Caster angle	48° 48° Toe-out 0 ~ 15 mm (0 ~ 0.6 in) 1,820 mm (71.6 in) 910.5 mm (35.8 in) 510.7 mm (20.1 in) 24°
	
Ski: Ski Material Length Width Thickness Ski Ground Length	Steel 986 mm (38.8 in) 145 mm (5.71 in) 1.6 mm (0.06 in) 363 mm (14.3 in)
Ski Suspension: Type Travel Spring Type Spring Rate Wire Diameter	T.S.S. 150 mm (5.9 in) Coil Spring 14 N/mm (1.4 kg/mm, 78.3 lb/in) 7.5 mm (0.3 in)
Shock Absorber: Damping Force (Extension) (Compression)	52 kg, 0.3m/s 7 kg, 0.3m/s



Electrical

Model	EX570R/EX570ER
Voltage:	12V
Ignition System: Ignition Timing (B.T.D.C.)	16°
CDI: Magneto Model/Manufacturer Pickup Coil Resistance (Color Code) Source Coil Resistance (Color Code) CDI Unit Manufacturer	F4T304/MITSUBISHI 220 ±10% at 20° C (68°F) (White/Red – White/Green) 530 ±10% at 20°C (68°F) (Brown – Black/Red) MITSUBISHI
Ignition Coil: Model/Manufacturer Minimum Spark Gap Primary Coil Resistance Secondary Coil Resistance	88R –00/YAMAHA 9 mm (0.35 in/or more) at 300 r/min 0.2Ω ± 20% at 20°C (68°F) 4.9kΩ ± 20% at 20°C (68°F)
Spark Plug Cap: Type Model/Manufacturer Resistance	Rubber Type 81E/TOKAI DENSO 5 kΩ ± 25% at 20°C (68°F)
Charging System: Type	Flywheel Magneto
Flywheel Magneto: Model/Manufacturer Charging Current – (Minimum) Charging Current – (Maximum) Charging Coil Resistance (Color Code) Lighting Voltage (Minimum) (Maximum) Lighting Coil Resistance (Color Code) Coil Resistance for Grip Warmer (Color Code)	F4T304/MITSUBISHI 0.6 A at 3,000 r/min 2.0 A at 8,000 r/min 0.38Ω ± 10 % at 20°C (68°F) (White – Black) 11 V at 3,000 r/min 15 V at 8,000 r/min 0.36 Ω ± 10% at 20°C (68°F) (Yellow – Black) 1.0 Ω ± 10% Ω at 20°C (68°F) (Yellow/Black–Black)

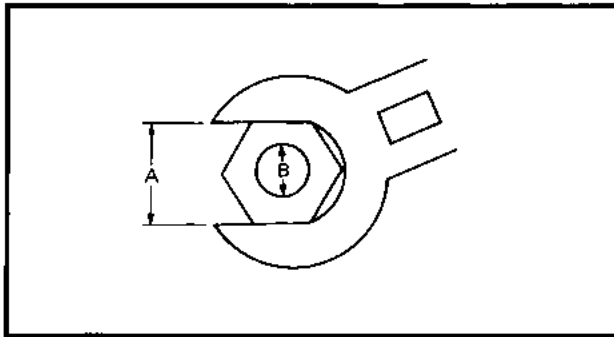


Model	EX570R/EX570ER
Voltage Regulator: Type Model/Manufacturer No Load Regulated Voltage	Short Circuit Type 82M-A0/SHINDENGEN 13.3 ~ 14.3 V
Rectifier: (EX570ER only) Model/Manufacturer Capacity	1Y8-60/STANLEY 6.0 A
Battery: (EX570ER only) Specific Gravity	1.280 (YB16AL-A2)
Electric Starter System: (EX570ER only) Type	Bendix type
Starter Motor:(EX570ER only) Model/Manufacturer Output Armature Coil Resistance Brush: Overall Length Wear Limit Spring Pressure Commutator Diameter Wear Limit Mica Undercut	84N-50/NIPPON DENSO 0.6 kW 0.013 ~ 0.015Ω at 20°C (68°F) 12 mm (0.48 in) 8.5 mm (0.33 in) 650 ~ 950 g (22.9 ~ 33.5 oz) 28 mm (1.10 in) 27 mm (1.06 in) 0.4 ~ 0.8 mm (0.016 ~ 0.031 in)

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multifastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

A (Nut)	B (Bolt)	General Torque Specifications		
		Nm	m·kg	ft·lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94



- A** : Distance across flats
- B** : Outside thread diameter

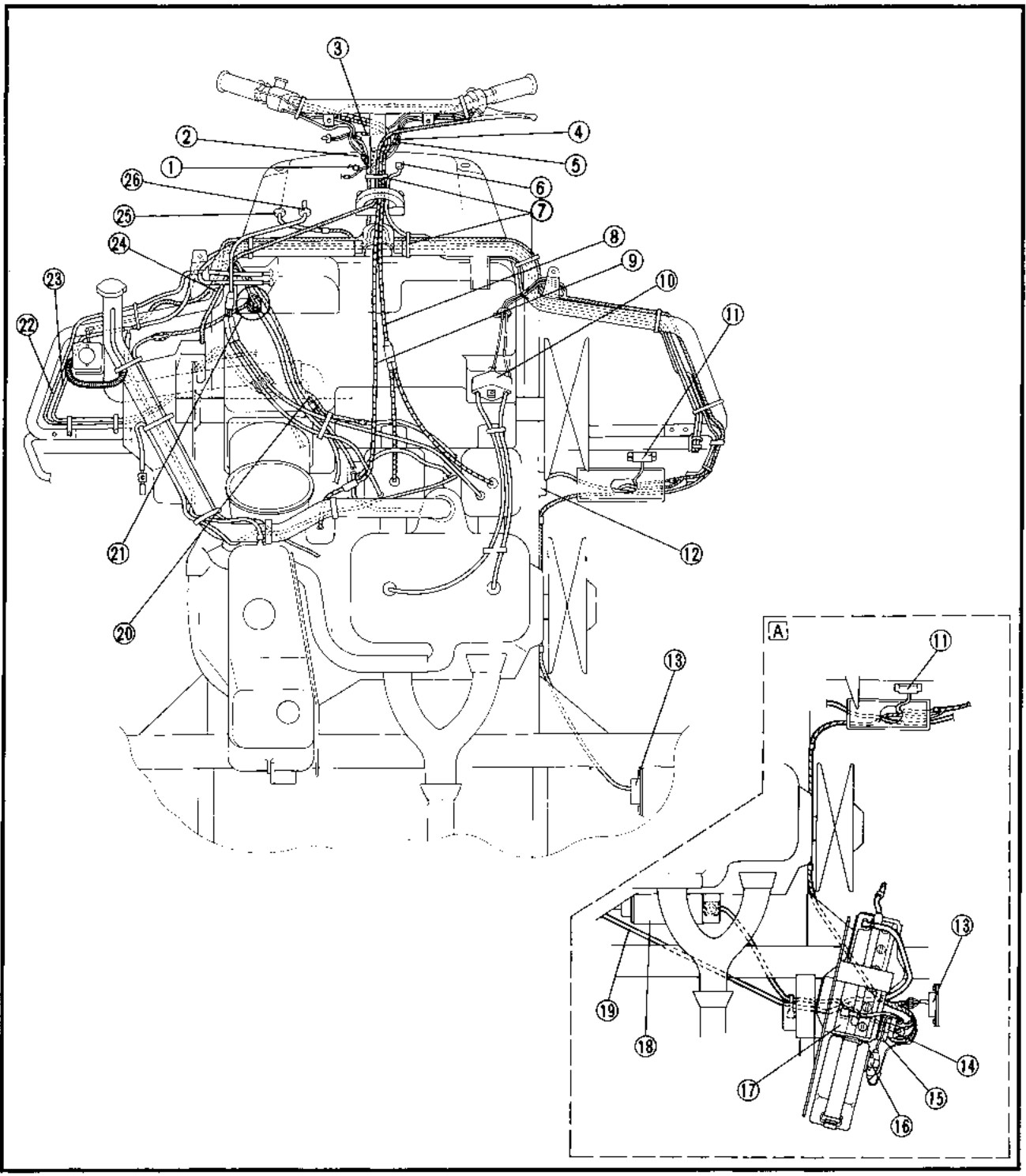
DEFINITION OF UNITS

Unit	Read	Definition	Measure
mm	Millimeter	10^{-3} meter	Length
cm	Centimeter	10^{-2} meter	Length
kg	Kilogram	10^3 gram	Weight
N	Newton	$1\text{kg} \times \text{m}/\text{sec}^2$	Force
Nm	Newton meter	$\text{N} \times \text{m}$	Torque
m·kg	Meter kilogram	$\text{m} \times \text{kg}$	Torque
Pa	Pascal	N/m^2	Pressure
N/mm	Newtons per Millimeter	N/mm	Spring Rate
L	Liter	—	Volume or Capacity
cm ³	Cubic Centimeter	—	Volume or Capacity
r/min	Rotations per minute	—	Engine Speed

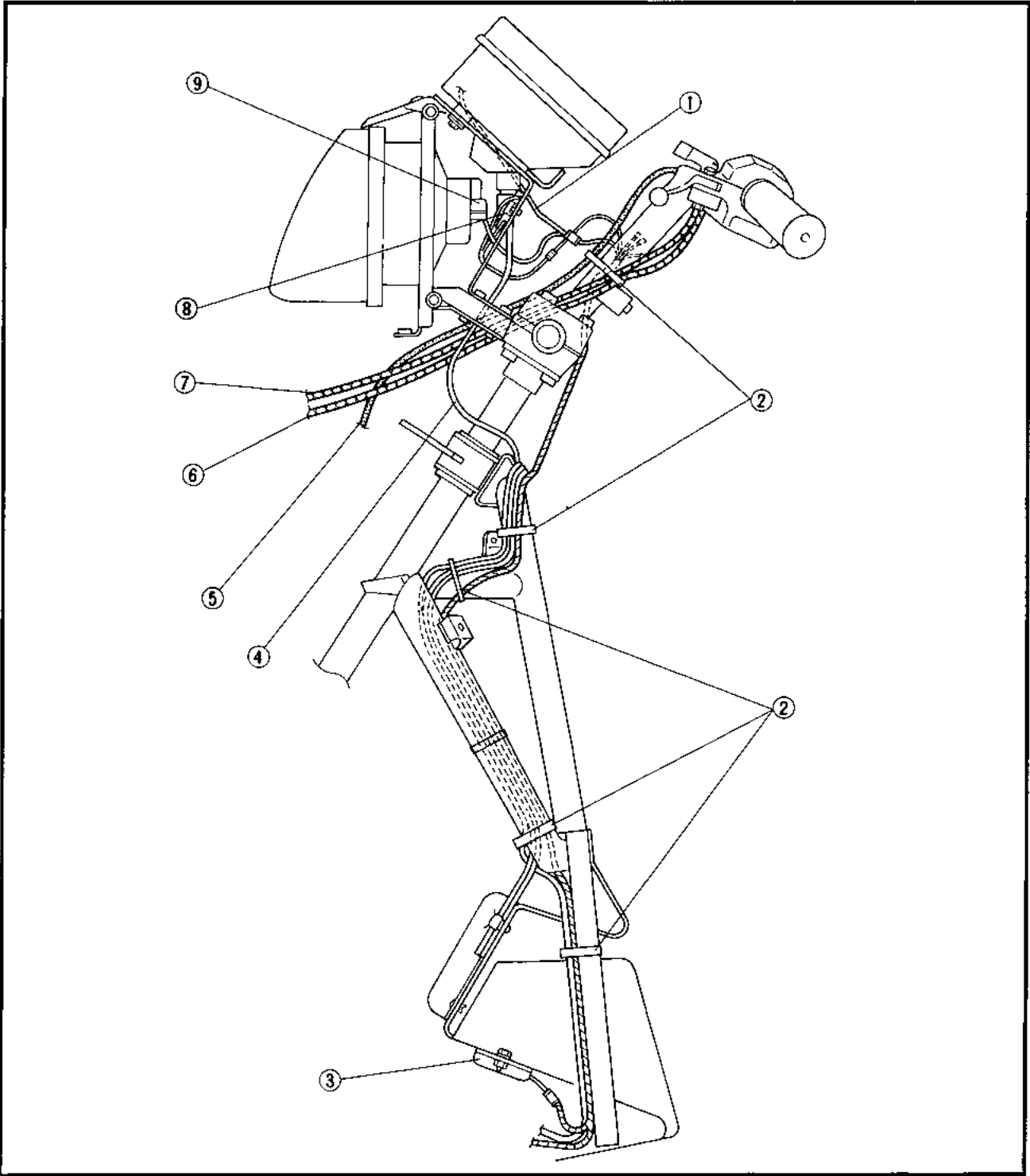


CABLE ROUTING

- | | | |
|---------------------------------|---------------------------|-------------------------|
| ① Meter light lead | ⑩ Ignition coil | ⑲ Ground lead (EX570ER) |
| ② Handlebar switch lead (right) | ⑪ Voltage regulator | ⑳ T.O.R.S. lead |
| ③ Grip warmer lead | ⑫ Speedometer gear unit | ㉑ CDI magneto lead |
| ④ Headlight beam switch lead | ⑬ CDI unit | ㉒ Fuel level hose |
| ⑤ Brake light switch lead | ⑭ Starter relay (EX570ER) | ㉓ Oil level hose |
| ⑥ Speedometer cable | ⑮ Rectifier (EX570ER) | ㉔ Brake cable |
| ⑦ Band | ⑯ Fuse (EX570ER) | ㉕ Main switch |
| ⑧ Throttle cable | ⑰ Battery (EX570ER) | ㉖ Starter lever |
| ⑨ Oil pump cable | ⑱ Starter motor (EX570ER) | Ⓐ FOR EX570ER |

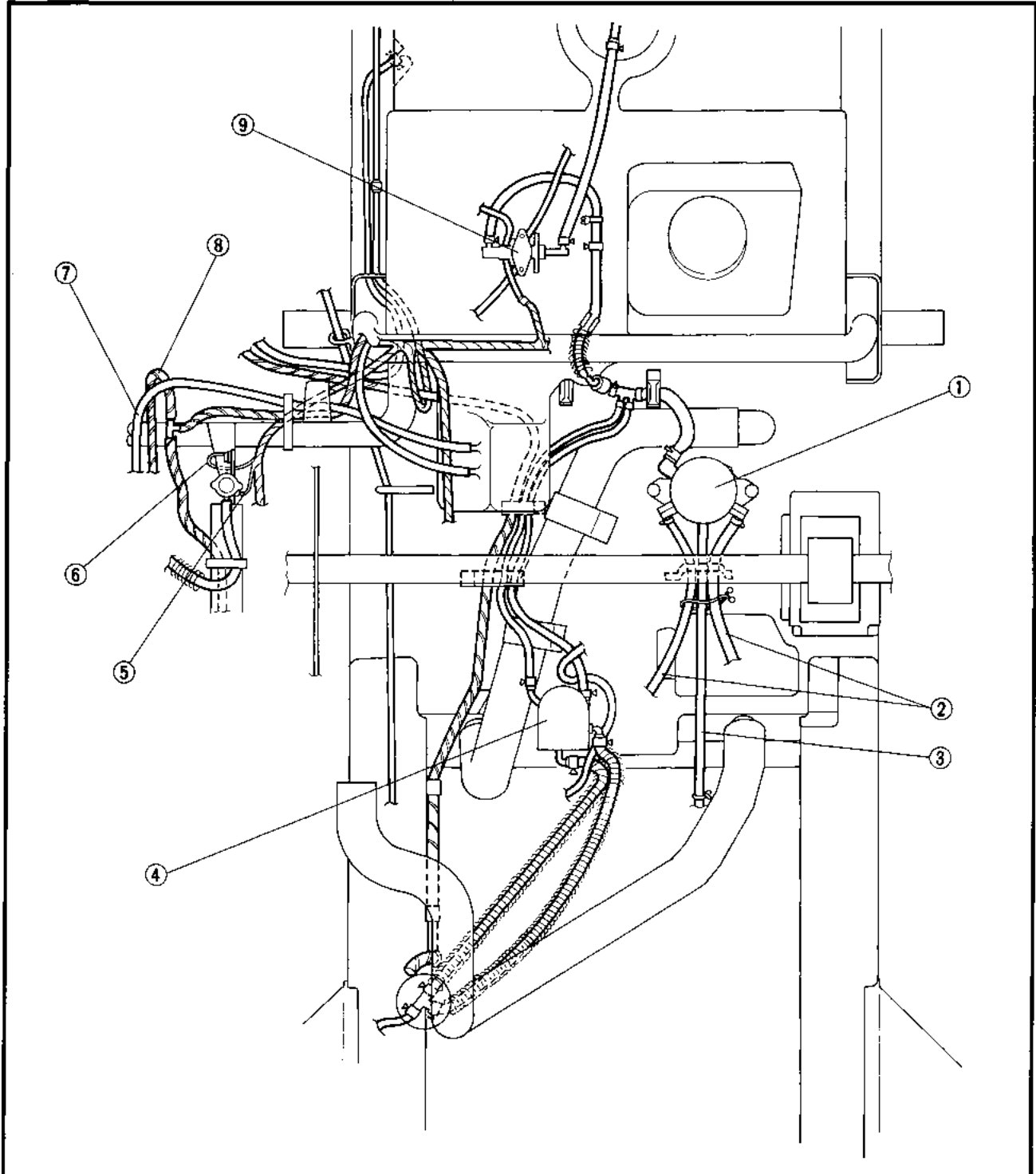


- ① Meter light lead
- ② Band
- ③ Voltage regulator
- ④ Speedometer cable
- ⑤ Brake cable
- ⑥ Throttle cable
- ⑦ Oil pump cable
- ⑧ Resister
- ⑨ Headlight lead



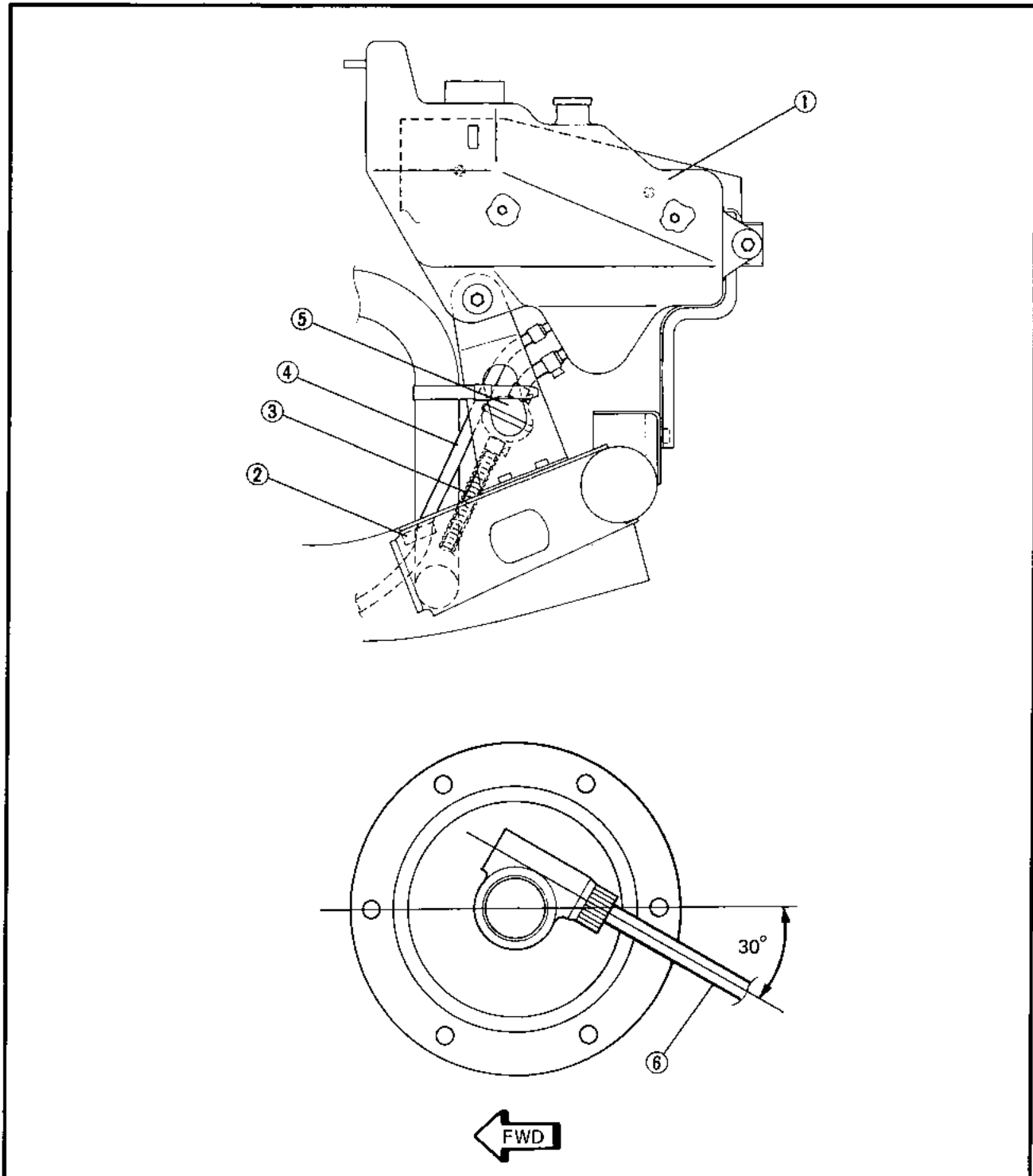


- ① Fuel pump
- ② Fuel hose
- ③ Pulser hose
- ④ Oil pump
- ⑤ Thermo switch lead
- ⑥ Ground lead
- ⑦ Fuel level hose
- ⑧ Oil level hose
- ⑨ Fuel cock



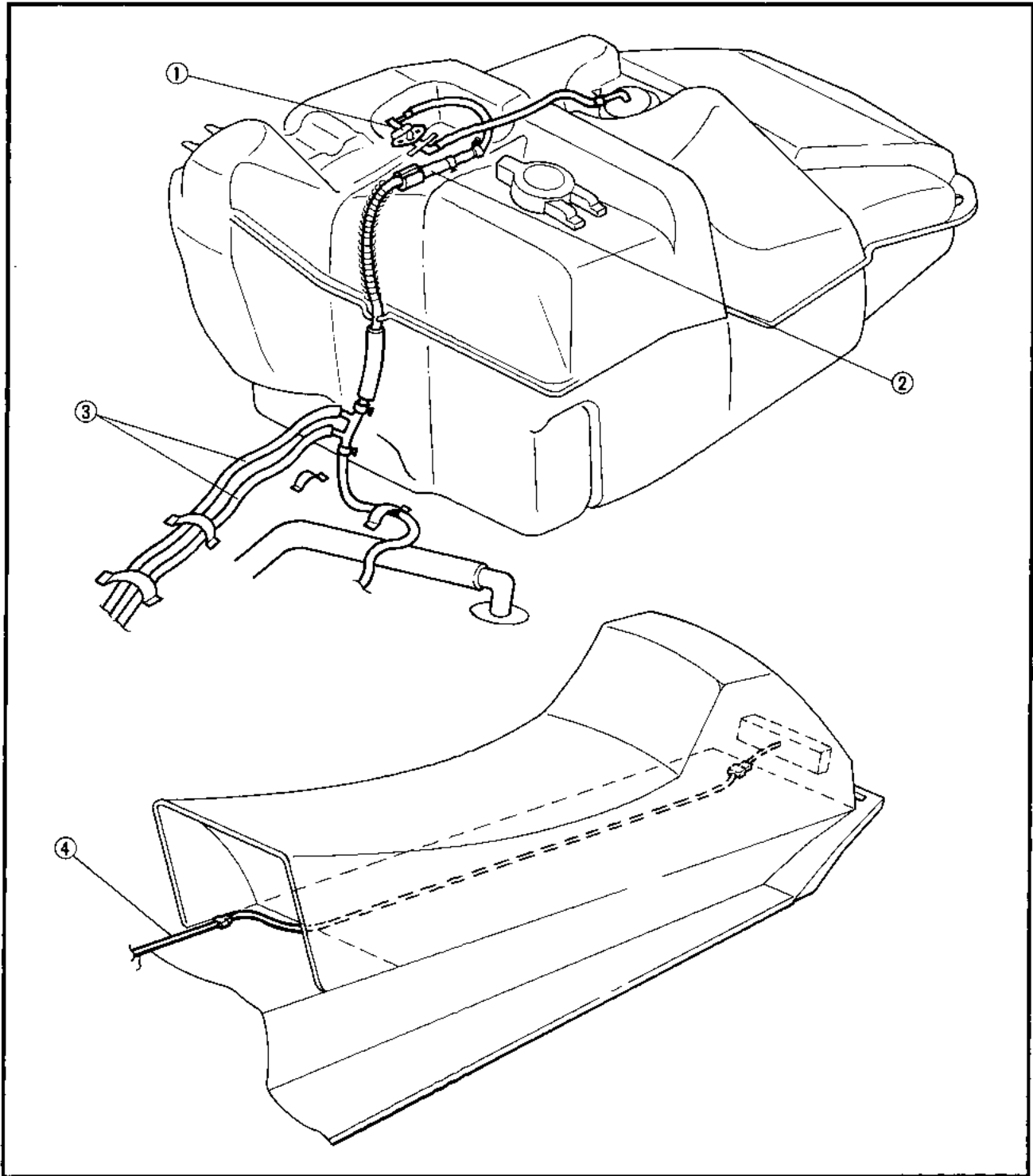


- ① Oil tank
- ② Clamp
- ③ Oil hose
- ④ Oil level hose
- ⑤ Oil filter
- ⑥ Speedometer cable





- ① Fuel cock
- ② Fuel hose
- ③ Oil delivery hose
- ④ Tail/brake light lead

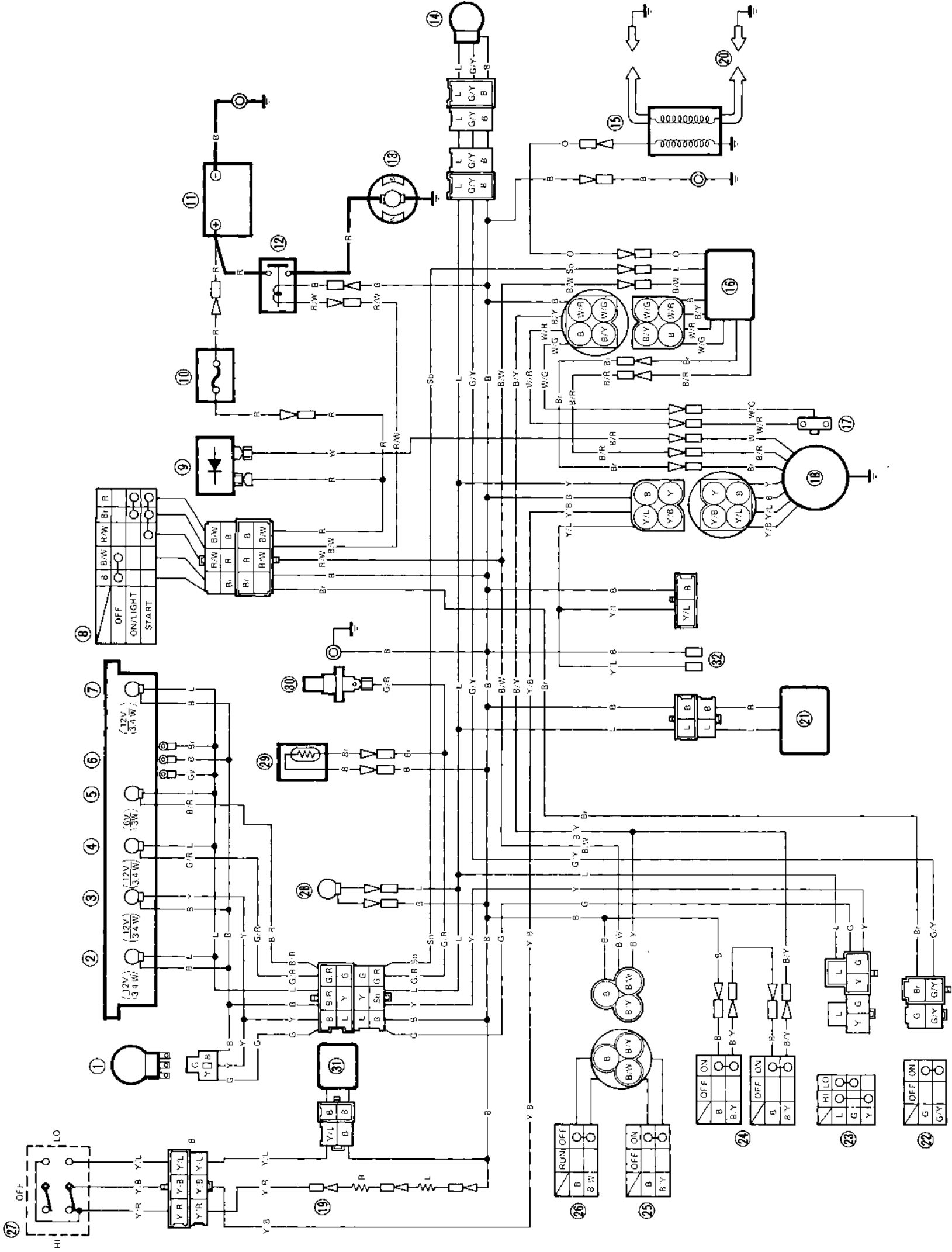


WIRING DIAGRAM EX570ER

- ① Headlight
- ② Speedometer light
- ③ "HIGH BEAM" indicator light
- ④ "WATER TEMP" indicator light
- ⑤ "T.O.R.S." indicator light
- ⑥ Tachometer
- ⑦ Tachometer light
- ⑧ Main switch
- ⑨ Rectifier
- ⑩ Fuse
- ⑪ Battery
- ⑫ Starter relay
- ⑬ Starter motor
- ⑭ Tail/brake light
- ⑮ Ignition coil
- ⑯ CDI unit
- ⑰ Pickup coil
- ⑱ CDI magneto
- ⑲ Grip warmer
- ⑳ Spark plug
- ㉑ Voltage regulator
- ㉒ Brake light switch
- ㉓ Headlight beam switch
- ㉔ Carburetor switch
- ㉕ Throttle switch
- ㉖ "ENGIN STOP" switch
- ㉗ Grip warmer switch
- ㉘ Level gauge light
- ㉙ "WATER TEMP" indicator light checker
- ㉚ Thermo switch
- ㉛ Resistor
- ㉜ AC 50W output connectors

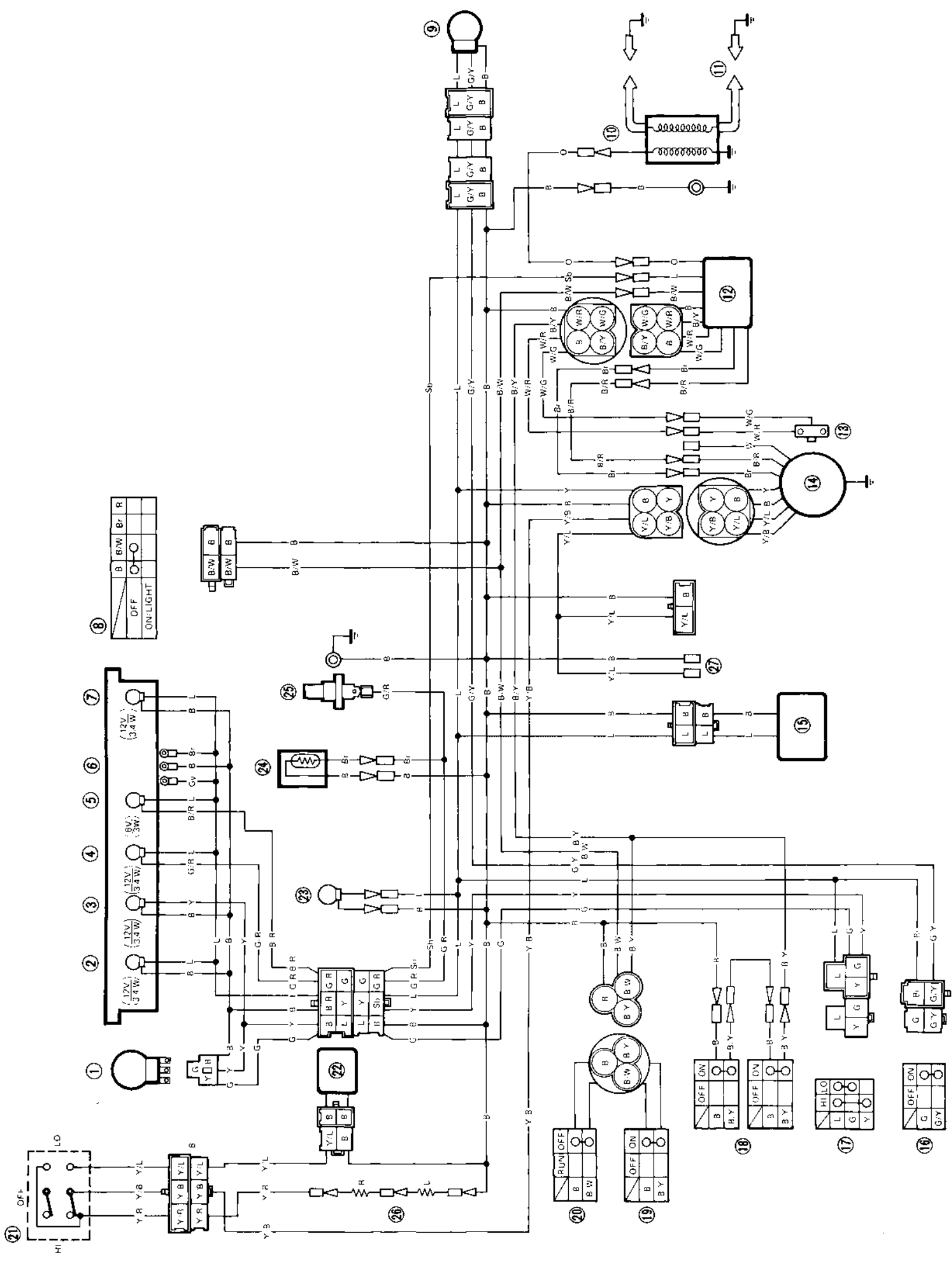
COLOR CODE

- B Black
- L Blue
- G Green
- Y Yellow
- R Red
- O Orange
- Br Brown
- Sb Sky blue
- W White
- B/Y Black/Yellow
- B/R Black/Red
- B/W Black/White
- G/Y Green/Yellow
- Y/L Yellow/Blue
- Y/R Yellow/Red
- G/R Green/Red
- R/W Red/White
- W/G White/Green
- W/R White/Red










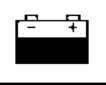
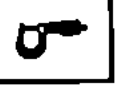















WIRING DIAGRAM EX570R

- ① Headlight
- ② Speedometer light
- ③ "HIGH BEAM" indicator light
- ④ "WATER TEMP" indicator light
- ⑤ "T.O.R.S." indicator light
- ⑥ Tachometer
- ⑦ Tachometer light
- ⑧ Main switch
- ⑨ Tail/brake light
- ⑩ Ignition coil
- ⑪ Spark plug
- ⑫ CDI unit
- ⑬ Pickup coil
- ⑭ CDI magneto
- ⑮ Voltage regulator
- ⑯ Brake light switch
- ⑰ Headlight beam switch
- ⑱ Carburetor switch
- ⑲ Throttle switch
- ⑳ "ENGIEN STOP" switch
- ㉑ Grip warmer switch
- ㉒ Resister
- ㉓ Level gauge light
- ㉔ "WATER TEMP" indicator light checker
- ㉕ Thermo switch
- ㉖ Grip warmer
- ㉗ AC 50W output connectors



COLOR CODE

- B Black
- L Blue
- G Green
- Y Yellow
- R Red
- O Orange
- Br Brown
- Sb Sky blue
- W White
- B/Y Black/Yellow
- B/R Black/Red
- B/W Black/White
- G/Y Green/Yellow
- Y/L Yellow/Blue
- Y/R Yellow/Red
- G/R Green/Red
- R/W Red/White
- W/G White/Green
- W/R White/Red

① GEN INFO 	② INSP ADJ 	
③ CHAS 	④ POWR TR 	
⑤ COOL 	⑥ ENG 	
⑦ CARB 	⑧ ELEC 	
⑨ SPEC 	⑩ 	
⑪ 	⑫ 	
⑬ 	⑭ 	
⑮ 	⑯ 	
⑰ 	⑱ 	
⑲ 	⑳ 	㉑ 
㉒ 	㉓ 	㉔ 

OE031

ILLUSTRATED SYMBOLS

(Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

- ① General information
- ② Periodic inspection and adjustment
- ③ Chassis
- ④ Power train
- ⑤ Cooling system
- ⑥ Engine overhaul
- ⑦ Carburetion
- ⑧ Electrical
- ⑨ Specifications










Illustrated symbols ⑩ to ⑯ are used to identify the specifications which appear.

- ⑩ Filling fluid
- ⑪ Lubricant
- ⑫ Tightening
- ⑬ Wear limit, clearance
- ⑭ Engine speed
- ⑮ Special tool
- ⑯ Ω, V, A

Illustrated symbols ⑰ to ㉔ in the exploded diagram indicate grade of lubricant and location of lubrication point.

- ⑰ Apply locking agent (LOCTITE®)
- ⑱ Apply engine oil
- ⑲ Apply gear oil
- ㉑ Apply molybdenum disulfide oil
- ㉒ Apply wheel bearing grease
- ㉓ Apply low-temperature lithium-soap base grease
- ㉔ Apply molybdenum disulfide grease
- ㉕ Apply Yamabond No.5®

INDEX

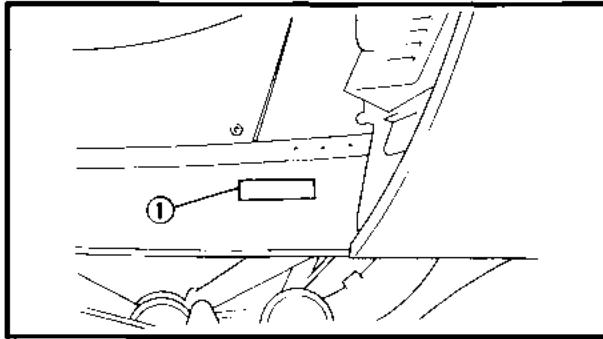
GENERAL INFORMATION	 GEN INFO 1
PERIODIC INSPECTION AND ADJUSTMENT	 INSP ADJ 2
CHASSIS	 CHAS 3
POWER TRAIN	 POWR TR 4
ENGINE OVERHAUL	 ENG 5
COOLING SYSTEM	 COOL 6
CARBURETION	 CARB 7
ELECTRICAL	 ELEC 8
SPECIFICATIONS	 SPEC 9

**CHAPTER 1.
GENERAL INFORMATION**

MACHINE IDENTIFICATION 1-1
 FRAME SERIAL NUMBER 1-1
 ENGINE SERIAL NUMBER 1-1

IMPORTANT INFORMATION 1-2
 PREPARATION FOR REMOVAL
 AND DISASSEMBLY 1-2
 ALL REPLACEMENT PARTS 1-3
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 LOCK WASHERS/PLATES AND
 COTTER PINS 1-3
 BEARINGS AND OIL SEALS 1-3
 CIRCLIPS 1-4

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 FOR TUNE UP 1-4
 FOR ENGINE SERVICE 1-5
 FOR POWER TRAIN SERVICE 1-5
 FOR ELECTRICAL SERVICE 1-6

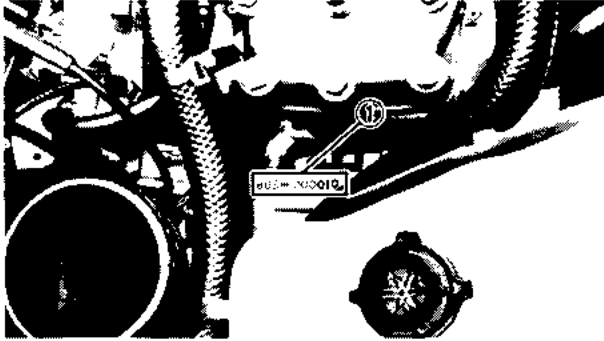


1E001

GENERAL INFORMATION

MACHINE IDENTIFICATION FRAME SERIAL NUMBER

The frame serial number ① is located on the right-hand side of the frame (just below the front of the seat).



ENGINE SERIAL NUMBER

The engine serial number ① is located on the right-hand side of the crankcase.

NOTE:

The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

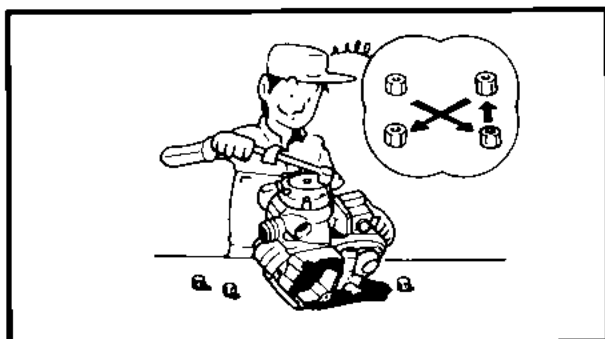
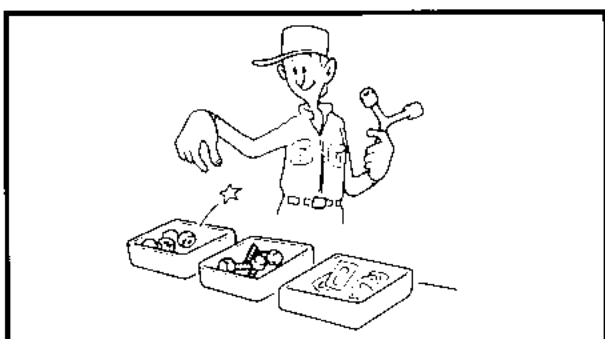
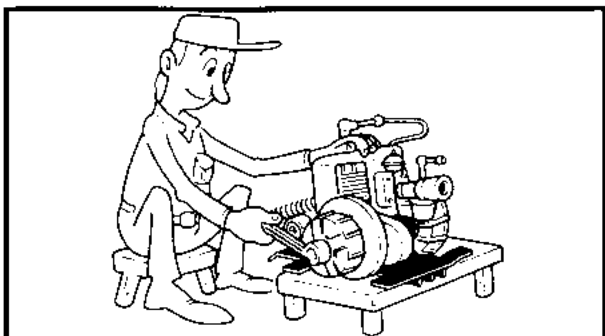
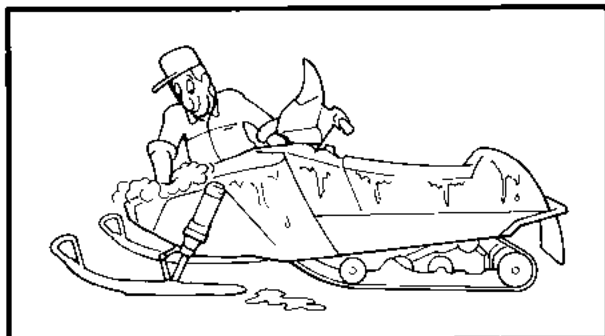
Starting Serial Number

EX570T.....8AV -000101~
EX570ET8AW-000101~
EX570STT89L -000101~
EX570SXT8AY -000101~

NOTE:

Designs and specifications are subject to change without notice.

1



1E011

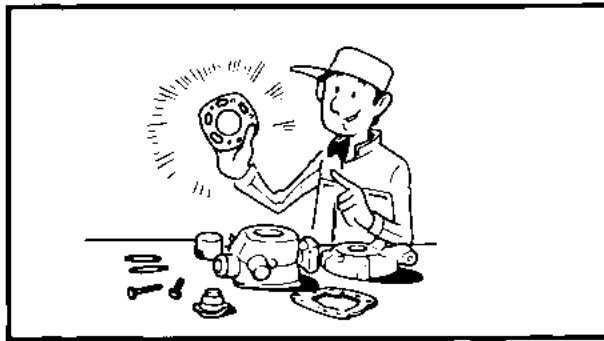
IMPORTANT INFORMATION
PREPARATION FOR REMOVAL AND DIS-ASSEMBLY

1. Remove all dirt, mud, dust, and foreign material before removal and disassembly. While cleaning, take care to protect the electrical parts, such as relays, switches, motor, resistors, controllers, etc., from high pressure water splashes.
2. Use proper tools and cleaning equipment. Refer to "SPECIAL TOOLS"

3. When disassembling the machine, keep mated parts together. This includes gears, cylinders, pistons, and other parts that have been "mated" through normal wear. Mated parts must be reused as an assembly or replaced.

4. During disassembly of the machine , clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are reinstalled correctly.
5. Keep away from fire.

6. Be sure to keep to tightening torque specifications. When tightening bolts, nuts, and screws, start with larger-diameter pieces, and proceed from an inner-positioned one to an outer-positioned one in a criss-cross pattern.



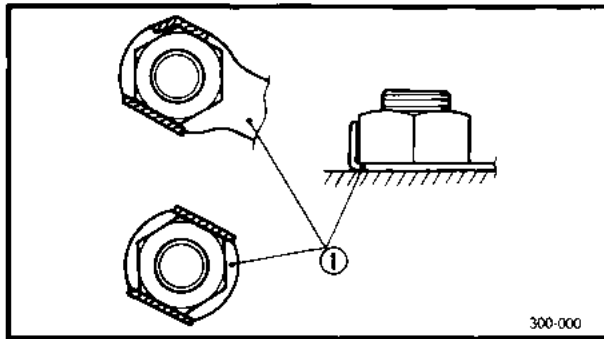
ALL REPLACEMENT PARTS

1. We recommend to use Yamaha genuine parts for all replacements. Use oil and/or grease recommended by Yamaha for assembly and adjustment.

1

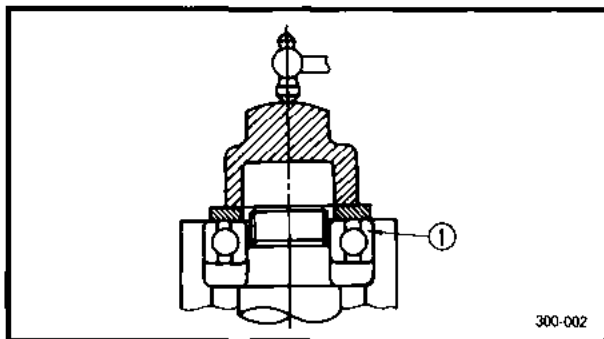
GASKETS, OIL SEALS, AND O-RINGS

1. All gaskets, seals, and O-rings should be replaced when an engine is overhauled. All gasket surfaces, oil seal lips, and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.



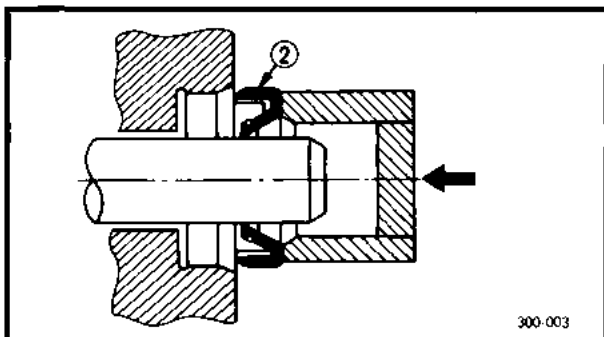
LOCK WASHERS/PLATES AND COTTER PINS

1. All lock washers/plates ① and cotter pins must be replaced when they are removed. Lock tab(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened.



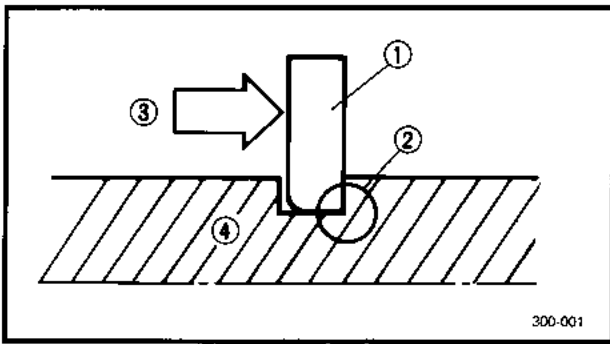
BEARINGS AND OIL SEALS

1. Install the bearing(s) ① and oil seal(s) ② with their manufacturer's marks or numbers facing outwards. (In other words, the stamped letters must be on the side exposed to view.) When installing oil seal(s), apply a light coating of lightweight lithium base grease to the seal lip(s). Oil the bearings liberally when installing.



CAUTION:

Do not use compressed air to spin the bearings dry. This causes damage to the surface of the bearings.

**CIRCLIPS**

1. All circlips should be inspected carefully before reassembly. Always replace piston pin clips after one use. Replace misshapen circlips. When installing a circlip ①, make sure that the sharp edged corner ② is positioned opposite to the thrust ③ it receives. See the sectional view.

④ Shaft

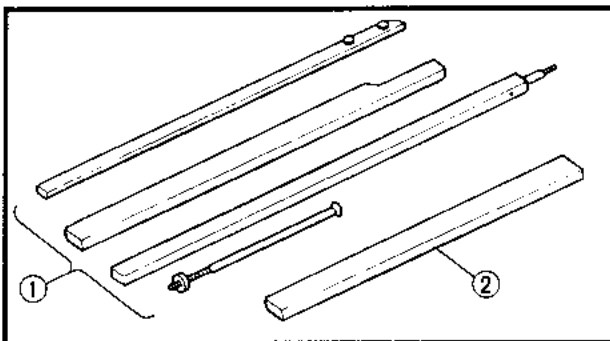
SPECIAL TOOLS

The some special tools are necessary for completely accurate tune-up and assembly. Using the correct special tool will help prevent damage that can be caused by the use of improper tools or improvised techniques.

NOTE:

Be sure to use the correct part number when ordering the tool, since the part number differs according to the area as shown below. The first part number is for Europe, and the last part is for the U.S.A. and Canada.

e.g. 90890 - ***** , YU- *****

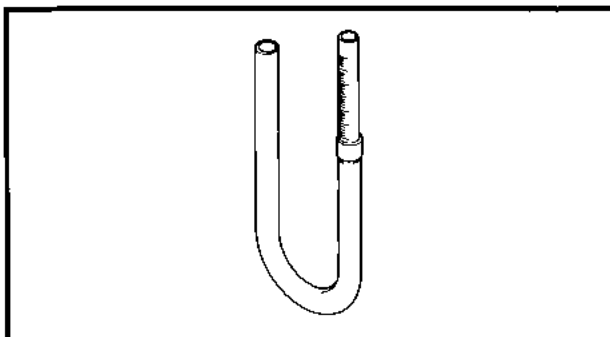
**FOR TUNE UP**

1. Sheave Gauge

P/N —, YS-91047-A ①

P/N —, YS-39501-1 ②

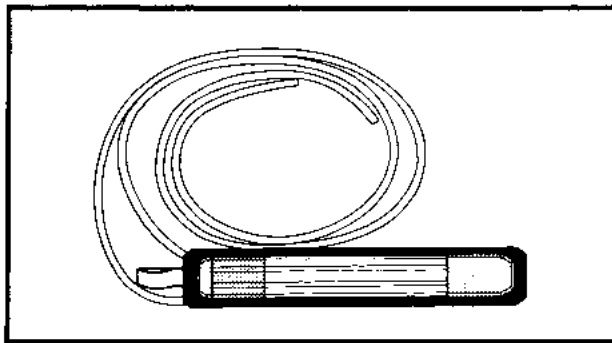
This gauge is used to measure sheave distance and for offset adjustment.



2. Fuel Level Gauge

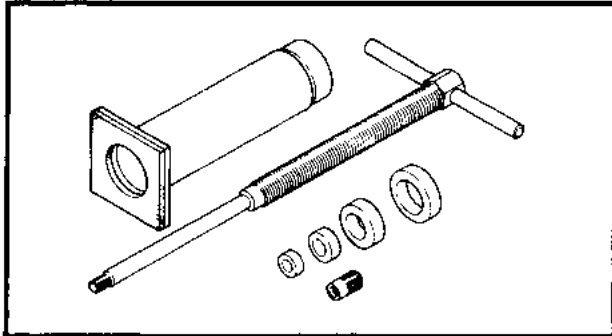
P/N 90890-01312, YM-01312-A

This gauge is used to measure the fuel level in the float chamber.



3. Vacuum Gauge
P/N —, YS-33275

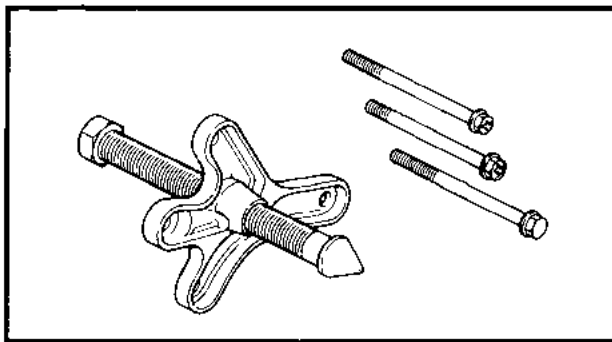
This gauge is used for carburetor synchronization.



FOR ENGINE SERVICE

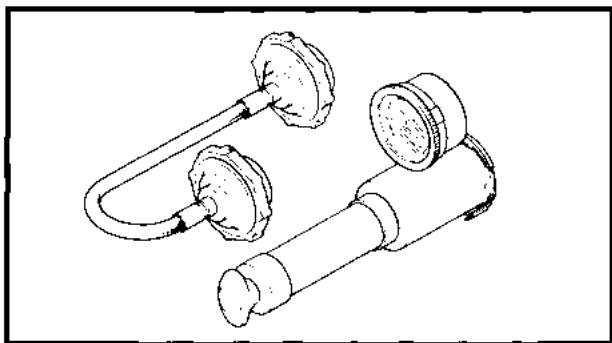
1. Piston Pin Puller
P/N 90890-01304, YU-01304

This tool is used to remove the piston pin.



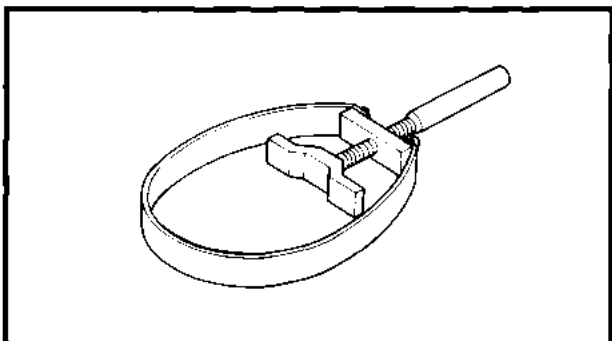
2. Rotor Puller
P/N 90890-01362, YU-33270

This tool is used to remove the magneto rotor.



3. Cooling System Tester
P/N 90890-01325, YS-22460-01

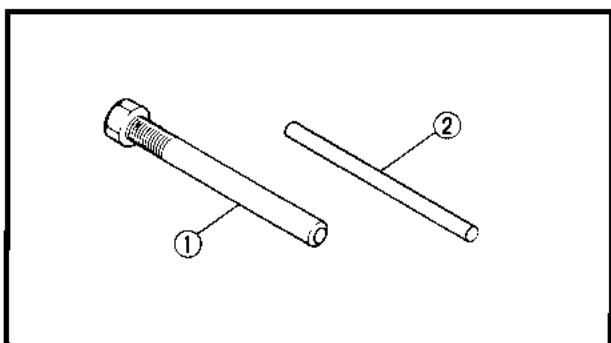
This tester is used for checking cooling system.



FOR POWER TRAIN SERVICE

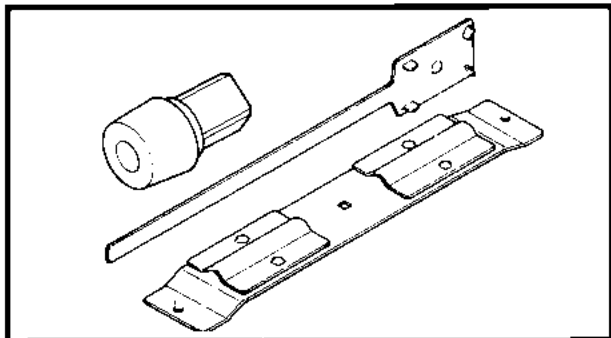
1. Primary Sheave Holder
P/N 90890-01701, YS-01880

This tool is used to hold the primary sheave.



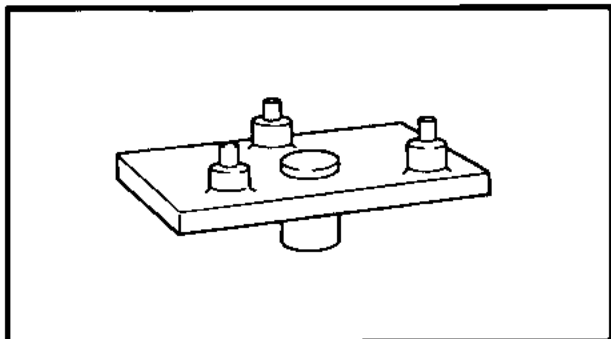
2. Primary Sheave Puller (18 mm)
P/N YS-01881-1 ①, YS-38517 ②

This tool is used for removing the primary sheave.



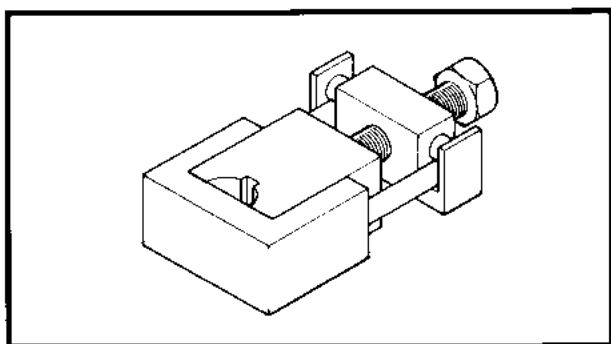
3. Clutch Spider Separator
P/N 90890-01711, YS-28890-B

This tools are used when disassembling and assembling the primary sheave.



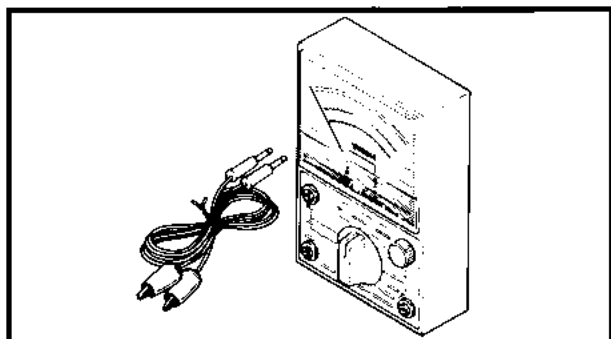
4. Clutch Separator Adapter
P/N 90890-01740, YS-34480

This tool is used when disassembling and assembling the primary sheave.



5. Track Clip Installer
P/N 90890-01721, YS-91045-A

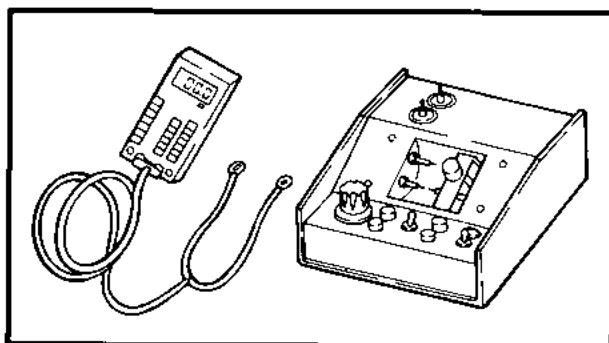
This tool is used for installing the track clip.



FOR ELECTRICAL SERVICE

1. Pocket Tester
P/N 90890-03112, YU-03112

This instrument is necessary for checking the electrical components.



2. Electro Tester

P/N 90890-03021, YU-33260-A

This instrument is invaluable for checking the electrical system.

1

CHAPTER 2. PERIODIC INSPECTIONS AND ADJUSTMENTS

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2E006

PERIODIC INSPECTIONS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable machine operation and a longer service life. In addition, the need for costly overhaul work will be greatly reduced. This information applies to machines already in service as well as new machines that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE TABLE

2

Item	Remarks	Pre-operation check (Daily)	First Month or first 800 km (500 Mi) (40 hr)	Every
				Season or 3,200 km (2,000 Mi) (160 hr)
Spark Plug:	Check condition adjust the gap and clean. Replace if necessary.			●
Engine Oil:	Check oil level. * Air bleed the oil pump if necessary.	●		●
* Oil Filter:	Check condition. Replace if necessary.			●
Fuel:	Check fuel level.	●		
* Fuel Filter:	Check condition. Replace if necessary.			●
* Fuel Line:	Check fuel hose for cracks or damage. Replace if necessary.			●
* Oil Line:	Check oil hose for cracks or damage. Replace if necessary.			●
Engine Coolant	Check coolant level. * Air bleed the cooling system if necessary.	●		●
Carburetor	Check throttle lever operation. * Adjust the jets.	●	Whenever operating condition (elevation/temperature) is changed.	
* Water Pump Belt	Check wear and damage. Replace if necessary. Adjust water pump belt if necessary.			● ●
Manual Starter:	Check operation and rope damage. * Replace if necessary.	●		
Engine Stop Switch:	Check operation * Repair if necessary.	●		
Throttle Override System:	Check operation. * Repair if necessary.	●		
Throttle Lever:	Check operation. * Repair if necessary.	●		
* Exhaust System:	Check for leakage. Retighten or replace gasket if necessary.			●
* Decarbonization:	More frequently if necessary.			●
Drive V-belt Guard:	Check cracks, bends or damage. * Replace if necessary.	●		
Drive V-belt:	Check wear and damage. Replace if necessary.	●		
Drive Track/Idler Wheels:	Check deflection, wear and damage. * Adjust/replace if necessary.		** ●	●
Slide Runner	Check wear and damage. * Replace if necessary.	●		●

* It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

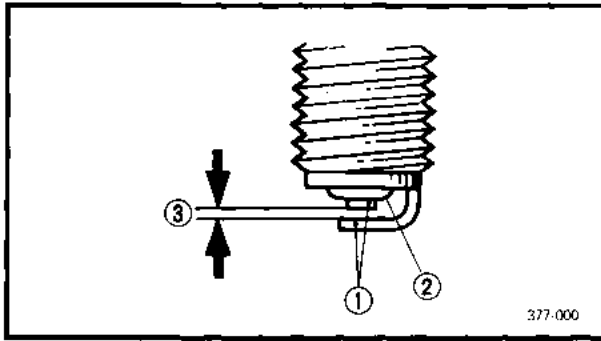
** Perform after 1 Month or 50 km (31 Mi) (2hr) and every 1 Month or 400 km (250 Mi)(20 hr).

PERIODIC MAINTENANCE TABLE



Item	Remarks	Pre-operation check (Daily)	First Month or first 800 km (500 Mi) (40 hr)	Every
				Season or 3,200 km (2,000 Mi) (160 hr)
Brake/ Parking Brake	Check operation.	●		
	* Adjust free play and/or replace pads if necessary.			●
* Drive Chain Oil	Check oil level.		●	
	Replace.			●
* Drive Chain:	Check deflection. Adjust if necessary.	Initial at 80 km (50 Mi) and every 800 km (500 Mi) there after		
Ski/Skicover/ Ski Runner	Check wear and damage.	●		
	* Replace if necessary.			●
Steering System	Check operation.	●		
	* Adjust toe-out if necessary.			●
Lights:	Check operation. Replace bulbs if necessary.	●		
Battery	Check fluid level.	●		
	* Check specific gravity and breather pipe operation. Charge/Correct if necessary.			●
	Check engagement and shift speed.			●
* Primary Sheave	Adjust if necessary.	Whenever operating elevation is changed.		
	Check wear and damage. Replace if necessary.			●
	Lubricate with specified grease.			●
	Adjust if necessary.	Whenever operating elevation is changed.		
* Secondary Sheave	Lubricate with specified grease.			●
	Adjust if necessary.	Whenever operating elevation is changed.		
* Steering Column Bearing:	Lubricate with specified grease.			●
* Ski and Front Suspension:	Lubricate with specified grease.			●
* Suspension Component:	Lubricate with specified grease.			●
* Brake Cable End and Lever End/ Throttle Cable End	Lubricate with specified grease.			●
	Check cable damage. Replace if necessary.			●
Shroud Latches:	Make sure the shroud latches are hooked.	●		
Fittings/Fasteners:	Check tightness. * Repair if necessary.	●		
Service Tools/Spare Parts:	Check proper placement.	●		

*: It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.



2E011

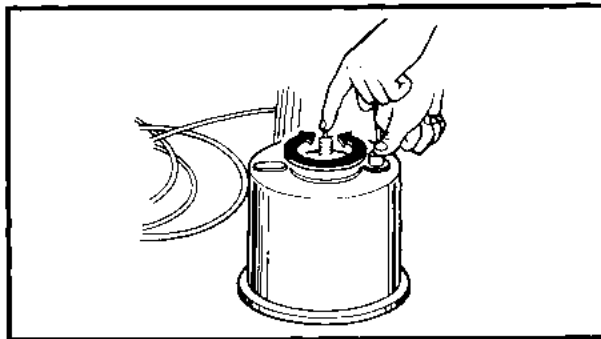
**ENGINE
SPARK PLUG**

1. Remove:
 - Spark plug
2. Inspect:
 - Electrode ①
Wear/Damage → Replace.
 - Insulator color ②
3. Measure:
 - Plug gap ③
Out of specification → Regap.
Use wire thickness gauge.

2



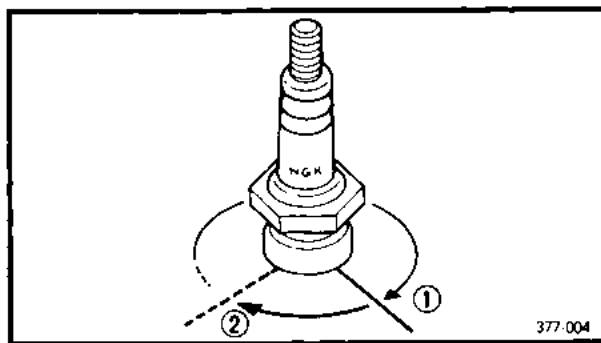
Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.032 in)



Clean the plug with a spark plug cleaner if necessary.

Standard spark plug:
BR9ES (NGK)

Before installing a spark plug, clean the gasket surface and plug surface.



4. Tighten:
 - Spark plug



Spark plug:
28 Nm (2.8 m · kg, 20 ft · lb)

NOTE:

Finger-tighten ① the spark plug before torquing ② to specification.



2E021

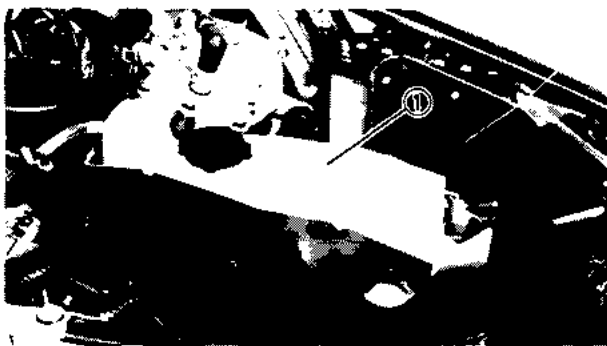
OIL PUMP**Air Bleeding****CAUTION:**

The oil pump and delivery line must be bled on the following occasions:

- When any portion of the oil system has been disconnected.
- When the machine has been turned on its side.
- Whenever the oil tank has been run empty.
- During predelivery.

1. Remove:

- Drive V-belt guard (see page 2-17)
- Carburetor (see page 7-2, 7-10)



2. Fill:

- Oil tank ①



Oil tank capacity
2.2 L (1.9 Imp qt, 2.3 US qt)

Recommended oil:
Yamalube 2-cycle oil

3. Place a rag under the oil pump assembly to catch oil.

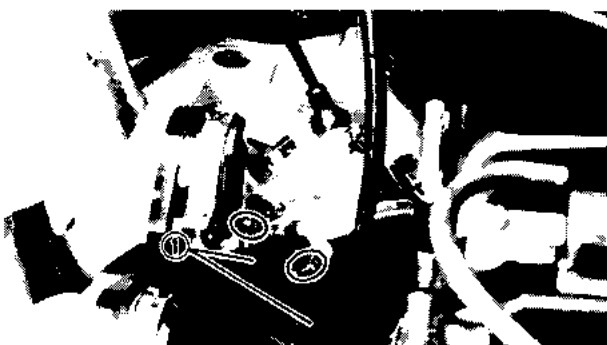
4. Disconnect:

- Oil hose ①

5. Keep the oil running out until air bubbles disappear from the oil hose ①.

6. Connect:

- Oil hose ①



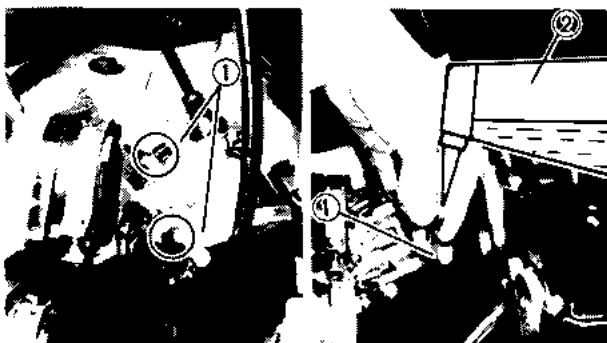
7. Disconnect:

- Oil delivery hoses ①

8. Feed the "Yamalube 2-cycle oil" into the oil delivery hoses ① using an oil can ② for complete air bleeding.

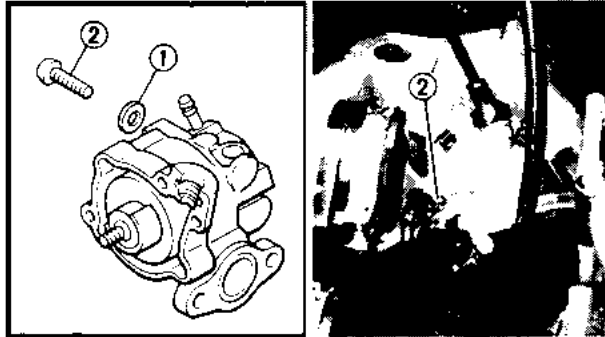
9. Connect:

- Oil delivery hoses ①



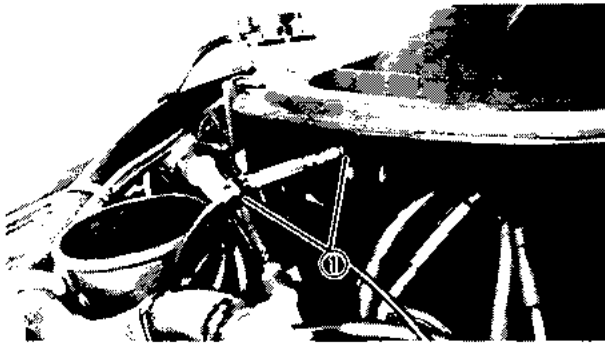


10. Remove:
 - Bleed screw ①
 - Gasket (bleed screw)
11. Keep the oil running out until air bubbles disappear from bleed hole.



12. Inspect:
 - Gasket ① (bleed screw)
 - Wear/Damage → Replace.

13. Install:
 - Gasket (bleed screw)
 - Bleed screw ②



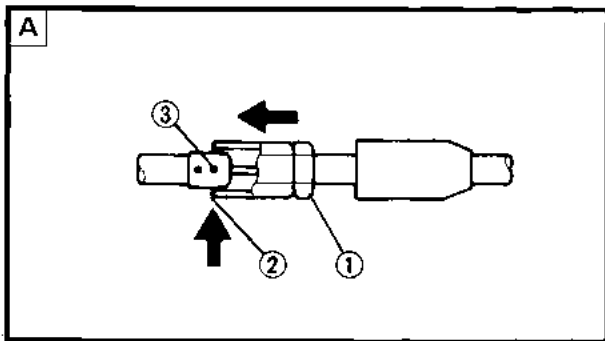
Cable Adjustment

NOTE:

Before adjusting the oil pump cable, the throttle cable free play should be adjusted.

Adjustment steps:

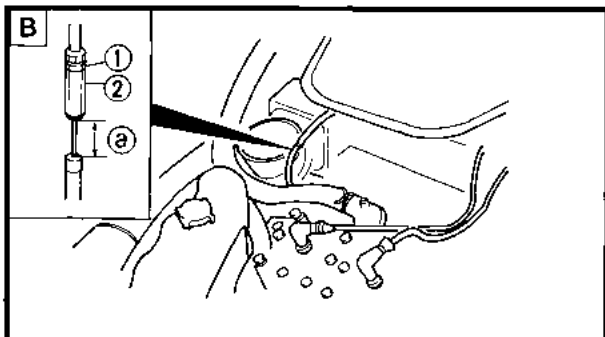
- Loosen the locknut ①.
- (For EX570(E)/ST) Hold the throttle lever at full-throttle position. Turn the adjuster ② in or out until the adjustment mark ③ is aligned with the end ④ of the adjuster.
- (For EX570SX) Turn the adjuster ② in or out until the specified free play is obtained.



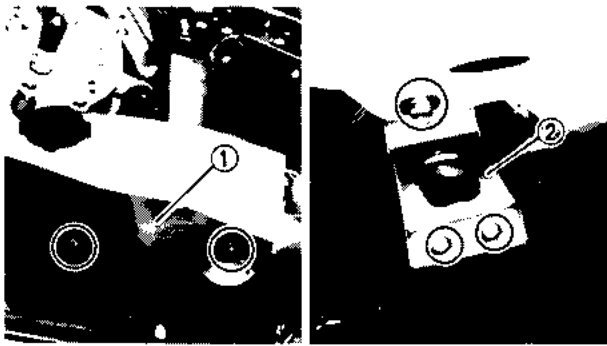
Free play @ :
For EX570SX:
23 ~ 25 mm (0.91 ~ 0.98 in)

Turning in	Free play is increased.
Turning out	Free play is decreased.

- Tighten the locknut and push in the adjuster cover.



- Ⓐ FOR EX570/E/ST
- Ⓑ FOR EX570SX



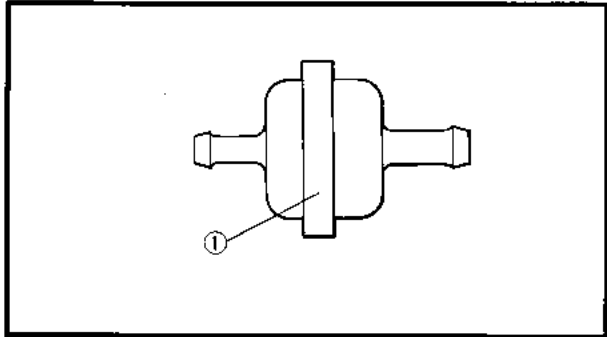
2E031

OIL FILTER INSPECTION

1. Remove:
 - Drive V-belt guard (see page 2-17)
 - Carburetor (see page 7-2, 7-10)
2. Remove:
 - Oil filter ①

NOTE: _____

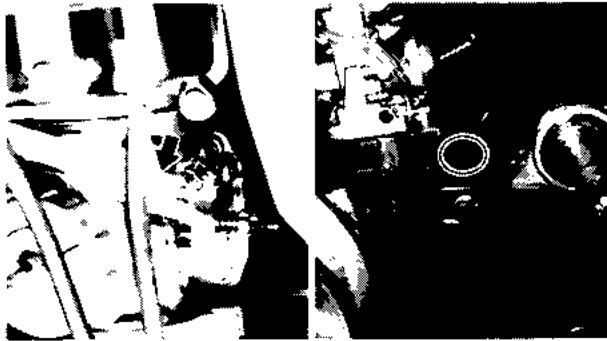
Plug the oil hoses so that the oil will not run out of the oil tank and oil pump.



3. Inspect:
 - Oil filter ①
 - Contamination → Replace.

**Recommended replacement interval:
Every season**

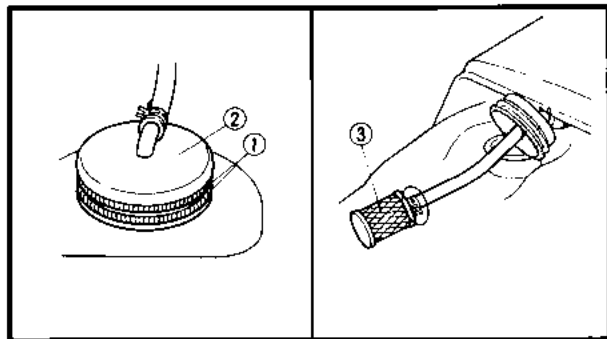
4. Reverse the removal procedure.



2E041

FUEL LINE INSPECTION

1. Inspect:
 - Fuel hoses
 - Fuel delivery hoses
 - Crack/Damage → Replace.



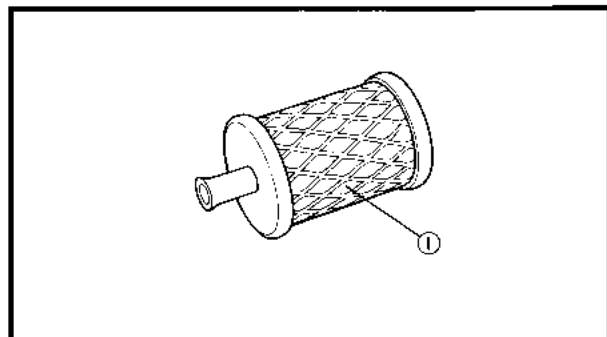
2E051

FUEL FILTER INSPECTION

1. Remove:
 - Seat
2. Disconnect:
 - Tail/brake light coupler
3. Remove:
 - Spring bands ①
 - Cap ②
 - Fuel filter ③
4. Inspect:
 - Fuel filter ①
 - Contamination → Replace.

**Recommended replacement interval:
Every season**

5. Reverse the removal procedure.





2E061

COOLING SYSTEM

Coolant Replacement

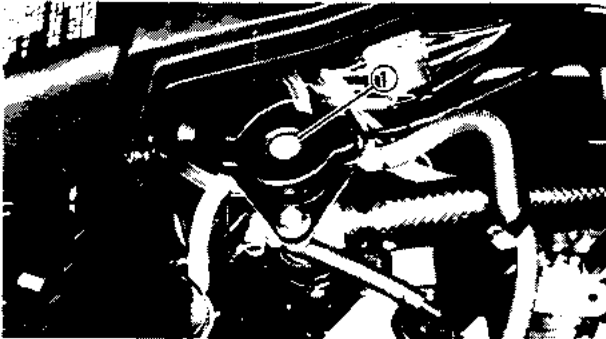
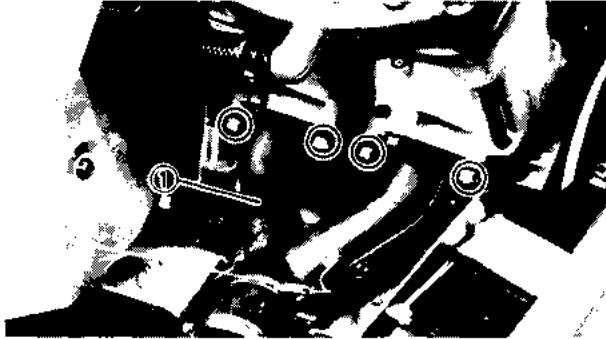
NOTE:

The coolant should be changed at least seasonally.

1. Place the machine on a level surface.

2. Remove:

- Side cowling (right)
- Seat
- Muffler
- Exhaust pipe



3. Remove:

- Coolant filler cap ①

⚠ WARNING

Do not remove the coolant filler cap ① when the engine is hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. When the engine has cooled, place thick rag like a towel over the radiator cap. Slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.

4. Place an open container under the drain bolts

①.

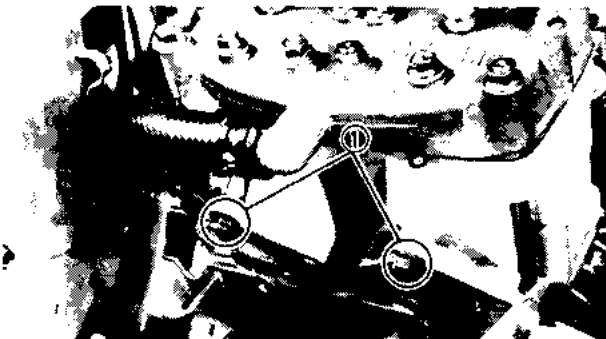
5. Remove:

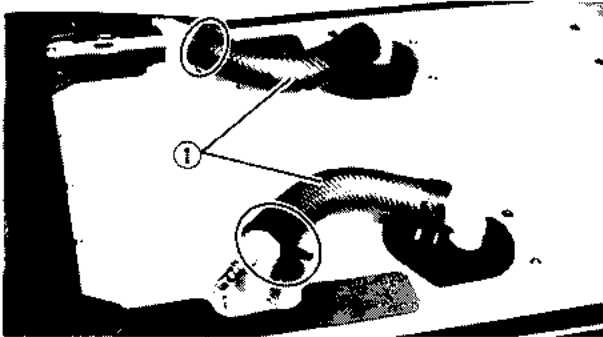
- Drain bolts

6. Drain the coolant.

NOTE:

Lift up the tail of the machine to drain the coolant.





7. Disconnect:
 - Coolant hoses ① (rear)
8. Drain the coolant.

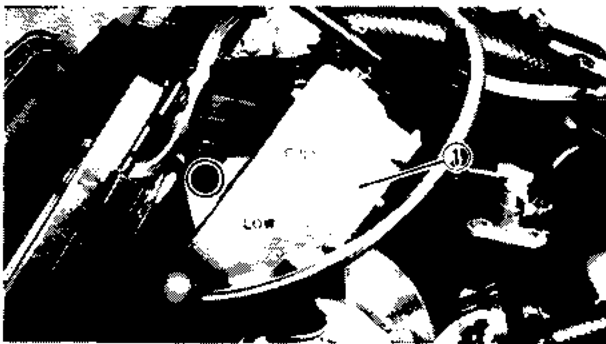
NOTE:

Lift up the front of the machine to drain the coolant completely.

⚠ WARNING

Coolant is poisonous. It is harmful or fatal if swallowed.

- If coolant is swallowed, induce vomiting immediately. Get immediate medical attention.
- If coolant splashes in eyes, flush with water. Call a physician.
- If coolant splashes on skin or clothes, wash immediately with soap and water.



9. Remove the reservoir tank ① and drain the coolant.
10. Install:
 - Reservoir tank
11. Inspect:
 - Gaskets (drain bolt)
Damage → Replace.
12. Install:
 - Gaskets
 - Drain bolts
 - Exhaust pipe/gaskets
 - Muffler

	Drain bolt:
	32 Nm (3.2 m · kg, 23 ft · lb)
	Bolts (exhaust pipe):
	23 Nm (2.3 m · kg, 17 ft · lb)

13. Fill:
 - Cooling system

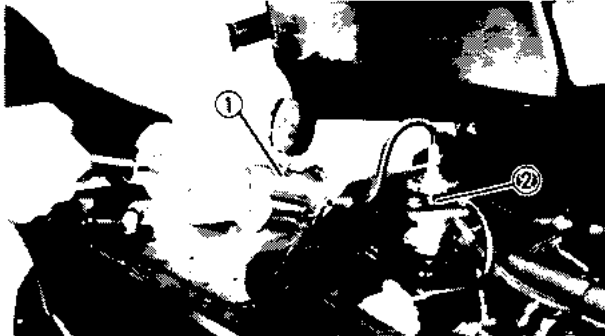
	Recommended Coolant:
	High quality ethylene glycol anti-freeze containing corrosion inhibitor
	Coolant and water mixed ratio:
	60% : 40%
	Total amount:
	EX570(E)/SX:
	4.2 L (3.7 Imp qt, 4.4 US qt)
	EX570ST:
	4.6 L (4.0 Imp qt, 4.9 US qt)
	Reservoir tank capacity:
0.25 L (0.22 Imp qt, 0.26 US qt)	



CAUTION:

- Hard water or salt water is harmful to the engine parts; use boiled or distilled water.
- Do not use water containing impurities or oil.

14. Bleed air from the cooling system.



15. Inspect:

- Cooling system
Decrease of pressure (leaks) → Repair as required. (see page 6-4)

Inspection steps:

- Attach the Cooling System Tester ① (90890-01325, YU-22460-01) to the coolant filler ②.
- Apply 100 kPa (1.0 kg/cm², 14 psi).
- Measure the pressure with gauge.

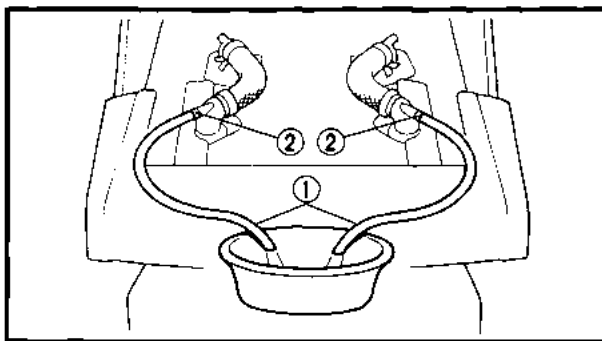
2E071

Air bleeding

1. Bleed air from the cooling system.

Air bleeding steps:

- Lift up the tail of the machine.
- Connect plastic tubes ① tightly to the bleed screws ② on the heat exchanger.
- Loosen the bleed screws ② of Heat exchanger.
- Keep the coolant running out until air bubbles disappear, while adding coolant slowly to the radiator.
- Tighten the bleed screws.

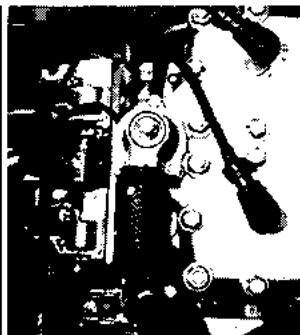
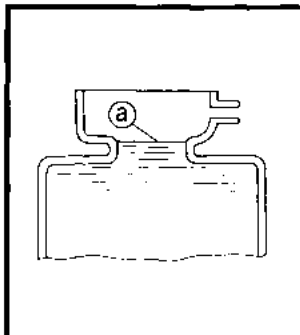


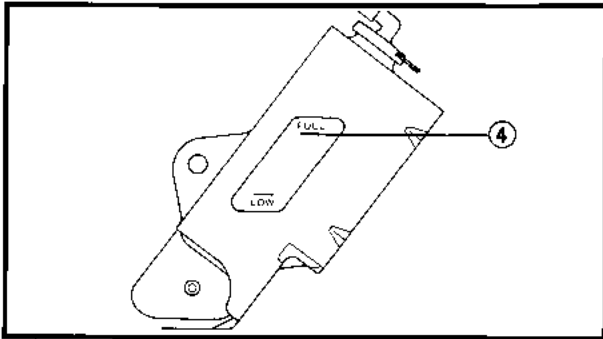
Bleed screw:
6 Nm (0.6 m · kg, 4.3 ft · lb)

- Add coolant to fill the specified level ③.
- Loosen the bleed bolt ③ on the water pump housing.
- Keep the coolant running out until air bubbles disappear.
- Tighten the bleed bolt.



Bleed bolt:
6 Nm (0.6 m · kg, 4.3 ft · lb)



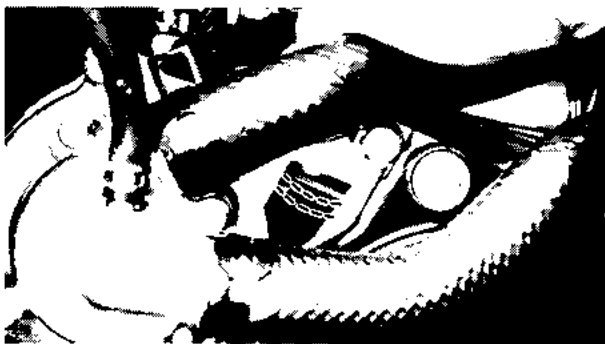


- Install the radiator cap.
- Apply and lock the parking brake. Start the engine and run it at approximately 2500 ~ 3000 rpm until the thermostat opens and the coolant circulates (approximately 3 ~ 5 minutes). The rear heat exchanger will be warm to the touch.

⚠ WARNING

To avoid severe injury or death:

- **Make sure the machine is securely supported with a suitable stand.**
 - **Do not exceed 3000 rpm. The machine could unexpectedly move forward if the clutch engages, or drive line damage and excessive V-belt wear could occur.**
 - **Operate the engine only in a well-ventilated area.**
-
- Remove the radiator cap and bleed air on the cooling system again, as shown in the steps above .
No air bubbles → OK.
 - Add coolant up to the specified level.
 - Pour coolant into the reservoir tank until the coolant level reaches "FULL" level mark ④ .



2E081

Water Pump Belt Deflection Adjustment

1. Remove:
 - Muffler
2. Check:
 - Drive belt deflection
Out of specification → Adjust.

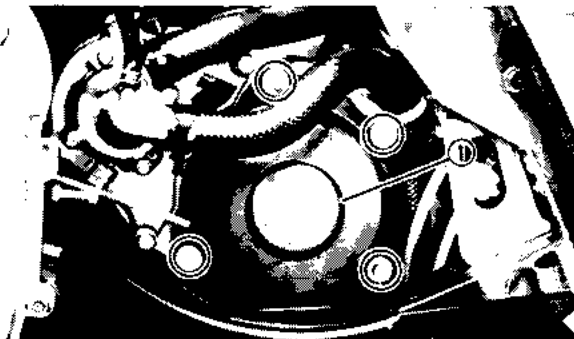


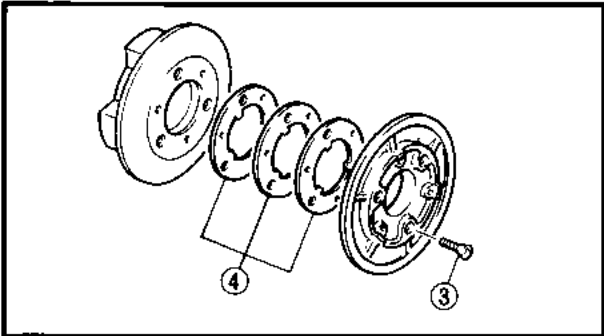
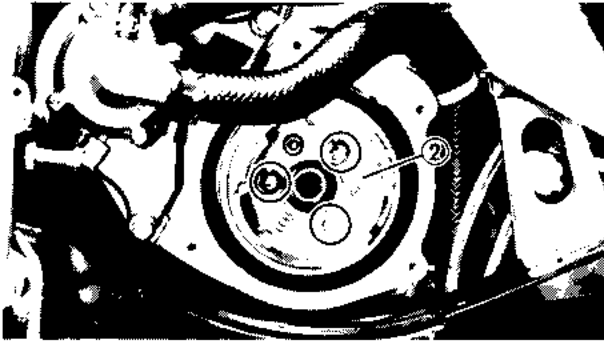
Drive belt deflection
 8 mm (0.31 in)/
 8 kg (17.6 lb)
 (NEW BELT)
 8 mm (0.31 in)/
 13 ~ 20 kg (28.7 ~ 44.1 lb)

3. Adjust:
 - Drive belt deflection

Adjustment steps:

- Remove the recoil stater ①.
- Attach the Primary Sheave Holder (90890-01701, YS-01880) to hold the primary sheave.





- Remove the starter pulley ②.
- Remove the screws ③ of the starter pulley.
- Adjust the drive belt deflection by adding or removing a shim ④.


Add shim	Tension becomes lower.
Remove shim	Tension becomes higher.

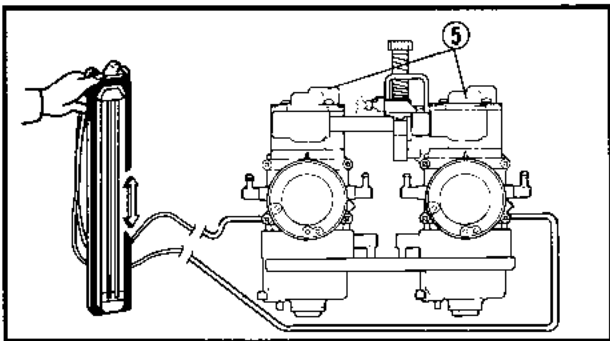
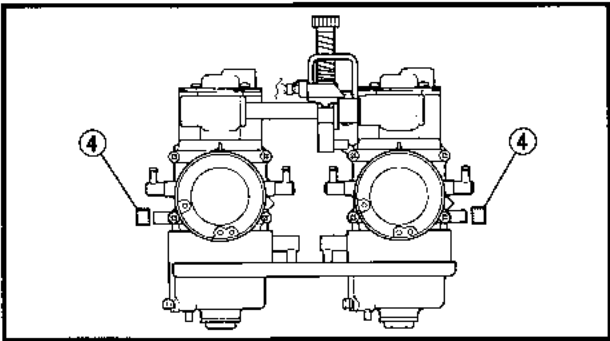
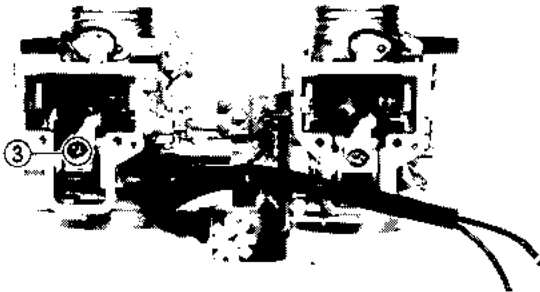
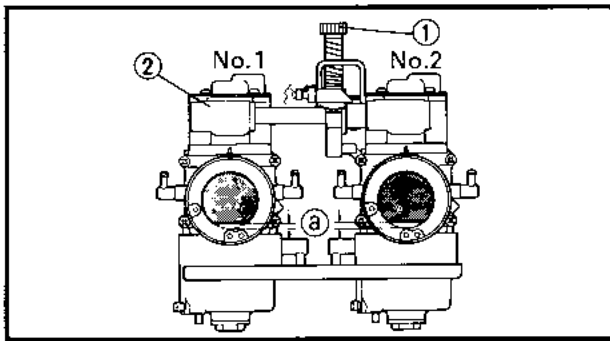
Shim size	
Part number	Thickness
82M-15721-00	0.5 mm (0.02 in)
82M-15722-00	1.0 mm (0.04 in)

- Install the starter pulley and drive belt.
- Recheck the drive belt deflection. If out of specification, readjust the drive belt deflection.

2

4. Tighten:

	Starter pulley bolt:
	23 Nm (2.3 m • kg, 17 ft • lb)
	Recoil starter bolt:
	10 Nm (1.0 m • kg, 7.2 ft • lb)



**(FOR EX570SX)
CARBURETOR SYNCHRONIZATION**

1. Remove:
 - Carburetor assembly
(See page 7-2, 7-11)
2. Adjust:
 - Carburetor synchronization

Adjustment steps:

- First adjust the throttle valve height (a) at the No. 2 carburetor by turning the throttle stop screw (1) until the specified height is obtained.

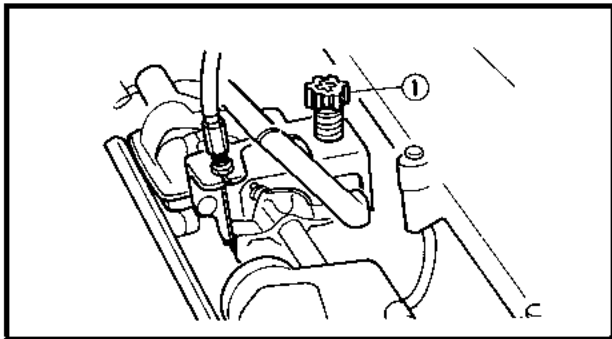
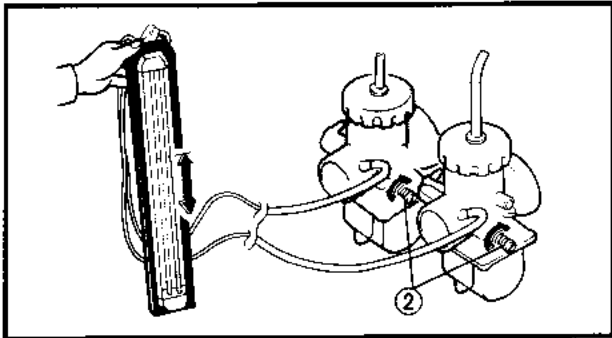
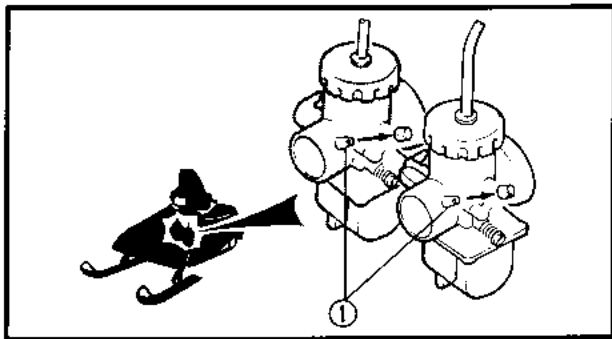


**Throttle valve height:
1.7 mm (0.067 in)**

- Second adjust the throttle valve height (a) on the No. 1 (2) carburetor with adjusting eccentric nut (3).
- Move the throttle lever 2 ~ 3 times.
- Make sure all the carburetor throttle valves are on the same height.
- Install the carburetor.
- Remove the rubber caps (4) from the carburetor vacuum fitting and connect the Vacuum Gauge Hose (YU-08030) to the fittings.
- Start the engine and let it warm up.
- If vacuum reading are not same, turn the adjusting eccentric nut (3) in or out so that the vacuum reading are the same.

NOTE:

When read the vacuum gauge, make sure carburetor covers (5) are installed.



2E102

ENGINE IDLE SPEED ADJUSTMENT

1. Adjust:

- Engine idle speed

Adjustment steps: (For EX570(E)/ST)

- Remove the rubber caps ① from the carburetor vacuum fittings and connect the Vacuum Gauge Hoses (—, YU-08030) to the fittings.
- Start the engine and let it warm up.
- Turn the throttle stop screws ② in or out so that the vacuum readings are the same.
- Turn the throttle stop screws in or out to adjust the engine idle speed.

Turning in	Idle speed becomes higher.
Turning out	Idle speed becomes lower.



Engine idle speed:
1,400 ~ 1,600 r/min

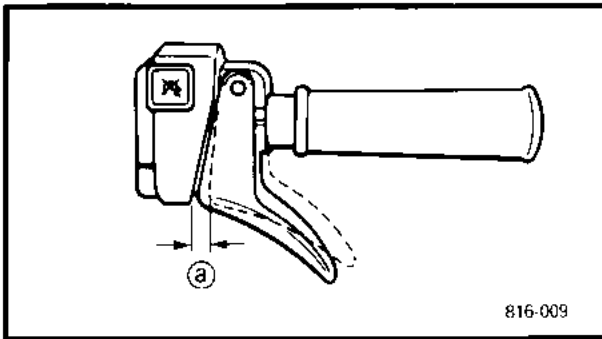
Adjustment steps: (EX570SX)

- Start the engine and let it warm up.
- Turn the throttle stop screw ① in or out to adjust the engine idle speed.

Turning in	Idle speed becomes higher.
Turning out	Idle speed becomes lower.



Engine idle speed:
1,400 ~ 1,600 r/min



2E131

THROTTLE CABLE ADJUSTMENT

NOTE:

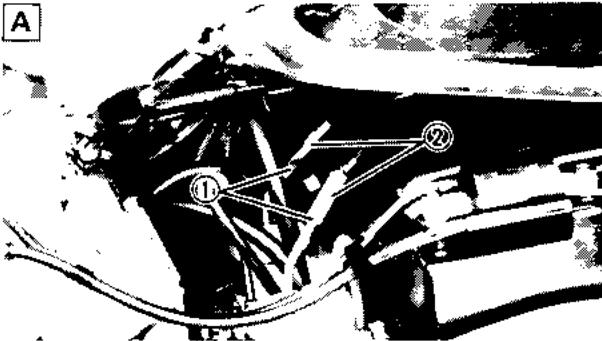
Before adjusting the throttle cable free play, the engine idle speed should be adjusted.

1. Measure:

- Throttle cable free play (a)
Out of specification → Adjust.



Throttle cable free play:
1.0 ~ 2.0 mm (0.04 ~ 0.08 in)



2. Adjust:

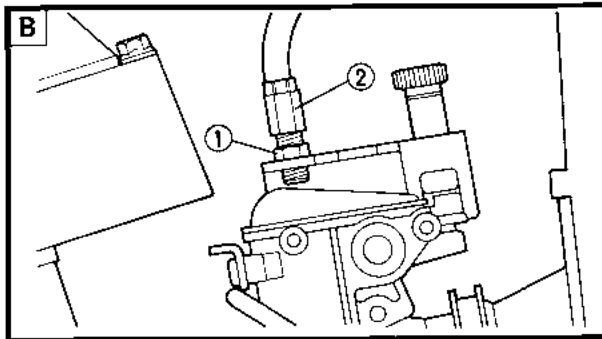
- Throttle cable free play

Adjustment steps:

- Loosen the locknut (1).
- Turn the adjuster (2) in or out until the specified free play is obtained.

Turning in	Free play is increased.
Turning out	Free play is decreased.

- Tighten the locknut.



A EX570/E/ST

B EX570SX

S-325

**THROTTLE OVERRIDE SYSTEM (T.O.R.S.)
CHECK**

⚠ WARNING

When checking T.O.R.S.:

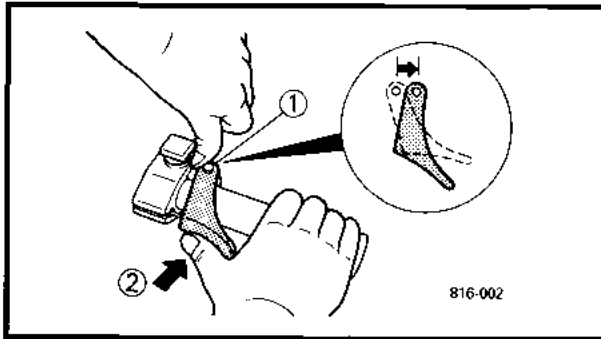
- Be sure the parking brake is applied.
- Be sure the throttle lever moves smoothly.
- Do not run the engine up to clutch engagement rpm. Otherwise, the machine could start moving forward unexpectedly, which could cause an accident.

2

1. Start the engine.

NOTE:

Refer to STARTING THE ENGINE.



2. Hold the pivot point of the throttle lever away from the throttle switch ①.

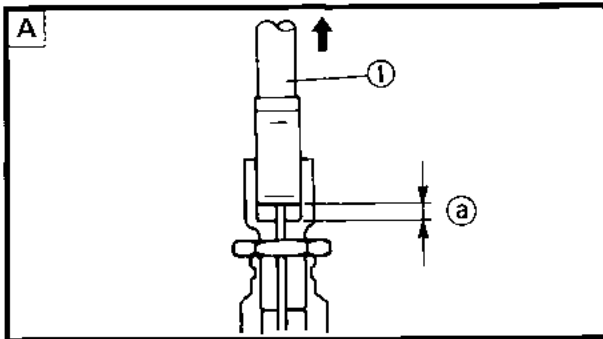
3. Press ② the throttle lever gradually. The T. O. R. S warning light should turn on and off and the engine should run between 2800 and 3000 rpm.

⚠ WARNING

If the engine does not run between 2800 and 3000 rpm, stop the engine by turning the main switch to "OFF" position and consult a Yamaha dealer.

STARTER (CHOKE) CABLE ADJUSTMENT

**INSP
ADJ**



STARTER (CHOKE) CABLE ADJUSTMENT

1. Pull the outer tube of starter cable ① upward.
2. Measure:
 - Starter cable free play ②
 - Out of specification → Adjust.



Free play ② :
0.5 ~ 1.5 mm (0.02 ~ 0.06 in)



3. Adjust:
 - Starter cable free play

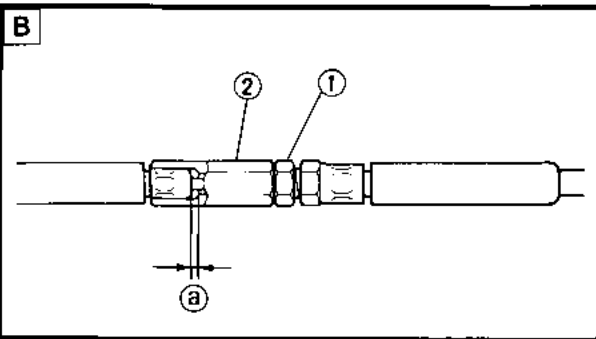
Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② in or out until the specified free play is obtained.

Turning in	Free play is increased.
------------	-------------------------

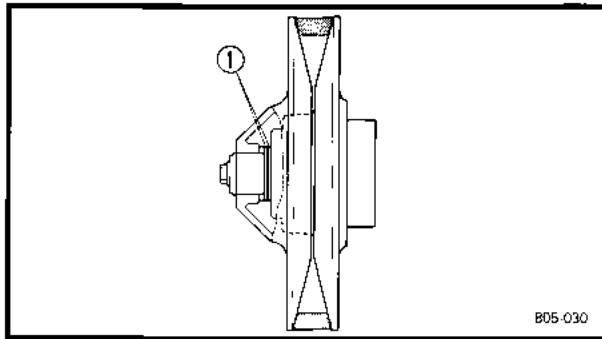
Turning out	Free play is decreased.
-------------	-------------------------

- Tighten the locknut and push in the adjuster cover.



A FOR EX570/E/ST

B FOR EX570SX



805-030

2E141

**POWER TRAIN
DRIVE V-BELT**

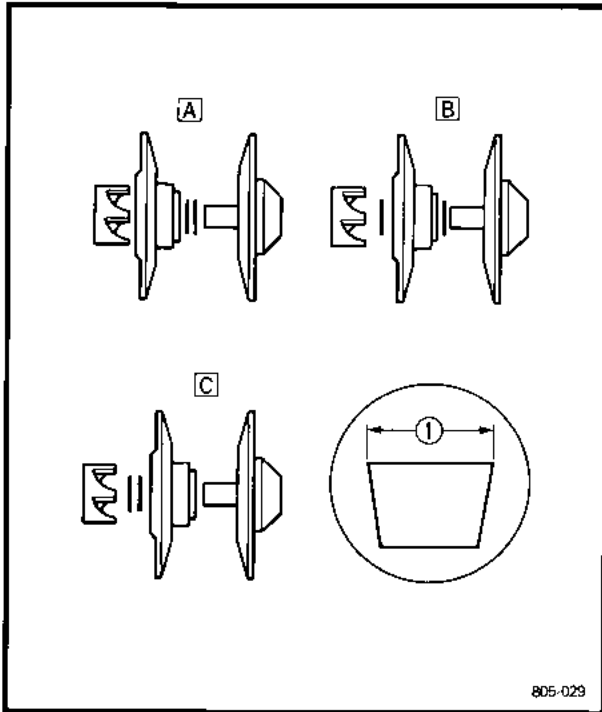
⚠ WARNING

- Be sure there are shims (2 pcs) ① between secondary fixed and sliding sheaves when installing the NEW belt.
- If there is no gap, the clutch engagement speed will be reduced. The machine may move unexpectedly when the engine is started.
- The spacer of the secondary sheave should be adjusted.

CAUTION

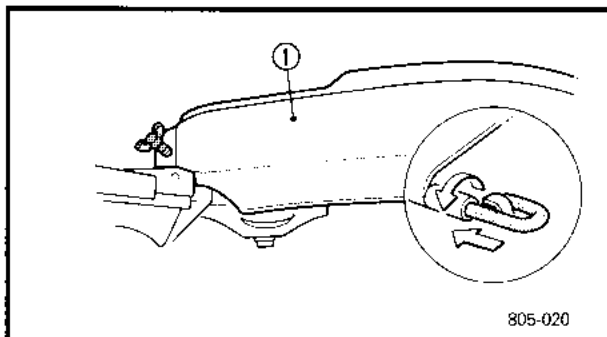
To ensure proper clutch performance, the spacers in the secondary clutch must be repositioned as the V-belt wears.

2



805-029

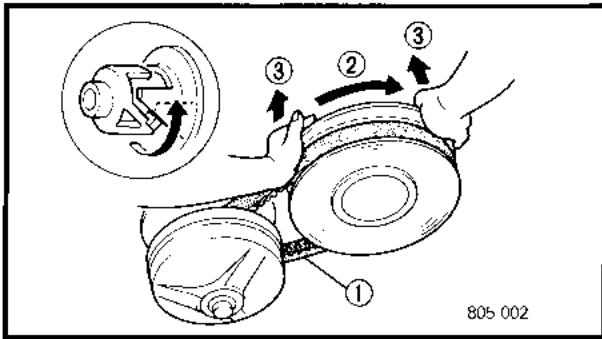
	V-belt width ①	Number of spacers
A	35 mm (1.38 in) or more	2 spacers
B	34 mm (1.34 in)	1 spacer
C	33 mm (1.30 in)	No spacer
	32 mm (1.25 in) or less	Replace the V-belt



805-020

1. Remove:

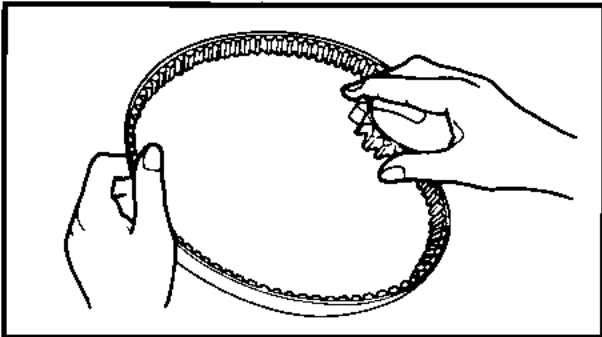
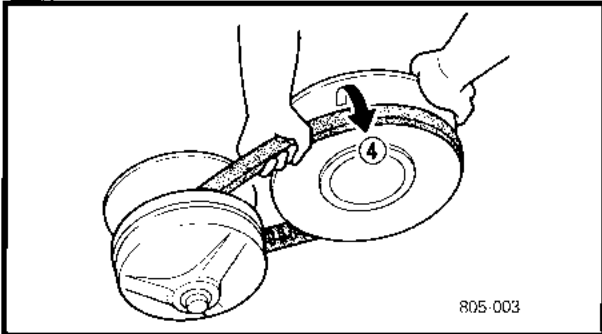
- Drive V-belt guard ①



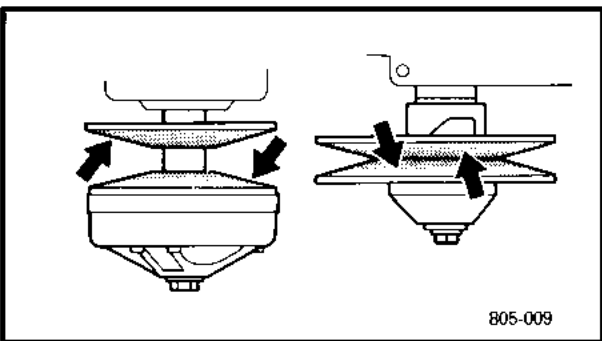
2. Remove:
- Drive V-belt ①

Removal steps:

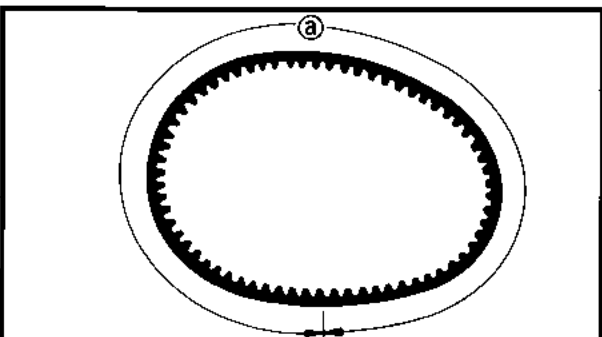
- Rotate the secondary sliding sheave clockwise ② and push it ③ so that it separates from the fixed sheave.
- Pull ④ the belt up over the secondary fixed sheave.
- Remove the belt from the secondary sheave and primary sheave.




3. Inspect:
- Drive V-belt
Crack/Wear/Damage → Replace.
Oil or grease adhered to the V-belt → Check the primary and secondary sheaves.



4. Inspect:
- Primary sheave
 - Secondary sheave
Oil or grease adhered to the primary and secondary sheaves → Remove the oil or grease using a rag soaked in lacquer thinner or solvent. Check the primary and secondary sheaves.



5. Measure:
- Drive V-belt length (a)
Out of specification → Replace.

 **Drive V-belt length:**
1,130 ~ 1,118 mm (44.5 ~ 44.0 in)



2E201

ENGAGEMENT SPEED CHECK

1. Place the machine on a level area of hard packed snow.
2. Check:
 - Clutch engagement speed

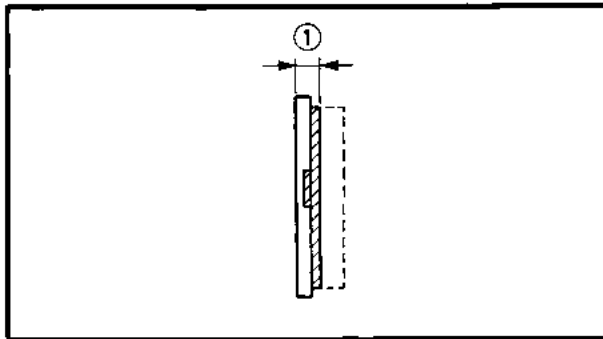
Checking steps:

- Start the engine, and open the throttle lever gradually.
- Check the engine speed when the machine starts moving forward.
Out of specification → Adjust the primary sheave. (see page 2-42)



Engagement speed:
Approx 3,800 r/min (EX570(E)/ST)
Approx 3,900 r/min (EX570SX)

2



2E161

BRAKE PAD INSPECTION

1. Apply the brake lever.
2. Measure:
 - Brake pad thickness @
Out of specification → Replace brake pad as a set. (see page 4-21)

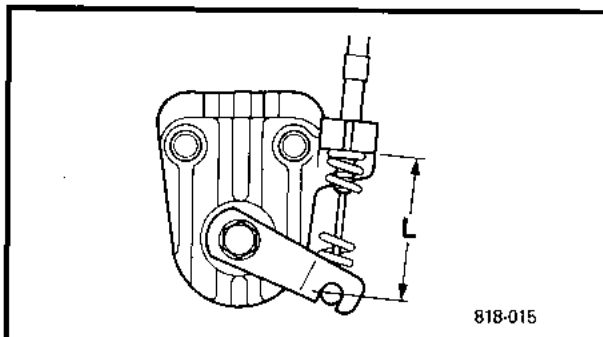


Wear limit:
9.5 mm (0.37 in)

BRAKE ADJUSTMENT

NOTE:

Adjust brake every 40 hours of operation, or whenever the brake lever becomes loose during operation.

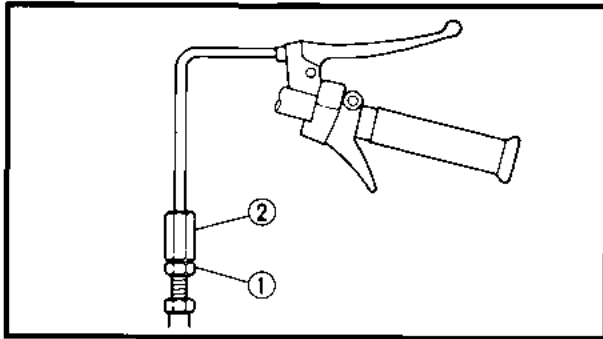


1. Measure:
 - Distance "L"
Out of specification → Adjust.



Distance "L"
57 mm (2.24 in)

2. Adjust:
 - Distance "L"



Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② in or out until specified distance is obtained.

Turning in	Distance "L" is increased.
------------	----------------------------

Turning out	Distance "L" is decreased.
-------------	----------------------------

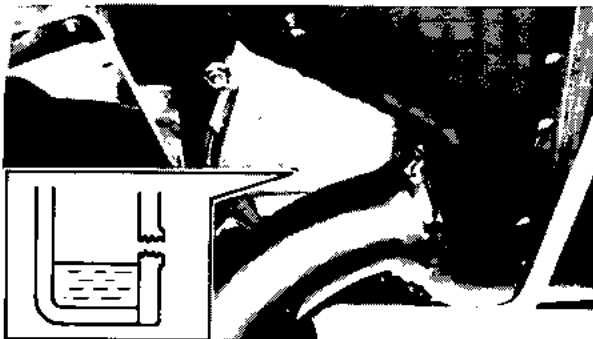
- Tighten the locknut ①.

2E171

DRIVE CHAIN

Oil Level Inspection

1. Place the machine on a level surface.
2. Remove:
 - Muffler
3. Place a rag under the checking hole ① (oil level).
4. Remove:
 - Checking bolt ②
 - Gasket (checking bolt)
5. Inspect:
 - Oil level (drive chain housing)
Oil flows out → Oil level is correct.
Oil does not flow out → Oil level is low.
Add oil until oil flows out.



	<p>Recommended oil: Gear oil API GL-3 SAE #75 or #80</p>
--	---

6. Inspect:
 - Gasket (checking bolt)
Damage → Replace.

7. Tighten:

	<p>Checking bolt: 10 Nm (1.0 m • kg, 7.2 ft • lb)</p>
--	--



Oil Replacement

Oil replacement step:

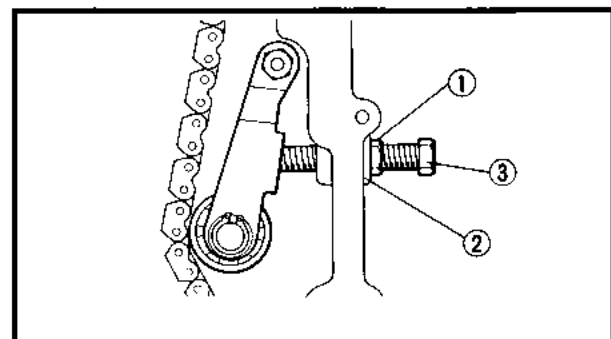
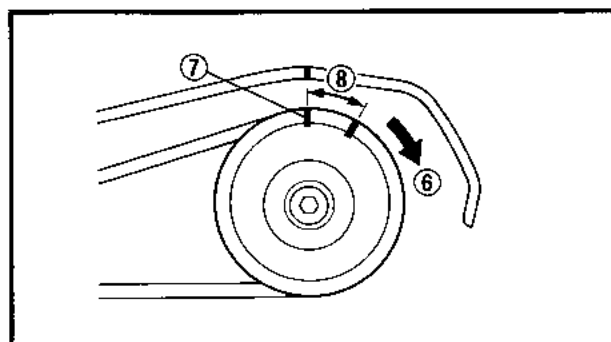
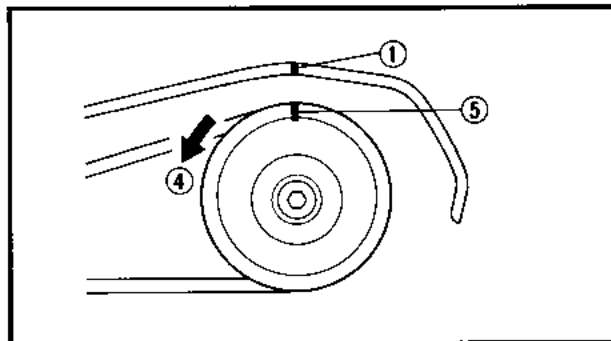
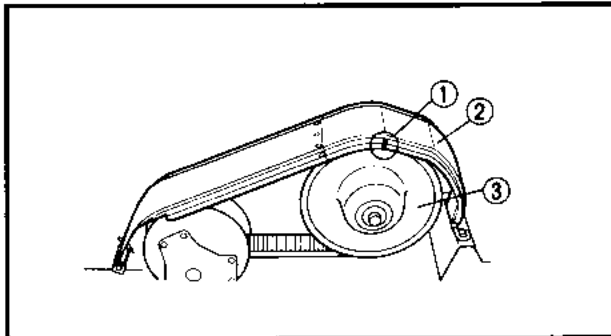
- Warm up the engine for several minutes.
- Remove the Muffler.
- Place some rags under the chain housing and place a small gutter to channel the oil to the hole.
- Remove the chain housing ①.
- Drain the oil.

CAUTION:

Be sure to remove any oil from the heat protector ⑤.



Recommended oil:
Gear oil API GL-3 SAE #75 or #80
Oil capacity:
250 cm³ (8.8 Imp oz, 8.5 US oz)



2

Checking Chain Tension

Proper chain tension can be checked by measuring the amount of free turning movement ("free play") in the secondary sheave.

NOTE:

Release parking brake.

1. Make a reference mark ① on the drive V-belt guard ② above the secondary sheave ③. Turn the secondary sheave counterclockwise ④ by hand until it stops. Mark ⑤ the sheave next to the reference mark on the guard.
2. Turn the secondary sheave clockwise ⑥ by hand until it stops. Mark ⑦ the sheave again next to the reference mark on the guard.
3. Measure the distance ⑧ between the marks on the sheave.
⑧ Free turning movement distance.

**Maximum Free Turning:
Movement: 9 mm (0.35 in)**

NOTE:

There will always be at least 4 mm (0.16 in) of movement due to drive line slack.

4. If free play is excessive, follow adjustment procedures.

2E182

Chain Slack Adjustment

1. Adjust:
 - Drive chain slack

Adjustment steps:

- Loosen the locknut ① and unthread sealing washer ② slightly.
- Turn the adjuster ③ in finger tight.
- Tighten the locknut. Recheck secondary sheave movement. Repeat adjustment steps 1 through 4 if necessary.

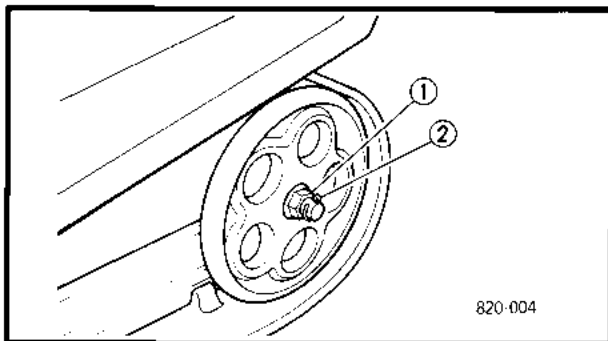
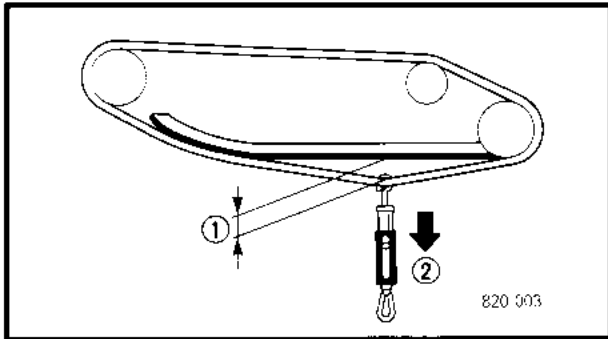
2E151

TRACK TENSION ADJUSTMENT


⚠ WARNING

A broken track, track fittings, or debris thrown by the track could be dangerous to an operator or bystanders. Observe the following precautions.

- Do not allow anyone to stand behind the machine when the engine is running.
- When the rear of the machine is raised to allow the track to spin, a suitable stand must be used to support the rear of the machine. Never allow anyone to hold the rear of the machine off the ground to allow the track to spin. Never allow anyone near a rotating track.
- Inspect track condition frequently. Replace the track if it is damaged to the depth where fabric reinforcement material is visible.
- Never install studs (cleats) closer than three inches to the edge of the track.



1. Place the machine with the right side facing down.
2. Measure:
 - Track deflection ①
Pull at the track center window exerting a force of 10 kg (22 lb) using a spring scale.
Out of specification → Adjust.



Track deflection:
25 ~ 30 mm/10 kg
(0.98 ~ 1.18 in/22 lb)

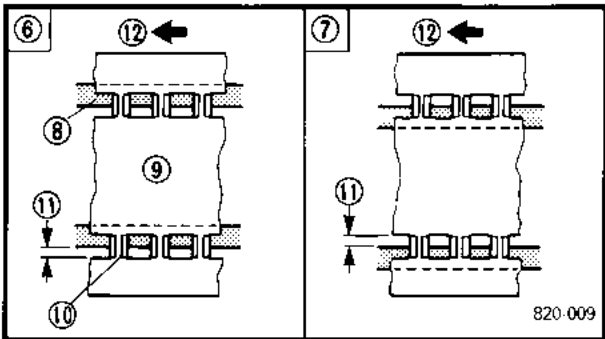
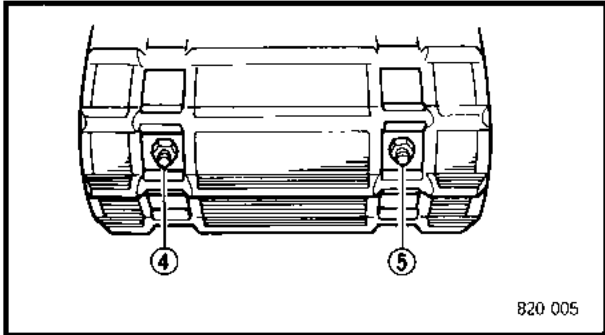
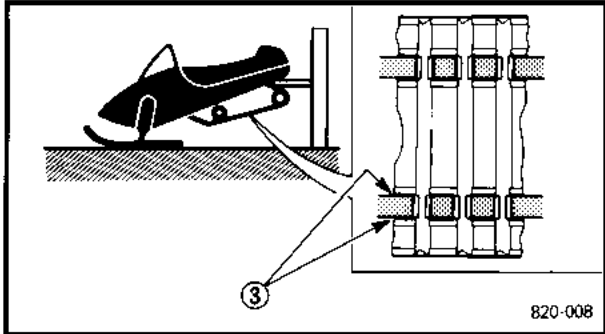
3. Adjust:
 - Track deflection

Adjustment steps:

- Lift the rear of the machine onto a suitable stand to raise the track off the ground.
- Loosen the rear axle nut ①.

NOTE:

It is not necessary to remove the cotter pin ②.



- a. Start the engine and rotate the track one or two turns. Stop the engine.
- b. Check the track alignment with the slide runner ③.
If the alignment is incorrect, turn the left and right adjusters to adjust.

Track alignment	⑥ Shifted to right	⑦ Shifted to left
④ Left adjuster	Turn out	Turn in
⑤ Right adjuster	Turn in	Turn out

- ⑧ Slide runner ⑨ Track
⑩ Track metal ⑪ Gap ⑫ Forward

- c. Adjust track deflection to the specified amount.

Track deflection	More than specified	Less than specified
④ Left adjuster	Turn in	Turn out
⑤ Right adjuster	Turn in	Turn out

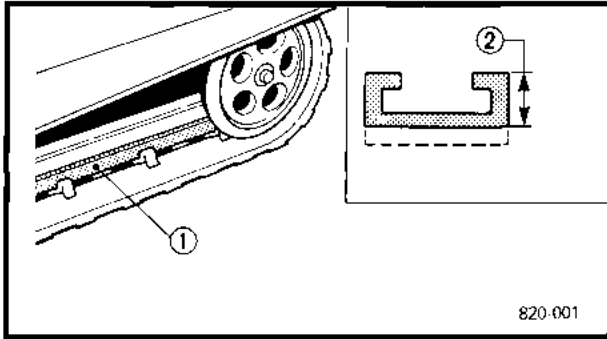
CAUTION:

The adjusters should be turned an equal amount.

- Recheck alignment and deflection. If necessary, repeat steps a to c until proper adjustment is achieved.
- Tighten the rear axle nut.




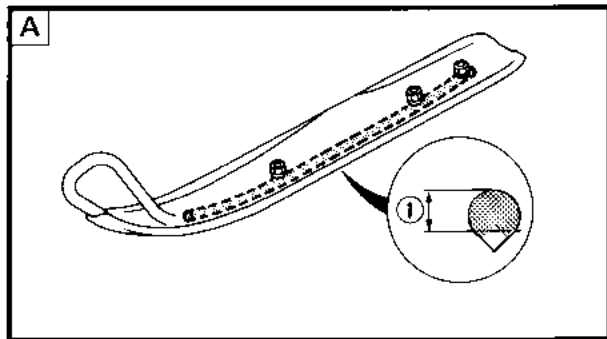
Rear axle nut:
75 Nm (7.5 m • kg, 54 ft • lb)



SLIDE RUNNER INSPECTION

1. Inspect:
 - Slide runner ①
Cracks/Damage/Wear→Replace.
2. Measure:
 - Slide runner thickness ②
Out of specification→Replace.
(see page 4-29)

	<p>Wear limit: 10 mm (0.39 in)</p>
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2E212

CHASSIS
SKI/SKI RUNNER

1. Check:

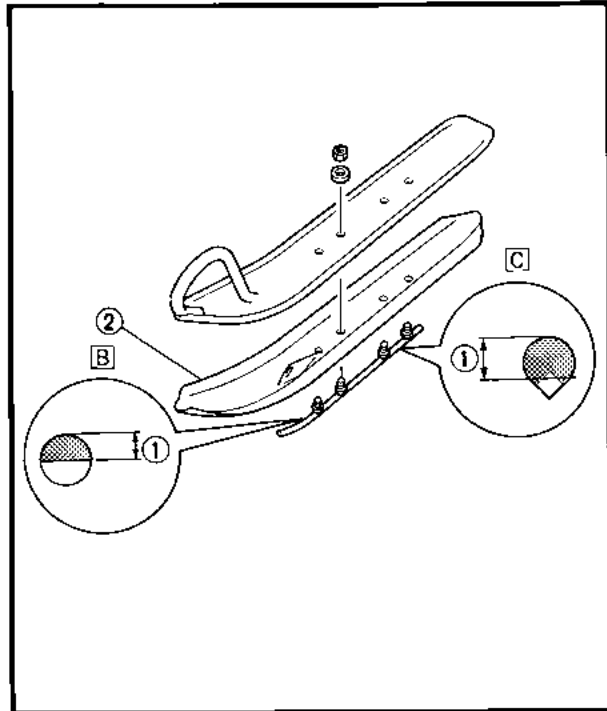
- Ski ①
- Ski runner ②
- Ski cover ③

Wear/Damage → Replace.



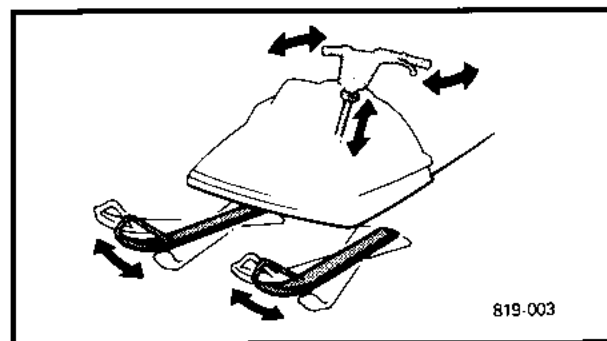
Ski runner wear limit ①:

- A** EX570/E (carbide)
8 mm (0.31 in)
- B** EX570SX (carbide)
8 mm (0.31 in)
- C** EX570ST (standard)
4.5 mm (0.18 in)



CAUTION:

Do not operate the machine without the ski cover ③ to prevent the ski wear and damage.



2E221

STEERING SYSTEM

Free Play check

1. Check:

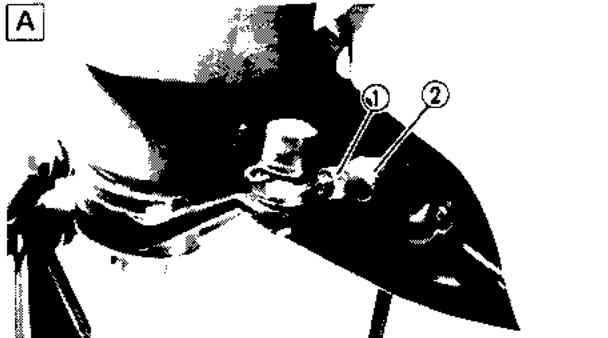
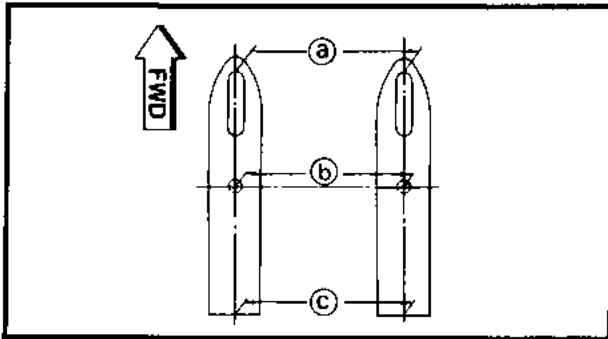
- Steering system free play

Push the handlebar up and down and back and forth.

Turn the handlebar slightly to the right and left.

Excessive free play → check to be sure the handlebar, tie rod ends and relay rod ends are installed securely in position. If free play still exists, check the steering bearing front suspension links and ski mounting area for wear, and replace if necessary.

(see page 3-5)



2E231

Toe-Out Adjustment

1. Place the machine on a level surface.
2. Check:
 - Ski toe-out
Direct the skis straight forward.
Out of specification → Adjust.



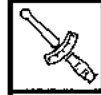
Ski toe - out (a - c):
0.0 ~ 15.0 mm (0.0 ~ 0.6 in)

Ski stance (b) (center to center):
EX570(E)/ST:
920 mm (36.2 in)
EX570SX:
980 mm (38.6 in)

3. Adjust:
 - Ski toe-out

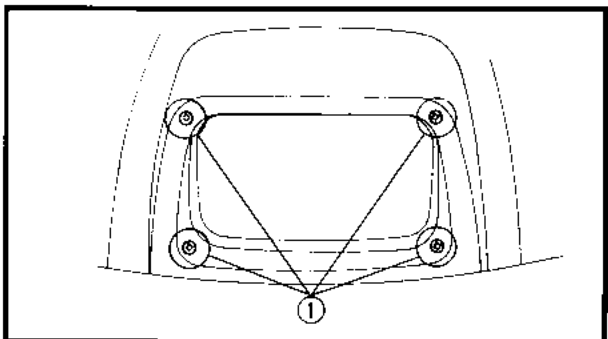
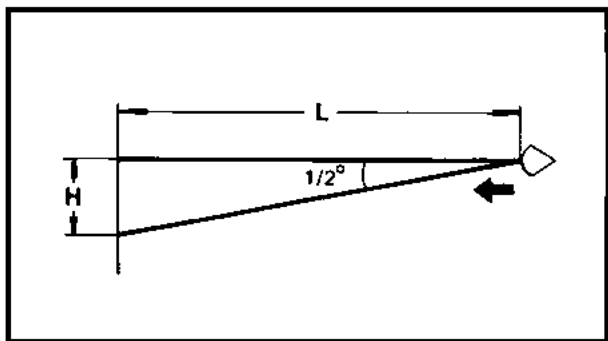
Adjustment steps:

- Loosen the locknuts ① (tie rod).
- Turn the relay rod ② in or out until the specified toe-out is obtained.
- Tighten the locknuts ① (tie rod).



Locknut (tie rod):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®

- A** Left side
- B** Right side



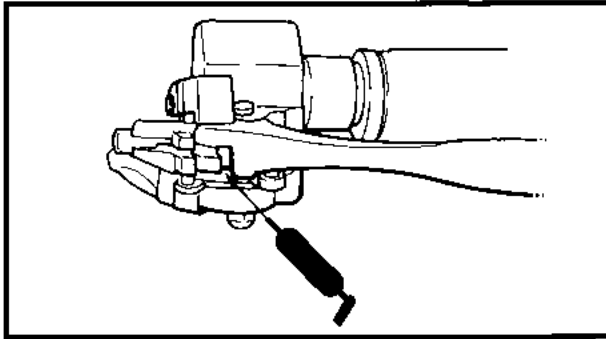
2E241

HEADLIGHT BEAM ADJUSTMENT

1. Place the machine on a level surface.
2. Inspect:
 - Headlight beam direction
The high beam should be directed downwards at an angle of 1/2° to the horizontal . If not, adjust the direction.

L	3.0 m (10 ft)	7.6 m (25 ft)
H	26 mm (1.0 in)	66 mm (2.6 in)

3. Adjust:
 - Headlight beam direction
Adjust the headlight beam by tightening or loosening the adjusters ①.

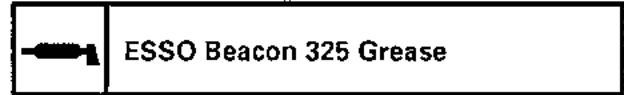


2E251

LUBRICATION

Brake Lever, Brake Cable End and Throttle Lever

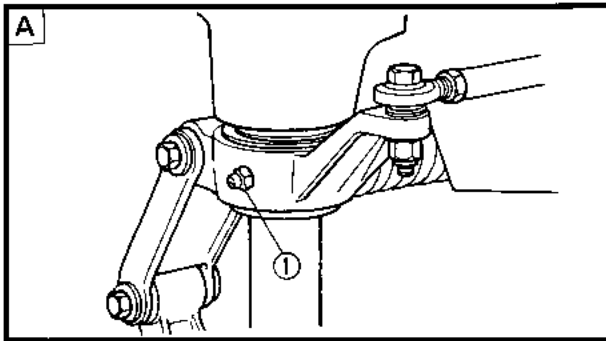
1. Lubricate the brake lever pivot, brake cable end and throttle lever.



⚠ WARNING

Apply a dab of grease to the cable end only. Do not grease the brake/throttle cables themselves because they could become frozen, which could cause loss of control.

2



2E261

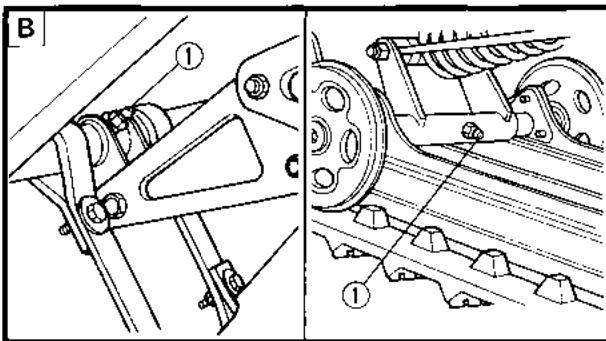
LUBRICATION

Front and Rear Suspension

1. Inject grease through nipples ① using a grease gun.



- A** Front
- B** Rear



2E271

TUNING

CARBURETOR TUNING

The carburetor is set at the factory to run at temperatures of 0°C ~ -20°C (32°F ~ -4°F) at sea level. If the machine has to be operated under conditions other than those specified above, the carburetor must be reset as required. Special care should be taken in carburetor setting so that the piston will not be damaged or seized.

CAUTION:

In this model, the engine oil is mixed with the fuel just before the fuel enters the carburetors. During initial fuel flow to the carburetor it is not always possible to supply the optimum fuel/oil mixture depending on the throttle opening. Therefore, after the carburetors have been tuned or maintained, or after the float chamber is removed for cleaning or jet replacement, be sure to idle the engine for about three minutes in order to avoid engine trouble.

CAUTION:

Before performing the carburetor tuning, make sure that the following items are set to specification.

- Engine idle speed adjustment
- Throttle cable free play adjustment
- Carburetor synchronization
- Starter cable adjustment
- Oil pump cable free play adjustment

Carburetor Tuning Data

1. Standard specifications (For EX570(E)/ST)

Model	VM38 X 2
Manufacturer	MIKUNI
I.D. Mark	(L) 88R-00L (R) 88R-00R
Main jet (M.J.)	# 310
Pilot jet (P.J.)	# 42.5
Jet needle (J.N.)	6FL 82-3
Pilot screw (P.S.)	5/8 turns out
Float height	17.1 ~ 19.1 mm (0.67 ~ 0.75 in)
Idle speed	1,400 ~ 1,600 r/min

1. Standard specifications (For EX570SX)

Model	TM38 X 2
Manufacturer	MIKUNI
I.D. Mark	8AY00L/8AY00R
Main jet (M.J.)	# 155
Pilot jet (P.J.)	# 55
Main air jet (M.A.J.)	Ø 2.5
Air screw (A.S.)	1 1/2 turns out
Float height	21.3 ~ 23.3 mm (0.84 ~ 0.92 in)
Idle speed	1,400 ~ 1,600 r/min



2E281

Middle-Range and High Speed Tuning

No adjustment is normally required, but adjustments may sometimes be necessary, depending on temperatures and/or altitude.

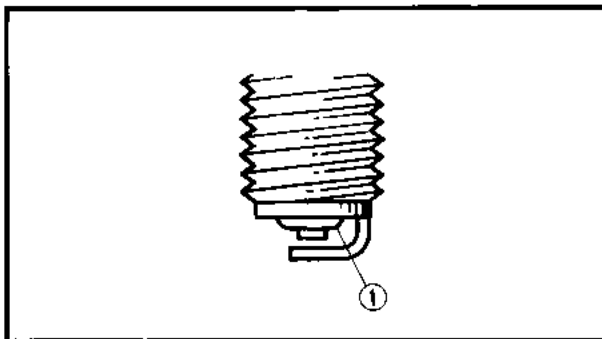
Middle-range speed and high speed tuning (from 1/4 to full-throttle) can be done by adjusting the main jet.

CAUTION:

The engine should never be run without the air intake silencer and air chamber installed; severe engine damage may result.

2

1. Start the engine and operate the machine under normal condition to make sure the engine operates smoothly. Then stop the engine.
2. Remove:
 - Spark plugs



3. Check:
 - Spark plug insulator ① color
A medium to light tan color indicates normal conditions.
Distinctly different color → Replace main jet.
4. The main jet should be adjusted on the basis of the following "Main jet selection chart".

NOTE:

By checking the condition of the spark plugs currently being used, it is easy to get some idea of the engine condition and catch areas that may cause problems before they are too far advanced.

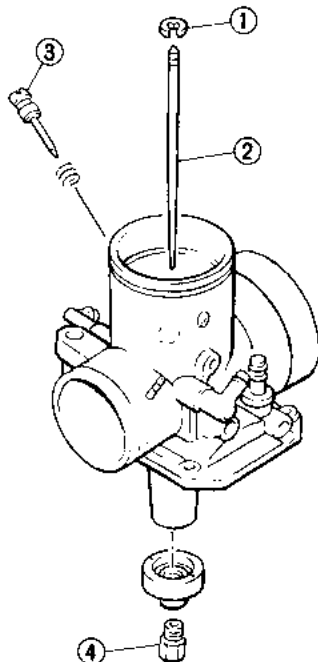
2E291

5. High altitude tuning

Use the following guide to select main jets according to variations in elevation and temperature.

For EX570(E)/ST

[B] Altitude \ [A] Temperature	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)
	0 ~ 100 m (0 ~ 300 ft)	→ #320, JN: 3rd ←			← #310 (STD), JN: 3rd (STD) →	
100 ~ 600 m (300 ~ 2,000 ft)	→ #310 (STD), JN: 3rd (STD) ←			← #300, JN: 3rd →		
600 ~ 1,200 m (2,000 ~ 4,000 ft)	→ #300, JN: 3rd ←			← #290, JN: 3rd →		
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)	→ #280, JN: 3rd ←			← #270, JN: 3rd, AS: 7/8 →		
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)	→ #260, JN: 3rd ←			← #250, JN: 3rd, AS: 7/8 →		
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)	→ #250, JN: 3rd ←			← #240, JN: 2nd, AS: 7/8 →		



- [C] # : Main jet number
- [D] JN : Jet needle clip position
- [E] AS : Air screw turns out

NOTE:

These jetting specifications are subject to change. Consult the latest technical information from Yamaha to be sure you have the most up-to-date jetting specifications.

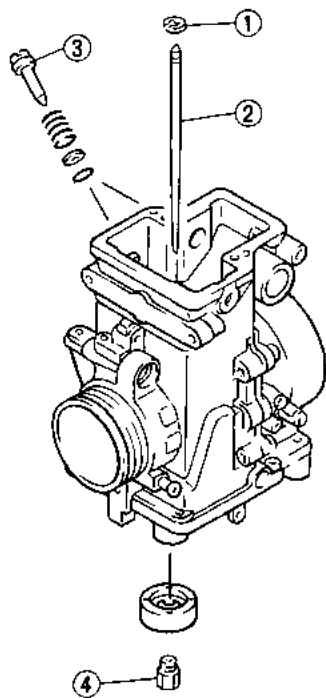
- ① Clip
- ② Jet needle
- ③ Air screw
- ④ Main jet

For EX570SX

Altitude	Temperature					
	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)
0 ~ 100 m (0 ~ 300 ft)	← #160 →					
	← #162.5 →			← #157.5 →		
100 ~ 600 m (300 ~ 2,000 ft)	← #155 (STD) →					
	← #157.5 →			← #152.5, JN: 2nd →		
600 ~ 1,200 m (2,000 ~ 4,000 ft)	← #152.5, JN: 2nd →					
	← #152.5 →			← #150, JN: 2nd →		
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)	← #150, JN: 2nd →					
	← #150 →			← #147.5, JN: 2nd →		
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)	← #145, JN: 2nd →					
	← #147.5 →					
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)	← #142.5, JN: 2nd, PJ: 52.5, AS: 1 1/4 →					
	← #145, JN: 2nd, PJ: 52.5 AS: 1 1/4 →					

2

- Ⓒ # : Main jet number
- Ⓓ JN : Jet needle clip position
- Ⓔ AS : Air screw turns out
- Ⓕ PJ : Pilot jet number



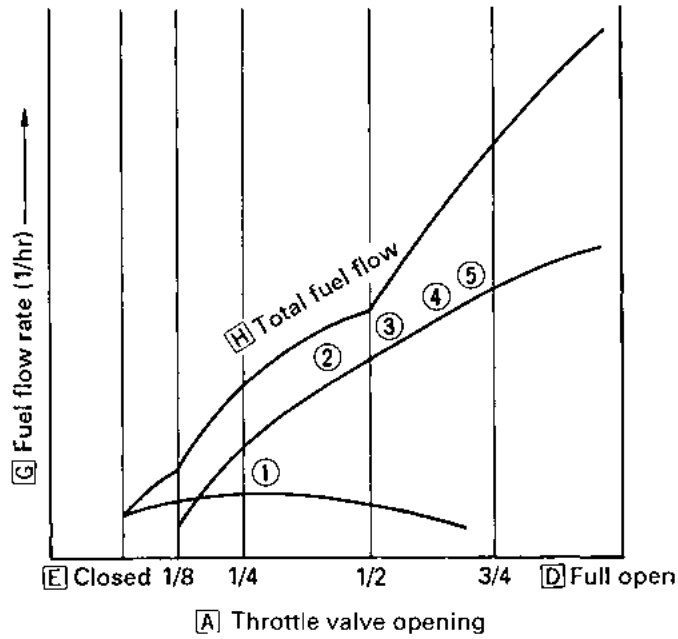
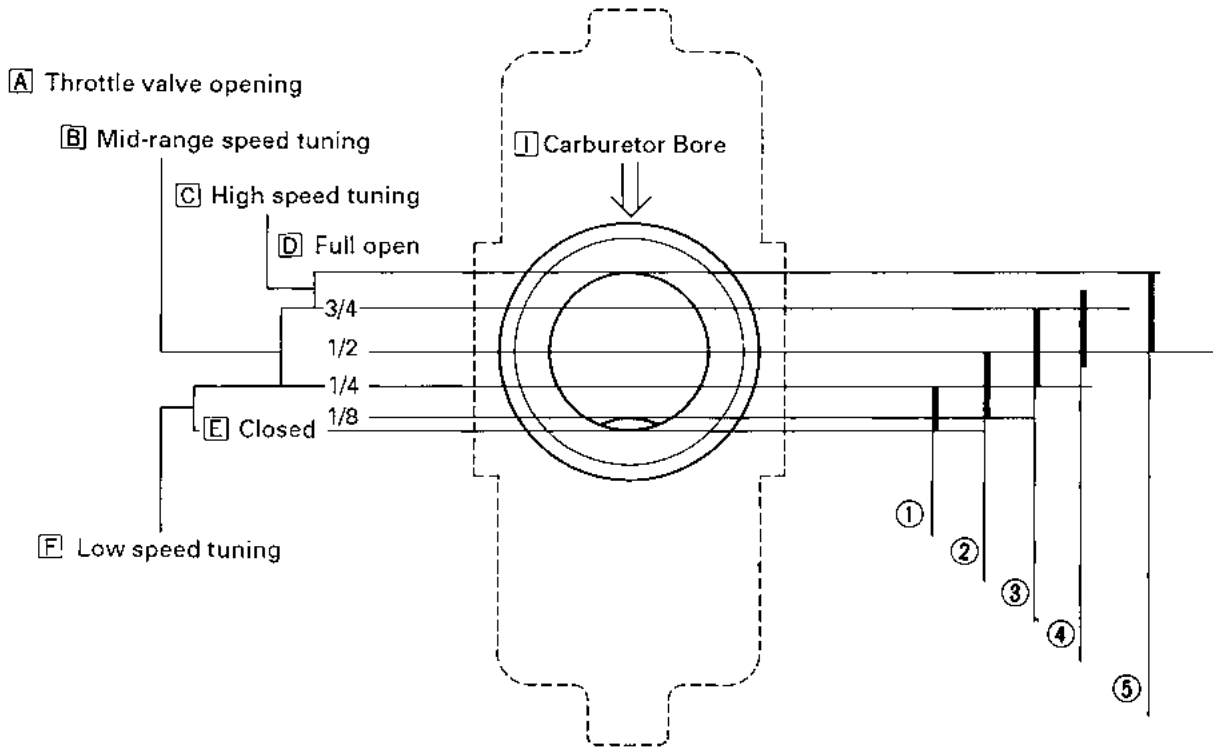
NOTE: _____
 These jetting specifications are subject to change.
 Consult the latest technical information from
 Yamaha to be sure you have the most up-to-date
 jetting specifications.

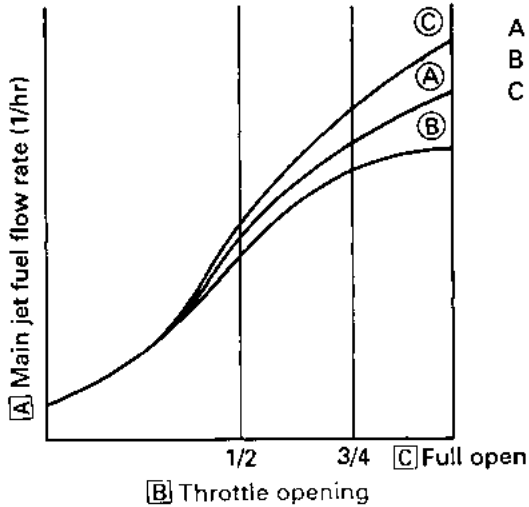
- ① Clip
- ② Jet needle
- ③ Air screw
- ④ Main jet



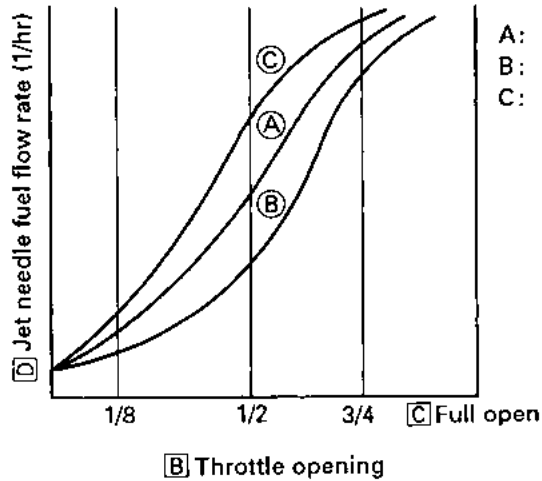
2E902

Guide for carburetion

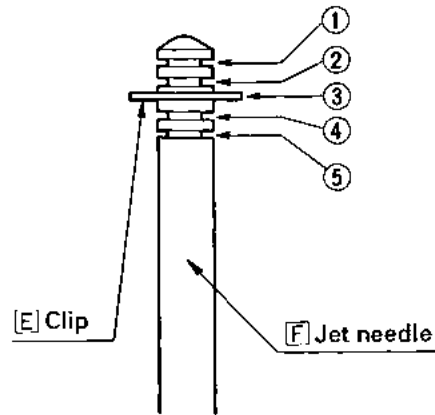




- A: Standard main jet
- B: Main jet whose diameter is 10% smaller than standard
- C: Main jet whose diameter is 10% larger than standard



- A: No. 3 position
- B: No. 2 position
- C: No. 4 position



CAUTION:

If the Air Silencer Box is removed from the carburetors, the change in pressure in the intake will create a LEAN MIXTURE that could likely result in severe engine damage. The Air Silencer Box has no effect on performance characteristics and it must be secured to the carburetor during carb tuning and adjustment and it must always be in place when the engine is operated. Examine the Silencer regularly for cleanliness and freedom from obstruction.

2E311

Main jet selection chart		
Spark plug color	Check up	Remedy
Light tan or gray.	Carburetor is tuned properly.	
Dry black or fluffy deposits.	Mixture is too rich.	Replace main jet with the next smaller size.
White or light gray.	Mixture is too lean.	Replace main jet with the next larger size.
White or gray insulator with small black or gray brown spots and with a bluish-burnt appearance of electrodes.	Due to too lean a mixture, the piston is damaged or seized.	Replace the piston and spark plug. Tune the carburetor again, starting with low-speed tuning.
Melted electrodes and possibly blistered insulator. Metallic deposits on insulator.	Due to too lean a mixture, the spark plug melts.	Check the piston for holes or seizure. Check the cooling system, gasoline octane rating and ignition timing. After replacing the spark plug with a colder type, tune the carburetor again starting with low-speed tuning.

2E321

Troubleshooting

Trouble	Check point	Remedy	Adjustment
Hard starting	Insufficient fuel	Add gasoline	
	Excessive use of starter (Excessively opened choke)	Clean spark plug	Return starter (choke) level to its seated position.
	Fuel passage is clogged or frozen	Clean	Parts other than air carburetor. <ul style="list-style-type: none"> • Clogged fuel tank air vent, clogged fuel filter, or clogged fuel passage Carburetor • Clogged or frozen air vent, or clogged valve. • If water collects in float chamber, clean. (Also check for ice)
	Overflow	Correct	
Poor idling (Related troubles) <ul style="list-style-type: none"> • Poor performance at low speeds • Poor acceleration • Slow response to throttle • Engine tends to stall 	Improper idling speed adjustment <ul style="list-style-type: none"> • Pilot screw 	Adjust idling speed	Bottom the pilot screw lightly, and back it out to specification. Start the engine and turn pilot screw in and out 1/4 turn each time. When the engine runs faster, back out throttle stop screw so the engine idles at specified speed. Tightened too much – Engine speed is higher. Backed out too much – Engine does not idle.
	• Throttle stop screw	Adjust	
	Damaged pilot screw	Replace pilot screw	
	Clogged bypass hole	Clean	
	Clogged or loose pilot jet	Clean and retighten	Remove pilot jet, and blow it out with compressed air.
	Air leaking into carburetor joint	Retighten bend screw	
	Defective starter valve seat	Clean or replace	
	Overflow	Correct	
Poor performance at mid-range speeds (Related troubles) <ul style="list-style-type: none"> • Momentary slow response to throttle • Poor acceleration 	Clogged or loose pilot jet	Clean and retighten	Remove pilot jet, and blow it out with compressed air.
	Lean mixtures	Overhaul carburetor	
Poor performance at normal speeds (Related troubles) <ul style="list-style-type: none"> • Excess fuel consumption • Poor acceleration 	Clogged air vent	Clean	Remove the air vent pipe, and clean.
	Clogged or loose main jet	Clean and retighten	Remove main jet, and blow it out with compressed air.
	Overflow	Check float and float valve and clean	

2



Trouble	Check point	Remedy	Adjustment
Poor performance at high speeds (Related troubles) • Power loss • Poor acceleration	Starter valve is left open	Fully close valve	Return starter lever to its home position.
	Clogged air vent	Remove and clean	
	Clogged or loose main jet	Clean and retighten	Remove main jet and clean with compressed air, then install.
	Clogged fuel pipe	Clean or replace	
	Dirty fuel tank	Clean fuel tank	
	Air leaking into fuel line	Check joint and retighten	
	Low fuel pump performance	Repair pump or replace	
	Clogged fuel filter	Replace	
	Clogged intake	Check for and remove ice	
Abnormal combustion (Mainly backfire)	Lean mixture	Clean carburetor and adjust	
	Dirty carburetor	Clean carburetor	
	Dirty or clogged fuel pipe	Clean or replace fuel pipe	
Overflow (Related troubles) • Power idling • Poor performance at low, mid-range, and high speeds • Excessive fuel consumption • Hard starting • Power loss • Poor acceleration	Clogged air vent	Clean	
	Clogged float valve	Disassemble and clean	Clean while taking care not to scratch valve seat.
	Scratched or unevenly worn float valve or valve seat	Clean or replace float valve and valve seat	Valve seat is press-fitted to body. The body must be replaced if seat is damaged.
	Broken float	Replace float	
	Incorrect float level • Worn float tang • Worn pin • Deformed float arm	If not within the specified range, check the following parts and replace any defective part. • Replace float • Replace arm pin • Replace float	Replace float assembly.

CLUTCH TUNING
High Altitude Tuning

Clutch Setting Data (For EX570(E))

[A] Item	0 ~ 1,100 m (0 ~ 3,500 ft) (STD)	900 ~ 1,500 m (3,000 ft ~ 5,000 ft) (MA)	1,400 ~ 2,100 m (4,500 ft ~ 7,000 ft) (MA)	2,000 m ~ (6,500 ft ~) (HA)
[B] Clutch Engagement RPM:	[R] Approx 3,800 rpm	←	←	←
[C] Shift RPM:	[R] Approx 7300 rpm	←	←	←
[D] Primary Sheave Weight Arm:				
[E] Part Number	88R-17605-00	←	←	←
[F] Weight (Rivet)	[S] Steel	←	[T] Aluminum	←
[G] Quantity	3 pcs	←	←	←
[H] Primary Sheave Spring:				
[E] Part Number	90501-553G6	90501-604G0	←	←
[I] Color Code	W-Y-W	P-Y-P	←	←
[J] Pre-load/Sheave Spring:	25 kg (55.1 lb)	24 kg (52.9 lb)	←	←
[K] Spring Rate	2.25 kg/mm (22.5 N/mm, 126 lb/in)	3.0 kg/mm (29 N/mm, 168 lb/in)	←	←
[L] Free Length	76.5 mm (3.01 in)	73.3 mm (2.89 in)	←	←
[M] Secondary Sheave Spring:				
[E] Part Number	90508-50571	←	←	←
[I] Color Code	P	←	←	←
[N] Twist Angle	60°	←	←	←
[O] Hole Position:				
[P] Sheave Side	B	←	←	←
[Q] Spring Seat Side	2	←	←	←
[L] Free Length	85.05 mm (33.5 in)	←	←	←

*Use heavy load and hill climb conditions

Go Gold W White
 Y Yellow G Green
 R Red P Pink
 L Blue

2

CLUTCH TUNING
High Altitude Tuning

Clutch Setting Data (For EX570 ST)

[A] Item	0 ~ 1,100 m (0 ~ 3,500 ft) (STD)	900 ~ 1,500 m (3,000 ft ~ 5,000 ft) (MA)	1,400 ~ 2,100 m (4,500 ft ~ 7,000 ft) (MA)	2,000 m ~ (6,500 ft ~) (HA)
[B] Clutch Engagement RPM:	[R] Approx 3,800 rpm	←	←	←
[C] Shift RPM:	[R] Approx 7,300 rpm	←	←	←
[D] Primary Sheave Weight Arm: [E] Part Number [F] Weight (Rivet) [G] Quantity	89L-17605-00 [S] Steel 3 pcs	← ← ←	← [T] Aluminum ←	← ← ←
[H] Primary Sheave Spring: [E] Part Number [I] Color Code [J] Pre-load/Sheave Spring: [K] Spring Rate [L] Free Length	90501-521J6 G-P-G 30 kg (66 lb) 1.5 kg/mm (15 N/mm, 84 lb/in) 85.4 mm (3.36 in)	90501-550J8 W-P-W ← 2.25 kg/mm (22 N/mm, 126 lb/in) 78.7 mm (3.1 in)	← ← ← ← ←	90501-582J1 Y-P-Y ← 2.5 kg/mm (25 N/mm, 140 lb/in) 77.4 mm (3.01 in)
[M] Secondary Sheave Spring: [E] Part Number [I] Color Code [N] Twist Angle [O] Hole Position: [P] Sheave Side [Q] Spring Seat Side [L] Free Length	90508-50571 P 50° A 2 85.05 mm (3.35 in)	← ← ← ← ← ←	← ← ← ← ← ←	← ← ← ← ← ←

* Use heavy load and hill climb conditions

Go Gold W White
Y Yellow G Green
R Red P Pink
L Blue

CLUTCH TUNING
High Altitude Tuning

Clutch Setting Data (For EX570SX)

[A] Item	0 ~ 1,100 m (0 ~ 3,500 ft) (STD)	900 ~ 1,500 m (3,000 ft ~ 5,000 ft) (MA)	1,400 ~ 2,100 m (4,500 ft ~ 7,000 ft) (MA)	2,000 m ~ (6,500 ft ~) (HA)
[B] Clutch Engagement RPM:	[R] Approx 3,900 rpm	←	←	←
[C] Shift RPM:	[R] Approx 7,750 rpm	←	←	←
[D] Primary Sheave Weight Arm:				
[E] Part Number	8AY-17605-00	←	←	←
[F] Weight (Rivet)	[S] Steel	←	[T] Aluminum	←
[G] Quantity	3 pcs	←	←	←
[H] Primary Sheave Spring:				
[E] Part Number	90501-550J8	90501-602J0	←	←
[I] Color Code	W-P-W	P	←	←
[J] Pre-load/Sheave Spring:	30 kg (66 lb)	←	←	←
[K] Spring Rate	2.25 kg/mm (22 N/mm, 126 lb/in)	3.0 kg/mm (29 N/mm, 168 lb/in)	←	←
[L] Free Length	78.7 mm (3.1 in)	75.4 mm (2.97 in)	←	←
[M] Secondary Sheave Spring:				
[E] Part Number	90508-50571	←	←	←
[I] Color Code	P	←	←	←
[N] Twist Angle	50°	60°	←	←
[O] Hole Position:				
[P] Sheave Side	A	B	←	←
[Q] Spring Seat Side	2	2	←	←
[L] Free Length	85.0 mm (3.35 in)	←	←	←

Go Gold W White
 Y Yellow G Green
 R Red P Pink
 L Blue

2

GEARING SELECTION

The reduction ratio of driven gear to drive gear must be set according to the snow condition. If there are many rough surfaces or unfavorable snow conditions, the drive/driven gear ratio should be made larger. If there are few rough surfaces or better snow condition; the ratio should be made smaller.

Gear Ratio Chart

The following drive and driven gears and chains are available as options. The figures in upper lines represent the driven and drive gear ratios, while those in lower lines represent the number of chain links.

NOTE:

Do not set the gearing to any of the indicated (x) settings.

A Drive gear B Driven gear	16	17	18
33	X	1.94 68	1.83 68
35	2.19 68	2.06 68	X

C Drive gear options		
D For EX570(E)/ST	E For EX570SX	F Sprocket Teeth
89J-17682-60	8AY-17682-60	16 T
89J-17682-70	8AY-17682-70	17 T
89J-17682-80	8AY-17682-80	18 T

G Chain options		
D For EX570(E)/ST	E For EX570SX	H No. of links
94860-02068	94880-03068	68

C Driven gear options		
D For EX570(E)/ST	E For EX570SX	F Sprocket Teeth
89J-47587-30	89A-47587-30	33 T
89J-47587-50	89A-47587-50	35 T



High Altitude Tuning

For EX570(E)

\		0 ~ 1,100 m (0 ~ 3,500 ft)(STD)	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,400 ~ 2,100 m (4,500 ~ 7,000 ft)	2,000 ~ (HA) 6,500 ft ~ (HA)
[A] Secondary gear ratio		18/33 (1.83)	17/33 (1.94)	17/35 (2.05)	16/35 (2.19)
[B] Drive gear	[E] Part No.	89J-17682-80	89J-17682-70	←	89J-17682-60
	[F] Teeth	18T	17T	←	16T
[C] Driven gear	[E] Part No.	89J-47587-30	←	89J-47587-50	←
	[F] Teeth	33T	←	35T	←
[D] Chain	[E] Part No.	94860-02068	←	←	←
	[G] No. of links	68	←	←	←

2

For EX570ST

\		0 ~ 1,100 m (0 ~ 3,500 ft)(STD)	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,400 ~ 2,100 m (4,500 ~ 7,000 ft)	2,000 ~ (HA) 6,500 ft ~ (HA)
[A] Secondary gear ratio		17/33 (1.94)	←	17/35 (2.05)	16/35 (2.19)
[B] Drive gear	[E] Part No.	89J-17682-70	←	←	89J-17682-60
	[F] Teeth	17T	←	←	16T
[C] Driven gear	[E] Part No.	89J-47587-30	←	89J-47587-50	←
	[F] Teeth	33T	←	35T	←
[D] Chain	[E] Part No.	94860-02068	←	←	←
	[G] No. of links	68	←	←	←

For EX570SX

\		0 ~ 1,100 m (0 ~ 3,500 ft)(STD)	900 ~ 1,500 m (3,000 ~ 5,000 ft)	1,400 ~ 2,100 m (4,500 ~ 7,000 ft)	2,000 ~ (HA) 6,500 ft ~ (HA)
[A] Secondary gear ratio		17/33 (1.94)	←	17/35 (2.05)	16/35 (2.19)
[B] Drive gear	[E] Part No.	8AY-17682-70	←	←	8AY-17682-60
	[F] Teeth	17T	←	←	16T
[C] Driven gear	[E] Part No.	89A-47587-30	←	89A-47587-50	←
	[F] Teeth	33T	←	35T	←
[D] Chain	[E] Part No.	94880-03070	←	←	←
	[G] No. of links	68	←	←	←

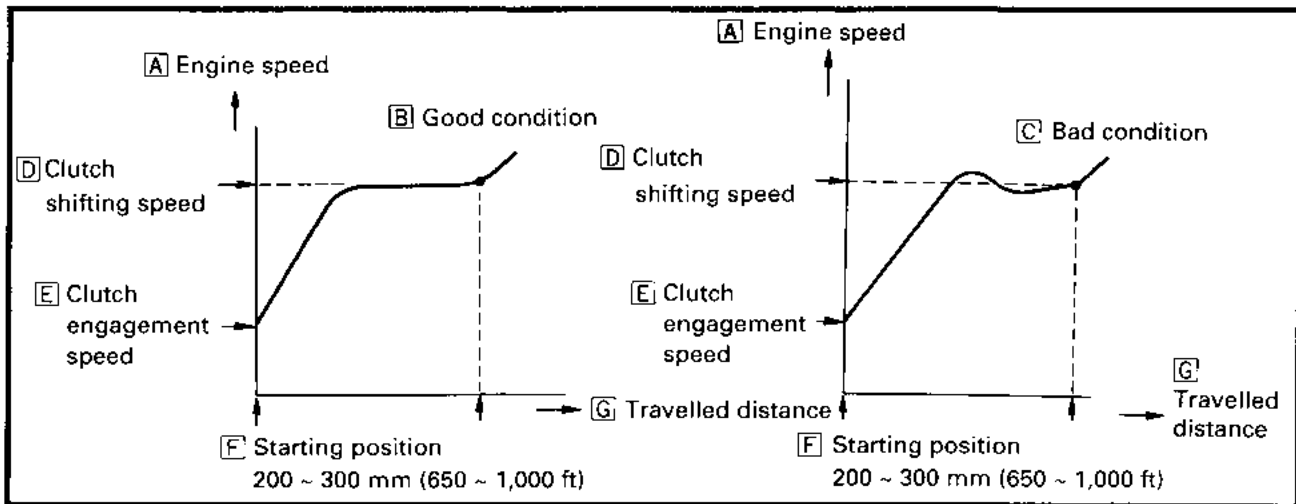
2E331

CLUTCH TUNING

The clutch may require tuning depending upon the area of operation and desired handling characteristics. The clutch can be tuned by changing engagement and shifting speed. Clutch engagement speed is defined as the engine speed where the machine first begins to move from a complete stop.

Shifting speed is the engine speed when the machine passes a point 200 ~ 300 m (650 ~ 1,000 ft) from the starting position after the machine has been started at full-throttle from a dead stop.

Normally, when a machine reaches shift speed, the vehicle speed increases but the engine speed remains nearly constant. Under unfavorable conditions (wet snow, icy snow, hills, or rough terrain) however engine speed may decrease after the shift speed has been reached.

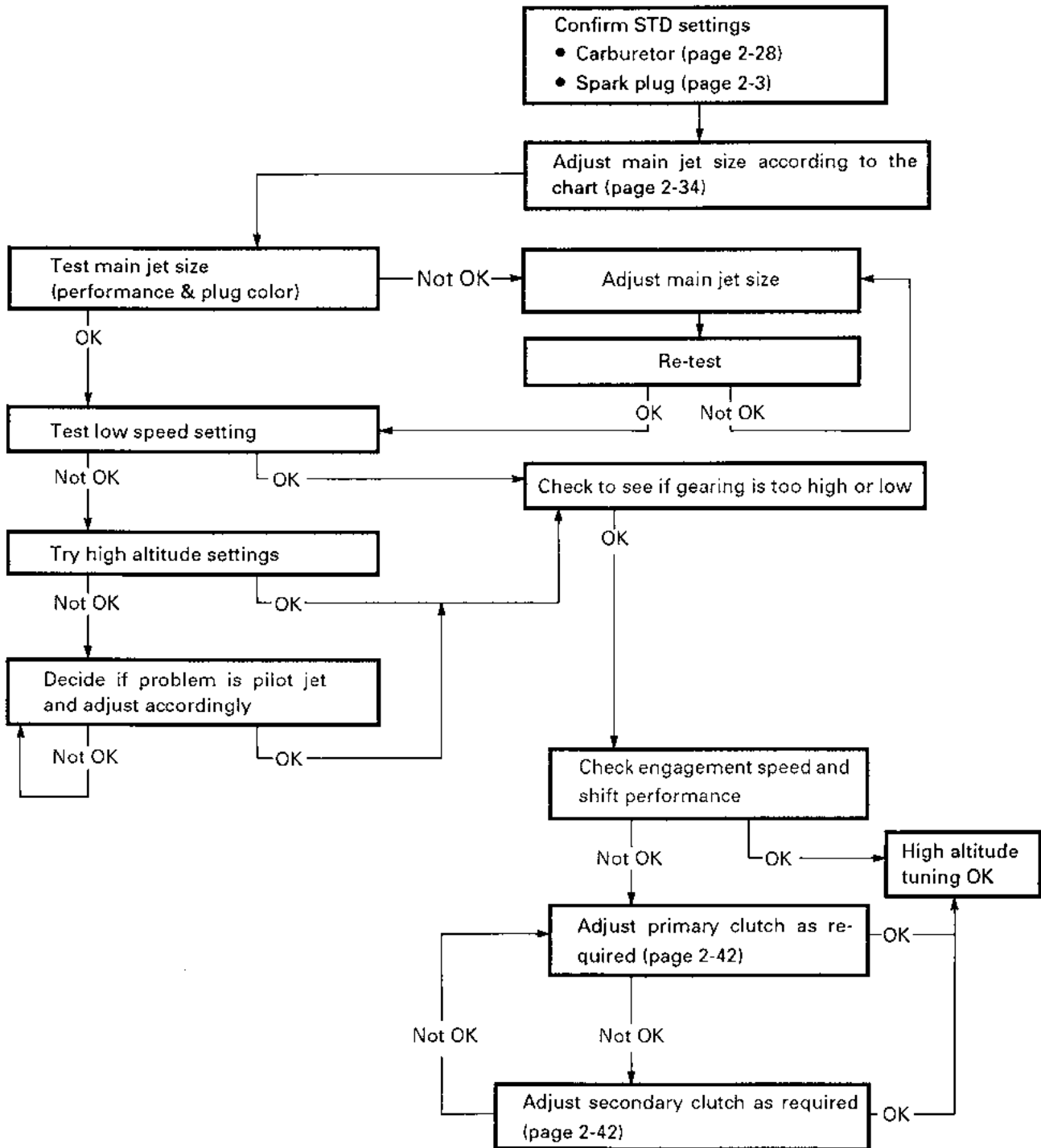


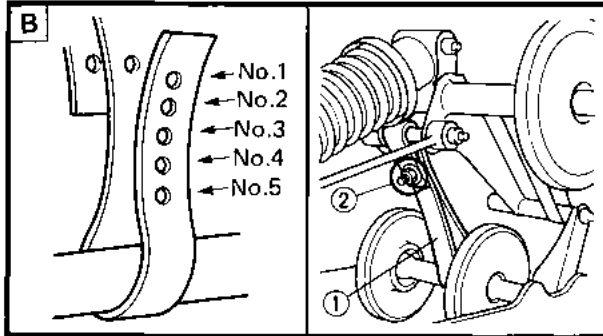
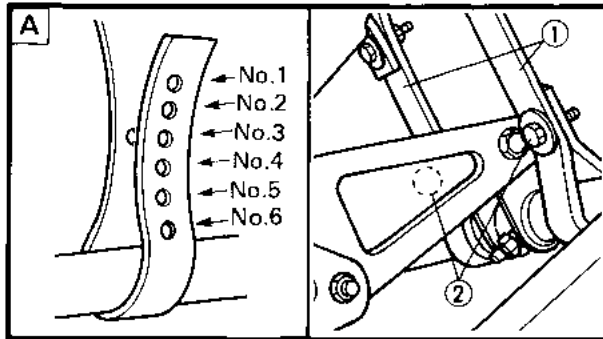
2E341

HIGH ALTITUDE TUNING

To attain the best performance in high altitude conditions, carefully tune the snowmobile as outlined below.

2





2E361

Rear Suspension

Stopper band setting

1. Adjust:
 - Stopper band length

NOTE:

This adjustment affects the handling characteristics of the machine.

2

Adjustment steps:

- Remove the stopper band securing bolt ② and washers.
- Adjust the length of the stopper band ①.

Standard setting:

Front **A** : No. 3 hole

Rear **B** : No. 1 hole

- Tighten the bolt (stopper band)



Nut (stopper band)

4 Nm (0.4 m · kg, 2.9 ft · lb)

Choosing other settings:

NOTE:

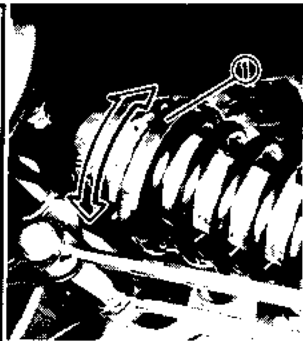
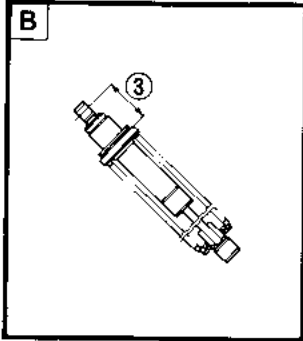
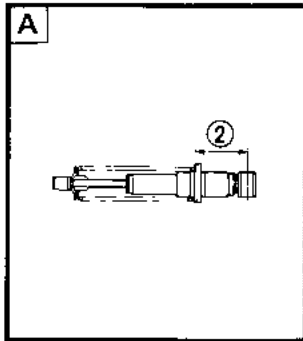
The standard settings work well under most general riding conditions. The suspension can be adjusted to work better in one condition, but only at the expense of another. Keep this in mind when you adjust the suspension.

Front **A ;**

No. 6 hole (Shortest)	No. 1 hole (Longest)
More weight on skis: • Heavy steering/ oversteer • More maneuverability Favors: hardpack snow, ice, smooth trails, tight turns	Less weight on skis: • Light steering/ understeer • Better acceleration and speed Favors: deep snow, straight line acceleration, top speed

Rear **B ;**

No. 1 hole (Longest)	No. 5 hole (Shortest)
Less weight on track: • More suspension travel • Greater riding comfort Favors: Rougher trails	More weight on track: • Better acceleration and speed • Firmer handling Favors: deep snow, smooth surfaces



2E371

Spring Preload

1. Adjust:
- Spring preload

Adjustment steps:

- Turn the spring seat ① in or out.

Spring Seat Distance	Standard		
	Longer	↔	Shorter
Preload	Harder ↔ Softer		
EX570/EX570E ② Length (Front)	Max. 84.5 mm (3.33 in)	72 mm (2.83 in)	Min. 69.5 mm (2.74 in)
EX570ST ② Length (Front)	Max. 84.5 mm (3.33 in)	76.5 mm (3.01 in)	Min. 69.5 mm (2.74 in)
EX570SX ② Length (Front)	Max. 85.5 mm (3.37 in)	69.5 mm (2.74 in)	Min. 69.5 mm (2.74 in)
③ Length (Rear)	Max. 85 mm (3.35 in)	77 mm (3.03 in)	Min. 69 mm (2.72 in)

A Front

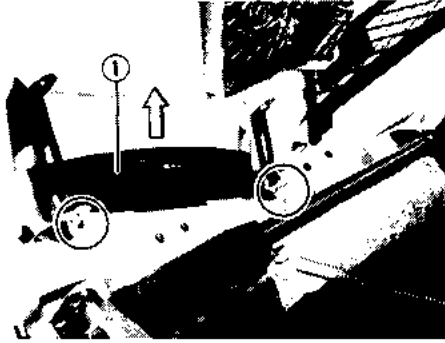
B Rear

⚠ WARNING

This shock absorber contains highly pressurized nitrogen gas.

Do not tamper with or attempt to open the shock absorber assembly.

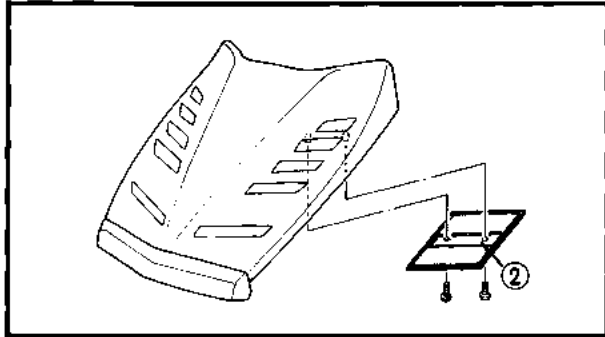
Do not subject the shock absorber assembly to open flame or high heat, which could cause it to explode.



2E381

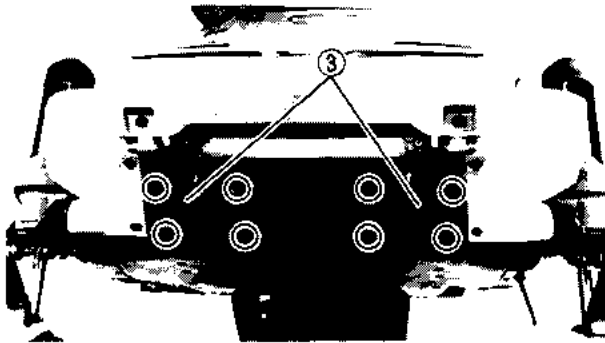
ENGINE ROOM PLATES

Open the plates to cool down the engine room.



CAUTION:

- Close the baffle plate ① when the machine is operated in deep powder snow.
- Remove the louver plates ② and belly pan plates ③ when the atmospheric temperature is 5°C (41.5°F) or higher.





CHAPTER 3. CHASSIS

STEERING	3-1
REMOVAL	3-2
INSPECTION	3-4
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REMOVAL	3-9
INSPECTION	3-9
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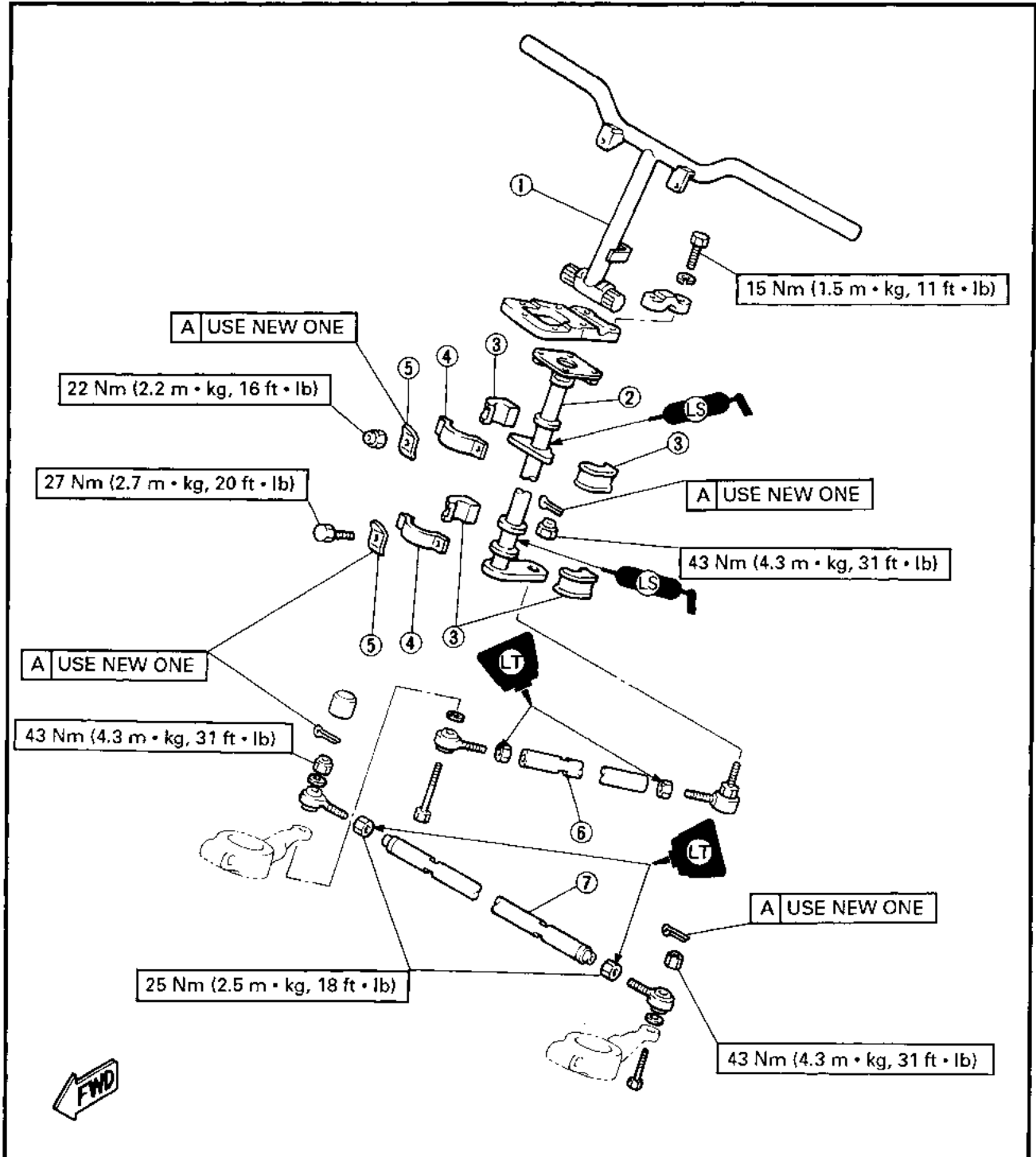


3E011

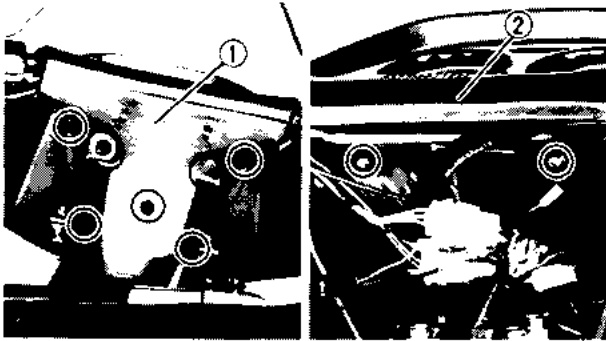
CHASSIS

STEERING

- ① Handlebar
- ② Steering column
- ③ Bearing
- ④ Bearing holder
- ⑤ Lock washer
- ⑥ Relay rod
- ⑦ Tie-rod



3

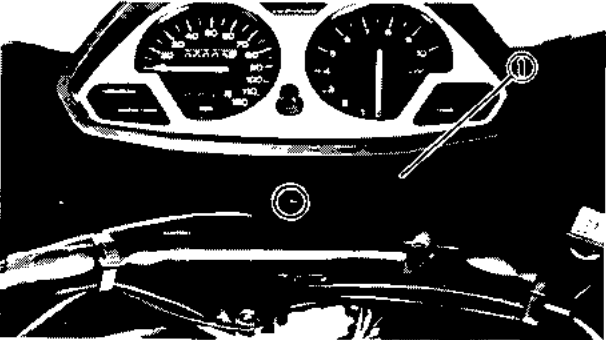
**REMOVAL**

1. Remove:

- Handlebar cover ① (rear)
- Handlebar cover ② (front)

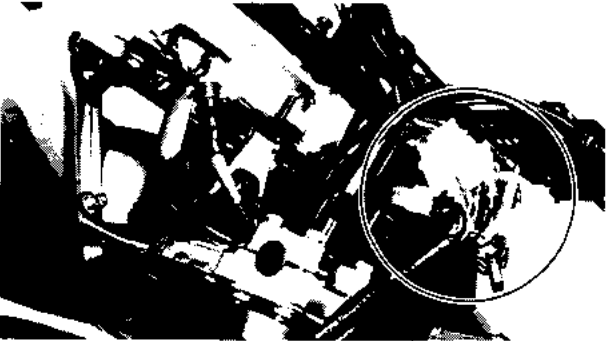
NOTE:

Disconnect the grip warmer switch coupler when removing the handlebar cover (rear).



2. Remove:

- Meter cover ①

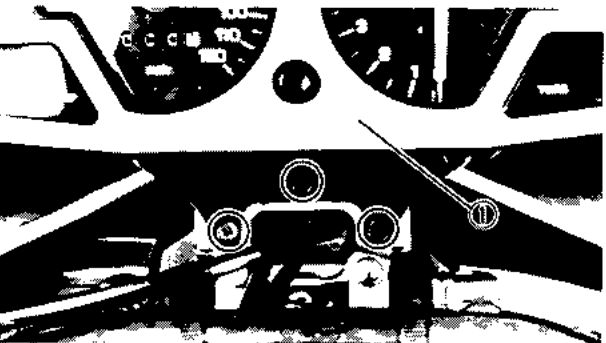


3. Disconnect:

- Meter light coupler
- Headlight coupler
- Speedometer cable
- Handlebar switch coupler (right)
- Brake light switch coupler
- Headlight beam switch coupler
- Grip warmer leads

4. Remove:

- Upper cowling ① (with meter assembly)

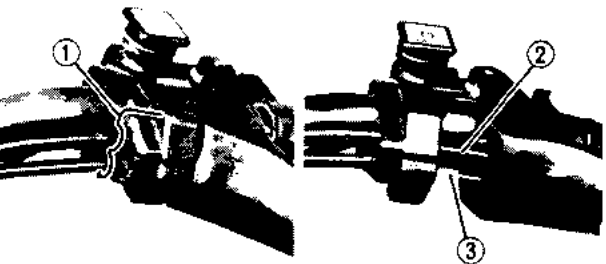


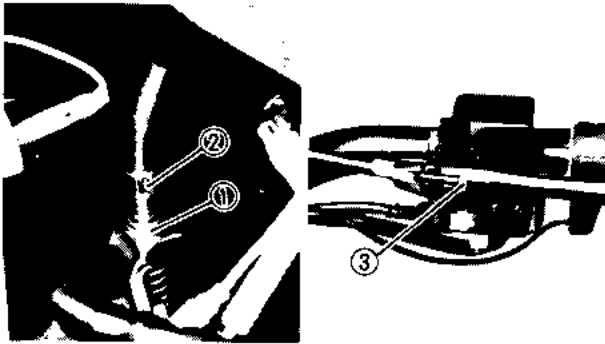
5. Remove:

- Holder ① (throttle cable)

6. Disconnect:

- Throttle cable ②
- Oil pump cable ③ (from throttle lever)

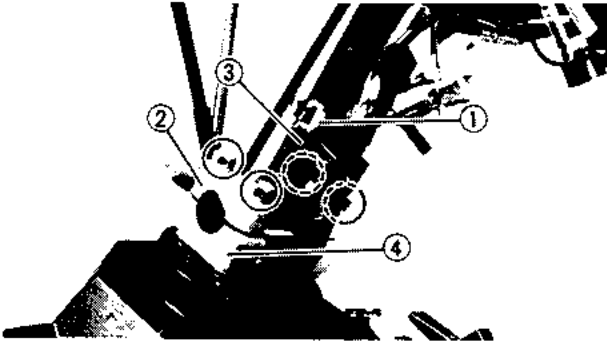




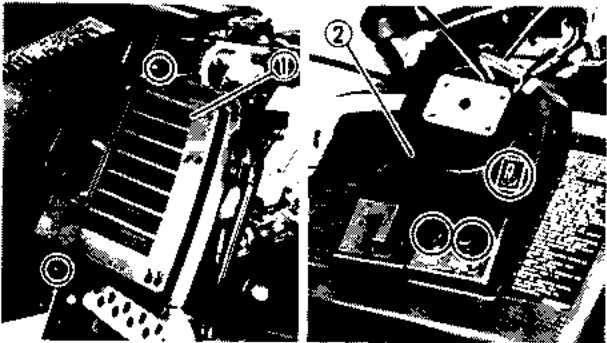
7. Remove:
- Brake cable

Removal steps:

- Loosen the locknut ①.
- Turn in the adjuster fully ②.
- Disconnect the brake cable end ③ from the brake lever.



8. Remove:
- Band ①
 - Handlebar holders ② (upper)
 - Handlebar ③
 - Handlebar holder ④ (lower)

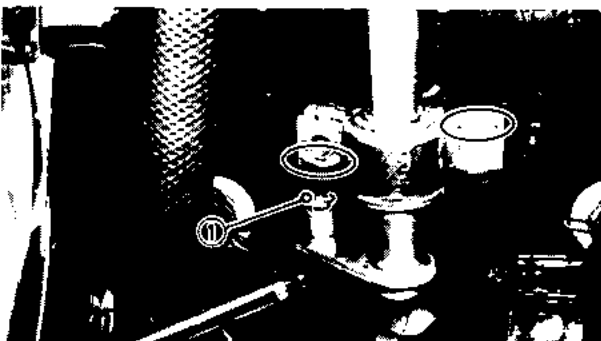


9. Remove:
- Side covers ① (left and right)
 - Center cover ②

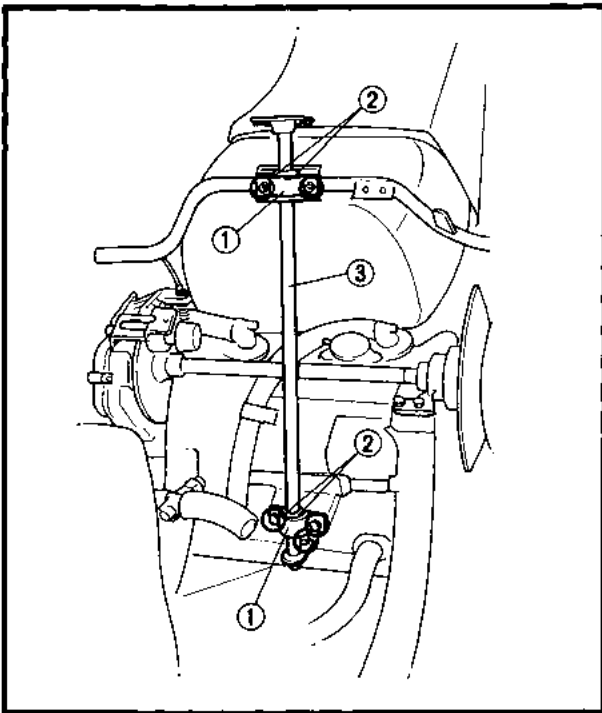
NOTE:

Remove the holding nuts (main switch, "STARTER" lever and fuel cock) when removing the center cover.

10. Remove:
- Carburetors (see page 7-2, 7-10)
 - Intake silencer
 - Engine assembly (see page 5-1)



11. Straighten:
- Lock washer tabs (upper and lower)
12. Remove:
- Cotter pin ①

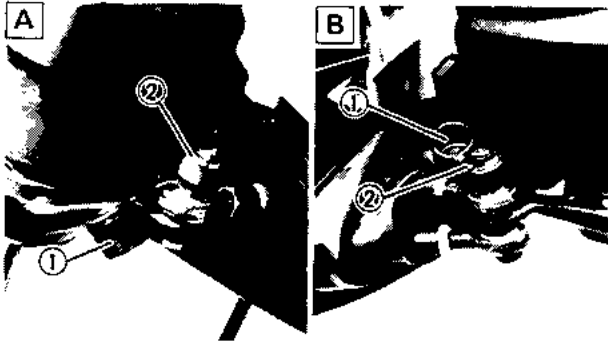


13. Remove:

- Nuts
- Bolts
- Lock washers
- Bearing holders ①
- Bearings ②
- Steering column ③

NOTE:

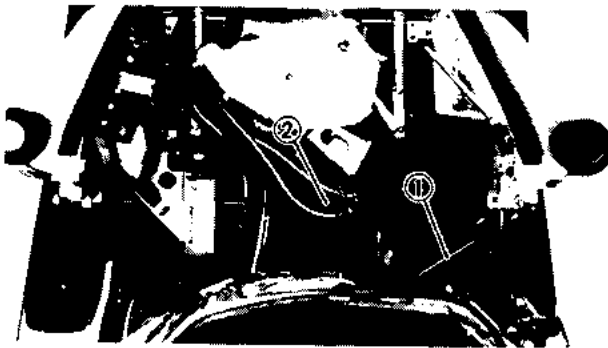
When removing the relay rod from the steering column, the relay rod end needs to be held fixed in order to facilitate the locknut removal.



14. Remove:

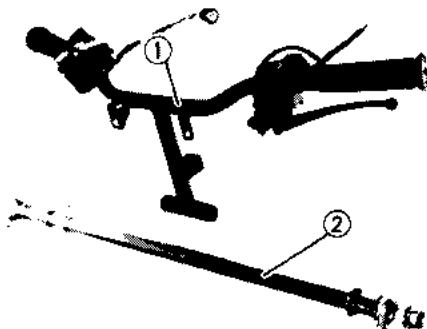
- Cap ①
- Cotter pins ②

- A Left side
 B Right side



15. Remove:

- Relay rod ①
- Tie rod ②



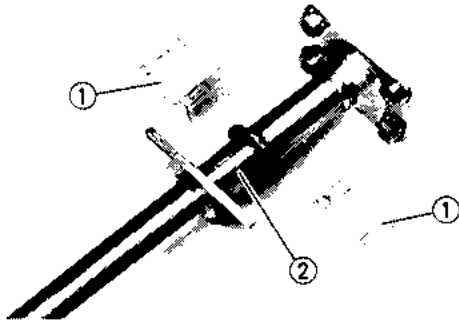
INSPECTION

1. Inspect:

- Handlebar ①
 - Steering column ②
- Bending/Cracks/Damage → Replace.

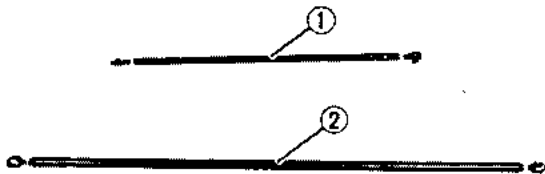
⚠ WARNING

Do not attempt to straighten a bent column. This may dangerously weaken the column.



2. Inspect:

- Bearings ① (steering column)
Wear/Damage → Replace.
- Steering column ② (bearing contact surfaces)
Scratches/Wear/Damage → Replace.



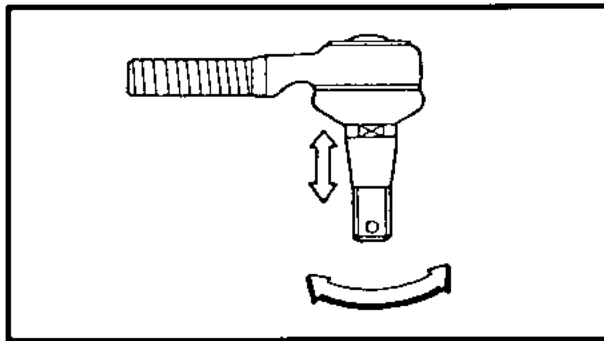
3. Inspect:

- Relay rod ①
- Tie-rod ②
Bending/Cracks/Damage → Replace.

⚠ WARNING

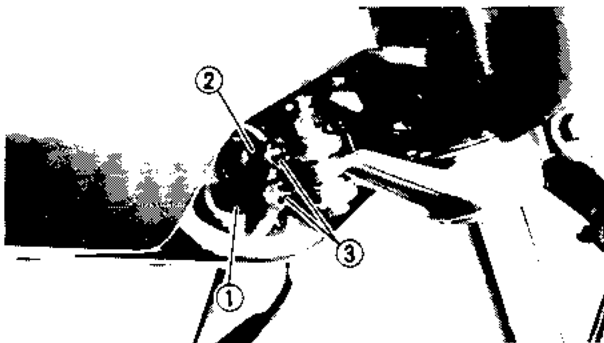
Do not attempt to straighten a bent rod. This may dangerously weaken the rod.

3



4. Check:

- Tie-rod end movement
Tie-rod end free play exists → Replace.
Tie-rod end turns roughly → Replace.



INSTALLATION

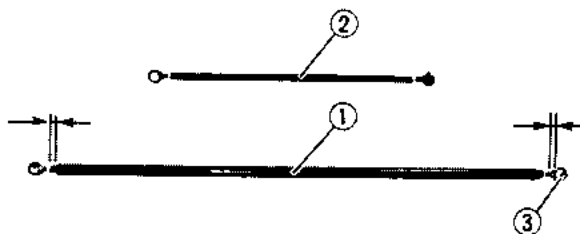
Reverse the "REMOVAL" procedure. Note the following points.

1. Install:

- Tie-rod ①
- Relay rod ②

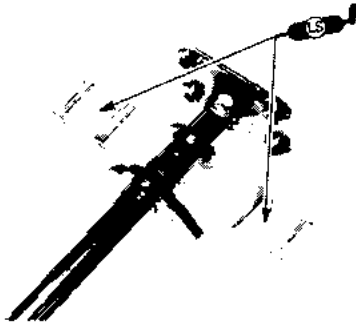
NOTE:

- Install the rod end ③ with the left-hand thread onto the tie-rod on the right side.
- The threads on both rod-ends must be the same length.



Locknut (tie-rod end):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®

Nut (suspension bracket-tie-rod):
25 Nm (2.5 m · kg, 18 ft · lb)



2. Apply

- Low temperature lithium soap base grease (to bearing inner surface)

3. Tighten:



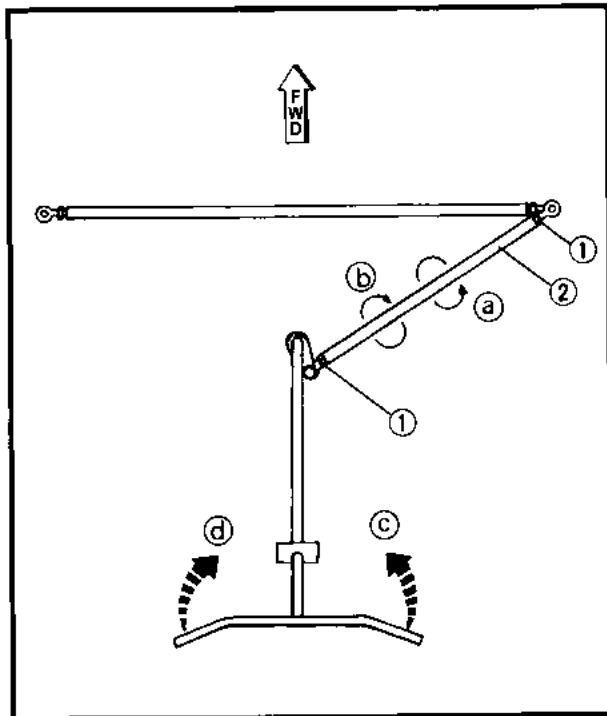
Bearing holder nut:
22 Nm (2.2 m · kg, 16 ft · lb)
Bearing holder bolt:
27 Nm (2.7 m · kg, 20 ft · lb)
Relay rod nut:
43 Nm (4.3 m · kg, 31 ft · lb)

CAUTION:

Always use a new lock washer and cotter pin.

NOTE:

Bend the lock washer top along the bolts and nuts flats.



4. Adjust:

- Skis

Adjustment steps:

- Temporarily install the handlebar.
- Hold the handlebar straight, and check to see that the skis are at right angles to the handlebar.
- Loosen the locknuts (steering relay rod) ①.
- Direct the skis in parallel to the moving direction.
- With the skis thus, turn the relay rod ② either way to adjust the handlebars at right angles with respect to the direction of movement.

Turning the relay rod in direction **a**

The handlebars move in direction **c**

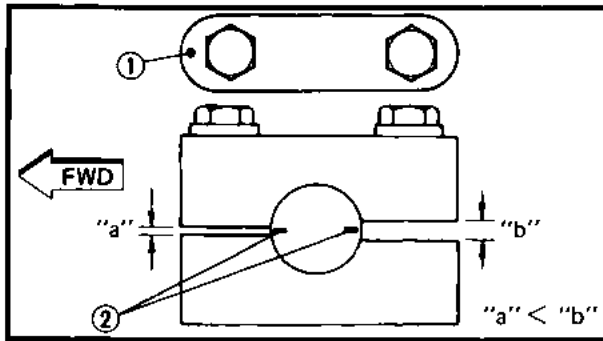
Turning the relay rod in direction **b**

The handlebars move in direction **d**

- Tighten the locknuts (steering relay rod) ①.



Locknut (steering relay rod):
25 Nm (2.5 m · kg, 18 ft · lb)
LOCTITE®



5. Tighten:



Handlebar holder bolt:
15 Nm (1.5 m · kg, 11 ft · lb)

NOTE:

- The upper handlebar holder should be installed with the punch mark ① forward.
- Align the punch marks ② with the handlebar holder gaps respectively.
- Tighten the bolts to specification so that the front clearance "a" is smaller than the rear clearance "b".

CAUTION:

First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.

3

6. Adjust:

- Brake cable distance (see page 2-19)



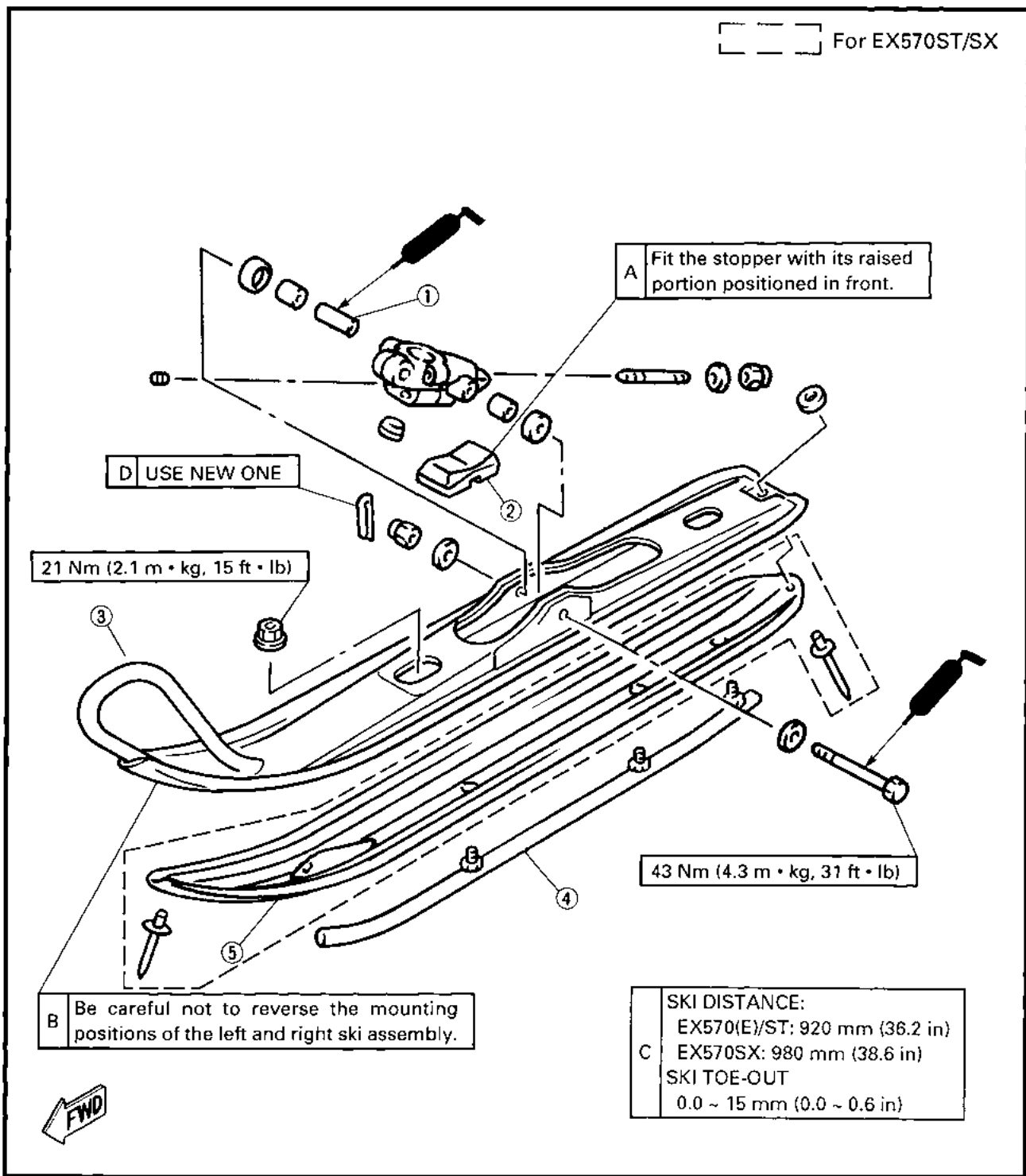
SKI

- ① Collar
- ② Ski stopper
- ③ Ski
- ④ Ski runner
- ⑤ Ski cover



Recommended grease:
 ESSO beacon 325 grease or
 Aeroshell grease #7A

 For EX570ST/SX



A Fit the stopper with its raised portion positioned in front.

D USE NEW ONE

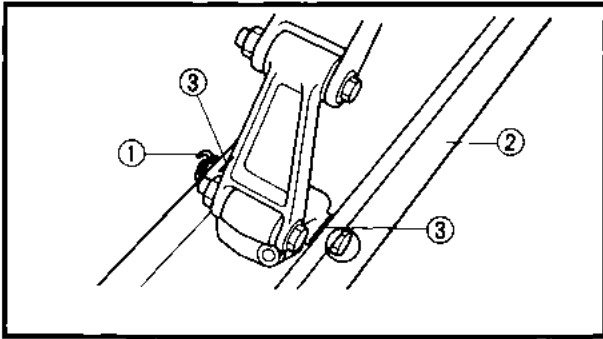
21 Nm (2.1 m • kg, 15 ft • lb)

43 Nm (4.3 m • kg, 37 ft • lb)

B Be careful not to reverse the mounting positions of the left and right ski assembly.

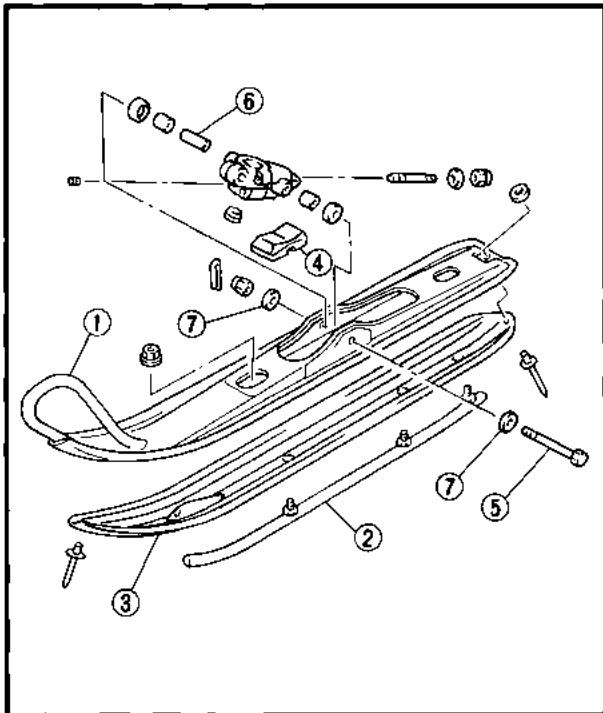
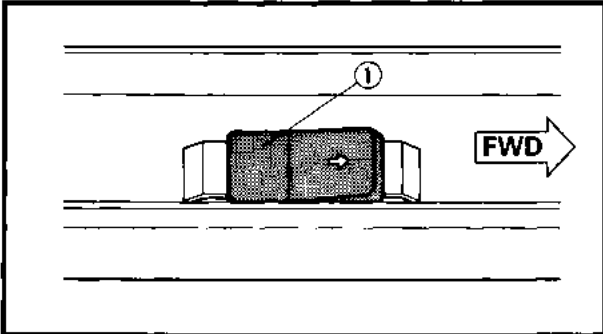
SKI DISTANCE:
 EX570(E)/ST: 920 mm (36.2 in)
 C EX570SX: 980 mm (38.6 in)
 SKI TOE-OUT
 0.0 ~ 15 mm (0.0 ~ 0.6 in)





REMOVAL

1. Elevate the ski by placing a suitable stand under the chassis.
2. Remove:
 - Cotter pin ①
 - Ski ②
 - Dust covers ③
 - Collar
3. Remove:
 - Ski stopper ①
 - Ski runner



INSPECTION

1. Inspect:
 - Ski ①
 - Ski runner ②
 - Ski cover ③ (see page 2-25)
 - Ski stopper ④
Wear/Cracks/Damage → Replace.
 - Mounting bolt ⑤
 - Collar ⑥
 - Spacer ⑦
Wear/Damage → Replace.

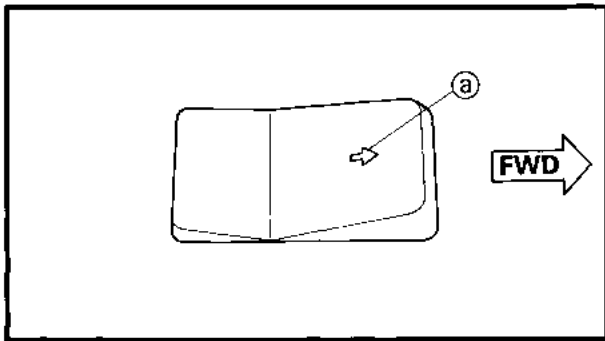
INSTALLATION

Reverse the "REMOVAL" procedure.
Note the following points.

1. Tighten:



Ski runner nut:
21 Nm (2.1 m • kg, 15 ft • lb)




2. Install:
- Ski stopper

NOTE:


- Fit the stopper with its arrow mark **a** positioned in front.
- Be careful not to reverse the mounting positions of the left and right ski assemblies.

3. Tighten:

	<p>Mounting nut: 43 Nm (4.3 m • kg, 31 ft • lb)</p>
---	--

NOTE:

Lubricate the collar, dust cover and mounting bolt before installing the ski.

	<p>Recommended grease: ESSO beacon 325 grease or Aeroshell grease #7A</p>
---	--

CAUTION:

Always use a new cotter pin.

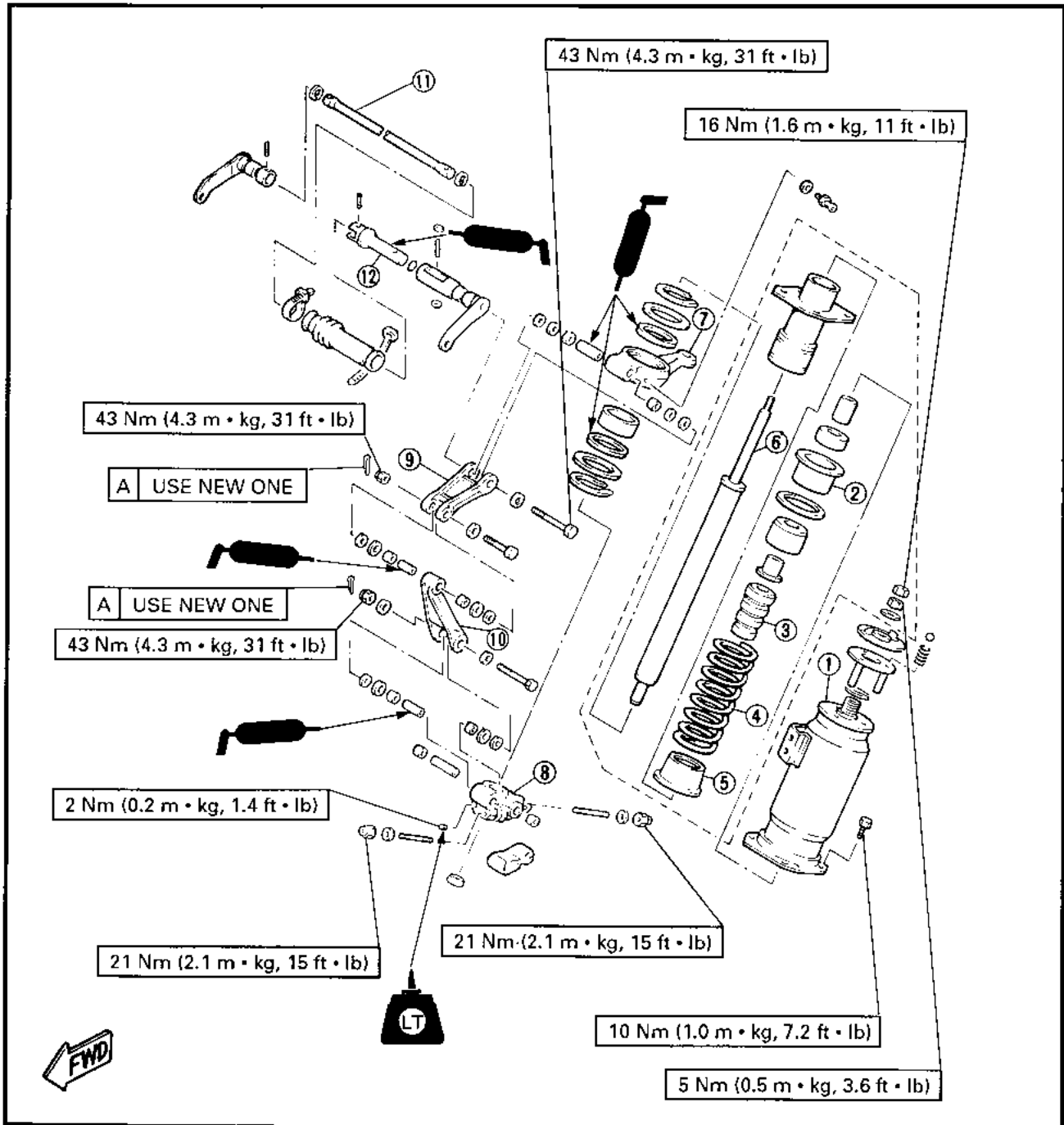


3E021

FRONT SUSPENSION

- ① Absorber holder
- ② Spring seat (upper)
- ③ Dumper
- ④ Spring
- ⑤ Spring seat (lower)
- ⑥ Shock absorber
- ⑦ Suspension arm
- ⑧ Suspension bracket
- ⑨ Front arm (upper)
- ⑩ Front arm (lower)
- ⑪ Stabilizer rod
- ⑫ Stabilizer slider

Recommended grease:
ESSO beacon 325 grease or
Aeroshell grease #7A





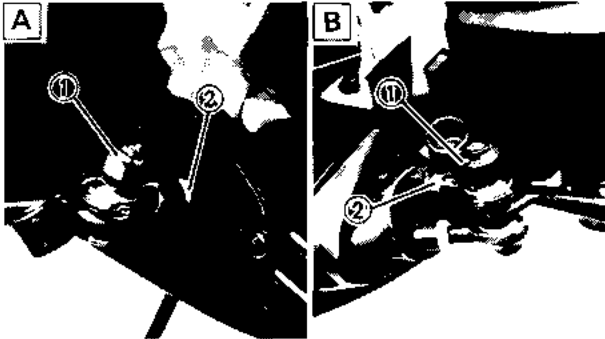
REMOVAL

1. Remove:

- Ski
(see page 3-9)
- Drive V-belt guard

2. Remove:

- Cotter pin ①
- Tie-rod ②

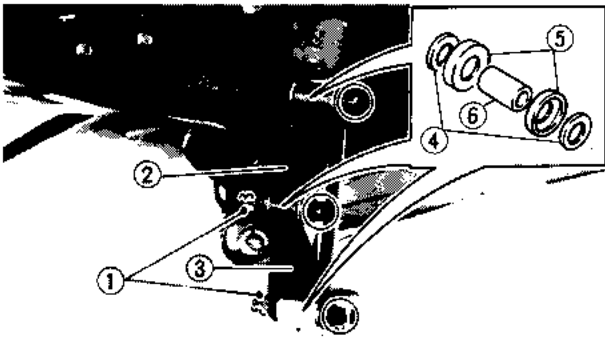


A Left

B Right

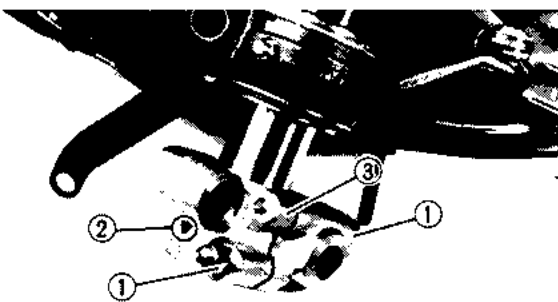
3. Remove:

- Cotter pins ①
- Front arm ② (upper)
- Front arm ③ (lower)
- Bushing ④
- Collars ⑤



4. Loosen:

- Nuts ①
- Setscrew ②

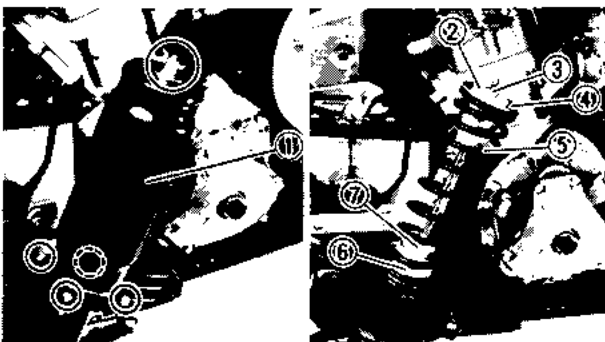


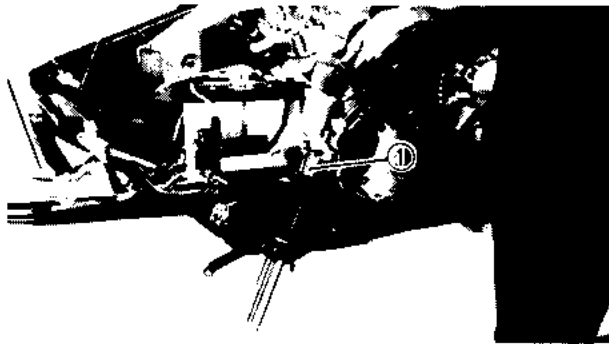
5. Remove:

- Suspension bracket ③

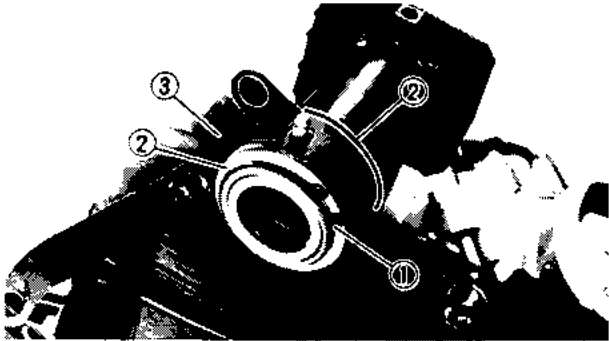
6. Remove:

- Absorber holder ①
- Spacer collar ②
- Flange plate ③
- Spring seat ④ (upper)
- Spring ⑤
- Spring seat ⑥ (lower)
- Absorber cover ⑦

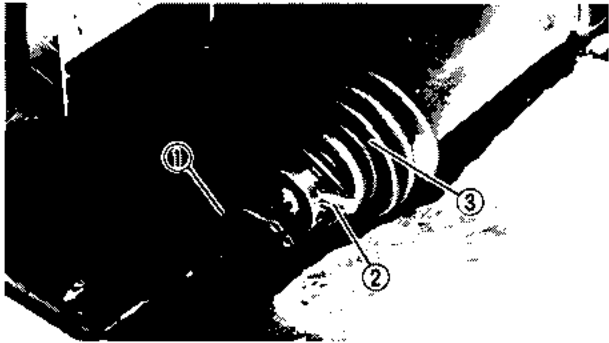




7. Remove:
- Shock absorber ①



8. Remove:
- Circlip ①
 - Washer ②
 - Suspension arm ③



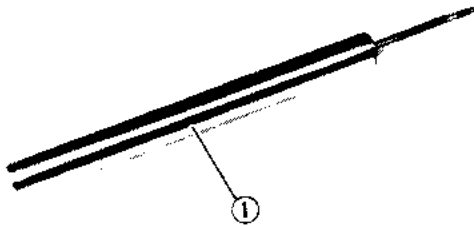
9. Remove:
- Muffler
 - Circlip ①
 - Pin ②
 - Stabilizer slider ③

NOTE: _____
 Pull left side of the stabilizer bar to inside, then remove the circlip.

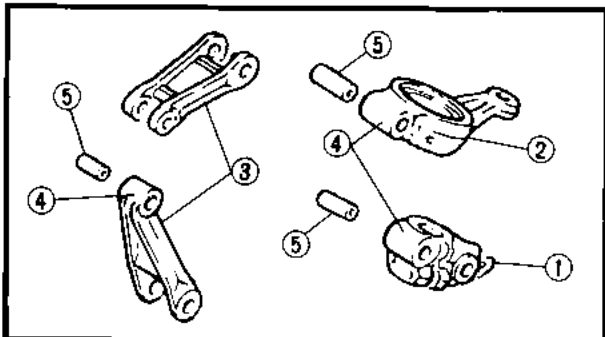
3

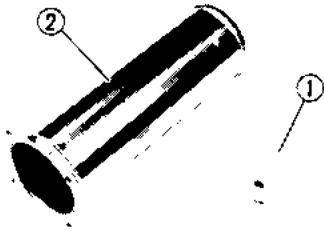
INSPECTION

1. Inspect:
- Shock absorber ①
 Oil leaks/Bending/Damage → Replace.



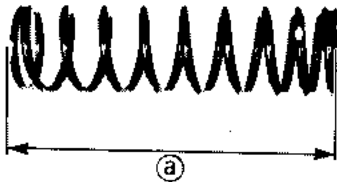
2. Inspect:
- Suspension brackets ①
 - Suspension arm ②
 - Front arms ③
 Cracks/Wear/Damage → Replace.
 - Bushings ④
 - Collars ⑤
 Wear/Scratches/Damage → Replace.





3. Inspect:

- Bump rubber ①
Wear/Damage → Replace.
- Absorber holder ②
Cracks/Bending/Damage → Replace.



4. Inspect:

- Spring
Wear/Cracks/Damage → Replace.

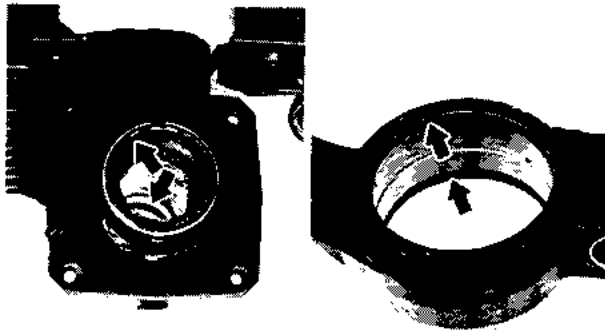
5. Measure:

- Spring free length ①
Out of specification → Replace.

**Spring free length limit:**

For EX570(E)/ST:
235.0 mm (9.25 in)

For EX570SX:
251.0 mm (9.88 in)



6. Inspect:

- Oil seals
Damage → Replace.

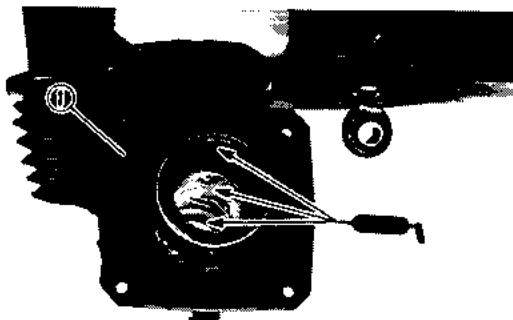


7. Inspect:

- Stabilizer slider
Unsmooth movement → Apply a low temperature grease into the stabilizer slider.

**Recommended grease:**

**ESSO beacon 325 grease or
Aeroshell grease #7A**

**INSTALLATION**

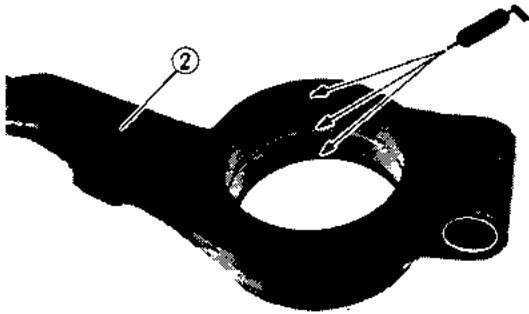
Reverse the "REMOVAL" procedure.
Note the following points.

1. Lubricate:

- Bushing (suspension support ①)
- Bushing (suspension arm ②)
- Oil seal lips ③

**Recommended grease:**

**ESSO beacon 325 grease or
Aeroshell grease #7A**



2. Install:
- Suspension arm

CAUTION:

Always use a new circlip.

NOTE:

Install the suspension arm so the "L" mark is on the left side and the "R" mark is on the right side.

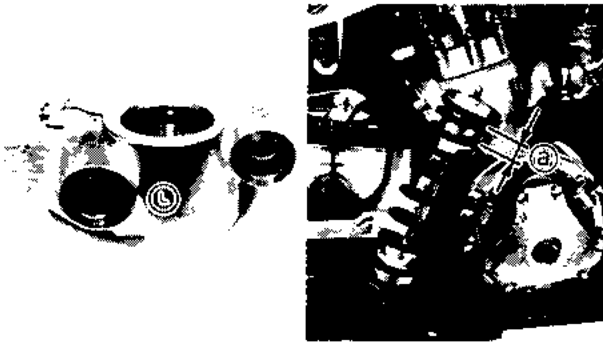
3. Tighten:



Suspension bracket nut:
21 Nm (2.1 m • kg, 15 ft • lb)

Set screw:
2 Nm (0.2 m • kg, 1.4 ft • lb)
LOCTITE®

3

**NOTE:**

- Install the suspension bracket so the "L" mark is on the left side and the "R" mark is on the right side.
- Install the spring with the small pitch side ⓐ upward.

4. Tighten:



Absorber holder bolt:
10 Nm (1.0 m • kg, 7.2 ft • lb)

Shock absorber nut:
5 Nm (0.5 m • kg, 3.6 ft • lb)

Locknut (shock absorber):
16 Nm (1.6 m • kg, 11 ft • lb)

Front arm nut:
43 Nm (4.3 m • kg, 31 ft • lb)

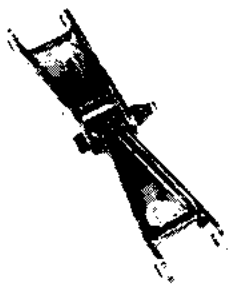
Tie-rod nut:
25 Nm (2.5 m • kg, 18 ft • lb)

NOTE:

Be sure to install the front arms so that the "UPPER" mark is located in the upper position and the "LOWER" mark is in the lower position.

CAUTION:

Always use a new cotter pin.



**CHAPTER 4.
POWER TRAIN**

PRIMARY SHEAVE AND DRIVE V-BELT 4-1
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 DISASSEMBLY 4-2
 INSPECTION 4-4
 ASSEMBLY 4-5
 INSTALLATION 4-7

SECONDARY SHEAVE 4-8
 REMOVAL 4-9
 DISASSEMBLY 4-9
 INSPECTION 4-9
 ASSEMBLY 4-10
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 ADJUSTMENT 4-12

**DRIVE CHAIN HOUSING AND
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 INSTALLATION 4-19

BRAKE 4-20
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 INSPECTION 4-29
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FRONT AXLE AND TRACK 4-31
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 INSTALLATION 4-33

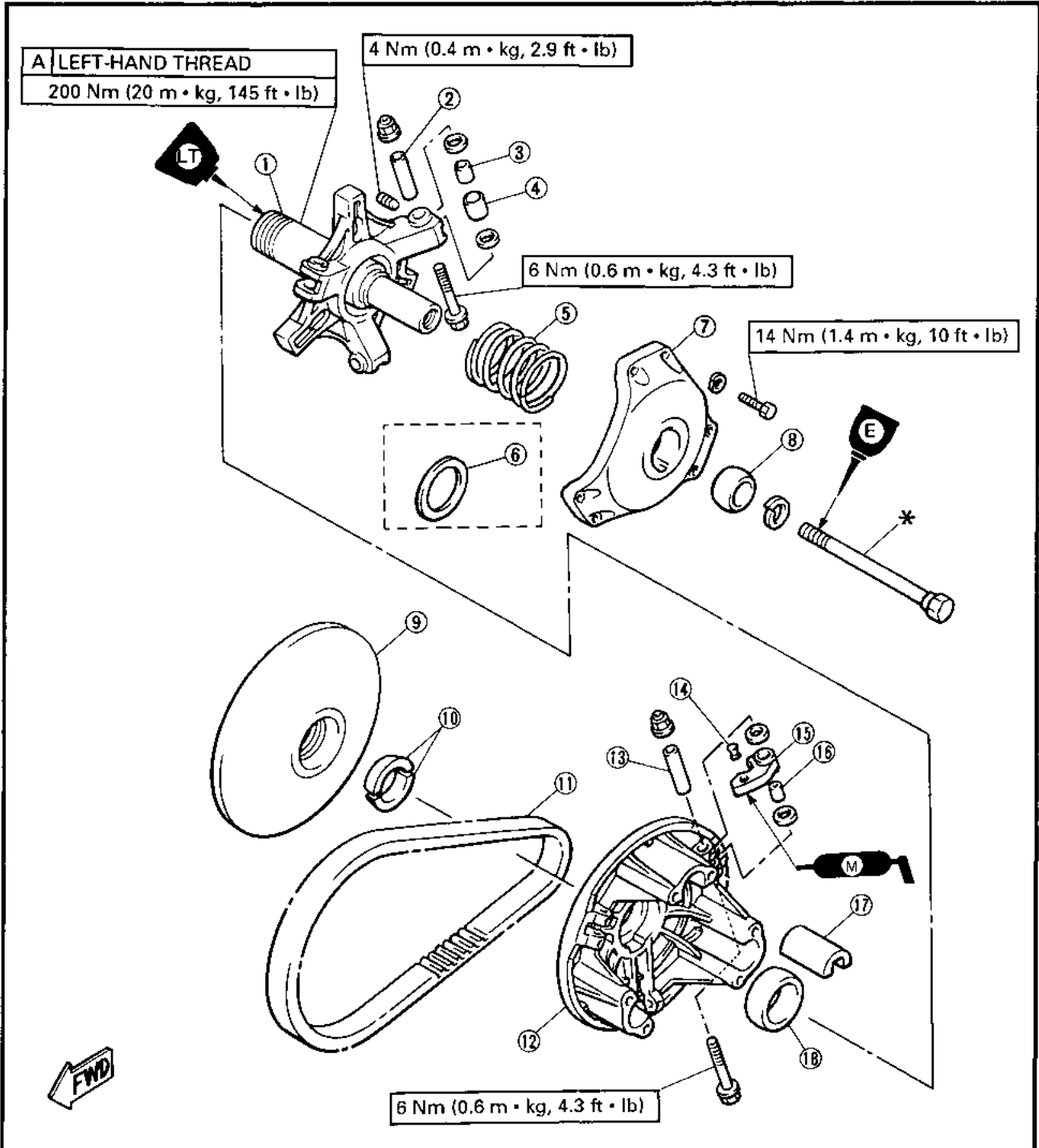
4E001

POWER TRAIN

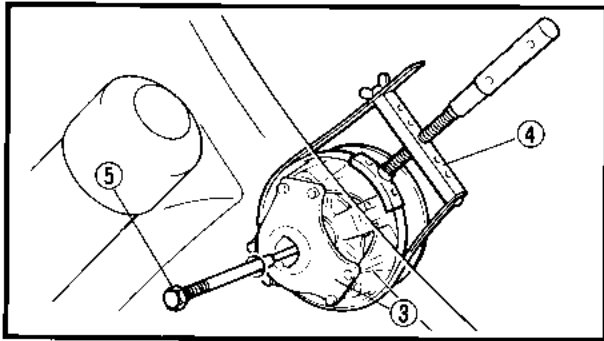
PRIMARY SHEAVE AND DRIVE V-BELT

- ① Spider
- ② Collar
- ③ Bushing
- ④ Roller
- ⑤ Primary sheave spring
- ⑥ Shim
- ⑦ Primary sheave cap
- ⑧ Bushing
- ⑨ Fixed sheave
- ⑩ Stopper
- ⑪ V-belt
- ⑫ Sliding sheave
- ⑬ Collar
- ⑭ Rivet
- ⑮ Weight
- ⑯ Bushing
- ⑰ Slider
- ⑱ Bushing

- *
1. Tighten the bolt.
120 Nm (12 m • kg, 87 ft • lb)
 2. Loosen the bolt completely.
 3. Retighten the bolt.
60 Nm (6.0 m • kg, 43 ft • lb)



4



REMOVAL

1. Remove:

- Primary sheave assembly ③

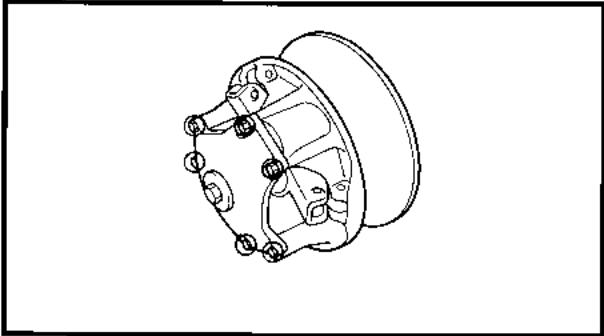
NOTE:

Use the primary sheave holder ④ and primary sheave puller ⑤.



Primary sheave holder: ④
90890-01701, YS-01880

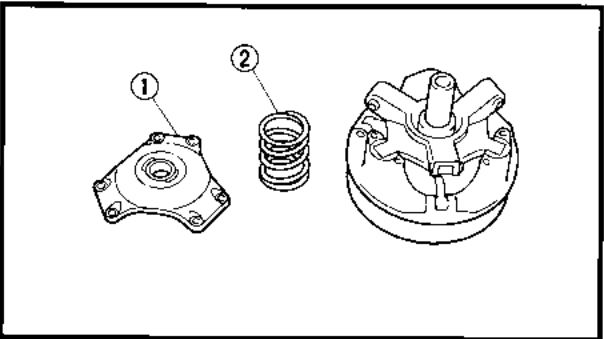
Primary sheave puller: ⑤
YS-01881-1, YS-38517



DISASSEMBLY

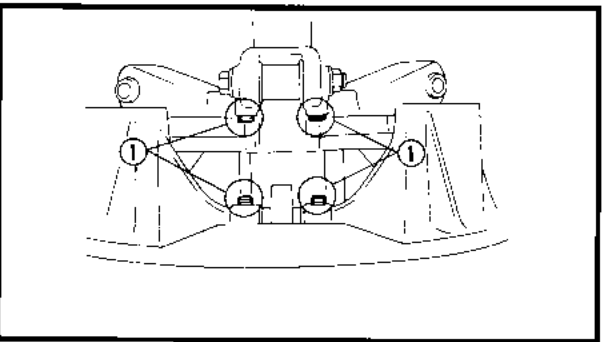
1. Remove:

- Bolts (primary sheave cap)



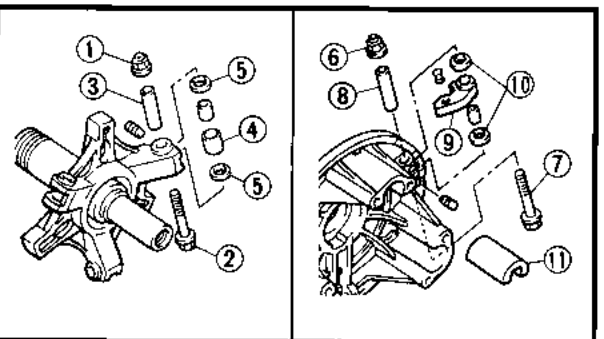
2. Remove:

- Primary sheave cap ①
- Primary sheave spring ②



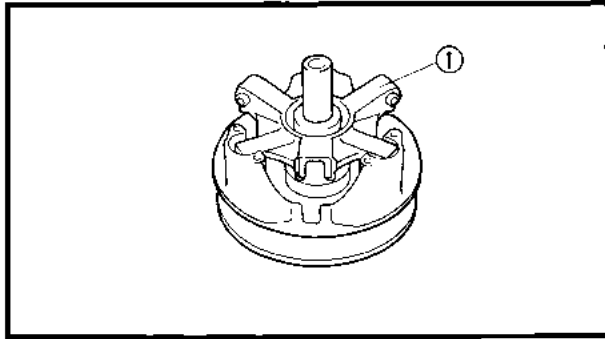
3. Loosen:

- Set screws ①



4. Remove:

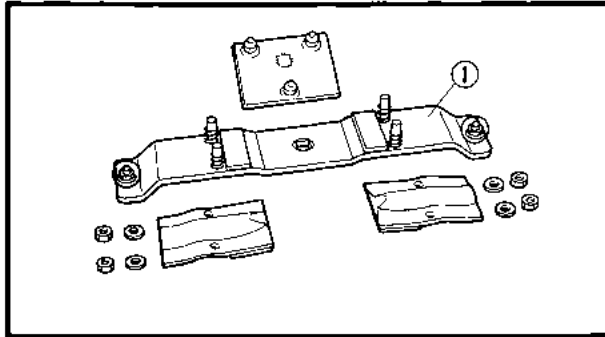
- Nut ①
- Bolt ②
- Collar ③
- Roller ④
- Washers ⑤
- Nut ⑥
- Bolt ⑦
- Collar ⑧
- Weight ⑨
- Washers ⑩
- Slider ⑪



5. Remove:
- Spider ①

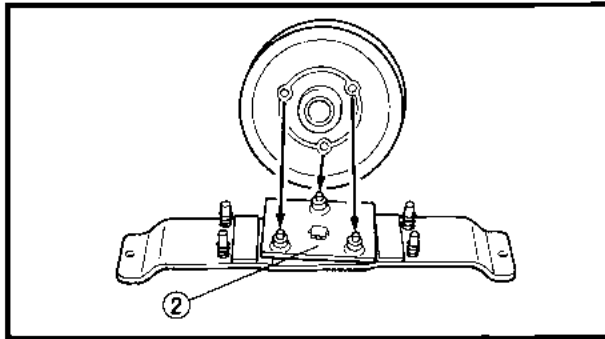
NOTE:

Special tools and LOCTITE® are necessary for assembling the spider and fixed sheave. If these are unavailable, avoid disassembling.



Removal steps:

- Immerse the primary sheave assembly in approximately 80° ~ 100° C (176° ~ 212° F) water for several minutes.
- Hold the lower piece of the Clutch Spider Separator (90890-01711, YS-28890-B) ① on a rigid table using a suitable mounting bolts. Then, install the Clutch Separator Adapter (90890-01740, YS-34480) ② onto the separator.
- Fit the primary sheave assembly onto the adapter, and secure the supporting plates ③.



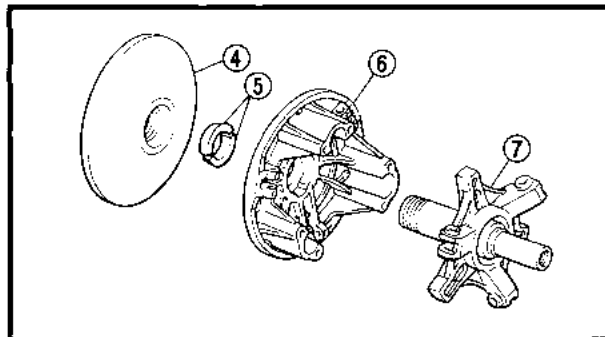
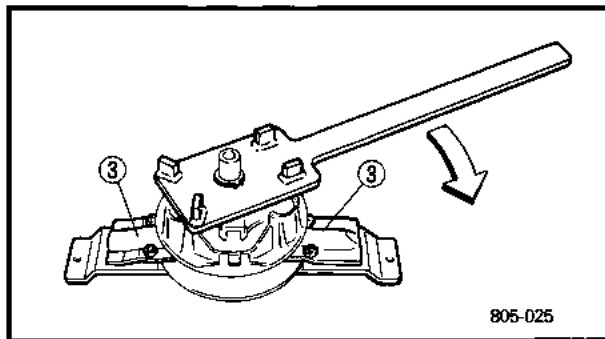
NOTE:

Securely fit the projections of the adapter into the fixed sheave holes.

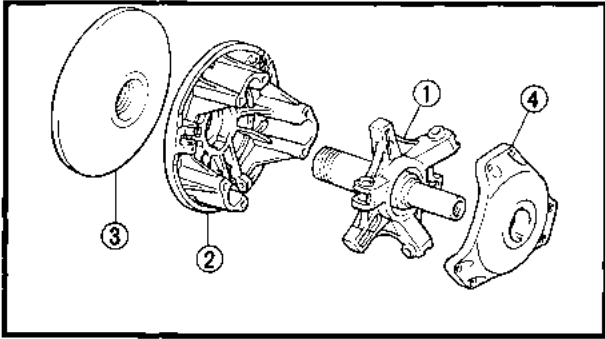
- Set the bar wrench onto the spider and turn the special tool clockwise to loosen the spider.

CAUTION:

- Spider has a left-hand thread.
- To loosen the spider, high torque is required so be sure that the spider, fixed sheave and special tool are placed securely. Loosen the spider carefully to prevent cracks and/or damage to the sheaves and spider.

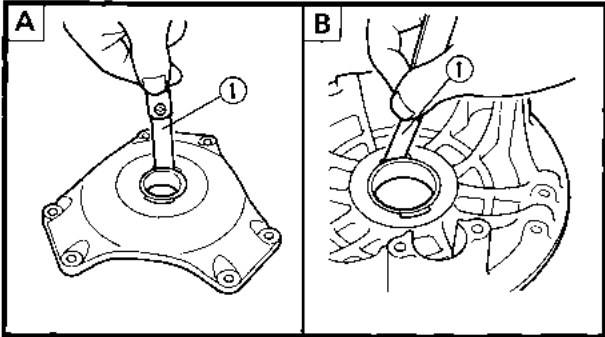


- Remove the fixed sheave ④, fixed sheave stopper ⑤, and sliding sheave ⑥ from the spider ⑦.




INSPECTION

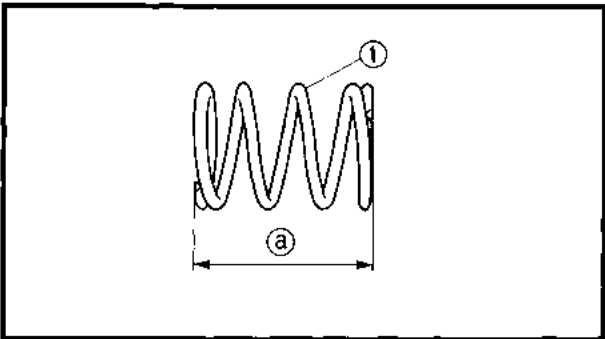
1. Inspect:
- Spider ① (tapered portion)
 - Sliding sheave ②
 - Fixed sheave ③
 - Primary sheave cap ④
- Cracks/Damage → Replace.




2. Measure:
- Bushing-to-sheave clearance
- Out of specification → Replace bushing.
Use a feeler gauge ①

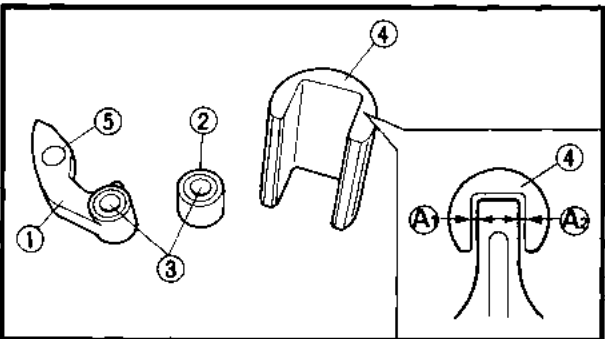
 **Bush clearance (primary sheave cap) A :**
0.25 mm (0.01 in)

Bush clearance (sliding sheave) B :
0.25 mm (0.01 in)




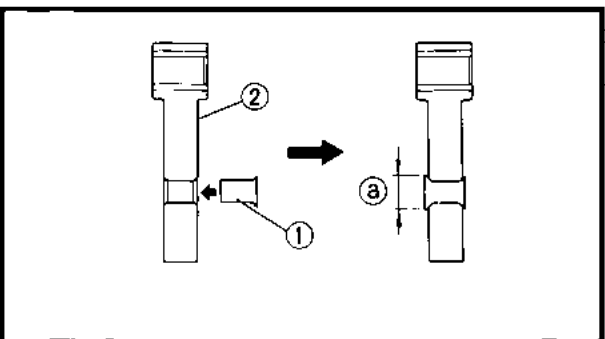
3. Inspect:
- Primary sheave spring ①
- Cracks/Damage → Replace.
4. Measure:
- Primary sheave spring free length @
- Out of specification → Replace.

 **Primary sheave spring free length:**
76.5 mm (3.01 in) For EX570(E)
85.4 mm (3.36 in) For EX570ST
78.7 mm (3.1 in) For EX570SX



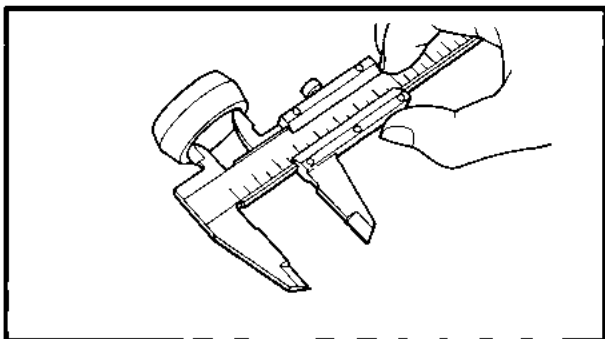
5. Inspect:
- Weight ①
 - Roller ②
 - Bushing ③
 - Slider ④
 - Rivet ⑤
 - Collar
- Wear/Scratches/Damage → Replace.

 **Slider inside clearance (A₁ + A₂)**
Min. 0.15 mm (0.0059 in)
Max. 0.45 mm (0.0177 in)



Rivet replacement steps:

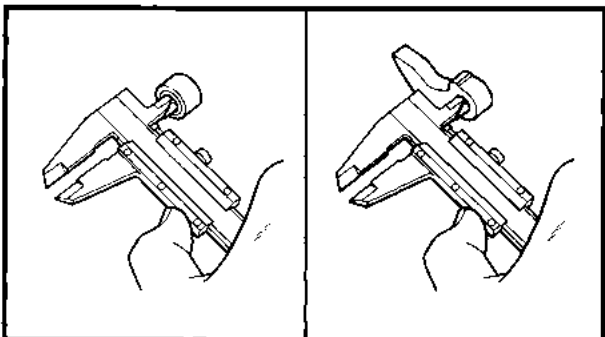
- Remove old rivet with the appropriate drill.
- Insert the rivet ① from the ID mark ② side.
- Press or peen the rivet head so that the diameter of rivet head measures to 8.2 mm (0.32 in) or larger @.



6. Measure:

- Bushing inside diameter
- Out of specification → Replace.

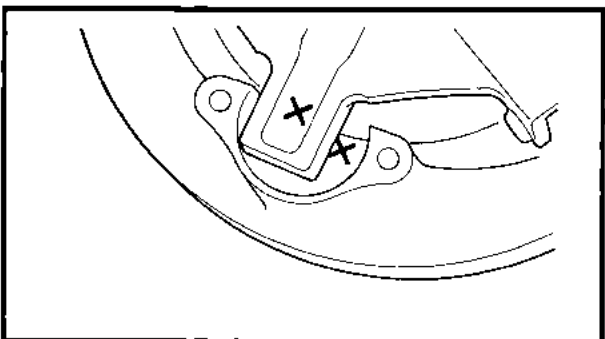
	Bushings inside diameter	
	Primary sheave cap	Sliding sheave
New	28.0 mm (1.10 in)	41.0 mm (1.61 in)
Wear limit	28.2 mm (1.11 in)	41.2 mm (1.62 in)



7. Measure:

- Bushing inside diameter
- Out of specification → Replace as a set.

	Bushings inside diameter	
	Roller	Weight
New	8.0 mm (0.31 in)	←
Wear limit	8.2 mm (0.32 in)	←

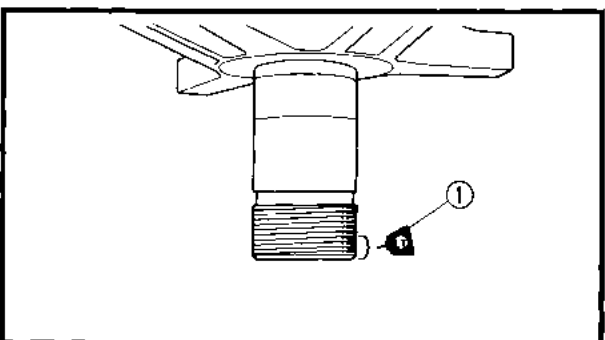


ASSEMBLY

Reverse the "DISASSEMBLY" procedure. Note the following points.

1. Install:
 - Sliding sheave (onto spider)

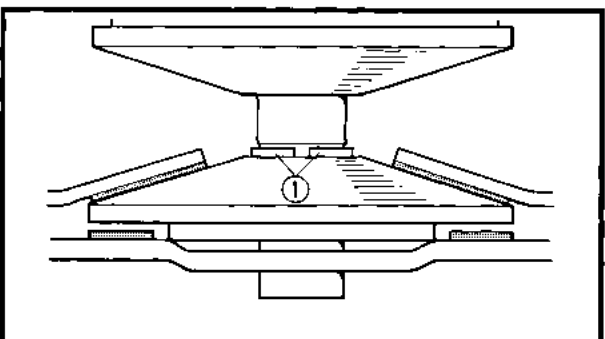
NOTE: Be sure the sliding sheave match mark (x) is aligned with the spider match mark (x).



2. Install:
 - Fixed sheave (onto spider)

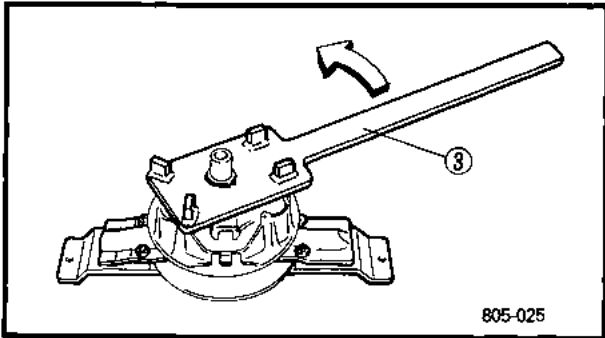
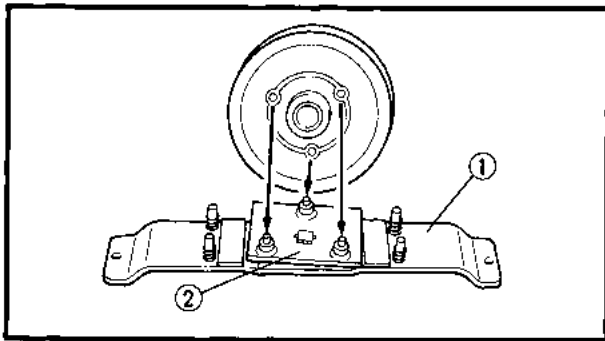
NOTE: Apply LOCTITE® ① to the first 4 threads of the spider.

CAUTION: LOCTITE® should be applied only to the area specified. Never apply to the bushings and other areas.



3. Install:
 - Fixed sheave stoppers ①

NOTE: Stopper tapered portion should face fixed sheave.



4. Tighten:
- Spider

Tightening steps:

- Finger-tighten the spider until it stopped by fixed sheave stopper.
- Hold the fixed sheave with the Clutch Spider Separator (—, YS-28890-B) ①.

NOTE:

Securely fit the projections of the Clutch Separator Adapter ② into the fixed sheave holes.

- Tighten the spider to specification using the bar wrench ③.



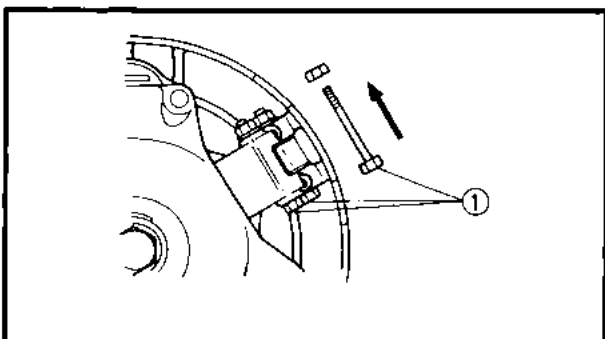
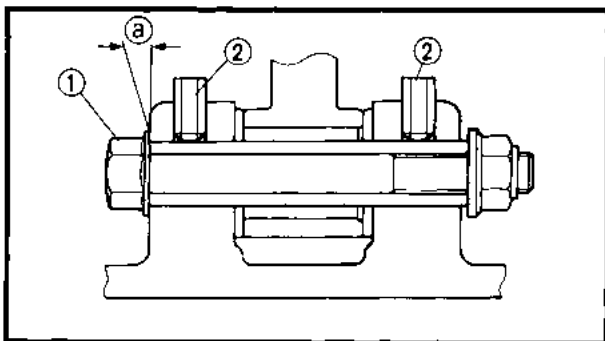
Spider:
200 Nm (20 m • kg, 145 ft • lb)

CAUTION:

Spider has a left-hand thread.

WARNING

- Do not operate the primary sheave until the LOCTITE® has dried completely. Wait 24 hours before operating primary sheave.
- Since the tightening torque is high, make sure the spider, fixed sheave, and special tool are placed securely. Tighten the spider carefully to prevent cracks and/or damage to the sheaves and spider.



5. Install:
- Weight and roller

Installing steps:

- Tighten the bolt ①.



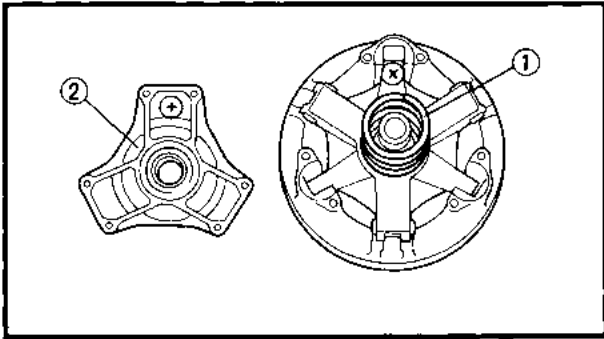
Bolt:
6 Nm (0.6 m • kg, 4.3 ft • lb)

- Tighten the set screw ② so that clearance ① between bolt and sheave surface is 0 mm (0 in).

NOTE:

To maintain the balance of primary sheave, the bolt ① must be installed with their threaded portions pointing in a counterclockwise direction, as illustration.

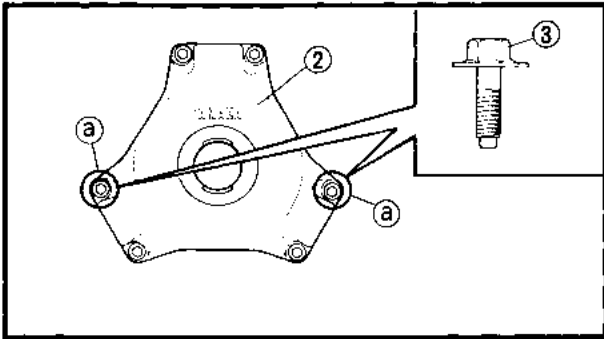
PRIMARY SHEAVE AND DRIVE V-BELT



6. Lubricate:
- Primary sheave spring ①
 - Primary sheave cap ②

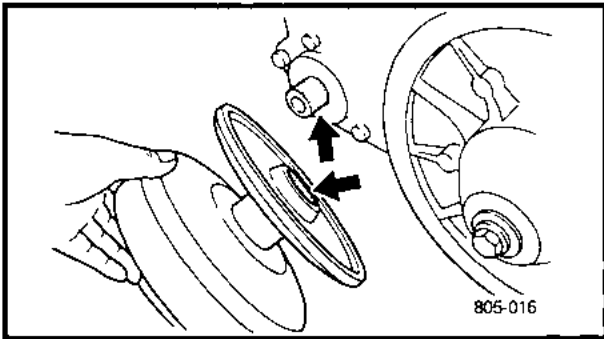
NOTE:

- Be sure the sheave cap match mark "X" is aligned with the spider match mark "X".
- Be sure to use the flange bolts ③ to position ① to maintain the balance of primary sheave.



7. Tighten:

	Primary sheave cap bolt: 14 Nm (1.4 m • kg, 10 ft • lb)
--	---



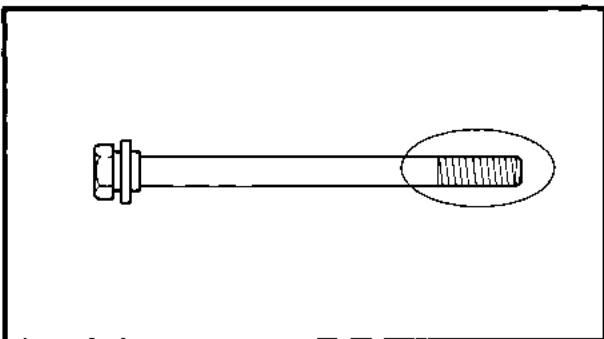
INSTALLATION

Reverse the "REMOVAL" procedure. Note the following points.

1. Install:
- Primary sheave assembly

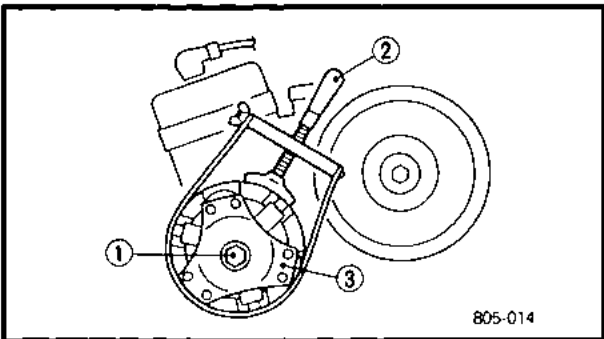
CAUTION:

Be sure to remove any oil and/or grease from the tapered portion of the crankshaft and spider using a cloth dampened with thinner.



2. Apply:
- YAMALUBE 2-cycle oil/equivalent grease (to threads of primary sheave bolt)
3. Tighten:
- Bolt ① (primary sheave)

Tightening steps:	
<ul style="list-style-type: none"> • Hold the primary sheave ③ using the Primary Sheave Holder (90890-01701, YS-01880) ② and tighten the bolt (primary sheave) to specification. 	



	Bolt (primary sheave): (initial tightening) 120 Nm (12 m • kg, 87 ft • lb)
--	---

- Loosen the bolt (primary sheave) completely.
- Retighten the bolt (primary sheave) to specification.

	Bolt (primary sheave): 60 Nm (6.0 m • kg, 43 ft • lb)
--	---

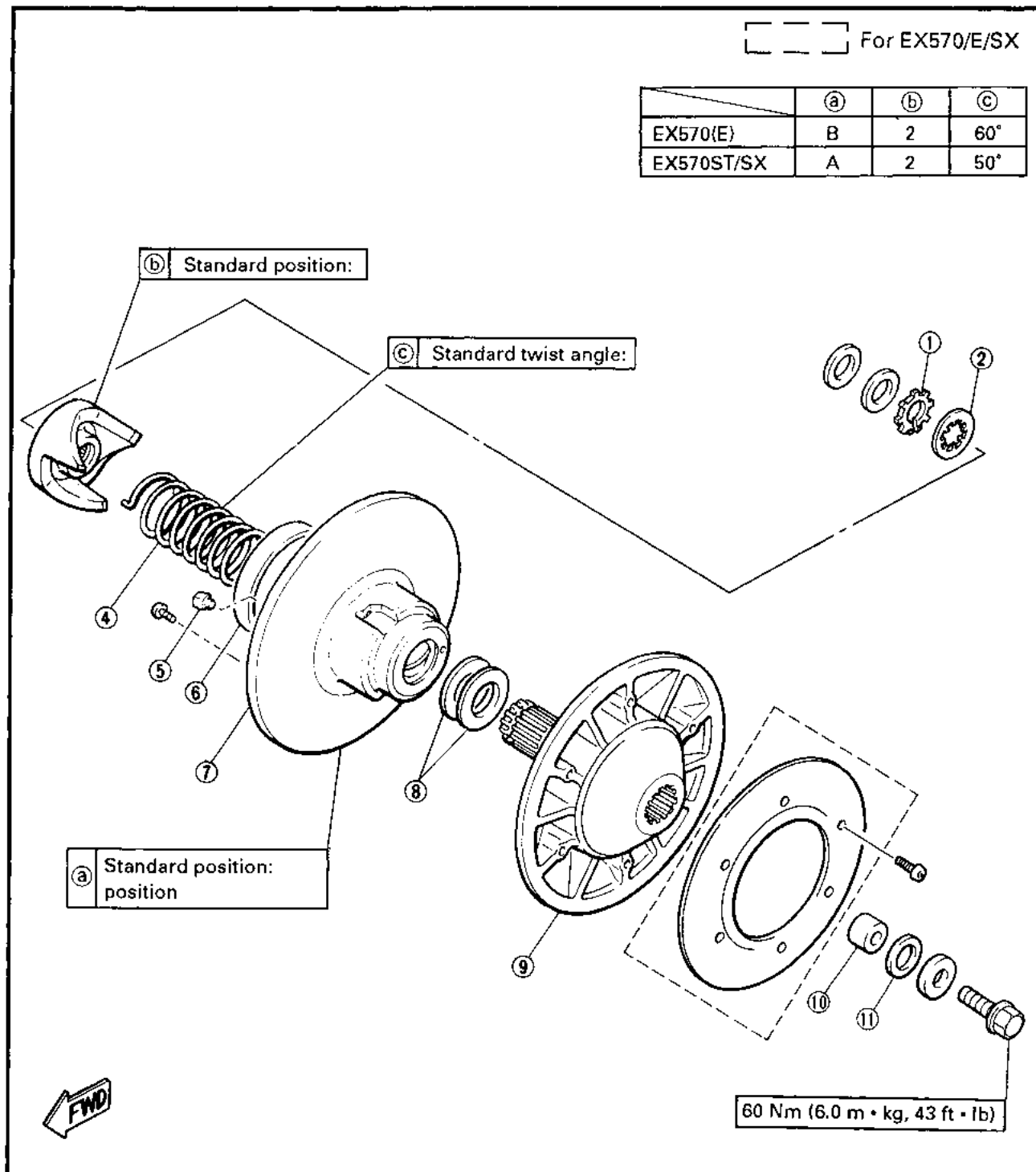
4E011

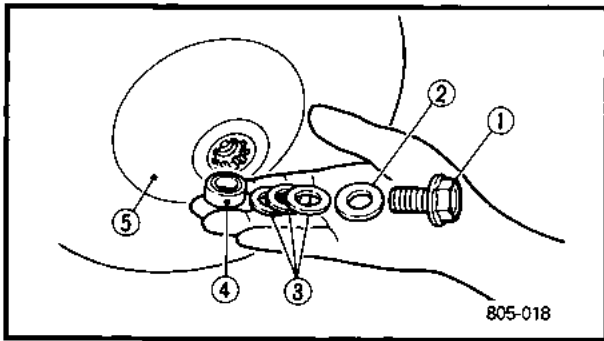
SECONDARY SHEAVE

- ① Circlip
- ② Washer
- ③ Spring seat
- ④ Secondary spring
- ⑤ Ramp shoe
- ⑥ Sliding bushing
- ⑦ Sliding sheave
- ⑧ Shim
- ⑨ Fixed sheave
- ⑩ Collor
- ⑪ Shim

For EX570(E)/SX

	a	b	c
EX570(E)	B	2	60°
EX570ST/SX	A	2	50°





REMOVAL

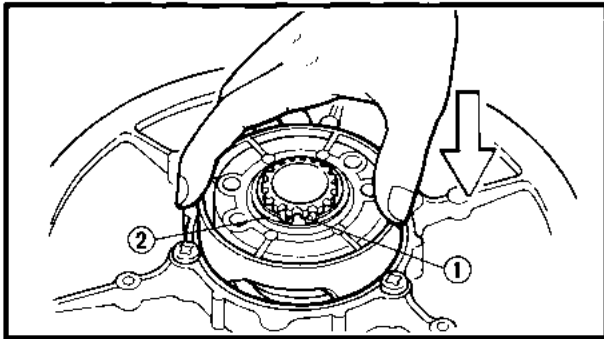
1. Apply the brake to lock the secondary sheave.
2. Remove:
 - Bolt ① (secondary sheave)
 - Washer ②
 - Shim(s) ③
 - Collar ④
 - Secondary sheave ⑤

DISASSEMBLY

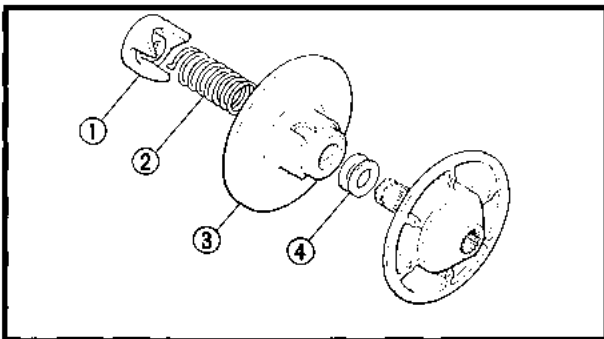
⚠ WARNING

- Use extreme CAUTION when disassembling the secondary sheave as serious injury can occur from the sudden release of spring tension. Use the Sheave Compressor (90890-01712, YS-28891) to contain the spring tension before removing the retaining clip.
- Do not attempt the procedure unless you have the proper tools and understand the instructions thoroughly.

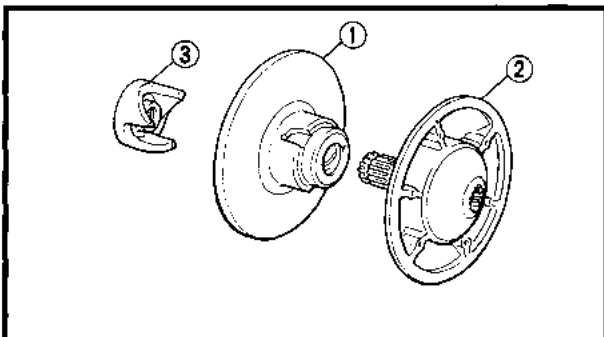
4



1. Remove:
 - Circlip ①
 - Washer ②

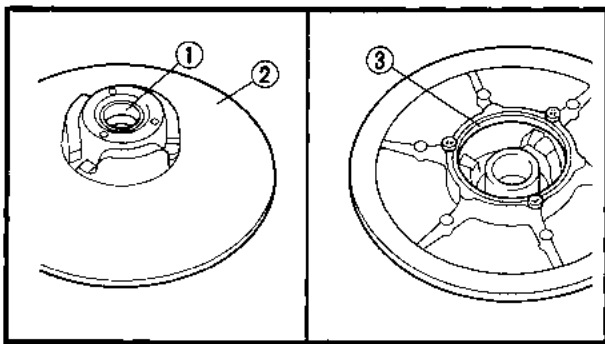


2. Remove:
 - Spring seat ①
 - Secondary sheave spring ②
 - Sliding sheave ③
 - Shim(s) ④ (drive V-belt)
(from fixed sheave)



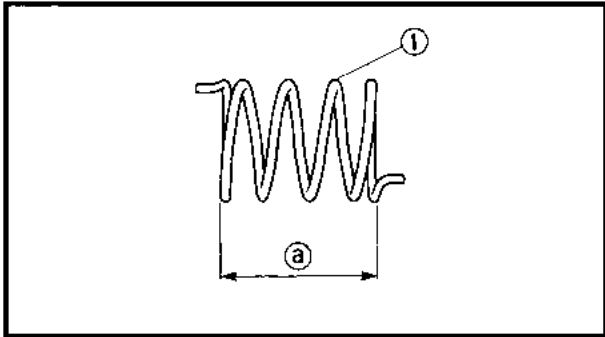
INSPECTION

1. Inspect:
 - Sliding sheave ①
 - Fixed sheave ②
 - Spring seat ③
Cracks/Damage → Replace.



2. Inspect:

- Bushing ① (sliding sheave)
- Sliding sheave ② (V-belt contact surface)
Scratches/Wear/Damage → Replace.
- Sliding bushing ③
Unsymmetrical wear/Damage → Replace.




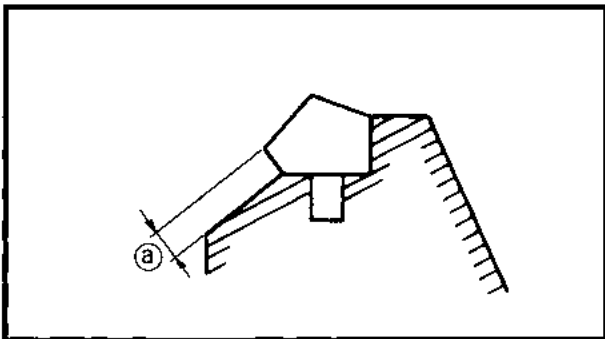
3. Inspect:

- Secondary sheave spring ①
Cracks/Damage → Replace.

4. Measure:


- Torsion spring free length ②
Less than specification → Replace.

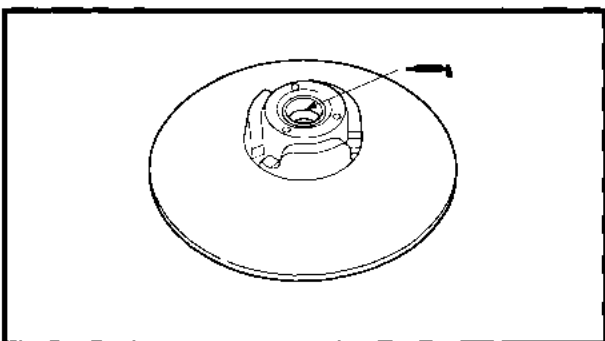
 **Free length limit :**
85.0 mm (3.35 in)



5. Measure:

- Ramp shoe thickness ②
Out of specification → Replace.

 **Wear limit:**
1.0 mm (0.04 in)




ASSEMBLY

Reverse the "DISASSEMBLY" procedure.
Note the following points.

1. Lubricate:

- Bushing surface (thin coat)

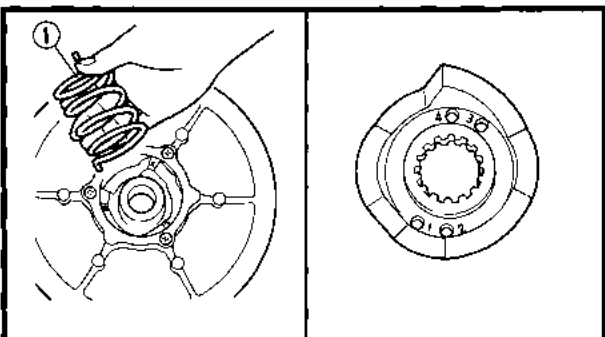
 **Recommended grease:**
ESSO beacon 325 grease or
Aeroshell grease #7A

2. Install:

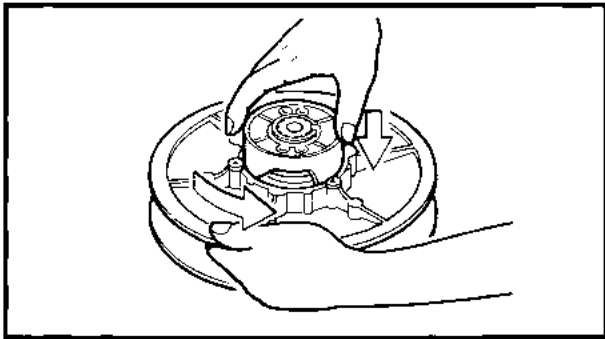
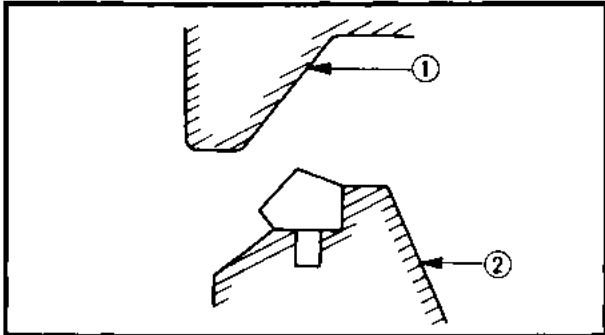
- Secondary sheave spring ①

NOTE:

Hook the end of the secondary sheave spring onto the spring hole in the sliding sheave.



Standard spring position:
Position "B"- "2" For EX570(E)
"A"- "2" For EX570ST/SX



Installation steps:

CAUTION:

- Always use a new circlip.
- Turn in the screw for the sheave compressor so that the spring seat splines engage with the fixed sheave splines.

NOTE:

Turn in this screw to a position where the spring seat cam ① does not come in contact with the sliding sheave cam ②.

- Turn the sliding sheave the specified degrees, in the counterclockwise direction.
- Holding the sliding sheave and fixed sheave in this position.

Standard twist angle:

- A-2 → 50°
- B-2 → 60°


- Turn in the screw for the sheave compressor so that the spring seat engages with the sliding sheave.
- Install the washer and circlip in proper position.

INSTALLATION


Reverse the "REMOVAL" procedure.

Note the following points.

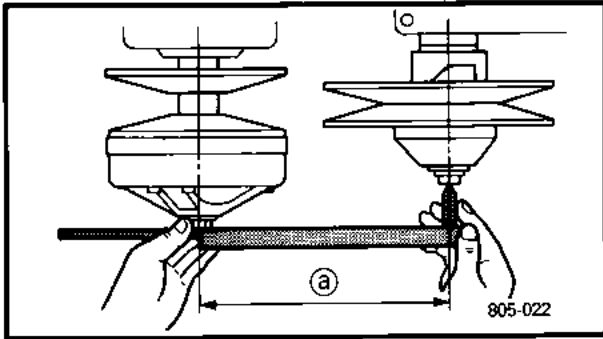
1. Lubricate:
 - Splines (fixed sheave)

	<p>Recommended grease: ESSO beacon 325 grease or Aero shell grease #7A</p>
---	---

2. Tighten:

	<p>Secondary sheave bolt: 60 Nm (6.0 m • kg, 43 ft • lb)</p>
---	--

3. Adjust:
 - Sheave distance
 - Sheave offset
 - Free play (clearance)



4E021

SHEAVE DISTANCE AND OFFSET ADJUSTMENT

1. Measure:

- Sheave distance ①
Use the Sheave Gauge (—, YS-91047-A).
Out of specification → Adjust.



Sheave distance:
267 ~ 270 mm (10.5 ~ 10.6 in)

2. Adjust:

- Sheave distance

Adjustment steps:

- Check the engine mounting bracket, dampers and frame for bends, cracks and corrosion. Repair or replace as required.
- Loosen the engine mounting nuts ①.
- Adjust the position of the engine with the adjuster ②.

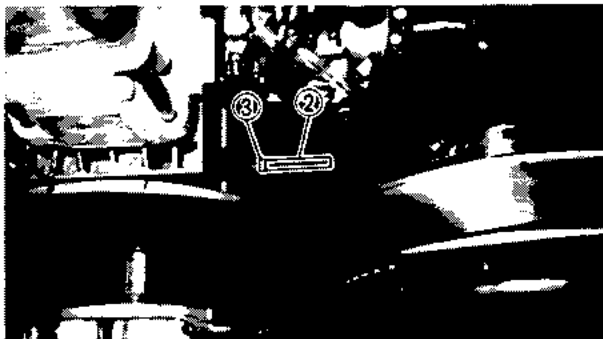
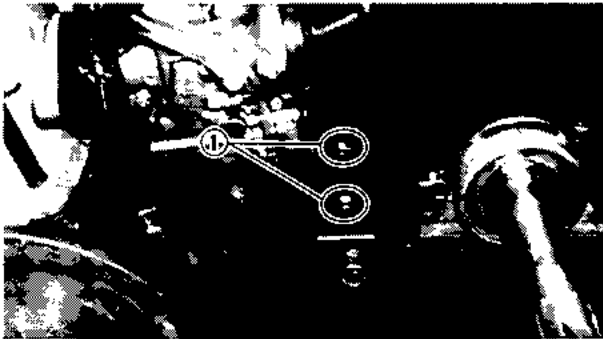
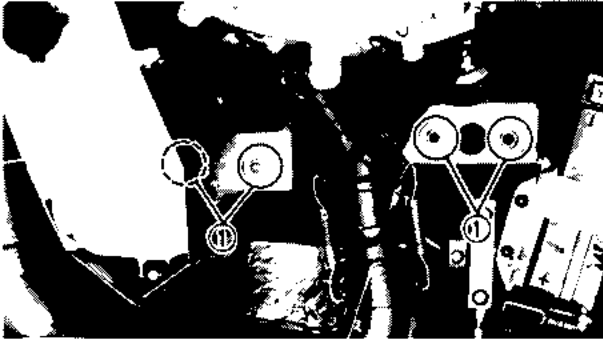
Loosen the locknuts ③ and turn the adjuster in or out until the specified distance is obtained, the crankshaft and jackshaft being parallel to each other.

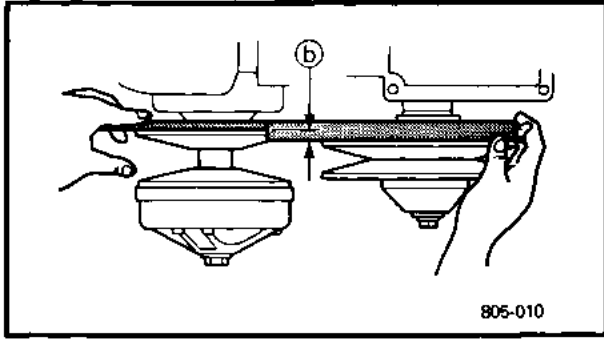
- Tighten the locknuts ③.
- Tighten the engine mounting nuts ①.



Mounting nut:
40 Nm (4.0 m · kg, 29 ft · lb)

Locknut (adjuster):
36 Nm (3.6 m · kg, 26 ft · lb)

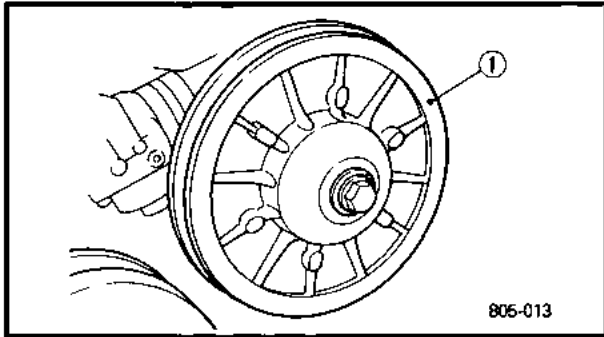




3. Measure:

- Sheave offset (b)
- Use the Sheave Gauge (—, YS-39506-1).
- Out of specification → Adjust.

 **Sheave offset:**
14.5 ~ 17.5 mm (0.57 ~ 0.69 in)



4. Adjust:

- Sheave offset

Adjustment steps:

- Apply the brake to lock the secondary sheave.
- Remove the bolt (secondary sheave) and secondary sheave (1).
- Adjust the sheave offset by adding or removing shim(s) (2).


Adding shim Offset is increased.

Removing shim Offset is decreased.

Shim size

Part number	Thickness
90201-252F1	0.5 mm (0.02 in)
90201-25527	1.0 mm (0.04 in)
90201-25526	2.0 mm (0.08 in)

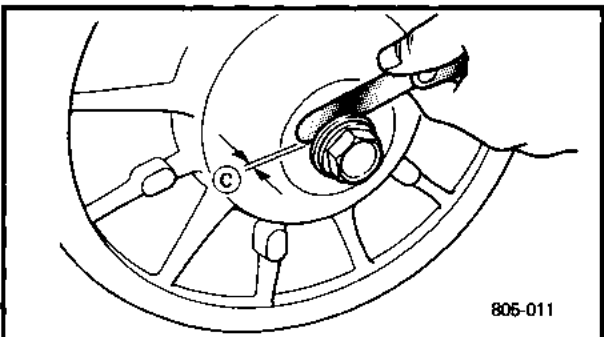
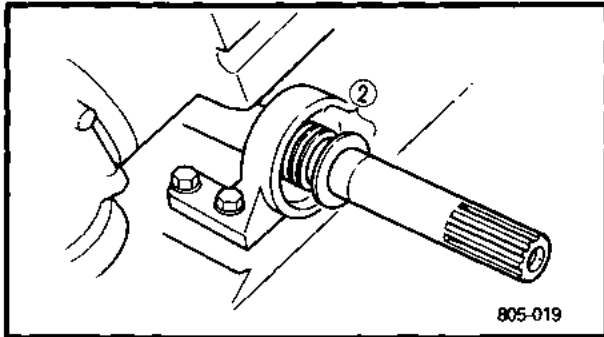
- Install the secondary sheave and bolt (secondary sheave).

 **Bolt (secondary sheave):**
60 Nm (6.0 m • kg, 43 ft • lb)

- Recheck the sheave offset. If out of specification, repeat the above steps.


NOTE:

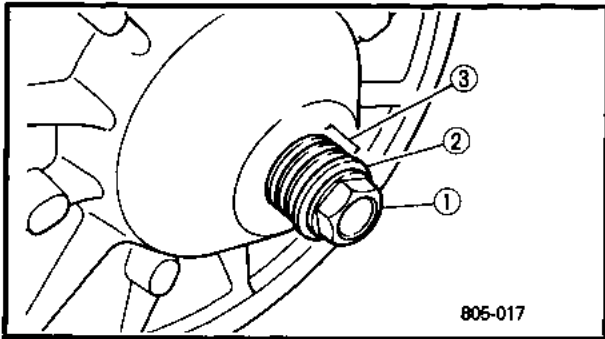
When adjusting the sheave offset, the secondary sheave free play (clearance) should be adjusted.



5. Measure:

- Secondary sheave free play (c) (clearance)
- Use a feeler gauge.
- Out of specification → Adjust.

 **Secondary sheave free play (clearance):**
0.5 ~ 1.0 mm (0.02 ~ 0.04 in)



6. Adjust:
- Secondary sheave free play (clearance)

Adjustment steps:

- Apply the brake to lock the secondary sheave.
- Remove the bolt (secondary sheave ①) and washer ②.
- Adjust the secondary sheave free play (clearance) by adding or removing a shim(s) ③.

Adding shim	Free play is decreased.
Removing shim	Free play is increased.

Shim size	
Part number	Thickness
90201-222F0	0.5 mm (0.02 in)
90201-225A4	1.0 mm (0.04 in)

- Install the washer and bolt (secondary sheave), and tighten the bolt.



Bolt (secondary sheave):
60 Nm (6.0 m • kg, 43 ft • lb)

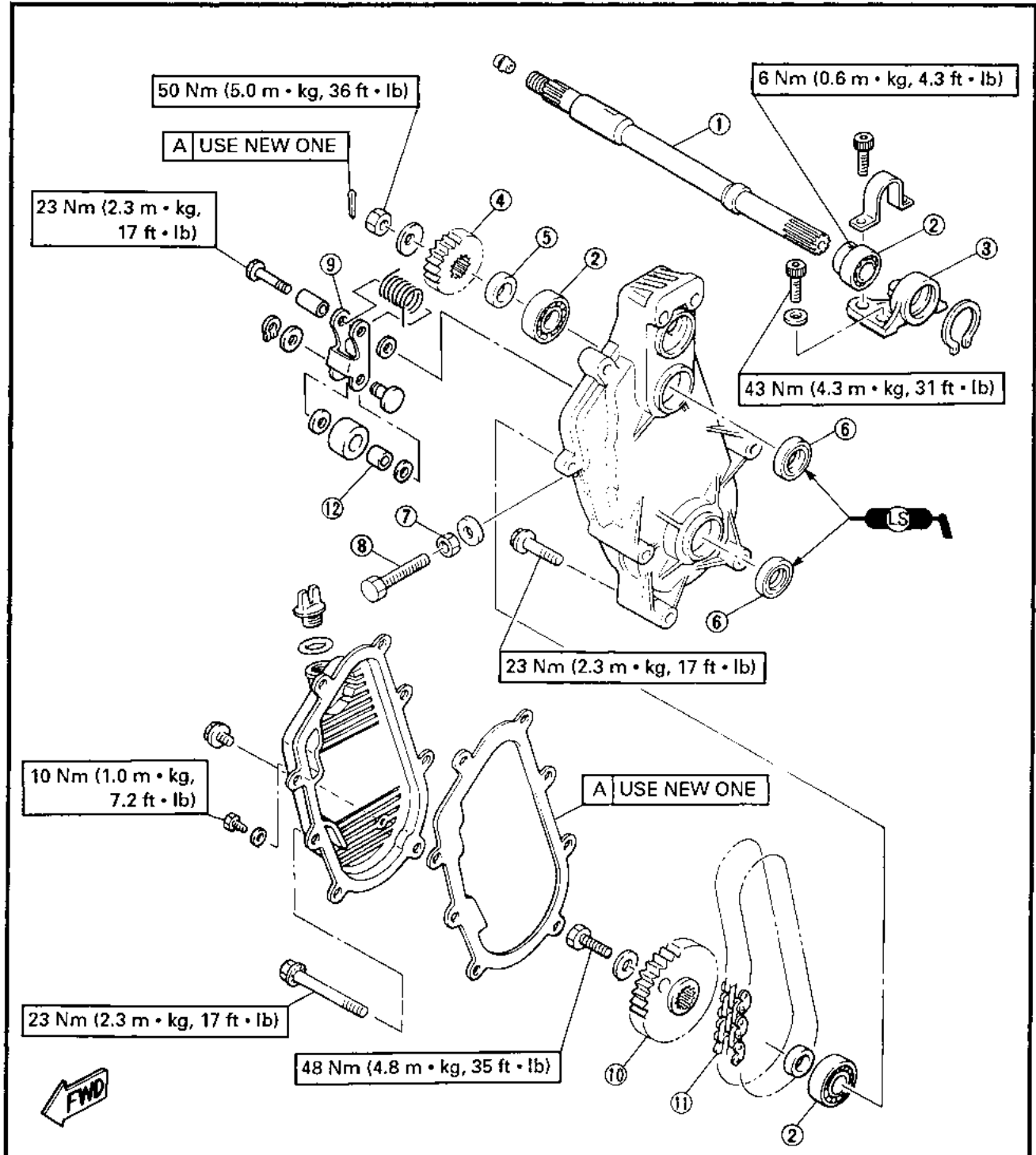
- Recheck the secondary sheave free play (clearance). If out of specification, repeat the above steps.

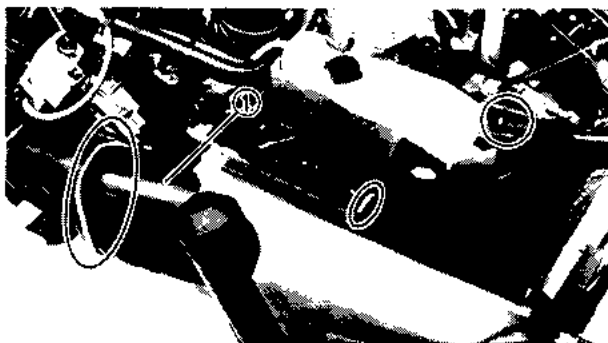
4E031

DRIVE CHAIN HOUSING AND JACKSHAFT

- ① Jackshaft
- ② Bearing
- ③ Bearing holder
- ④ Drive sprocket
- ⑤ Collar
- ⑥ Oil seal
- ⑦ Locknut
- ⑧ Adjuster
- ⑨ Drive chain tensioner
- ⑩ Driven sprocket
- ⑪ Drive chain
- ⑫ Bearing

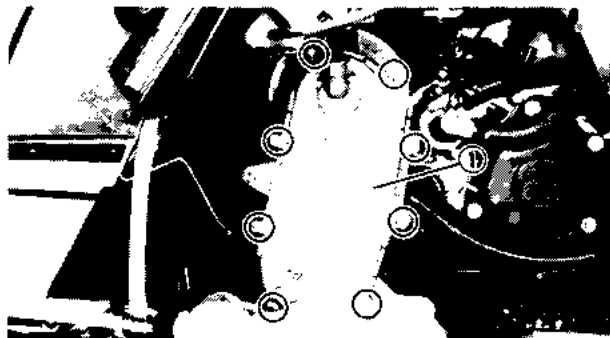
4



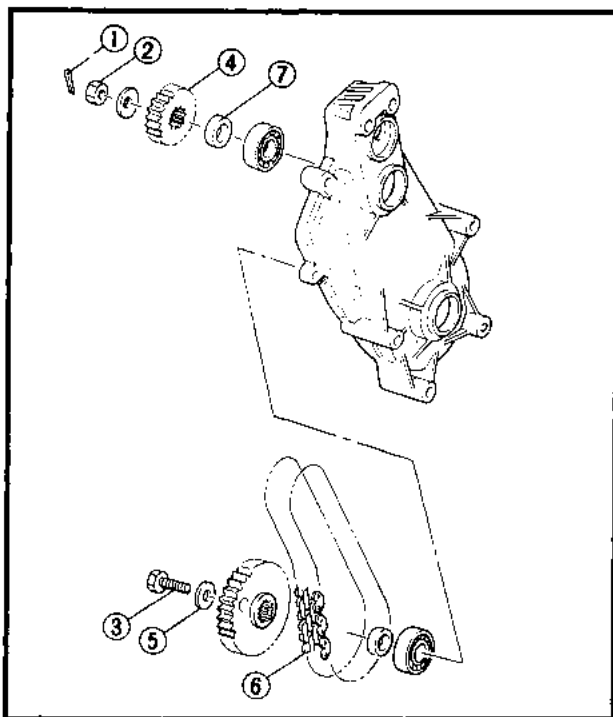


REMOVAL

1. Remove
 - Side cowlings
 - Muffler ①
 - Secondary sheave (see page 4-9)



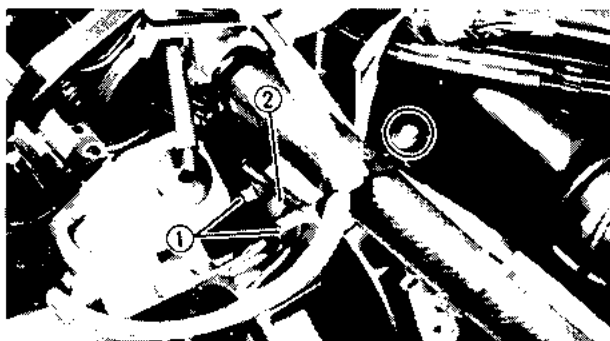
2. Remove:
 - Chain housing cover ① (see page 2-20)
3. Drain the oil.



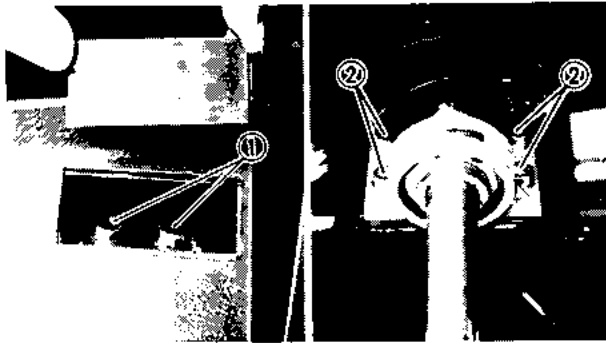
4. Remove:
 - Cotter pin ①
 - Nut ② (drive sprocket)
 - Bolt ③ (driven sprocket)
 - Drive sprocket ④
 - Driven sprocket ⑤
 - Drive chain ⑥
 - Collar ⑦

NOTE:

- Apply the brake to lock the jackshaft when removing the nut (drive sprocket) and bolt (driven sprocket).
- Loosen the adjuster (fully) when removing the drive sprocket, driven sprocket and drive chain.

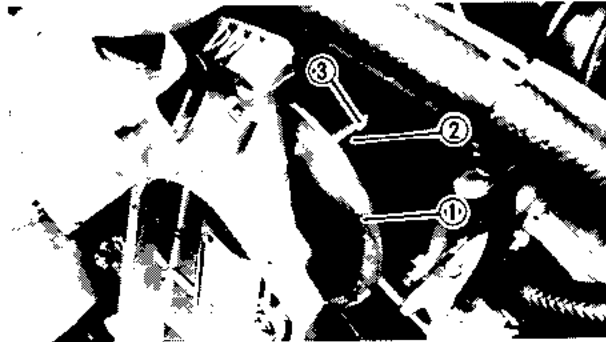


5. Remove:
 - Bolts ① (brake caliper body)
 - Stay ② (intake silencer)

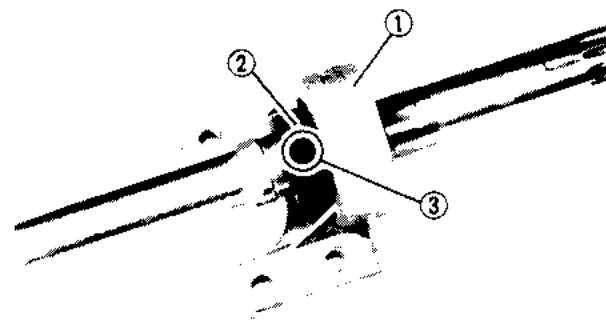


6. Remove:
- Bolts ① (intake silencer)
 - Bolts ② (bearing housing)

NOTE: _____
Remove the bolts (bearing housing) while lifting up the intake silencer.

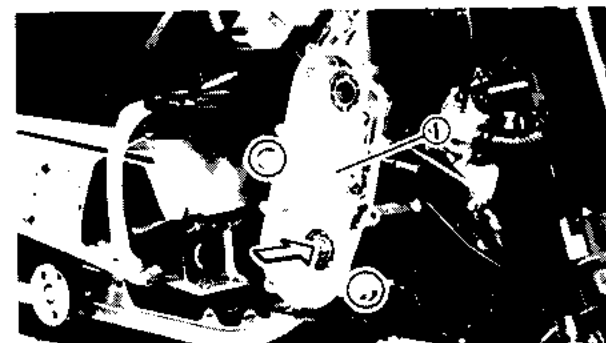


7. Remove:
- Brake disc ①
 - Woodruff key ②
 - Jackshaft ③



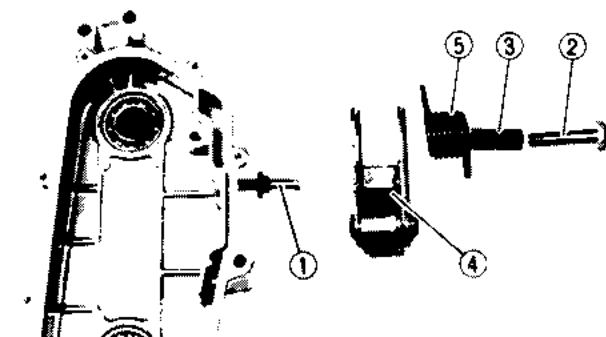
8. Remove:
- Bearing housing ①
 - Inner race holder ②

NOTE: _____
Loosen the screw (inner race holder) ③.

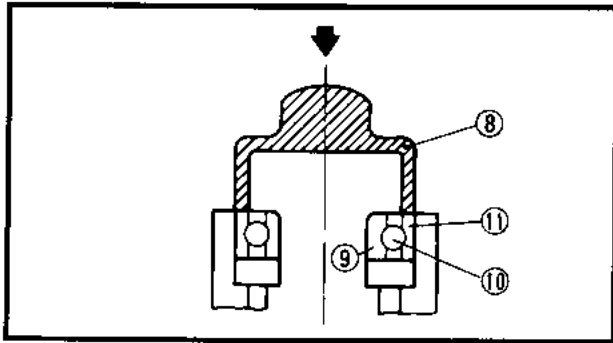
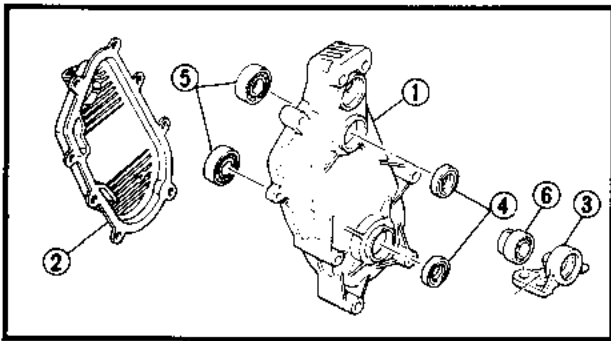


9. Loosen:
- Track (see page 4-27)
10. Remove:
- Speedometer gear assembly (see page 4-32)
 - Bearing holder
 - Drive chain housing ①

NOTE: _____
Push the front axle to the left to remove the drive chain housing.



11. Remove:
- Adjuster ① (chain tensioner)
 - Bolt ②
 - Collar ③
 - Chain tensioner ④
 - Spring ⑤



INSPECTION

1. Inspect:

- Drive chain housing ①
- Cover ② (drive chain housing)
- Bearing holder ③
Cracks/Damage → Replace.
- Oil seals ④ (drive chain housing)
Damage/Wear → Replace.
- Bearings ⑤ (drive chain housing)
Pitting/Damage → Replace.
- Bearing ⑥ (bearing holder)
Pitting/Damage → Replace bearing and inner race holder as a set.

Replacement steps:

- Remove the circlip ⑦ (bearing holder).
- Remove the bearing(s) ⑤ ⑥ using a general bearing puller.
- Install the new bearing(s).

NOTE:

Use a socket ⑧ that matches the outside diameter of the race of the bearing.

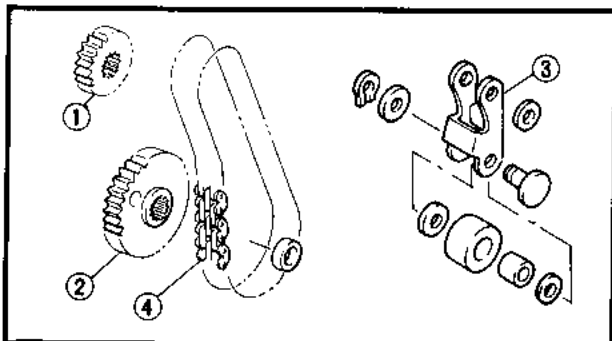
CAUTION:

Do not strike the inner race ⑨ of balls ⑩ of the bearing. Contact should be made only with the outer race ⑪.

- Install the new circlip (bearing holder) .

CAUTION:

Always use a new circlip.

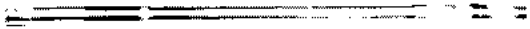


2. Inspect:

- Drive gear teeth ①
- Driven gear teeth ②
- Chain tensioner ③
Pitting/Wear/Damage → Replace.
- Drive chain ④
Wear/Damage → Replace.
Stiff → Clean or replace.

3. Inspect:

- Jackshaft
Scratches (Excessive)/Damage → Replace.



INSTALLATION


Reverse the "REMOVAL" procedure.

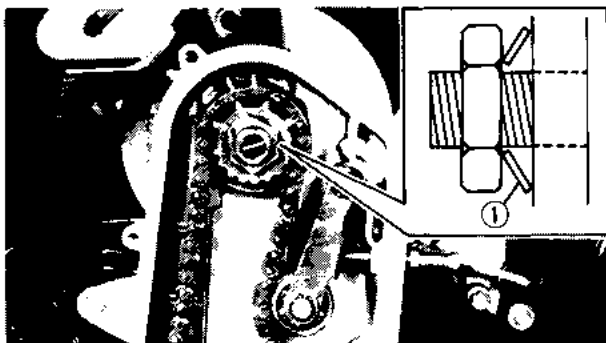
Note the following points.

1. Apply:

- Low temperature lithium soap base grease (to oil seal lips)

2. Tighten:

	<p>Chain tensioner bolt: 23 Nm (2.3 m • kg, 17 ft • lb) LOCTITE®</p>
	<p>Drive chain housing bolt: 23 Nm (2.3 m • kg, 17 ft • lb)</p>
	<p>Bearing housing bolt: 43 Nm (4.3 m • kg, 31 ft • lb)</p>
	<p>Brake caliper body bolt: 48 Nm (4.8 m • kg, 35 ft • lb)</p>
	<p>Drive sprocket nut: 50 Nm (5.0 m • kg, 36 ft • lb)</p>
	<p>Driven sprocket bolt: 48 Nm (4.8 m • kg, 35 ft • lb)</p>
	<p>Inner race holder screw: 6 Nm (0.6 m • kg, 4.3 ft • lb)</p>



NOTE:

- Install the washer (drive sprocket) ① as shown in the illustration.
- Tighten the screw (inner race holder) after tightening the drive sprocket nut.

3. Adjust:

- Drive chain slack (see page 2-21)
- Sheave distance (see page 4-12)
- Sheave offset (see page 4-13)
- Track tension (see page 2-22)

4. Fill:

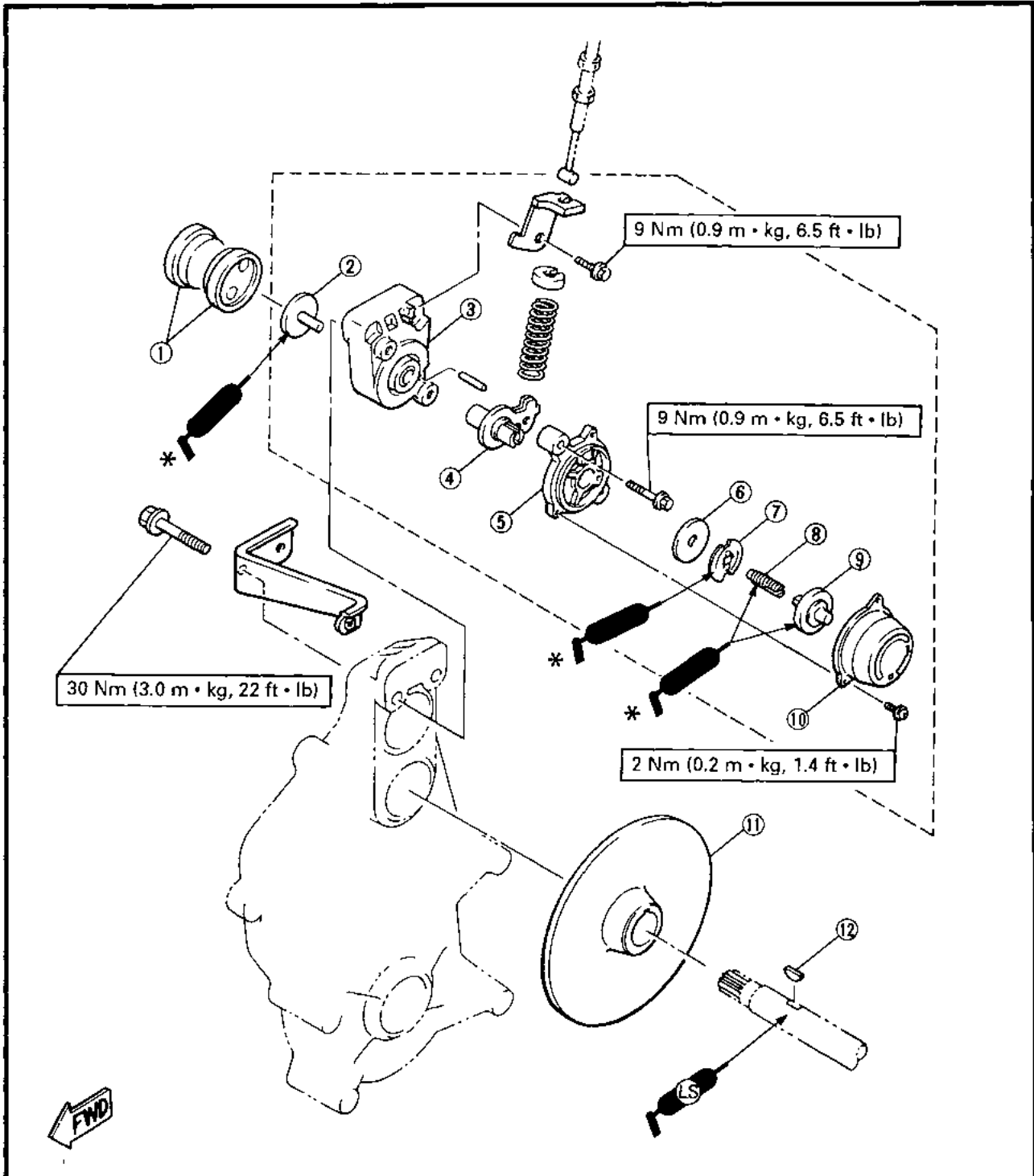
- Drive chain housing (see page 2-20)

4E062

BRAKE

- ① Pad
- ② Back up plate
- ③ Caliper body
- ④ Lever
- ⑤ Stationary cover
- ⑥ Washer
- ⑦ One way lock 2
- ⑧ Adjusting screw
- ⑨ Adjusting ratchet
- ⑩ End cover
- ⑪ Brake disc
- ⑫ Woodruff key

* With silicone grease

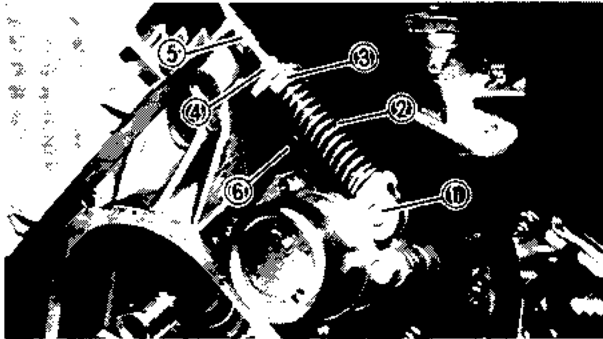




REMOVAL

1. Remove:

- Side cowlings
- Muffler
- Secondary sheave (see page 4-9)
- Drive sprocket (see page 4-16)
- Bolts (brake caliper body) (see page 4-16)
- Brake pads



2. Remove:

- Brake cable ①
- Spring ②
- Spring holder ③

NOTE:

Loosen the locknut ④ and turn in the adjuster ⑤ fully to release the tension in the brake cable, then remove the bolt (cable holder) ⑥.

3. Remove:

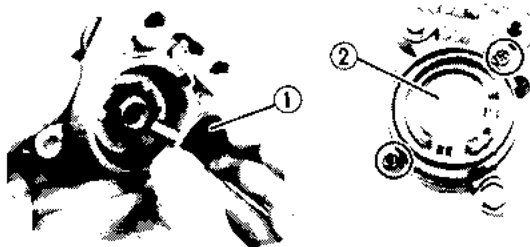
- Bolts (bearing housing) (see page 4-17)
- Jackshaft
(with bearing housing)
- Brake disc
- Woodruff key

4

DISASSEMBLY

1. Remove:

- Back up plate ①
- End cover ②

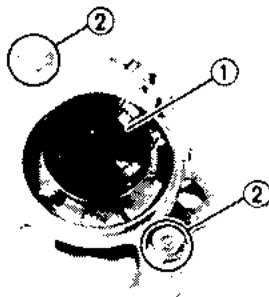


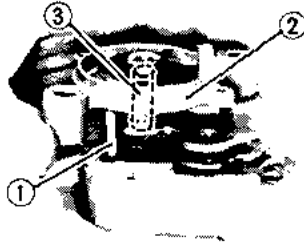
CAUTION:

Do not disassemble the torsion spring from the end cover and the guide.

2. Remove:

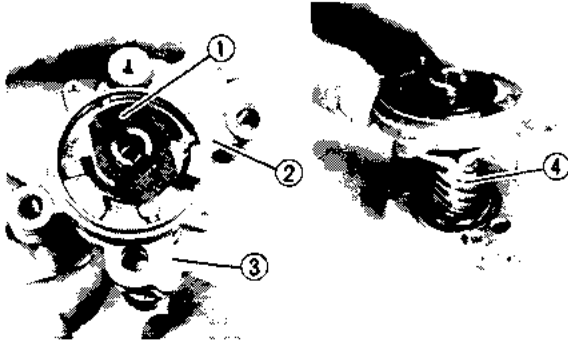
- Adjusting ratchet ①
- Bolts ② (stationary cover)





3. Remove:

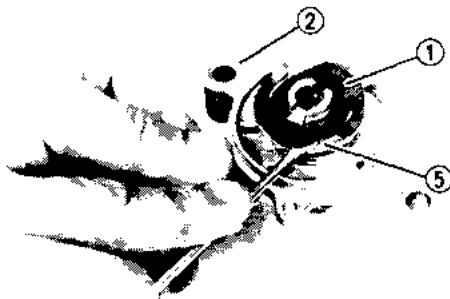
- Stopper pin ①
- Lever assembly ②
Turn it clockwise.
- Adjusting screw ③



INSPECTION

1. Inspect:

- One way lock 2 ①
- Stationary cover ②
- Lever ③
- Spiral gear ④ (lever)
Cracks/Wear/Damage → Replace.



Replacement steps:

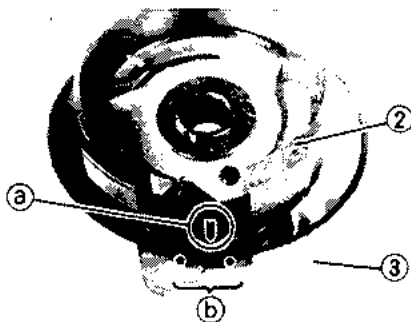
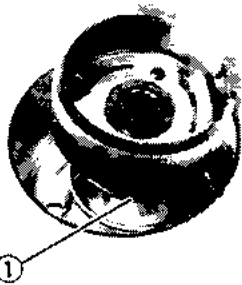
- Remove the one way lock 2 ① using a thin flat-head screw driver.
- Remove the washer ⑤ and stationary cover ②.
- Replace a damaged part(s) use a new one.
- Reassemble the removed part(s) and reverse the above steps.

CAUTION:

Always use a new one way lock 2.

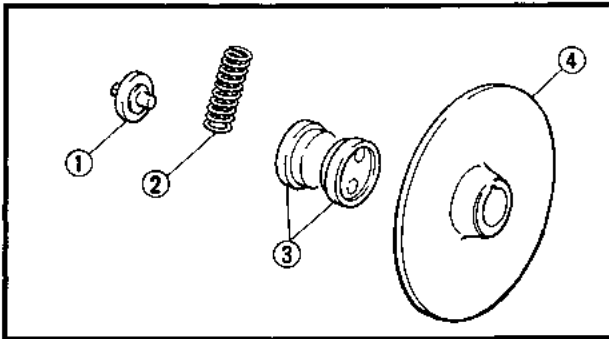
2. Inspect:

- Torsion spring ①
Fatigue/Damage → Replace end cover unit.



Inspection steps:

- Check the fatigue of the torsion spring by the projection mark ① on the guide ② located between the base marks ③ on the end cover ③. If projection mark ① is not in the range between the base marks ③, replace the end cover unit.



3. Inspect:

- Adjusting ratchet ①
Cracks/Wear/Damage → Replace.
- Spring ② (brake cable)
Fatigue/Damage → Replace.
- Brake pad ③ thickness
- Brake disk ④
Bend/Cracks/Damage → Replace.

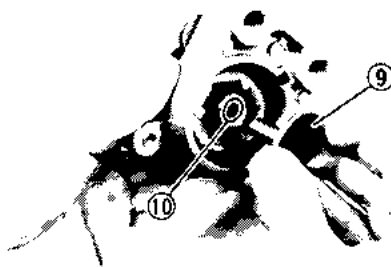
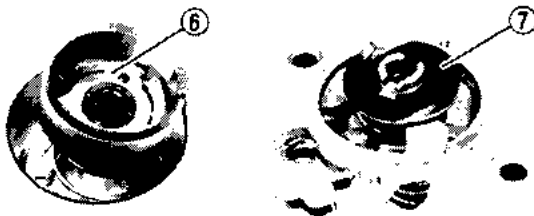
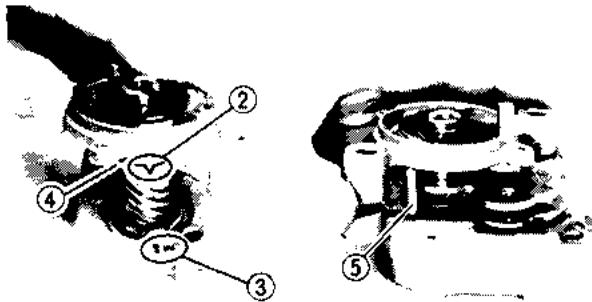
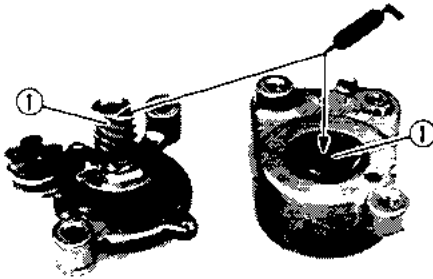
ASSEMBLY AND INSTALLATION

Reverse the "REMOVAL" and "DISASSEMBLY" procedures.

Note the following points.

1. Assemble:

- Caliper body

**Assembly steps:**

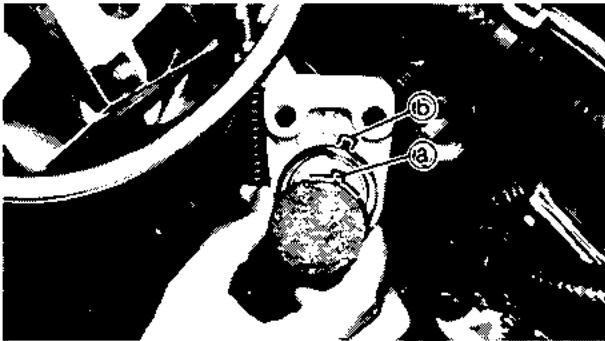
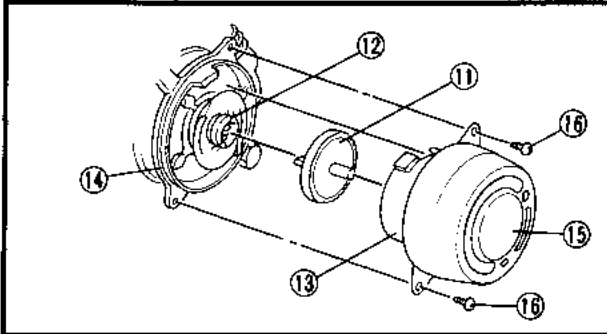
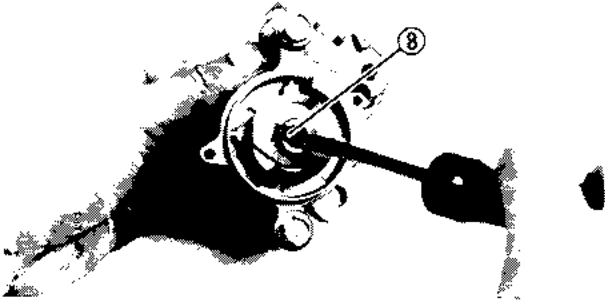
- Lubricate the spiral gears ① on the caliper body and lever with silicone grease.
- Align the projection mark ② on the lever with the "IN" mark ③ on the caliper body, screw the lever ④ counterclockwise to the caliper body.
- Install the stopper pin into the holes ⑤ on the caliper body and stationary cover, then tighten the bolts (stationary cover).



Bolt (stationary cover):

9 Nm (0.9 m • kg, 6.5 ft • lb)

- Lubricate the one way locks 1 ⑥ and 2 ⑦ with a lithium grease.
- Lubricate the adjusting screw ⑧ and back up plate ⑨ with a silicone grease.



- Insert the back up plate ⑨ into the lever shaft hole ⑩.
- Screw in the adjusting screw ⑧, and when it contacts lightly with the end of the back up plate, then back out the adjusting screw ⑥ 1/2 to ① turn.

- Fit the end of the adjusting ratchet ⑪ into the adjusting screw ⑫, and align the cut in the guide ⑬ with the projection of the stationary cover ⑭, then install the guide ⑬, which is fitted to the end cover ⑮ twisting the end cover clockwise approximately 30 degrees and tighten the screws (end cover) ⑯.



Screw (end cover):
2 Nm (0.2 m · kg, 1.4 ft · lb)

2. Install:

- Brake pads

NOTE:

When installing the brake pad at the caliper body side, make sure that projection ① on the brake pad are meshed with slot ② on the caliper body.

3. Tighten:



Cable holder bolt:
9 Nm (0.9 m · kg, 6.5 ft · lb)

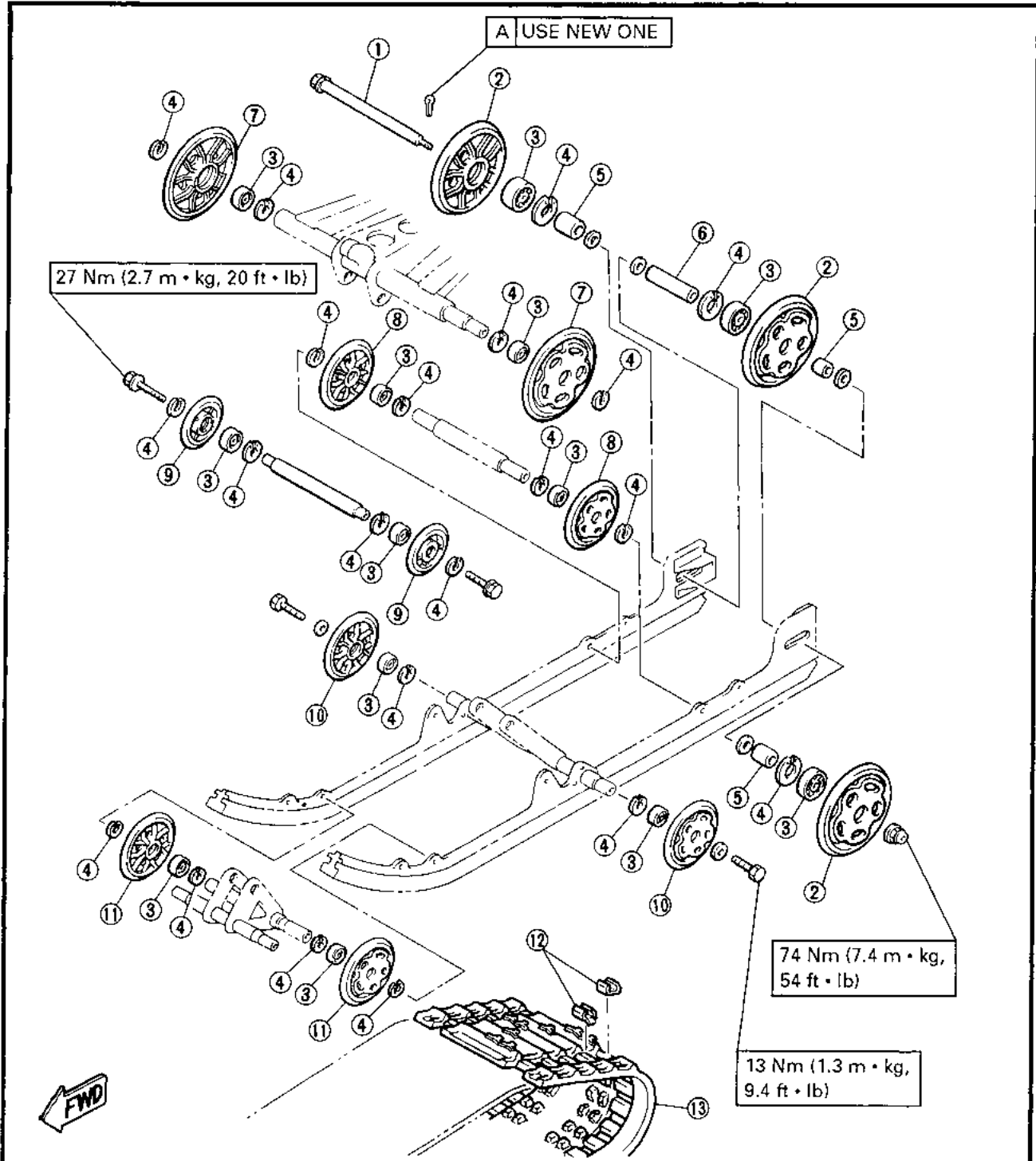
4. Adjust:

- Brake cable distance (see page 2-19)

4E042

SLIDE RAIL SUSPENSION

- ① Rear axle
- ② Guide wheel (rear)
- ③ Bearing
- ④ Circlip
- ⑤ Collar
- ⑥ Collar (center)
- ⑦ Suspension wheel (rear)
- ⑧ Suspension wheel (rear)
- ⑨ Guide wheel (center)
- ⑩ Suspension wheel (center)
- ⑪ Suspension wheel (front)
- ⑫ Slide metal
- ⑬ Track assembly

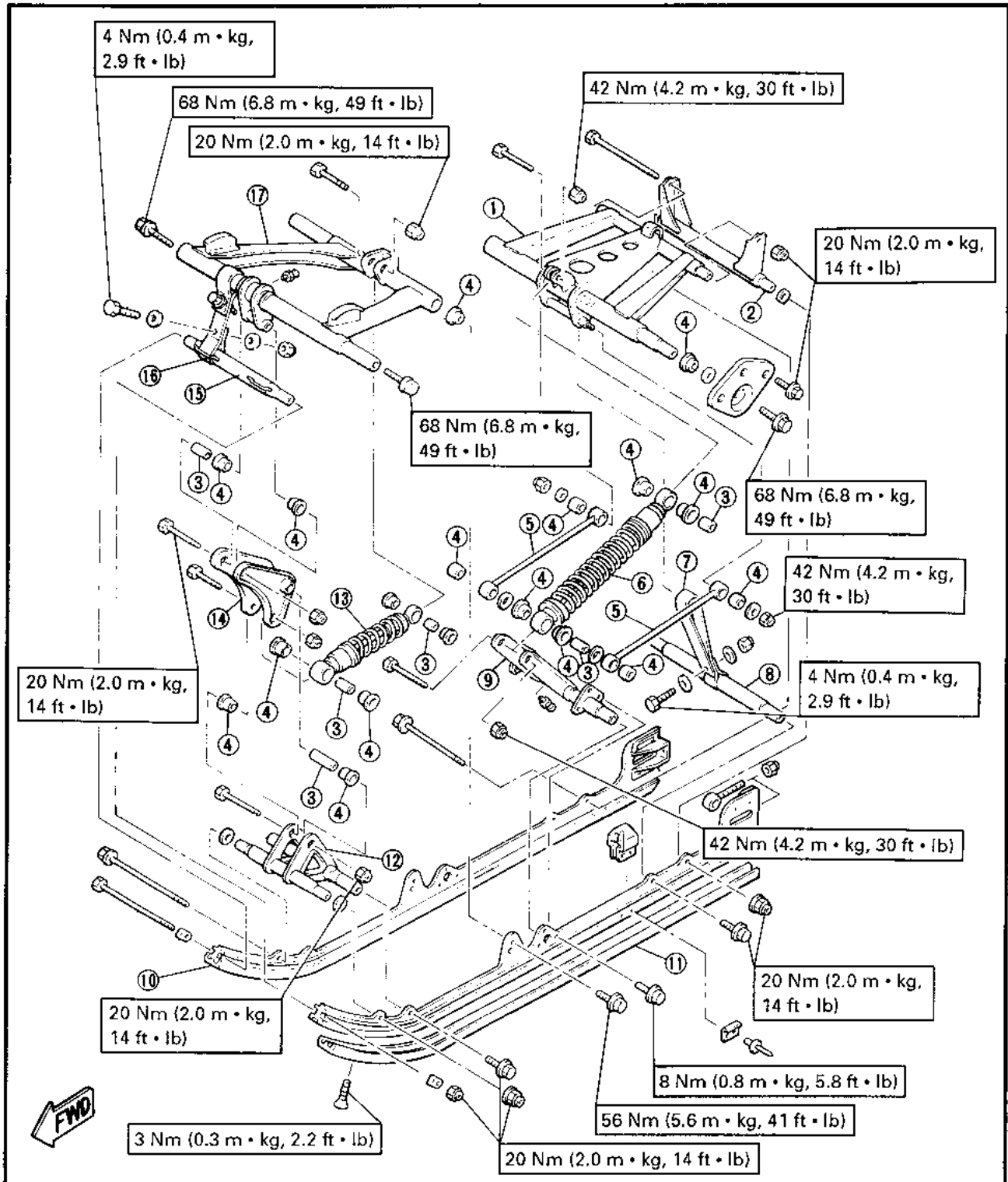


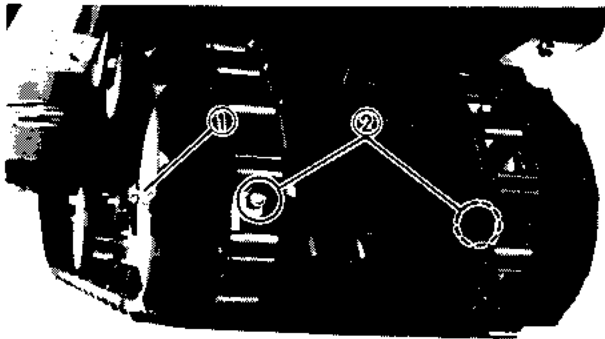
4

SLIDE RAIL SUSPENSION



- ① Rear pivot arm
- ② Pivot arm bracket
- ③ Collar
- ④ Bushing
- ⑤ Pull rod
- ⑥ Rear suspension
- ⑦ Rear stopper band
- ⑧ Bracket
- ⑨ Rear suspension bracket
- ⑩ Sliding frame
- ⑪ Slide runner
- ⑫ Suspension wheel bracket
- ⑬ Front suspension
- ⑭ Relay arm
- ⑮ Bracket
- ⑯ Front stopper band
- ⑰ Front pivot arm



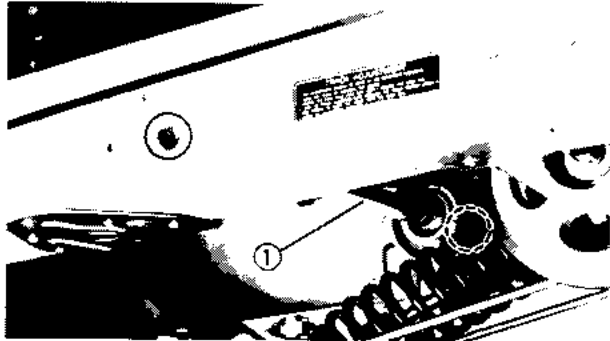


REMOVAL

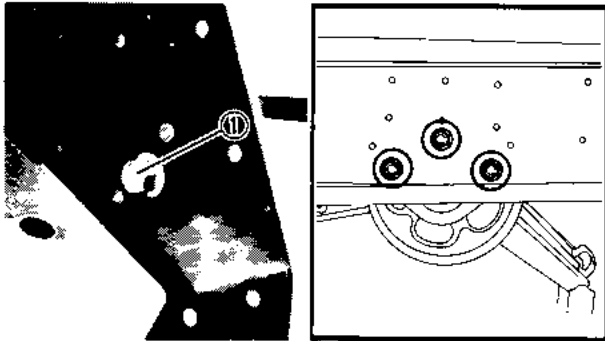
1. Remove:
 - Cotter pin (rear axle)
2. Loosen:
 - Track

NOTE: _____

Loosen the axle nut ① and adjusters (track tension) ②.



3. Remove:
 - Guide wheel ① (center)

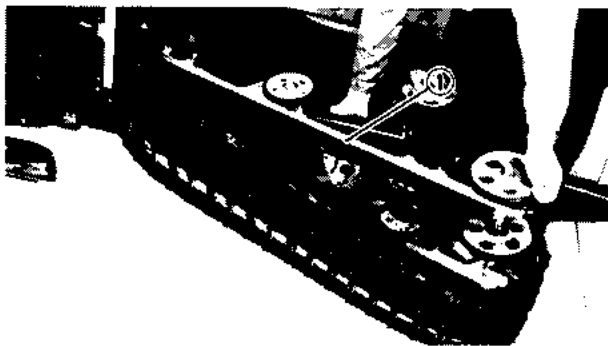


4. Remove:
 - Suspension mounting bolts

NOTE: _____

Loosen both right and left bolts (front) ① at the same time.

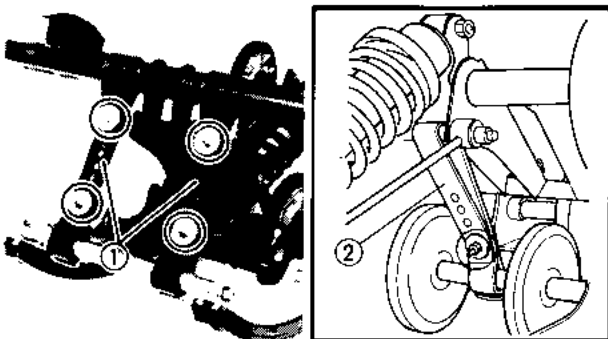
5. Place the machine with the left side facing down.

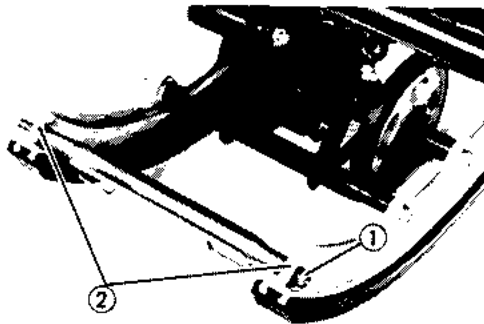


6. Remove:
 - Slide rail suspension ①

DISASSEMBLY

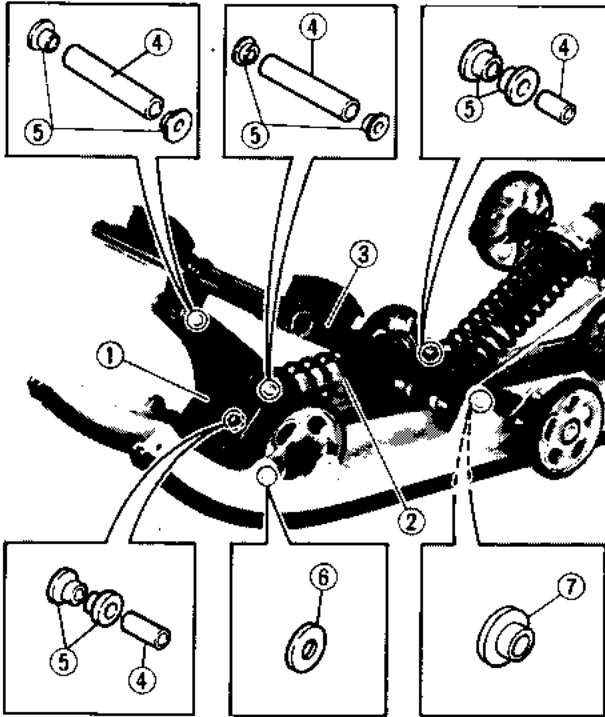
1. Remove:
 - Stopper bands (front ① and rear ②)





2. Remove:

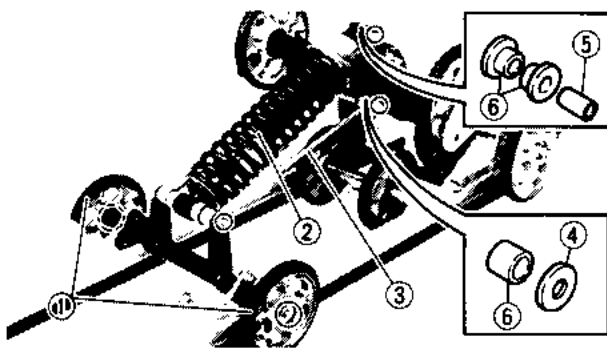
- Bracket shaft ①
- Special washers ②



3. Remove:

- Suspension wheel bracket ①
- Front suspension ②
- Front pivot arm ③

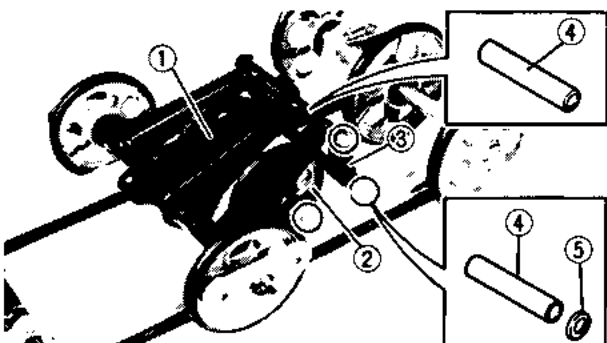
- ④ Collar
- ⑤ Bushing
- ⑥ Washer
- ⑦ Flange washer



4. Remove:

- Suspension wheels ① (center)
- Rear suspension ②
- Pull rods ③

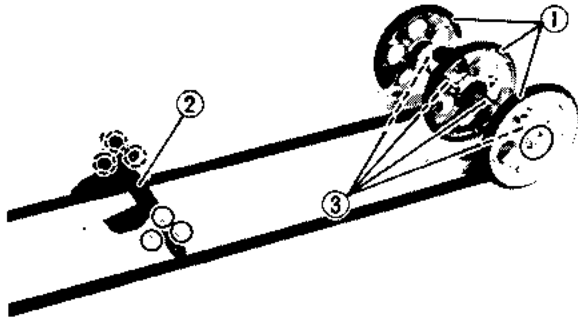
- ④ Washer
- ⑤ Collar
- ⑥ Bushing



5. Remove:

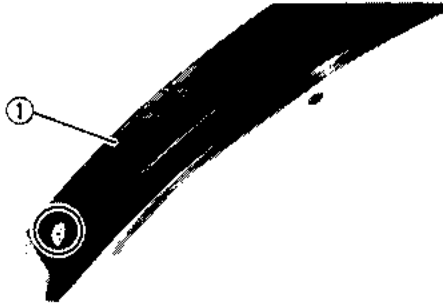
- Rear pivot arm ①
- Suspension wheel ②
- Pivot arm bracket ③

- ④ Collar
- ⑤ Washer



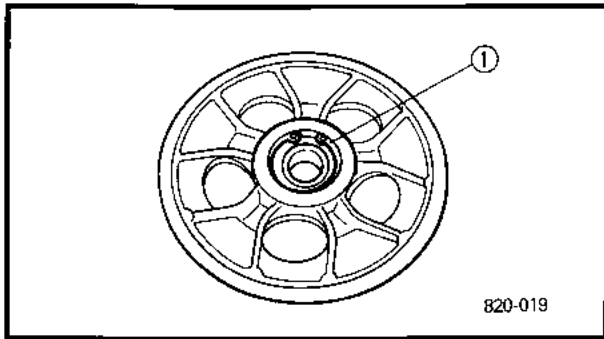
6. Remove:

- Guide wheels ① (rear)
- Rear suspension bracket ②
- Collars ③
- Washers



7. Remove:

- Slide runner ①



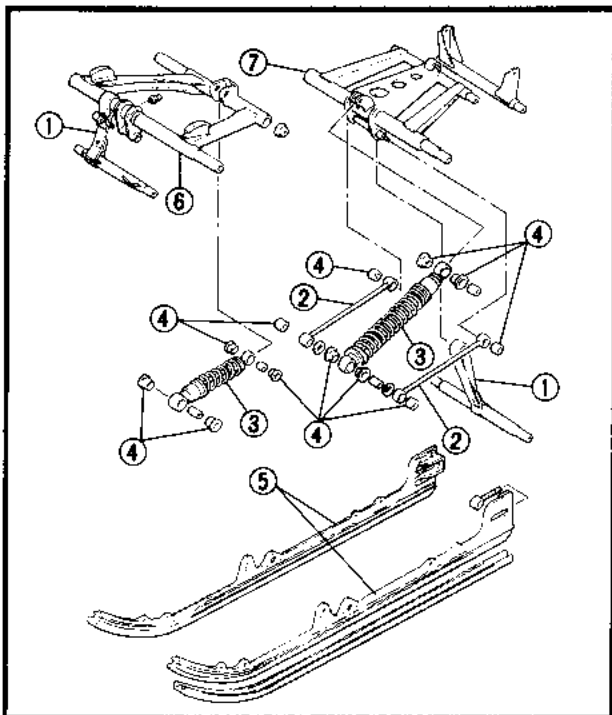
INSPECTION

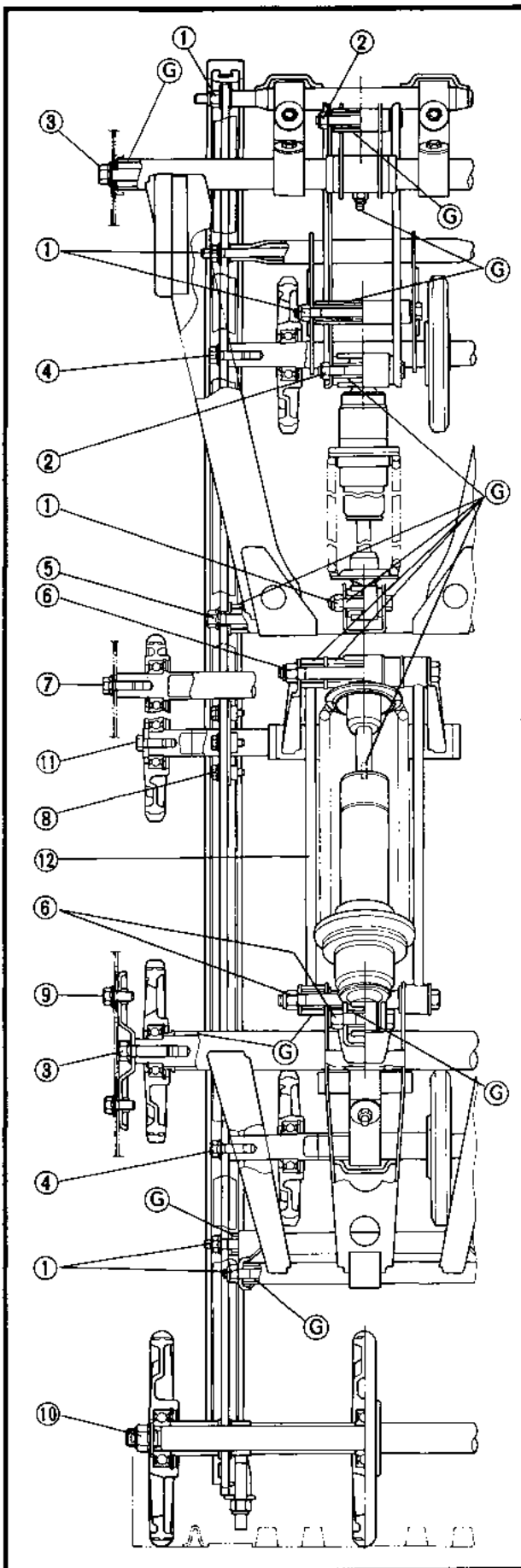
1. Inspect:

- Suspension wheel
- Guide wheel
Cracks/Damage → Replace.
- Wheel bearing
Wheel turns roughly → Replace.

2. Inspect:

- Stopper band ①
Frayed/Damage → Replace.
- Pull rod ②
Bends/Damage → Replace.
- Shock absorber ③
Oil leaks/Damage → Replace.
- Bushings ④
Wear/Cracks/Damage → Replace.
- Sliding frame ⑤
- Front pivot arm ⑥
- Rear pivot arms ⑦
Cracks/Damage → Replace.





ASSEMBLY

Reverse the "DISASSEMBLY" procedure.
Note the following points.

1. Apply:
 - Low temperature lithium soap base grease (to "G" mark points in the illustration)
2. Tighten:



Slide runner screw:
3 Nm (0.3 m • kg, 2.2 ft • lb)

Nut ①:
20 Nm (2.0 m • kg, 14 ft • lb)

Nut ②:
20 Nm (2.0 m • kg, 14 ft • lb)

Bolt ③:
68 Nm (6.8 m • kg, 49 ft • lb)

Bolt ④:
20 Nm (2.0 m • kg, 14 ft • lb)

Bolt ⑤:
56 Nm (5.6 m • kg, 41 ft • lb)

Nut ⑥:
42 Nm (4.2 m • kg, 30 ft • lb)

Bolt ⑦:
27 Nm (2.7 m • kg, 20 ft • lb)

Bolt ⑧:
8 Nm (0.8 m • kg, 5.8 ft • lb)

Bolt ⑨:
20 Nm (2.0 m • kg, 14 ft • lb)

Nut ⑩:
74 Nm (7.4 m • kg, 54 ft • lb)

Bolt ⑪:
13 Nm (1.3 m • kg, 9.4 ft • lb)

Stopper band nut:
4 Nm (0.4 m • kg, 2.9 ft • lb)

NOTE: _____

Install the pull rod ⑫ so that the rod is offset slightly toward the outside.

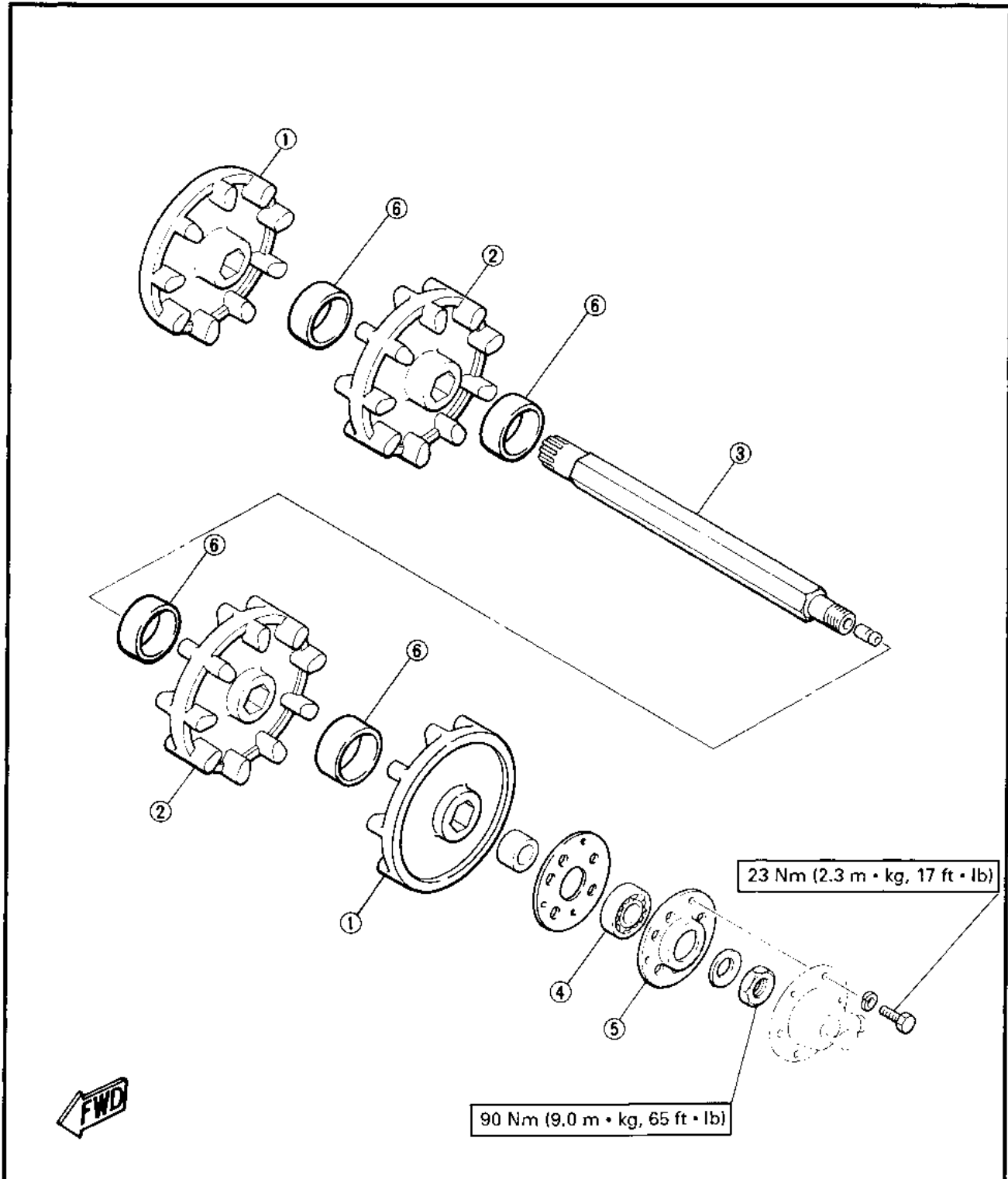
CAUTION: _____

Always use a new cotter pin.

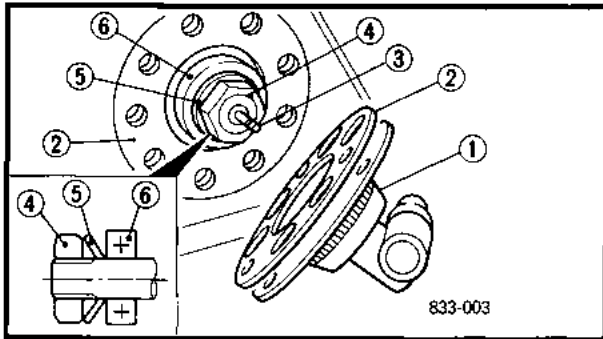
4E052

FRONT AXLE AND TRACK

- ① Guide wheel
- ② Sprocket wheel
- ③ Front axle
- ④ Bearing
- ⑤ Bearing holder
- ⑥ Collar



4



REMOVAL

1. Remove:

- Side cowlings
- Speedometer gear assembly ①
- Bearing holder ②
- Cable joint ③ (speedometer cable)
- Nut ④ (front axle)
- Plain washer ⑤
- Bearing ⑥

NOTE:

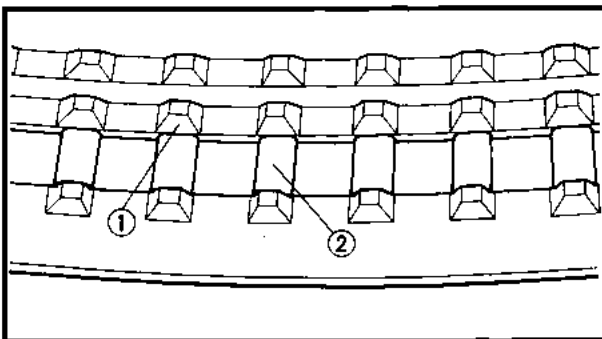
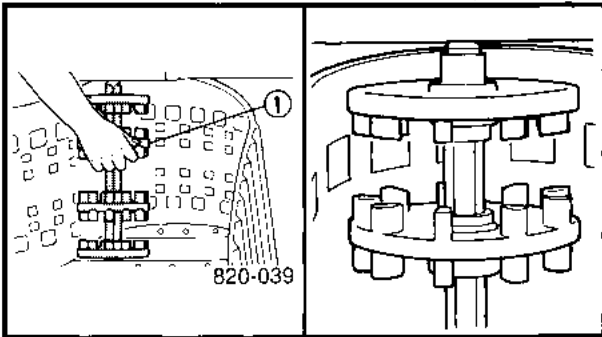
Apply the parking brake when removing the nut (front axle).

2. Remove:

- Muffler
- Driven sprocket (see page 4-16)
- Slide rail suspension (see page 4-27)

3. Remove:

- Front axle assembly ①
- Track assembly



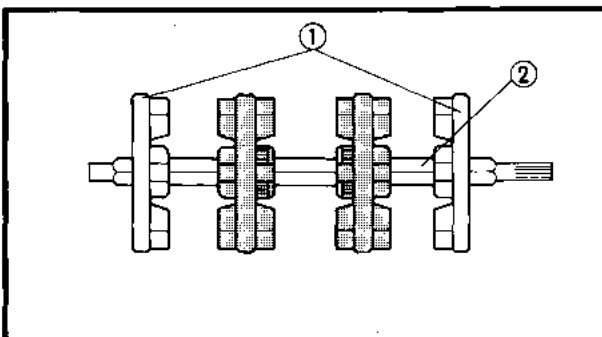
INSPECTION

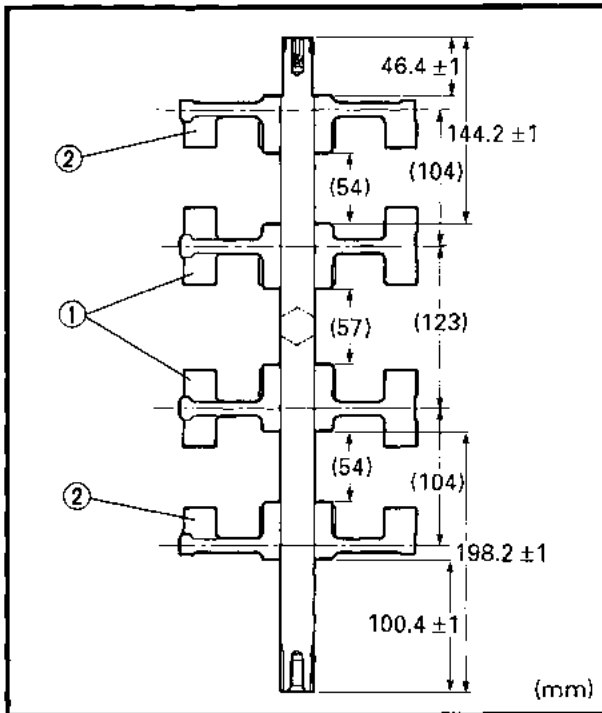
1. Inspect:

- Track ①
 - Slide metal ②
- Wear/Cracks/Damage → Replace.

2. Inspect:

- Sprocket wheel ①
- Wear/Break/Damage → Replace.
- Front axle ②
- Bent/Scratched (excessively)/Damage → Replace.





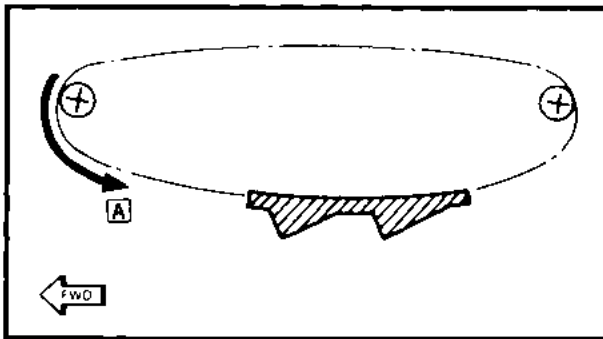
INSTALLATION

Reverse the "REMOVAL" procedure.
Note the following points.

1. Install:
 - Sprocket wheels ①
 - Guide wheels ②

NOTE:

- When pressing the sprocket wheels onto the front axle, align the lugs on each sprocket wheel.
- Locate each sprocket wheel and guide wheel on the axle where shown in the illustration.



2. Place the track in the chassis.

NOTE:

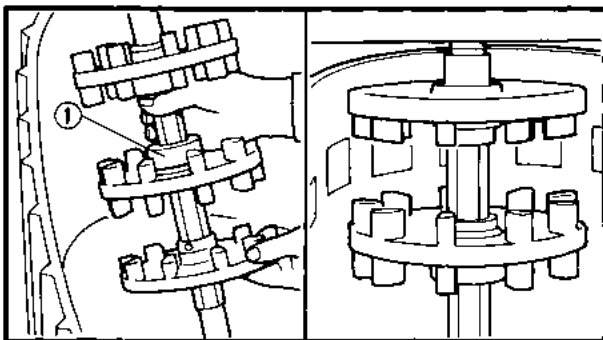
Be sure it is positioned as shown in the illustration.

A TURNING DIRECTION


3. Install:
 - Front axle ①

NOTE:

- Install the front axle, push up the splined end toward the chain housing, and install the threaded end into the speedometer gear housing side.
- Be sure the lugs correctly engage the track.



4. Tighten:

	Front axle nut:
	90 Nm (9.0 m · kg, 65 ft · lb)
	Speedometer gear assembly bolt:
	23 Nm (2.3 m · kg, 17 ft · lb)



CHAPTER 5. ENGINE OVERHAUL

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HOSES	5-1
CABLE AND LEADS	5-2
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PISTON PIN	5-9
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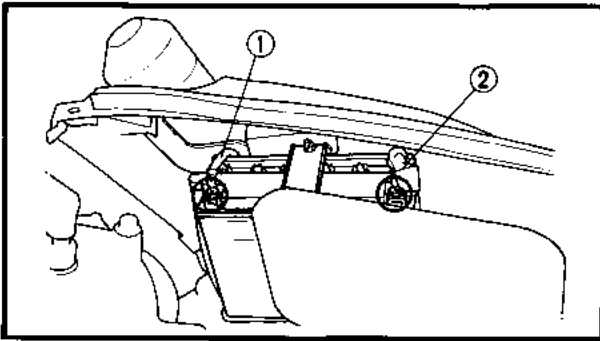
ENGINE OVERHAUL

ENGINE REMOVAL

NOTE:

It is not necessary to remove the engine in order to remove the following components:

- Cylinder head
- Cylinder
- Piston and piston ring
- Water pump
- Recoil starter
- Oil pump
- Primary sheave
- Starter motor



BATTERY LEADS (FOR ELECTRIC MODEL)

1. Disconnect:
 - Battery leads

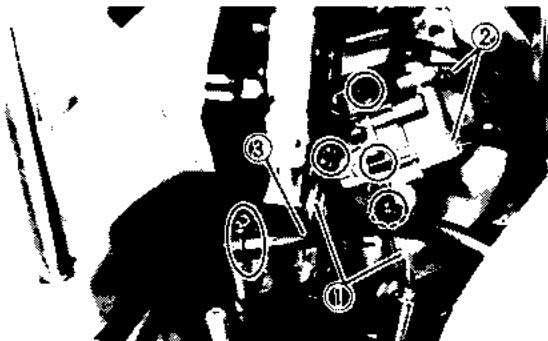
CAUTION:

Disconnect the negative lead ① first and then disconnect the positive lead ②.

5

HOSES

1. Drain:
 - Coolant (see page 2-7)
2. Remove:
 - Primary sheave (see page 4-2)
 - Carburetors (see page 7-2, 7-10)

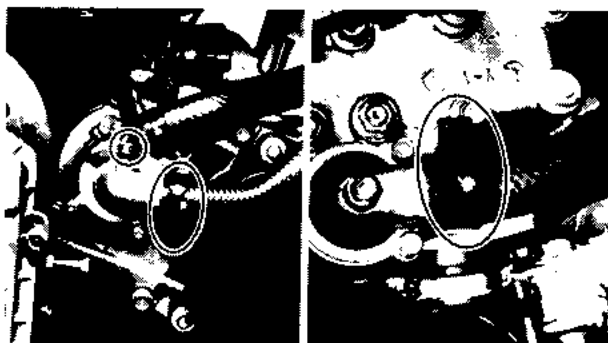


3. Disconnect:

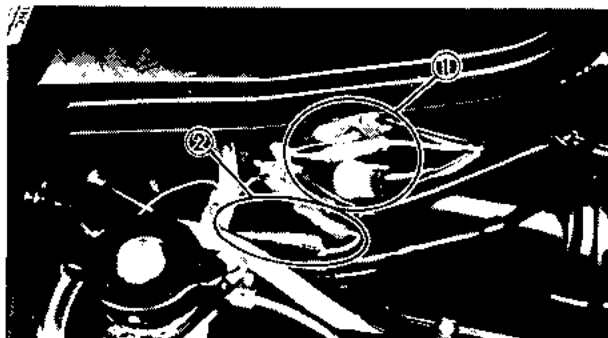
- Oil hoses ①
- Oil delivery hoses ②
- Pulser hose ③

NOTE:

Plug the oil hoses and oil delivery hoses so that oil does not run out.

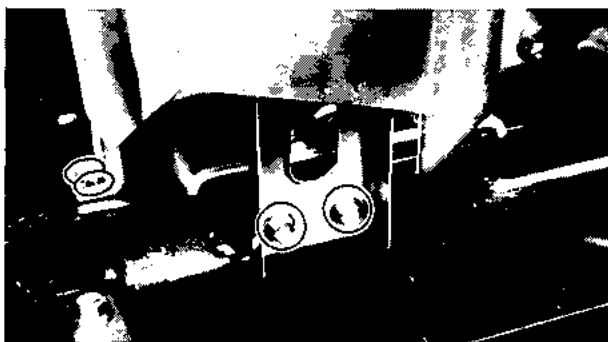


4. Disconnect:
- Coolant hoses



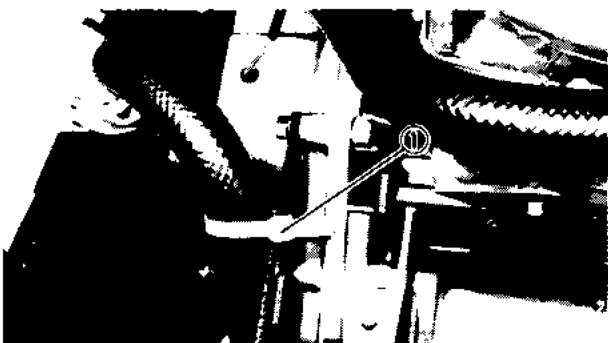
CABLE AND LEADS

1. Disconnect:
- Oil pump cable
(from the throttle lever) (see page 3-2)
 - Spark plug leads
 - CDI magneto leads and coupler ①
 - Pickup coil leads ②
 - Bands

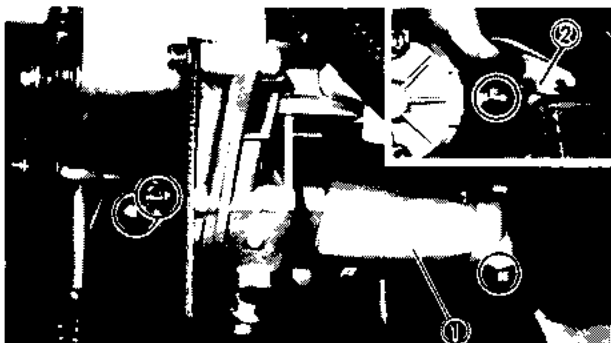


OIL TANK

1. Remove:
- Bolts (oil tank stay)

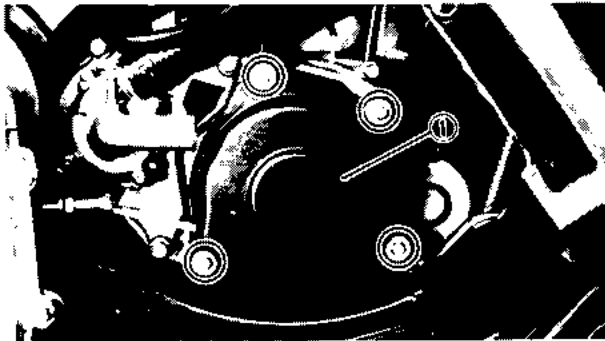


2. Remove:
- Band ① (coolant hose)



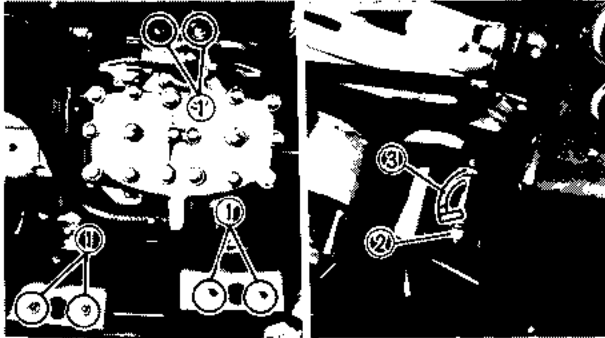
STARTER MOTOR (FOR ELECTRIC MODEL)

1. Remove:
- Starter motor ①
2. Disconnect:
- Starter motor lead ②

**RECOIL STARTER**

1. Remove:

- Recoil starter ①

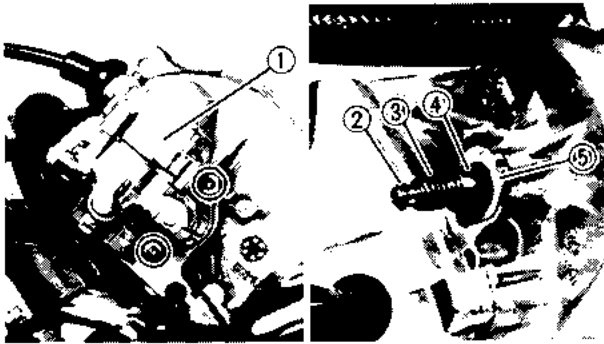
**ENGINE REMOVAL**

1. Remove:

- Nuts ① (engine bracket)
- Engine assembly

NOTE:

Remove the starter motor bolt ② and ground lead ③ before removing the engine assembly.



5E003

DISASSEMBLY**OIL PUMP**

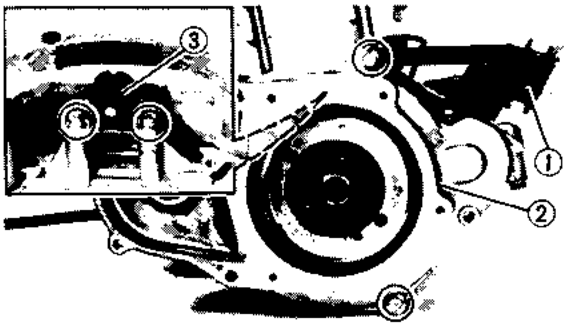
1. Remove:

- Oil pump ①
- Washer ②
- Worm gear shaft ③
- Collar ④
- Gasket ⑤

WATER PUMP

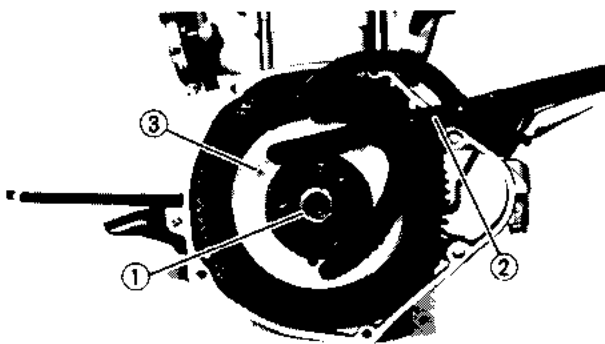
1. Remove:

- Coolant hose
- Water pump cover
- Impeller
- Water pump housing
- Starter pulley
- Water pump drive belt
- Impeller shaft assembly (see page 6-3)

**CDI MAGNETO**

1. Remove:

- Engine bracket ①
- Crankcase cover ②
- Pickup coil ③

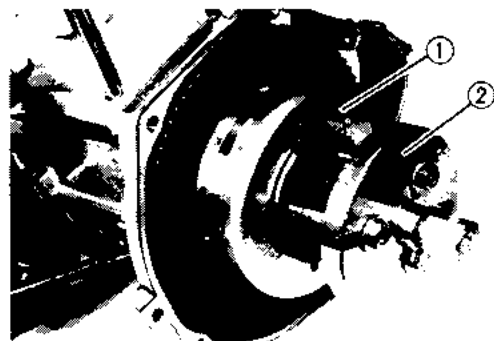


2. Remove:

- Nut ① (magneto rotor)
- Washer

NOTE:

Use the Universal Rotor Holder (90890-01235, YU-01235) ② to hold the magneto rotor ③.

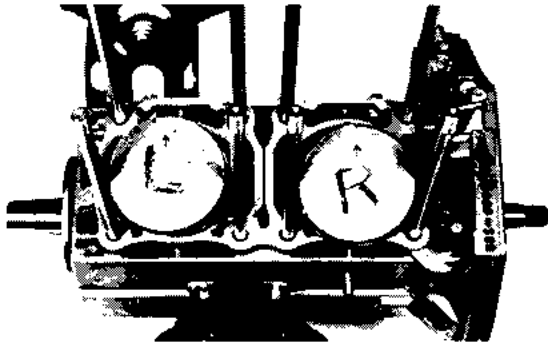


3. Remove:

- Magneto rotor ①

NOTE:

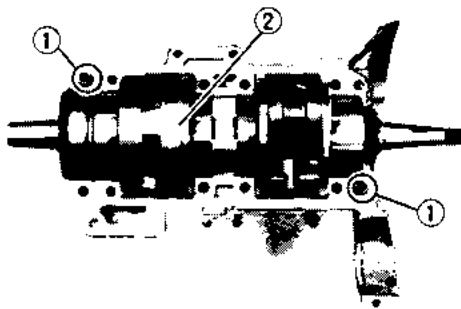
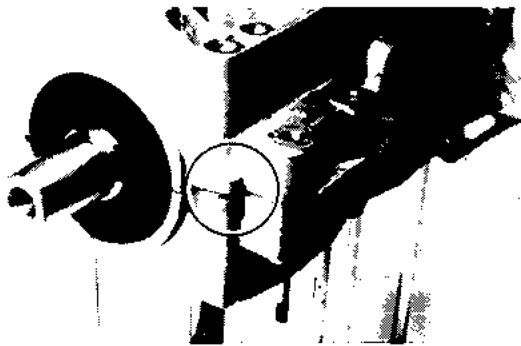
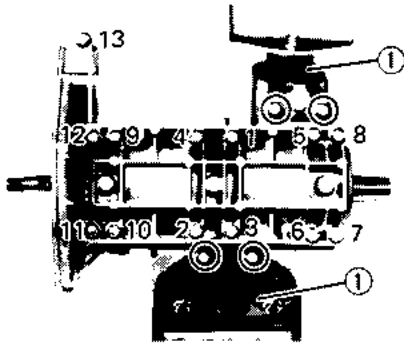
- Remove the magneto rotor using the Rotor Puller (90890-01362, YU-33270) ②.
- Fully tighten the tool holding bolts, but make sure the tool body is parallel with the magneto rotor. If necessary, one screw may be backed out slightly to level tool body.

**NOTE:**

- Before removing the piston pin clip, cover the crankcase with a clean rag so you will not accidentally drop the clip into the crankcase.
- Before removing the piston pin, deburr the clip groove and pin hole area. If the piston pin groove is deburred and the piston pin is still difficult to remove, use Piston Pin Puller (90890-01304, YU-01304).
- Put identification marks on each piston head for reference during reinstallation.

CAUTION:

Do not use a hammer to drive the piston pin out.

**CRANKCASE AND CRANKSHAFT**

1. Remove:

- Engine brackets ①
- Crankcase (lower)

NOTE:

- Remove the bolts starting with the highest numbered one.
- Loosen each bolt 1/4 turn, and remove them after all bolts are loosened.
- If the case halves are tightly stuck together, tap lightly on the tabs indicated on the crankcase with a soft-head hammer.
- The slits shown in the crankcase can be used to remove it.
- Be sure not to give damages the mating surface.

2. Remove:

- Dowel pins ①
- Crankshaft ②



SE011

INSPECTION AND REPAIR CYLINDER HEAD

1. Eliminate:

- Carbon deposit
(from combustion chamber)
Use rounded scraper ①.

CAUTION:

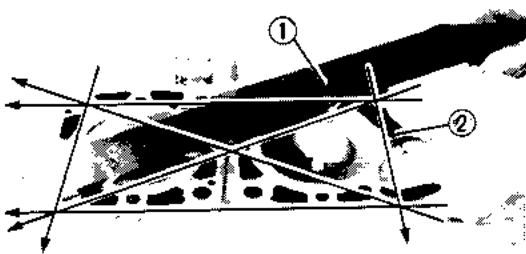
Do not use a sharp instrument and avoid damaging or scratching.

2. Inspect:

- Cylinder head water jacket
Crust of minerals/Rust → Remove.

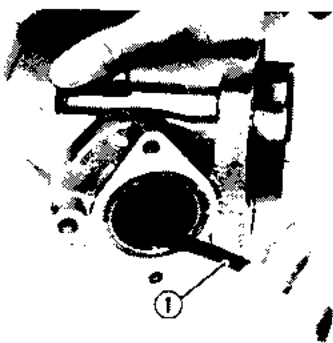
3. Measure:

- Cylinder head warpage
Out of specification → Resurface.



Warpage limit:
0.03 mm (0.0012 in)

- Straight edge ①
- Thickness gauge ②



CYLINDER AND PISTON

1. Eliminate:

- Carbon deposits
Use a rounded scraper ①.

NOTE:

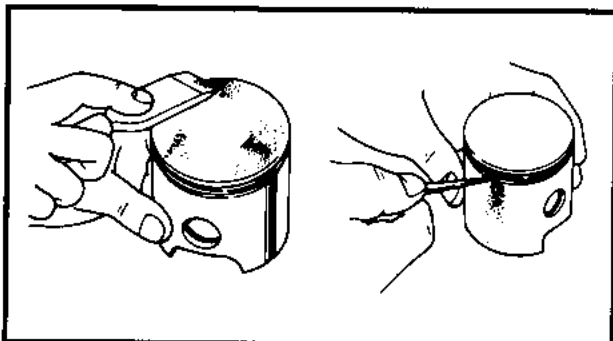
Do not use a sharp instrument and avoid damaging or scratching the surface.

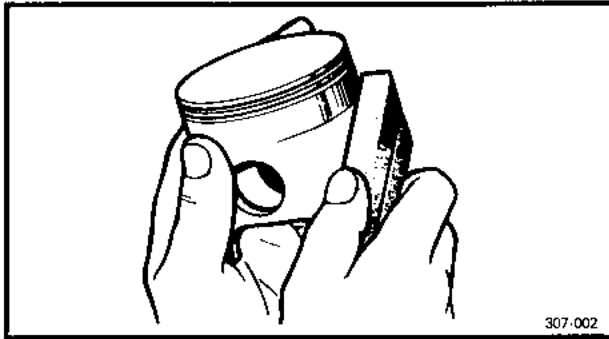
2. Eliminate:

- Carbon deposits
(from piston crown and ring grooves)

3. Inspect:

- Piston crown
Burrs/Nicks/Damage → Replace.





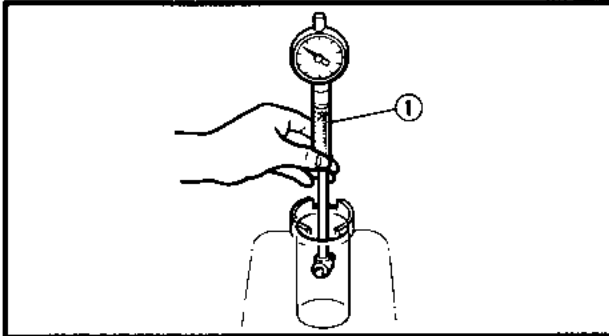
307-002

4. Eliminate:

- Score marks and lacquer deposits (from piston wall)
Use 600 ~ 800 grit wet sandpaper.

NOTE:

Sand in a crisscross pattern. Do not sand excessively.



5. Measure:

- Piston-to-cylinder clearance

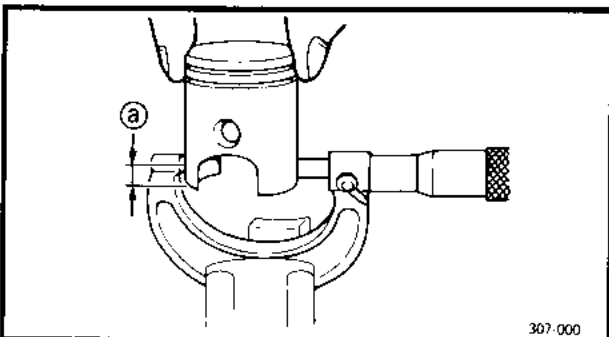
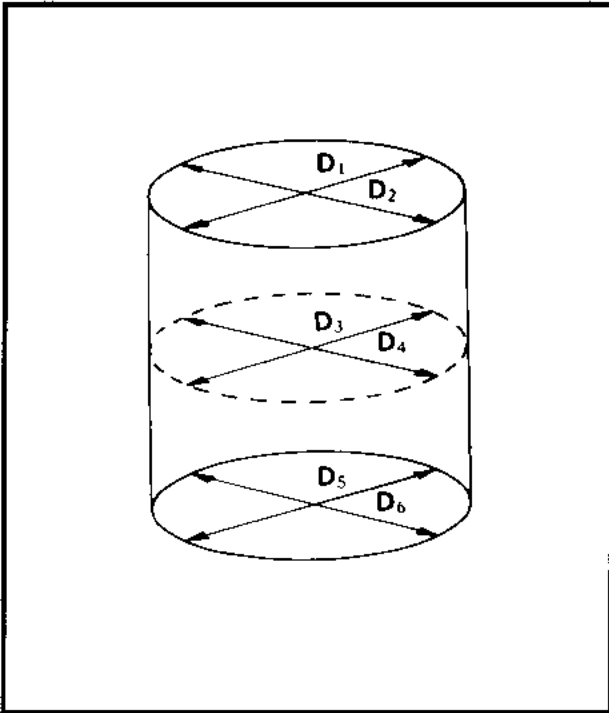
Measurement steps:

First step:

- Measure the cylinder bore "C" with a cylinder bore gauge ①.

NOTE:

Measure the cylinder bore "C" in parallel to and at right angles to the crankshaft. Then find the average of the measurements.



307-000

	Standard	Wear limit
Cylinder bore "C"	73.00 ~ 73.02 mm (2.874 ~ 2.875 in)	73.10 mm (2.878 in)
Taper "T"	—	0.05 mm (0.0019 in)
Out of round "R"	—	0.01 mm (0.0004 in)

C = Maximum D

T = (Maximum D₁ or D₂) –
(Maximum D₅ or D₆)

R = (Maximum D₁, D₃ or D₅) –
(Minimum D₂, D₄ or D₆)

- If out of specification, replace cylinder, and replace piston and piston rings as a set.

2nd step:

- Measure the piston skirt diameter "P" with a micrometer.
a 10 mm (0.4 in) from the piston bottom edge.

	Piston size P
Standard	72.93 ~ 72.95 mm (2.874 ~ 2.875 in)



- If out of specification, replace piston and piston rings as a set.

3rd step:

- Calculate the piston-to-cylinder clearance with the following formula:

$$\text{Piston-to-cylinder clearance} = \text{Cylinder bore "C"} - \text{Piston skirt diameter "P"}$$

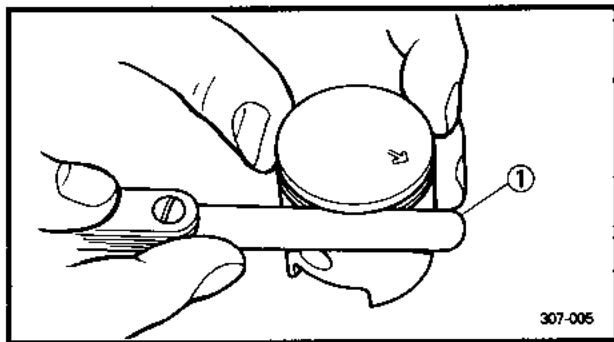
- If out of specification, replace cylinder, and replace piston and piston rings as a set.



Piston-to-cylinder clearance:

0.070 ~ 0.075 mm
(0.0028 ~ 0.0030 in)

Limit: 0.1 mm (0.004 in)



PISTON RINGS

1. Measure:

- Side clearance
Out of specification → Replace piston and/or rings.
Use a feeler gauge ①.

NOTE:

Eliminate the carbon deposits from the piston ring grooves and rings before measuring the side clearance.

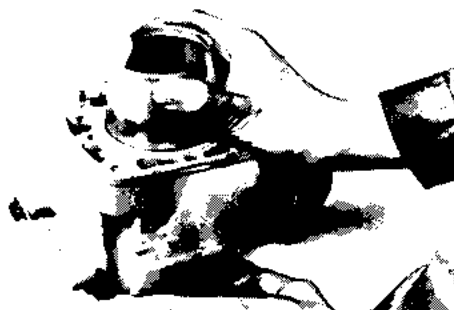
Side clearance	Top	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
	2nd	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)

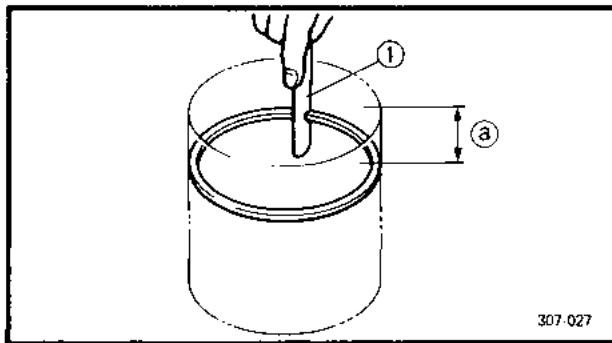
2. Install:

- Piston ring
(into the cylinder)
Push the ring with the piston crown.

NOTE:

Insert the ring into the cylinder, and push it approximately 20 mm (0.8 in) into the cylinder. Push the ring with the piston crown so that the ring will be at a right angle to the cylinder bore.





3. Measure:

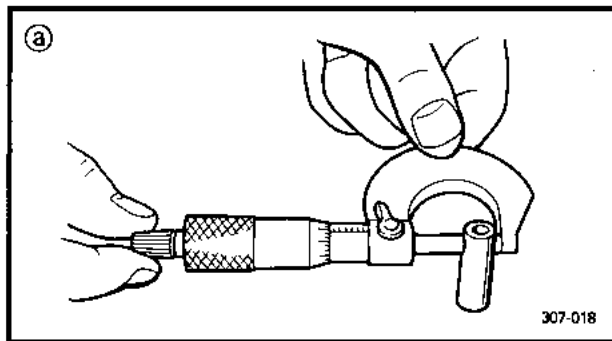
- End gap

Out of specification → Replace rings as a set.

Use a feeler gauge ①.

	End gap	Top	0.2 ~ 0.4 mm (0.008 ~ 0.016 in)
		2nd	0.2 ~ 0.4 mm (0.008 ~ 0.016 in)

② 20 mm (0.8 in)



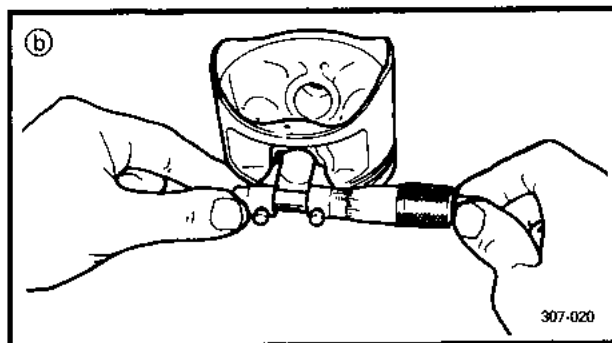
PISTON PIN

1. Measure:

- Outside diameter ② (piston pin)

Out of specification → Replace.

	Outside diameter (piston pin): 20.0 ~ 20.005 mm (0.787 ~ 0.788 in)
--	---



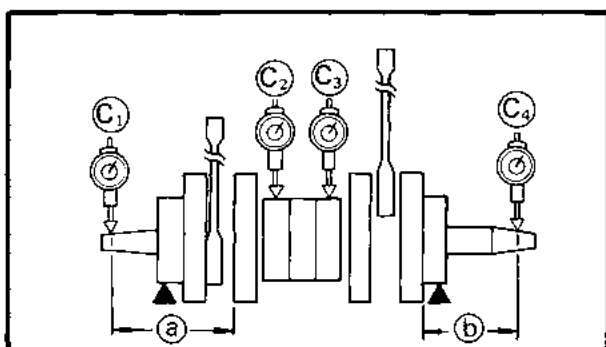
2. Measure:

- Piston pin-to-piston clearance

Out of specification → Replace piston.

Piston pin-to-piston clearance =
Bore size (piston pin) ③ -
Outside diameter (piston pin) ②

	Piston pin-to-piston clearance = 0.004 ~ 0.020 mm (0.00016 ~ 0.00079 in)
--	---

**CRANKSHAFT**

1. Measure:

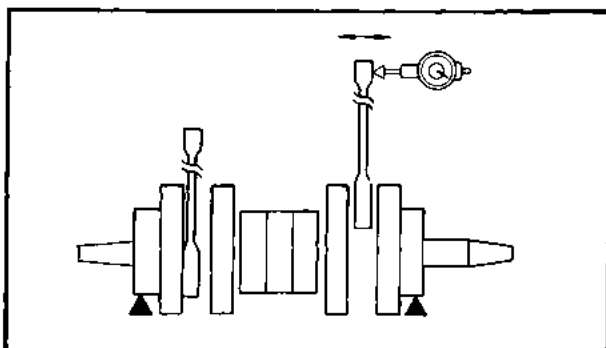
- Runout
Use V-blocks and a Dial Gauge (90890-03097, YU-03097).
Out of specification → Replace or repair.

**Runout limit:**

C ₁	: 0.03 mm (0.0012 in)
C ₂ , C ₃	: 0.04 mm (0.0016 in)
C ₄	: 0.05 mm (0.0020 in)

(a) 80 mm (3.2 in)

(b) 99 mm (3.9 in)

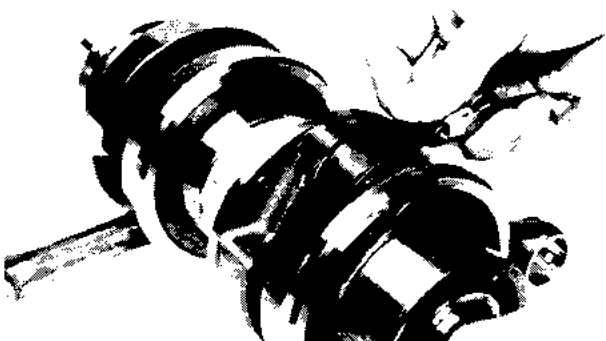


2. Measure:

- Small end free play
Use a dial gauge.
Out of specification → Replace the defective parts.

**Small end free play:**

0.8 ~ 1.0 mm (0.031 ~ 0.039 in)

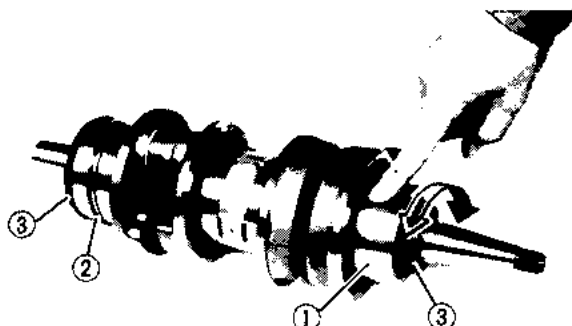


3. Measure:

- Big end side clearance
Use a feeler gauge.
Out of specification → Replace the defective parts.

**Big end side clearance:**

0.25 ~ 0.75 mm
(0.010 ~ 0.030 in)



4. Inspect:

- Crankshaft bearing ①
Pitting/Damage → Replace.
- Stopper ring ②
Bend/Damage → Replace.
- Crankshaft oil seals ③
Wear/Damage → Replace.

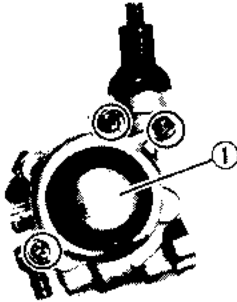
CAUTION:

Lubricate the bearing immediately after examining them to prevent rust.



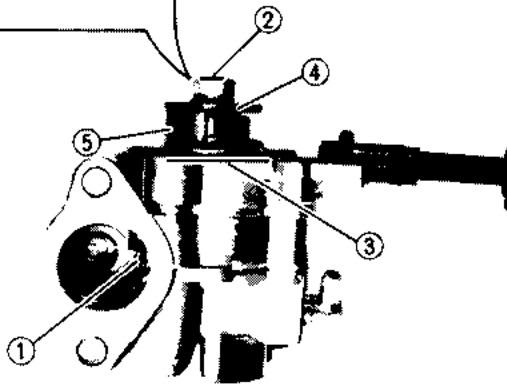
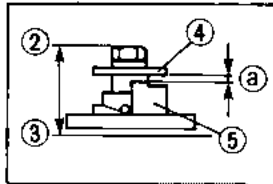
CRANKCASE

1. Thoroughly wash the case halves in mild solvent.
2. Clean all the gasket mating surfaces and case mating surfaces thoroughly.
3. Inspect:
 - Crankcase
 Cracks/Damage → Replace.



OIL PUMP STROKE ADJUSTMENT

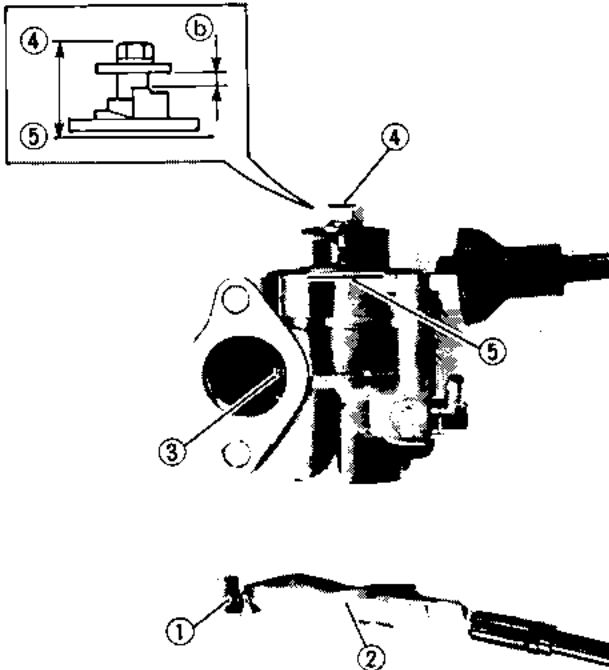
1. Pull back the rubber cover ① of the oil pump cable.
2. Remove:
 - Oil pump cover ②
3. Wipe off the grease from the plunger top.
4. Measure:
 - Minimum pump stroke ③
 Out of specification → Adjust.



Minimum pump stroke ③ :
0.15 ~ 0.2 mm (0.0059 ~ 0.0079 in)

Measurement steps:

- Turn the pump worm gear ① with your finger, until the plunger top ② is at its maximum distance from the pump body mating surface ③ of the pump cover.
- Using a Feeler Gauge, measure the minimum pump stroke ③ between the adjusting plate ④ and the raised boss ⑤ on the adjusting pulley.
- If minimum pump stroke is not within the specified limits, perform the adjustment steps.



5. Measure:

- Maximum pump stroke ⑥
Out of specification → Adjust.



Maximum pump stroke ⑥ :
1.62 ~ 1.8 mm (0.064 ~ 0.071 in)

Measurement steps:

- Pull the oil pump cable ① out of its sheath as far as it will go. The cable must be held in this taut position when measuring the maximum pump stroke.

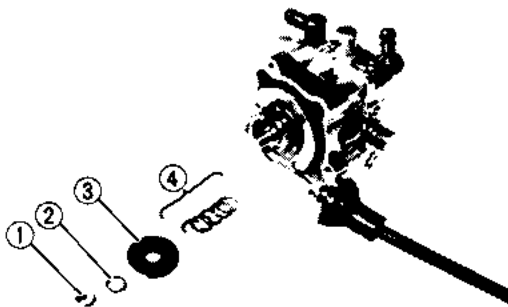
NOTE:

It may be helpful to securely wrap duct tape ② around the cable where it enters the sheath.

- Turn the pump worm gear ③ with your finger, until the plunger top ④ is at its maximum distance from the pump body ⑤.
- Using a Feeler Gauge, measure the maximum pump stroke ⑥ .
- If maximum pump stroke is not within the specified limits, perform the adjustment steps.

6. Adjust:

- Oil pump stroke

**Adjustment steps:**

- Remove the locknut ①, spring washer ② and adjusting plate ③.
- Adjust the pump stroke by adding or removing a shim(s) ④.

Adding shim	Pump stroke is increased.
--------------------	----------------------------------

Removing shim	Pump stroke is decreased.
----------------------	----------------------------------

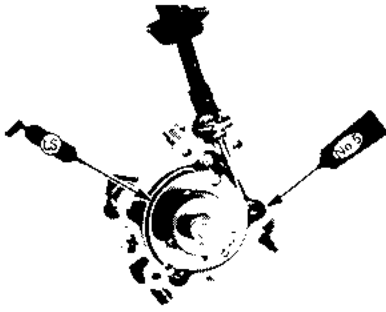
- Reinstall the adjusting plate, spring washer and locknut.



Locknut (adjusting plate):
7 Nm (0.7 m • kg, 5.1 ft • lb)

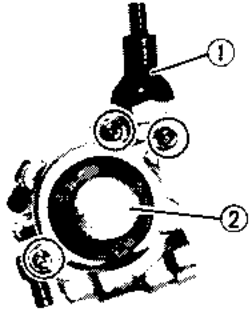
- Recheck the minimum and maximum pump stroke.

If out of specification limits, perform the above steps again.



7. Apply:

- Lithium soap base grease
(to outside of pump pulley)
- Yamaha Bond No.5® (ACC-11001-31-00)
(to mating surface of oil pump cover)



8. Install:

- Oil pump cover ①



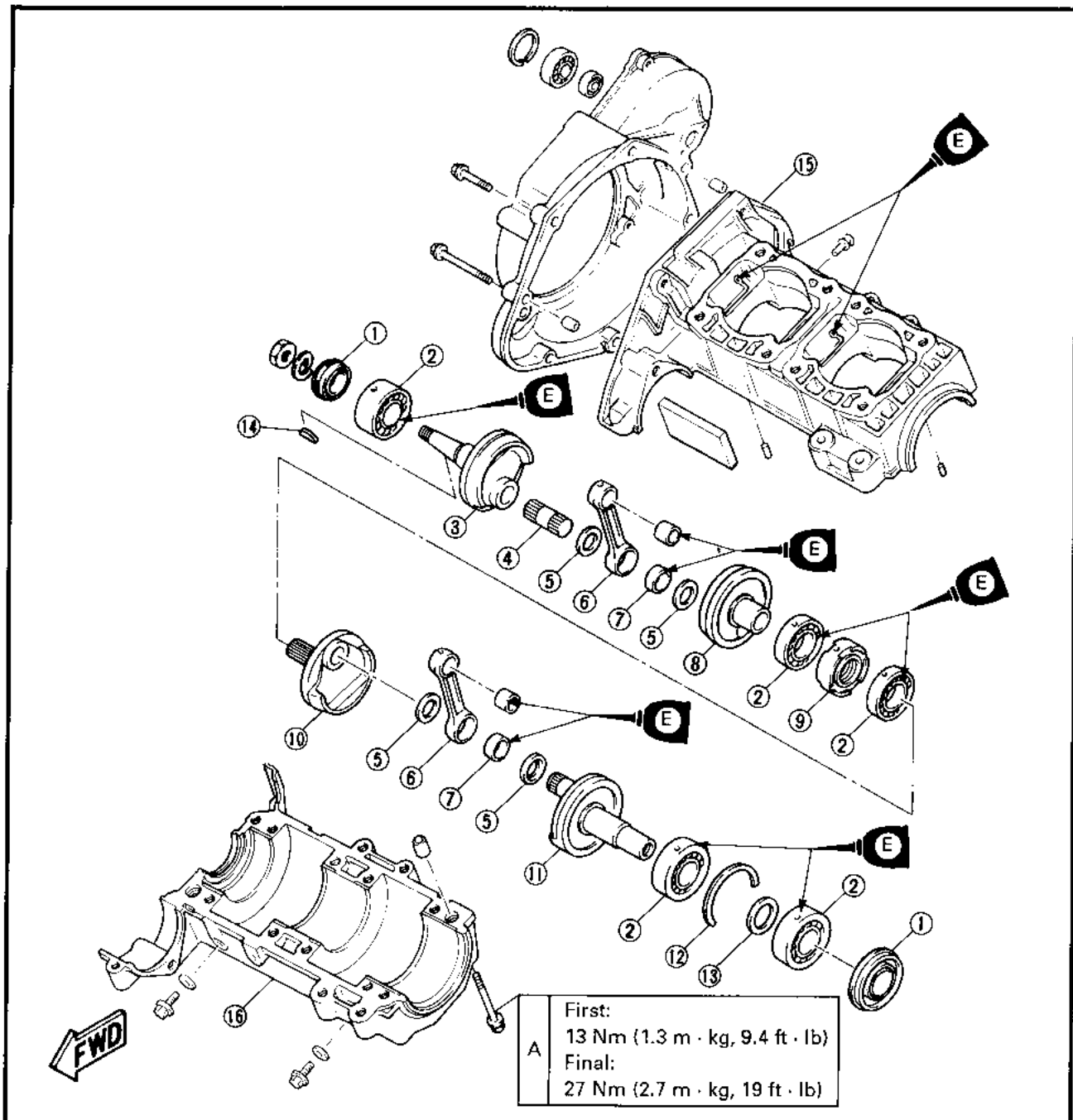
Screw (oil pump cover):
3 Nm (0.3 m · kg, 2.2 ft · lb)

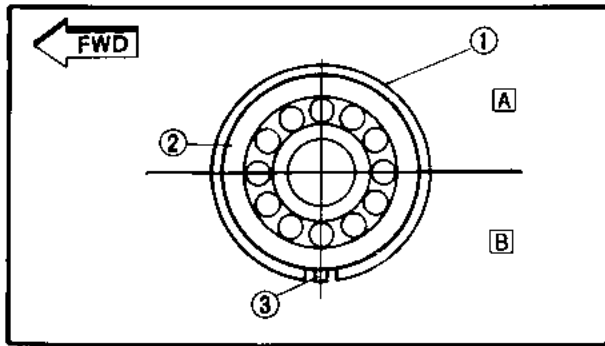


**ENGINE ASSEMBLY AND
ADJUSTMENT**

CRANKCASE AND CRANKSHAFT

- | | |
|-------------------|--------------------|
| ① Oil seal | ⑨ Labyrinth seal |
| ② Bearing | ⑩ Crank 2 |
| ③ Crank 4 | ⑪ Crank 1 |
| ④ Crank pin | ⑫ Stopper ring |
| ⑤ Washer | ⑬ Plain washer |
| ⑥ Connecting rod | ⑭ Woodruff key |
| ⑦ Big end bearing | ⑮ Upper crankcase |
| ⑧ Crank 3 | ⑯ Lower crankcase |
| | * Yamaha bond No.5 |



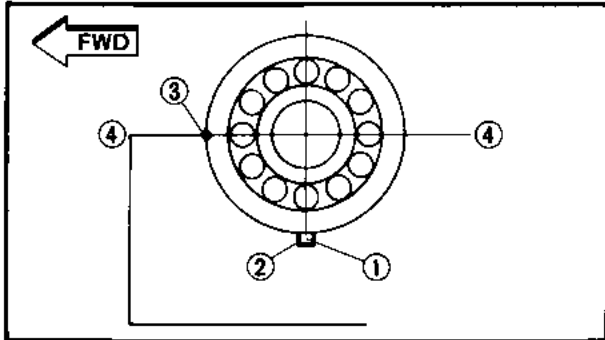


5E032

1. Install:

- Stopper ring ①
(onto lower crankcase bearing ② (primary sheave side) as shown)

- ③ Knock pin
- A Lower case
- B Upper case

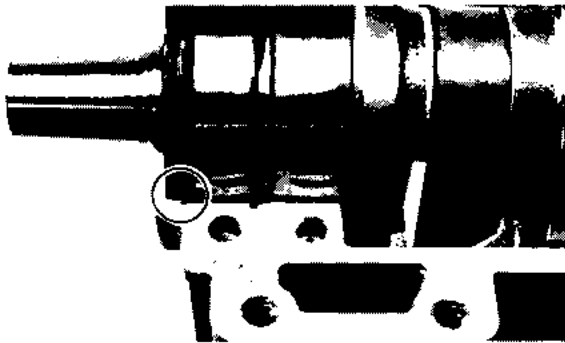


2. Install:

- Crankshaft assembly
(to upper crankcase)

NOTE:

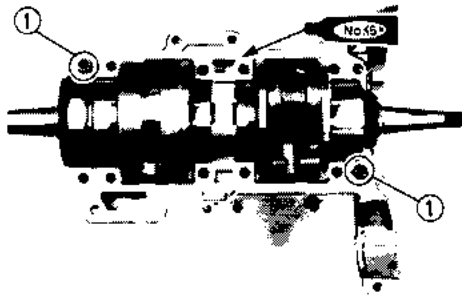
Set the knock pins ① on the upper crankcase and labyrinth seal into the pin holes ② of the bearings and upper crankcase by turning the bearings and labyrinth seal. At the same time, align the bearing punched marks ③ with the crankcase mating surface ④.



CAUTION:

The oil seal lip must fit into the crankcase groove.

5

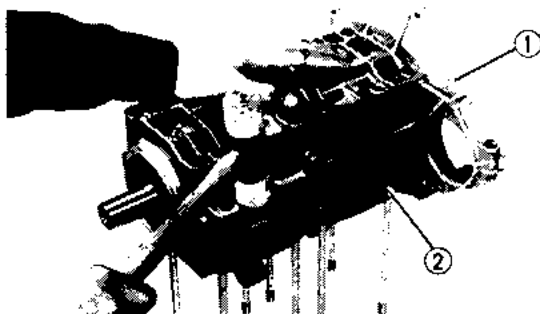


3. Apply:

- Yamabond No. 5®
(to mating surfaces of both case halves)

4. Install:

- Dowel pins ①

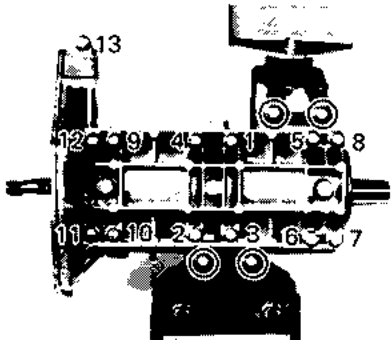
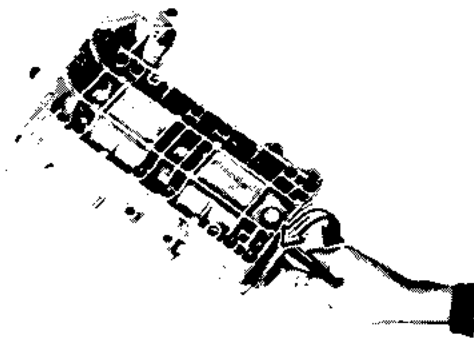


5. Install:

- Lower crankcase ①
(onto the upper crankcase ②)

NOTE:

Tap lightly on the case with a soft-head hammer.



CAUTION:

Before installing and torquing the crankcase bolts, be sure to check whether the crankshaft is turning smoothly.

6. Tighten:

- Bolts (crankcase)

NOTE:

Tighten the bolts in order starting with the smallest number and torque the bolts in two stages.



Bolt (crankcase):

First:

13 Nm (1.3 m • kg, 9.4 ft • lb)

Final:

27 Nm (2.7 m • kg, 19 ft • lb)

Bolt (engine bracket):

27 Nm (2.7 m • kg, 19 ft • lb)



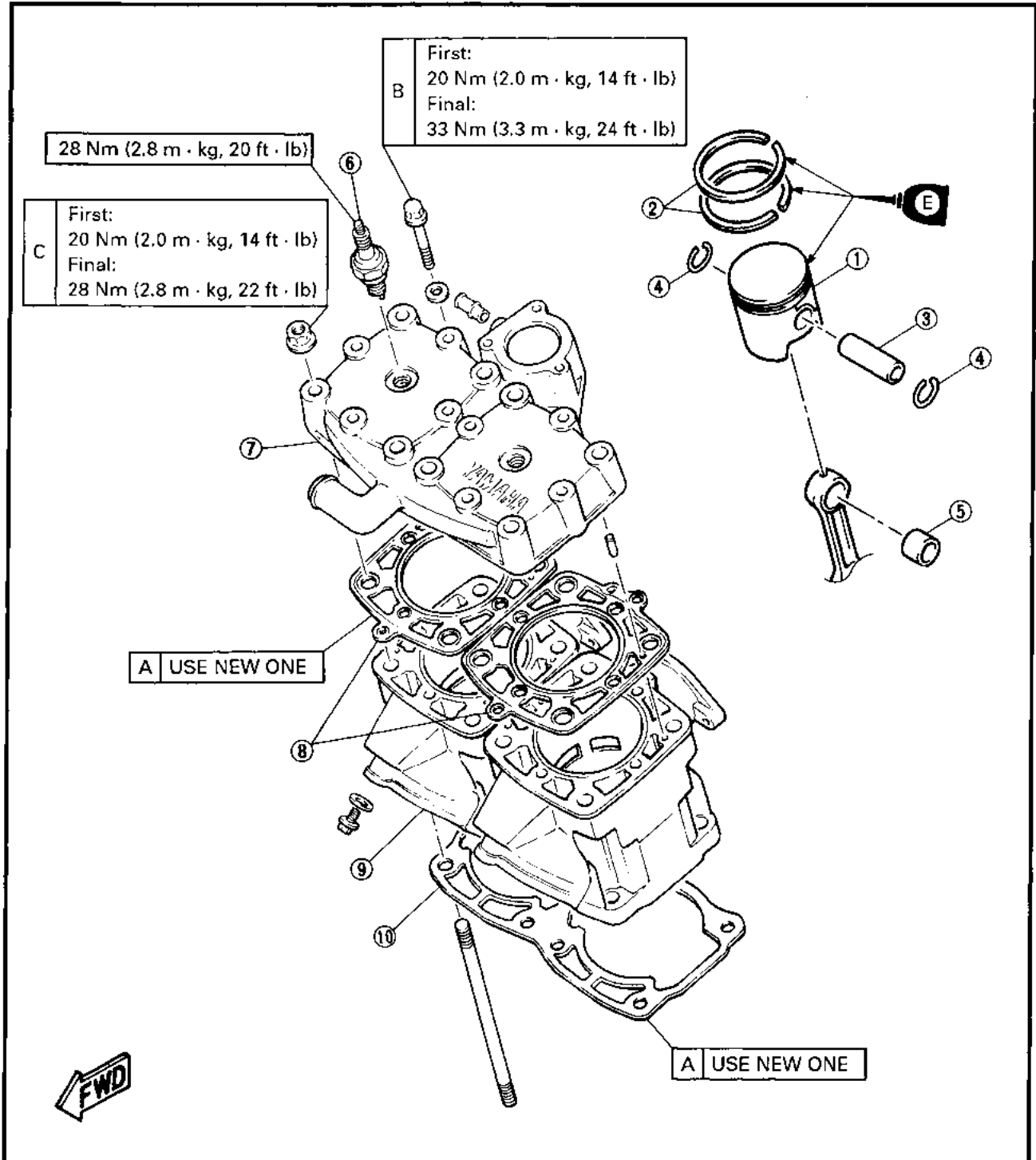
7. Apply:

- 2-stroke engine oil
(to crankpin, bearing and oil delivery hole)



PISTON, CYLINDER AND CYLINDER HEAD

- ① Piston
- ② Piston ring
- ③ Piston pin
- ④ Piston pin clip
- ⑤ Small end bearing
- ⑥ Spark plug
- ⑦ Cylinder head
- ⑧ Head gasket
- ⑨ Cylinder
- ⑩ Cylinder gasket





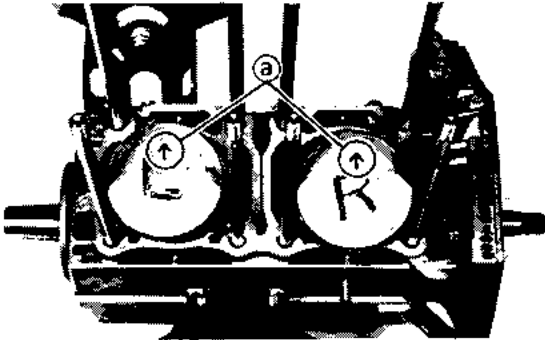
PISTON

1. Apply:

- 2-stroke engine oil (liberal coating)
(to piston pin, bearing, piston ring grooves and piston skirt areas)

2. Install:

- Small end bearing
- Piston
- Piston pin
- Piston pin clip
- Piston rings

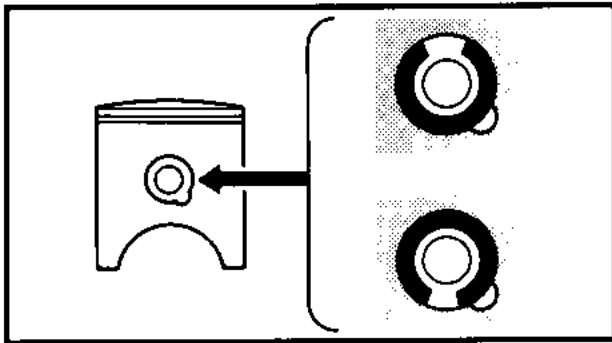


NOTE:

- The arrow (a) on the piston must point to the front of the engine.
- Before installing the piston pin clip, cover the crankcase with a clean rag so you will not accidentally drop the pin clip and material into the crankcase.
- Position each piston very carefully in its original place.

CAUTION:

- Always use a new piston pin clip.
- Do not allow the clip open ends to meet the piston pin slot.

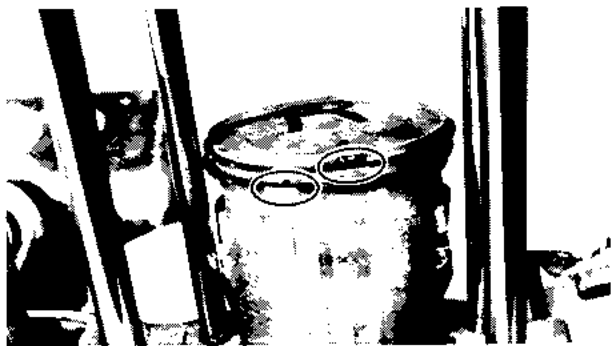


3. Check:

- Piston ring position

CAUTION:

- Make sure ring ends are properly fitted around ring locating pins in piston grooves.
- Be sure to check the manufacturer's marks or numbers stamped on the rings are on the top side of the rings.



CYLINDER AND CYLINDER HEAD

1. Install:

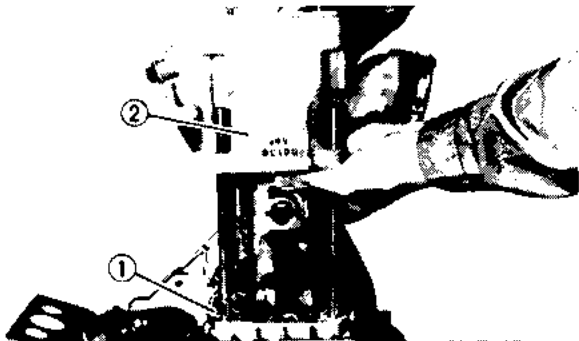
- Gasket ① (cylinder)
- Cylinder ②

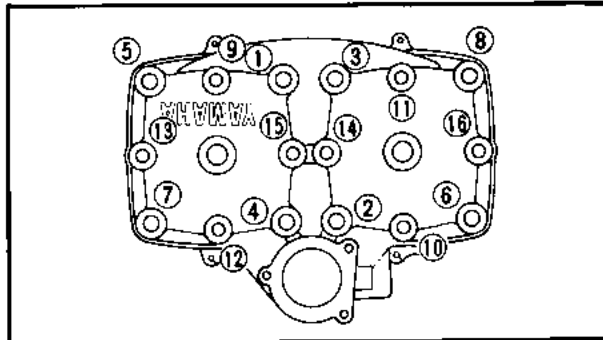
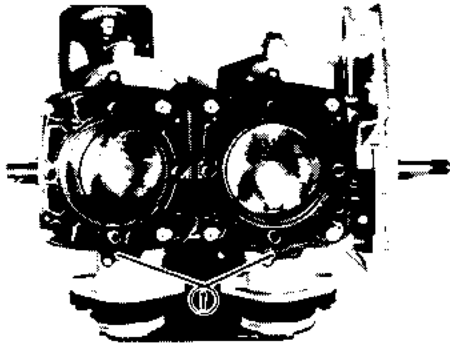
CAUTION:

Always use a new gasket.

NOTE:

Install the cylinder with one hand while compressing the piston rings with the other hand.





2. Install:

- Gasket ① (cylinder head)
- Cylinder head

3. Tighten:

- Nuts (cylinder head)
- Bolts (cylinder head)

Tightening steps:

- Temporarily tighten the cylinder head nuts ① ~ ⑧ and bolts ⑨ ~ ⑯, in this order.

First step:

- Tighten the nuts ① ~ ⑧ and bolts ⑨ ~ ⑯.



Nut (cylinder head):
20 Nm (2.0 m • kg, 14 ft • lb)

Bolt (cylinder head):
20 Nm (2.0 m • kg, 14 ft • lb)

Second step:

- Retighten the nuts ① ~ ⑧ and bolts ⑨ ~ ⑯.



Nut (cylinder head):
33 Nm (3.3 m • kg, 24 ft • lb)

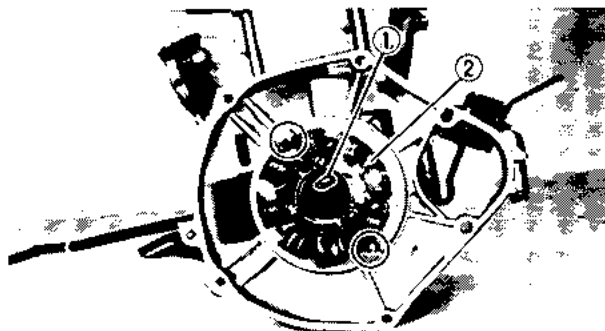
Bolt (cylinder head):
28 Nm (2.8 m • kg, 20 ft • lb)

4. Tighten:



Spark plug:
28 Nm (2.8 m • kg, 20 ft • lb)

Thermostatic valve cover bolt:
7 Nm (0.7 m • kg, 5.1 ft • lb)



CDI MAGNETO

1. Install:

- Woodruff key ①
- Stator plate ②

CAUTION:

Be sure to remove any oil and/or grease from the tapered portion of the crankshaft using a cloth dampened with thinner.



NOTE: _____
 Pass the magneto leads through the hole, and install the grommet into the crankcase.



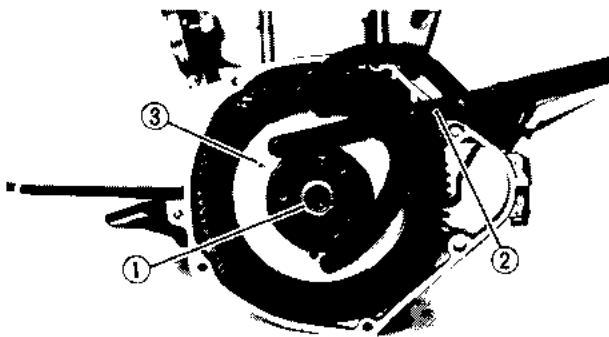
Screw (stator plate):
 7 Nm (0.7 m · kg, 5.1 ft · lb)

2. Install:
- Magneto rotor
 - Washer
 - Nut (magneto rotor)

CAUTION: _____

Be sure to remove any oil and/or grease from the tapered portion of the magneto rotor using a dampened cloth with thinner.

NOTE: _____
 When installing the magneto rotor, make sure the woodruff key is properly seated in the keyway of the crankshaft.

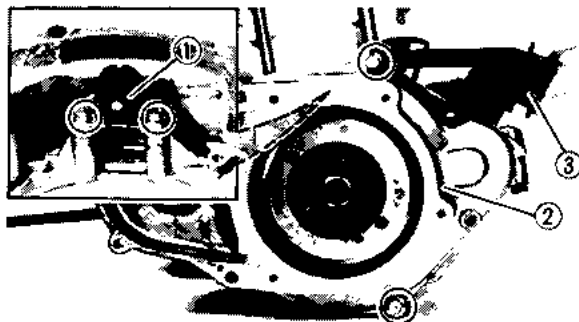


3. Tighten:



Magneto rotor nut ①:
 85 Nm (8.5 m · kg, 61 ft · lb)

NOTE: _____
 Use the Universal Rotor Holder (90890-01235, YU-01235) ② to hold the magneto rotor ③.



4. Install:
- Pickup coil ①
 - Crankcase cover ②
 - Engine bracket ③



Bolt (crankcase cover):
 23 Nm (2.3 m · kg, 17 ft · lb)

**WATER PUMP**

1. Install:

- Impeller shaft assembly (see page 6-6)
- Water pump drive belt
- Starter pulley
- Water pump housing
- Impeller
- Water pump cover
- Coolant hose

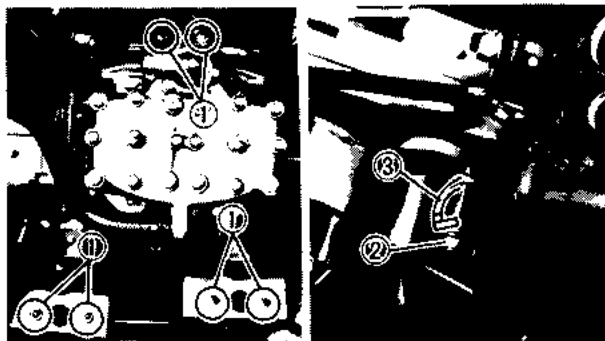
OIL PUMP

1. Install:

- Gasket
- Collar
- Worm gear shaft
- Washer
- Oil pump



Bolt (oil pump):
10 Nm (1.0 m • kg, 7.2 ft • lb)

**RECOUNTING ENGINE**

Reverse the "ENGINE REMOVAL" procedure. Note the following points.

1. Install:

- Engine assembly
- Nuts ① (engine bracket)

NOTE:

- Install the starter motor bolt ② and ground lead ③ before installing the engine assembly.
- Before tightening the nut (engine bracket-rear), the sheave distance should be adjusted.



Nut (engine bracket-front):
40 Nm (4.0 m • kg, 29 ft • lb)

2. Tighten



Starter motor bolt:
23 Nm (2.3 m • kg, 17 ft • lb)

3. Fill:

- Cooling system (see page 2-7)

4. Air bleed:

- Oil pump (see page 2-4)
- Cooling system (see page 2-9)

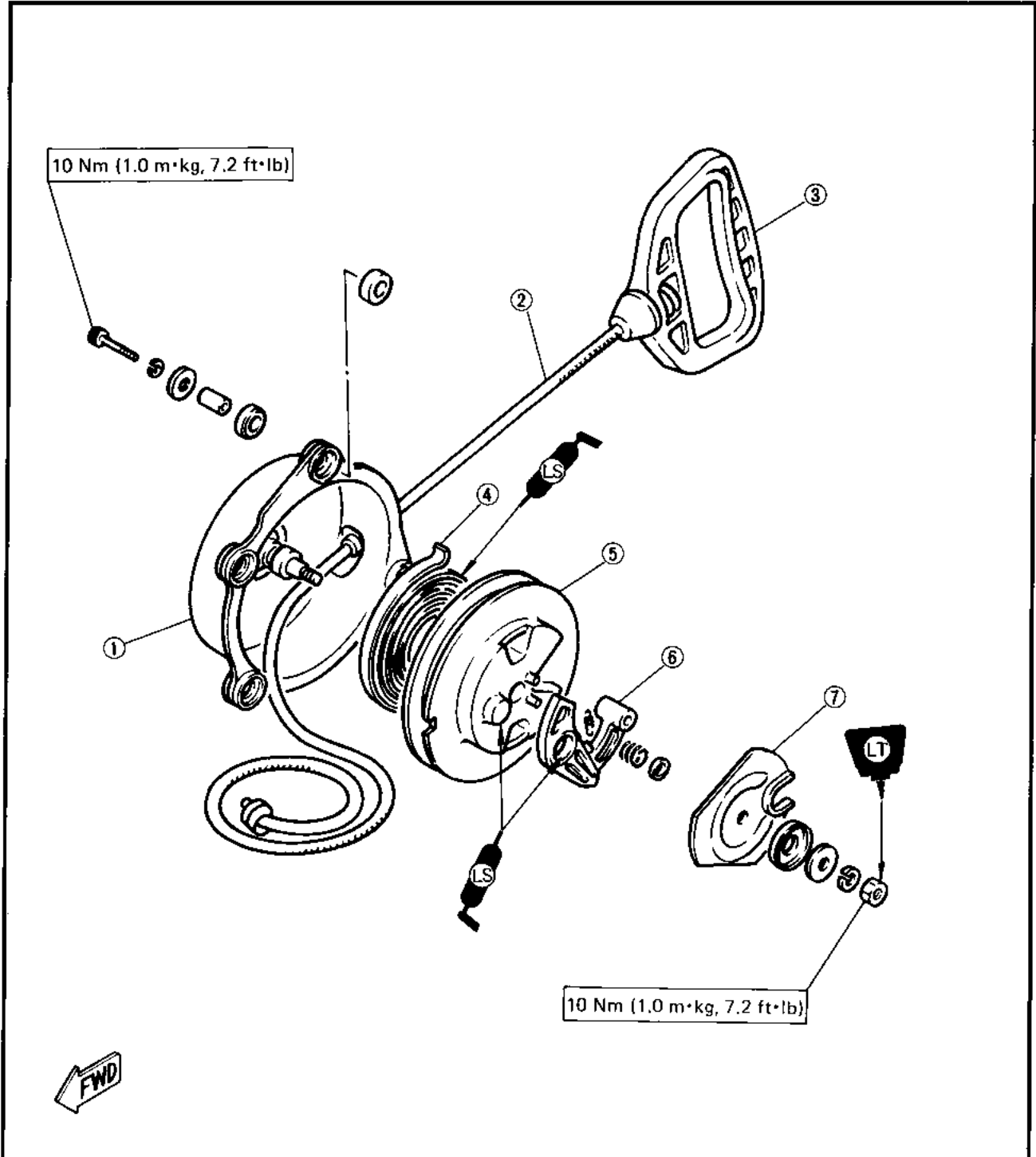
5. Adjust:

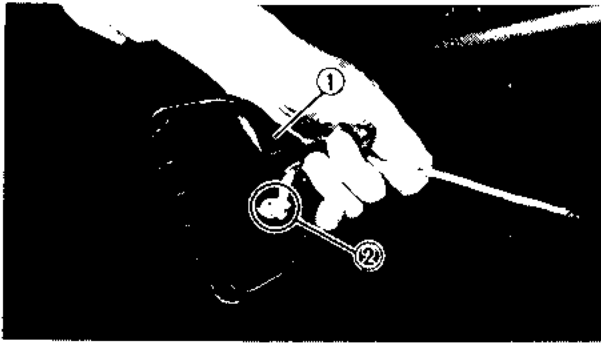
- Sheave distance (see page 4-12)
- Throttle cable (see page 2-14)
- Oil pump cable (see page 2-5)
- Starter cable (see page 2-16)



RECOIL STARTER

- ① Recoil starter case
- ② Starter rope
- ③ Starter handle
- ④ Starter spring
- ⑤ Sheave drum
- ⑥ Drive pawl
- ⑦ Drive plate





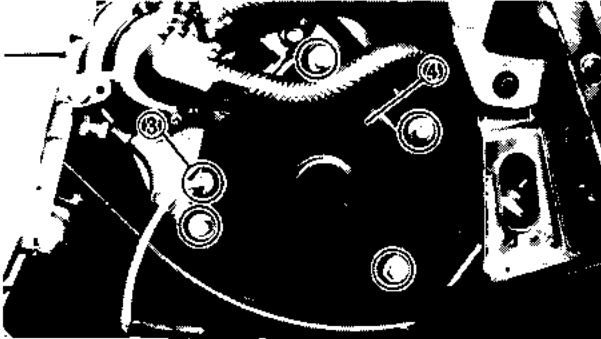
5EQ21

REMOVAL

1. Remove:
 - Muffler
 - Starter handle ①
 - Recoil starter

NOTE:

To remove the starter handle, loosen the knot ② in the starter rope and then re-tie a knot ③ in the rope end so that it will not be pulled into the recoil starter case ④.

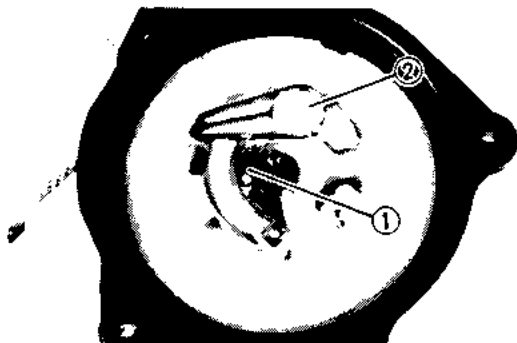


Disassembly

1. Remove:
 - Nut ①
 - Spring washer ②
 - Washer ③
 - Special washer ④
 - Drive plate ⑤
 - Spring seat ⑥
 - Spring ⑦

NOTE:

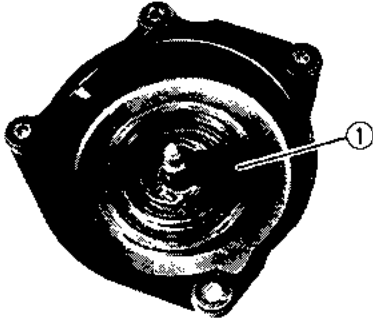
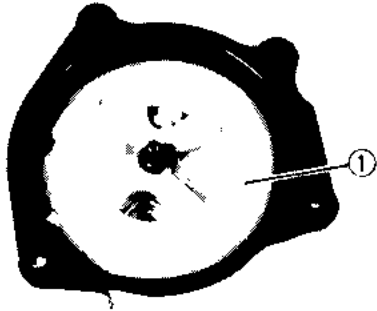
There is a spring (drive plate) ⑦ under the drive plate. Care should be taken so that it will not be lost.



2. Remove:
 - Return spring ①
 - Drive pawl ②

NOTE:

Care should be taken so that the return spring ① will not be lost.



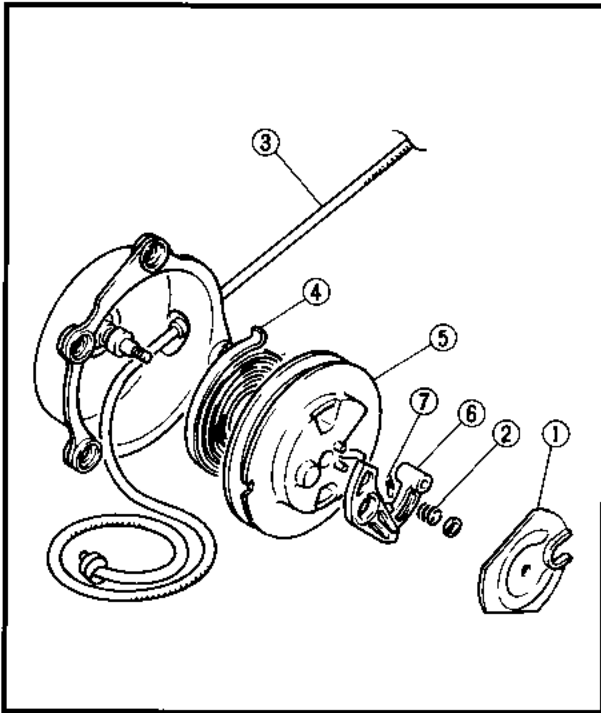
3. Untie the knot on the handle end of the starter rope. Allow the rope to be pulled into the starter case. This will release spring tension behind the sheave drum.

4. Remove:
- Sheave drum ①

⚠ WARNING

There is a starter spring under the sheave drum. Remove the drum carefully. Otherwise the spring could spring out and could possibly cause injury.

5. Remove:
- Starter spring ①



Inspection

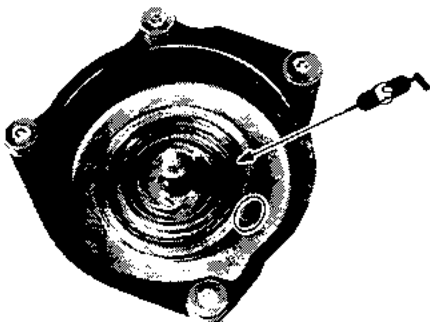
1. Inspect:
- Drive plate ①
Cracks/Bends/Damage → Replace.
 - Spring ② (drive plate)
Wear/Damage → Replace.
 - Starter rope ③
Wear/Breaks/Damage → Replace.
 - Starter spring ④
Cracks/Bends/Damage → Replace.
 - Sheave drum ⑤
Cracks/Damage → Replace.
 - Drive pawl ⑥
 - Return spring ⑦
Wear/Cracks/Damage → Replace.

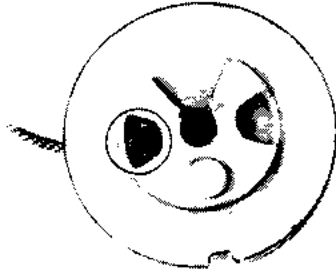
Assembly and installation

1. Hook the starter spring around the post in the starter case. Carefully wind the spring counterclockwise, and fit the spring into the case.

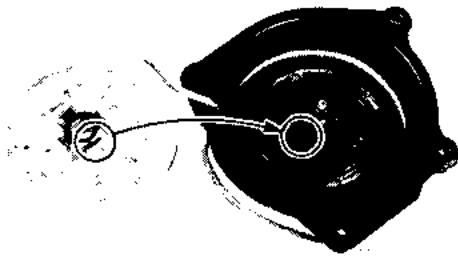
NOTE:

After installing the spring thoroughly apply the low-temperature grease.





2. Pass the starter rope end into the sheave drum, and knot the rope end. Then fit the knot into the cutout in the sheave drum.



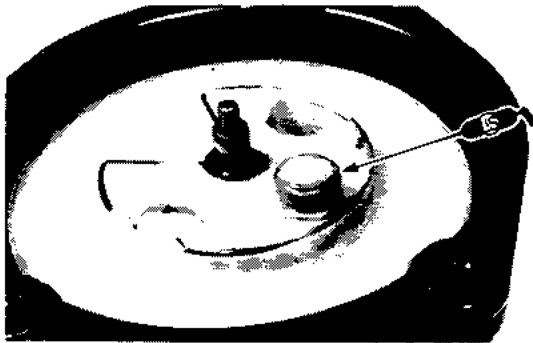
3. Wind:

- Starter rope (2 turns counterclockwise) (to sheave drum)

4. Install:

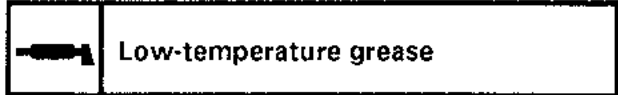
- Sheave drum (into starter case)

NOTE: _____
Be sure the inner hook on the starter spring hooks around the post on the sheave drum.

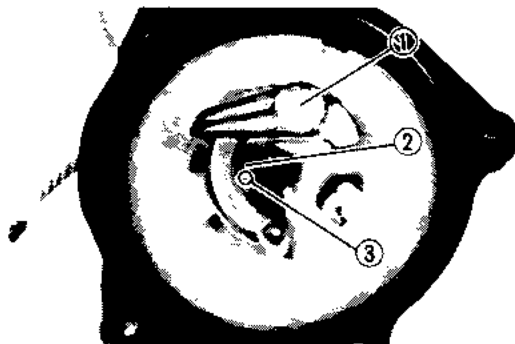


5. Apply:

- Grease (lightly) (to pivot point of the drive pawl)



5



6. Install:

- Drive pawl ①
- Return spring ②

NOTE: _____
Hook the return spring end to the drive pawl ①. Then, hook other end of the return spring to the post ③ on the sheave drum.

7. Install:

- Spring (drive plate)
- Spring seat
- Drive plate
- Special washer
- Washer
- Spring washer
- Nut

**NOTE:**

Be sure the cutout portion in the drive plate fits over the post on the drive pawl.



Nut (drive plate):
10 Nm (1.0 m • kg, 7.2 ft • lb)
LOCTITE®



8. Pull about four inches of starter rope from out of the cutout portion in the sheave drum, and rotate the sheave drum five times counterclockwise to preload the starter spring. Then knot the rope end so that it will not be pulled into the recoil starter case.

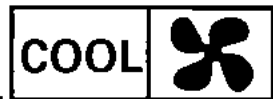
9. Install:

- Recoil starter
- Starter handle



Bolt (recoil starter):
10 Nm (1.0 m • kg, 7.2 ft • lb)

10. Check the starter for smooth operation. If it does not operate smoothly, repair it.



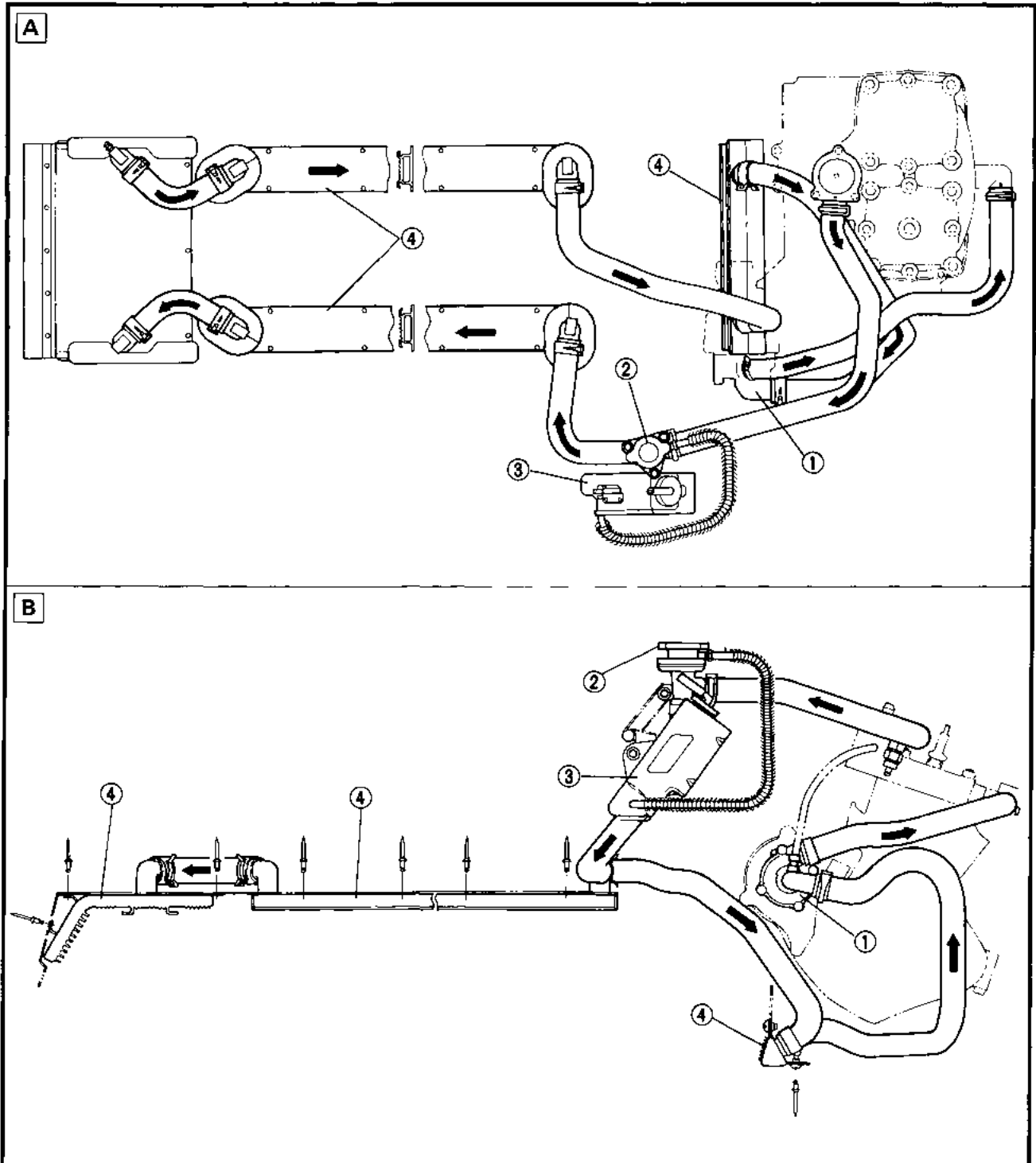
CHAPTER 6. COOLING SYSTEM

COOLANT FLOW	6-1
COOLING LINE	6-2
COOLING SYSTEM	6-3
REMOVAL	6-3
INSPECTION	6-5
INSTALLATION	6-6



COOLING SYSTEM COOLANT FLOW

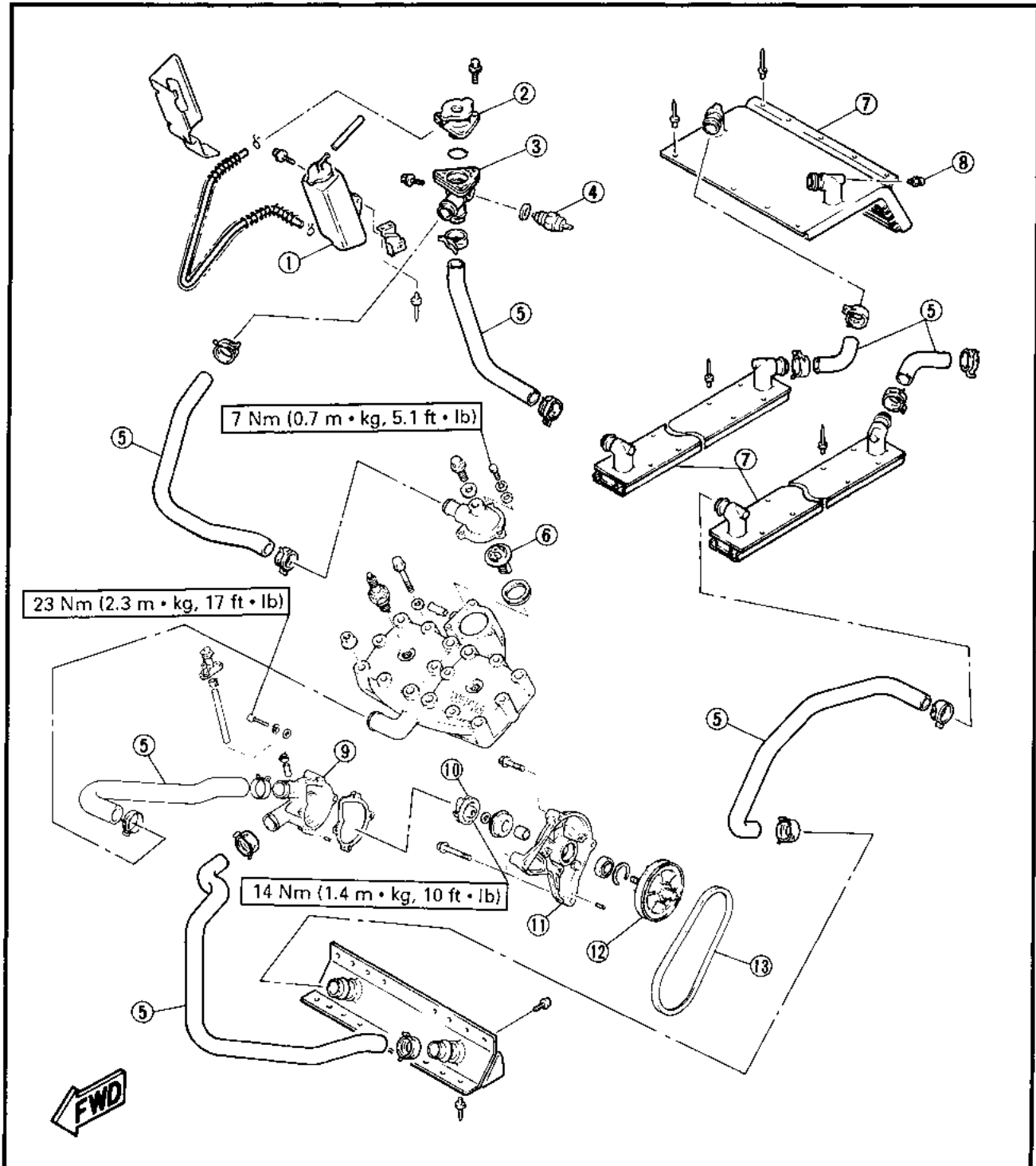
- ① Water pump
 - ② Coolant filler cap
 - ③ Reservoir tank
 - ④ Heat exchanger
- A** Top view
 - B** Side view

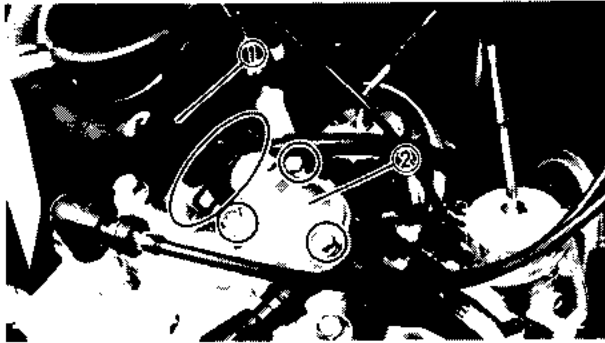




COOLING LINE

- ① Reservoir tank
- ② Coolant filler cap
- ③ Hose joint
- ④ Thermo switch
- ⑤ Coolant hose
- ⑥ Thermostatic valve
- ⑦ Heat exchanger
- ⑧ Bleed screw
- ⑨ Water pump cover
- ⑩ Impeller
- ⑪ Water pump housing
- ⑫ Impeller shaft assembly
- ⑬ Water pump drive belt

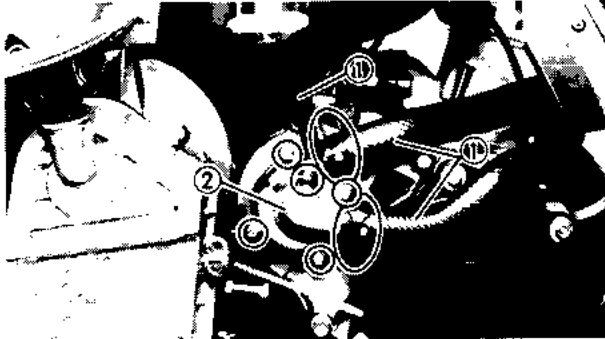




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COOLING SYSTEM**REMOVAL**

1. Place a rag under the coolant hose ① and disconnect the coolant hose.
2. Remove:
 - Thermostatic valve cover ②
 - Thermostatic valve



3. Drain the coolant. (see page 2-7)

4. Disconnect:
 - Coolant hoses ①

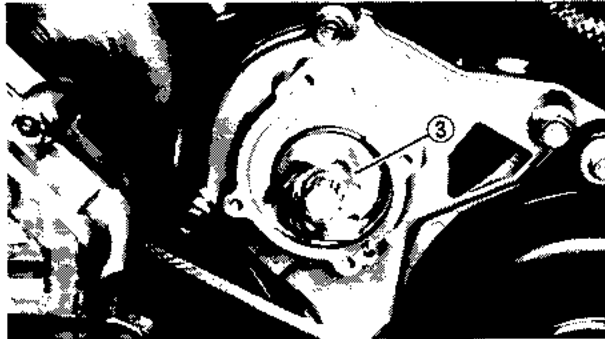
5. Remove:
 - Water pump cover ②
 - Gasket
 - Impeller ③

NOTE:

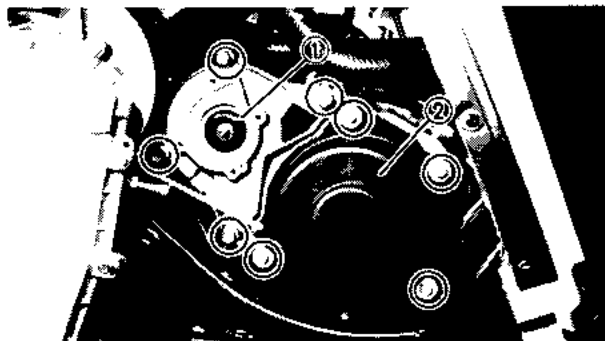
Attach the Primary Sheave Holder (90890-01701, YS-01880) to hold the primary sheave.

CAUTION:

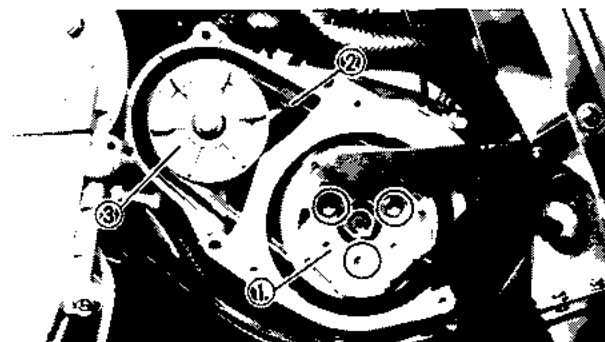
The impeller has left-hand threads. Turn the impeller clockwise to loosen it.



6. Remove:
 - Water pump housing ①
 - Recoil starter assembly ②

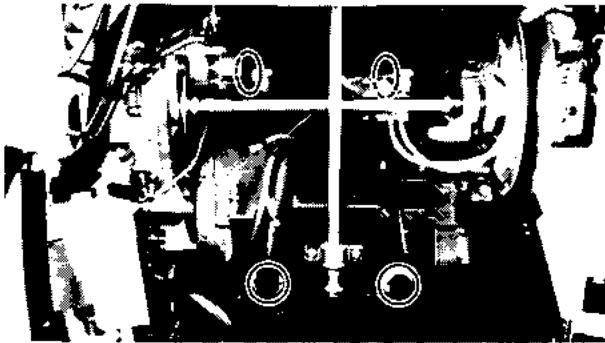


7. Remove:
 - Starter pulley ①

**NOTE:**

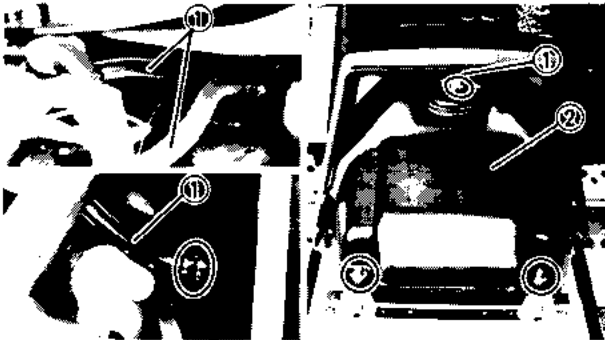
Attach the Universal Clutch Holder (90890-04086, YM-91042) to hold the starter pulley.

- Water pump drive belt ②
- Impeller shaft assembly ③



8. Remove:

- Engine assembly (see page 5-1)
- Intake silencer (see page 7-15)
- Coolant hoses



9. Remove:

- Fuel hoses ①
- Fuel tank ②

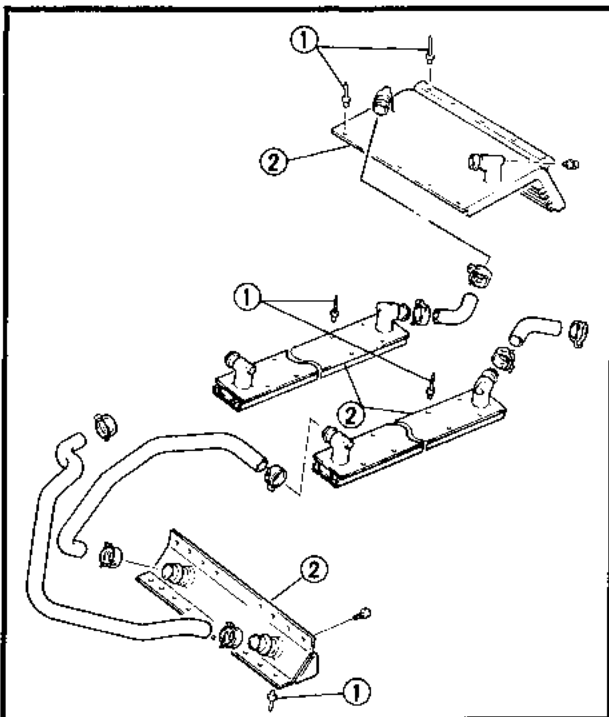
⚠ WARNING

Turn the fuel cock to the "close" position and plug the fuel hoses so fuel does not run out. Spilled fuel can be a fire hazard.



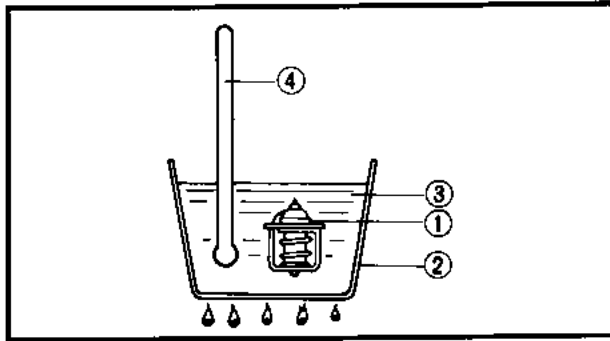
NOTE:

Remove the screw ③ on the center cover and pull back the fuel tank while lifting up the cover.



10. Remove:

- Slide rail suspension (see page 4-27)
- Track (see page 4-32)
- Rivets ①
- Heat exchangers ②



INSPECTION

1. Inspect:

- Thermostatic valve
Valve does not open at 50.0 ~ 55.0°C
(122 ~ 131°F) → Replace.

Inspection steps:

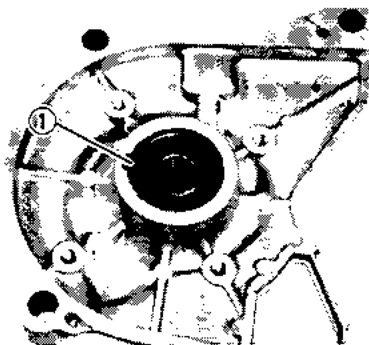
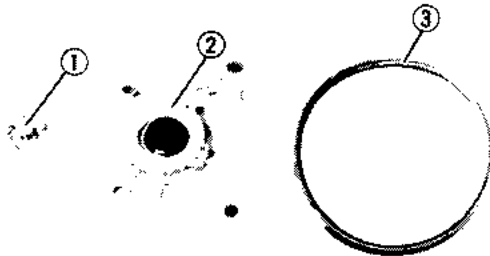
- Suspend thermostatic valve ① in a vessel ②.
- Place reliable thermometer in a water ③.
- Heat water slowly.
- Observe thermometer ④, while stirring water continually.

NOTE:

Thermostatic valve is sealed and its setting is preset. If its accuracy is in doubt, always replace it. A faulty unit could cause serious overheating or overcooling.

2. Inspect:

- Impeller ①
Cracks/Damage → Replace.
- Mechanical seat ②
- Water pump drive belt ③
Wear/Damage → Replace.



3. Inspect:

- Bearing
Pitting/Damage → Replace.

Replacement steps:

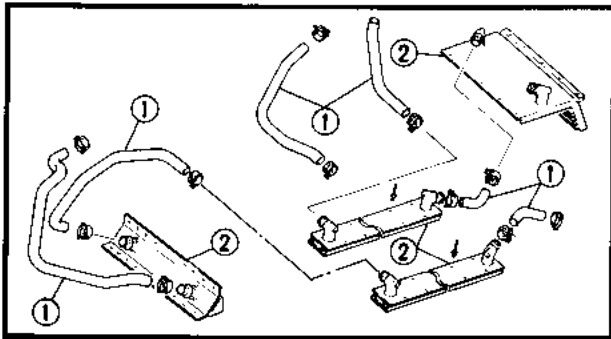
- Remove the circlip ①.
- Remove the bearing using a general bearing puller.
- Install the new bearing.

NOTE:

Use a socket ② that matches the outside diameter of the race of the bearing.

CAUTION:

Do not strike the inner race of balls of the bearing. Contact should be made only with the outer race.



4. Inspect:

- Coolant hoses ①
- Heat exchangers ②
Crack/Damage → Replace.

5. Measure:

- Filler cap opening pressure
Cap opens at pressure below the specified pressure → Replace.

Cap opening pressure:
80 ~ 100 kPa
(0.8 ~ 1.0 kg/cm², 11 ~ 14 psi)

Measurement steps:

- Attach the Cooling System Tester ① (90890-01325, YU-22460-01) to the coolant filler cap ②.
- Apply the specified pressure for 10 seconds, and make sure there is no pressure drop.

**INSTALLATION**

Reverse the "REMOVAL" procedure.

Note the following points.

1. Tighten:



Fuel tank nut:
10 Nm (1.0 m • kg, 7.2 ft • lb)

Water pump housing bolt:
23 Nm (2.3 m • kg, 17 ft • lb)

Impeller:
14 Nm (1.4 m • kg, 10 ft • lb)

Thermostatic valve cover bolt:
7 Nm (0.7 m • kg, 5.1 ft • lb)

2. Adjust:

- Water pump drive belt deflection
(see page 2-10)

3. Fill:

- Cooling system (see page 2-7)



CHAPTER 7. CARBURETION

CARBURETOR (FOR EX570SX)	7-1
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DISASSEMBLY	7-3
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ASSEMBLY	7-6
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ASSEMBLY	7-13
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FUEL LEVEL ADJUSTMENT	7-14
FUEL PUMP	7-15
OPERATION CHECK	7-15

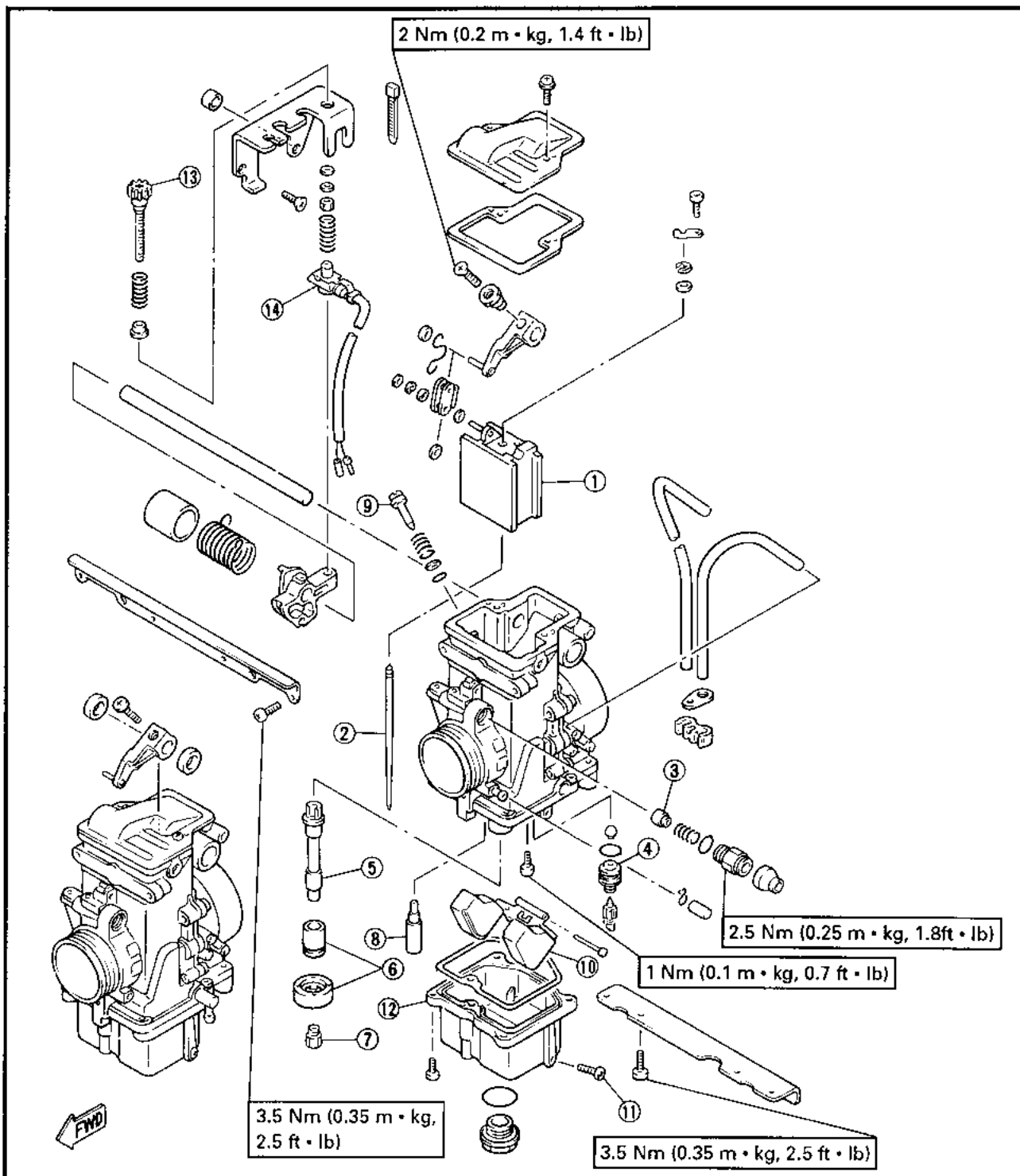


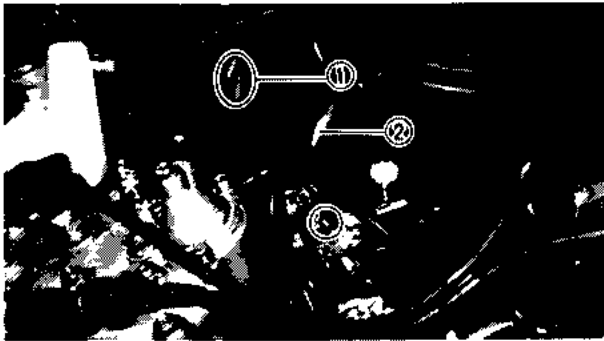
FOR EX570SX

CARBURETION

CARBURETOR

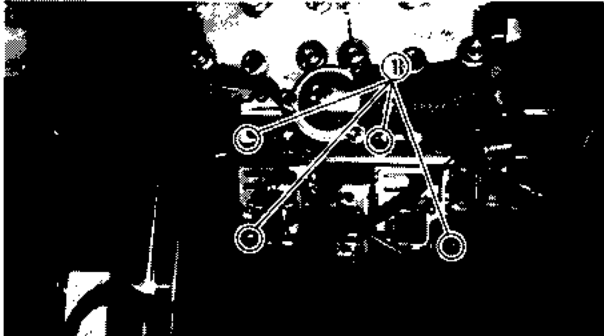
- | | |
|-----------------------|-----------------------|
| ① Throttle valve | ⑧ Pilot jet |
| ② Jet needle | ⑨ Pilot screw |
| ③ Starter plunger | ⑩ Float |
| ④ Valve seat assembly | ⑪ Drain screw |
| ⑤ Main nozzle | ⑫ Float chamber |
| ⑥ Main jet ring | ⑬ Throttle stop screw |
| ⑦ Main jet | ⑭ Carburetor switch |



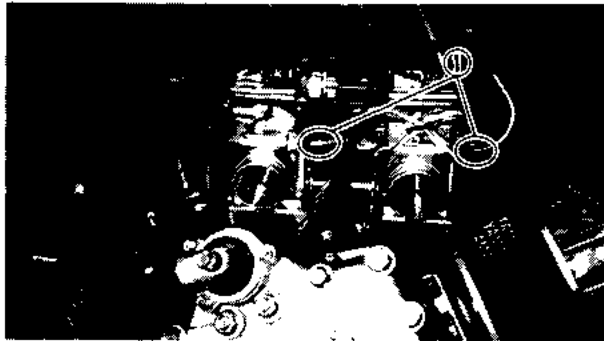


REMOVAL (EX570SX)

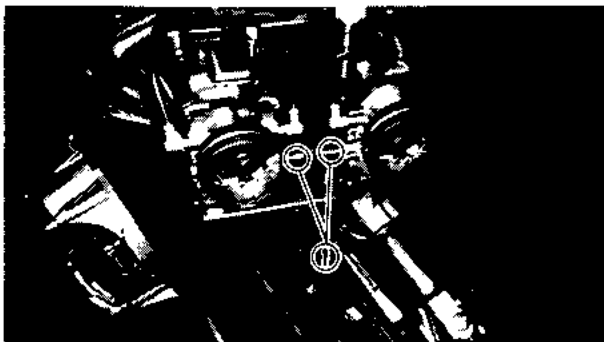
1. Disconnect:
 - Carburetor switch (T.O.R.S.) leads ①
2. Remove:
 - Throttle cable ②



3. Loosen:
 - Clamp screw ① (carburetor joint)



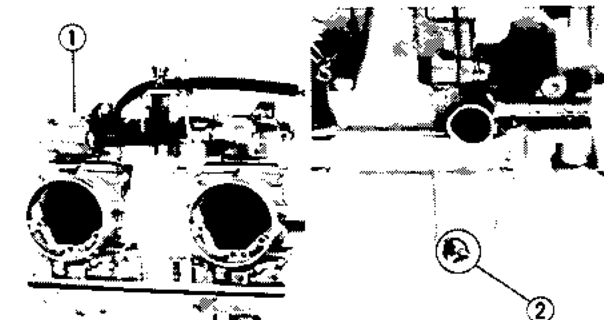
4. Remove:
 - Starter cable ①



5. Disconnect:
 - Fuel delivery hoses ①

⚠ WARNING

Plug the fuel delivery hoses so that fuel does not run out. Spilled fuel can be a fire hazard.



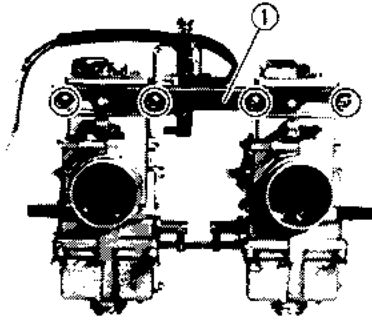
6. Remove:
 - Carburetor assembly ①
7. Drain:
 - Fuel (from float chambers ②)



DISASSEMBLY

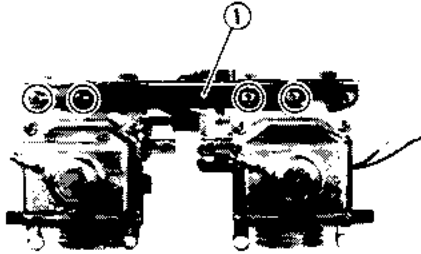
1. Remove:

- Connecting plate ①



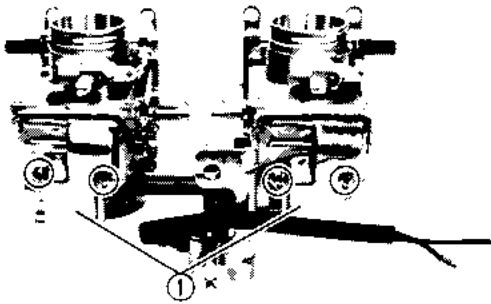
2. Remove:

- Connecting plate ①



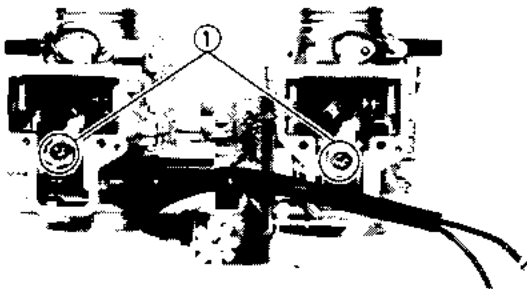
3. Remove:

- Top covers ①



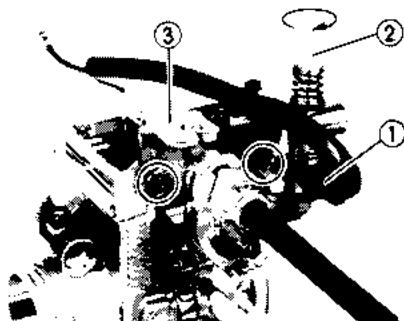
4. Loosen:

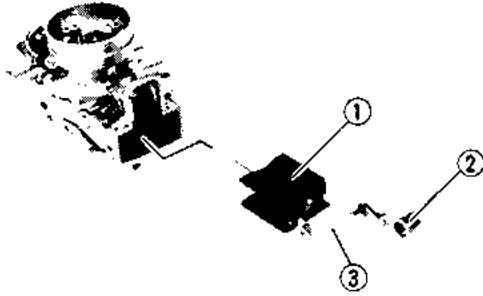
- Screw ①



5. Remove:

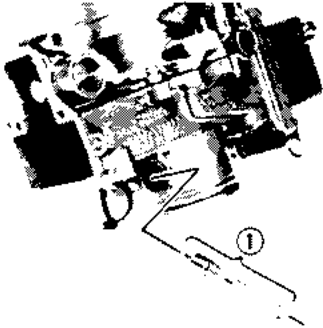
- Carburetor switch ① (T.O.R.S.)
Turn throttle stop screw ② clockwise.
- Throttle cable holder ③





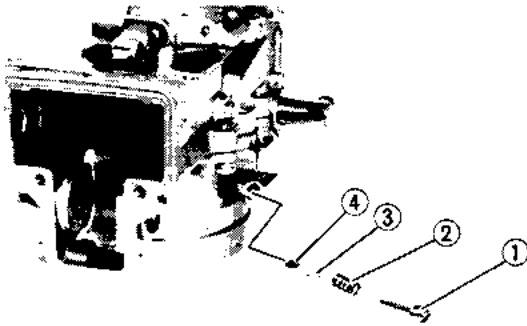
6. Remove:

- Throttle valve assembly ①
- Inner throttle lever assembly ②
- Washer ③



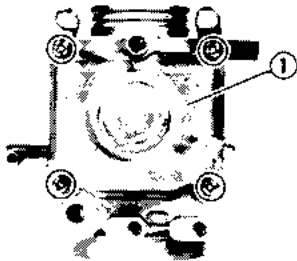
7. Remove:

- Starter plunger assembly ①



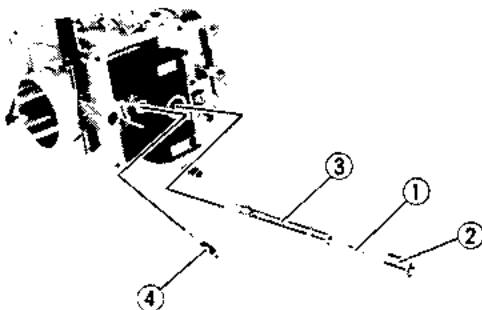
8. Remove:

- Pilot screw ①
- Spring ②
- Washer ③
- O-ring ④



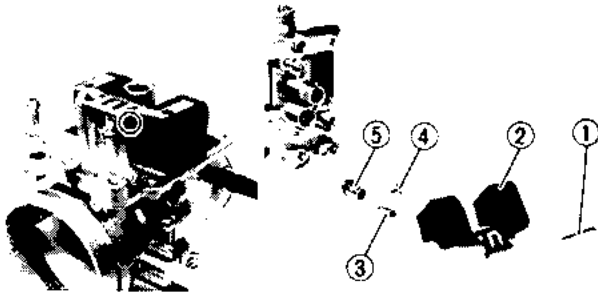
9. Remove:

- Float chamber ①



10. Remove:

- Main jet ①
- Main jet ring ②
- Main nozzle ③
- Pilot jet ④



11. Remove:

- Float pin ①
- Float ②
- Needle valve ③
- Screw ④ (valve seat)
- Valve seat assembly ⑤

- ⑥ O-rings
- ⑦ Fuel strainer

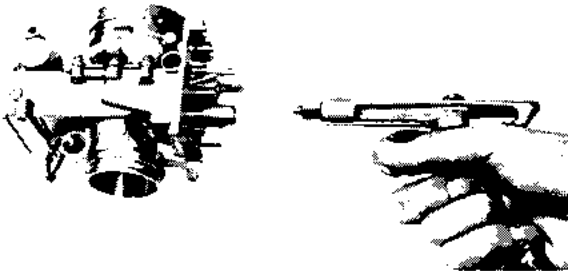
INSPECTION

1. Inspect:

- Carburetor body
 - Fuel passage
- Contamination → Clean.

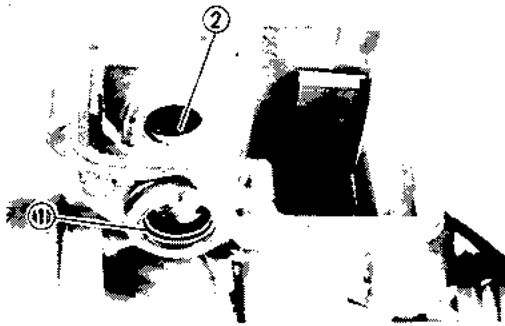
NOTE:

- Use a petroleum based solvent for cleaning.
- Blow out all passages and jets with compressed air.



2. Inspect:

- Rubber seals ①
- Bearing ②



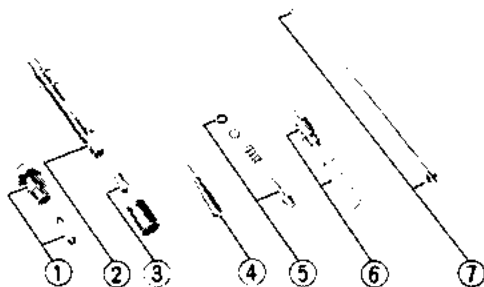
3. Inspect:

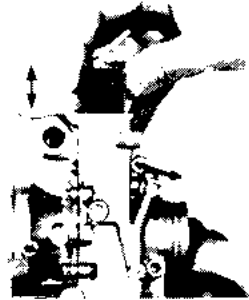
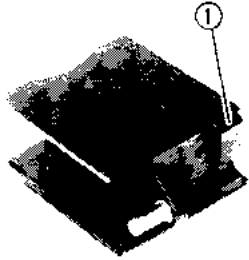
- Float ①



4. Inspect:

- Valve seat assembly ①
- Main nozzle ②
- Main jet ③
- Pilot jet ④
- Pilot screw assembly ⑤
- Starter plunger assembly ⑥
- Jet needle ⑦





5. Inspect:

- Throttle valve ①
Wear/Damage → Replace.

6. Check:

- Throttle valve movement
Stick → Replace carburetor body assembly.

ASSEMBLY

Reverse the "DISASSEMBLY" procedure. Note the following points.

NOTE:

- Before reassembling, wash all parts in clean gasoline.
- Always use a new gasket and O-ring.

1. Tighten:

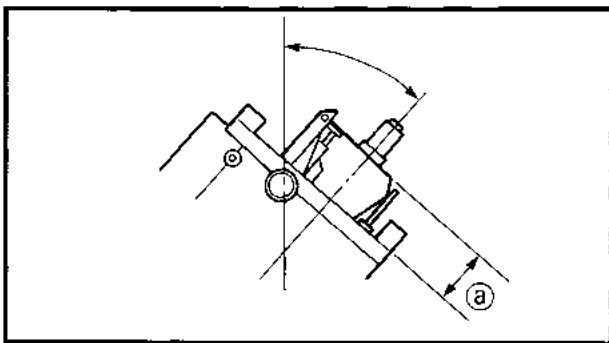
- Inner parts

	Pilot air jet/main air jet: 0.7 Nm (0.07 m · kg, 0.51 ft · lb)
	Screw (valve seat): 1 Nm (0.1 m · kg, 0.7 ft · lb)
	Pilot jet: 0.7 Nm (0.07 m · kg, 0.51 ft · lb)
	Main jet: 0.8 Nm (0.08 m · kg, 0.58 ft · lb)
	Starter plunger assembly: 2.5 Nm (0.25 m · kg, 1.8 ft · lb)

2. Measure:

- Float height ②
Out of specification → Adjust.

	Float height: 21.3 ~ 23.3 mm (0.84 ~ 0.92 in)
--	---

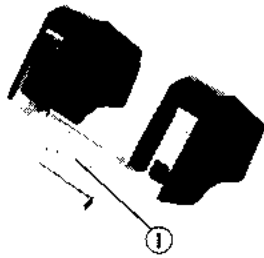


Measurement and adjustment steps:

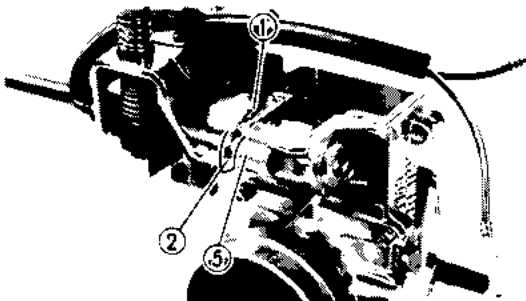
- Hold the carburetor in an upside down position.
- Measure the distance between the carburetor body and top of the floats.

NOTE:

The float arm should be resting on the valve, but not compressing the needle valve.

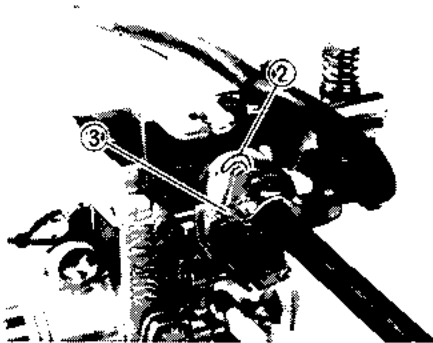


- If the float height is not within specification, inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float arm tang ① on the float.
- Recheck the float height.



3. Lubricate:
- Rubber seals
 - Bearings
 - Washer
 - Return spring

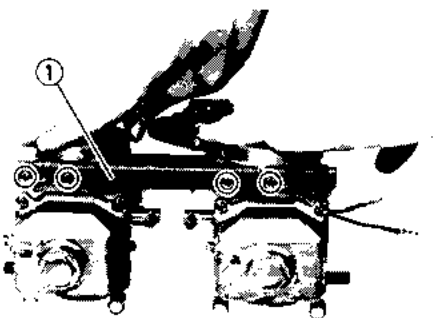
 Low-temperature lithium soap base grease




4. Install:
- Return springs ①

NOTE: _____
Hook the spring hooks ② to the projections on the connecting lever ③ and carburetor body ④, while twisting the spring clockwise approximately 315 degrees.

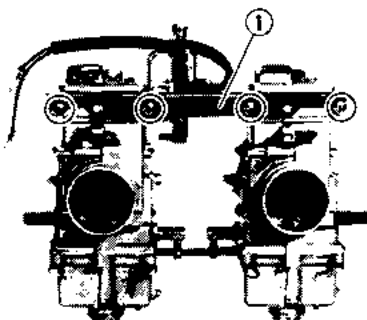
- Carburetors (No. 1, No. 4)

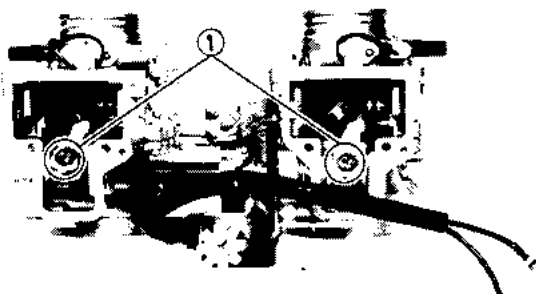


5. Install:
- Connecting plate ① (lower)
 - Connecting plate ② (upper)

 Screw (connecting plates):
3.5 Nm (0.35 m • kg, 2.5 ft • lb)

NOTE: _____
Plate the carburetors on a surface plate with the intake manifold side down, install the connecting plates while pushing the respective carburetors down with an even force.





6. Tighten:

- Screws ① (inner throttle lever)



Screw (inner throttle lever):
2 Nm (0.2 m • kg, 1.4 ft • lb)

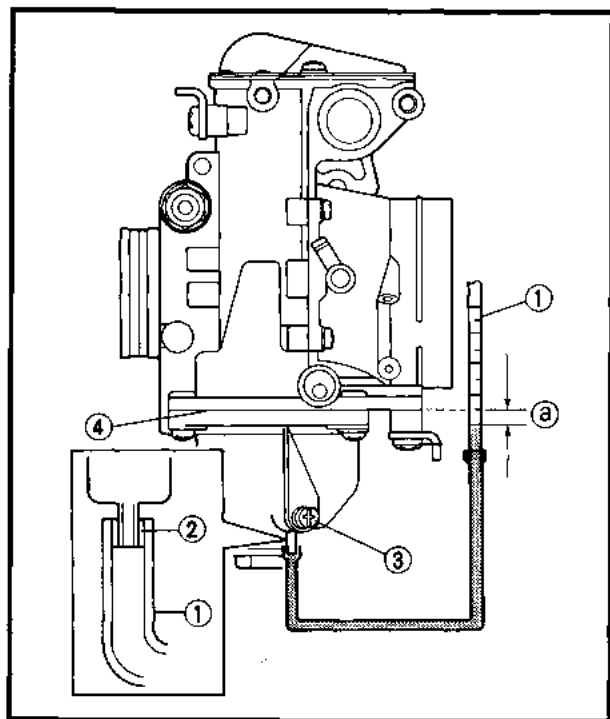
FUEL LEVEL ADJUSTMENT

1. Measure:

- Fuel level
Out of specification → Adjust.



Fuel level:
3.5 ~ 5.5 mm (0.138 ~ 0.216 in)



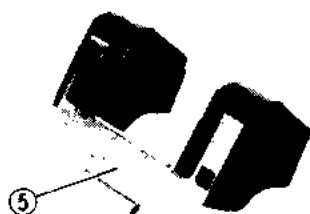
Measurement and adjustment steps:

- Place the machine on a level place.
- Attach the Fuel Level Gauge (90890-01312, YM-01312-A) ① to the float chamber nozzle.

NOTE:

Use the adapter (outside diameter $\varnothing 6$ hose) ② when attaching the Fuel Level Gauge.

- Loosen the drain screw ③ and start the engine.
- Place the tube along the seam line ④ of the carburetor body.
- Measure the fuel level ② with gauge.
- If the fuel level is incorrect, adjust the fuel level.
- Remove the carburetor.
- Inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float tang ⑤ on the float.
- Recheck the fuel level.



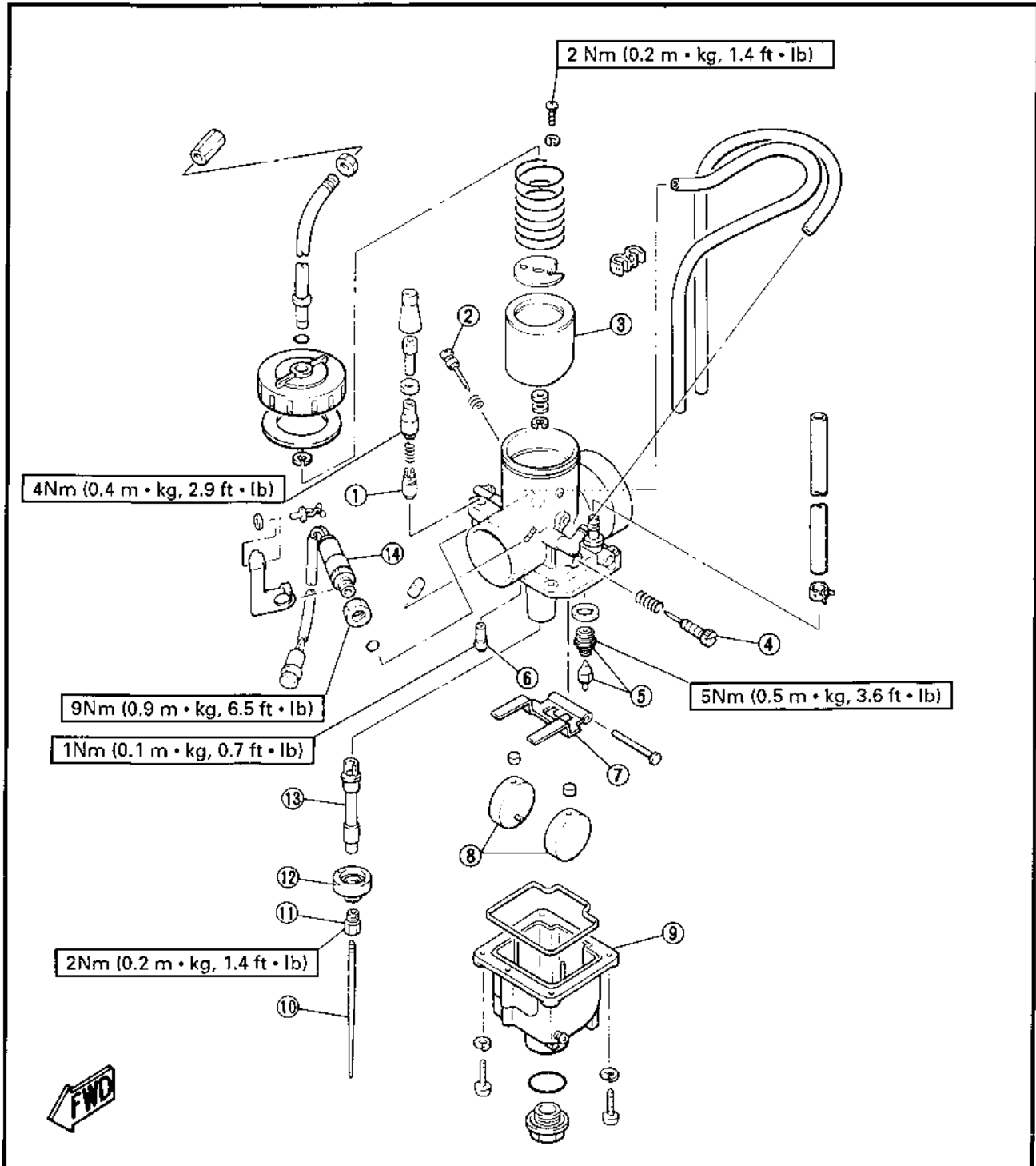


FOR EX570(E)/ST

CARBURETION

CARBURETOR

- ① Starter plunger
- ② Air screw
- ③ Piston valve
- ④ Throttle stop screw
- ⑤ Valve seat assembly
- ⑥ Pilot jet
- ⑦ Float arm
- ⑧ Float
- ⑨ Float chamber cover
- ⑩ Jet needle
- ⑪ Main jet
- ⑫ Main jet ring
- ⑬ Main nozzle
- ⑭ Carburetor switch



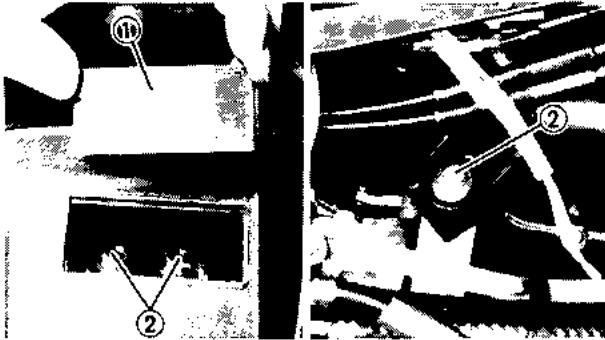


REMOVAL (EX570(E)/ST)

NOTE:

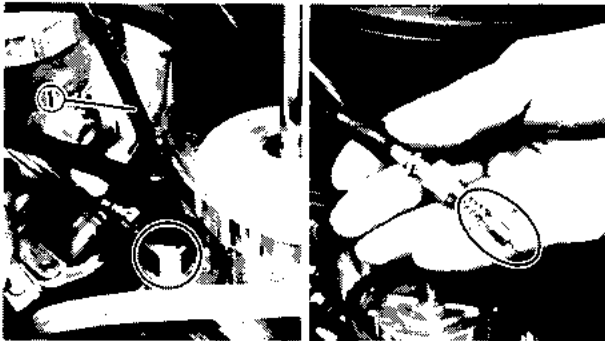
The following parts can be cleaned and inspected without disassembly.

- Starter plunger
- Main jet (left side)
- Pilot screw



1. Remove:

- Blind cover ①
- Bolts ② (intake silencer)

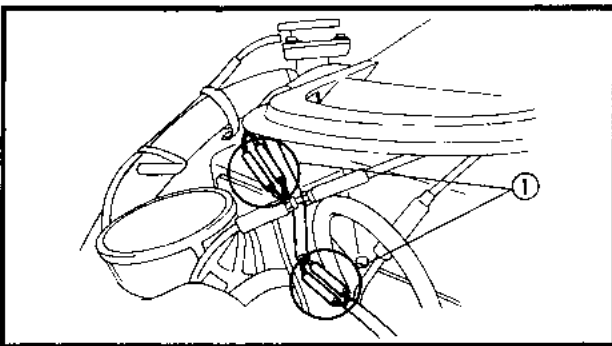


2. Disconnect:

- Starter cables ①
(with starter plunger)

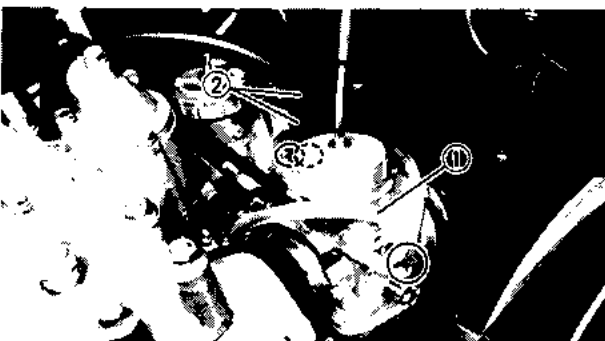
CAUTION:

Take care so that the coil spring, starter cable adjuster and starter plunger do not fall off or are not lost. Also use special care not to scratch the starter plunger surface.



3. Disconnect:

- Carburetor switch (T.O.R.S.) leads ①

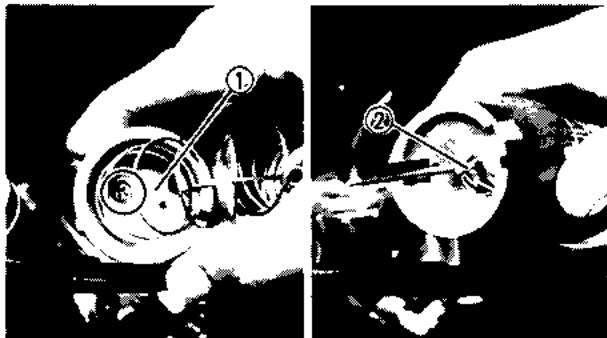
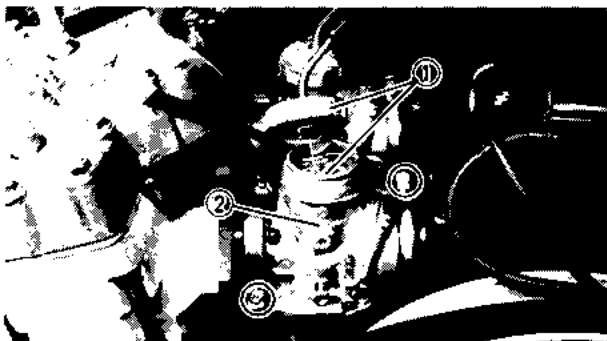


4. Disconnect:

- Fuel delivery hoses ①
- Water hoses ②

⚠ WARNING

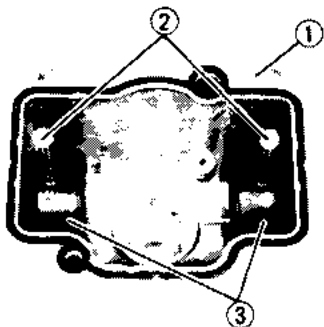
Turn the fuel cock to the "close" position and plug the fuel delivery hoses so that fuel does not run out. Spilled fuel can be a fire hazard.



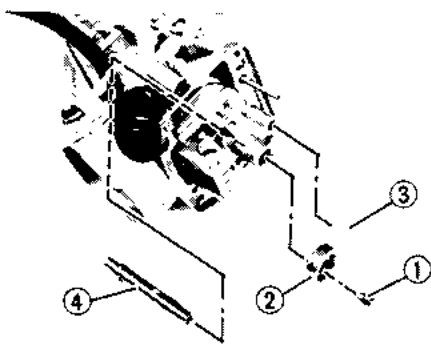
5. Loosen:
 - Screws (carburetor joint)
6. Remove:
 - Throttle valve assembly ①
 - Carburetor assembly ②
7. Drain:
 - Fuel
8. Remove:
 - Jet needle holder ①
 - Throttle cable end ②

DISASSEMBLY

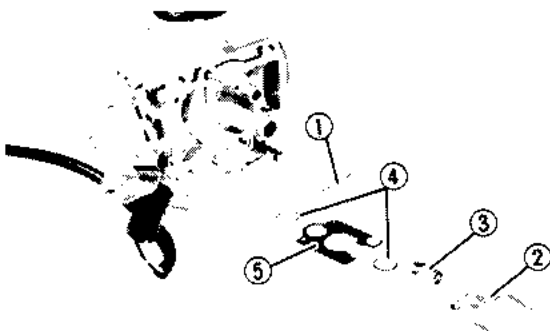
1. Remove:
 - Float chamber cover ①
 - Float pin caps ②
 - Floats ③

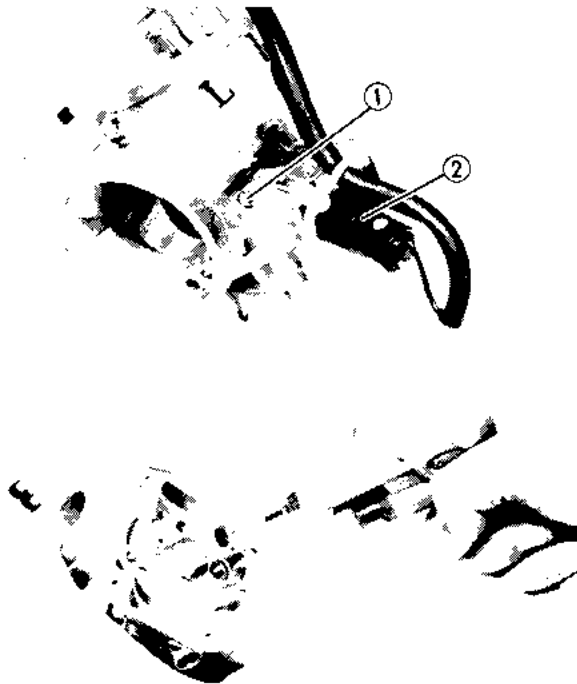


2. Remove:
 - Main jet ①
 - Main jet ring ②
 - Pilot jet ③
 - Main nozzle ④



3. Remove:
 - Pin ①
 - Float arm ②
 - Valve seat assembly ③
 - Gasket ④
 - Valve seat plate ⑤





4. Remove:

- Air screw ①
- Carburetor switch ②

INSPECTION

1. Inspect:

- Carburetor body
- Fuel passage
- Contamination → Clean.

NOTE:

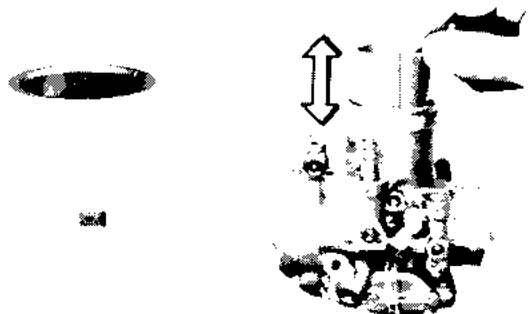
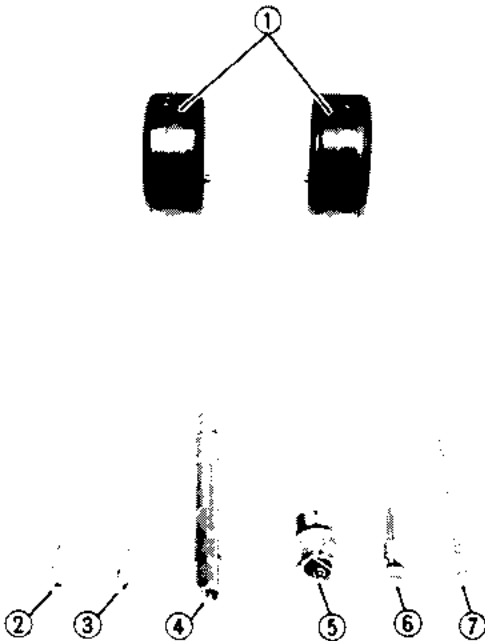
- Use a petroleum based solvent for cleaning.
- Blow out all passages and jets with compressed air.

2. Inspect:

- Floats ①
- Damage → Replace.
- Main jet ②
- Pilot jet ③
- Main nozzle ④
- Valve seat assembly ⑤
- Air screw ⑥
- Jet needle ⑦
- Bends/Wear/Damage → Replace.
- Contamination → Clean.

NOTE:

- Use a petroleum based solvent for cleaning.
- Blow out all passages and jets with compressed air.



3. Inspect:

- Throttle valve
- Wear/Damage → Replace.

4. Check:

- Throttle valve movement
- Stick → Replace carburetor body assembly.

**ASSEMBLY**

Reverse the "DISASSEMBLY" procedure. Note the following points.

NOTE:

- Before reassembling, wash all parts in clean gasoline.
- Always use a new gasket and O-ring.

1. Tighten:

**Valve seat assembly:**

5 Nm (0.5 m · kg, 3.6 ft · lb)

Pilot jet:

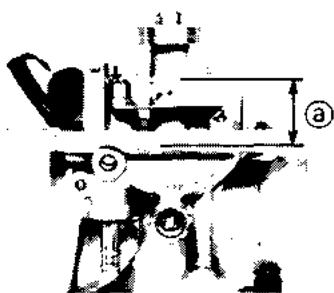
1 Nm (0.1 m · kg, 0.7 ft · lb)

Main jet:

2 Nm (0.2 m · kg, 1.4 ft · lb)

2. Measure:

- Float height ①
- Out of specification → Adjust.

**Float height:**

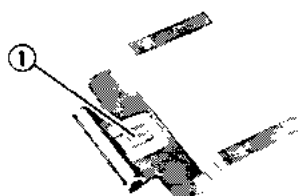
17.1 ~ 19.1 mm (0.67 ~ 0.75 in)

Measurement and adjustment steps:

- Hold the carburetor in an upside down position.
- Measure the distance from the carburetor body to the float arm using a gauge.

NOTE:

- Before measurement, remove the gasket between the carburetor body and float chamber.
 - The float arm should be resting on the valve, but not compressing the needle valve.
-
- If the float arm height is not within specification, inspect the valve seat and needle valve.
 - If either is worn, replace them both.
 - If both are fine, adjust the float arm height by bending the float arm tang ① on the float.
 - Recheck the float arm height.





INSTALLATION

Reverse the "REMOVAL" procedure.

Note the following points.

1. Tighten:



Jet needle holder screw:

2 Nm (0.2 m · kg, 1.4 ft · lb)

Starter plunger:

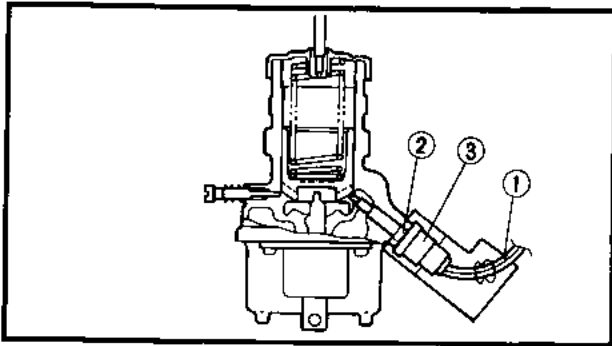
4 Nm (0.4 m · kg, 2.9 ft · lb)

2. Adjust:

- Engine idle speed (see page 2-13)
- Throttle cable free play (see page 2-14)
- Starter cable free play (see page 2-16)

3. Adjust:

- Carburetor switch (T.O.R.S.)



Adjustment steps:

- Be sure engine idle speed has been adjusted to specification. Shut off the engine.
- Disconnect the switch connectors. Connect the Pocket Tester (90890-03112, YU-03112) leads to the switch leads.
- Loosen the lead wires ① from the holder by opening the clamp.
- Loosen the locknut ② and turn the T.O.R.S. switch ③ counterclockwise until the switch is in the OFF position (circuit open).
- Turn the T.O.R.S. switch ③ clockwise until the T.O.R.S. switch is in the ON position (circuit closed). Then turn the T.O.R.S. switch clockwise 1/2 turn and tighten the locknut ②.



Locknut:

9 Nm (0.9 m · kg, 6.5 ft · lb)

- Clamp the lead wires to the holder and connect the connector.
- Repeat for the other carburetor switch.

FUEL LEVEL ADJUSTMENT

1. Measure:

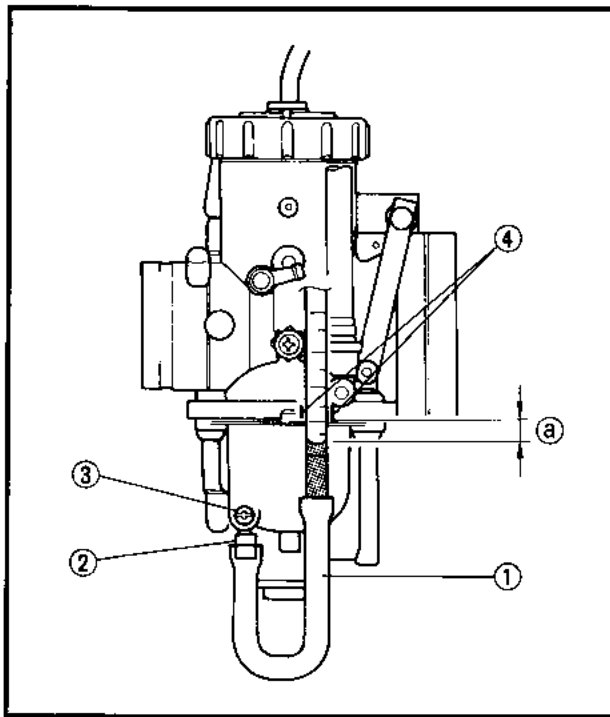
- Fuel level

Out of specification → Adjust.



Fuel level:

1.0 ~ 3.0 mm (0.04 ~ 0.12 in)



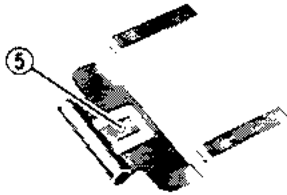
Measurement and adjustment steps:

- Place the machine on a level place.
- Attach the Fuel Level Gauge (90890-01312, YM-01312-A) ① to the float chamber nozzle.

NOTE:

Use the adapter (outside diameter $\phi 6$ hose) ② when attaching the Fuel Level Gauge.

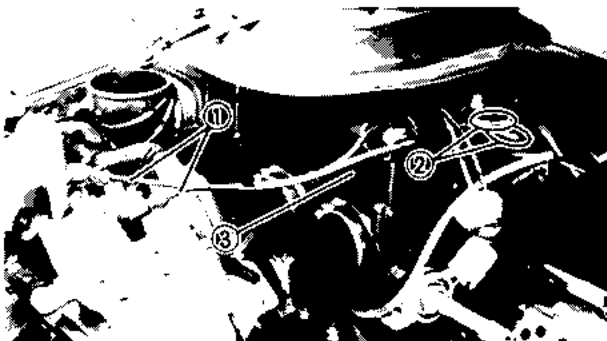
- Loosen the drain screw ③ and start the engine.
- Place the tube between the guide marks ④ on the carburetor body.
- Measure the fuel level ⑤ with gauge.
- If the fuel level is incorrect, adjust the fuel level.
- Remove the carburetor.
- Inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float tang ⑤ on the float.
- Recheck the fuel level.

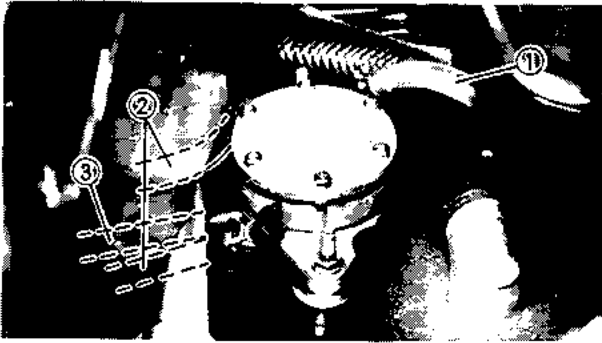


FUEL PUMP

OPERATION CHECK

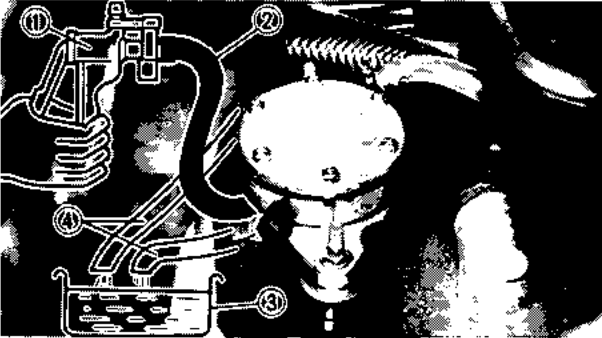
1. Remove:
 - Drive V-belt guard (see page 2-17)
 - Drive V-belt
 - Secondary sheave (see page 4-9)
 - Carburetors (see page 7-2, 7-10)
2. Disconnect:
 - Spark plug leads ①
 - Ignition coil leads ②
3. Remove:
 - Intake silencer ③





4. Inspect:

- Fuel hose ①
 - Fuel delivery hoses ②
 - Pulser hose ③
- Clog/Damage → Replace.

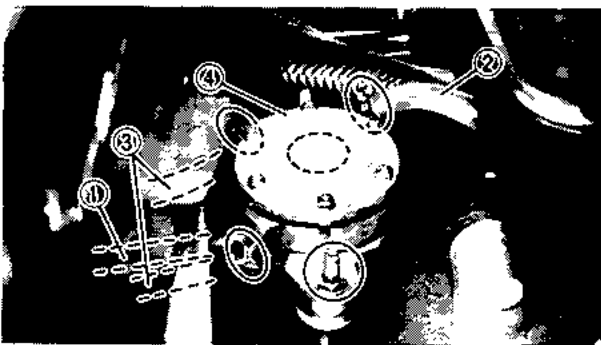


5. Check:

- Fuel pump operation

Checking steps:

- Connect a hand-operated vacuum pump ① (Such as Mighty - Vac®) to the pulser hose ②.
- Place a receptacle ③ under the fuel delivery hoses end ④.
- Operate the hand-operated vacuum pump ① (Such as Mighty - Vac®), when checking the fuel flow from the fuel delivery hoses ④.
- If fuel does not flow out, check the fuel cock.
- If no defects are observed on the fuel cock, replace the fuel pump assembly.
- To replace the fuel pump assembly, perform the following steps from 6 to 7.



6. Disconnect:

- Pulser hose ① (from the crankcase)
- Fuel hose ② (from the fuel tank)
- Fuel delivery hoses ③ (to the carburetor)

⚠ WARNING

Plug the fuel hose ② so that fuel does not run out of the fuel tank. Spilled fuel can be a fire hazard.

7. Replace:

- Fuel pump assembly ④



Nut (fuel pump assembly):
10 Nm (1.0 m • kg, 7.2 ft • lb)



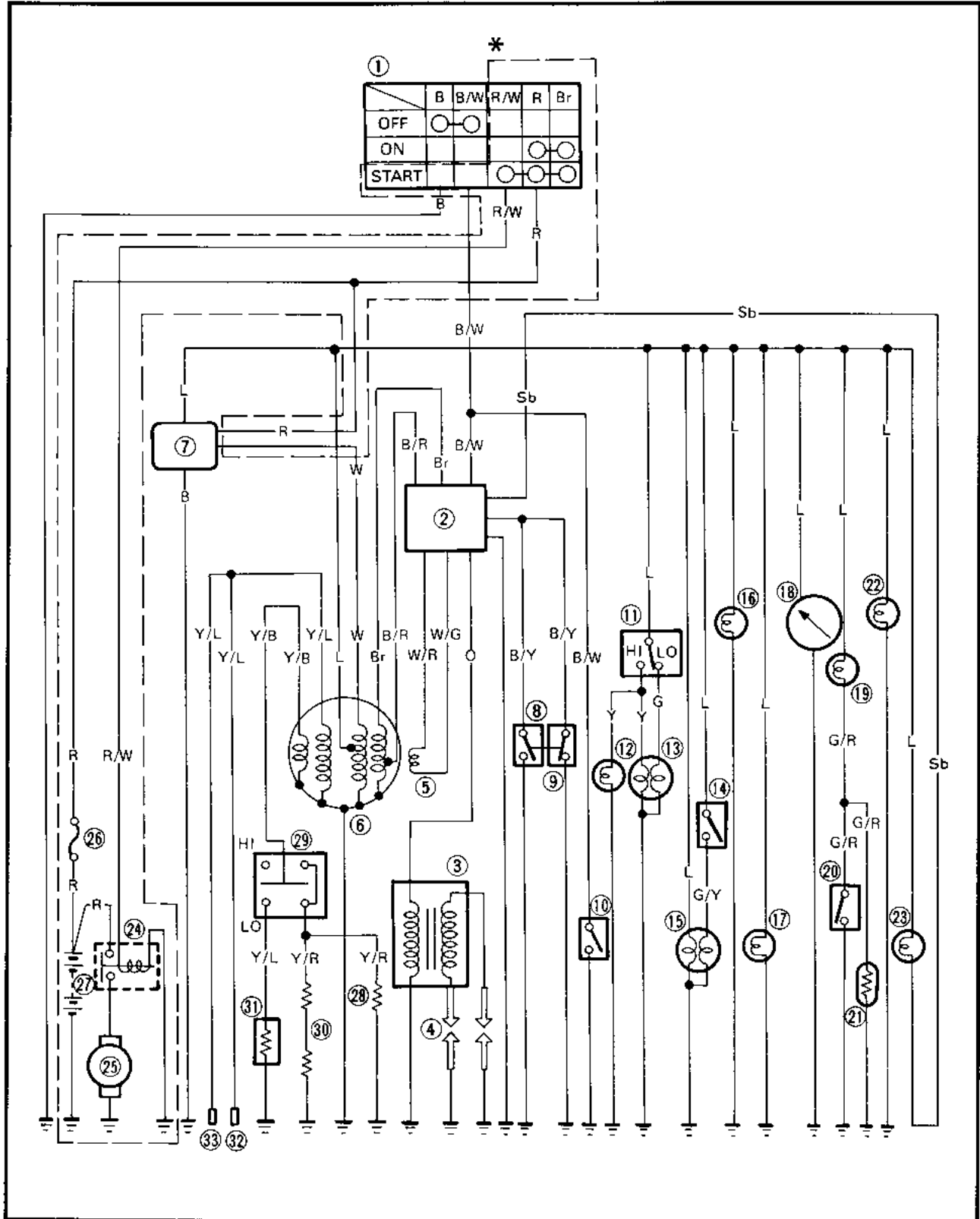
CHAPTER 8. ELECTRICAL

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ELECTRICAL

CIRCUIT DIAGRAM

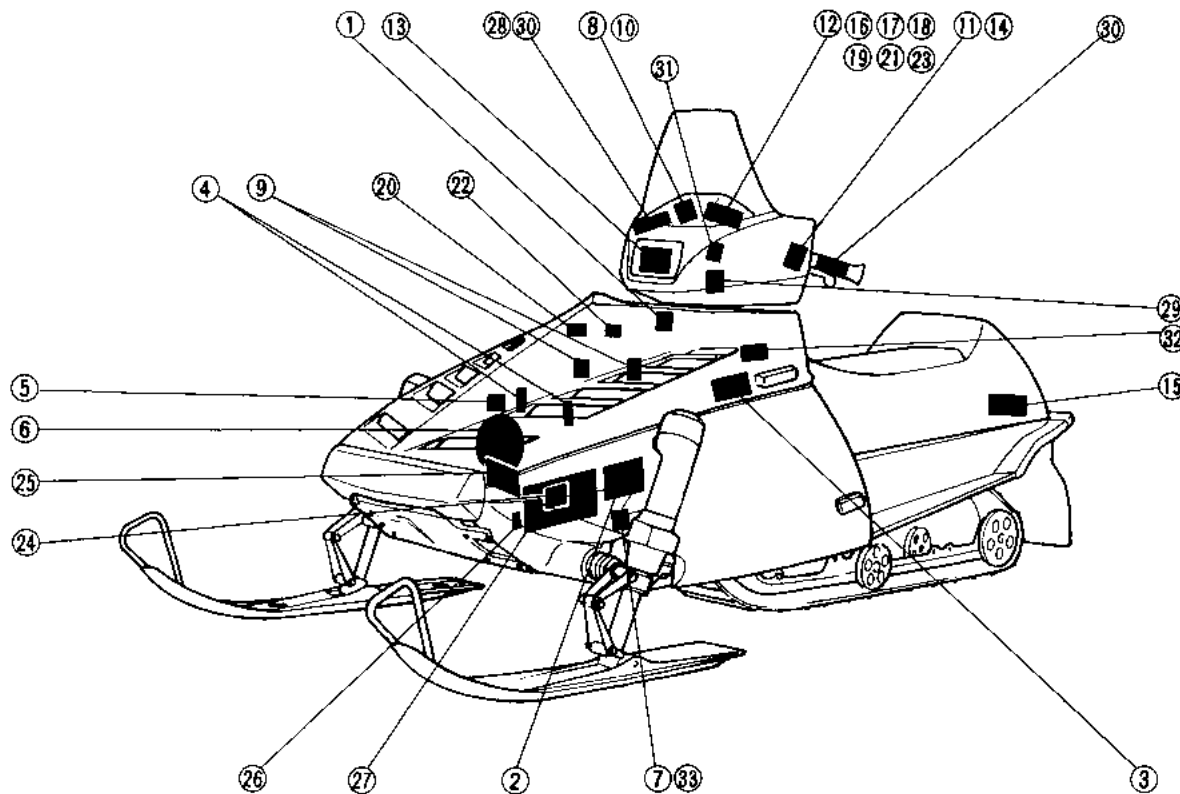


* For Electric model

- ① Main switch
- ② CDI unit
- ③ Ignition coil
- ④ Spark plug
- ⑤ Pickup coil
- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑦ Rectifier regulator *
- ⑧ Throttle switch
- ⑨ Carburetor switch (T.O.R.S.)
- ⑩ "ENGINE STOP" switch
- ⑪ Headlight beam switch
- ⑫ "HIGH BEAM" indicator light
- ⑬ Headlight
- ⑭ Brake light switch
- ⑮ Tail/brake light
- ⑯ Speedometer light
- ⑰ Tachometer light
- ⑱ Tachometer
- ⑲ "WATER TEMP" indicator light
- ⑳ Thermo switch
- ㉑ "WATER TEMP" indicator light checker
- ㉒ Level gauge light
- ㉓ "T.O.R.S." indicator light
- ㉔ Starter relay *
- ㉕ Starter motor *
- ㉖ Fuse *
- ㉗ Battery *
- ㉘ Thumb warmer
- ㉙ Grip warmer switch
- ㉚ Grip warmer
- ㉛ Resistor
- ㉜ To AC50W output (option)
- ㉝ To voltage regulator (option)

COLOR CODE

B	Black	Sb	Sky blue	G/R	Green/Red
L	Blue	Gy	Grey	Y/B	Yellow/Black
G	Green	W	White	Y/L	Yellow/Blue
Y	Yellow	B/Y	Black/Yellow	Y/R	Yellow/Red
R	Red	B/R	Black/Red	R/W	Red/White
O	Orange	B/W	Black/White	W/G	White/Green
Br	Brown	G/Y	Green/Yellow	W/R	White/Red

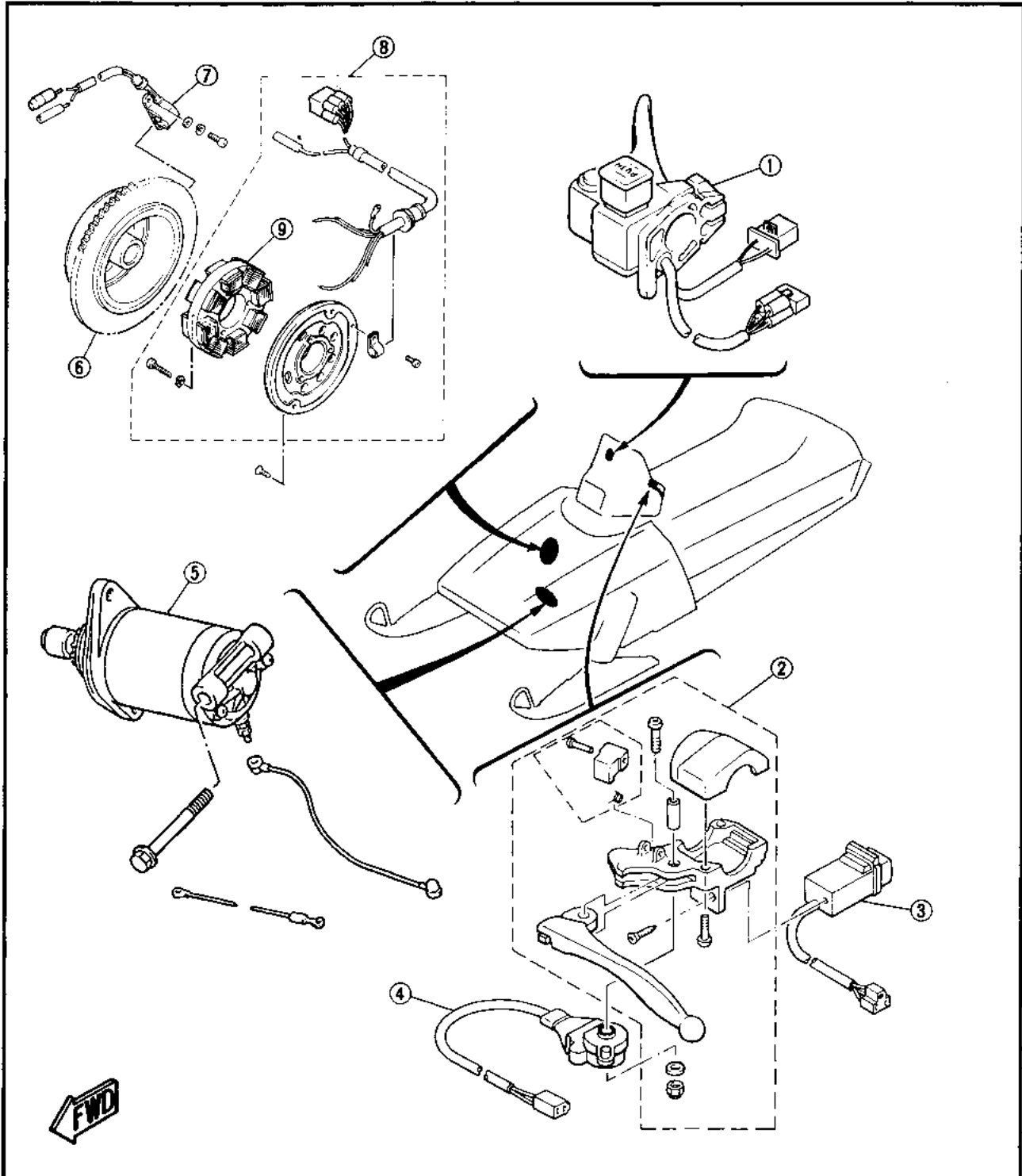




ELECTRICAL COMPONENT

* For Electric model

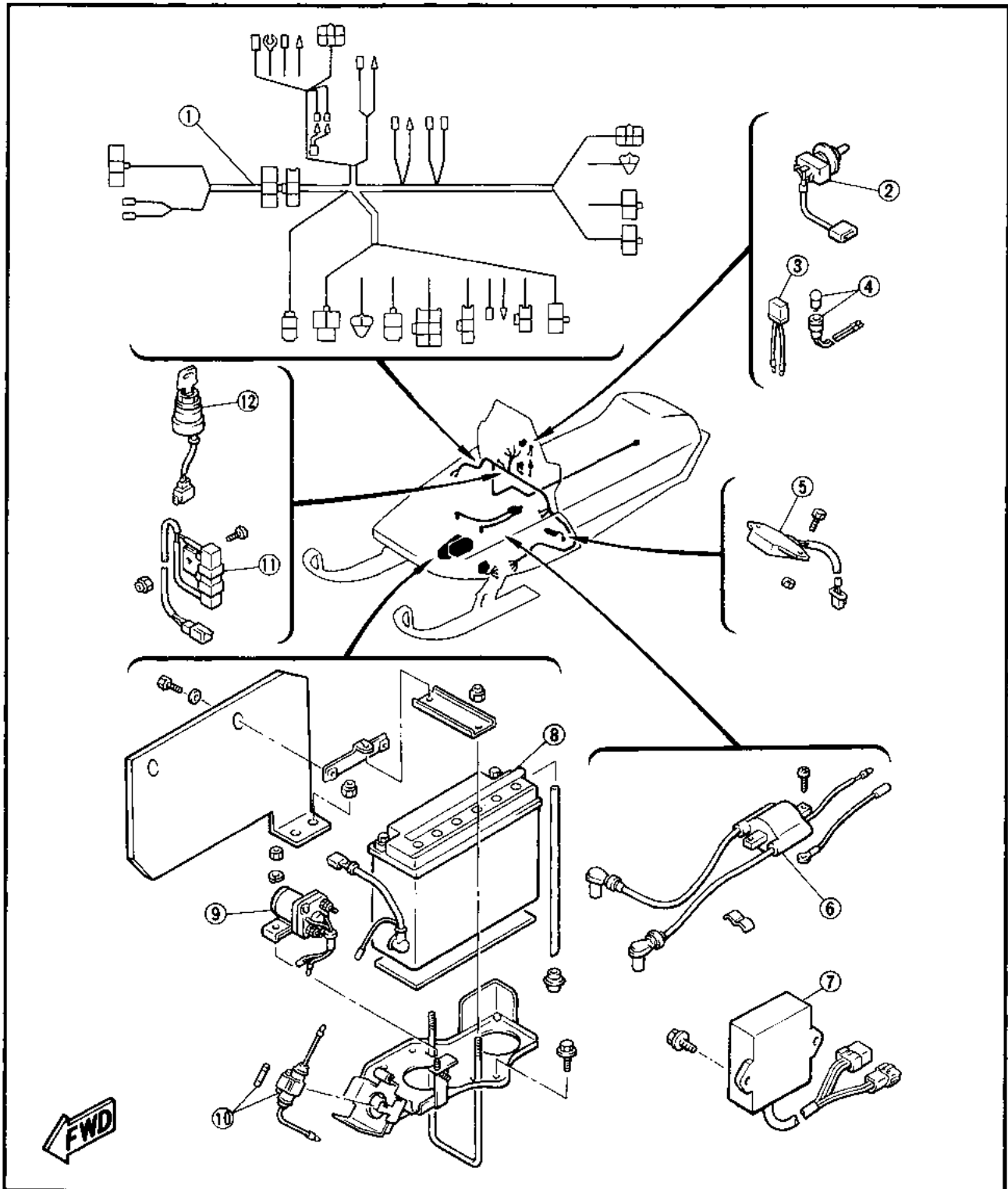
- ① Handlebar switch assembly (right)
- ② Handlebar switch assembly (left)
- ③ High beam switch
- ④ Brake light switch
- ⑤ Starter motor *
- ⑥ CDI magneto
- ⑦ Pick-up coil
- ⑧ Stator assembly
- ⑨ Stator coil





*For Electric model

- ① Wire harness
- ② Grip warmer switch
- ③ "WATER TEMP" indicator light checker
- ④ "WATER TEMP" indicator light
- ⑤ Voltage regulator
- ⑥ Ignition coil
- ⑦ CDI unit
- ⑧ Battery *
- ⑨ Starter relay *
- ⑩ Fuse *
- ⑪ Resistor
- ⑫ Main switch

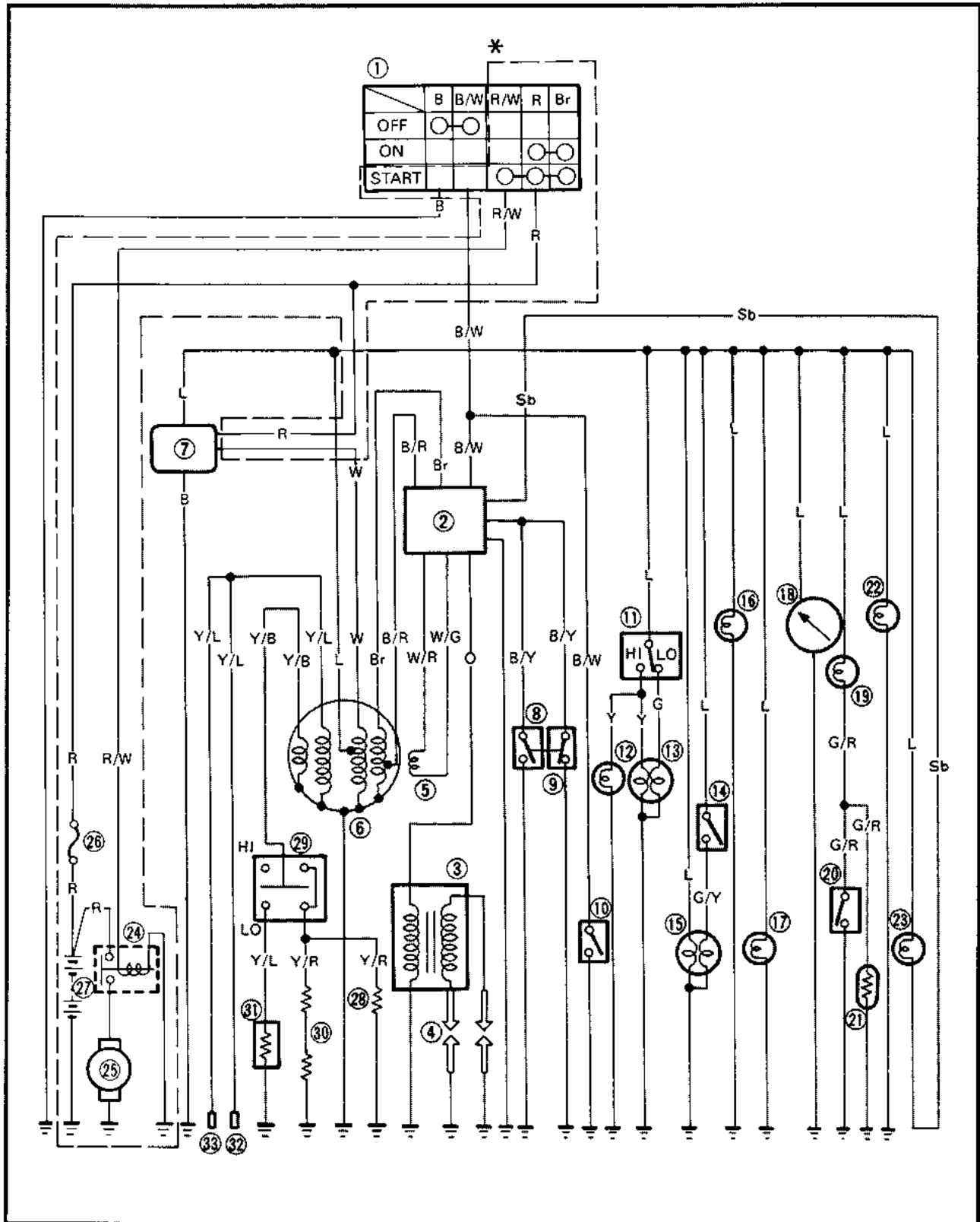


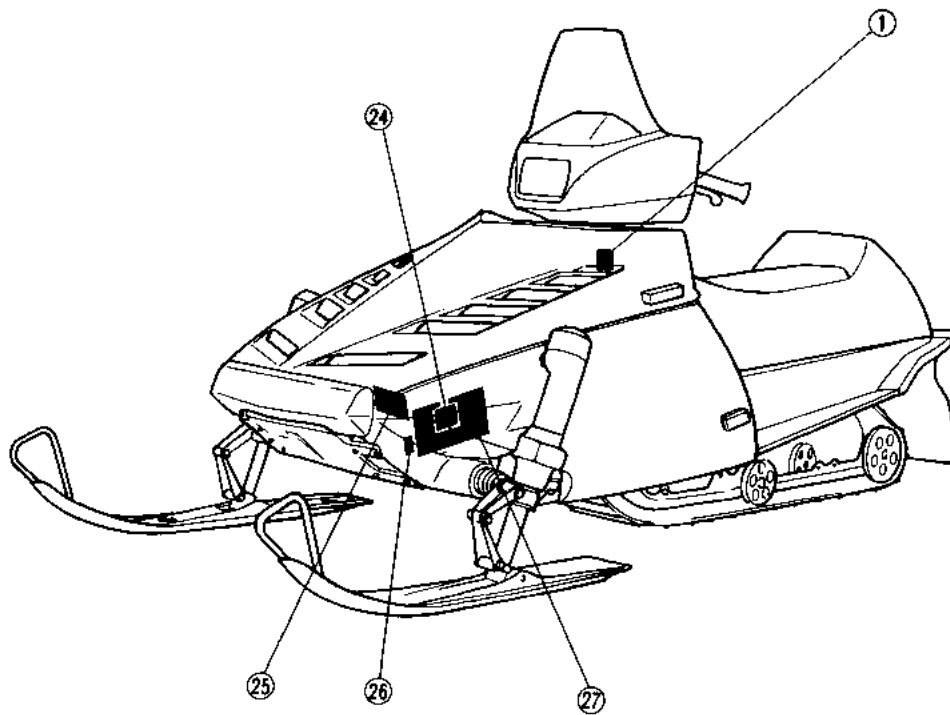
ELECTRICAL STARTING SYSTEM (FOR ELECTRIC MODEL)

CIRCUIT DIAGRAM

* For Electric model

- ① Main switch
- ② Starter relay *
- ③ Starter motor *
- ④ Fuse *
- ⑤ Battery *





TROUBLESHOOTING

STARTER MOTOR DOES NOT OPERATE.

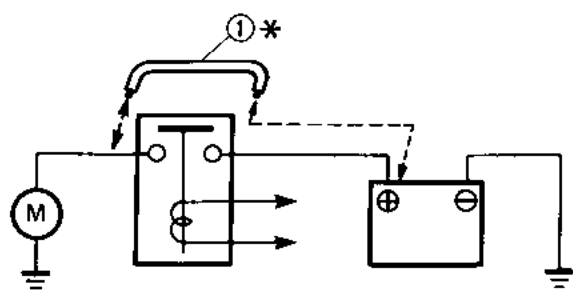
⚠ WARNING

Before starter motor operation, push the "ENGINE STOP" switch to "OFF".

A

1. Connect:

- Starter relay terminals (battery side and starter motor side)



① Jumper lead

2. Check:

- Starter motor operation

↓ OK

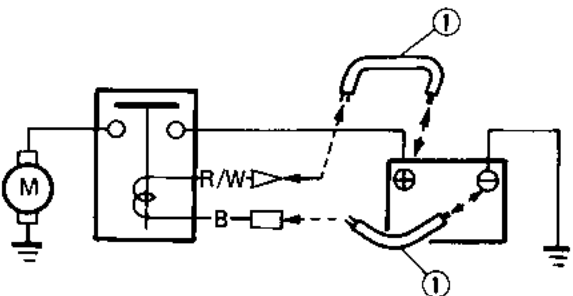
B

1. Disconnect:

- Starter relay connector

2. Connect:

- Starter relay connector terminals

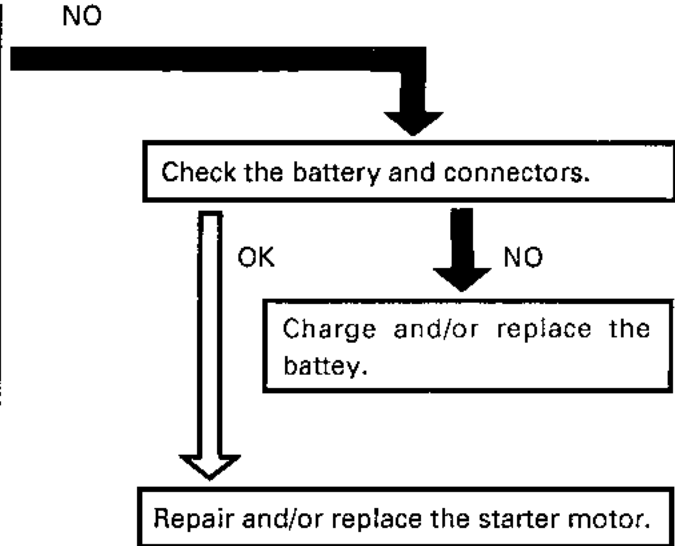


① Jumper lead

3. Check:

- Starter motor operation

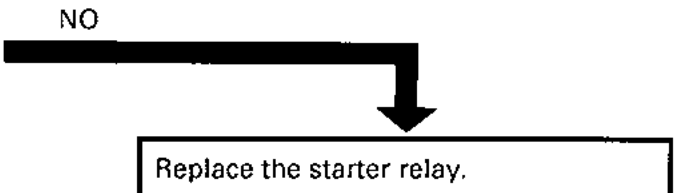
↓ OK
*

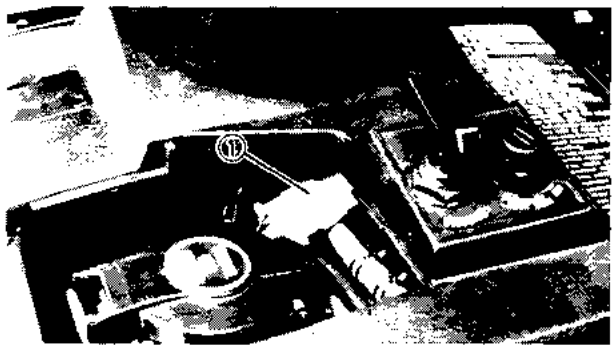
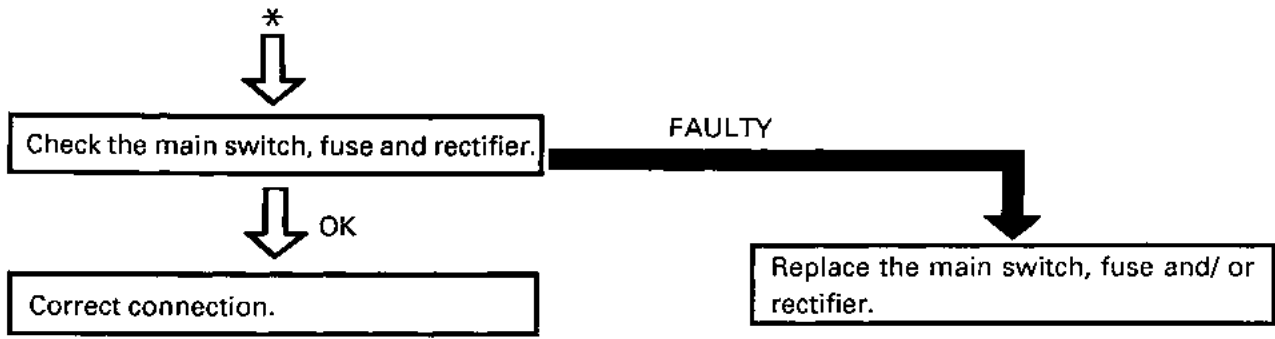


⚠ WARNING

A wire for the jumper lead ① must have the equivalent capacity as that of the battery lead or more, otherwise it may cause the jumper lead to be burned.

This check is likely to produce sparks, so be sure that no flammable gas or fluid is in the vicinity.





MAIN SWITCH (FOR ELECTRIC MODEL)

1. Disconnect:
 - Main switch coupler ①
2. Connect:
 - Pocket Tester (90890-03112, YU-03112) (to main switch coupler)
3. Check:
 - Main switch continuity
 Faulty → Replace.

Switch position	Color code				
	B	B/W	R/W	Br	R
OFF	○	○			
ON				○	○
START			○	○	○

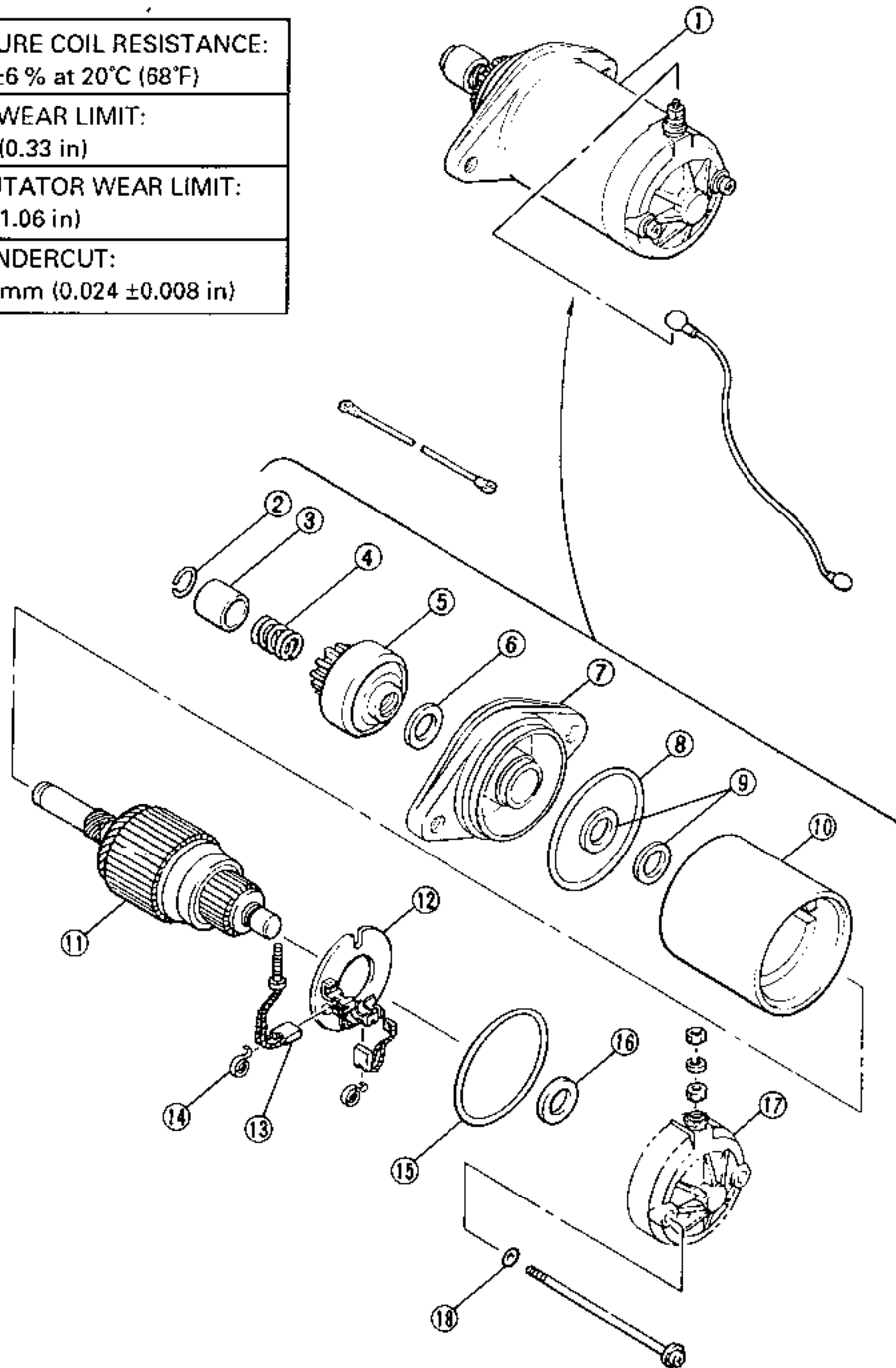


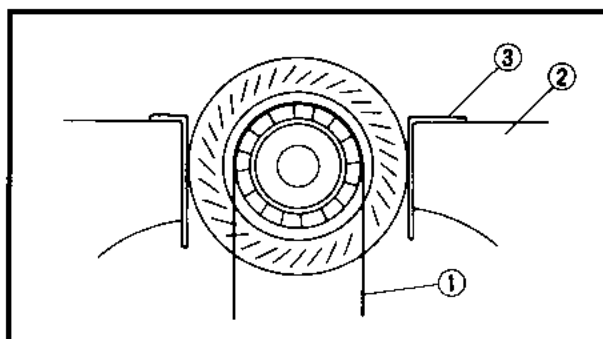
8E001

STARTER MOTOR

- ① Starter motor assembly
- ② Clip
- ③ Pinion stopper
- ④ Return spring
- ⑤ Pinion gear
- ⑥ Plain washer
- ⑦ Front cover
- ⑧ O-ring
- ⑨ Washer
- ⑩ Yoke
- ⑪ Armature coil
- ⑫ Brush plate
- ⑬ Brush
- ⑭ Brush spring
- ⑮ O-ring
- ⑯ Washer
- ⑰ Rear cover
- ⑱ O-ring

A	ARMATURE COIL RESISTANCE: 0.016 Ω±6 % at 20°C (68°F)
B	BRUSH WEAR LIMIT: 8.5 mm (0.33 in)
C	COMMUTATOR WEAR LIMIT: 27 mm (1.06 in)
D	MICA UNDERCUT: 0.6 ±0.2 mm (0.024 ±0.008 in)

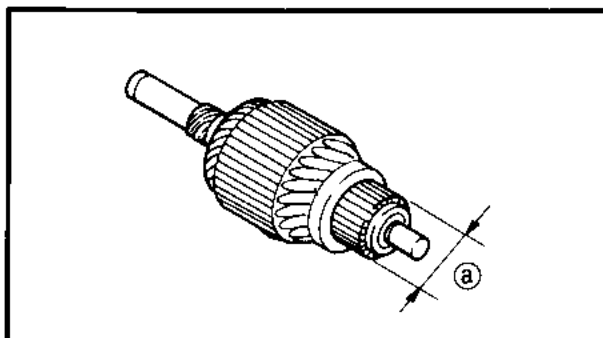


**Inspection****1. Inspect:**

- Commutator (outer surface)
Dirty → Clean with #600 grit sandpaper ①.
Hold the armature in a vise ② and copper or aluminium plate ③.

CAUTION:

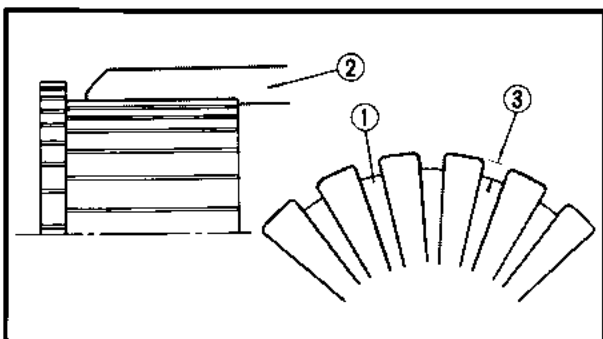
Lightly grip the armature with a vise.

**2. Measure:**

- Commutator (diameter)
Measure the diameter ④ of the commutator at points where the brush comes in contact.
Out of specification → Replace.



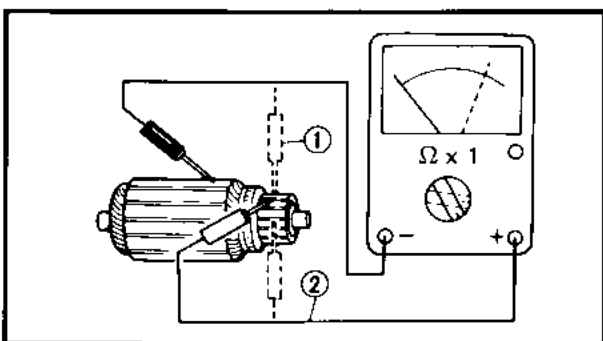
Commutator wear limit ④ :
27 mm (1.06 in)

**3. Measure:**

- Mica ① (insulation depth)
(between commutator segments)
Out of specification → Scrape mica to proper limits.
Use a hacksaw blade ② that is ground to fit.



Mica undercut ③:
0.4 ~ 0.8 mm (0.016 ~ 0.03 in)

**4. Measure:**

- Armature coil resistance
(insulation/continuity)
Defect(s) → Replace starter motor.

Inspecting steps:

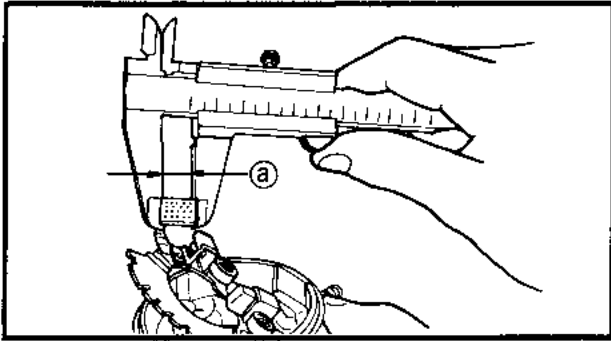
- Connect the pocket tester for the continuity check ① and the insulation check ②.
- Measure the armature coil resistances.

**Armature coil resistance:**

Continuity check ①:
0.016Ω ± 6% at 20°C (68°F)

Insulation check ②:
More than 100 kΩ at 20° C (68°F)

- If the resistance is incorrect, replace the starter motor.



5. Measure:

- Brush length (a)
Out of specification → Replace.



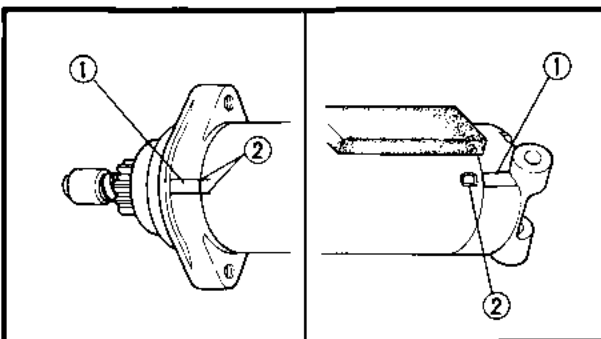
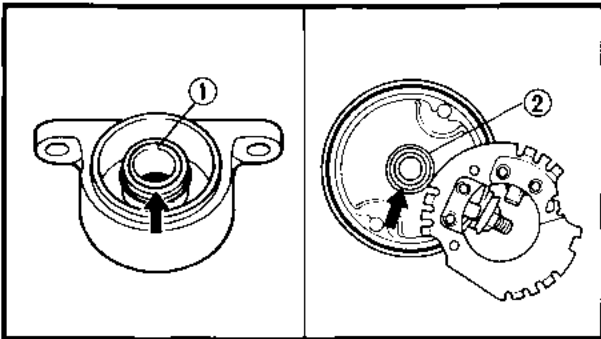
Brush length limit (a) :
8.5 mm (0.33 in)

6. Measure:

- Brush spring pressure
Fatigue/Out of specification → Replace as a set.



Brush spring pressure:
800 ± 150 g (28.22 ± 5.30 oz)

**Assembly**

Reverse the "Disassembly" procedure.

Note the following points.

1. Before installing the front and rear covers, apply bearing grease to the bearings of the front and rear covers.
2. Make sure the rear cover and front cover are fitted with O-rings.

3. When installing the rear cover assembly, take care not to scratch the brushes.

4. Install:

- Securing bolts (starter motor)

NOTE:

Align the match marks ① on the bracket with the match marks ② on the yoke.

Installation

Reverse the "Removal" procedure.

Note the following points.

1. Install:

- Starter motor



Bolt (starter motor):
21 Nm (2.1 m • kg, 15 ft • lb)





CHARGING SYSTEM (FOR ELECTRIC MODEL)

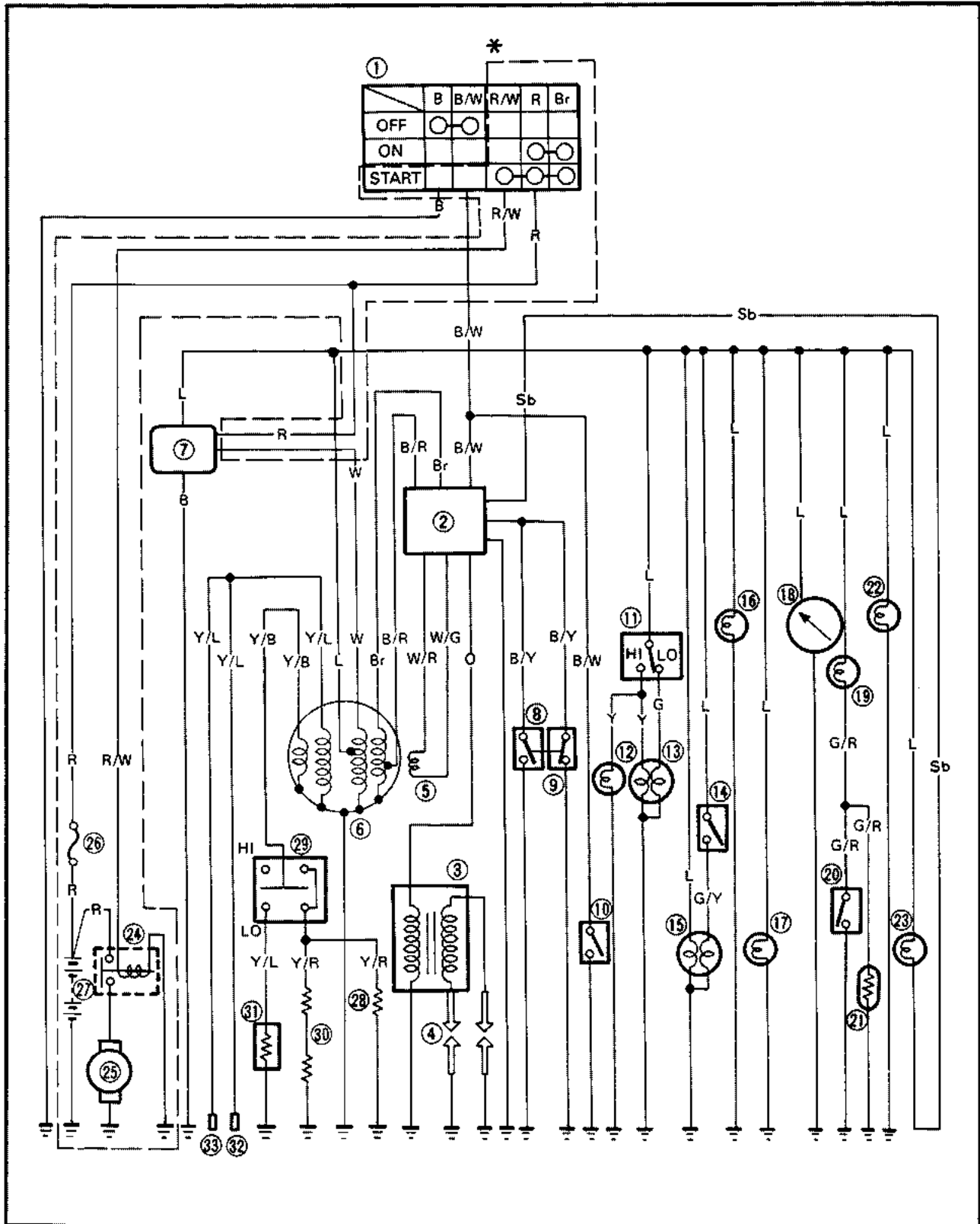
CIRCUIT DIAGRAM

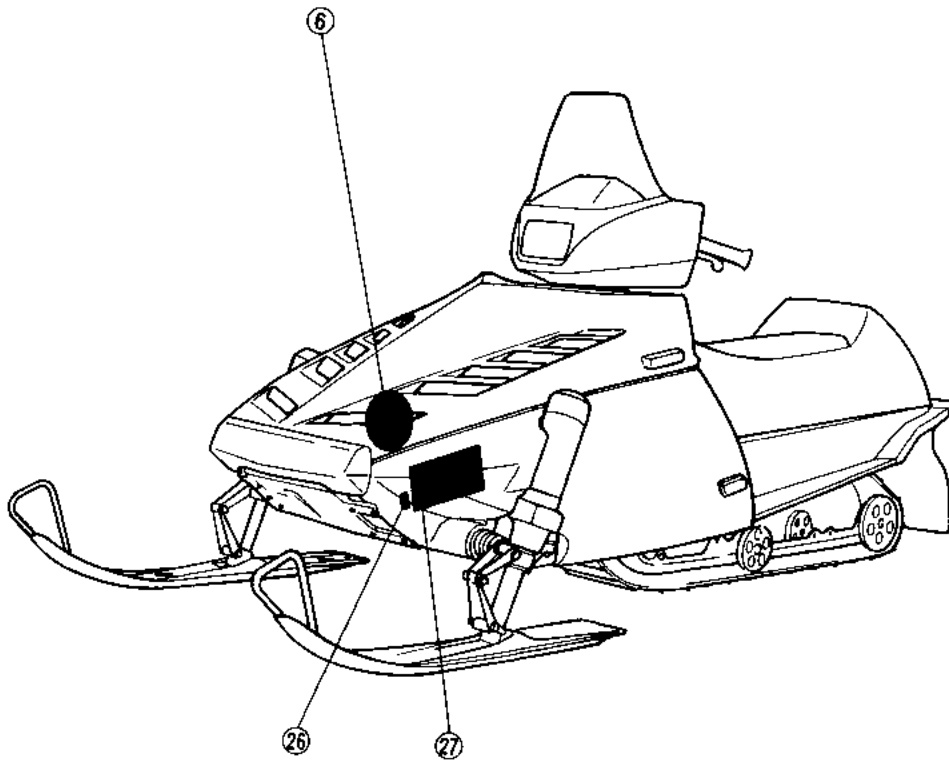
* For Electric model

⑥ CDI magneto

⑳ Fuse *

㉗ Battery *







8E011

TROUBLESHOOTING

BATTERY IS NOT CHARGED.

A

1. Connect:
 - Pocket tester (to battery terminals)
2. Measure:
 - Battery voltage
 - Fluid gravity



Battery voltage:
more than 12 V at 20 °C (68°F)



OUT OF SPECIFICATION

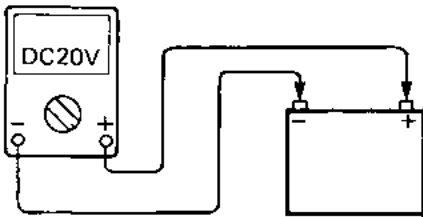
- Check the battery. (see page 8-16)
- Replace and/or charge battery.

B

1. Start the engine and accelerate to 3,000 rpm.
2. Measure:
 - Charging voltage



Charging voltage:
13.3 ~ 14.3 V/3,000 rpm.



CAUTION:

Never disconnect battery cables while generator is operating or rectifier and regulator will be damaged.



OUT OF SPECIFICATION

Check the fuse and charging coil.

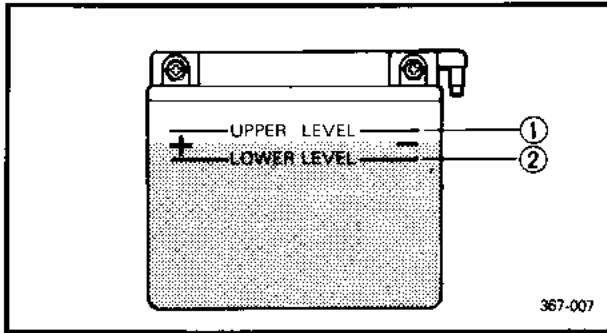
OK

FAULTY

Replace the fuse and/or charging coil.

Replace voltage regulator.

Correct connector.



BATTERY

Inspection

1. Inspect:
 - Battery fluid level
 Below lower level → Refill.

- ① Upper level
- ② Lower level

2. Check:
 - Specific gravity (see page 8-15)
 Less than 1.280 → Recharge battery.

Battery Storage

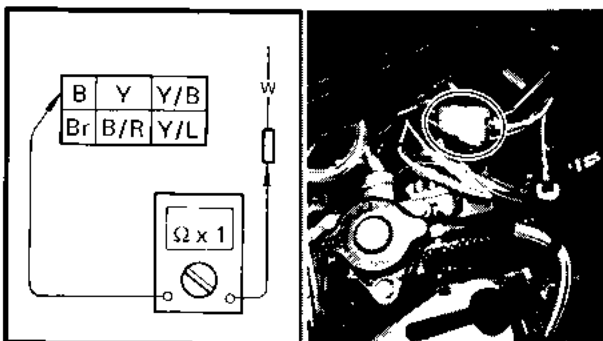
The battery should be stored if the vehicle is not to be used for a long period.

1. Remove:
 - Battery

Battery storage and maintenance tips:

- Recharge the battery periodically.
- Store the battery in a cool, dry place.
- Recharge the battery before reinstalling.

Battery	
Electrolyte	Specific gravity: 1.280 at 20°C (68°F)
Initial charging rate	1.6 Amp for 10 hours (new battery)
Recharging rate	10 hours (or until specific gravity reaches 1.280)
Refill fluid	Distilled water (to maximum level line)
Refill period	Check once per month (or more often as required)



CHARGING COIL

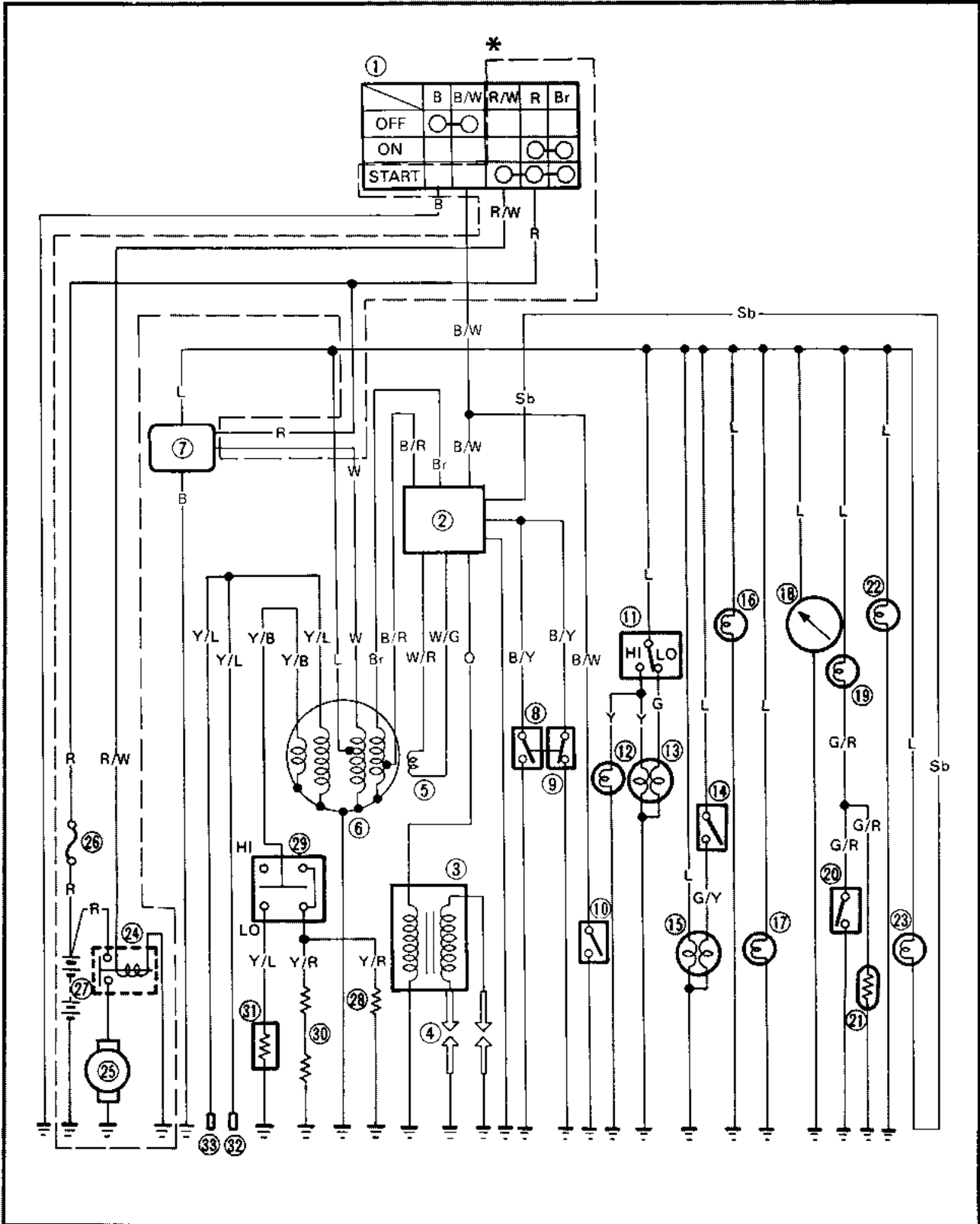
1. Measure:
 - Charging coil resistance
 Out of specification → Replace.

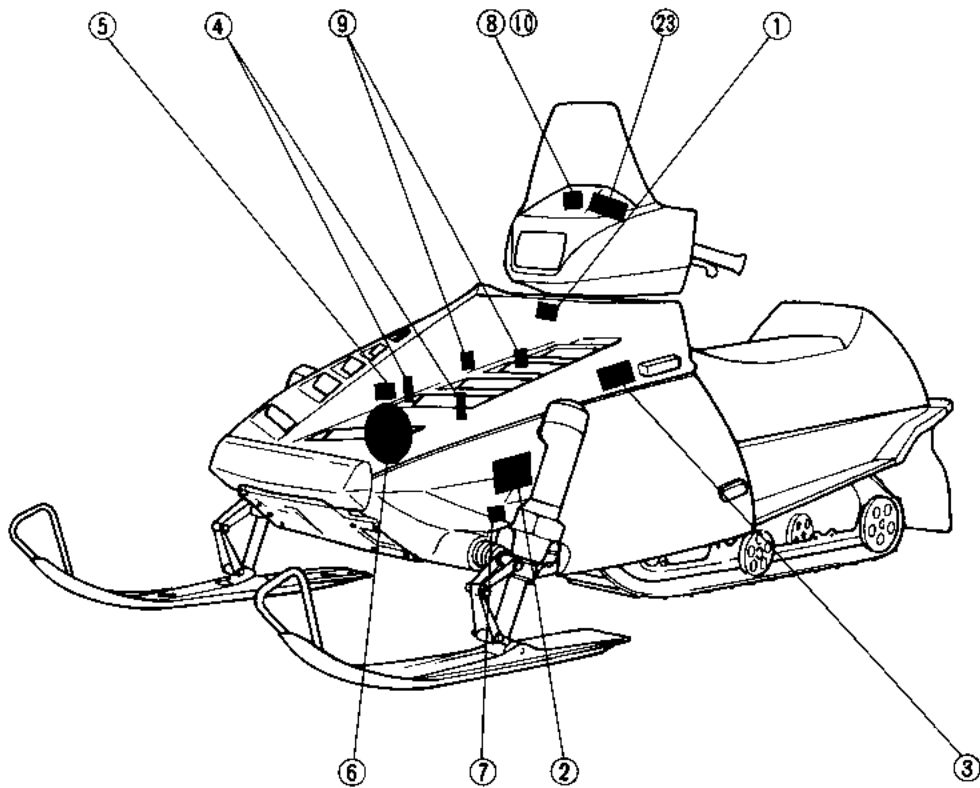
	<p>Charging coil resistance: (White – Black) 0.38 Ω ± 10% at 20° (68°F)</p>
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**IGNITION SYSTEM
CIRCUIT DIAGRAM**

- ① Main switch
- ② CDI unit
- ③ Ignition coil
- ④ Spark plug
- ⑤ Pickup coil
- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑧ Throttle switch
- ⑨ Carburetor switch
- ⑩ "ENGINE STOP" switch
- ⑪ "T.O.R.S." indicator light



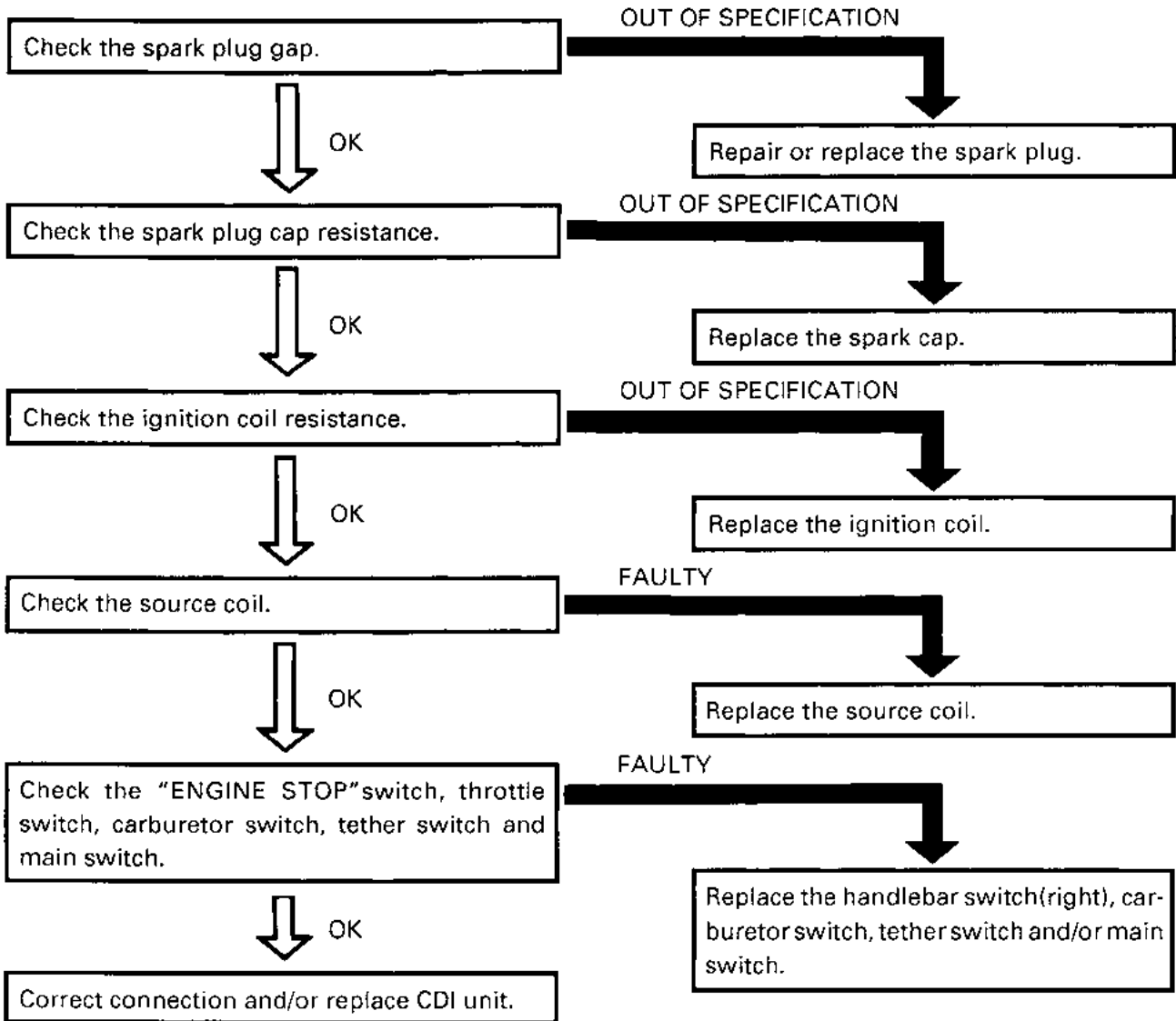


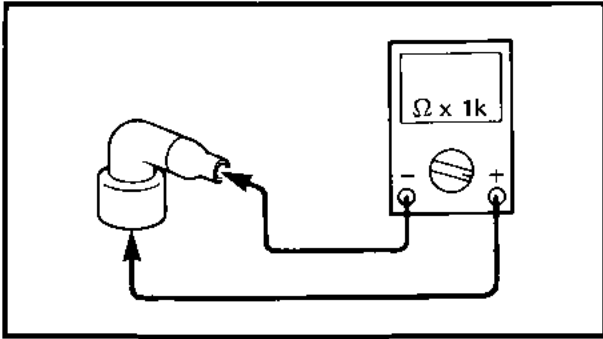


8E021

TROUBLESHOOTING

NO SPARK OR WEAK SPARK.



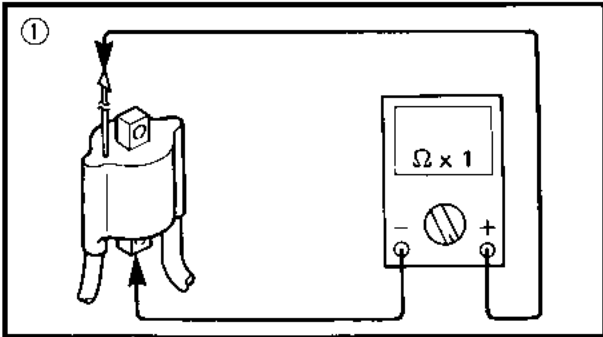


8E041

SPARK PLUG CAP

1. Remove:
 - Spark plug cap
2. Connect:
 - Pocket tester (to spark plug cap)
3. Measure:
 - Spark plug cap resistance

Spark plug cap resistance:
 $5\text{ k}\Omega \pm 10\%$ at 20°C (68°F)

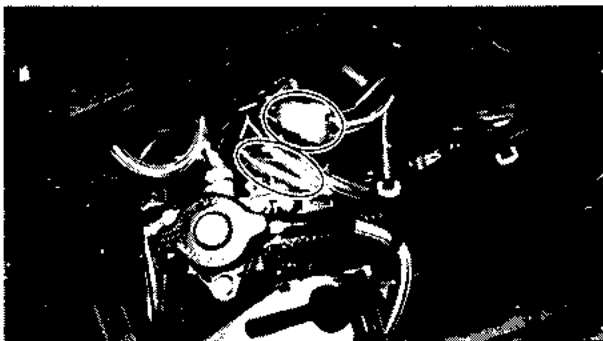
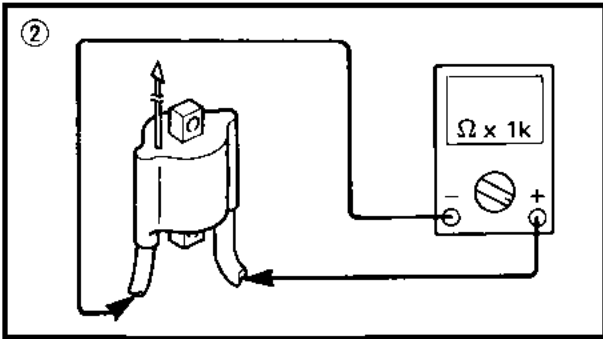


8E051

IGNITION COIL

1. Disconnect:
 - Ignition coil lead (Orange)
 - Spark plug lead
2. Connect:
 - Pocket tester (to ignition coil and spark plug lead)
3. Measure:
 - Primary coil resistance ①
 - Secondary coil resistance ②

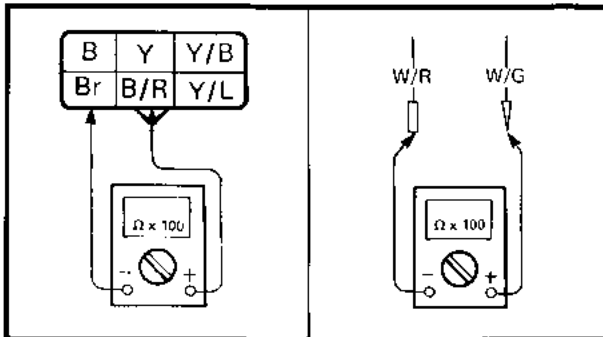
Primary coil resistance:
 $0.2\Omega \pm 20\%$ at 20°C (68°F)
Secondary coil resistance:
 $4.9\text{ k}\Omega \pm 20\%$ at 20°C (68°F)



8E061

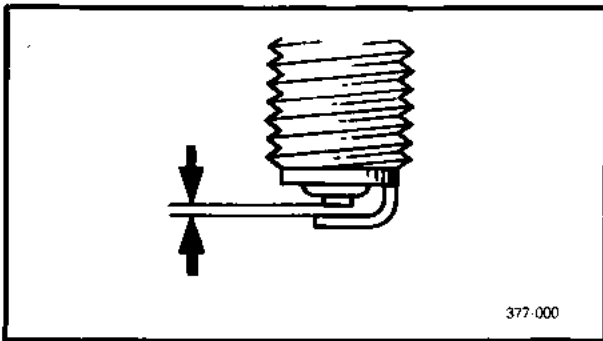
SOURCE COIL

1. Disconnect:
 - CDI magneto lead and coupler (Brown, Black)
2. Connect:
 - Pocket tester (to CDI magneto lead and coupler)



3. Measure:
 - Source coil/pulsar coil resistance
 Out of specification → Replace.

Charge coil resistance: ① (Br-B/R)
 $310\Omega \pm 10\%$ at 20°C (68°F)
Pulsar coil resistance: ② (W/R-W/G)
 $210\Omega \pm 10\%$ at 20°C (68°F)



8E031

SPARK PLUG

1. Remove:
 - Spark plugs
2. Check:
 - Spark plug

Standard spark plug:
BR9ES (NGK)



Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.031 in)

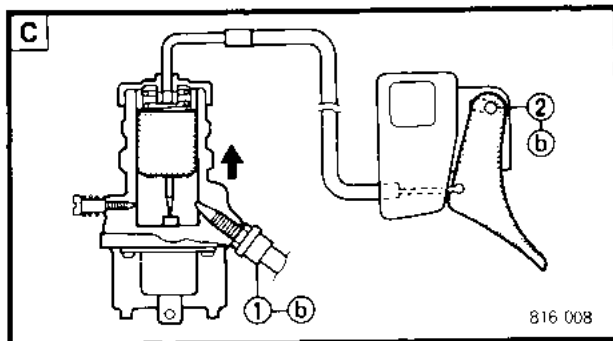
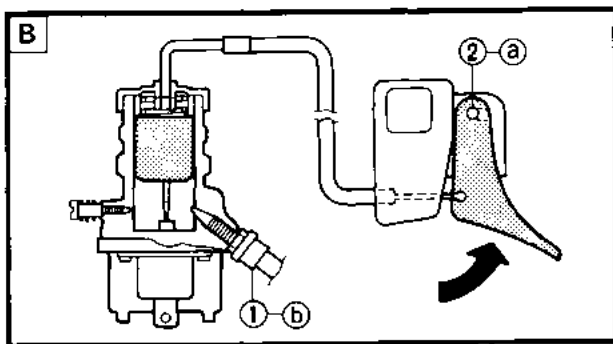
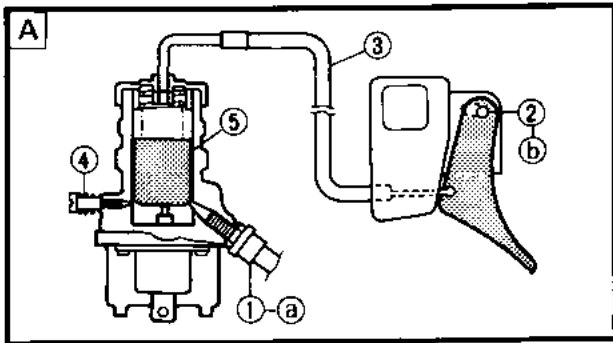
8E112

THROTTLE OVERRIDE SYSTEM (T.O.R.S.)

If the carburetor or throttle cable should malfunction during operation, the T.O.R.S. warning light turns on and off when the throttle lever is released. The T.O.R.S. is designed to interrupt the ignition and keep the engine revolution between 2800 and 3000 r.p.m. if the carburetor fails to return to idle when the lever is released.

⚠ WARNING

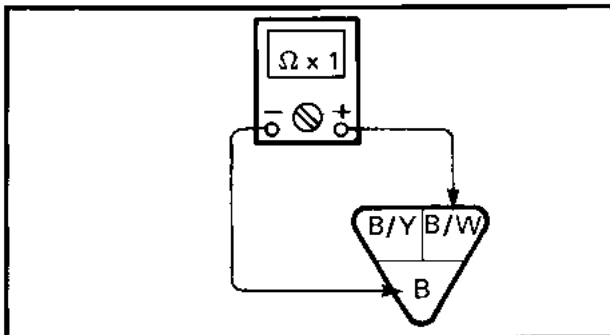
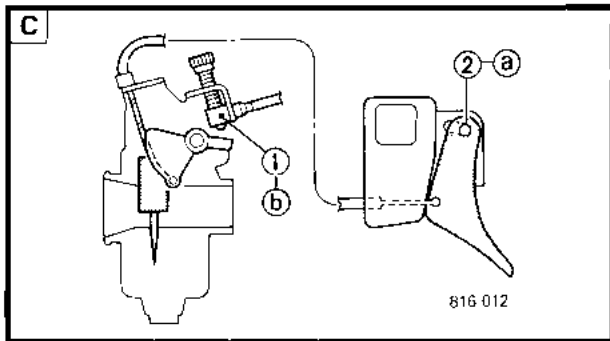
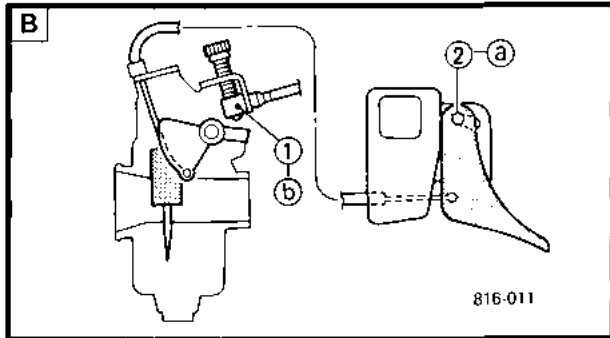
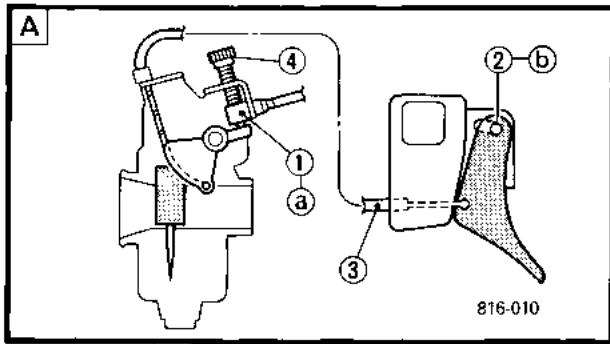
- If T.O.R.S. warning light flashes, make sure that the cause of the malfunction has been corrected and that the engine can be operated without a problem before restarting the engine.
- Be sure to use the standard spark plug and spark plug cap which have resistance. Otherwise T.O.R.S. does not work properly.



(FOR EX570/E/ST)

Switch \ Mode	A	B	C		
	Idle or starting	Run	Trouble		
Throttle switch	OFF	ON	OFF	OFF	OFF
Carburetor switch (left)	ON	OFF	OFF	ON	OFF
Carburetor switch (right)	ON	OFF	ON	OFF	OFF
Engine	RUN	RUN	T.O.R.S warning light turns on and off		

- ① Carburetor switch
- ② Throttle switch
- ③ Throttle cable
- ④ Throttle stop screw
- ⑤ Throttle valve
- ⓐ "ON"
- ⓑ "OFF"



(FOR EX570SX)

Switch \ Mode	A ¹ Idle or starting	B ¹ Run	C ¹ Trouble
Throttle switch	OFF	ON	OFF
Carburetor switch	ON	OFF	OFF
Engine	RUN	RUN	T.O.R.S warning light turns on and off

- ① Carburetor switch
- ② Throttle switch
- ③ Throttle cable
- ④ Throttle stop screw
- ⓐ "ON"
- ⓑ "OFF"

BE071

HANDLEBAR SWITCH (RIGHT)

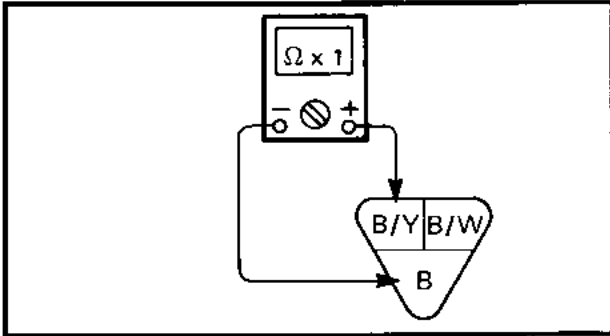
"ENGINE STOP" switch and throttle switch

1. Disconnect:
 - Handlebar switch (right) coupler ①
2. Connect:
 - Pocket tester (90890-03112, YU-03112)

3. Check:
 - "ENGINE STOP" switch continuity
Faulty → Replace.

Switch position	Good condition
RUN (pull)	x
OFF (push)	○

○ : Continuity x : No continuity

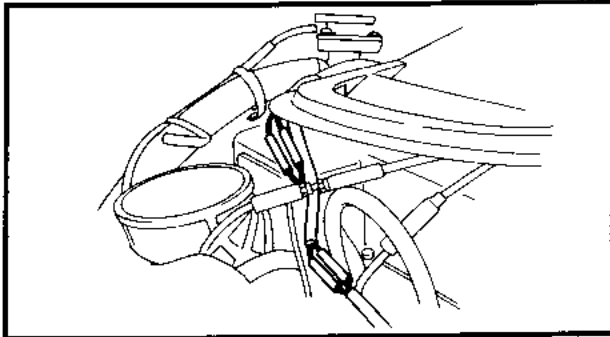


4. Check:

- Throttle switch continuity
- Faulty → Replace.

Throttle switch position	Good condition
Throttle lever is operated.	○
Throttle lever is not operated.	x

○ : Continuity x : No continuity



BE081

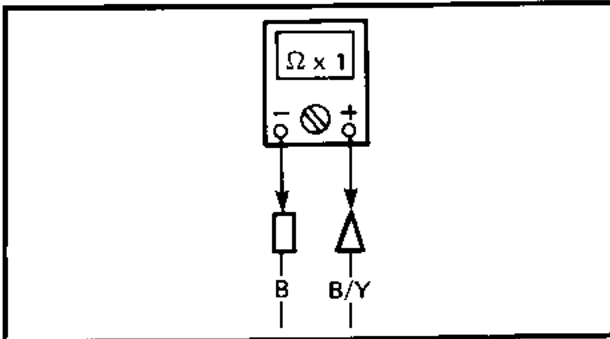
CARBURETOR SWITCH

1. Disconnect:
 - Carburetor switch lead
2. Connect:
 - Pocket tester
3. Check:
 - Carburetor switch continuity

Faulty → Replace.

Carburetor switch position	Good condition
Throttle lever is operated.	x
Throttle lever is not operated.	○

○ : Continuity x : No continuity



BE101

MAIN SWITCH

1. Disconnect:
 - Main switch coupler
2. Connect:
 - Pocket tester
3. Check:
 - Main switch continuity

Faulty → Replace.

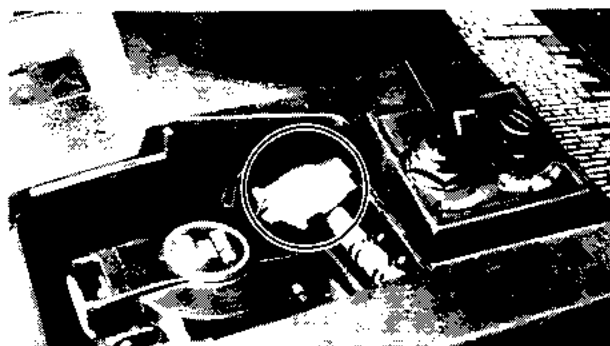
Switch position	Good condition
OFF	○
ON	x

○ : Continuity x : No continuity

(For Electric Model)

Switch position	Color code				
	B	B/W	R	Br	R/W
OFF	○	○			
ON/ LIGHT			○	○	
START			○	○	○

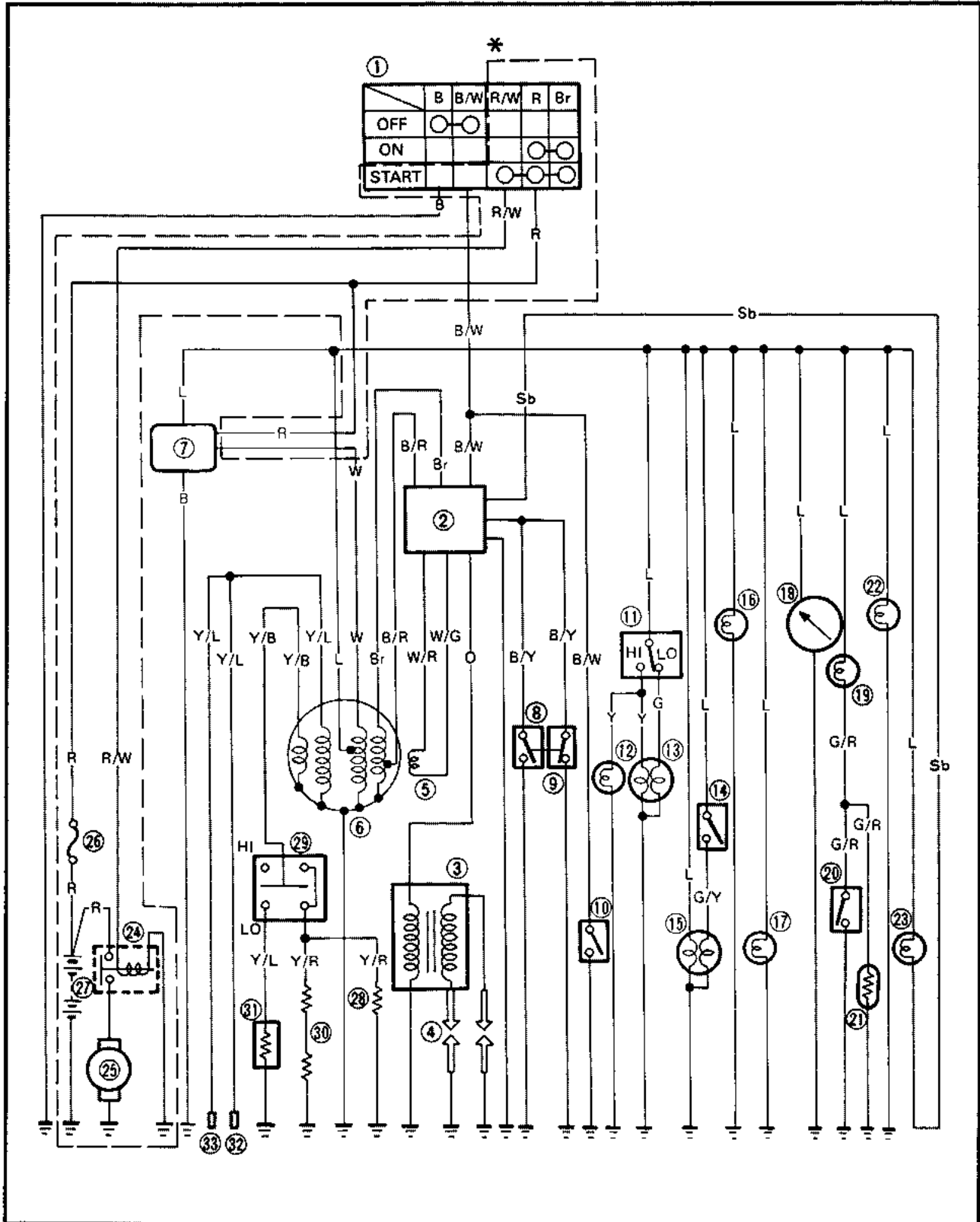
○ — ○ Continuity

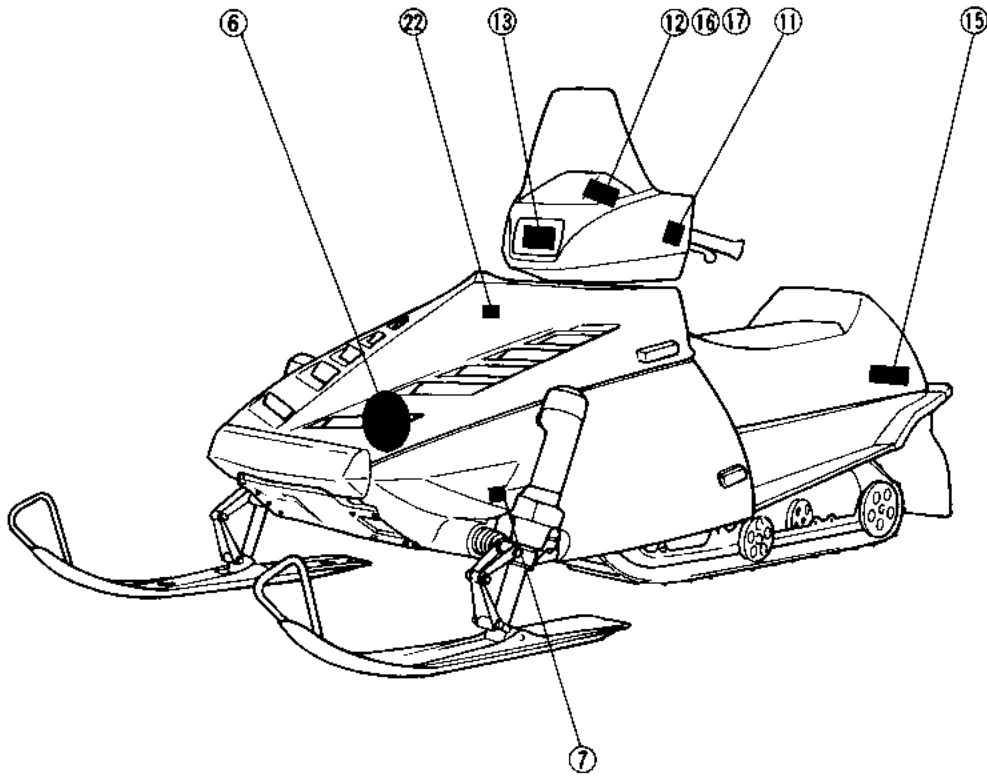




**LIGHTING SYSTEM
CIRCUIT DIAGRAM**

- ⑥ CDI magneto
- ⑦ Voltage regulator
- ⑪ Headlight beam switch
- ⑫ "HIGH BEAM" indicator light
- ⑬ Headlight
- ⑮ Tail/brake light
- ⑯ Speedometer light
- ⑰ Tachometer light
- ⑳ Level gauge light







BE141

TROUBLESHOOTING

HEADLIGHT, TAIL LIGHT AND/OR METER LIGHT DO NOT COME ON.

Check the bulb(s).

NO CONTINUITY



OK

Replace the bulb(s).

Check the headlight beam switch and lighting coil.

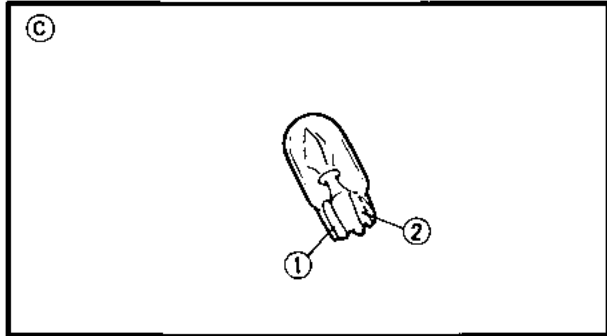
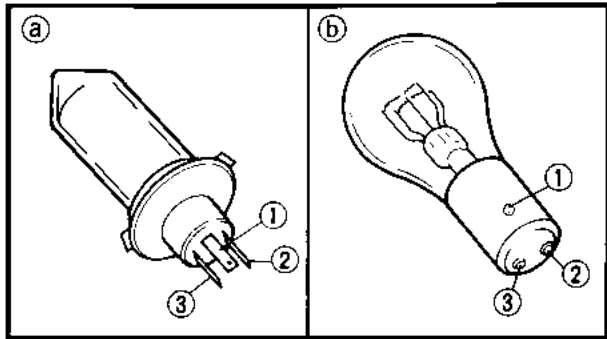
FAULTY



OK

Replace the headlight beam switch and/or lighting coil.

Correct connection and/or replace the rectifier/regulator.



BULB (S)

1. Remove:
 - Headlight bulb
 - Tail/brake light bulb
 - Meter light bulb
2. Connect:
 - Pocket tester (to bulb terminals)

⚠ WARNING

Keep flammable products or your hands away from bulb while it is on; it will be hot. Do not touch bulb until it cools down.

- Ⓐ Headlight Ⓑ Tail/brake light
 Ⓒ Meter light

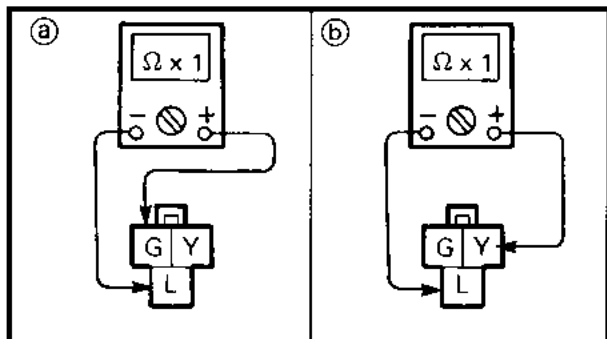
3. Check:
 - Bulb(s)

Terminal	Good condition
① - ②	○
① - ③	○

○: Continuity

HEADLIGHT BEAM SWITCH

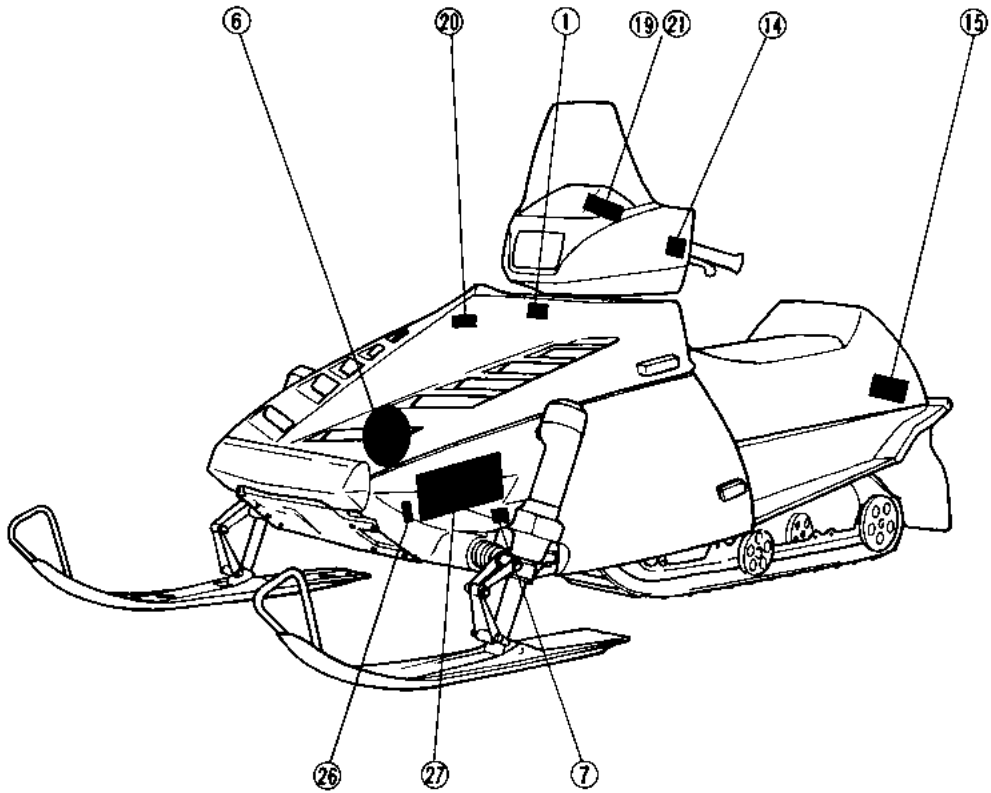
1. Disconnect:
 - Headlight beam switch coupler
2. Connect:
 - Pocket tester (to headlight beam switch coupler)



3. Check:
 - Headlight beam switch continuity
 Faulty → Replace.

Switch position	Ⓐ Good condition	Ⓑ Good condition
HI	x	○
LO	○	x

○: Continuity x: No continuity

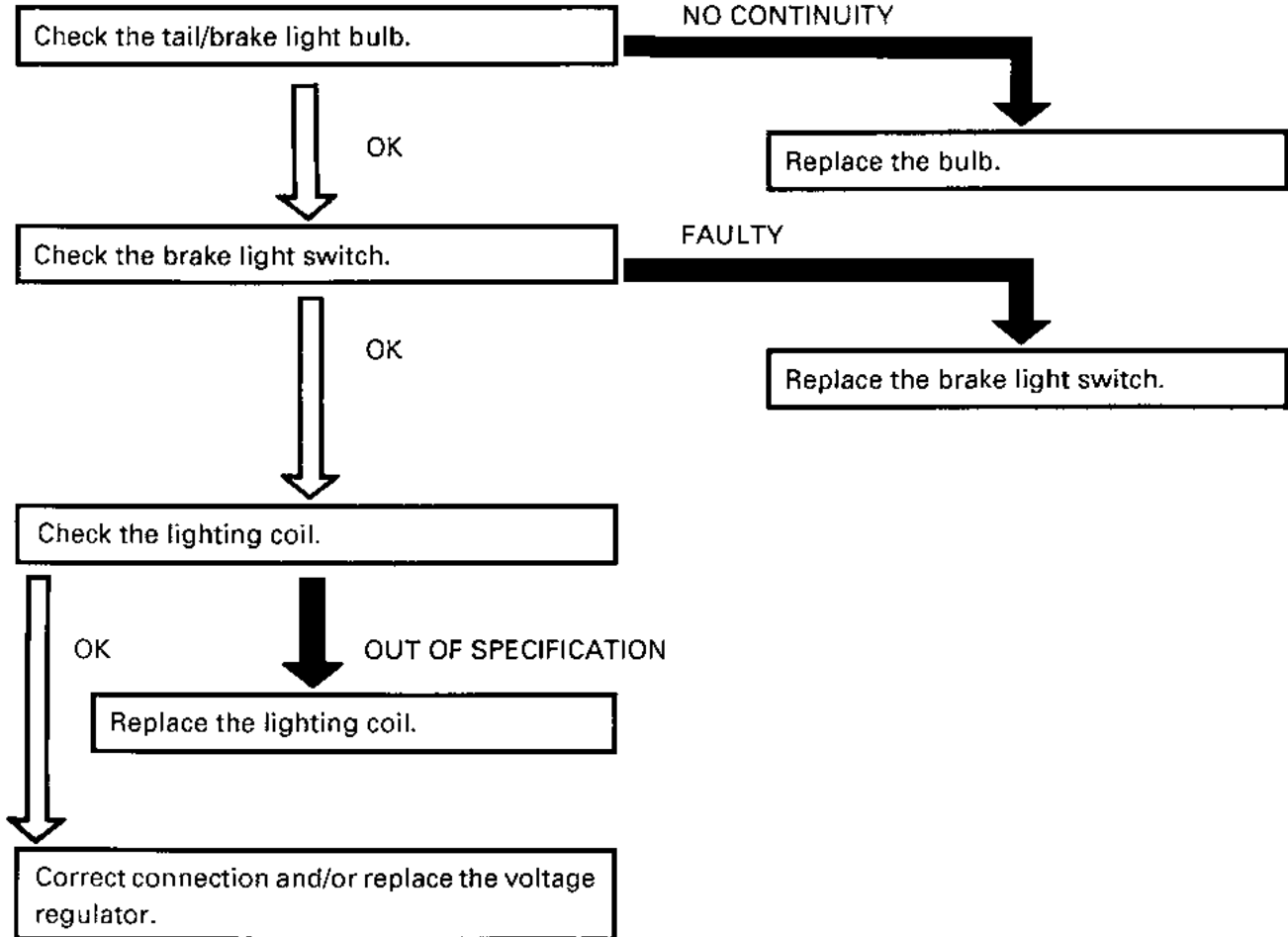




8E151

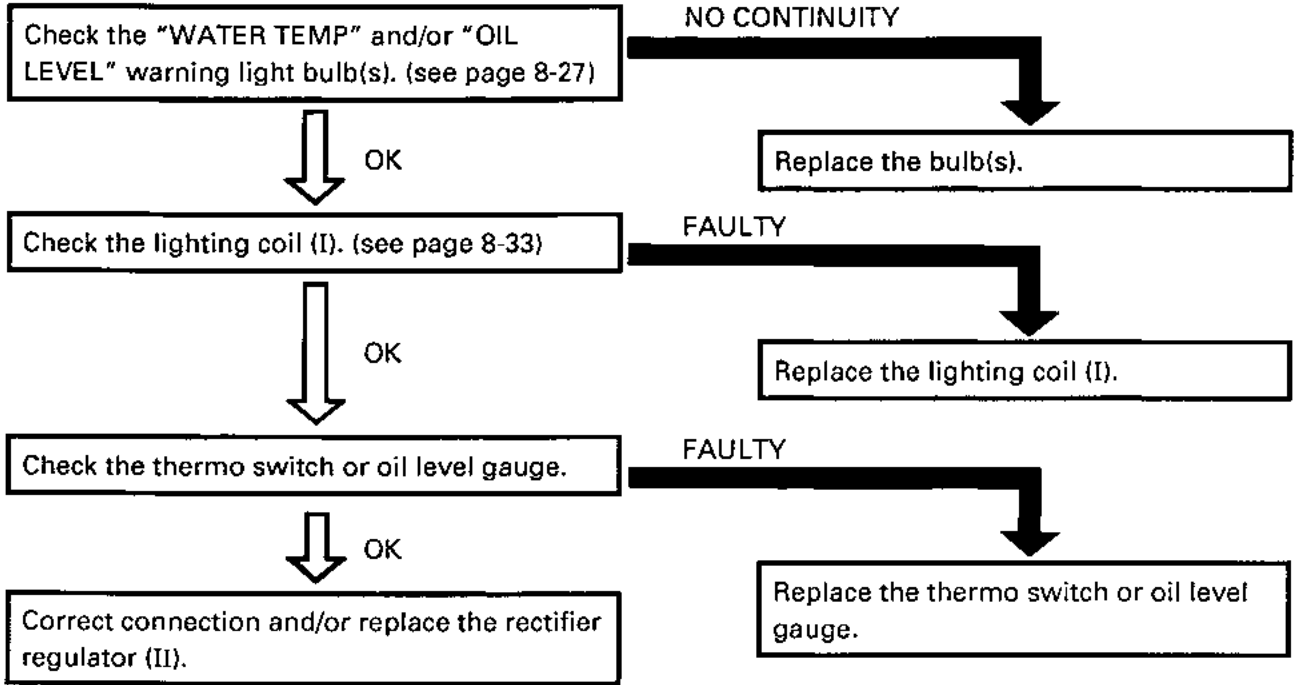
TROUBLESHOOTING

BRAKE LIGHT DOES NOT COME ON.

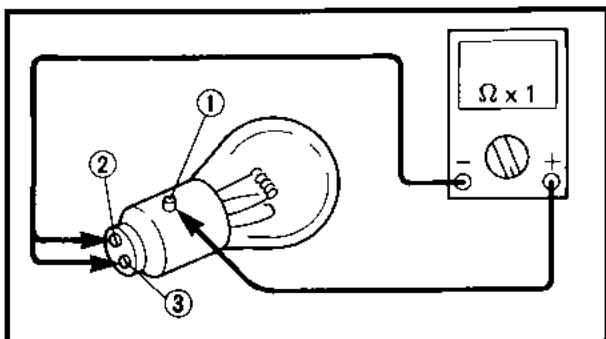


8E161

"WATER TEMP" AND/OR "OIL LEVEL" WARNING LIGHTS DO NOT COME ON.



NOTE: _____
 The warning lights come on for a few seconds after the engine starts. If the lights do not come on, check the warning light circuit and bulb(s). If the lights still do not come on, replace the warning light checker(s). Recheck to be sure the warning lights light.



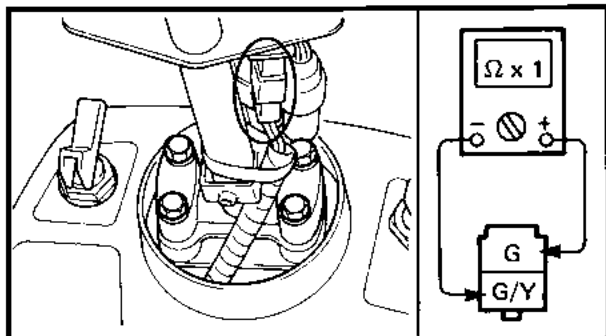
8E201

TAIL/BRAKE LIGHT BULB

1. Remove:
 - Tail/brake light bulb

Terminal	Good condition
① - ②	○
① - ③	○

○: Continuity



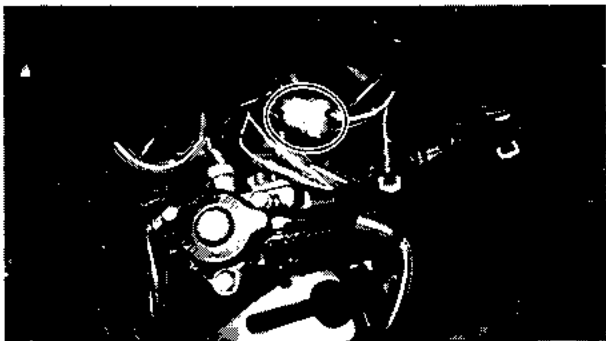
8E211

BRAKE LIGHT SWITCH

1. Check:
 - Brake light switch continuity
 Faulty → Replace.

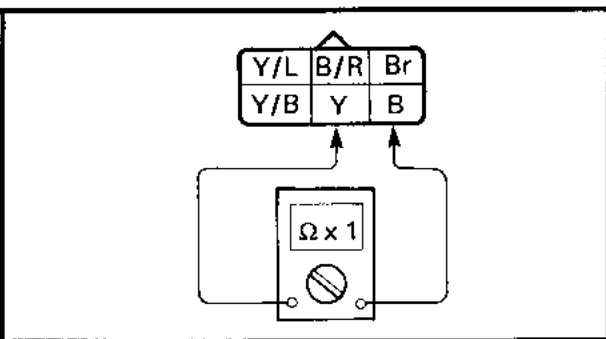
Switch position	Good condition
Brake lever is operated	○
Brake lever is not operated	x

○: Continuity x: No continuity



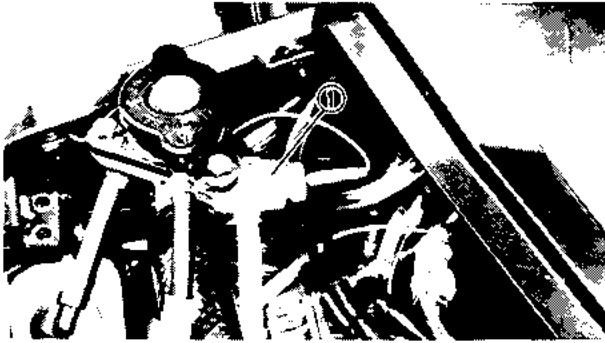
LIGHTING COIL (I)

1. Disconnect:
 - CDI magneto coupler
2. Connect:
 - Pocket tester (90890-03112, YS-03112) (to CDI magneto coupler)



3. Measure:
 - Lighting coil resistance
 Out of specification → Replace.

	Lighting coil resistance: (Yellow, Black) $0.36\Omega \pm 10\%$ at 20°C (68°F)
--	---



8E241

THERMO SYSTEM

1. Disconnect the thermo switch lead (Green/Red) and remove the thermo switch ①.

CAUTION:

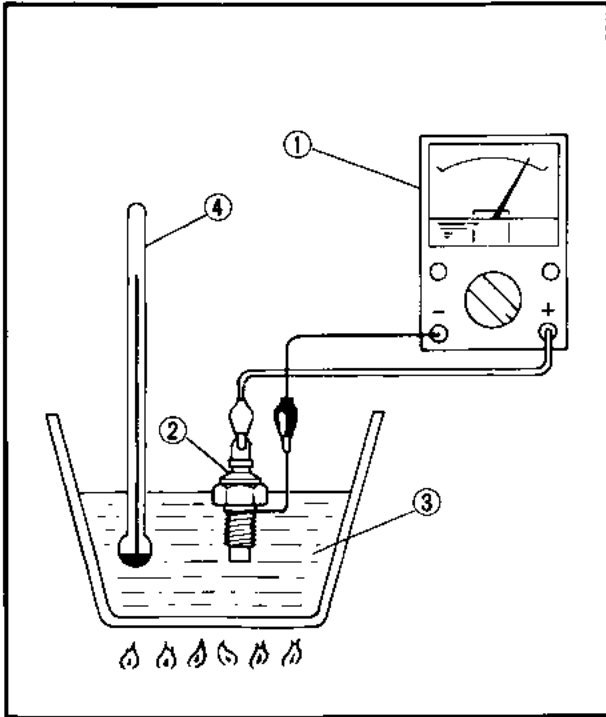
Handle the thermo switch with special care. Never subject it to strong solvents or allow it to be dropped. Should it be dropped, it must be replaced.

2. Connect the Pocket Tester ① (90890-03112, YU-03112) to the thermo switch ②.

NOTE:

Set the tester selector to "Ω x 1" position.

3. Immerse the thermo switch in coolant ③ and check the thermo switch for operation.



Coolant temperature	Operation
Less than 98°C (209°F)	The switch is open. (∞Ω)
98°C (209°F) or more	The switch is closed.(0Ω)

④ Temperature gauge.

CAUTION:

Never heat the coolant to a temperature of 120° C (248.5°F) or more.

4. If the thermo switch operation is incorrect, replace it.
5. Install the thermo switch, and connect thermo switch lead.

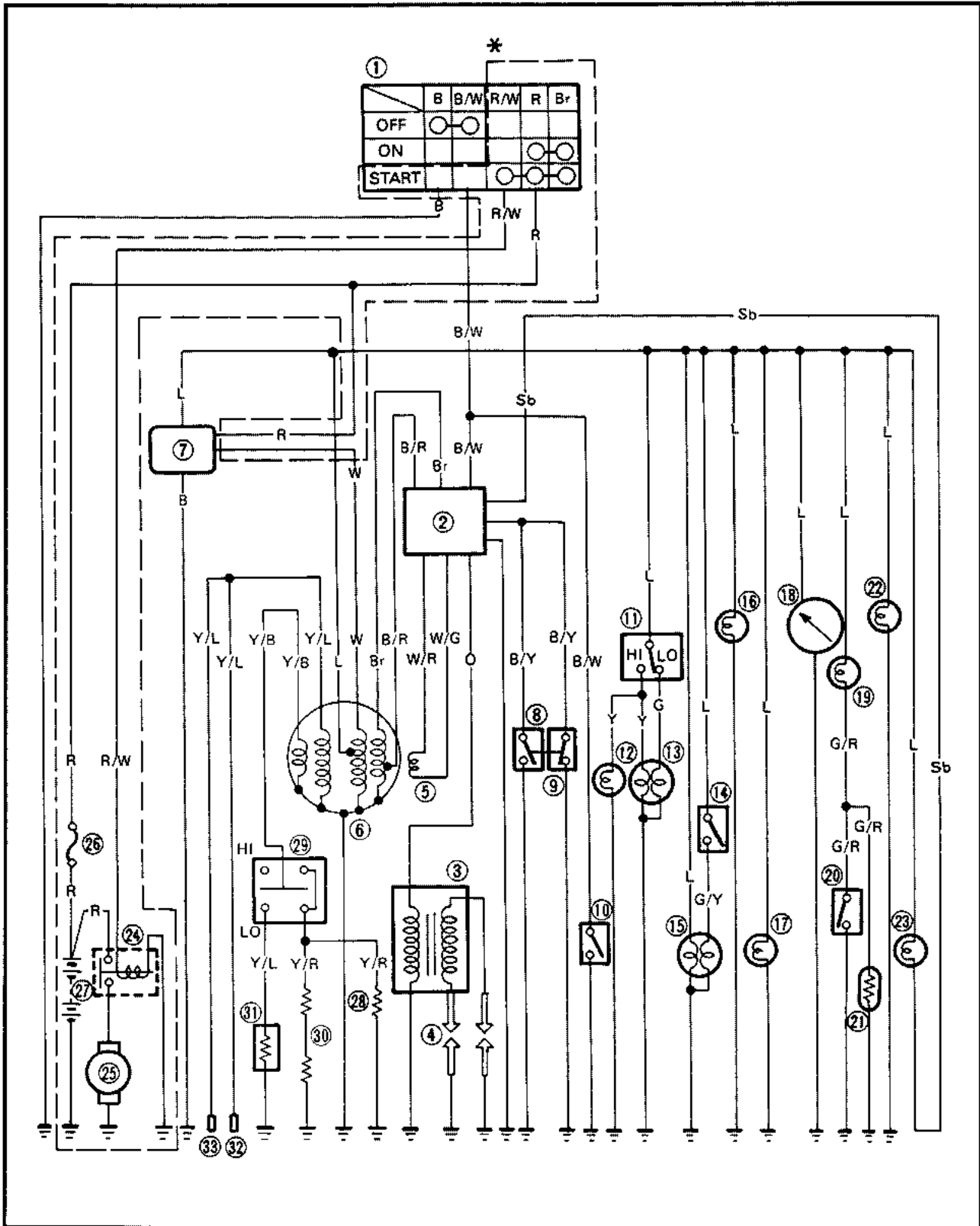
	<p>Thermo switch: 34.3 Nm (3.5 m • kg, 25 ft • lb)</p>
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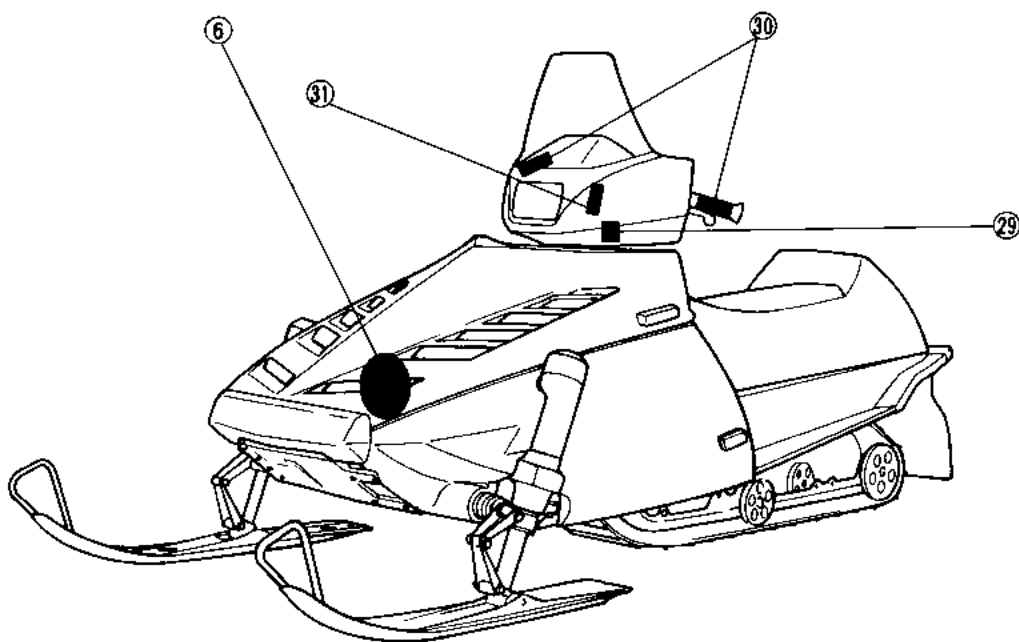
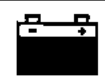
CAUTION:

Avoid overtightening.

**GRIP WARMER SYSTEM
CIRCUIT DIAGRAM**

- ⑥ CDI magneto
- ⑳ Grip warmer switch
- ㉑ Grip warmer
- ㉒ Resistor



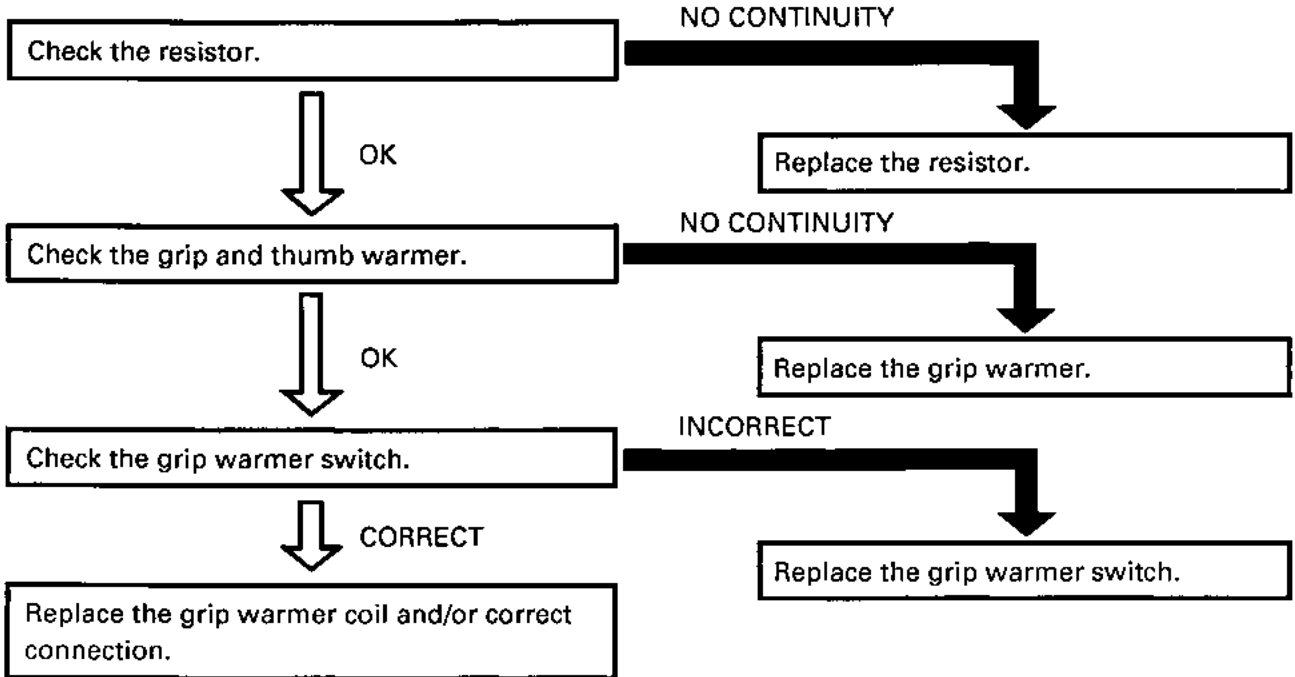




BE281

TRUBLESHOOTING

GRIP WARMER DOES NOT OPERATE





8E291

RESISTOR

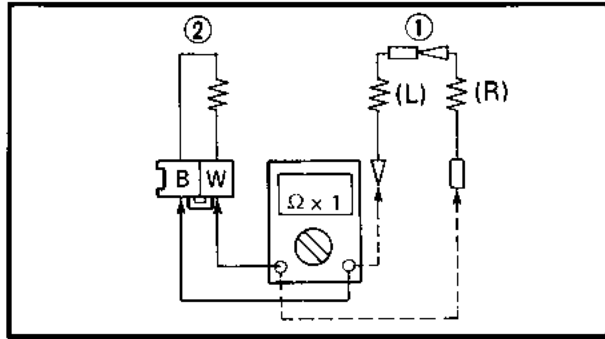
1. Check:
 - Resistor continuity
 - No continuity → Replace.



8E301

GRIP AND THUMB WARMER COIL

1. Disconnect:
 - Grip warmer leads ①
 - Thumb warmer leads
2. Connect:
 - Pocket tester (to grip warmer coil leads and/or thumb warmer coil leads)








3. Check:
 - Grip warmer ① continuity
 - Thumb warmer ② continuity
 - No continuity → Replace.



8E311

GRIP WARMER SWITCH

1. Check:
 - Grip warmer switch continuity
 - Faulty → Replace.

Switch position	Color code		
	Y/R	Y/B	Y/L
LO			
OFF			
HI			

  Continuity



CHAPTER 9. SPECIFICATIONS

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EX570/EX570SX WIRING DIAGRAM	
EX570E WIRING DIAGRAM	
EX570ST WIRING DIAGRAM	



SPECIFICATIONS

GENERAL SPECIFICATIONS

* Electric Model

Model	EX570(E)T	EX570STT	EX570SXT
Model Code Number:	8AV (8AW)	89L	8AY
Frame Starting Number:	8AV (8AW)-000101 ~	89L-000101~	8AY-000101~
Engine Starting Number:	8AV (8AW)-000101 ~	89L-000101~	8AY-000101~
Dimensions:			
Overall Length	2,680 mm (105.5 in)	2,895 mm (114.0 in)	2,680 mm (105.5 in)
Overall Width	1,065 mm (41.9 in)	←	1,125 mm (44.3 in)
Overall Height	1,245 mm (49.0 in)	←	1,070 mm (42.1 in)
Weight:			
Dry Weight (Without fuel and oil)	220.7 kg	230 kg	226.6 kg
Electric Model	227.6 kg	—	—
Minimum Turning Radius:			
Clockwise	4.5 m (14.8 ft)	←	4.6 m (15.1 ft)
Counterclockwise	4.4 m (14.4 ft)	←	4.5 m (14.8 ft)
Engine:	Liquid cooled 2-stroke, piston port		
Engine Type	Piston valve		
Induction System	Forward Inclined Parallel 2-cylinder		
Cylinder Arrangement	569 cm ³ (34.7 cu. in)		
Displacement	73 x 68 mm (2.87 x 2.68 in)		
Bore x Stroke	6.5 : 1	6.9 : 1	
Compression Ratio			
Starting System	(Manual model)	Recoil Hand Starter	
	(Electric model)	Electric and Recoil Hand Starter	
Lubrication System:	Separate Lubrication (YAMAHA AUTOLUBE)		
Engine Oil:	YAMALUBE 2		
Type	3.0 L (2.6 Imp qt, 3.2 US qt)		
Tank Capacity			
Drive Chain Housing Oil:	Gear oil API "GL-3" SAE #75 or #80		
Type	0.25 L (0.22 Imp qt, 0.26 US qt)		
Capacity			
Coolant:	4.2 L (3.70 Imp qt, 4.44 US qt)		
Total Amount	4.6 L (4.05 Imp qt, 4.86 US qt) (EX570ST)		
Reservoir Tank Capacity	0.3 L (0.26 Imp qt, 0.32 US qt)		
Fuel:	Regular gasoline (Pump Octance $\frac{R+M}{2}$; 88)		
Type	30.3 L (6.7 Imp gal, 8 US gal)		
Tank Capacity			
Carburetor:	VM38/2		TM38 x 2
Type/Quantity	MIKUNI		MIKUNI
Manufacturer			
Spark Plug:	BR9ES		
Type	NGK		
Manufacturer	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)		
Gap			

GENERAL SPECIFICATIONS

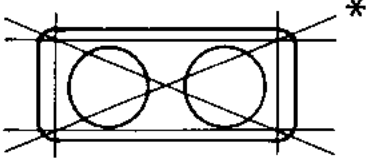
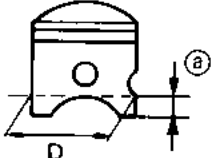
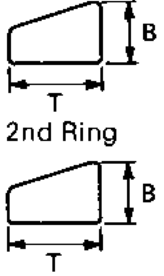
SPEC



Model	EX570(E)T	EX570STT	EX570SXT
Transmission: Primary Reduction System Primary Reduction Ratio Clutch Type Secondary Reduction System Secondary Reduction Ratio Reverse System	V-Belt 3.87 ~ 0.83 Automatic centrifugal engagement Chain 1.83 No		
Chassis: Frame Type Caster Ski Stance (Center to Center)	Monocoque 24° <div style="display: flex; justify-content: space-around; margin-top: 10px;"> 920 mm (36.2 in) 980 mm (38.6 in) </div>		
Suspension: Front Suspension Type Rear Suspension Type	Telescopic strut suspension Slide rail suspension		
Track: Track Type Track Width Length on Ground Track Deflection	Internal drive type 381 mm (15.0 in) <div style="display: flex; justify-content: space-around; margin-top: 10px;"> 907 mm (35.7 in) 1,093 mm (43.0 in) 907 mm (35.7 in) </div> 25 ~ 30 mm (0.98 ~ 1.18 in)/10 kg (22 lb)		
Brake: Brake Type Operation Method	Caliper type disc brake Handle lever, left hand operated		
Electrical: Ignition System/Manufacturer Generator System	CDI/MITSUBISHI Flywheel magneto		
Bulb Wattage × Quantity: Headlight Tail/Brake Light Tachometer Light Speedometer Light Level Gauge Light Indicator Light "HIGH BEAM" "WATER TEMP" "T.O.R.S."	60W/55W × 1 8W/23W × 1 3.4W × 1 3.4W × 1 5W × 1 3.4W × 1 3.4W × 1 6V/3W × 1		



MAINTENANCE SPECIFICATIONS
ENGINE

Model	EX570(E)T	EX570STT	EX570SXT
Cylinder Head: Volume (with spark plug) <Warp Limit> 	28.4 ~ 29.0 cm ³		27.1 ~ 27.7 cm ³
	<0.03mm (0.0012 in)> * Lines indicate straight edge measurement.		
Cylinder: Material Bore Size <Taper Limit> <Out-of-Round Limit>	Aluminum alloy with dispersion coating 73.00 ~ 73.02 mm (2.874 ~ 2.875 in) <0.01 mm (0.0004 in)> <0.005 mm (0.0002 in)>		
Piston: Piston Size (D) Measuring Point (a) 	72.93 ~ 72.95 mm (2.871 ~ 2.872 in) 10 mm (0.39 in)		
Piston to-Cylinder Clearance <Limit>	0.070 ~ 0.075 mm (0.0028 ~ 0.0030 in) <0.1mm (0.004in)>		
Piston Ring: Sectional Sketch 	Top Ring B=1.2 mm (0.047 in) T=2.7 mm (0.106 in)	Keystone B=1.2 mm (0.047 in) T= 2.7 mm (0.106 in)	
End Gap (Installed): Side Clearance: Coating	Top Ring 2nd Ring Top Ring 2nd Ring Top Ring 2nd Ring	0.20 ~ 0.40 mm (0.008 ~ 0.016 in) 0.20 ~ 0.40 mm (0.008 ~ 0.016 in) 0.03 ~ 0.05 mm (0.0012 ~ 0.0020in) 0.03 ~ 0.05 mm (0.0012 ~ 0.0020in) Chrome Plated/Ferox Coating Chrome Plated/Ferox Coating	



Model	EX570(E)T	EX570STT	EX570SXT
Crankshaft: Crank Width "A" Connecting Rod Small End Free Play "F" Connecting Rod Big End Side Clearance "D" Crankshaft Deflection "C": C ₁ C ₂ , C ₃ C ₄ Measuring Points: 1 2 Crank Width "B"	61.95 ~ 62.00 mm (2.439 ~ 2.440 in) 0.8 ~ 1.0 mm (0.031 ~ 0.039 in) 0.25 ~ 0.75 mm (0.01 ~ 0.03 in) Below 0.03 mm (0.0012 in) Below 0.04 mm (0.0016 in) Below 0.05 mm (0.0020 in) 80 mm (3.15 in) 99 mm (3.90 in) 179.85 ~ 180.15 mm (7.080 ~ 7.093 in)		
Big End Bearing: Type	Needle bearing		
Small End Bearing: Type	Needle bearing		
Carburetor: Type/Quantity Manufacturer I.D. Mark Main Jet (M.J.) Main Air Jet (M.A.J.) Pilot Jet (P.J.) Jet Needle (J.N.) Pilot Outlet (P.O.) Air Screw (A.S.) Throttle Valve (Th.V.) Valve Seat Size (V.S.) Starter Jet (G.S.) Float Height (F.H.) Fuel Level Engine Idle Speed	VM38/2pcs. MIKUNI L: 88R-00L R: 88R-00R #310 ø2.5 #42.5 6FL82-3 ø0.8 5/8 #3.0 ø1.5 ø1.0 17.1 ~ 19.1 mm (0.67 ~ 0.75 in)	TM38/2pcs. MIKUNI L:8AY00L R:AY00R #155 ø2.5 #50 9EL2-3 ø0.7 1 1/2 #3.0 ø1.5 ø0.9 21.3 ~ 23.3 mm (0.84 ~ 0.92 in)	3.5 ~ 5.5 mm (0.14 ~ 0.22 in)
Fuel Pump: Type Manufacturer	DF52 MIKUNI		
Oil Pump: Plunger Diameter Worm Gear Ratio Minimum Stroke Maximum Stroke Pump Cable Free Play	5.5 mm (0.22 in) 1/44 (0.023) 0.15 ~ 0.20 mm (0.006 ~ 0.008 in) 1.62 ~ 1.80 mm (0.064 ~ 0.071 in)		0.15 ~ 0.2 mm (0.006 ~ 0.008 in) 23 ~ 25 mm (0.9 ~ 0.98 in)



Model	EX570(E)T	EX570STT	EX570SXT
Cooling System: Water Pump Drive Belt Tension Filler Cap Opening Pressure Thermostat Opening Temperature Thermostat Valve Lift Water Pump Type Coolant Type Coolant Mixing Ratio (Coolant : Water) Coolant Capacity Reservoir Tank Capacity	8 mm/8 kg (0.3 in/17.6 lb) 8 mm/13 ~ 20 kg (0.31 in/28.7 ~ 44.1 lb) (NEW BELT) 80 ~ 100 kPa (0.8 ~ 1.0 kg/cm ² , 11 ~ 14 psi) 50 ~ 55°C (122 ~ 131°F) 8 mm (0.3 in) at 70°C (158.5°F) Impeller Type High quality ethylene glycol anti-freeze containing corrosion inhibitor 3 : 2 4.2 L (3.7 Imp qt, 4.4 US qt) 4.6 L (4.05 Imp qt, 4.86 US qt) (EX570ST) 0.25 L (0.22 Imp qt, 0.26 US qt)		

High Altitude Settings

For EX570(E)/ST

Altitude	Temperature					
	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)
0 ~ 100 m (0 ~ 300 ft)	→ #320, JN: 3rd			← #310 (STD), JN: 3rd (STD)		
100 ~ 600 m (300 ~ 2,000 ft)	→ #310 (STD), JN: 3rd (STD)			← #300, JN: 3rd		
600 ~ 1,200 m (2,000 ~ 4,000 ft)	→ #300, JN: 3rd			← #290, JN: 3rd		
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)	→ #280, JN: 3rd			← #270, JN: 3rd, AS: 7/8		
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)	→ #260, JN: 3rd			← #250, JN: 3rd, AS: 7/8		
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)	→ #250, JN: 3rd			← #240, JN: 2nd, AS: 7/8		

: Main jet number
 JN : Jet needle clip position
 AS : Air screw turns out

MAINTENANCE SPECIFICATIONS

SPEC



Model	EX570(E)T	EX570STT	EX570SXT			
For EX570SX						
Temperature	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)
Altitude						
0 ~ 100 m (0 ~ 300 ft)	← #160 →					
	← #162.5 →				← #157.5 →	
100 ~ 600 m (300 ~ 2,000 ft)	← #155 (STD) →					
	← #157.5 →				← #152.5, JN: 2nd →	
600 ~ 1,200 m (2,000 ~ 4,000 ft)	← #152.5, JN: 2nd →					
	← #152.5 →				← #150, JN: 2nd →	
1,200 ~ 1,800 m (4,000 ~ 6,000 ft)	← #150, JN: 2nd →					
	← #150 →				← #147.5, JN: 2nd →	
1,800 ~ 2,400 m (6,000 ~ 8,000 ft)	← #145, JN: 2nd →					
	← #147.5 →					
2,400 ~ 3,000 m (8,000 ~ 10,000 ft)	← #142.5, JN: 2nd, PJ: 52.5, AS: 1 1/4 →					
	← #145, JN: 2nd, PJ: 52.5 AS: 1 1/4 →					

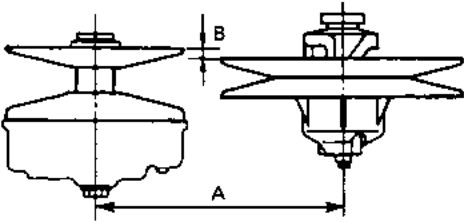
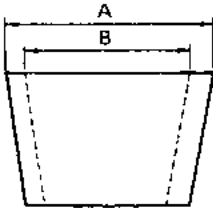
- # : Main jet number
- JN : Jet needle clip position
- AS : Air screw turns out
- PJ : Pilot jet number



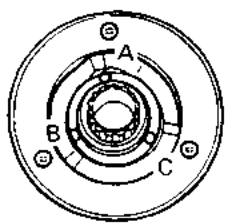
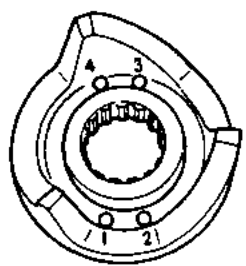
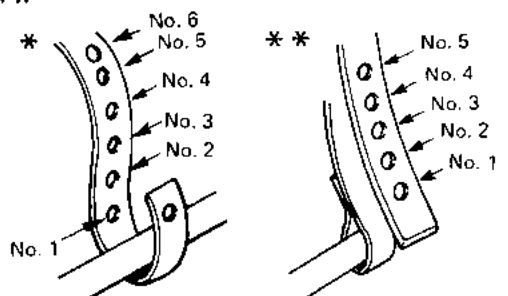
Tightening Torque:				
Part to be tightened	Tightening torque			Remarks
	Nm	m·kg	ft·lb	
Crankcase (First)	13	1.3	9.4	Tighten the bolts in two stages.
Crankcase (Final)	27	2.7	19	
Engine Bracket and Crankcase	27	2.7	19	
Crankcase Cover	23	2.3	17	
Cylinder Head				
Bolt (First)	20	2.0	14	Tighten the bolts and nuts in two stages.
Bolt (Final)	28	2.8	20	
Nut (First)	20	2.0	14	
Nut (Final)	33	3.3	24	
Spark Plug	28	2.8	20	
Thermostatic Valve Cover	7	0.7	5.1	
Starter Pully	23	2.3	17	
Water Pump Housing	23	2.3	17	
Impeller	14	1.4	10	Left-Hand threads
Oil Pump	7	0.7	5.1	
Recoil Starter	10	1.0	7.2	
Engine Mounting Nut	40	4.0	29	
Carburetor				
Pilot Jet	1	0.1	0.7	
Valve Seat	5	0.5	3.6	
Main Jet	2	0.2	1.4	
Thermo Switch	28	2.8	20	
Coolant Drain Bolt	32	3.2	23	
Magneto Rotor Nut	85	8.5	61	
Starter motor bolt	23	2.3	17	



POWER TRAIN

Model	EX570(E)T	EX570STT	EX570SXT
Transmission: Type Range of Ratio Engagement RPM Shift RPM Sheave Center Distance "A" Sheave Offset "B"	V-belt Automatic 3.8 ~ 0.95:1		
	Approx 3,800 r/min	Approx 3,800 r/min	Approx 3,900 r/min
	Approx 7,300 r/min	←	Approx 7,750 r/min
	267 ~ 270 mm (10.5 ~ 10.6 in) 14.5 ~ 17.5 mm (0.57 ~ 0.69 in)		
			
V-Belt: Part Number Outside Circumference Width "A" Wear Limit "B"	87X-17641-00 (DAYCO) ← 89L-17641-00 (MITSUBOSHI)		
	1,118 ~ 1,128 mm (44.0 ~ 44.4 in) 35.0 mm (1.38 in) 32.0 mm (1.26 in)		
			
Primary Sheave Spring: Part Number Color Code Outside Diameter Wire Diameter Pre-load/Set Length Spring Rate Number of Coils Free Length	90501-553G6 White-Yellow-White 60 mm (2.36 in) 5.5 mm (0.22 in) 25.0 kg (55.1 lb) 22.5 N/mm (2.25 kg/mm, 126 lb/in) 4.61 76.5 mm (3.01 in)	90501-521J6 Gold-Pink-Gold ← 5.2 mm (0.20 in) 30.0 kg (66 lb) 14.7 N/mm (1.5 kg/mm, 84 lb/in) 5.09 85.4 mm (3.36 in)	90501-550J8 White-Pink-White ← 5.5 mm (0.22 in) ← 22.5 N/mm (2.25 kg/mm, 126 lb/in) 4.62 78.7 mm (3.1 in)
Primary Sheave Weight Arm: Part Number (with bushing) Weight Rivet: Part Number Material Quantity	88R-17605-00 43 g (1.45 oz) Rivet: 90261-06016 Steel 3 pcs.	89L-17605-00 ← Rivet: 90261-06015 ← ←	8AY-17605-00 39.8 g (1.4 oz) Rivet: 90261-06016 ← ←
Secondary Sheave Spring: Part Number Color Code Outside Diameter Wire Diameter Twist Angle	90508-50571 Pink 65 mm (2.56 in) 5.0 mm (0.20 in) 60°	← ← ← ← 50°	← ← ← ← ←



Model	EX570(E)T	EX570STT	EX570SXT
Hole Position: Sheave Side Spring Seat Side  	B 2	A ←	← ←
Spring Rate	8.7 N/mm (0.89 kg/mm, 49.8 lb/in)	←	←
Number of Coils	4.74	←	←
Free Length	85.05 mm (3.35 in)	←	←
Torque Cam Angle	39°	37°	39°
Drive Chain: Type Number of Links	Silent 68	← ←	← ←
Gearing: Drive Gear Part Number Driven Gear Part Number	18T 89J-17682-80 33T 89J-47587-00	17T 89J-17682-70 ← ←	← 8AY-17682-70 ← 89A-47587-30
Track: Part Number Width Length Pitch Number of Links Deflection at 10 kg (22 lb)	8AY-47110-00 381 mm (15.0 in) 3,072 mm (120.94 in) 64 mm (2.52 in) 48 25 ~ 30 mm (0.98 ~ 11.81 in)	89L-47110-00 ← 3,456 mm (136.06 in) ← 54 ←	8AY-47110-00 ← 3,072 mm (120.94 in) ← 48 ←
Slide Rail Suspension: Front Travel Rear Travel Suspension Spring Rate Front Rear Spring Wire Diameter Front Rear	142 mm (5.59 in) 155 mm (6.10 in) 2.25 kgf/mm 1.75 kgf/mm 7.5 mm (0.3 in) 9.0 mm (0.35 in)	← ← ← 1.9 kgf/mm ← ←	← ← 2.4 kgf/mm 2.1 kgf/mm ← ←
Suspension Setting Position: Stopper Band Hole Position Front * Rear ** 	No.3 No.1	← ←	← ←



Model	EX570(E)T	EX570STT	EX570SXT
Shock Absorber:			
Damping Force (Extension)			
Front	114 kg/0.3 m/s	135 kg/0.3 m/s	112 kg/0.3 m/s
Rear	105 kg/0.3 m/s	112 kg/0.3 m/s	137 kg/0.3 m/s
Damping Force (Compression)			
Front	33 kg/0.3 m/s	28 kg/0.3 m/s	28.5 kg/0.3 m/s
Rear	35 kg/0.3 m/s	32 kg/0.3 m/s	39 kg/0.3 m/s
Slide Runner:			
Thickness	14.8 mm (0.58 in)		
Wear Limit	10 mm (0.40 in)		
Track Sprocket Wheel:			
Material	Polyethylene		
Number of Teeth	9T		
Rear Guide Wheel:			
Material	Aluminum with rubber		
Outside Diameter	178 mm (7.01 in)		
Brake:			
Pad Thickness	15.5 mm (0.61 in)		
Pad Wear Limit	9.5 mm (0.37 in)		
Disc Outside Diameter	168 mm (6.61 in)		
Disc Thickness	4 mm (0.16 in)		
Brake Lever Free Play	0.3 ~ 1.0 mm (0.012 ~ 0.039 in)		



Tightening Torque:				
Parts to be tightened	Tightening torque			Remarks
	Nm	m·kg	ft·lb	
Primary Sheave (First)	120	12.0	85	Tighten the bolts in two stages. See NOTE. Left-hand thread. Apply LOCTITE®
Primary Sheave (Final)	60	6.0	43	
Spider and Sliding Sheave	200	20.0	145	Apply LOCTITE®
Primary Sheave Cap and Sliding Sheave Roller and Weight (Primary Sheave)	14	1.4	10	
Bolt	6	0.6	4.3	Apply LOCTITE®
Screw	3	0.3	2.2	
Secondary Sheave	60	6.0	43	Apply LOCTITE®
Drive Sprocket	50	5.0	36	
Chain Tensioner	23	2.3	17	Apply LOCTITE®
Chain Housing and Frame	23	2.3	17	
Driven Sprocket	48	4.8	35	Apply LOCTITE®
Chain Housing Cover	10	1.0	7.2	
Chain Housing and Brake Caliper	48	4.8	35	Apply LOCTITE®
Bearing Holder (Jackshaft)	43	4.3	31	
Suspension Wheel	75	7.5	54	Apply LOCTITE®
Guide Wheel	74	7.4	54	
Sliding Frame and Slide Runner	3	0.3	2.2	Apply LOCTITE®
Slide Rail Suspension Mounting Bolt	68	6.8	49	
Rear Pivot Arm and Bracket	68	6.8	49	Apply LOCTITE®
Shock Absorber and Rear Pivot Arm	42	4.2	30	
Rear Pivot Arm and Rod	42	4.2	30	Apply LOCTITE®
Rear Suspension Bracket and Rod	42	4.2	30	
Front Pivot Arm and Sliding Frame	56	5.6	41	Apply LOCTITE®
Shock Absorber and Front Pivot Arm	20	2.0	14	
Shock Absorber and Relay Arm	20	2.0	14	Apply LOCTITE®
Bracket Shaft and Sliding Frame	20	2.0	14	
Collar (Guide wheel)	6	0.6	4.3	Apply LOCTITE®
Front Axle	90	9.0	65	
Speedometer Gear	23	2.3	17	Apply LOCTITE®

NOTE:

Tightening steps:

1. Tighten the bolt. 120Nm (12 m · kg, 85 ft · lb).
2. Loosen it completely.
3. Retighten it. 60Nm (6.0 m · kg, 43 ft · lb).



CHASSIS

Model	EX570(E)T	EX570STT	EX570SXT
Frame: Frame Material Seat Height Luggage Box Location	Aluminum and steel 620 mm (24.4 in) Rear Side of Seat	← ← ←	← ← ←
Steering: Lock to lock angle (Left) (Right) Ski Alignment Toe-out Size Distance "A" Distance "B" Distance "C" Caster angle	25.4° (R Ski) 27.0° (L Ski) 26.7° (R Ski) 25.1° (L Ski) Toe-out 0 ~ 15 mm (0 ~ 0.6 in) 1,820 mm (71.6 in) 910.5 mm (35.8 in) 510.7 mm (20.1 in) 24°	← ← ← ← 2,010 mm (79.1 in) ← ← ←	← ← ← ← 1,820 mm (71.6 in) 970.5 mm (38.2 in) ← ←
Ski: Ski Material Length Width Thickness Ski Ground Length	Steel 986 mm (38.8 in) 145 mm (5.71 in) 1.6 mm (0.06 in) 363 mm (14.3 in)	← ← ← ← ←	← ← ← ← ←
Ski Suspension: Type Travel Spring Type Spring Rate Wire Diameter	T.S.S. 150 mm (5.9 in) Coil Spring 1.3 kgf/mm 7.5 mm (0.3 in)	← ← ← 1.2/1.8 kgf/mm 7.0 mm (0.28 in)	← ← ← 1.0/1.6 kgf/mm ←
Shock Absorber: Damping Force (Extension) (Compression)	50 kg, 0.3m/s 22 kg, 0.3m/s	← ←	50 kg, 0.3m/s 24 kg, 0.3m/s



ELECTRICAL

Model	EX570(E)T/EX570STT/EX570SXT
Voltage:	12V
Ignition System: Ignition Timing (B.T.D.C.)	16° (1.74 mm) at 1,500 rpm 22° (3.23 mm) at 3,500 rpm
<p>For EX570SX</p> <p>Ignition Timing (B.T.D.C.)</p> <p>Engine Speed (x 10³ r/min)</p>	<p>For EX570(E)//ST</p> <p>Ignition Timing (B.T.D.C.)</p> <p>Engine Speed (x 10³ r/min)</p>
<p>CDI:</p> <p>Magneto Model/Manufacturer</p> <p>Pickup Coil Resistance (Color Code)</p> <p>Source Coil Resistance (Color Code)</p> <p>CDI Unit Manufacturer</p>	<p>F4T304/MITSUBISHI</p> <p>210 ±10% at 20° C (68°F) (White/Red – White/Green)</p> <p>310 ±10% at 20°C (68°F) (Brown – Black/Red)</p> <p>MITSUBISHI</p>
<p>Ignition Coil:</p> <p>Model/Manufacturer</p> <p>Minimum Spark Gap</p> <p>Primary Coil Resistance</p> <p>Secondary Coil Resistance</p>	<p>88R -00/YAMAHA</p> <p>9 mm (0.35 in/or more) at 300 r/min</p> <p>0.2Ω ± 20% at 20°C (68°F)</p> <p>4.9kΩ ± 20% at 20°C (68°F)</p>
<p>Spark Plug Cap:</p> <p>Type</p> <p>Model/Manufacturer</p> <p>Resistance</p>	<p>Rubber Type</p> <p>81E/TOKAI DENSO</p> <p>5 kΩ ± 25% at 20°C (68°F)</p>
<p>Charging System:</p> <p>Type</p>	<p>Flywheel Magneto</p>
<p>Flywheel Magneto:</p> <p>Model/Manufacturer</p> <p>Charging Current – (Minimum)</p> <p>Charging Current – (Maximum)</p> <p>Charging Coil Resistance (Color Code)</p> <p>Lighting Voltage (Minimum) (Maximum)</p> <p>Lighting Coil Resistance (Color Code)</p> <p>Coil Resistance for Grip Warmer (Color Code)</p>	<p>F4T304/MITSUBISHI</p> <p>0.6 A at 3,000 r/min</p> <p>2.0 A at 8,000 r/min</p> <p>0.38Ω ± 10 % at 20°C (68°F) (White – Black)</p> <p>11 V at 3,000 r/min</p> <p>15 V at 8,000 r/min</p> <p>0.36 Ω ± 10% at 20°C (68°F) (Yellow – Black)</p> <p>1.6 Ω ± 10% at 20°C (68°F) (Yellow/Black-Black)</p>

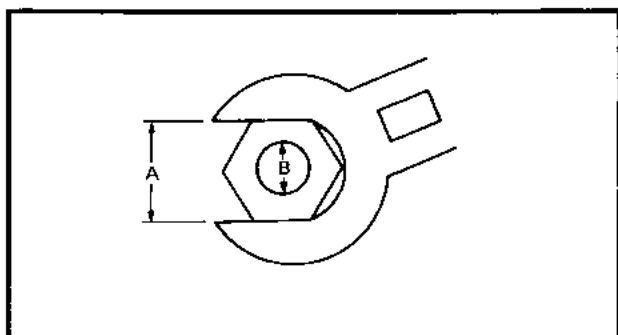


Model	EX570(E)T/EX570STT/EX570SXT
Voltage Regulator: (EX570T/SXT) Type Model/Manufacturer No Load Regulated Voltage	Short Circuit Type 82M-A0/SHINDENGEN 13.3 ~ 14.3 V
Rectifier Regulator: (EX570ET/STT) Model/Manufacturer No Load Regulated Voltage	89A-00/MATSUSHITA AC: 13.8 ~ 14.8V/DC : 14.0 ~ 15.0V
Battery: (EX570ER only) Specific Gravity	1.280 (YB16AL-A2)
Electric Starter System: (EX570ER only) Type	Bendix type
Starter Motor:(EX570ER only) Model/Manufacturer Output Armature Coil Resistance Brush: Overall Length Wear Limit Spring Pressure Commutator Diameter Wear Limit Mica Undercut	84N-50/NIPPON DENSO 0.6 kW 0.013 ~ 0.015Ω at 20°C (68°F) 12 mm (0.48 in) 8.5 mm (0.33 in) 650 ~ 950 g (22.9 ~ 33.5 oz) 28 mm (1.10 in) 27 mm (1.06 in) 0.4 ~ 0.8 mm (0.016 ~ 0.031 in)

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multifastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

A (Nut)	B (Bolt)	General Torque Specifications		
		Nm	m·kg	ft·lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94



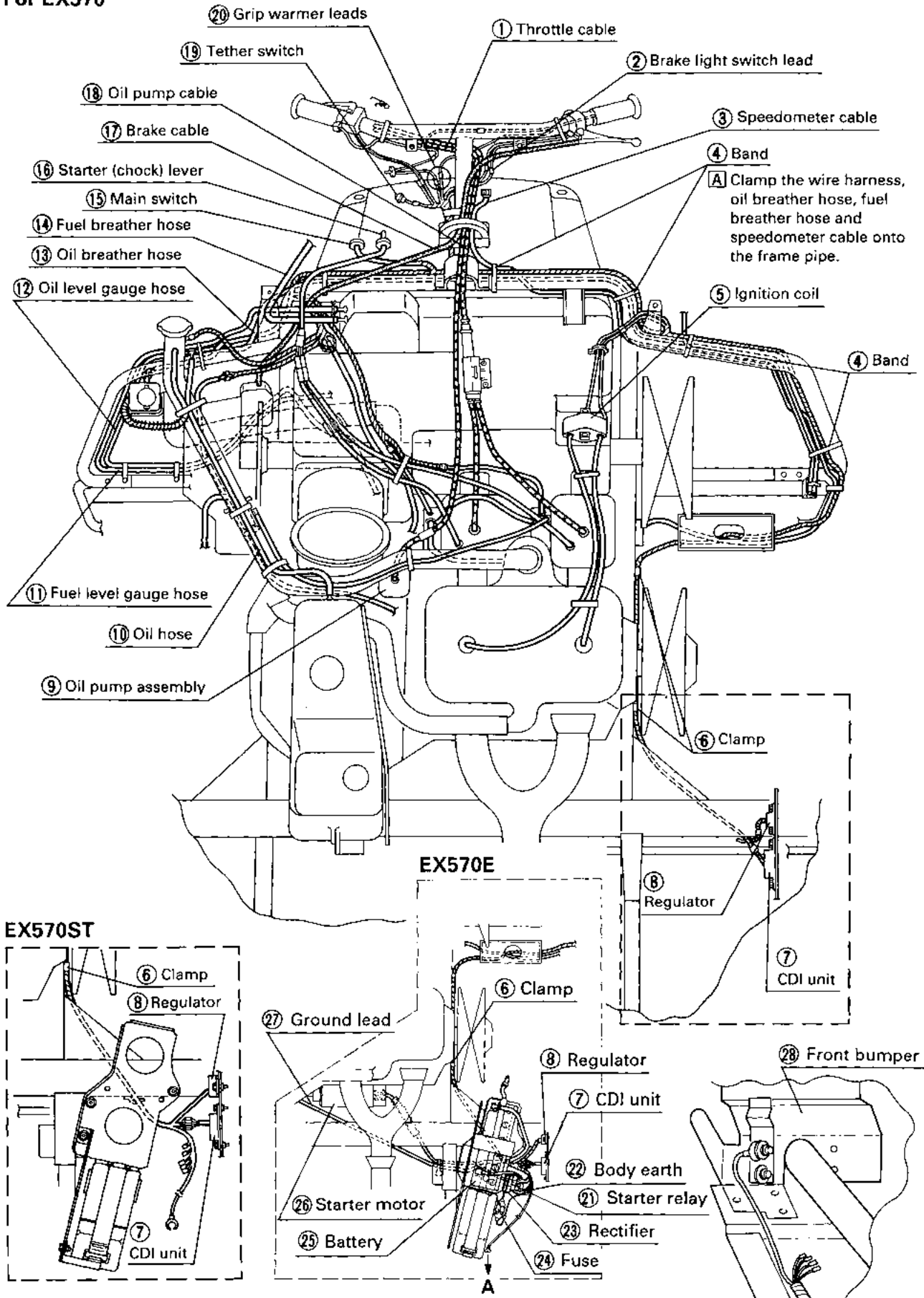
- A** : Distance across flats
- B** : Outside thread diameter

DEFINITION OF UNITS

Unit	Read	Definition	Measure
mm	Millimeter	10^{-3} meter	Length
cm	Centimeter	10^{-2} meter	Length
kg	Kilogram	10^3 gram	Weight
N	Newton	$1\text{kg} \times \text{m}/\text{sec}^2$	Force
Nm	Newton meter	$\text{N} \times \text{m}$	Torque
m·kg	Meter kilogram	$\text{m} \times \text{kg}$	Torque
Pa	Pascal	N/m^2	Pressure
N/mm	Newtons per Millimeter	N/mm	Spring Rate
L	Liter	—	Volume or Capacity
cm ³	Cubic Centimeter	—	
r/min	Rotations per minute	—	Engine Speed

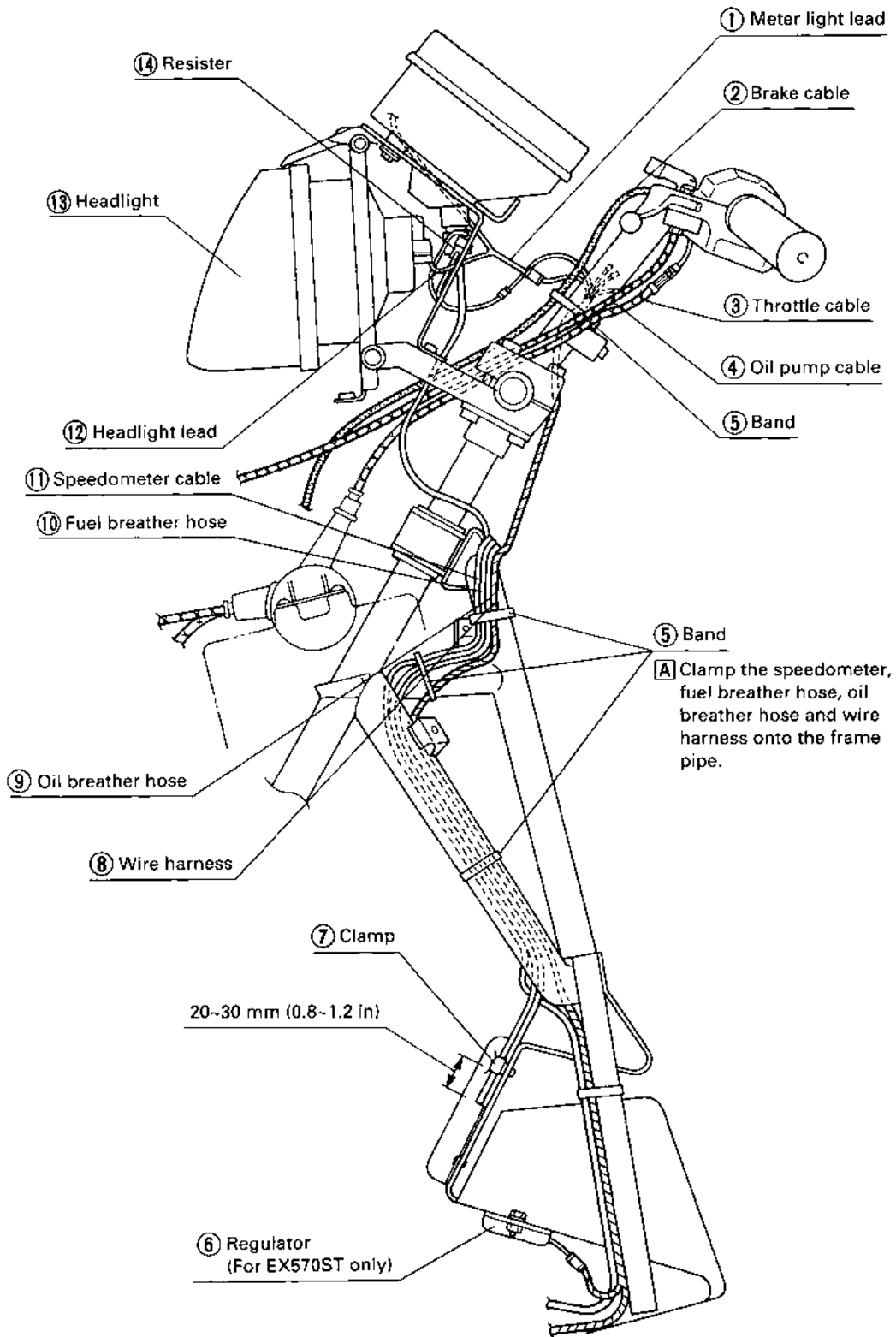
CABLE ROUTING

For EX570





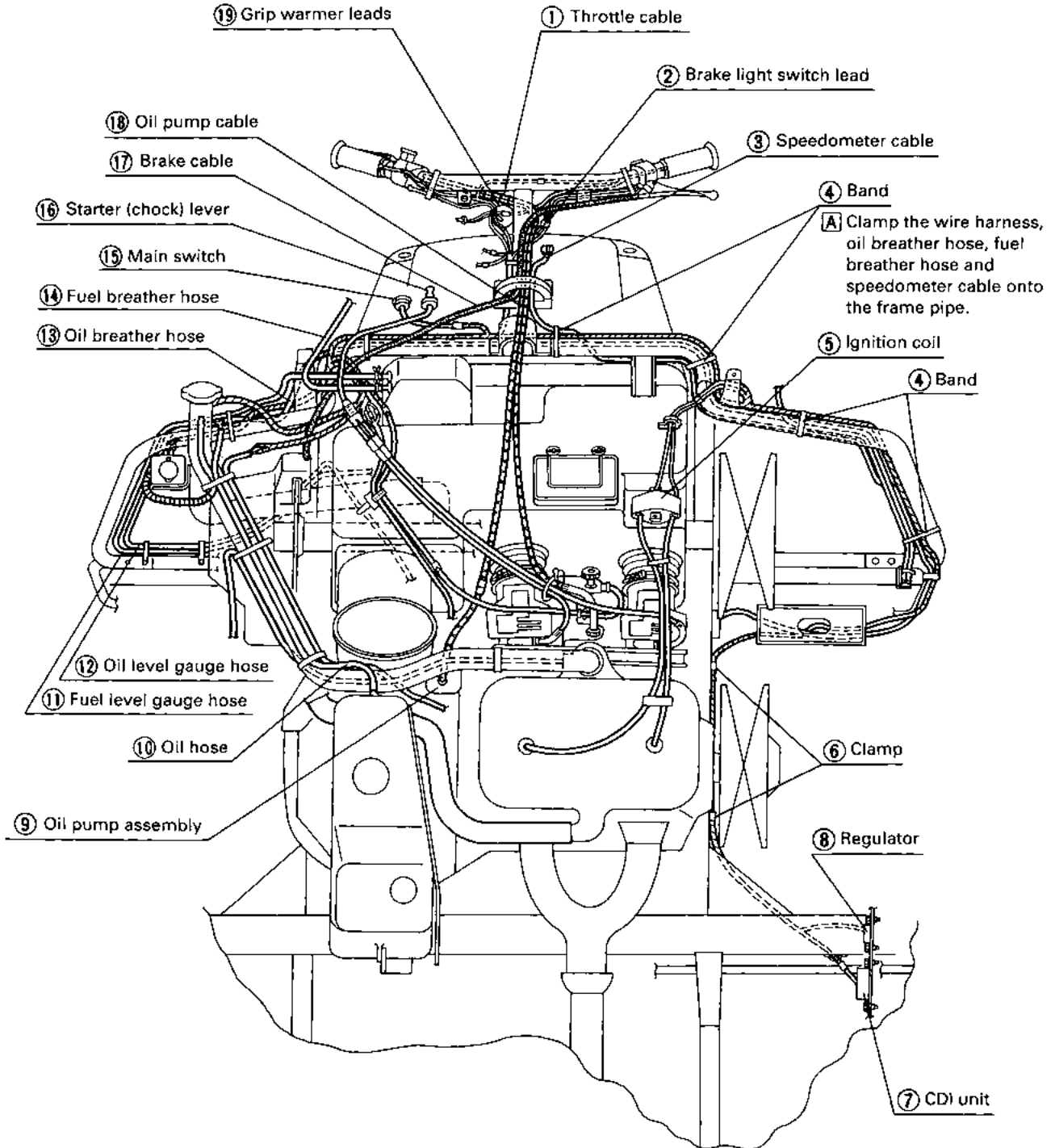
For EX570, EX570E, EX570ST





CABLE ROUTING

For EX570SX





For EX570SX

