

SECTION WA

Wheels, Axles & Chains

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General Instructions

WARNING

Detailed information on standard workshop and safety procedures, and general servicing operations is not included in this manual, which has been prepared to assist qualified service personnel. ODG assumes no responsibility or liability for PERSONAL INJURY or VEHICLE DAMAGE which results from any servicing procedure performed, including those instructions outlined in this manual.

WARNING

Improperly adjusted idler chains or poorly aligned idler shaft assemblies can result in personal injury to the operator, extensive damage to brake disc sprockets and idler shaft assemblies, and may lead to a costly and inconvenient break down off road. Please ensure that the axle shafts are correctly aligned and that the drive chains and chain tensioner system are in good working condition.

WARNING

Improperly aligned axle shafts or incorrect chain tension can result in extensive damage to drive chains and axle sprockets, and may cause wear on the vehicle frame and floorpans. Please ensure that axle shafts are correctly aligned and that the drive chains and chain tensioner system are in good working order.

Lubrication Information

General

The following parts and components require regularly scheduled lubrication to prevent premature wear and replacement.

1. Idler Chain
2. Drive Chains
3. Bearings

Use the recommended lubricants listed in this section and carefully observe the recommended lubrication intervals.

Drive Chain Lubrication

The ARGO vehicle is equipped with roller chains to each axle. Lubricate the chains every 10 hours with Aerosol Chain Lube (ARGO Part No. 125-86), or more frequently in dirty or wet conditions.

After every 100 hours of operation, or for extended periods of storage, remove all the drive chains from the vehicle and clean them thoroughly in a suitable solvent, i.e. degreaser.

WARNING

Never use gasoline as a cleaning solvent. Gasoline is extremely flammable and can explode if ignited, causing serious personal injury.

Allow the chains to dry thoroughly, re-lubricate generously with ARGO Chain Lube and re-install.

Idler Chain Lubrication (All models except HDi)

There are no idler chains on HDi models

Lubricate the idler chains after 10 hours of operation, and more frequently if the vehicle is operated in dirty or wet conditions (Figure 6-7). Use only ARGO Chain Lube (ARGO Part No. 125-86) to lubricate the idler chains.

When applying the chain lube, protect the brake discs with a rag or simple cardboard shield (Figure 6-8). **DO NOT SPRAY CHAIN LUBE ON THE BRAKE DISCS OR PADS.** Roll the vehicle so that all of the idler chain is accessible for lubrication.



Figure 6-7. Location of the

Do not use regular oil or grease to lubricate the idler chains. Regular oil or grease will be thrown off the idler chains during normal operation, and contaminate the brake pads or discs. When these components become contaminated, brake effectiveness can be compromised or complete brake failure can occur.

After every 100 hours of operation or for prolonged periods of storage, remove both idler chains from the vehicle and clean them thoroughly in a suitable solvent. Allow the idler chains to dry thoroughly, re-lubricate them generously with Argo chain lube and re-install.

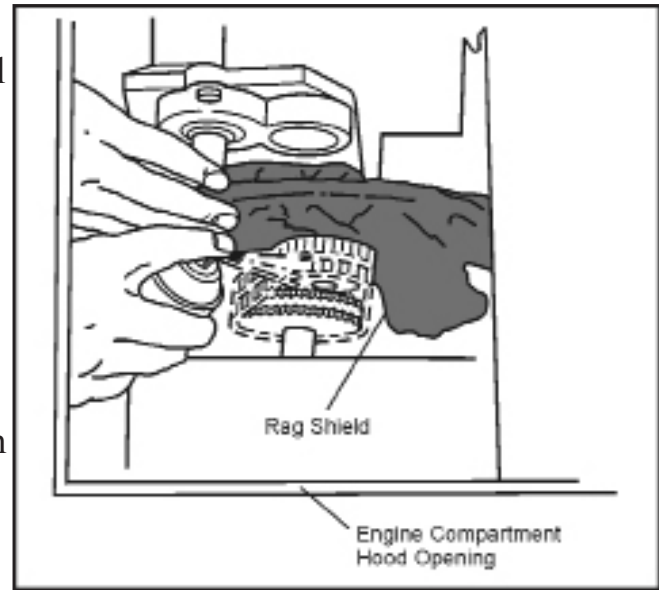


Figure 6-8. Lubricating the idler chain.

Regular maintenance of the drive chains is essential to both good vehicle performance and personal safety. Poorly maintained chains can result in rusted, corroded or seized up chains, damaged sprockets, damaged frame, and costly repair bills.

1. Every 25 hours of vehicle operation perform the servicing procedure, **Drive Chain Inspection**.
2. Every 10 hours of vehicle operation perform the servicing procedure, **Drive Chain Take-Up System Inspection**.
3. Every 10 hours of vehicle operation perform the servicing procedure, **Drive Chain Lubrication**.
4. Every 100 hours of vehicle operation perform the following servicing procedures:
 - Drive Chain Removal
 - Drive Chain Cleaning
 - Drive Chain Inspection
 - Chain tensioner Inspection
 - Drive Chain Installation
 - Drive Chain Lubrication

Outer Axle Flange & Bearing Lubrication

CAUTION

Do Not Use High Pressure Pneumatic Greasing Equipment
Prior to 2010 Models:

Each outer axle flange is equipped with two grease nipples. Grease the outer cavity through the outer nipple of each flange with a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3). Apply at every 25 hours of operation, to flush dirt and water that may have entered the axle seal. Only a small amount of pressure should be required. Grease until any contamination has been forced out past the seal and fresh grease is visible.

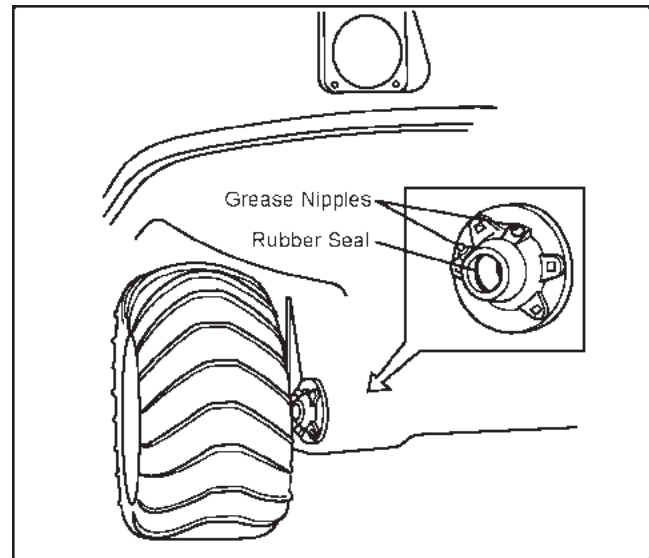


Figure 6-9. Outer Axle Flange.

At the same time, inspect all the axle seals for damage (Figure 6-9). Vegetation wrapping around the axles can damage the rubber lip of the seal, allowing dirt and water into the outer cavity. Replace any damaged seals.

The second or inner grease fitting of the outer axle flange supplies grease directly to the outer axle bearing. It also requires re-greasing every 25 hours of operation or before the vehicle is taken out of service for any extended period. Use a pistol grip type grease gun to avoid dislocating the bearing seals due to excessive grease pressure.

Outer Axle Bearing Lubrication (2010 + Models)

Each outer axle flange is equipped with one grease nipple. This grease nipple supplies grease directly to the outer axle bearing. It also requires re-greasing every 25 hours of operation or before the vehicle is taken out of service for any extended period. Use a pistol grip type grease gun to avoid dislocating the bearing seals due to excessive grease pressure. Figure 6-10. See NOTE following page.



Figure 6-10. HDi outer bearing

NOTE

To promote regular maintenance of important Argo components, Ontario Drive & Gear has provided an access hole through each rim and hub for ease of bearing lubrication.

CAUTION

Do not use high pressure or excessive amounts of grease. Damage to the bearing seals could result.

Idler Shaft Bearing Lubrication (All models except HDi)

Left and right hand side inner and outer idler shaft bearings are fitted with a right angled grease fitting. With the front floor pan removed, the left side inner idler shaft grease fitting is accessible at the bottom of the bearing flange. The right side inner idler shaft grease fitting is located at the top of the flange. Both outer idler shaft bearing grease fittings are located at the top of the flange. All of these can be accessed conveniently with a grease gun fitted with a flexible extension head. Grease with a small amount of a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3). Apply every 50 hours of operation, if vehicle has been used in water for extended periods of time or whenever major maintenance is performed on the vehicle.

NOTE

There are no inner greaseable idler shaft bearings on HDi models.

Inner Axle Bearing Lubrication

The inner axle flanges are equipped with a grease nipple (Figure 6-11). Lubricate the bearings with a small amount of a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3). Apply every 50 hours or before the vehicle is taken out of service for any extended period. Dirt, dust and exposure to water will accelerate this servicing to less than 50 hour intervals. Only a small amount of grease is required.

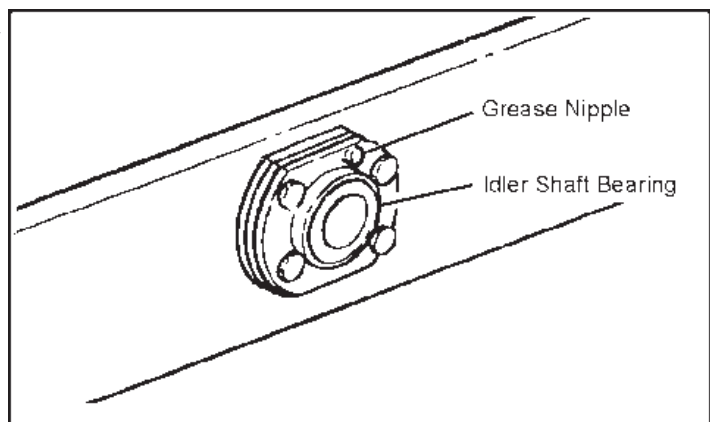


Figure 6-11. Inner axle flange grease

Drive Chains

Roller chain “stretch” results from wear to the chain pins and bushings because of the loss of lubricant.

To prevent sprocket damage and unnecessary breakdowns, replace the chains when:

- the chain tensioner can no longer take up the chain slack.
- the chain is rubbing on a frame cross member.
- the chain is seized due to rust and lack of lubrication.
- the chain climbs the sprocket teeth, especially noticeable when turning.

Removing a Drive Chain

1. Place the gearshift in the N (neutral) position.
2. Remove the floor pans.
3. Turn the tensioner cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block in the bottom of the frame. Secure it in this position with a Vice-Grip 10CR as illustrated in Figure 7-4.
4. Roll the vehicle until the connecting link on one of the chains is visible.
5. Remove the spring clip from the connecting link as shown in Figure 7-5. Remove the outside plate and tap out the connecting link. The inside plates will be released when the connecting link is removed (Figure 7-6).
6. Remove the chain from the vehicle.
7. Repeat steps 4 to 6 until all drive chains are removed.

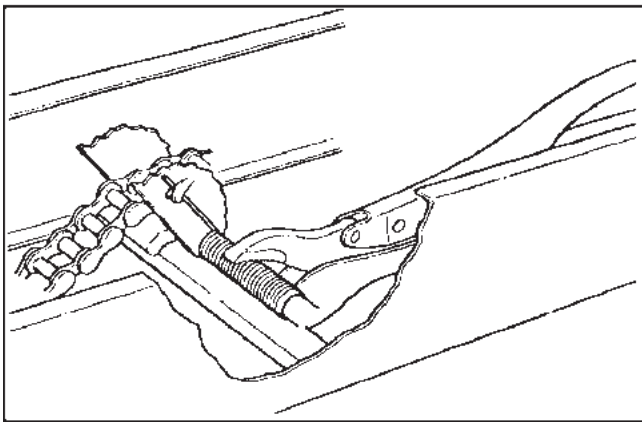


Figure 7-4. Securing tensioner cam

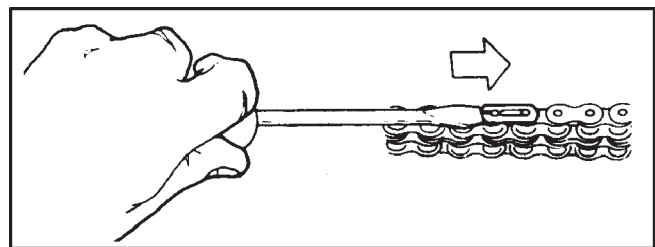


Figure 7-5. Removal of the spring clip

Installing a Drive Chain

1. Position the drive chain over the slider block and around the drive sprockets.
2. Pull the ends of the chain together and insert the connecting link as shown in Figure 7-6 and 7-7. When connecting the RC50-2 chain, insert the inside plates before tapping the connecting link into position.

NOTE

Use a pair of modified 7R Vice Grips to hold the ends of the chain together while inserting the connecting link. Some drive chains have no slack, and replacement of the connecting link is difficult without this tool. Modified Vice Grips can be ordered from your ARGO dealer (ARGO Part No. 658-08).

3. Replace the outside plate and spring clip. The open end of the clip must face rearward when it is on top of the chain.
4. Remove the vice-grips securing the cam assembly in its lowest position.
5. Repeat steps 1 to 4 until all chains are replaced.

Drive Chain Take-Up System Inspection

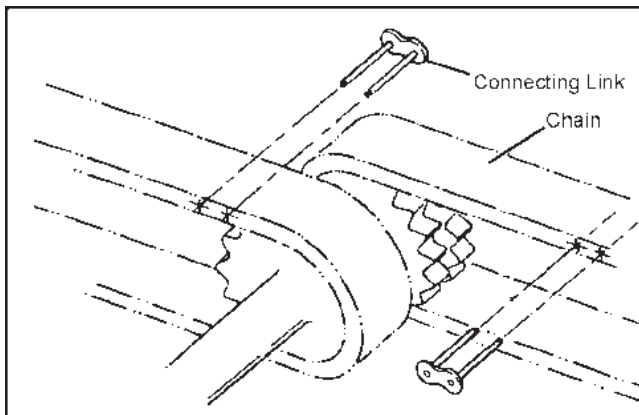


Figure 7-7. Installing the connecting link

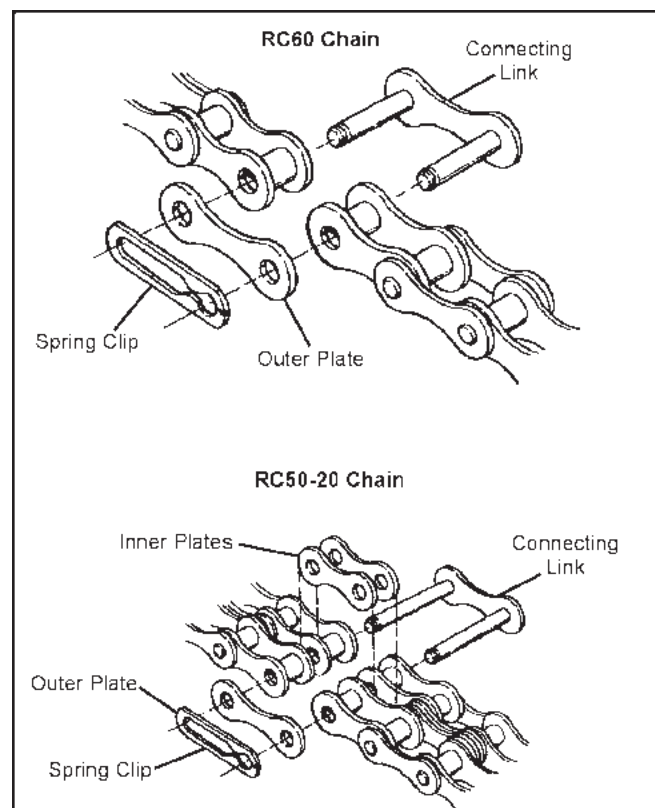


Figure 7-6. Chain connection link components.

The chain tensioning system on all models consists of a torsion spring loaded cam assembly with a slider block which takes up the slack on the bottom side of all but the front final drive chains. As the chain wears, the chain tensioning mechanism adjusts semi-automatically. Under most conditions, the tensioner cam assembly will move to the next step of adjustment simply due to normal drive system dynamics. Sometimes, however, the cam assembly can bind due to debris caught in the area. **IT IS VERY IMPORTANT TO CHECK THAT THE CAM ASSEMBLY IS PROGRESSING PROPERLY. CHECK FOR PROPER CHAIN TENSIONER OPERATION EVERY 10 HOURS OF VEHICLE OPERATION, WHEN THE DRIVE CHAINS ARE BEING LUBRICATED.** Each step

of the cam takes up about 3 inches of chain slack (see Fig. 7-8).

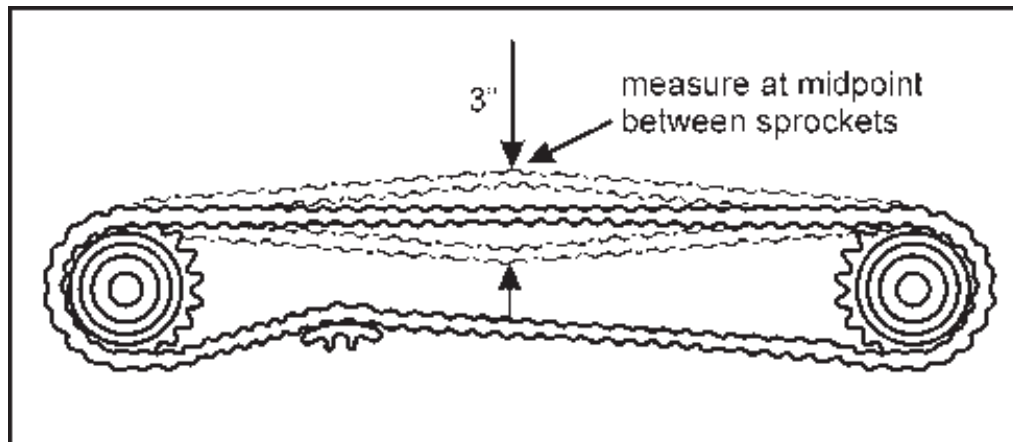


Figure 7-8. Chain slack required before the tensioner will progress to the next step.

The tensioner cannot progress to the next step until there is enough slack in the chain. With the wheels raised off the ground, check if the chain slack exceeds 3 inches. If it does, then reach under the slider block assembly and pull up. Remove any debris that may be present in the adjuster guides.

CAUTION

Check for proper chain tensioner operation every 10 hours of vehicle operation.

Each chain tensioner has a single UHMW slider block. Inspect the UHMW slider blocks for wear after the first 100 hours and every 50 hours thereafter. Replace the blocks (ARGO Part No. 606-44) when the wear groove, as shown in Figure 7-9, measures 1/4" (6mm).

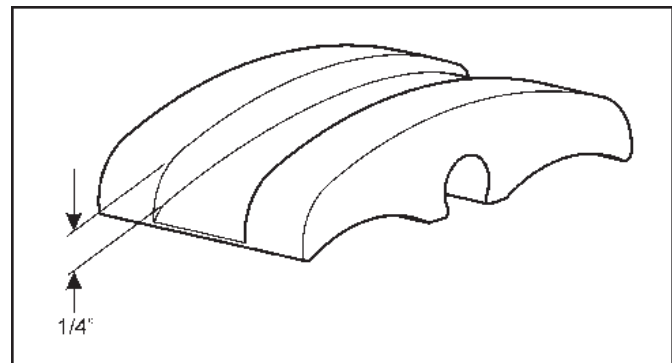


Figure 7-9. Wear groove on the slider block.

Replace a Slider Block

1. Remove the floor pans.
2. Turn the tensioner cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block across the bottom of the frame channels. Clamp it in this position with a Vice-Grip 10CR or similar plier as illustrated in Figure 7-10 and remove the drive chain.

3. With pliers, pry the slider block off the cam assembly as illustrated in Figure 7-10.
4. Place a new slider block over the shaft of the cam assembly.
5. Using a piece of wood (or similar material) pressed against the top of the slider block, carefully hammer the piece of wood so the slider block snaps onto the cam assembly shaft as shown in Figure 7-11.
6. Re-install the drive chain and remove the locking pliers securing the cam assembly in its lowest position.
7. Pull up on the cam assembly to allow it to take up as much chain slack as possible.
8. Replace the floor pans.

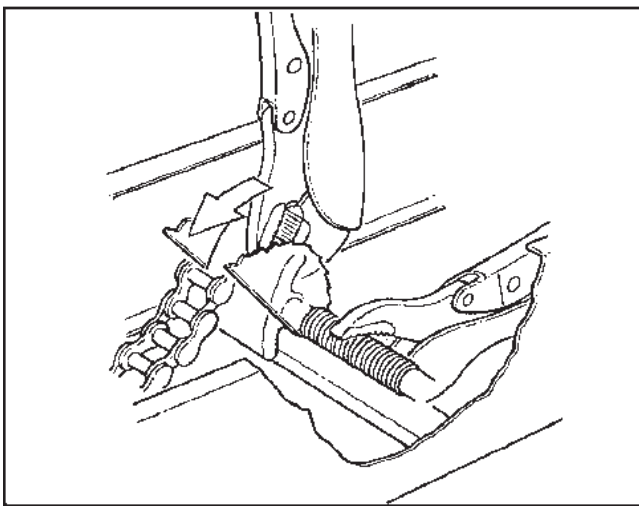


Figure 7-10. Prying the Slider Block off the Cam Assembly.

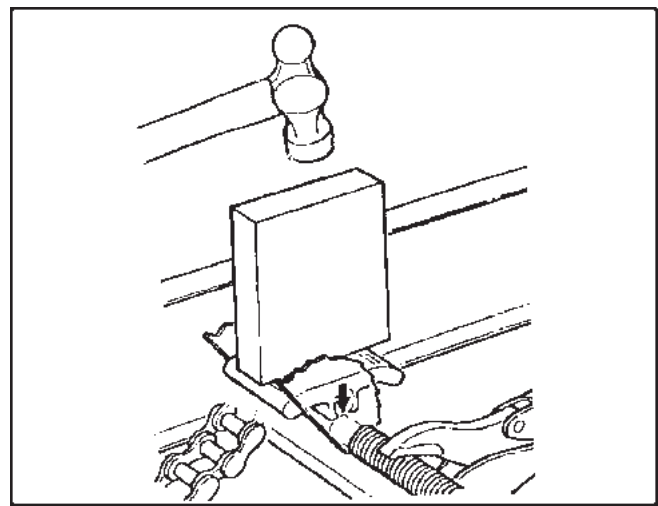


Figure 7-11. Hammering Slider Block into place.

Idler Chain

NOTE

750 HDi does not employ idler chains in its design.

All ARGO vehicles are equipped with 2 idler chains to transfer power from the output shafts of the transmission to the drive chains through a series of sprockets. They are located on each side of the transmission.

A loose or improperly adjusted idler chain can result in damage to the chain or sprockets. During the new vehicle break-in period, check the idler chain adjustment before operating the vehicle and after the first 2 hours of operation. After the initial break-in period, check the idler chain adjustment every 50 hours. An indication of loose idler chains is a loud banging noise when the vehicle is turned.

Idler Chain Maintenance**CAUTION**

Regular maintenance of the idler chains is essential to good vehicle performance and personal safety. Poorly maintained idler chains can result in rusted, corroded or seized up chains, damaged brake discs, worn or broken idler shaft assemblies, and costly repair procedures.

1. Every 20 hours of vehicle operation, perform the servicing procedure, **Idler Chain Inspection.**
2. Every 50 hours of vehicle operation, perform the servicing procedure, **Idler Chain Adjustment.**
3. Every 10 hours of vehicle operation, perform the servicing procedure, **Idler Chain Lubrication.**
4. Every 100 hours of vehicle operation, perform the servicing procedures:
 - **Idler Chain Removal**
 - **Idler Chain Cleaning**
 - **Idler Chain Inspection**
 - **Idler Shaft Inspection**
 - **Idler Chain Adjustment**
 - **Idler Chain Lubrication**

Drive Chain Cleaning

After every 100 hrs. of operation, remove all the drive chains from the vehicle and clean them thoroughly in a suitable solvent, e.g clean varsol bath.

WARNING

Never use gasoline as a cleaning solvent. Gasoline is extremely flammable and can explode if ignited, causing serious personal injury.

Allow the chains to dry thoroughly, re-lubricate generously with ARGO Chain Lube and reinstall.

Idler Shaft Inspection

Maintenance Schedule - Inspect every 30 hours of vehicle operation

CAUTION

Damage to the idler shaft and sprockets can result from loose idler chains or sprocket misalignment. Please inspect regularly.

1. Perform the servicing procedure, **Removing the Firewall**
2. Inspect the sprockets on the idler shaft thoroughly for:
 - cracks in the casting
 - worn, broken or missing teeth

If any of these conditions are noted replace drive sprocket.

IMPORTANT

If any wear is noted on the idler shaft or it's components, it is advisable to check the brake disc drive sprocket as well to ensure that the misalignment has not caused any damage to this drive component either.

NOTE

When ordering a replacement idler shaft assembly, please note that different ARGO models use different idler assemblies. Refer to the correct parts manual to ensure the correct replacement part.

Inspect the idler shaft thoroughly for:

- bends
- rust or corrosion

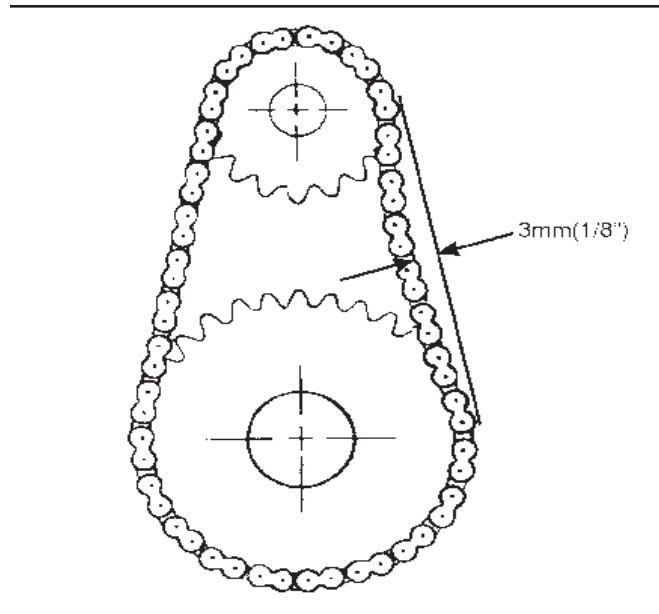
If any of these conditions are noted, replace the idler shaft immediately.

Inspect all the idler shaft fittings for:

- seized or worn bearings
- loose set screws at the bearings
- loose inner or outer flanges
- broken or cracked retaining rings

Replace any seized or worn bearings. Perform the servicing procedure, **Removing the Idler Shaft and Installing the Idler Shaft.**

To check the idler chain adjustment, push the slack side of the chain and measure the amount of chain deflection (below). Adjust the idler chain tension if deflection is more than 3mm (1/8").



Idler Chain Adjustment

1. Perform the servicing procedure, **Removing the Firewall**.
2. Loosen the 2 left side clamping nuts with a 15/16" socket wrench (figure 7-13).
3. Turn the vertical adjustment bolts counter-clockwise to raise the power pack and tighten the idler chains. The idler chains are properly adjusted when the deflection measures 3 mm (1/8"), (Figure 7-12).
4. Tighten the 2 left side clamping nuts securely. Torque to 80ft./lbs.

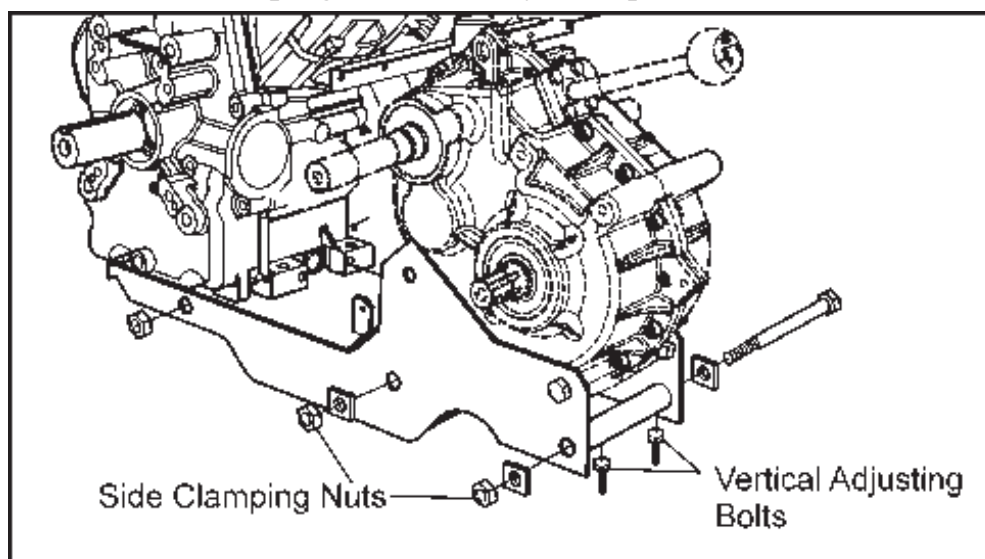


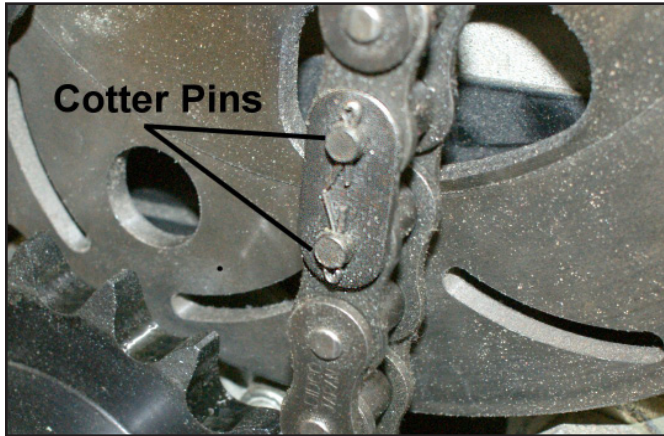
Figure 7-13. Location of power pack clamping nuts and adjusting bolts

Removing the Idler Chain (HDI excluded)

4. Locate the Idler Chain connecting link and remove the two Cotter Pins securing the end plate to the removeable link. *Photo 1* Loosen off the two powerpack nuts. One is located in front of the Idler Sprocket, the other behind it. *Photo 2*

NOTE

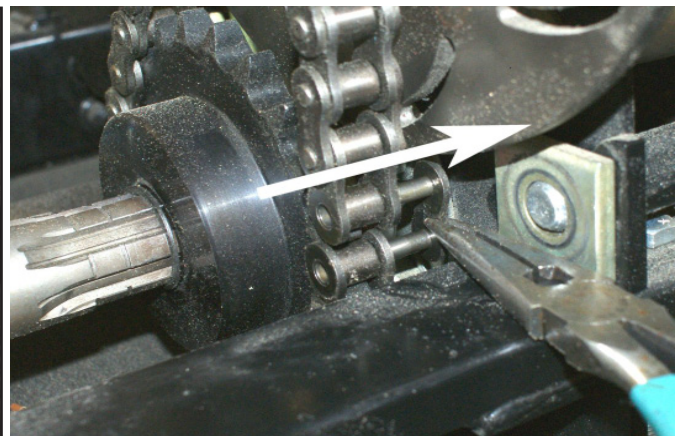
The head of the bolt on the opposite side of the power pack frame is secured by a square locking washer, eliminating the need to be held by another wrench while loosening.

*Photo 1**Photo 2*

6. Locate the Idler Chain Adjustment Bolts. Turn clockwise to lowest position to slacken idler chains. *Photo 3*
7. Remove the idler chain connecting link. *Photo 4*

NOTE

Remove the rear power pack nut completely to allow room for the connecting link to be removed. The connecting link is removed and installed from the inside of the chain facing out.

*Photo 3**Photo 4*

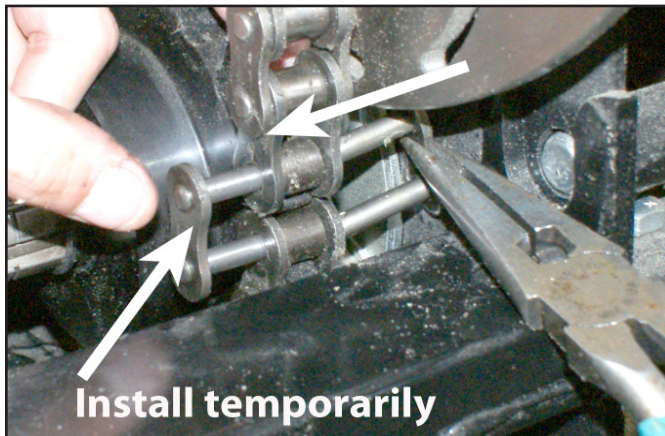
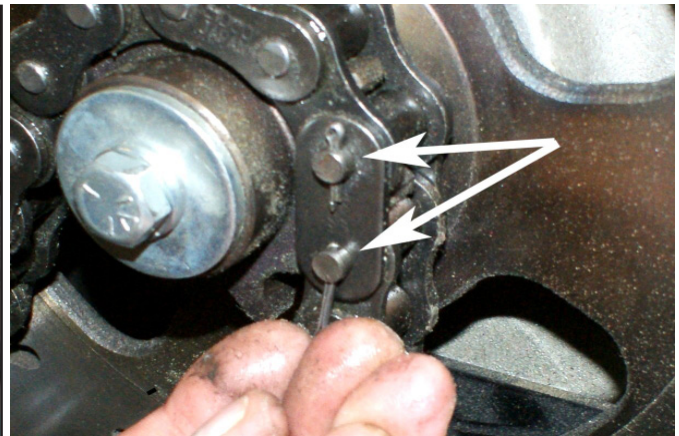
Installing the Idler Chain (HDI excluded)

1. Insert connecting link from inside of chain facing out. *Photo 5*

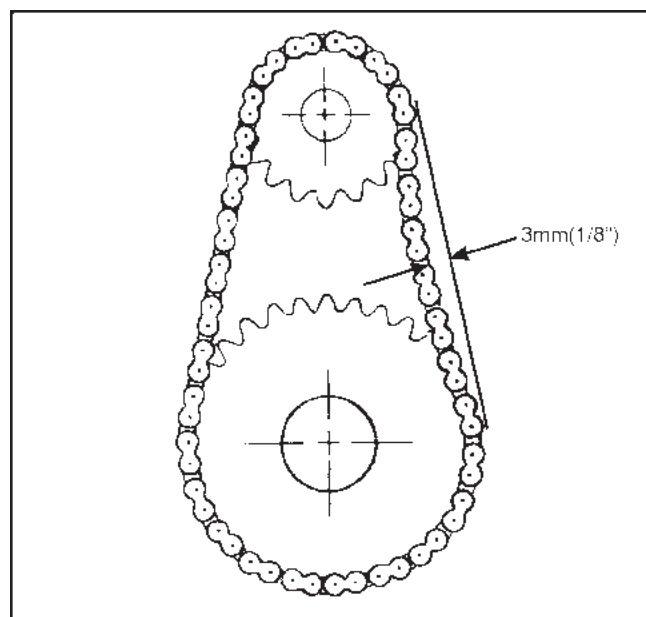
NOTE

To ease installation of connecting link, partially insert a second connecting link facing in (to hold chain together) while pushing through the connecting link from the inside.

2. Install end plate and secure with two cotter pins. *Photo 6*

*Photo 5**Photo 6*

3. Adjust idler chain tensioner bolts. Turn the vertical adjustment bolts counter-clockwise to raise the power pack and tighten the idler chains. The idler chains are properly adjusted when the deflection measures 3 mm (1/8") *Figure 7*
4. Tighten the 2 left side clamping nuts securely. Torque to specifications.

*Figure 7 (Measuring idler chain deflection)*

Drive Chain Inspection

The drive chains will stretch and wear after extensive vehicle use, and cause a reduction in vehicle performance and a hazard to personal safety. Roller chain “stretch” results from wear to the chain pins and bushings because of the loss of lubricant.

1. Remove the front and rear floorpans.
2. Inspect the drive chains and replace, or remove a link and install a half link if enough chain stretch will allow it. Perform any of the above procedures if:
 - the chain tensioner system can no longer take up the slack
 - the chain is seized up, corroded or rusted
 - the chain is causing damage to the sprockets
3. If the chain requires replacing, perform the servicing procedure, **Drive Chain Removal**.
4. Perform the servicing procedure, **Drive Chain Take-Up System Inspection**
5. If drive chain inspection is complete, replace the floor pans.

Disassembling the Chain Tensioner System

1. Remove the floor pans.
2. Turn the tensioner cam assembly in the direction that winds up the torsion spring and push the assembly down as close as possible to the cam follower to loosen the chain. Clamp it in this position with a Vice-Grip 10CR or similar plier as illustrated in **Photo 8**, then remove chain.

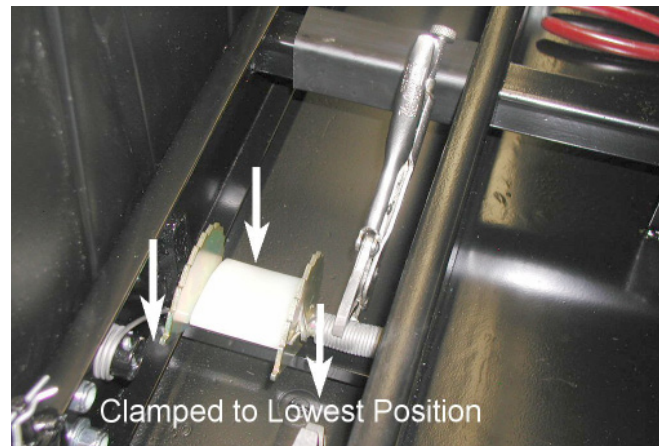


Photo 8

3. With the chain removed, unfasten the clamp holding the chain tensioner system and let it unwind to its top most position. Unfasten the spring at the cam's tab. **Photo 9**. To pull the tensioner assembly free of the frame guides, push the the long shaft side of the cam assembly down to the bottom of the guide. At the same time raise the opposite side up and out of the guide. **Photo 10 & 11**



Photo 9

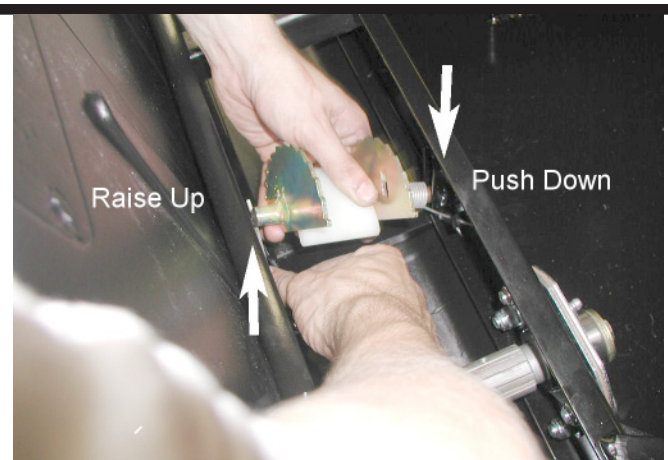


Photo 10



Photo 11



Photo 12

- Slip the one torsion spring off the cam, and remove the second torsion spring from the frame assembly by removing the cotter pin that secures it. **Photo 12**

Assembling the Chain Tensioner System

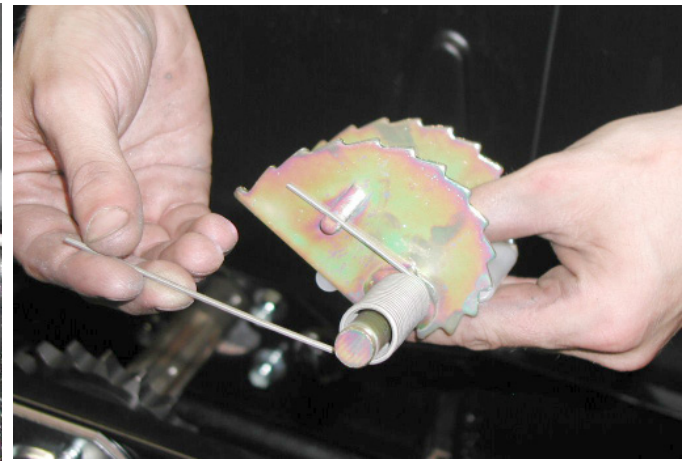
If the nylon slider block needs replacing:

- Place the tensioner block onto a workbench and position the slider block over the shaft of the assembly.
- With a soft faced mallet tap the slider block to snap it on to the shaft. **Photo 13**

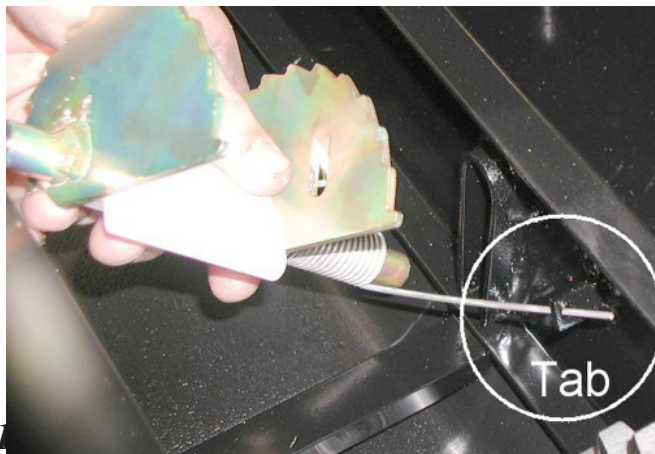


Photo 13

3. Slip a torsion spring over the welded bushing on the frame, and secure with a cotter pin. Orient as in *Photo 14*
4. Slip the second torsion spring on to the shaft of the tensioner cam assembly. *Photo 15*

*Photo 14**Photo 15*

5. Insert the extended length of the torsion spring, assembled to the cam, into the hole of the welded tab on the frame. *Photo 16* At the same time, place the same side of the cam's shaft into the tensioner systems guide.
6. Push the previously inserted side of the cam to the bottom of the guide and raise the opposite side to insert over the extended length of the second torsion spring on the bushing side. *Photo 17*

*Photo 16**Photo 17*

8. Allow the assembly to sit in the up most position. *Photo 18*
9. Assemble the short stem of the torsion spring, on the cam's shaft, into the tab on the cam. *Photo 19*
10. Turn the cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block across the bottom of the frame channels. Clamp it in this position until the chains are reinstalled. *Photo 20, 21 & 22*

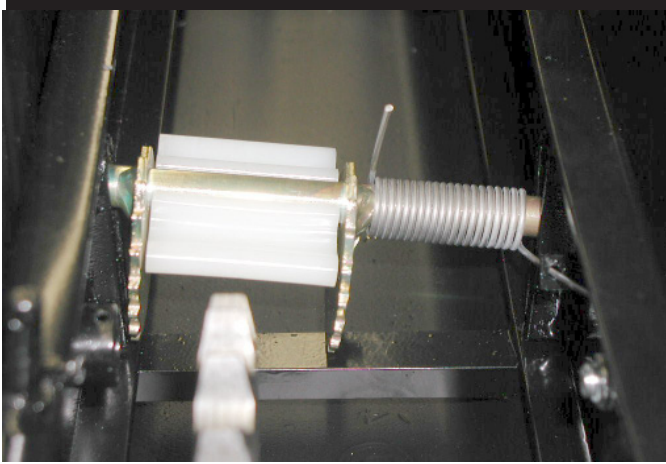


Photo 18

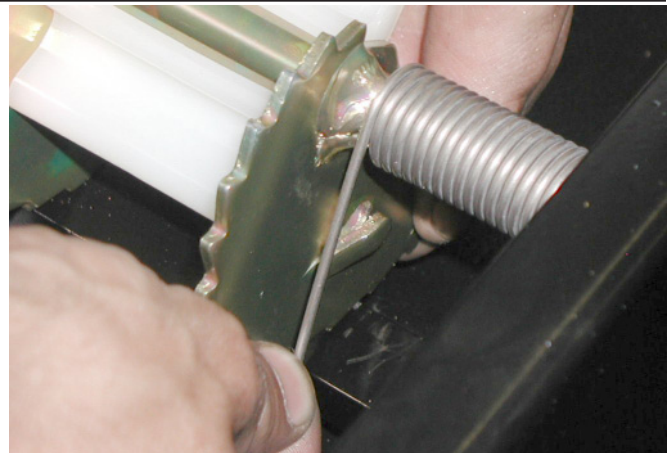


Photo 19



Photo 20

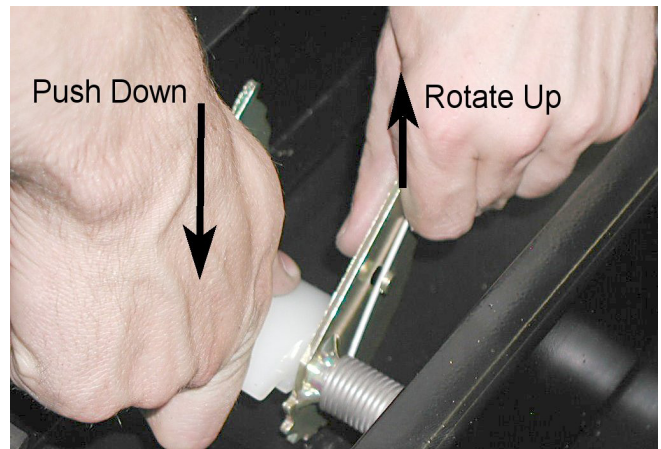


Photo 21

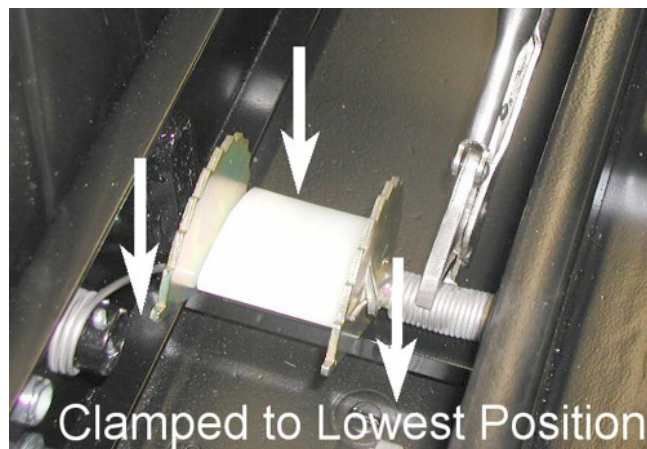


Photo 22

Removing the Idler Shaft (34-100 Transmission Models)

1. Perform the servicing procedure, **Removing the Firewall**
2. Perform the servicing procedure, **Removing the Front Floor Pan.**
3. Perform the servicing procedure, **Removing the Driven Clutch**, (Left side idler shaft only). *This is an optional step, if you find it easier to access the idler shaft).*
4. Perform the servicing procedure, **Removing the Brake Caliper** (on side of idler shaft being removed). You do not have to disconnect the brake line from the hydraulic caliper.
5. Perform the servicing procedure, **Idler Chain Removal.**
6. Perform the servicing procedure, **Removing the Brake Disc.** *(Optional, if you find it easier to access the idler shaft).*
7. Perform the servicing procedure, **Drive Chain Removal.** Remove the front drive chain connecting the front wheel to idler shaft sprocket, and midfront chain connecting mid front wheel to idler shaft sprocket.
8. Locate the 2 set screws on the inner and outer bearings and remove.
9. With the set screws removed, pry the idler axle until it slides freely by hand within the inner and outer bearing.

NOTE

*Avengers manufactured **prior** to serial number 25622 utilized a floating sprocket on the idler shaft. Vehicles manufacture **from** serial number 25622 saw a design change in the idler shaft sprocket which introduced two (2) machined grooves to accommodate a retaining ring on each side of the drive sprocket.*

If your vehicle utilizes the retaining rings on the idler shafts:

10. Release and pull the outside retaining ring back from the sprocket as far as possible and slide the sprocket up against the retaining ring.
11. Release and pull the inside retaining ring up against the sprocket.
12. Remove the hardware securing the flanges of the inner and outer bearings.
13. Push the Idler Shaft assembly into the inner bearing until it is free of the outer bearing.
14. Tilt upwards and remove from vehicle frame.

Installing the Idler Shaft (34-100 Transmission Models)**Assembling the Idler Shafts**

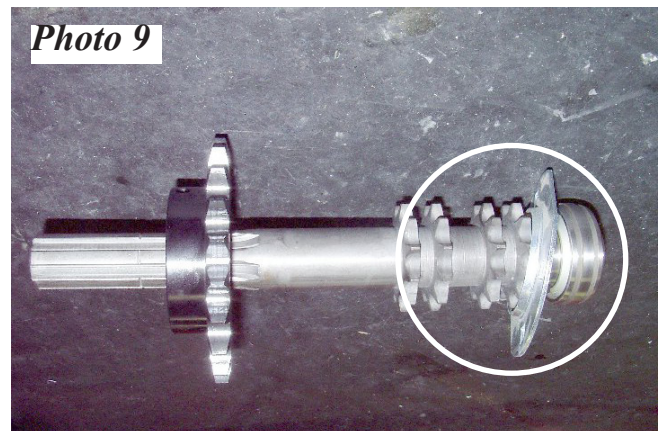
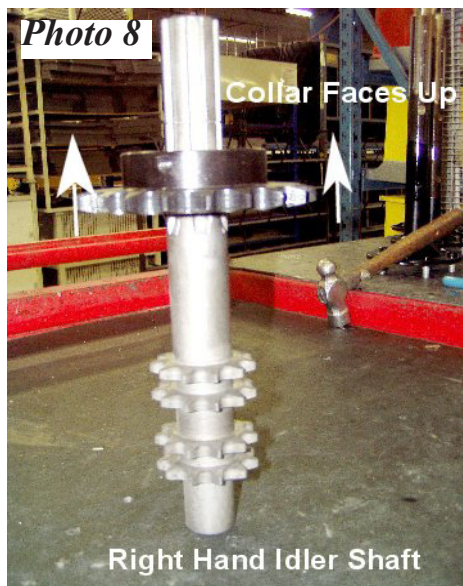
1. Apply some **LOCTITE** anti-sieze compound to each end of the **810-59 Idler Shafts.**

Right Hand Idler Shaft

1. Install Retaining Ring to Idler Shaft, temporarily placing it on as far as it will go (past all retaining grooves). Next, install a Sprocket with the collar of the sprocket facing UP. Install a second Retaining Ring to the other side of the sprocket. **Photo 8**
2. Next, install a Greasable Fange followed by a Bearing to the opposite end of the shaft. **Photo 9**

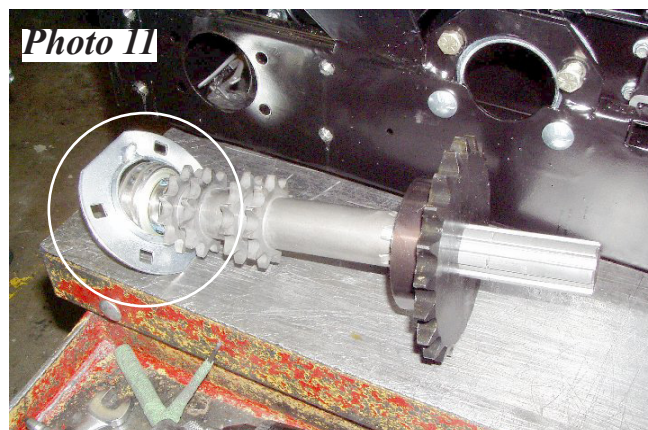
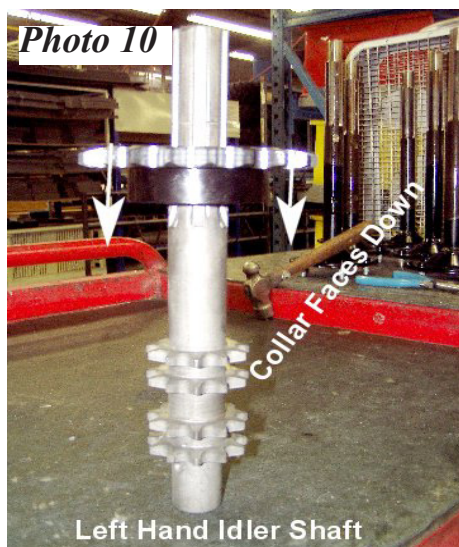
NOTE

Face the collar of the 101-35 bearing towards the sprocket



Left Hand Idler Shaft

1. Install Retaining Ring to Idler Shaft, temporarily placing it on as far as it will go (past all retaining grooves). Install the sprocket with collar of sprocket facing down. **Photo 10** On opposite end of shaft install Greasable Flange followed by Bearing. **Photo 11**



Avenger Models From Serial # V23216

2. Install the inner axle bearing assemblies to the inner bearing locations on both sides of the vehicle. This consists of bearing, right angled greasable flange & regular flange.. *Photo 12 & 13* Secure Loosely with (4) flat washers and (4) nylon locknuts.

IMPORTANT

Avenger models manufactured from serial number V23216 have 90 degree greasable fittings oriented as follows: The left hand side, with the grease fitting located at the bottom, facing rearward, *Photo 12*, and the right hand side located at the top, also facing rearward. *Photo 13*

**Photo 12****Photo 13****Avengers Manufactured Prior To Serial Number V23216**

1. Install Bearing and Swivel Greasable Flange to the previously installed Flange at the inner idler axle location, on both left and right side of the frame. *Photo 14* Secure Loosely with (4) flat washers and (4) nylon locknuts.

IMPORTANT

The swivel grease fitting of the Flange is oriented to the bottom of the flange and facing towards the drivers compartment. *Photo 14*

2. Insert the grease tubing into the bulk head grease fitting. *Photo 15*

NOTE

There are 2 different lengths of grease tubing for the left and right hand side idler shaft assembly. See your Avenger parts manual for correct lengths.



Photo 14



Photo 15

3. Install the 100-111 bulk head fittings to the left and right side of the frame and connect the tube to the swivel grease fittings of the two inner bearings.

Photo 16

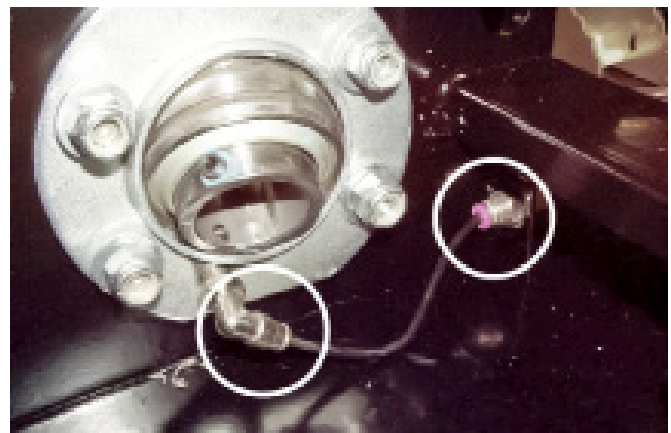


Photo 16

4. Install the idler shafts to the vehicle, inserting the shaft first into the inner bearing and then attaching at the outer bearing. See orientation of sprocket collars below.

Photo 17 & 18

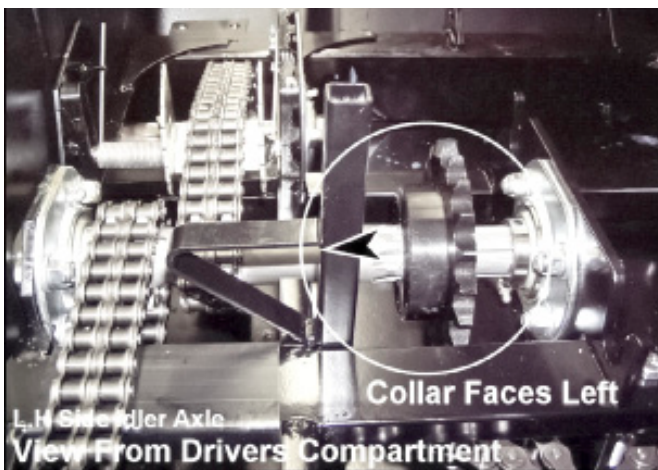


Photo 17

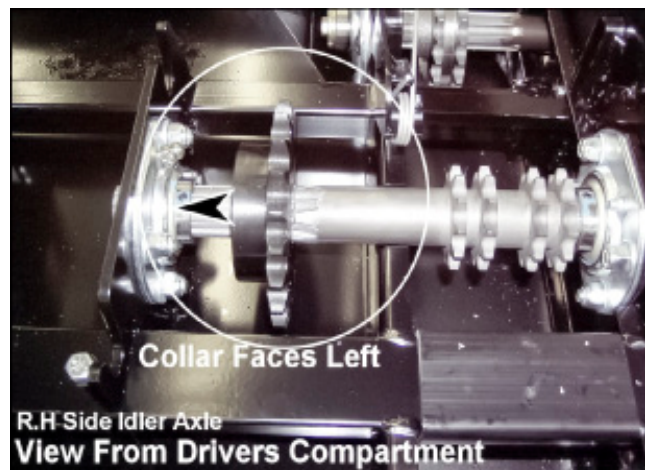
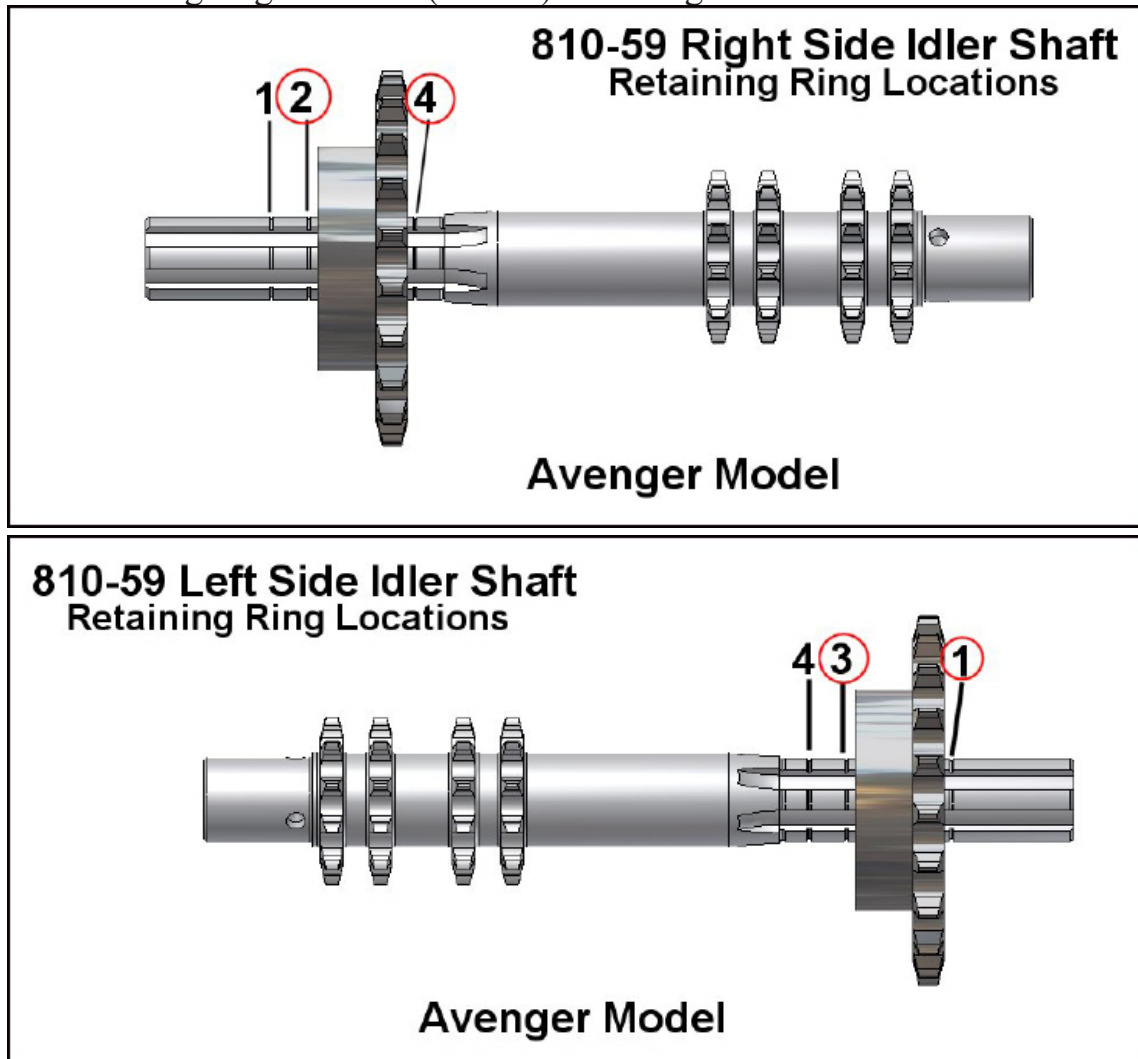


Photo 18

Assembling Idler Shafts To The Vehicle (Avenger Models From Serial # 25622)

Avenger models have a retaining ring installed to each side of the idler shaft drive sprocket. These retaining rings help limit allowable movement of the idler sprocket under application. There are (4) machined retaining ring grooves on each shaft to accommodate different models of Argo. Placement of retaining rings is dependant not only on model, but also whether it is a right hand side or left hand side idler shaft. See Diagrams A and B for correct retaining ring locations (circled) on Avenger models.



5. Snap retaining rings into position as illustrated in the above diagrams.
6. Align set screws with Idler Shaft countersink and install. Apply LOCTITE blue to set screws and torque to specifications
7. Tighten down all flange hardware and torque to specifications
8. Perform the servicing procedure, **Drive Chain Installation.**
9. Perform the servicing procedure, **Installing the Brake Disc.**

10. Perform the servicing procedure, **Installing the Idler Chain.**
11. Perform the servicing procedure, **Installing the Brake Caliper**
12. Perform the servicing procedure, **Installing the Driven Clutch**, (Left side idler shaft only).
13. Perform the servicing procedure, **Installing the Front Floor Pan.**
14. Perform the servicing procedure, **Installing the Firewall**

Removing Axle Seals (Avengers prior to serial number V28971)

1. Perform the servicing procedure, **Removing the Axle .**
2. Remove the seals from the greasable flange using a hammer and drift punch. *Photo WA-104*
3. Clean the cavity of the greasable flange in a varsol bath to remove any accumulated dirt and grease.
4. Blow the greasable flange with compressed air to thoroughly dry and remove any remaining dirt.

Installing Axle Seals (Avengers prior to serial number V28971)

1. Before you can install the new seal to the greasable flange, you must debur the area in which the grease seal was staked. Use a small pencil die grinder to remove the staked area. *Photo 19*

Do not debur the flange excessively. Over-grinding could produce a loose fitting seal, resulting in a poorly sealed axle.

On dual seal greasable flanges:

There are 2 different styles of grease seals used in the dual seal outer bearing greasable flange. *Photo 20* These grease seals are differentiated in size & by 2 part numbers. Assemble the seals into the flange accordingly referring to the illustration in your corresponding parts manual.

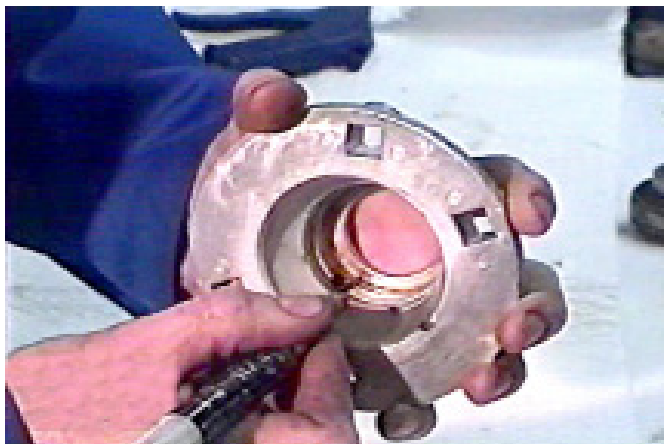
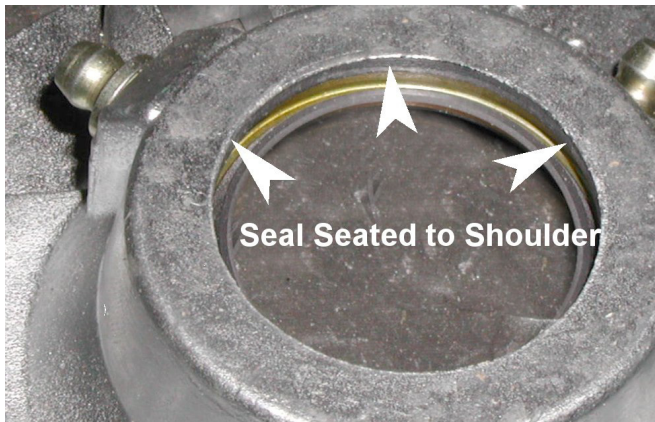
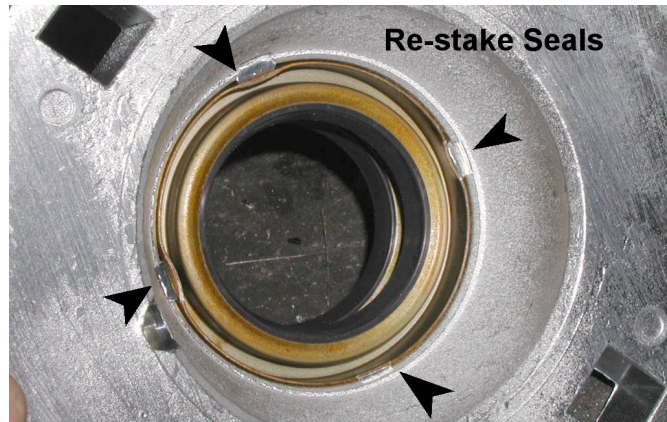


Photo 19



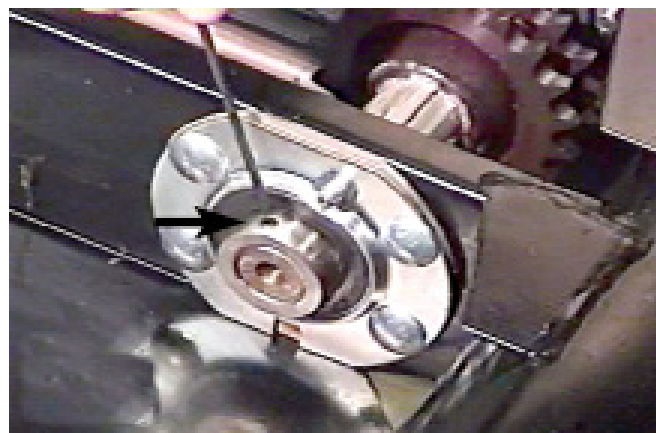
Photo 20

2. Lightly coat the perimeter of the outer grease seal with red 271 LOCTITE and install at the arbour press with an installation tool. Be sure it is seated properly. *Photo 21*
3. Apply red 271 LOCTITE to the inner seal as above, and install at the arbor press in the same manner, ensuring it has seated to the shoulder within the outer greasable flange. *Photo 22*
4. Using a center punch and hammer, lightly stake around the perimeter of the inner seal in as many places as were used previously. *Photo 22*

*Photo 21**Photo 22*

Removing an Axle(Without Bearing Extension) built prior to serial number 28971

1. Locate the axle to be removed and perform the servicing procedure, **Removing the Drive Chains.**
2. Locate the bolt threaded to end of the axle at the inner bearing and remove. *Photo 23*
3. Remove the 2 set screws from the inner bearing collar. *Photo 24*

*Photo 23**Photo 24*

NOTE

Vehicles manufactured after August of 2009 no longer utilize these set screws

4. Remove the set screw from the drive sprocket. *Photo 25 (Except for all front sprockets which float)*
5. Remove all hardware securing the flanges of both inner and outer bearings. *Photo 26*

NOTE

Depending on the axle and location of the drive sprocket, you may have to slide the sprocket along the axle to better access the hardware of the flanges with your wrenches.



Photo 25



Photo 26

6. Remove the tire from the axle.
7. Pull the axle from the vehicle. If necessary use a soft faced mallet to knock the axle at the hub, from behind. *Photo 27*
8. Retrieve the drive sprocket from inside the vehicle once the axle has been completely removed from the vehicle.
9. Remove the axle assembly to a clean work bench for further disassembly
10. Remove gaskets and flanges.
11. Remove the set screws of the outer bearing and slide the bearing from the axle. If the bearing does not slide off freely, an arbor press may be needed. *Photo 28*
12. Remove the greasable flange.

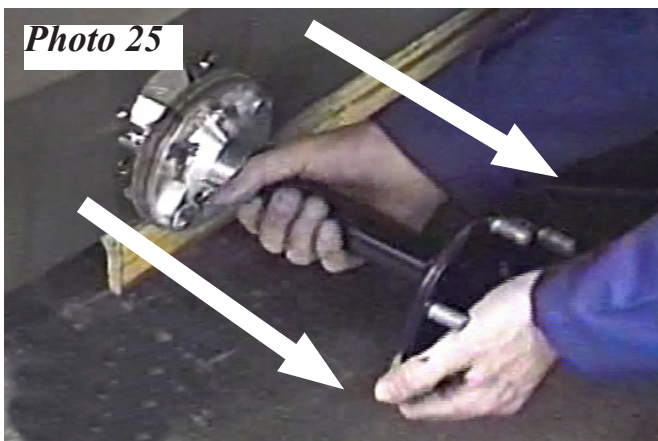


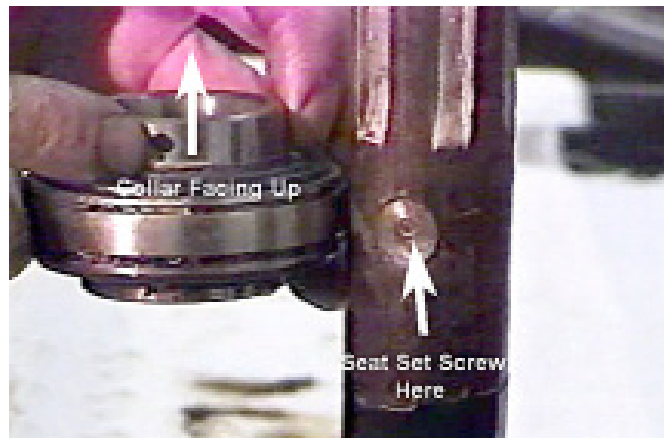
Photo 25



Photo 26

**Installing an Axle (Without Bearing Extension)
built prior to serial number 28971**

1. Perform the servicing procedure, **Installing the Inner Bearing Assembly**, if necessary.
2. Locate the axle and stand it upright on a clean work bench. *Photo 27*
3. Slip the outer bearing greasable flange over the axle shaft. *Photo 28*
4. Slip the outer bearing over the axle shaft, orienting it with the collar facing up. *Photo 29*
5. Align the flat machined surface closest to the sprocket end of the axle, with the set screw hole of the bearing. Apply 242 blue LOCTITE to the threads of the set screw and install. Torque to specifications. *Photo 30*
6. Install the second set screw as above.

*Photo 28**Photo 29**Photo 30*

7. Fill the outer bearing cavity with axle grease.
8. Pull the outer flange up and against the bearing, taking note of the small hole in the bearing. Align this hole with the greasable fitting on the flange. **Photo 31 & 32**
9. Apply anti-seize compound to the spline of the axle.

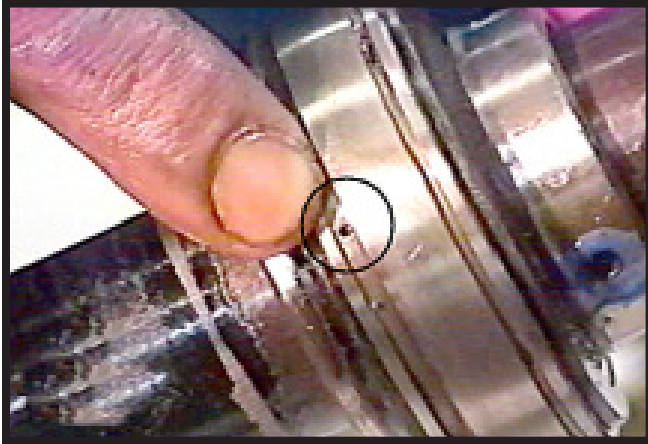


Photo 31



Photo 32

9. Apply anti-seize compound to the spline of the axle.
10. Place a cork gasket on to the outer flange. **Photo 33**
11. Place the inner flange on top of the cork gasket. **Photo 34**

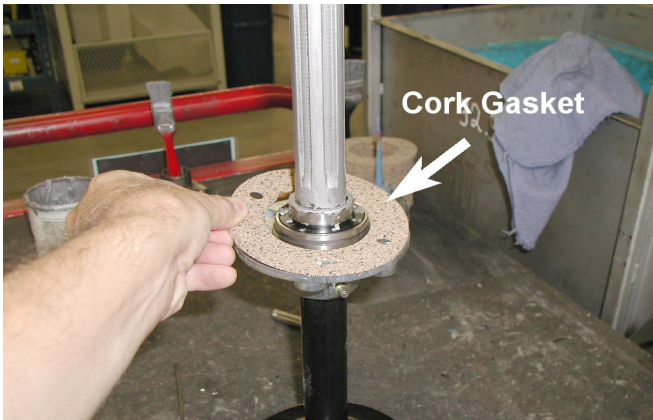


Photo 33

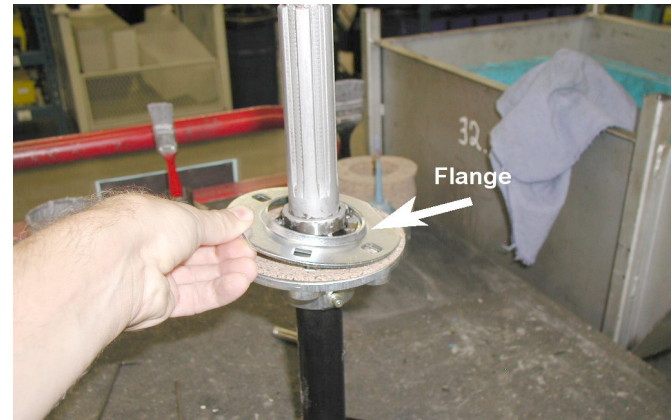


Photo 34

12. Place a second gasket to the top of the inner flange. **Photo 35**
13. Assemble the 4 carriage bolts to the outer flange and install the axle assembly into the lower body and frame. Orient the greasable fittings so that the outer grease fitting is at the 9 o'clock position, and the inner one is at 12 o'clock. **Photo 36**
14. Locate the drive sprocket and slip it on to the axle with the set screw hole facing to the inside. **Photo 37** Be sure that the set screw hole of the sprocket, is aligned with the spline on the axle with the machined countersinks.

15. Align the end of the axle with the inner bearing. Push the axle the remaining way and install the flange hardware. **Photo 38**



Photo 35

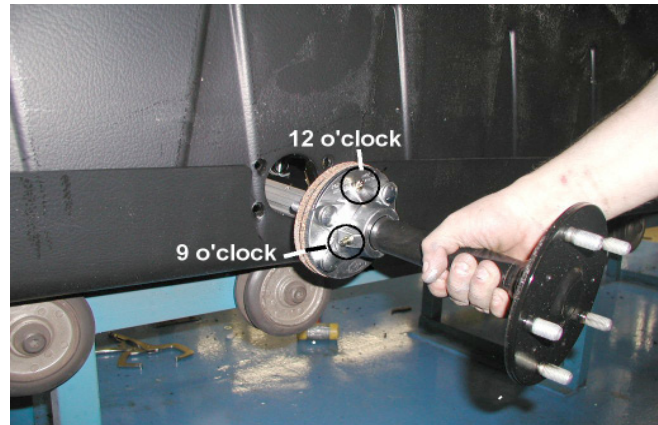


Photo 36

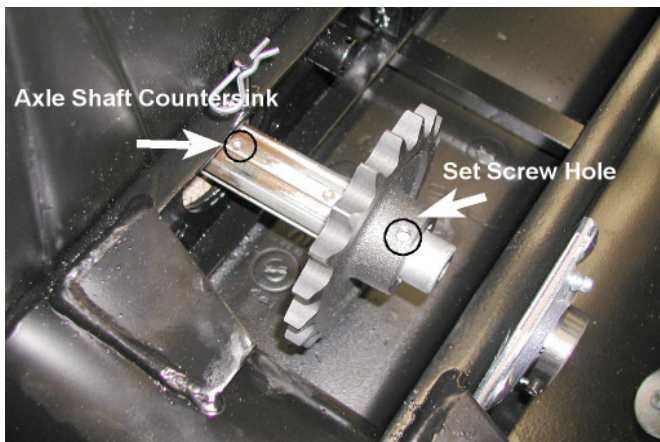


Photo 37

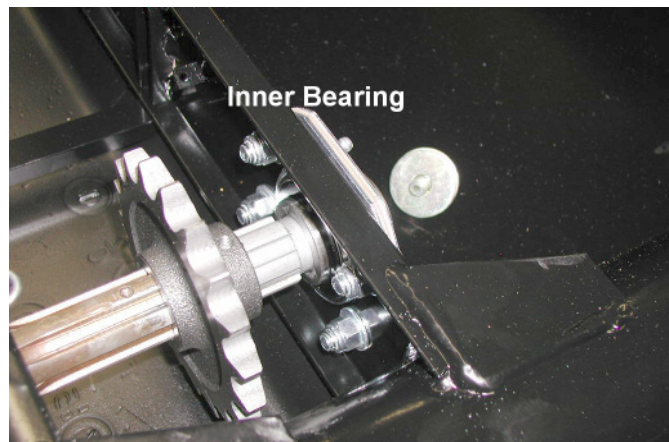


Photo 38

16. Tighten down the hardware of both inner and outer bearing flanges. Torque to specifications.

17. Secure the sprocket to the axle shaft. Line up the countersink in the axle shaft with the set screw in the sprocket. Apply blue 242 LOCTITE to the threads of the set screw and tighten. Torque to specifications. **Photo 39** (All front drive sprockets are floaters and do not require the set screw).

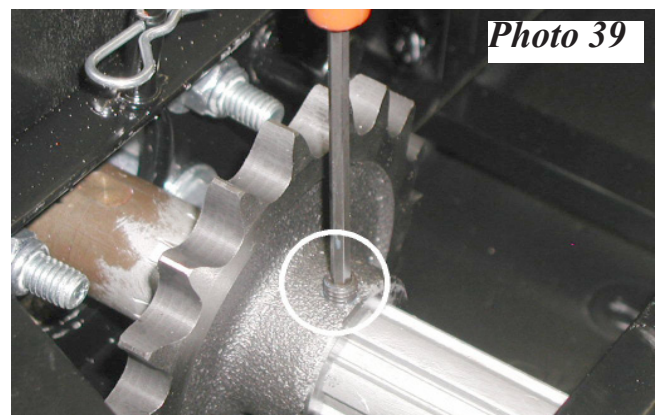
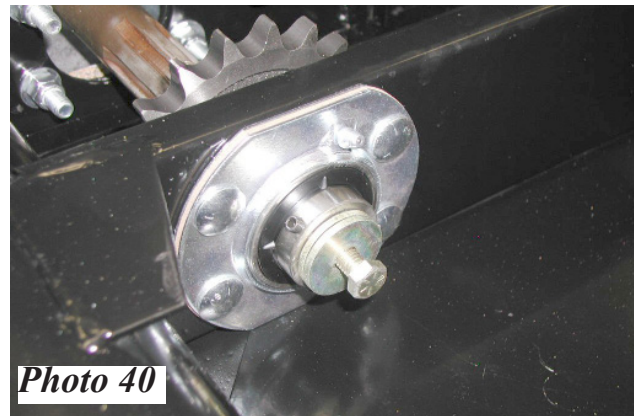


Photo 39

18. Install the bolt and flat washers to the end of the axle. Apply blue 242 LOCTITE to the threads of the bolt and torque to specifications. **Photo 40**

19. Apply blue 242 LOCTITE to the threads of the 2 set screws of the inner bearing (see **NOTE** page WA-28). Torque to specifications.

20. Perform the servicing procedure, **Outer Axle & Bearing Lubrication.**
21. Perform the servicing procedure, **Inner Axle Bearing Lubrication.**

**Photo 40**

Removing the Inner Bearing

1. Perform the servicing procedure, **Removing an Axle**, steps 1 through 8. The axle needs to be pulled from the inner bearing to be serviced. The axle assembly should be pulled completely at this point so that the old gasket at the outer bearing flange may be replaced with a new one.
2. Remove the inner bearing flange hardware securing the bearing to the frame and remove the assembly to a clean work surface.

Installing the Inner Bearing

Assembling the Inner Bearing and Flange Assembly

1. Place the bearing into the greasable flange with the set screw collar facing down. At the same time align the small hole in the bearing with the grease fitting in the flange.

Photo 41

2. Place regular flange to the top of the gasket. **Photo 42**

**Photo 41****Photo 42**

4. Loosely assemble the bearing and flange assembly to the inner frame channel and secure with the appropriate hardware. Orient the grease fitting facing up. **Photo 43 & 44**



Photo 43

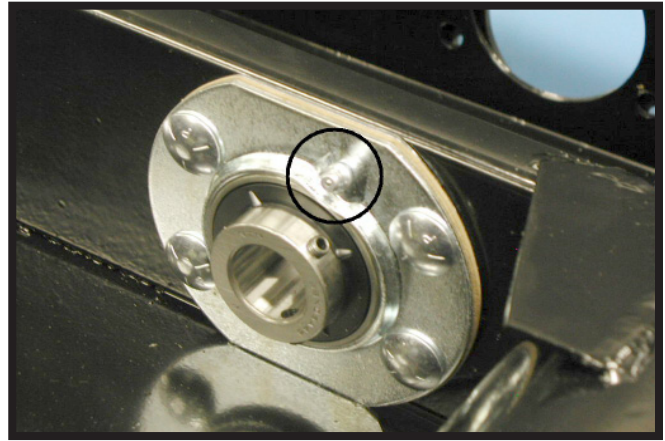


Photo 44

5. Perform the servicing procedure, **Installing an Axle.**
6. Perform the servicing procedure, **Drive Chain Installation.**

Removing the an Axle (with bearing extension) built prior serial number 28971

1. Raise the vehicle off of the ground.
2. Remove the front tire.
3. Remove the firewall. Turn the quick release fastener located at the top of the firewall. Pull the top of the firewall rearward and into the drivers compartment.

4. Remove the front floor pan
5. **Optional:** If you wish to remove the drive belt and driven clutch, it may prove easier to access the inner axle bearing, and in general, provide a roomier working environment. Refer to the **Clutch Section** of the 673-04 Argo Service Guide



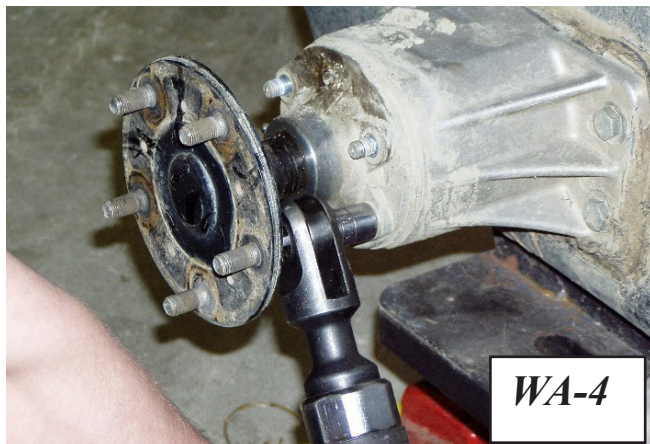
6. Remove the drive chain between front sprocket and idler shaft sprocket. **Photo WA-1** Refer to **Drive Chain Removal** in the 673-04 Argo Service Guide.
7. Remove the inner axle fastener and washer located at the inner bearing on the axle end. **Photo WA-2**

NOTE

For ease of removal, place the closed end of the wrench at the fastener head while turning the axle at the wheel hub on the outside of the vehicle. Photo WA-3



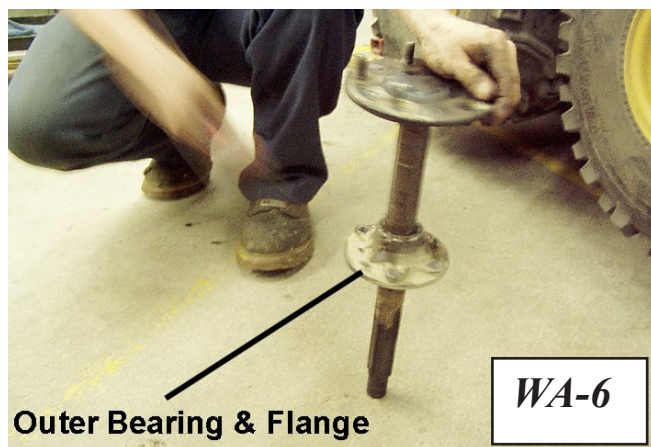
8. Remove set screws at the inner bearing collar.
9. Loosen off the inner bearing flange hardware.
10. Remove the (4) nuts that secure the outer bearing greaseable flange. *Photo WA-4*



11. Using a soft faced hammer, tap the wheel hub from behind to remove the axle from the vehicle. *Photo WA-5 & 6*

NOTE

The outer bearing, greasable flange, and axle will be removed as an assembly. Retrieve the drive sprocket from inside the vehicle once the axle has been completely removed from the vehicle.



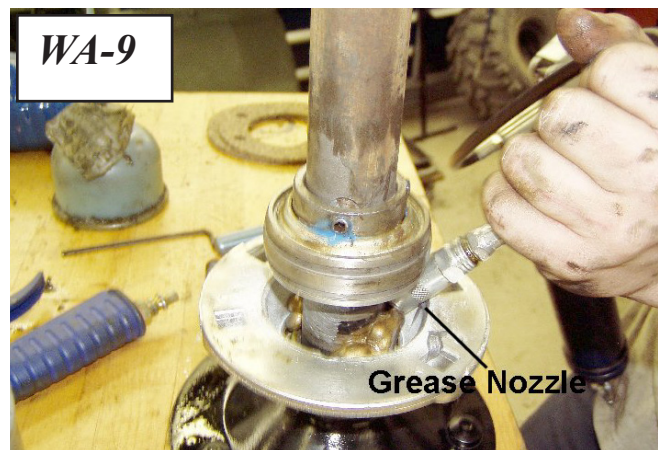
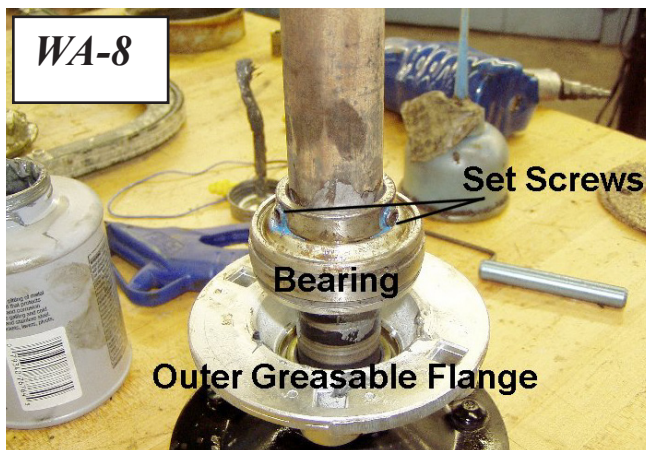
12. Remove the set screws from the collar of the outer bearing.
13. Using an arbor press, press the bearing and greasable flange from the axle shaft. *Photo WA-7*
14. Clean all components in a varsol bath and inspect.
15. Perform the servicing procedure, **Removing the Axle Seals**, in the Wheels, Axles & Chain section of the **673-04 Argo Service Guide**.

Installing an Axle (with bearing extension) built prior to serial number 28971

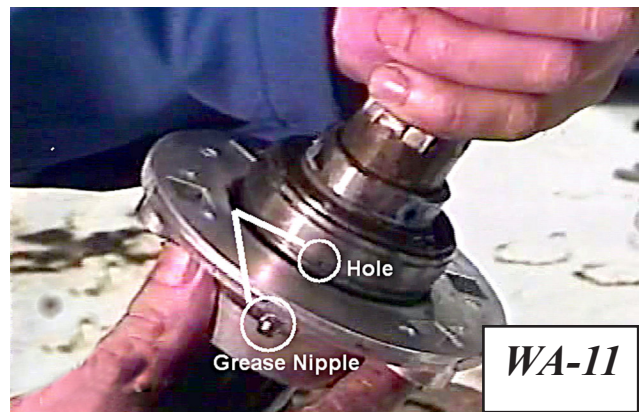
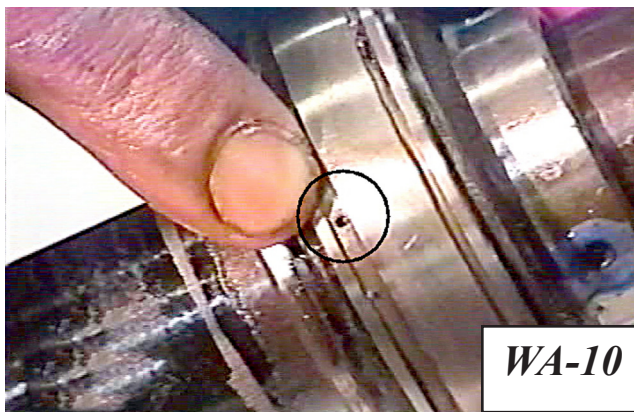
1. Perform the servicing procedure, **Installing the Axle Seals**, in the **Wheels, Axles & Chains** section of the **673-04 Argo Service Guide**.
2. Slip the greasable flange over the axle and slide it up close to the hub. Install the bearing to the shaft with the collar side facing up. Position it such that the set screw holes in the collar will be aligned and centred with the flat machined surface on the axle closest to the hub.

NOTE

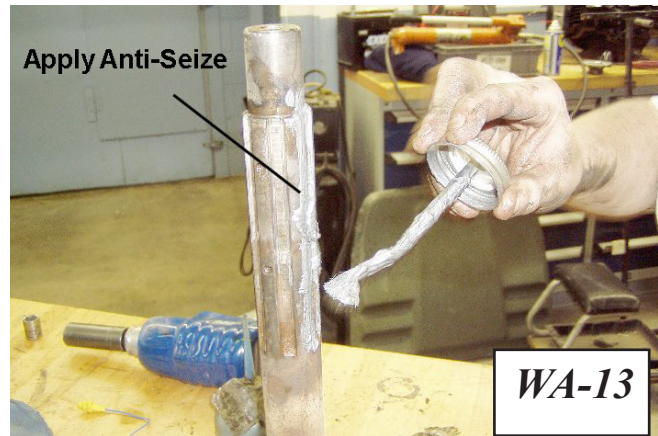
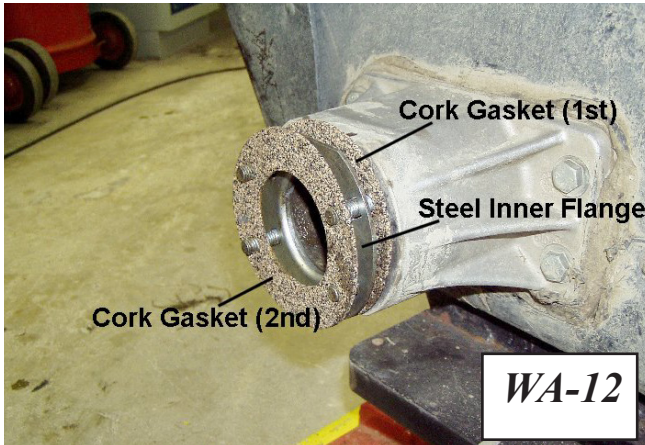
Loosen off or remove the set screws from the new bearing before slipping it on to the axle.



3. Apply Blue LOCTITE to the set screws and secure to the axle shaft. **Torque to specifications.** *Photo WA-8*
4. Fill the inner grease cavity with axle grease (Lithium based, NLGI #2 or 3 mineral oil based), using a hand grease gun. *Photo WA-9*
5. Set the greasable flange to the bearing aligning the grease fitting with the small hole in the bearing. *Photo WA-10 & 11*



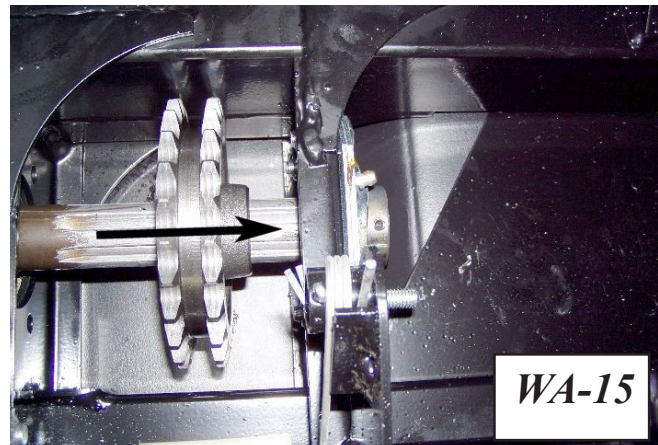
6. Install a cork gasket at the front aluminum axle extension followed by a steel inner flange and second cork gasket. *Photo WA-12*



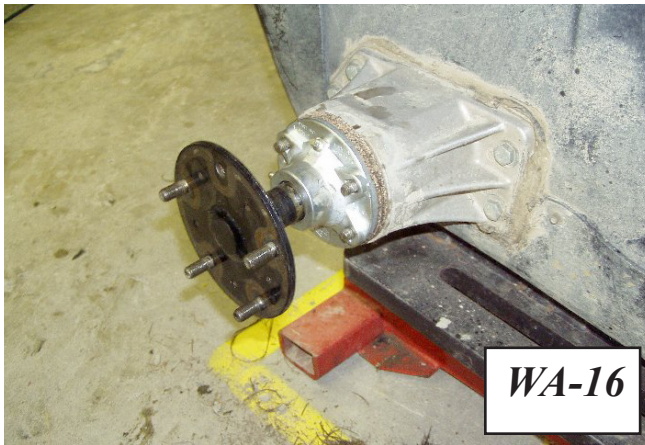
7. Apply some anti-seize compound to the spline area of the axle shaft. *Photo WA-13*
8. Slip the axle assembly into the front bearing extension. **Photo WA-14** On the inside of the vehicle, prepare to install the front sprocket as the axle is pushed through to the inner bearing.

IMPORTANT

The front axle sprocket is a "floater" and requires no set screws. Orient the sprocket with the larger shoulder facing towards the inside of the vehicle. *Photo WA-15*



9. Align the mounting holes of the greasable flange with the studs of the aluminum bearing extension and place into position up tight against the cork gasket. *Photo WA-16*
10. Install flat washers to the studs. *Photo WA-17*



WA-16



WA-17

11. Secure with nylon locknuts and torque to specifications. *Photo WA-18*



WA-18

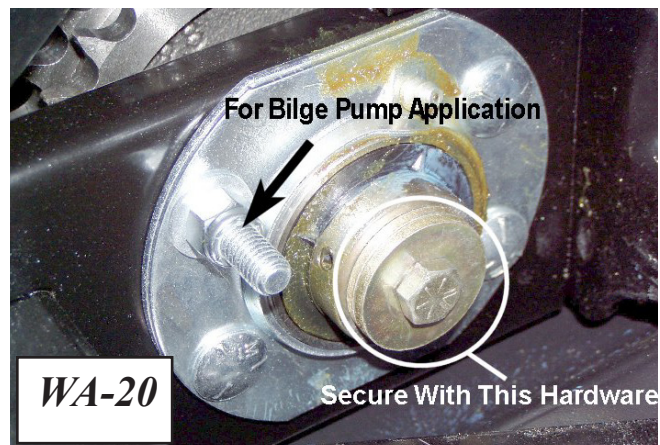


WA-19

12. Apply blue LOCTITE to the threads of the fastener (*Photo WA-19*), used to secure the end of the axle to the inner bearing and install. *Photo WA-20* Torque to specifications. Refer to your illustrated parts manual for the breakdown of the hardware used.

NOTE

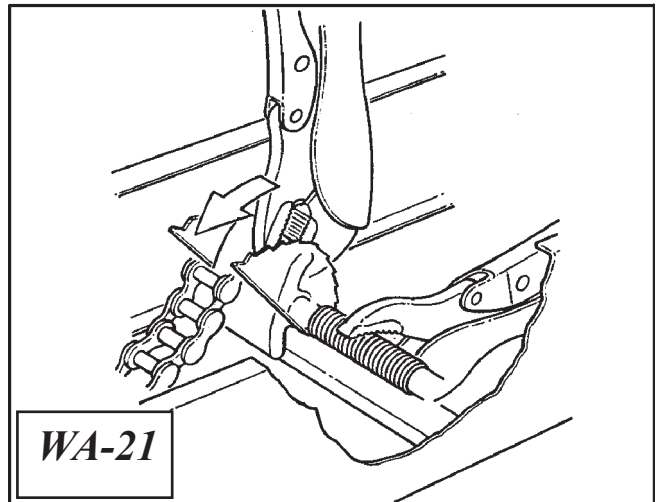
The example front axle replaced in this procedure was on the left side of the vehicle. The hardware used to secure the inner bearing flange assembly on this side, utilizes a longer fastener installed to the top left location. It is also installed from the opposite side as compared to the others. This is used for the installation of the optional accessory bilge pump. *Photo WA-22*



WA-20

13. Apply blue LOCTITE to (2) bearing set screws and install into the bearing collar. *Torque to specifications.*

14. Turn the front tensioner cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block across the bottom of the frame channels. Clamp it in this position with a Vice-Grip 10CR or similar plier as illustrated in *WA-21*
15. Perform the service procedure, **Drive Chain Installation**, found in the Wheels, Axle and Chains section of the 673-04 Argo Service Guide.
16. If you removed the driven clutch and drive belt, reinstall. Refer to **Driven Clutch Installation** and **Drive Belt Installation** in the Clutch Section of your 673-04 Argo Service Guide.
17. Replace the firewall and floor pans.



Re & Re Axle/Bearing (2010 + Models) built from serial number 28971

IMPORTANT

Refer to your illustrated parts manual for correct hardware identification and location. Refer to Vehicle Torque Chart for all specified torques.

1. Raise the vehicle off the ground.
2. Perform the Servicing Procedure, **Removing the Tire.**
3. Perform the Servicing Procedure, **Removing the Rear (or Front) Floor Pan.**
4. Perform the Servicing Procedure, **Removing the Firewall** (if necessary for front axle).
5. Perform the Servicing Procedure, **Removing the Drive Chain(s)**
6. Locate and remove four (4) NUTS and Washers securing the outer Bearing and Bearing Flange to the vehicle frame. **Photo 1 OR:**

At a Bearing located in a Bearing Extension, remove the four (4) BOLTS and washers securing the Outer Bearing Flange to the Bearing Extension. **Photo 1A**

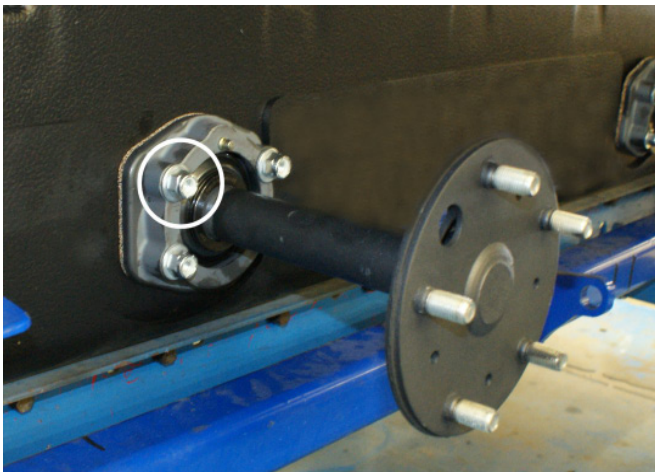


Photo 1

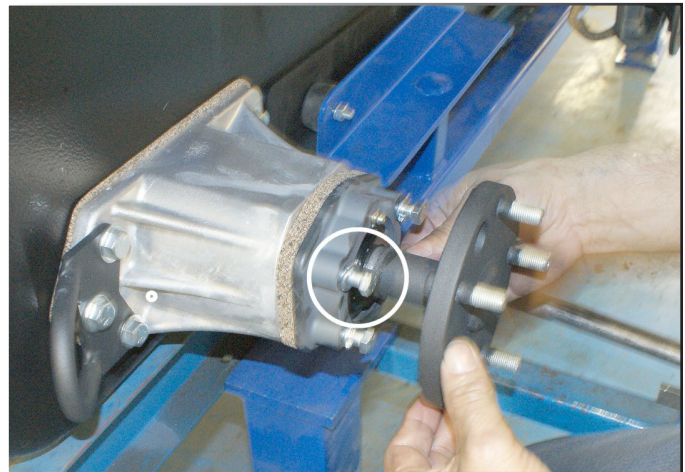


Photo 1A

7. To the inside of the vehicle, at the inner bearing, remove the Fastener and Flat Washer securing the end of the axle. **Photo 2**

NOTE

Some earlier vehicles require two (2) Set Screws to be removed at the inner bearing collar. Please ensure that these have been removed if this is the case. Later models no longer utilize set screws at this location, so they may not be present.

8. Locate the sprocket assemblies on the axle and remove all set screws securing the sprocket to the axle shaft. **Photo 3**



Photo 2

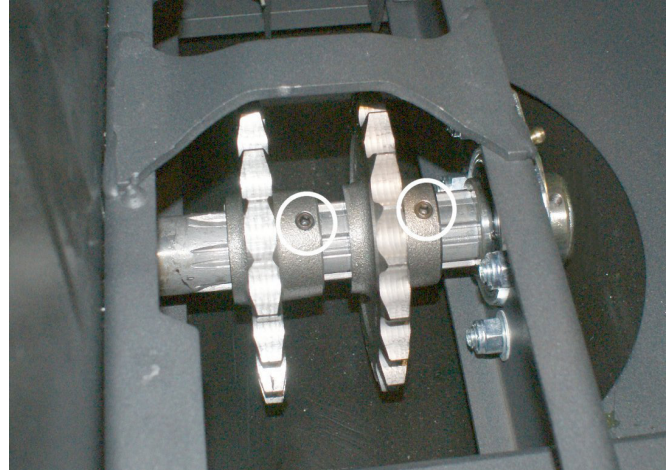


Photo 3

9. Pull the axle assembly from the vehicle. **Photo 4 (mids) Photo 5 (front/rear)**



Photo 4

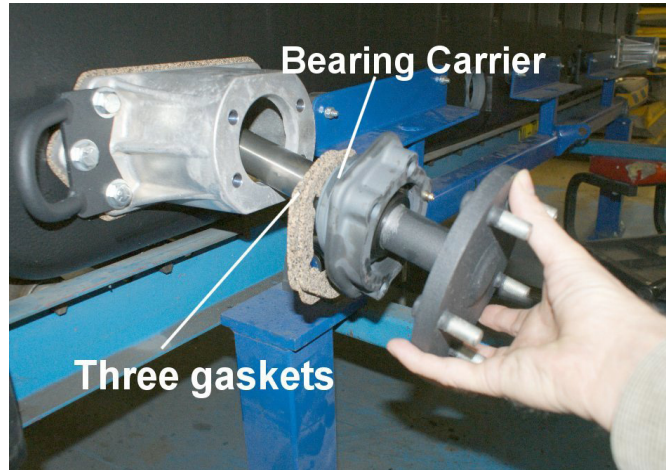


Photo 5

10. Remove the Bearing Carrier from the axle hole if it remains in the frame after pulling the axle. *Photo 6*

11. Set the axle assembly on a clean work surface and remove the set screw securing the outer bearing to the axle. *Photo 7* Slide the bearing off the axle (in some cases, depending on the condition of the bearing or axle, an arbor press may be required to sufficiently remove the bearing.

*Photo 6**Photo 7*

12. Slip the outer Bearing Flange off the axle. *Photo 8*

Intalling the Axle/Bearing

built from serial number 28971

1. Set the axle on a clean work surface and apply anti-seize compound to location at which the bearing surface will contact. *Photo 9*

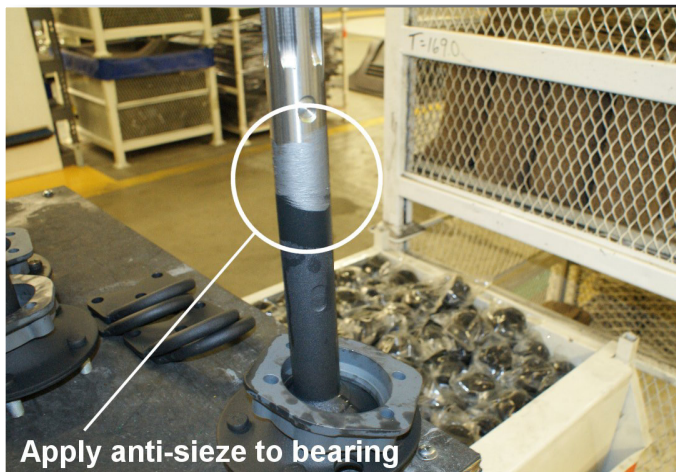
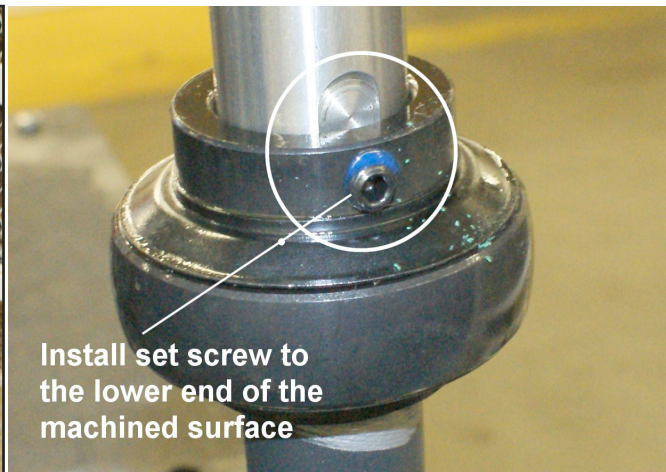
2. Slip the Outer Bearing Flange over the axle as shown in *Photo 8*

3. Slip the Outer Bearing on to the axle with the collar facing up. Align the Set Screw with the machine surface provide on the axle. Locate to the lower end of the machined surface, near the lower radius of the cut. *Photo 10*

*Photo 8*

IMPORTANT

Remove the set screws and apply Blue 242 LOCTITE to the threads of both hole of bearing and set screws. Degrease the set screw hole and set screw first to remove any oily contaminants they may be present first. Torque to specifications.

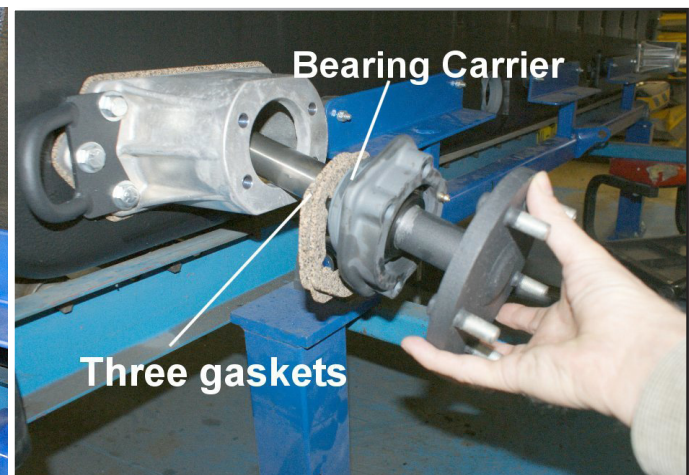
*Photo 9**Photo 10***IMPORTANT**

Outer Bearings are positioned higher on the Mid/Mid Front Axles when compared to Bearings assembled to axles mounted to Bearing Extensions. Outer Bearings at these locations are positioned much lower (closer to the hub).

4. On Mid Axle assemblies, place the Bearing Carrier back into the vehicle frame before installing the axle. *Photo 11 & 12*

*Photo 11**Photo 12*

5. Install the axle assembly back into the vehicle along with one (1) Cork Gasket (mid axle assemblies) *Photo 13*, or three (3) Cork Gaskets (Bearing Extension Axles) plus the Bearing Carrier.

Photo 14*Photo 13**Photo 14*

6. While inserting each axle, install the appropriate Sprockets to the inside of the drive train. Refer to your Illustrated Parts Manual for correct sprocket used. Install the sprocket with the collar facing in.
7. Align each sprocket Set Screw hole with the machined counter-sink provided on the axle. Apply Blue 242 LOCTITE to the internal threads of the sprocket and the threads of the set screw. Torque to specifications. *Photo 15*

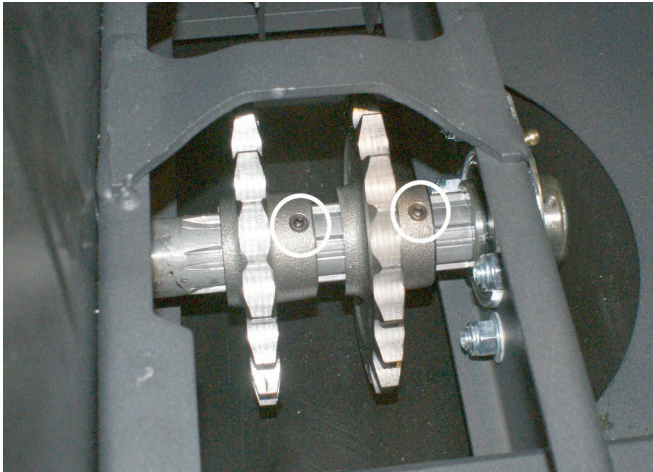


Photo 15



Photo 16

8. Reinstall the axle Fastener and Flat Washers to the end of the axle. Apply Blue 242 LOCITITE to the threads of the bolts and torque to specifications. *Photo 16*
9. Install all hardware to secure the Outer Bearing Flanges (Nuts and Flatwashers for mid axles or Bolts and Flat Washers for Bearing Extension Axles. Torque all fasteners to specifications. *Photo 17 & 18*

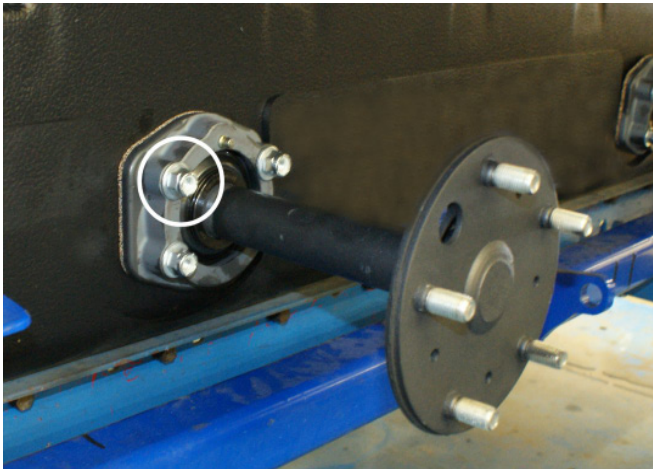


Photo 17

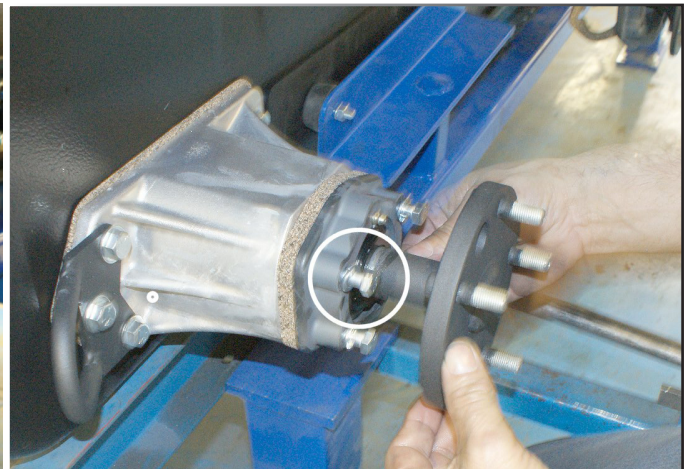


Photo 18

10. Perform the Servicing Procedure, **Installing the Drive Chain(s)**
11. Perform the Servicing Procedure, **Installing the Firewall.**

Re & Re Idler Shaft (HDi) - Prior to Serial No. 31980 . See page WA-53 for vehicles-manufactured from serial number 31980

IMPORTANT

Refer to your illustrated parts manual for correct hardware identification and location. Refer to Vehicle Torque Chart for all specified torques.

1. Remove the two (2) fasteners securing the Service Brake Caliper at the brake bracket.

Photo 1

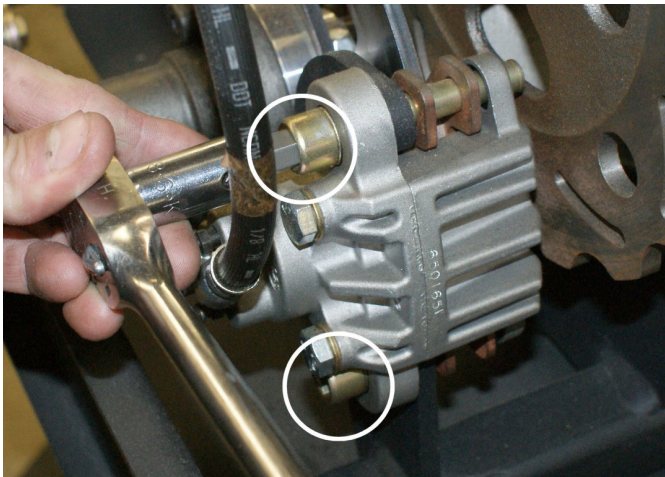


Photo 1

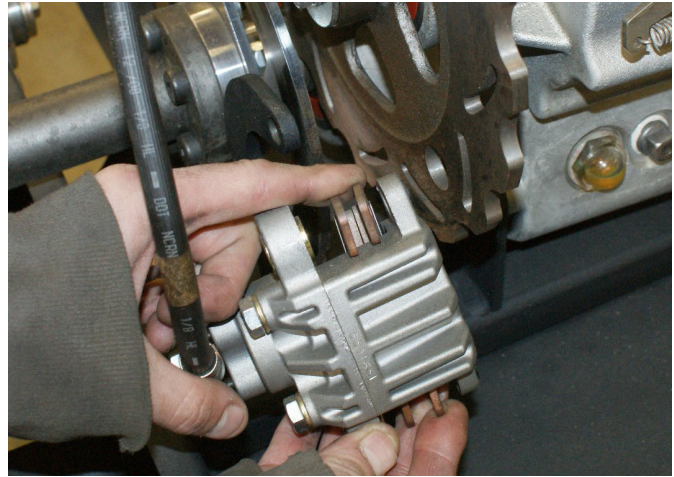


Photo 2

2. Pull the caliper assembly from the mounting bracket. There is no need to disconnect the brake line from the caliper. *Photos 2 & 3*
3. Perform the servicing procedure, **Removing the Drive Chain**, and remove both Front Drive Chain and Middle Front Drive Chain. *Photo 4*

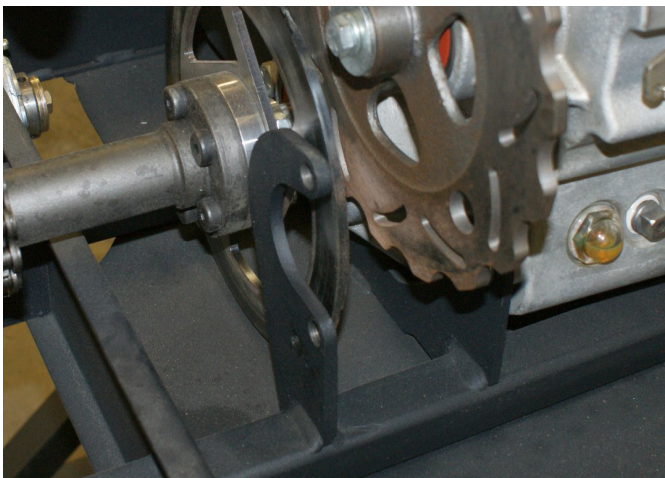


Photo 3

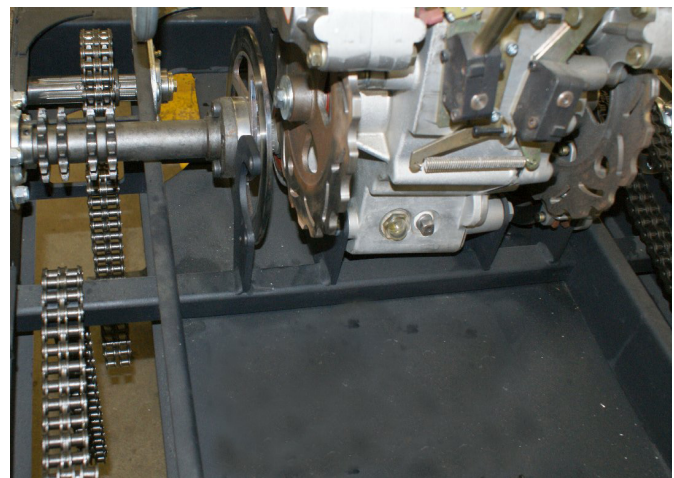


Photo 4

4. Remove all the fasteners from the inner Idler Shaft Coupler and Service Disc Brake.

Photos 5 & 6

NOTE

There is a lockwasher and locking nut to the inside of the fastener which will need to be held with an open end wrench

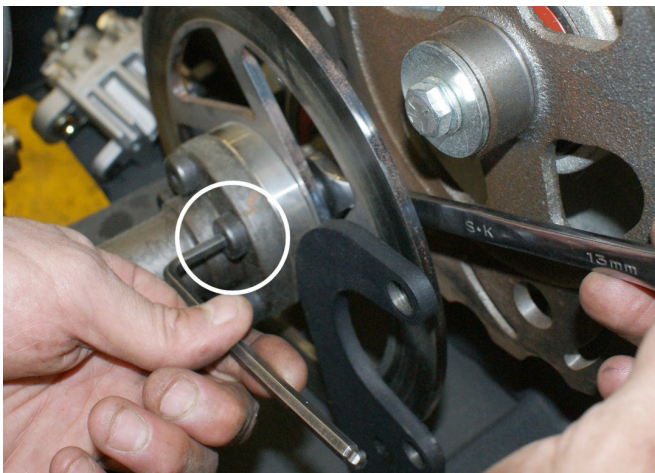


Photo 5

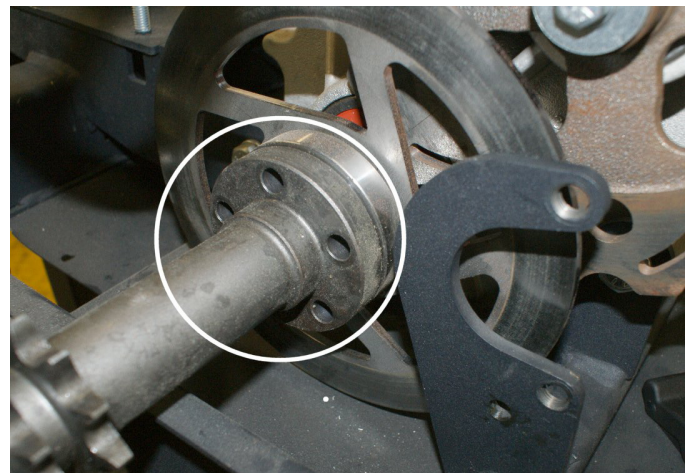


Photo 6

5. Locate the Outer Idler Axle Bearing and loosen off the two (2) set screws located in the collar of the bearing. *Photo 7*
6. Loosen off each of the four (4) nuts securing the bearing in the bearing flange. *Photo 8*

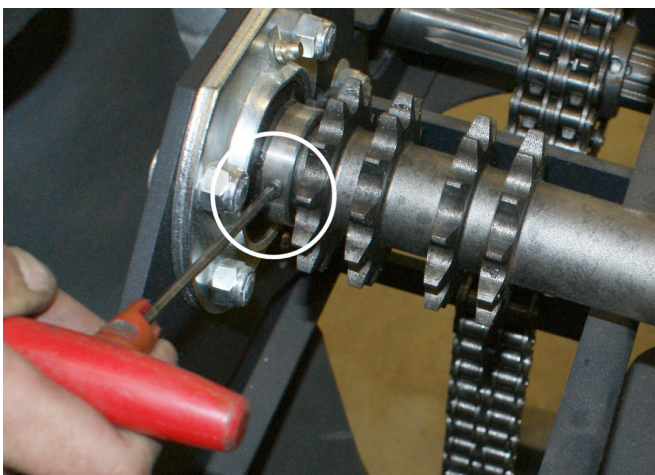


Photo 7

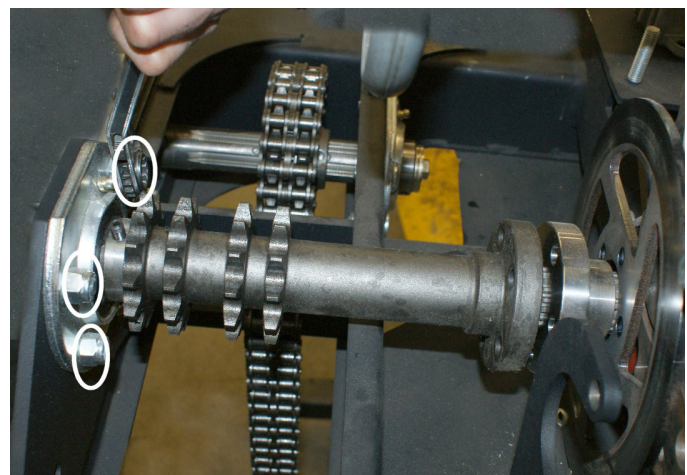


Photo 8

7. Swivel the Idler Shaft up and away from the coupling and remove from the vehicle.

Photos 9 & 10

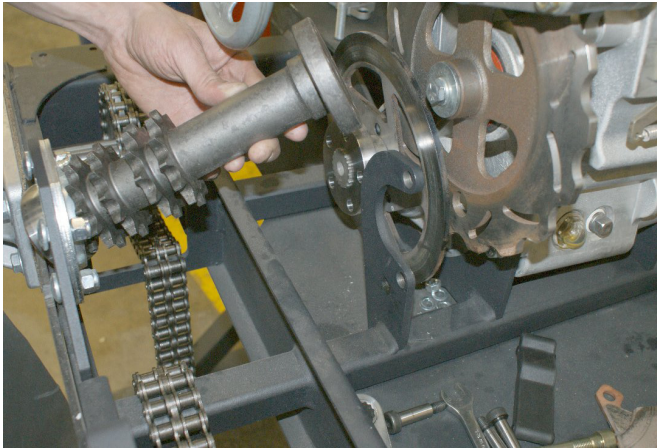


Photo 9

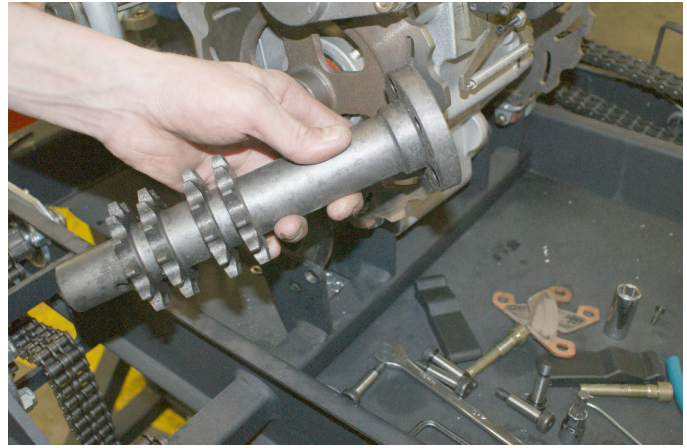


Photo 10

8. Slide the Coupler off from the Output Shaft. *Photo 11*

9. Remove the Service Disc Brake at this time for inspection or replacement if necessary.

Photo 12

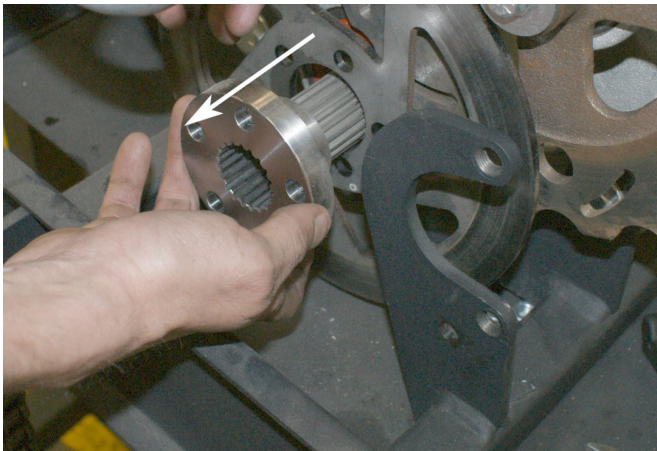


Photo 11



Photo 12

Installing the Idler Shaft/Service Brake Disc

10. Install the Steering Brake Disc, followed by the Coupler. Apply anti-seize compound to the spline of the output shaft before sliding the Coupler into place. *Photo 13 & 14*

12. Install the Idler Shaft first into the Outer Bearing and then swivel over to align with the previously installed coupling. *Photo 15 & 16*



Photo 13

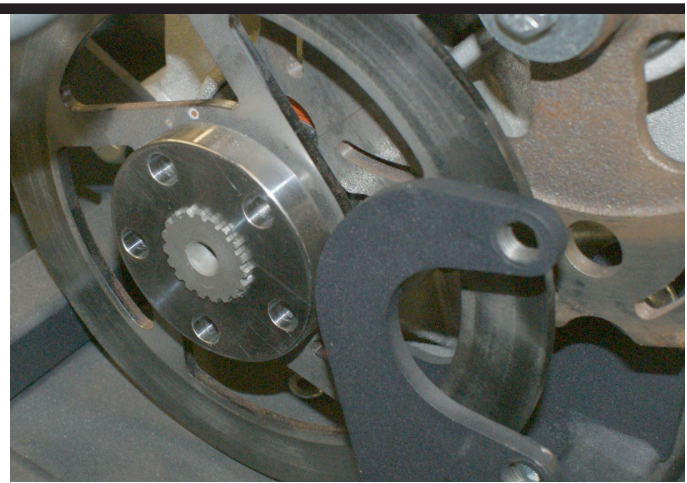


Photo 14



Photo 15

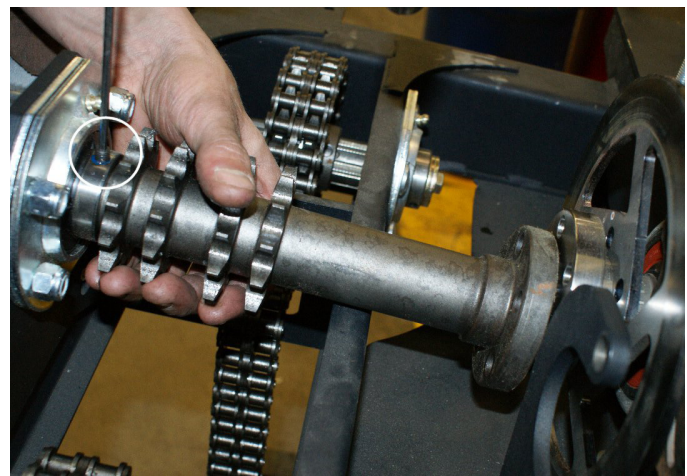


Photo 16

13. Align the Outer Bearing set screw hole with the machined counter-sink in the idler shaft. Apply Blue 242 LOCTITE to each of the two (2) set screws and install. Torque to specifications. *Photo 16*

14. Connect the inner part of the Idler Shaft to the Coupler and Service Brake Disc and secure with the five (5) required fasteners. *Photos 17 & 18*

IMPORTANT

Apply anti-seize compound to the shoulder part of all Fasteners and ensure all have had Blue 242 LOCTITE applied to the threads and that the Lockwasher has been reinstalled along with the Locknut to the inside. Torque to specifications. *Photo 18*

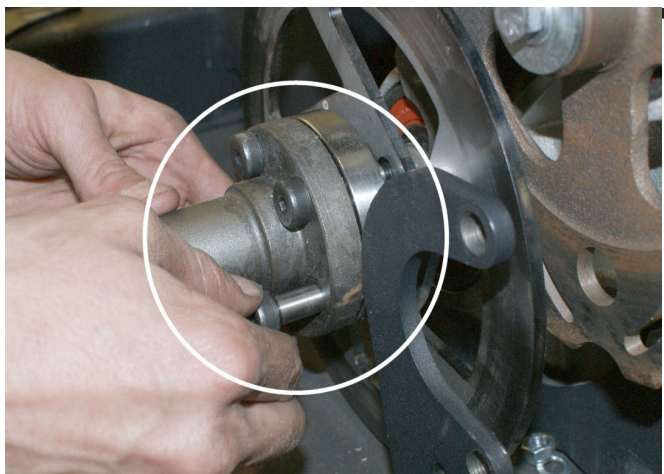


Photo 17



Photo 18

15. Locate the Service Brake Caliper bracket and reassemble the Service Brake Caliper securely into place. *Photo 19*

17. Torque to Specifications. *Photo 20*

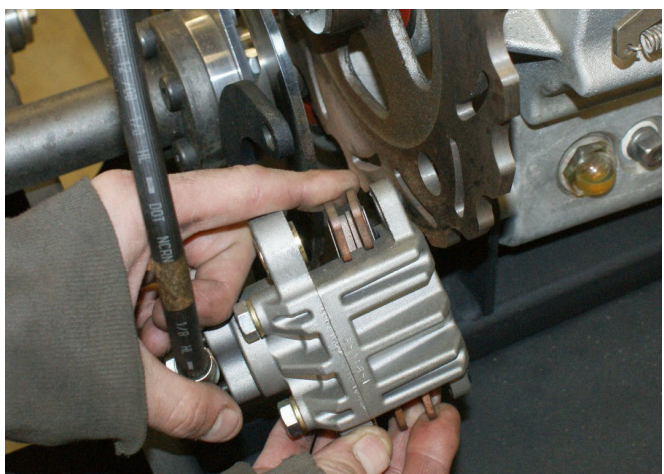


Photo 19

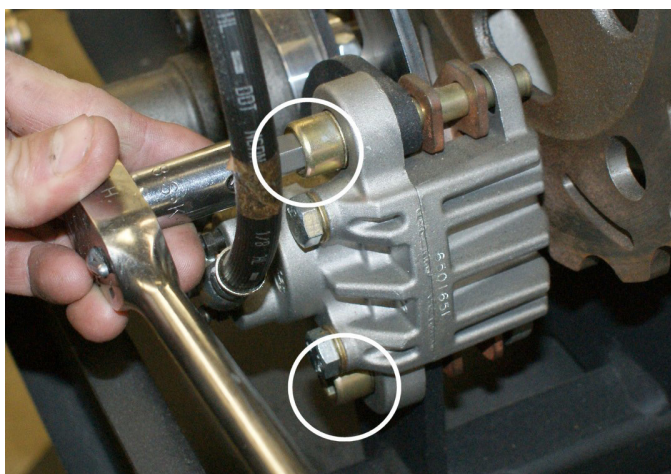
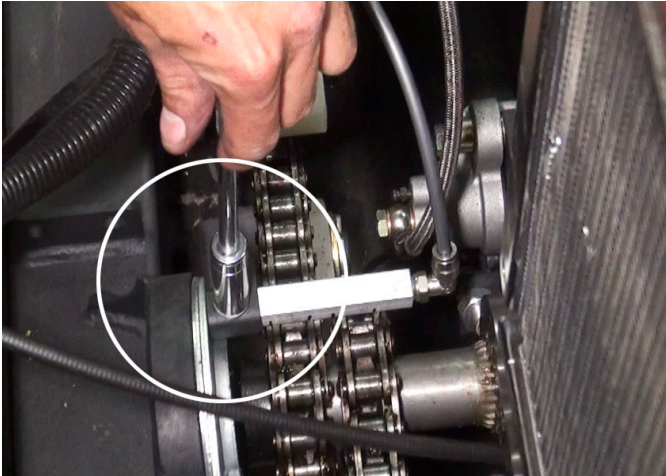
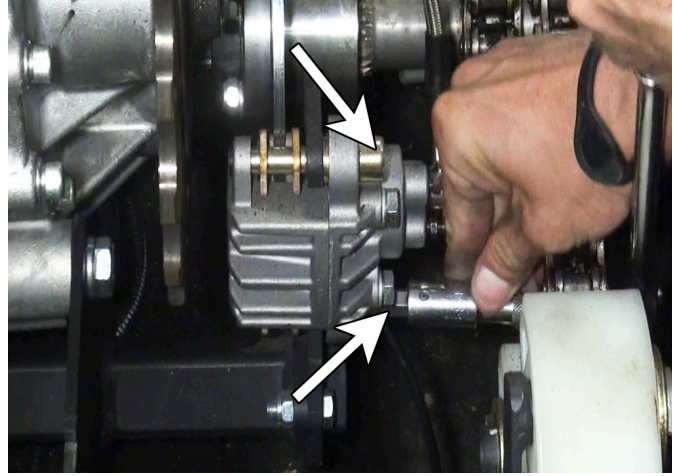


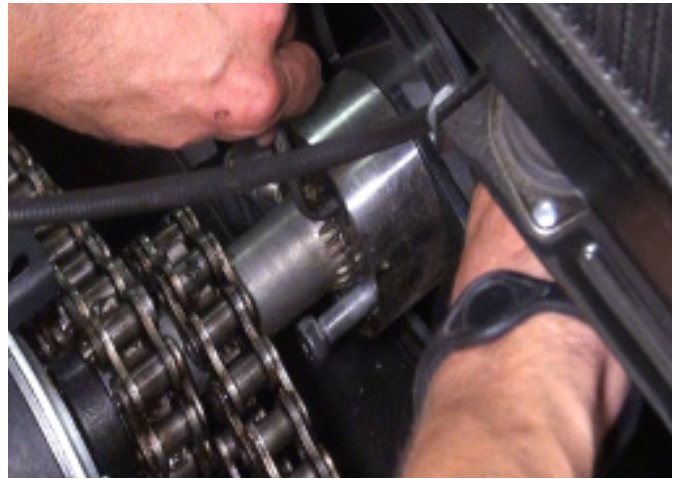
Photo 20

Re & Re Idler Shaft (HDi) - From Serial No. 31980 (2012+ Models)

1. Loosen bolt securing auto lube system chain oiler bar (if applicable) and swivel out of the way before proceeding. **Photo 1**
2. Remove two (2) fasteners securing service brake caliper and remove caliper. **Photo 2**

**Photo 1****Photo 2**

3. Slip the service brake calipers, along with brake pads from the bracket and set aside. **Photo 3**
4. Remove 5 coupler bolts with hex head wrench. Hold nuts in behind with an open end wrench. Be aware of lockwashers behind the nuts. **Photo 4**

**Photo 3****Photo 4**

5. With bolts removed from coupler, slide coupler towards idler shaft drive chains. **Photo 5**
6. Slip service brake disc from between idler shaft coupler and coupler on transmission output shaft. **Photo 6**

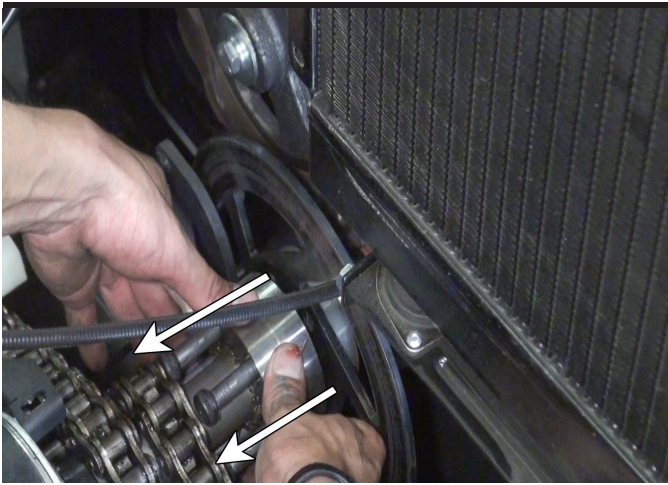


Photo 5

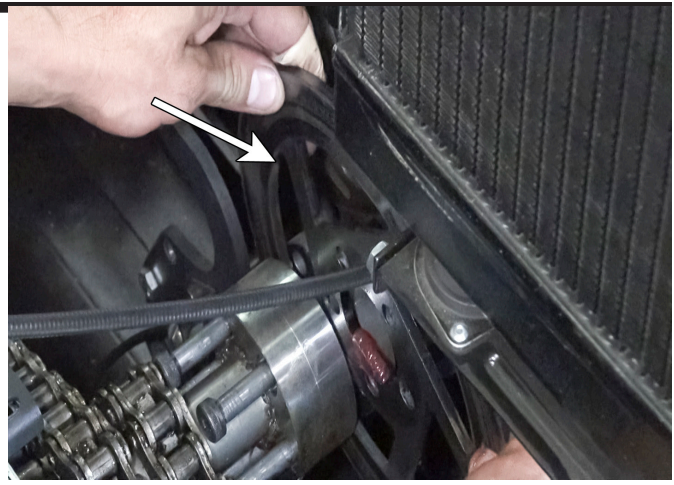


Photo 6

7. Set aside removed service brake disc. **Photos 7 & 8**



Photo 7



Photo 8

8. Perform the servicing procedure, **Removing the Drive Chain**, and remove both Front Drive Chain and Middle Front Drive Chain.

9. Remove two (2) set screws at the outer idler shaft bearing.

10. Loosen all four (4) fasteners at the outer idler shaft bearing flanges. **Photo 9**

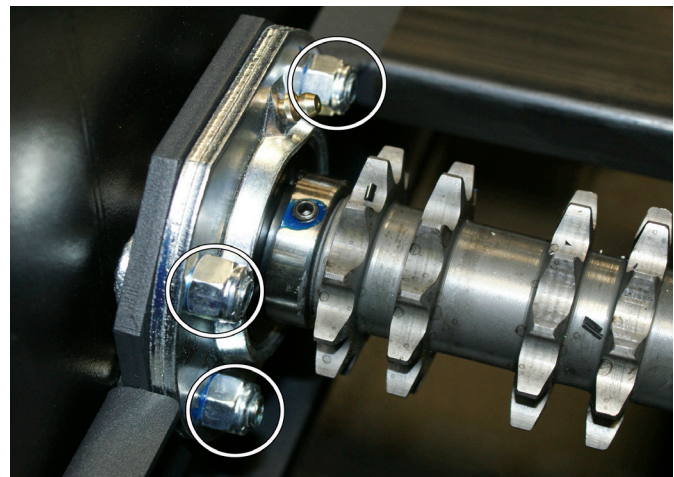


Photo 9

11. With outer bearing flange bolts loose, tilt the idlers shaft up and lift from vehicle.

Photo 11

12. Slide coupler off idler shaft. *Photo 12*

IMPORTANT

The right hand side idler shaft coupler houses the magnet for the speedometer pickup. If this coupler is replaced, the magnet must be installed to the new coupler or speedometer will not function.

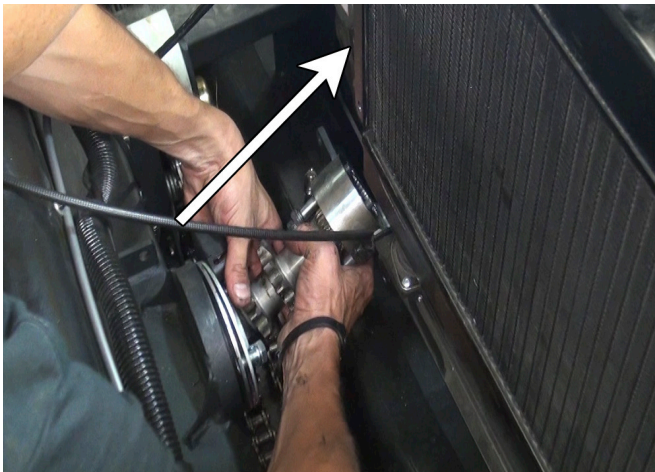


Photo 11

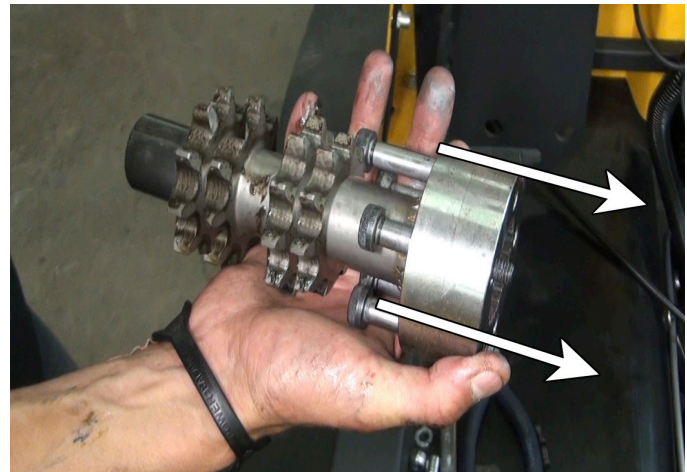


Photo 12

40. Repeat idler shaft removal process for left side idler shaft.

Installing Idler Shafts (2012 + Models)

1. Transmission couplers are press fit from factory. *Photo 1*
2. Tilt the outside idler shaft bearing upwards while inserting the shaft. *Photo 2*



Photo 1

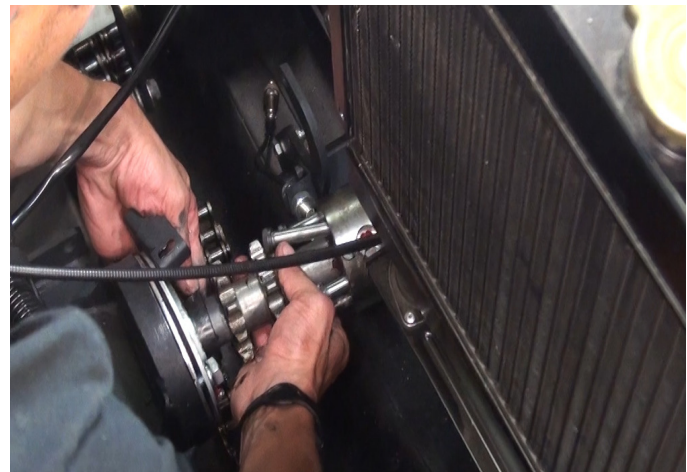


Photo 2

3. Apply blue 243 LOCTITE to threads of set screw as well as hole location in bearing.

Photo 3

4. Align each of the two (2) set screws with the machined areas on the idler shaft and install the set screws securely. *Photo 4*



Photo 3

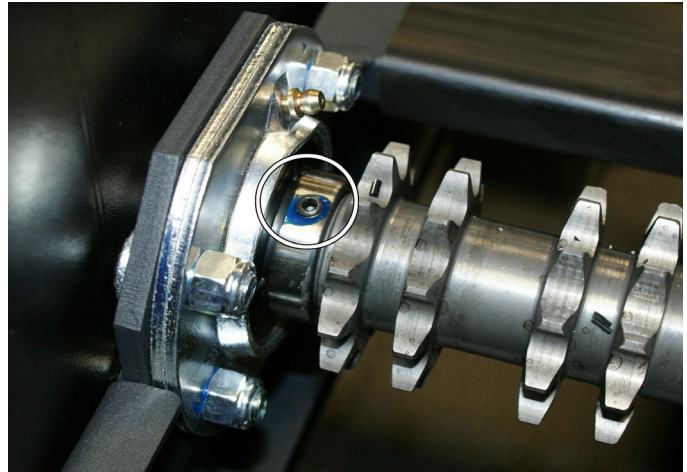


Photo 4

5. Reinstall the service brake disc by inserting it between idler shaft coupler and transmission coupler. *Photo 5*
6. Insert 5 fasteners through coupler, holes in brake disc, and through inner transmission coupler. *Photo 6*

IMPORTANT

Apply anti-seize compound to the shoulder part of all fasteners

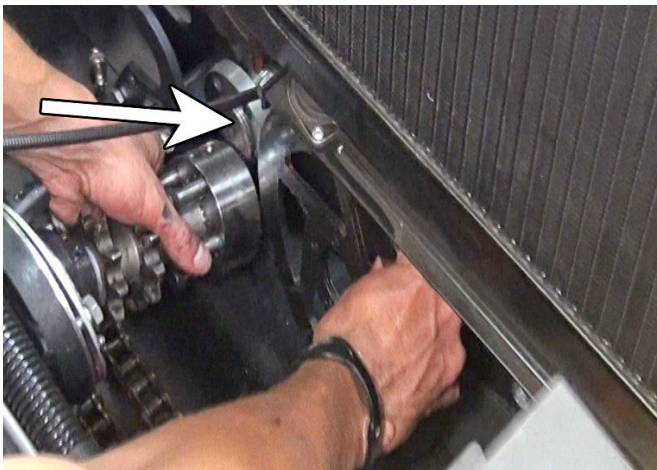


Photo 5

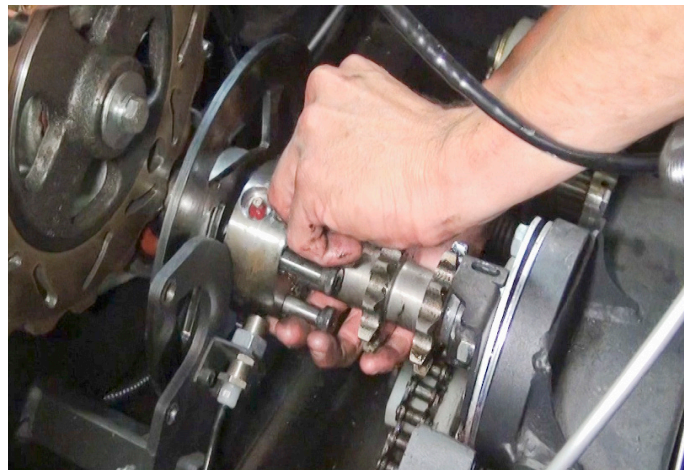


Photo 6

7. Apply blue 243 LOCTITE to the threads of each fastener before securing locknuts.
8. Secure all four fasteners of outer bearing flange. **Torque to specifications.**

9. Reinstall mid front chain inserting the connecting link facing towards the bearing flange.
10. Install front chain connecting link facing towards rad.
11. Secure each connecting link with retaining clips. Orient split end facing the rear of the vehicle.
12. Secure service brake disc coupler bolts with required lockwashers and locking nuts. **Torque to specifications. *Photo 7***

IMPORTANT

Apply blue 243 LOCTITE to the threads of each shoulder bolt before installing lockwashers and locking nuts.

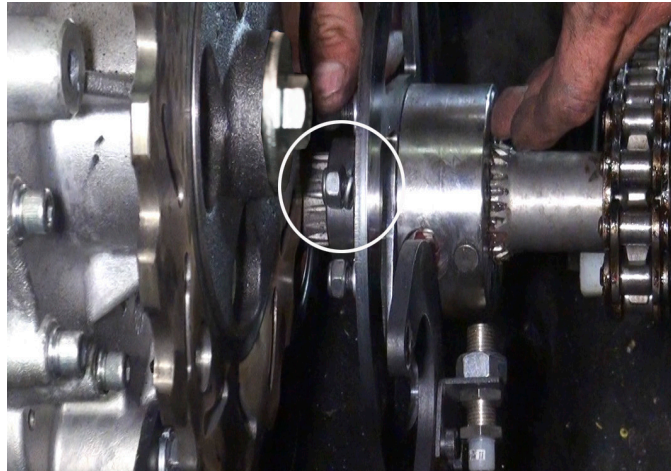


Photo 7

12. Locate mounting bolts for securing service brake calipers to mounting bracket and apply blue 243 LOCTITE to the threads of each bolt. ***Photo 8***
13. Manually push in on the piston of the service brake caliper before re-assembling to the brake bracket along with brake pads. ***Photo 9***



Photo 8



Photo 9

14. Mount the service brake caliper along with a brake pad to each side of the brake disc.

Photos 10 & 11 Torque to specifications.

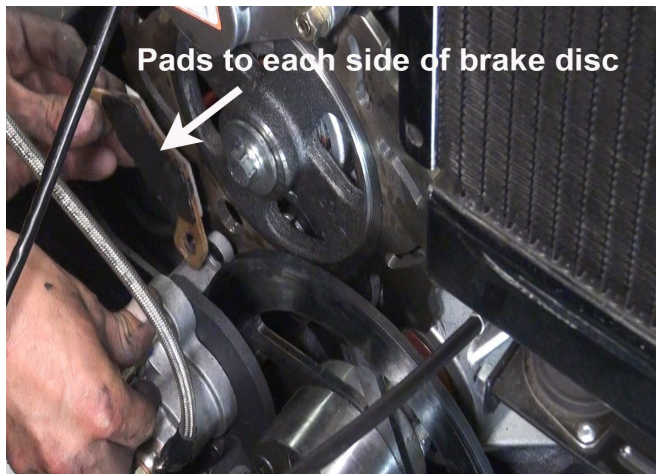


Photo 10

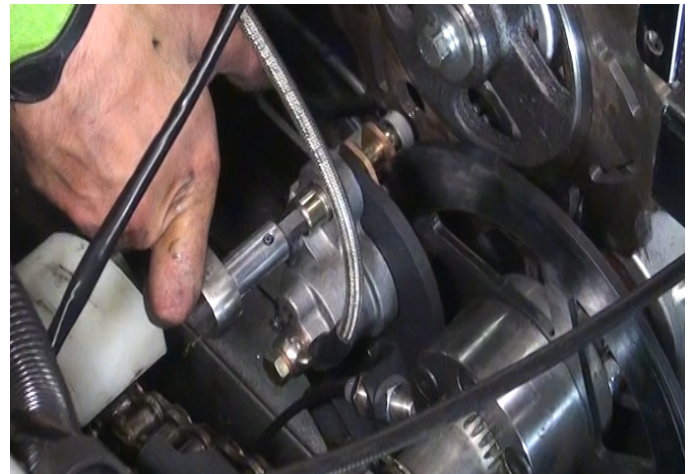


Photo 11

15. Re-install the oiler bar (if applicable) and slide until marked lines are aligned with side plates of each chain. **Photo 12**. If lines are no longer visible, you will need to reapply them with a felt tip marker. Draw each mark in line with the small oiler holes on the bottom of the oiler bar. Make sure all oiler holes are free of dirt and debris.

16. Tie wrap service brake line and speedo wiring cable back together. **Photo 13**

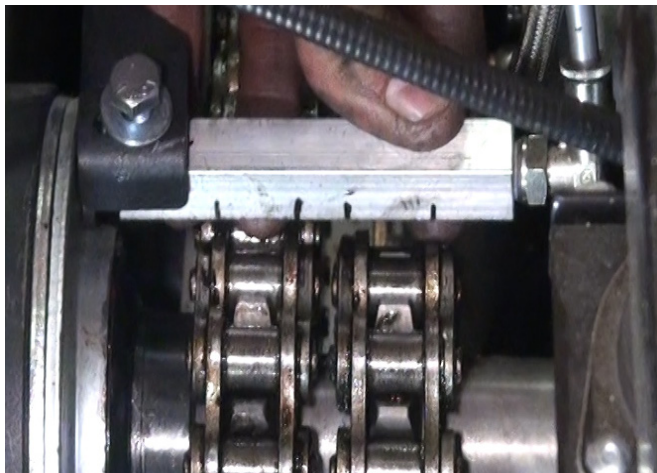


Photo 12

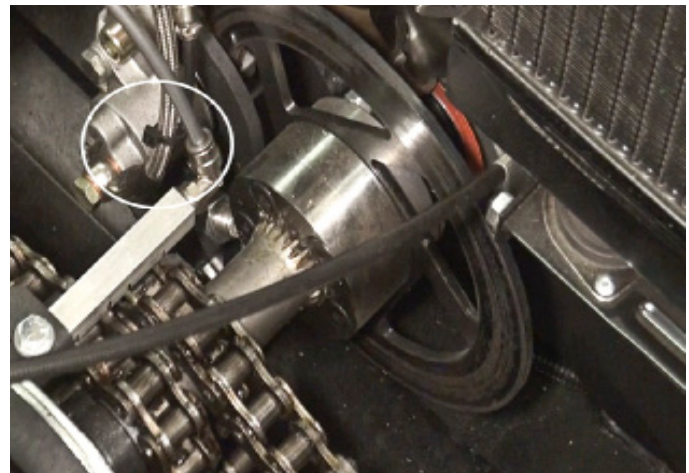


Photo 13

Removing a Tire

1. Loosen each of the wheel nuts on the tire.
2. Raise the vehicle off the ground and remove all 5 wheel nuts
3. Pull the tire from the vehicle.

Wheel Disassembly**IMPORTANT****Proper tools are required for tire removal**

1. Remove the valve core to deflate the tire.
2. Break both tire beads loose.

NOTE

If it is difficult to break the bead, apply a soap and water solution or tire mounting lubricant to the rim periphery.

CAUTION

Do not damage the tire bead or rim bead seat. Damage to them will prevent proper sealing.

3. Apply lubricant to both beads.
4. Use one tire iron to hold the bead and another to work the bead over the rim flange. Place the irons at close intervals, working only small bead sections at a time.
5. Remove the tire from the rim.

Tire Pressure

Normal Cold Tire Pressure: 3 - 3.5 psi.

Maximum (to seat bead): 32 psi. or listed on tire.

NOTE

Tire pressure should be checked when tires are cold. A special low pressure gauge is available through your distributor, dealer or Ontario Drive & Gear Ltd.

Tire Inspection

Maintenance Schedule - Inspect every 25 hours of vehicle operation.

Inspect the tires for:

- proper tire inflation pressure
- valve stem condition
- good bead contact with rim
- loose wheel nuts
- cuts, punctures, excessive wear, etc.
- leakage around the tire seal
- bead damage
- damaged wheel rims and wheel hubs

CAUTION

Replace damaged or worn tires immediately. When a pressure leak is suspected, locate it by spraying around the tire with a leak locating solution or placing in a tank of water.

Tire Repair and Replacement**NOTE**

To repair or replace a tire you will need to remove it from the rim.

WARNING

Use of a non-standard tire on any Argo model will affect the steering characteristics of the vehicle. Serious injury could result.

Temporary Repair

To temporarily repair a punctured tire, use the plug method. A plug kit, available from most automotive parts stores, will provide the parts, tools and instructions to carry out the repair.

General Tire Repair

To more permanently repair a damaged or punctured tire, apply a radial tire patch to the inside of the tire if the damage is less than 1/2" (12mm) in diameter. This type of kit is also available from most automotive stores.

Wheel Reassembly**NOTE**

Be sure the rim is clean and smooth

1. Apply lubricant to the bead and rim bead seat.

CAUTION

Never use petroleum or silicon based solutions as lubricants. Rim slippage, bead damage or dislodging of the bead may result. Regular tire lube or a thin liquid soap and water solution works best.

2. Work the bead over the rim flange with tire irons, small sections at a time.
3. Turn the tire over and work the other side on.

WARNING

Use a safety cage and remote inflation control valve when seating a tire bead. NEVER stand near a tire when the bead is seating. NEVER exceed the recommended seating pressure. The tire can break with an explosive force which can cause serious injury or death.

4. Inflate the tire until until each bead has popped and seated to the rim. If it doesn't pop immediately, leave it sit a few minutes under pressure. NEVER exceed the recommended pressure for seating the bead indicated on the tire.
5. Inspect both beads for proper seating.
6. Install the valve stem and adjust to the proper pressure (2.5 - 3 psi.)
7. Install valve cap

Valve Replacement

1. Demount the outer bead. See servicing procedure, **Wheel Disassembly**, in this section of the service guide.
2. Push the valve out of the rim, towards the inside of the tire.
3. Insert the new valve from the inside of the tire, and pull it into place with a valve pulling tool. SEE NOTE FOLLOWING PAGE

NOTE

Be sure the valve seats evenly into the valve hole of the rim

4. Inflate the tire to remount the bead. See servicing procedure, **Wheel Reassembly** in this section of the service guide.

Wheel Installation

1. Apply anti-seize compound to the threads of the axle hub studs.
2. Place the wheel on to the mounting studs.
3. Install the wheel nuts with the rounded end of the nut facing into the rim.
4. Tighten the nuts in a clockwise direction and torque to specifications.
5. Lower the vehicle to the floor.