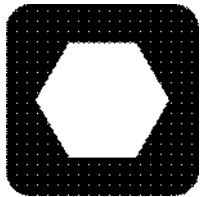


JT520

Parts Manual



Ditch Witch[®]

JT520

ISSUE NO. 14PL-10/11

For Replacement Copy Order **P/N 053-062**

This product is covered by one or more of the following patents:

US B1 4,858,704; 4,953,638; 5,148,880; 5,242,026; 5,341,887; 5,490,569; 5,684,466; 5,713,423, 5,794,719; 5,880,680; 5,941,322; 6,085,852; 6,109,371; 6,179,065; 6,216,803; 6,250,403; 6,250,404; 6,290,606; 6,311,790; 6,411,094; 6,543,551; 6,550,547; 6,672,409; 6,739,413; 6,776,246; 6,808,210; 6,827,158; RE37,450; RE37,923; RE37,975; RE38,418

AU 689,533; 706,544; 718,034, 755,862

CA 2,156,398

FR 674,093

DE 694 17 019; 695 29 634; 297 01 406

EP 0683845; 0674093; 0817901; 0846841

GB 2,209,239; 2,312,006; EP674,093; EP846,841

JP 3,458,247

Other U.S. and foreign patents pending

This manual contains information concerning the following models:
JT520 Directional Drilling System

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**Ditch
Witch**

, Ditch Witch, CMW, AutoCrowd, Jet Trac, Roto Witch, Subsite, Fluid Miser, Power Pipe, Super Witch, Pierce Arrow, Zahn, The Underground, and The Underground Authority Worldwide are registered trademarks of The Charles Machine Works, Inc.

ID0134928

FOREWORD

This manual contains illustrated parts lists to help you select quality ProTech[®] Replacement parts for your Ditch Witch[®] equipment. Using other replacement parts will lessen the productivity of your equipment.

- ◆ Part numbers enclosed in a box are no longer available from The Charles Machine Works, Inc. Your local Ditch Witch dealer may be able to locate the part for you.
- ◆ Footnotes provide more information to help you identify parts shown in the manual.
- ◆ Assembly instructions and Tech Bits articles referenced in footnotes are available through your local Ditch Witch dealer.
- ◆ Description and specifications in this book were current at publication. However, The Charles Machine Works, Inc. reserves the right to improve equipment, so this manual might not reflect the most current improvements.
- ◆ Instructions on recommended equipment use and maintenance are in the Operator's Manual that was shipped with your equipment.

Keep the following in mind when ordering ProTech replacement parts:

- ◆ Specify parts you need by part number and description, not by illustration reference numbers.
- ◆ Have equipment model and serial number on hand to help ensure you get the right parts for your machine whether it's old or new.

Thank you for buying and using Ditch Witch equipment and ProTech replacement parts.

WARRANTY

DW WARRANTY Policy
July, 2005

POLICY 1: DITCH WITCH® EQUIPMENT AND REPLACEMENT PARTS LIMITED WARRANTY POLICY

Subject to the limitation and exclusions herein, free replacement parts will be provided at any authorized Ditch Witch dealership for any Ditch Witch equipment or parts manufactured by The Charles Machine Works, Inc. (CMW) that fail due to a defect in material or workmanship within one (1) year of first commercial use (Exception: 2 years for all SK500 Attachments). Free labor will be provided at any authorized Ditch Witch dealership for installation of parts under this warranty during the first year following "initial commercial" use of the serial numbered Ditch Witch equipment on which it is installed. The customer is responsible for transporting their equipment to an authorized Ditch Witch dealership for all warranty work.

EXCLUSIONS FROM PRODUCT WARRANTY

- All incidental or consequential damages.
- All defects, damages, or injuries caused by misuse, abuse, improper installation, alteration, neglect, or uses other than those for which products were intended.
- All defects, damages, or injuries caused by improper training, operation, or servicing of products in a manner inconsistent with manufacturer's recommendations.
- All engines and engine accessories (these are covered by original manufacturer's warranty).
- Tires, belts, and other parts which are subject to another manufacturer's warranty. (Such warranty will be available to purchaser.)
- ALL IMPLIED WARRANTIES NOT EXPRESSLY STATED HEREIN, INCLUDING ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY.

IF THE PRODUCTS ARE PURCHASED FOR COMMERCIAL PURPOSES, AS DEFINED BY THE UNIFORM COMMERCIAL CODE, THEN THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF AND THERE ARE NO IMPLIED WARRANTIES OF ANY KIND WHICH EXTEND TO A COMMERCIAL BUYER. ALL OTHER PROVISIONS OF THIS LIMITED WARRANTY APPLY INCLUDING THE DUTIES IMPOSED.

Ditch Witch products have been tested to deliver acceptable performance in most conditions. This does not imply they will deliver acceptable performance in all conditions. Therefore, to assure suitability, products should be operated under anticipated working conditions prior to purchase.

Defects will be determined by an inspection within thirty (30) days of the date of failure of the product or part by CMW or its authorized dealer. CMW will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. CMW reserves the right to supply remanufactured replacement parts under this warranty as it deems appropriate.

Extended warranties are available upon request from your local Ditch Witch dealer or CMW.

Some states do not allow exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply. Further, some states do not allow exclusion of or limitation of how long an implied warranty lasts, so the above limitation may not apply. This limited warranty gives product owner specific legal rights and the product owner may also have other rights which vary from state to state.

For information regarding this limited warranty, contact CMW's Product Support Department, P.O. Box 66, Perry, OK 73077-0066, or contact your local Ditch Witch dealer.

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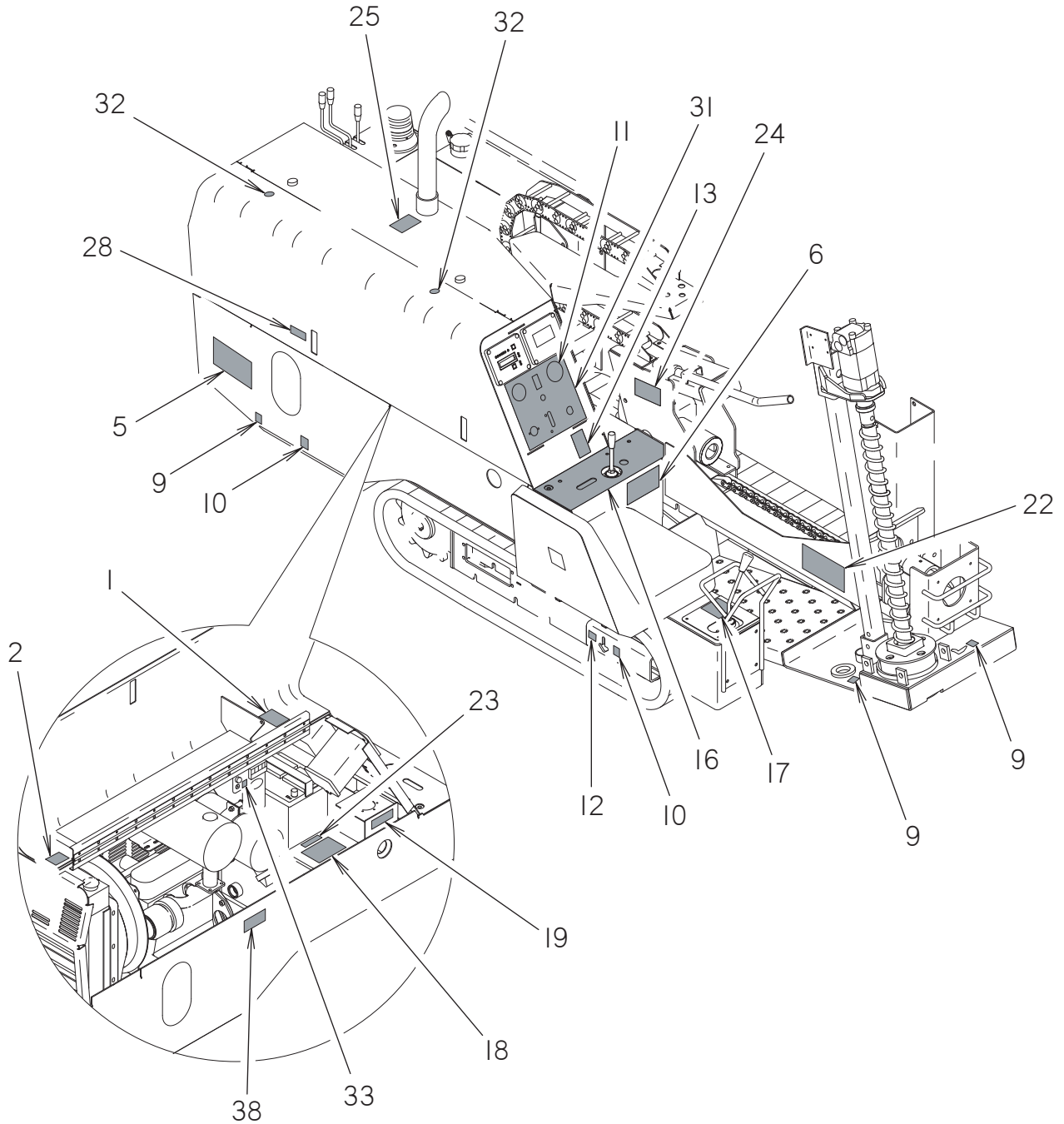
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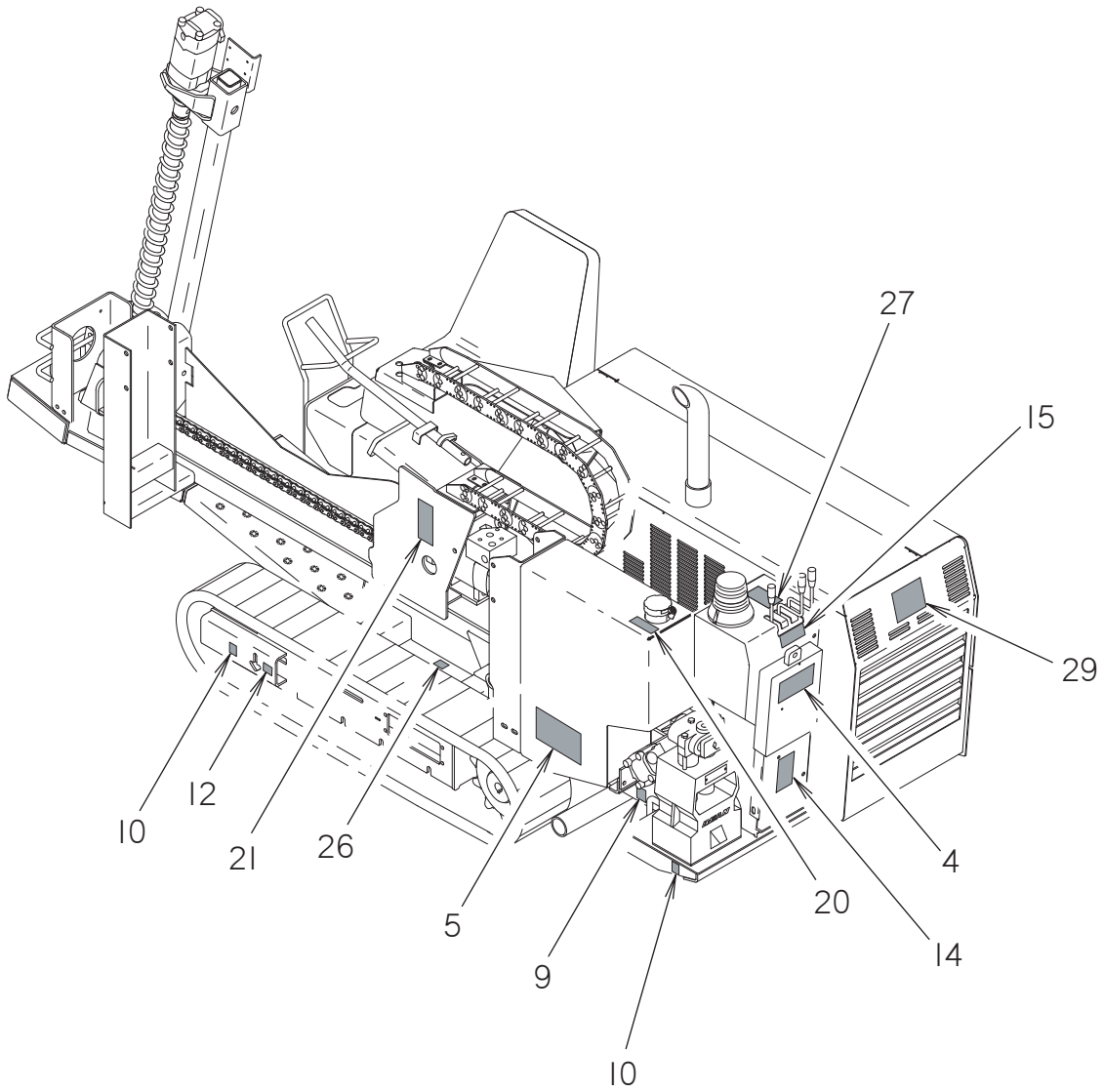
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DECALS

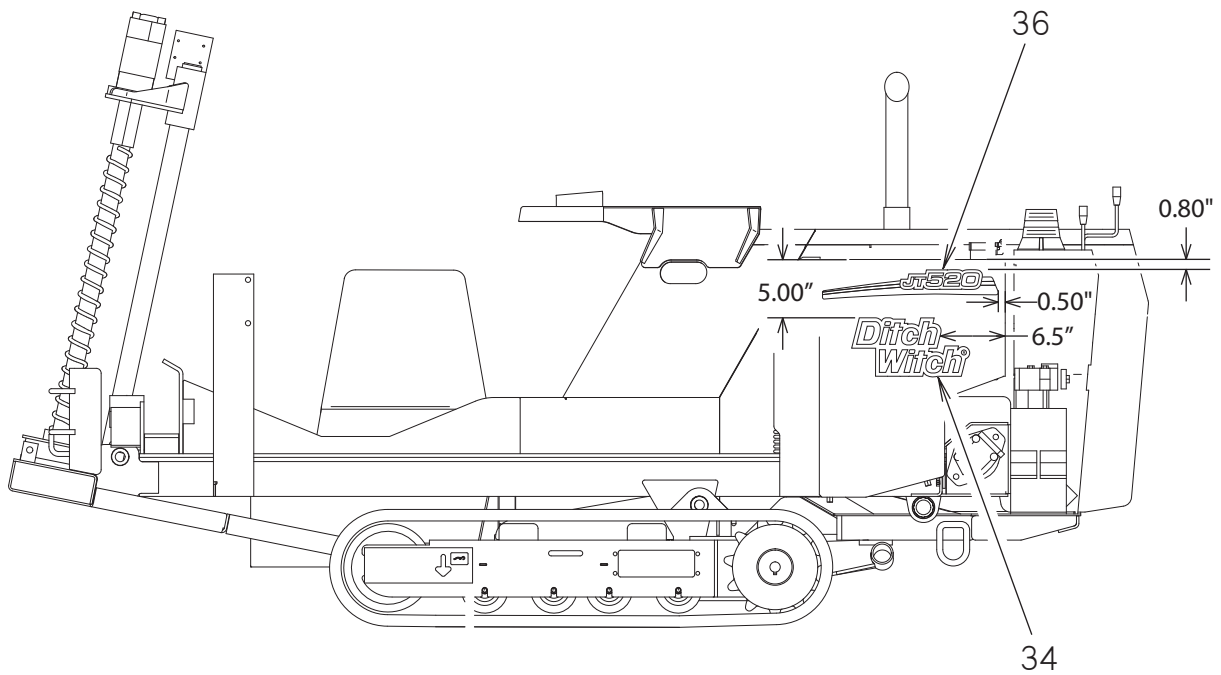
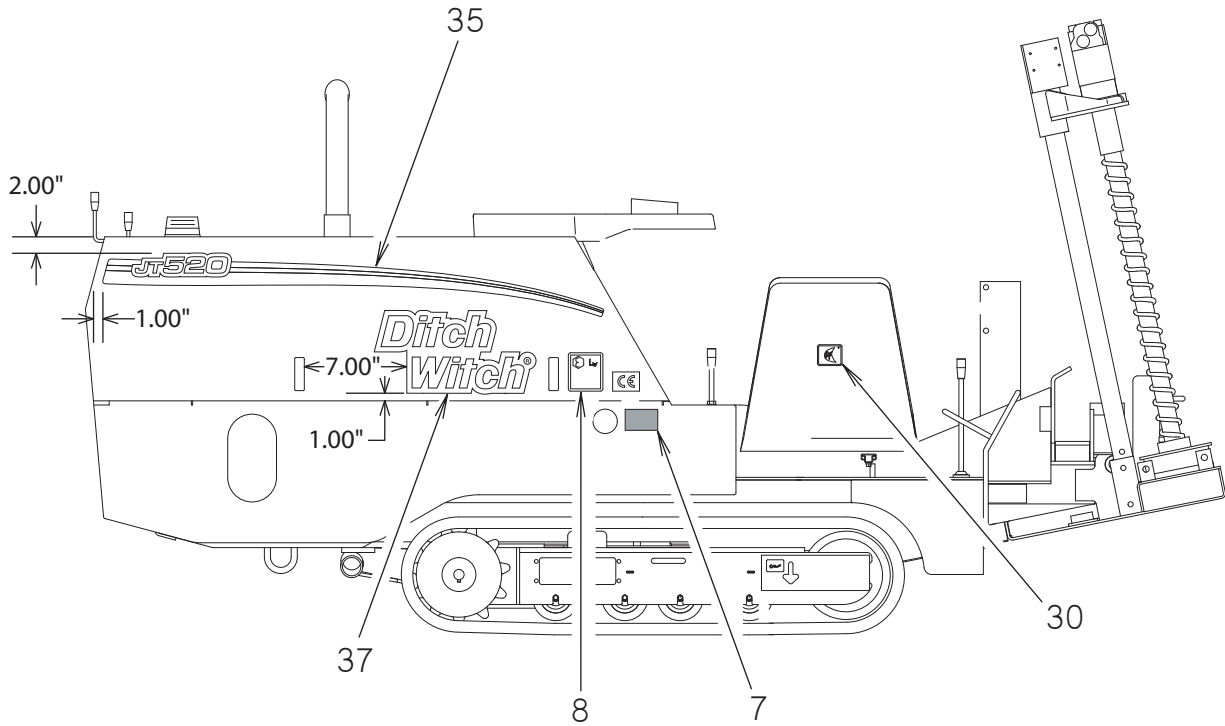
DECAL LOCATION JT520 T2 (BEGINS WITH SERIAL NO. 2Y1471)



DECAL LOCATION JT520 T2 (BEGINS WITH SERIAL NO. 2Y1471)



DECAL LOCATION JT520 T2 (BEGINS WITH SERIAL NO. 2Y1471)



DECAL LOCATION

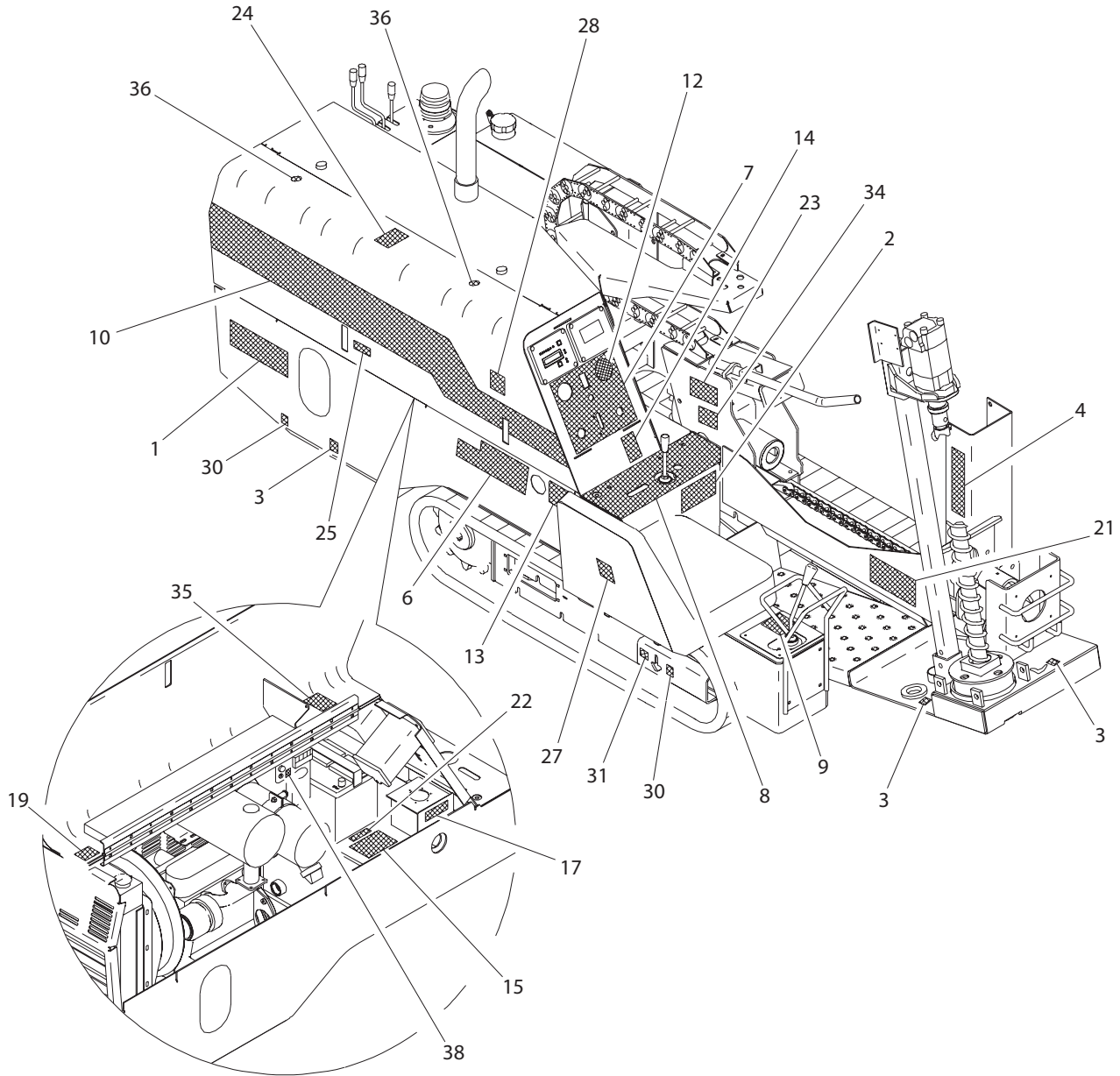
JT520 T2 (BEGINS WITH SERIAL NO. 2Y1471)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	275-928		DECAL KIT - JT520 T2	
1	273-044	1	JT520 ELECTRICAL DIAGNOSTIC	
2	273-138	1	NOTICE COOLANT	
3	273-267	1	DITCH WITCH BATTERY	SEE FOOTNOTE 3
4	273-562	1	NOTICE READ MANUAL	
5	274-049	2	DANGER ELECTROCUTION	
6	274-050	1	WARNING JOBSITE HAZARD	
7	274-198	1	NOTICE OIL LEVEL	
8	274-291	1	SOUND POWER IO	SEE FOOT NOTE 1
9	274-318	4	TIE DOWN LOCATION	
10	274-442	4	LIFT LOCATION	
11	274-592	1	FLUID PRESSURE DIAL (485 PSI)	
12	274-602	2	TOW POINT	
13	274-724	1	ONE CALL NOTIFICATION	
14	274-780	1	JET TRAC PATENT(S)	
15	274-970	1	SETUP CONTROL PANEL	
16	274-973	1	LEFT CONTROL PANEL	
17	274-974	1	RIGHT CONTROL PANEL	
18	275-033	1	NOTICE ELECTRICAL SYSTEM	
19	275-120	1	RESERVOIR (THF)	
	274-672	1	ENVIRO HYDRAULIC RESERVOIR	SEE FOOTNOTE 2
20	275-148	1	FUEL TANK (DIESEL)	
21	275-184	1	WARNING MOVING PARTS	
22	275-197	1	DANGER ROTATING SHAFT	
23	275-203	1	BATTERY	
24	275-341	1	WARNING SLIDING PARTS	
25	275-355	1	CAUTION HOT PARTS	
26	275-372	1	IMPORTANT CYLINDER LOCK	
27	275-383	1	NOTICE SLOPE PARKING	
28	275-400	1	NOTICE OIL LEVEL	
29	275-449	1	DITCH WITCH LOGO PLACARD	
30	275-450	1	LOGO PLACARD	
31	700-004	1	INSTRUMENT PANEL	
32	700-018	2	PAINT GUARD	
33	700-116	1	TRACKER CONTROL	
34	700-196	1	STACKED DITCH WITCH LOGOTYPE	
35	700-233	1	LARGE JT520 T2 STRIPE	
36	700-234	1	SMALL JT520 T2 STRIPE	
37	700-235	1	8.50" STACKED DITCH WITCH	
38	273-459	1	NOTICE EXPLOSION POSSIBLE	

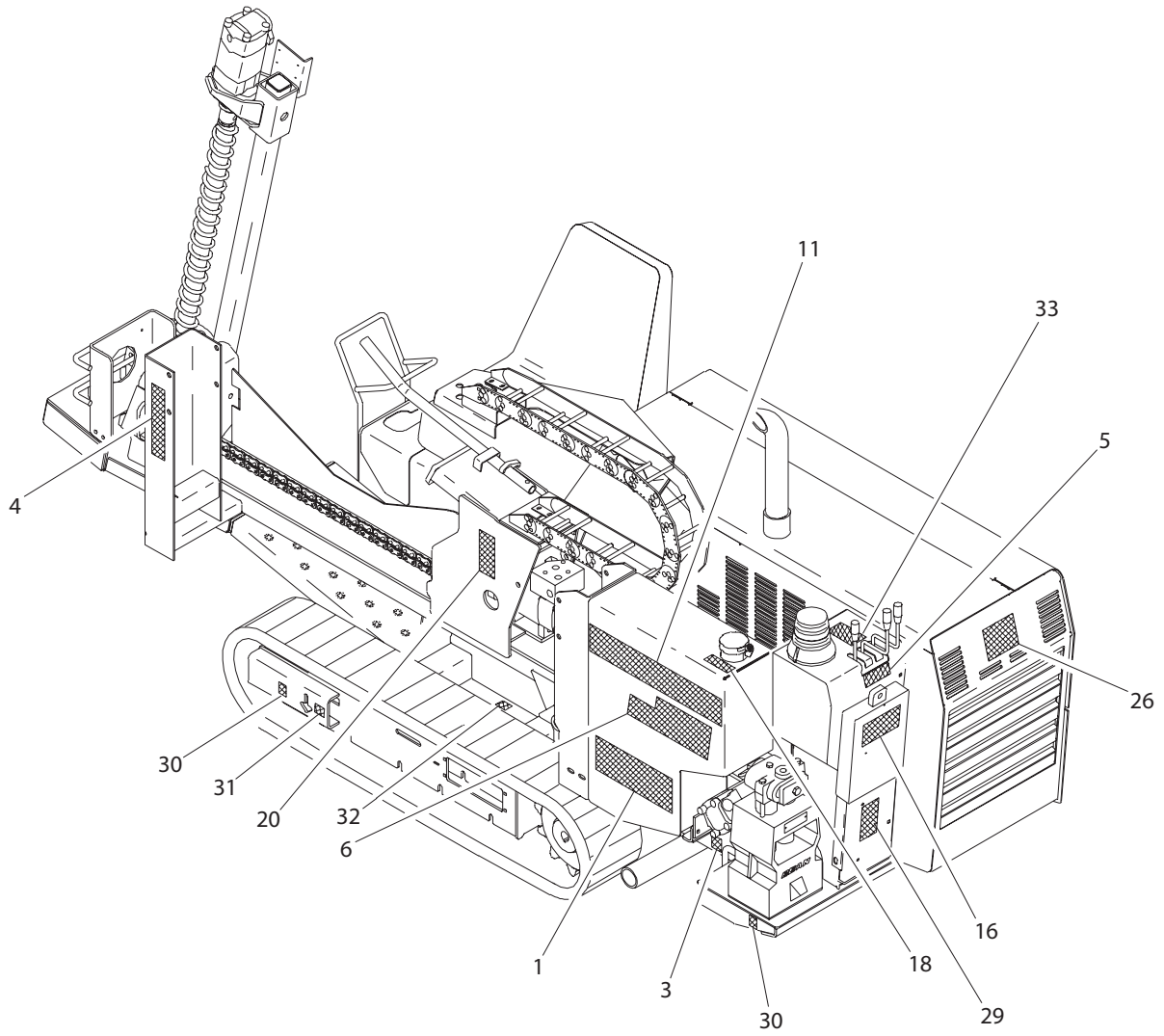
FOOTNOTES

1. NOT PART OF KIT.
2. NOT PART OF KIT. USE WITH 256-030 ENVIRONMENTAL HYD OIL (MOBILE).
3. LOCATE DECAL ON BATTERY SO THAT DECAL IS VISIBLE WHEN VIEWING BATTERY.

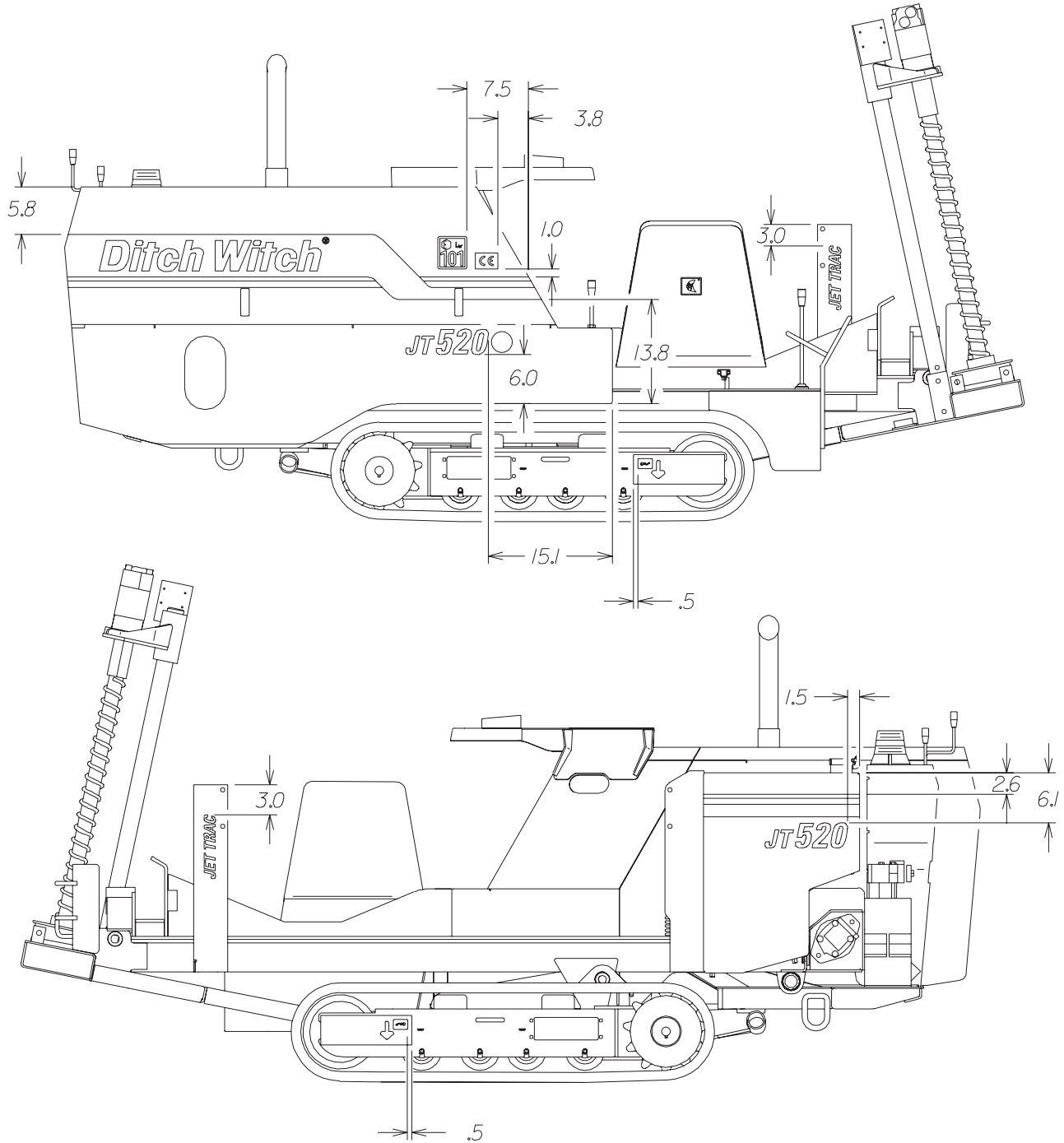
DECAL LOCATION JT520



DECAL LOCATION JT520



DECAL LOCATION JT520



DECAL LOCATION

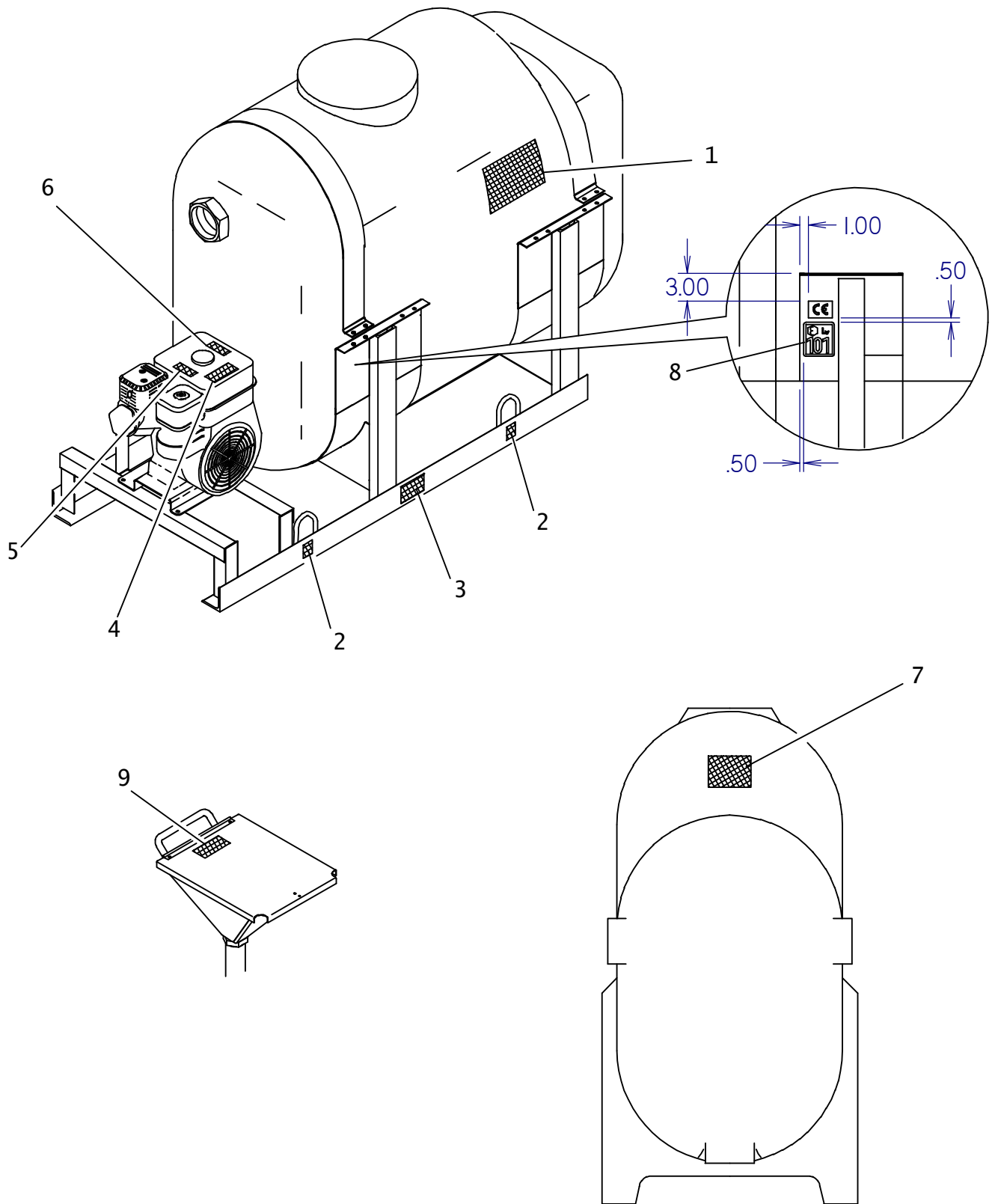
JT520

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	275-877		DECAL KIT - JT520	
1	274-049	2	DANGER ELECTROCUTION	
2	274-050	1	WARNING JOBSITE HAZARD	
3	274-318	4	TIE DOWN LOCATION	
4	274-885	2	JET TRAC LOGO TYPE	
5	274-970	1	SETUP CONTROL PANEL	
6	274-971	2	JT520 MODEL IDENTIFIER	
7	700-004	1	INSTRUMENT PANEL	
8	274-973	1	LEFT CONTROL PANEL	
9	274-974	1	RIGHT CONTROL PANEL	
10	274-996	1	DITCH WITCH STRIPE	
11	274-554	1	GRAPHIC STRIPE	
12	274-592	1	FLUID PRESSURE DIAL (485 PSI)	
13	274-198	1	NOTICE OIL LEVEL	
14	274-724	1	ONE CALL NOTIFICATION	
15	275-033	1	NOTICE ELECTRICAL SYSTEM	
16	275-048	1	IMPORTANT SAFETY RULES	
17	275-120	1	RESERVOIR (THF)	
	274-672	1	ENVIRO HYDRAULIC RESERVOIR	SEE FOOTNOTE 2
18	275-148	1	FUEL TANK (DIESEL)	
19	273-138	1	NOTICE COOLANT	
20	275-184	1	WARNING MOVING PARTS	
21	275-197	1	DANGER ROTATING SHAFT	
22	275-203	1	BATTERY	
23	275-341	1	WARNING SLIDING PARTS	
24	275-355	1	CAUTION HOT PARTS	
25	275-400	1	NOTICE OIL LEVEL	
26	275-449	1	DITCH WITCH LOGO PLACARD	
27	275-450	1	LOGO PLACARD	
28	274-291	1	SOUND POWER RATING	SEE FOOTNOTE 1
29	274-780	1	JET TRAC PATENT (S)	
30	274-442	4	LIFT LOCATION	
31	274-602	2	TOW POINT	
32	275-372	1	IMPORTANT CYLINDER LOCK	
33	275-383	1	NOTICE SLOPE PARKING	
34	273-083	1	NOTICE LUBE	SEE FOOTNOTE 4
35	273-044	1	JT520 ELECTRICAL DIAGNOSTIC	
36	700-018	2	PAINT GUARD	
37	273-267	1	DITCH WITCH BATTERY	SEE FOOTNOTE 3
38	700-116	1	TRACKER CONTROL	BEGIN WITH SERIAL NO. 2X0275

FOOTNOTES

1. NOT PART OF KIT.
2. NOT PART OF KIT. SEE 256-030 ENVIRONMENTAL HYD OIL (MOBILE)
3. LOCATE DECAL ON BATTERY SO THAT DECAL IS VISIBLE WHEN VIEWING BATTERY.
4. NOT PART OF KIT. ENDS WITH SERIAL NO. 2V2660. US ONLY ON SERIAL NO. 2V2594 AND BELOW.

DECAL LOCATION FT5



DECAL LOCATION

FT5

REF PART NO. NUMBER	QTY	DESCRIPTION	REMARKS
275-813		FT5 DECAL KIT	
1. 273-037	2	FT5 MODEL IDENTIFIER	
2. 274-442	4	LIFT LOCATION	
3. 274-817	2	NOTICE, DO NOT LIFT	
4. 275-173	1	FUEL TANK (GASOLINE)	
5. 275-355	1	CAUTION HOT PARTS DECAL	
6. 275-419	1	WARNING, NO FLAME	
7. 275-449	1	DITCH WITCH LOGO PLACARD	
8. 274-291	1	SOUND POWER RATING DECAL	SEE FOOTNOTE 1
9. 275-184	1	WARNING MOVING PARTS	

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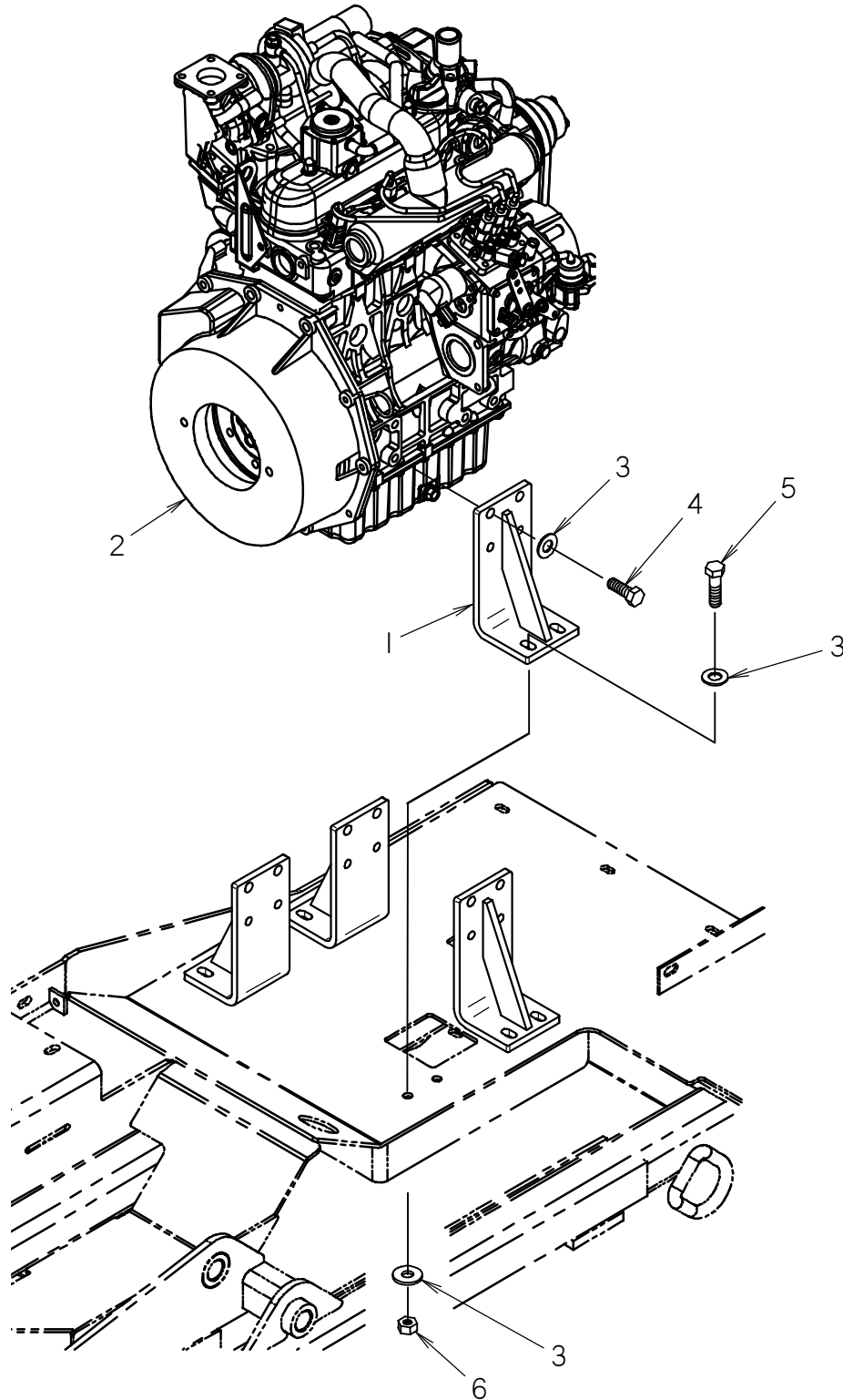
FOOTNOTES:

1. NOT PART OF KIT. FOR EUROPEAN UNITS ONLY.

NOTE:

ENGINE COMPONENTS

ENGINE MOUNT



ENGINE MOUNT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-702	4	ENGINE MOUNT	
2.	194-034	1	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTE 1
	194-541	1	ENGINE - KUBOTA D1105 DIESEL T2	SEE FOOTNOTE 2 & 5
	195-1169	1	ENGINE, KUBOTA D1105-T TIER 3	SEE FOOTNOTE 6
	171-017	1	FAN BELT	
	194-041	1	ENGINE OIL FILTER	SEE FOOTNOTE 3 & 4
	194-881	1	OIL FILTER	SEE FOOTNOTE 7
	194-378	1	FLYWHEEL AND RING GEAR	
	194-379	1	FUEL PUMP, MECHANICAL	
	213-338	1	TEMPERATURE SENSOR	SEE FOOTNOTE 3 & 4
	194-380	1	FAN PULLEY	
	194-381	1	INJECTION PUMP	SEE FOOTNOTE 3 & 4
	194-382	1	STARTER	SEE FOOTNOTE 3 & 4
	194-873	1	STARTER, 1.4 KW	SEE FOOTNOTE 7
	194-383	3	GLOW PLUG	
	217-453	1	ALTERNATOR	SEE FOOTNOTE 3 & 4
	213-365	1	ALTERNATOR	SEE FOOTNOTE 7
	217-856	1	LAMPTIMER 12V	
	217-952	1	OIL PRESSURE SWITCH	
	217-953	1	STOP SOLENOID	SEE FOOTNOTE 3
	213-306	1	STOP SOLENOID	SEE FOOTNOTE 4 & 7
	194-386	1	FUEL FILTER ELEMENT	
	194-210	1	THERMOSTAT	
	153-352	1	THERMOSTAT GASKET	
	194-218	1	WATER PUMP	
	153-353	1	WATER PUMP GASKET	
3.	106-396	32	WASHER (M10, HARDENED)	
4.	111-054	16	SCREW (M10-1.25 X 25MM)	USE LOCTITE 242 OR EQUIVALENT
5.	105-876	8	SCREW (M10-1.50 X 35MM)	
6.	105-894	8	LOCKNUT (M10-1.5, PRV TRQ, 10.9)	

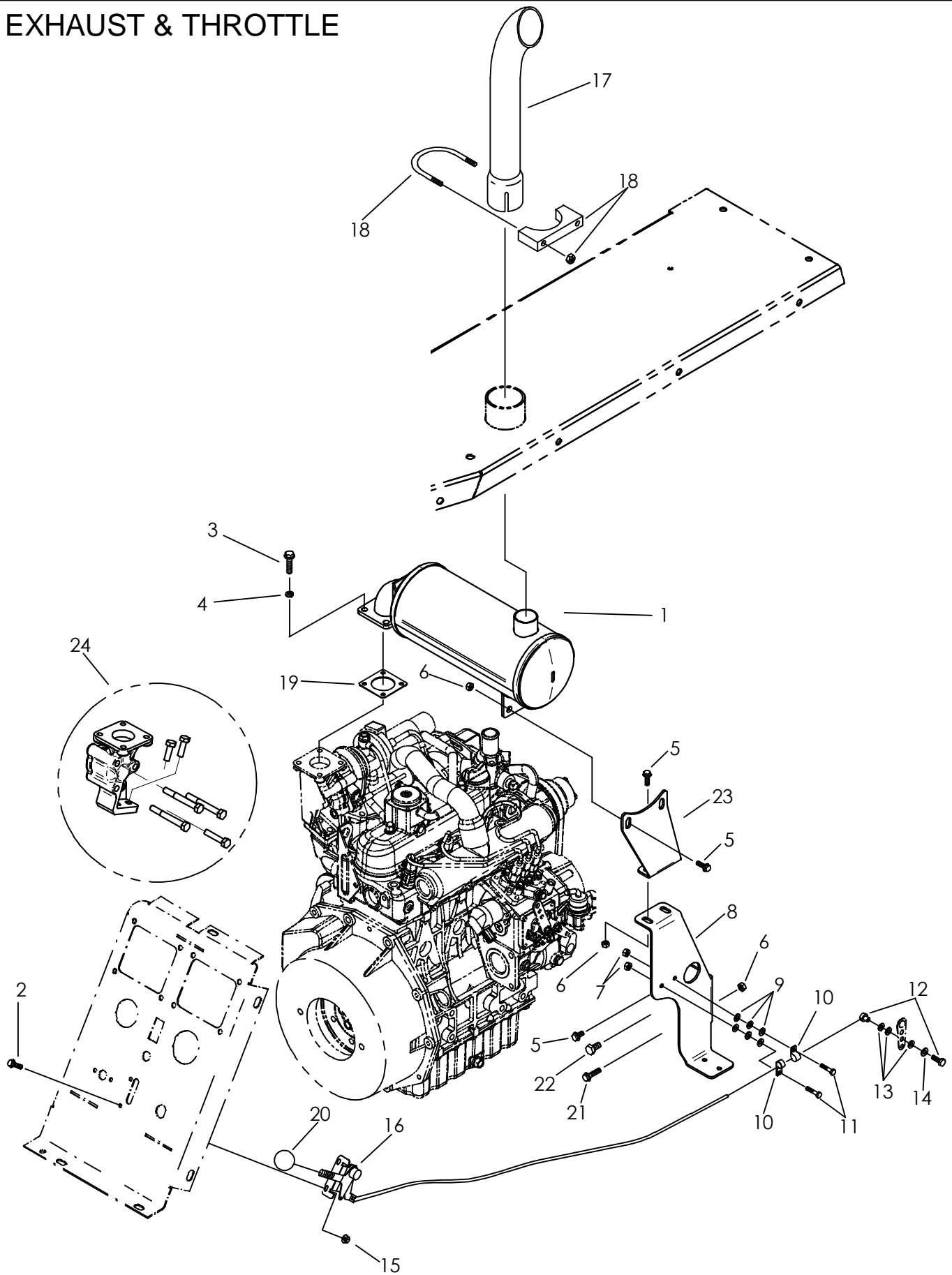
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FOOTNOTES:

- EPA TIER 1 ENGINE ENDS WITH S/N 2Y1290.
- EPA TIER 2 ENGINE BEGINS WITH S/N 2Y1471.
- USED WITH ENGINE 194-034. TEIR 1 SOLENOID WITH 3 WIRE CONNECTOR.
- USED WITH ENGINE 194-541. TEIR 2 SOLENOID WITH 2 WIRE CONNECTOR.
- EPA TIER 2 ENGINE ENDS WITH S/N CMWJT520L80000181
- EPA TIER 4 ENGINE BEGINS WITH S/N CMWJT520C80000182
- USED WITH ENGINE 195-1169

NOTE:

EXHAUST & THROTTLE



EXHAUST & THROTTLE

REF PART NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	195-1120	1	MUFFLER	
2.	106-103	2	BOLT (1/4-NC X 1/2", BUT SOC)	
3.	105-806	4	SCREW (M8-1.25 X 25MM)	
4.	105-091	4	LOCK WASHER (5/16")	
5.	106-380	4	FLG LK SCREW (M8-1.25 X 16MM)	
6.	106-386	-	FLG LOCKNUT (M8-1.25, PRV TRQ, 10.9)	SEE FOOTNOTE 1
7.	106-048	-	LOCKNUT (#10-24)	
8.	300-5133	1	BRACKET	
9.	106-205	6	WASHER (.191")	
10.	149-556	2	CABLE CLAMP (.250")	
11.	106-049	2	BOLT (#10-24 X 3/4", PLPS)	
12.	196-058	1	CABLE SWIVEL (.081")	
13.	106-076	3	WASHER (1/4")	
14.	106-013	1	WASHER (3/16")	
15.	105-085	2	LOCKNUT (1/4-NC)	
16.	196-123	1	THROTTLE CABLE (40")	
17.	196-076	1	EXHAUST STACK (2.50" X 16.25")	
18.	196-009	1	U-BOLT CLAMP (2-1/2")	
19.	149-326	1	GASKET, MUFFLER	
20.	111-064	1	KNOB (1/4-NC, ORANGE)	
21.	106-163	1	FLG SCREW (M8-1.25 X 30MM)	
22.	106-958	-	SCREW (M10-1.25 X 20MM)	
23.	300-3590	1	BRACKET	
24.	190-1262	1	VERTICAL EXHAUST KIT	SEE FOOTNOTE 2

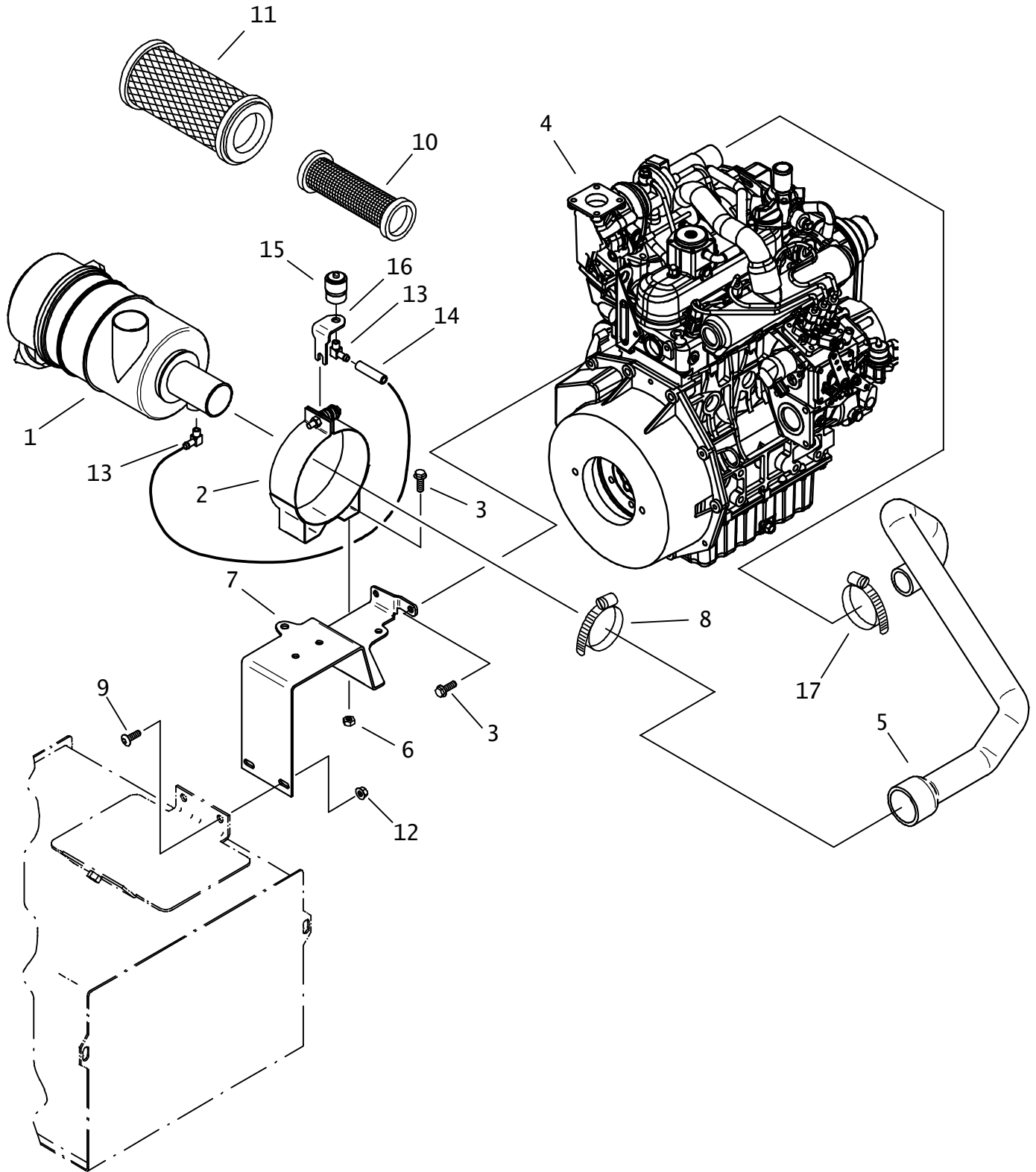
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FOOTNOTES:

1. USE (3) WITH ENGINES 194-034 AND 194-541; USE (5) WITH ENGINE 195-1169
2. REMOVE HORIZONTAL EXHAUST FLANGE AND REPLACE WITH VERTICAL EXHAUST FLANGE, INCLUDING HARDWARE, FOUND IN KIT #190-1262.

NOTE:

AIR FILTER SYSTEM



AIR FILTER SYSTEM

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-035	1	AIR FILTER ASSY	INCL REF NO.'S 10 AND 11, SEE FOOTNOTE 4
	194-093	1	AIR FILTER ASSY	INCL REF NO.'S 10 AND 11, SEE FOOTNOTE 5
2.	194-036	1	MOUNTING CLAMP (5.750")	
3.	106-380	4	FLG LK SCREW (M8-1.25 X 16MM)	
4.	194-034	-	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTE 1 AND 2
	194-541	-	ENGINE - KUBOTA D1105 DIESEL T2	SEE FOOTNOTE 1 AND 3
	195-1169	-	ENGINE - KUBOTA D1105-T T3	SEE FOOTNOTE 1 AND 5
5.	120-556	1	AIR INTAKE HOSE	SEE FOOTNOTE 4
	195-1119	1	AIR INTAKE HOSE	SEE FOOTNOTE 5
6.	106-561	2	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
7.	302-711	1	FILTER MOUNT	
8.	110-134	1	WORM CLAMP (2.062" TO 2.750")	
9.	107-032	2	SCREW (M8-1.25 X 20MM, BUT SOC)	
10.	194-039	1	FILTER ELEMENT, SECONDARY	
11.	194-038	1	FILTER ELEMENT, PRIMARY	
12.	106-386	2	FLG LOCKNUT (M8-1.25)	
13.	155-241	2	S/O COUPLER (02N-05H90)	SEE FOOTNOTE 5
14.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 18" SEE FOOTNOTE 5
15.	195-633	1	RESTRICTION INDICATOR (20" H2O)	SEE FOOTNOTE 5
16.	300-5036	1	MOUNT BRACKET	SEE FOOTNOTE 5
17.	110-133	1	WORM CLAMP (1 1/16" TO 1 15/16")	

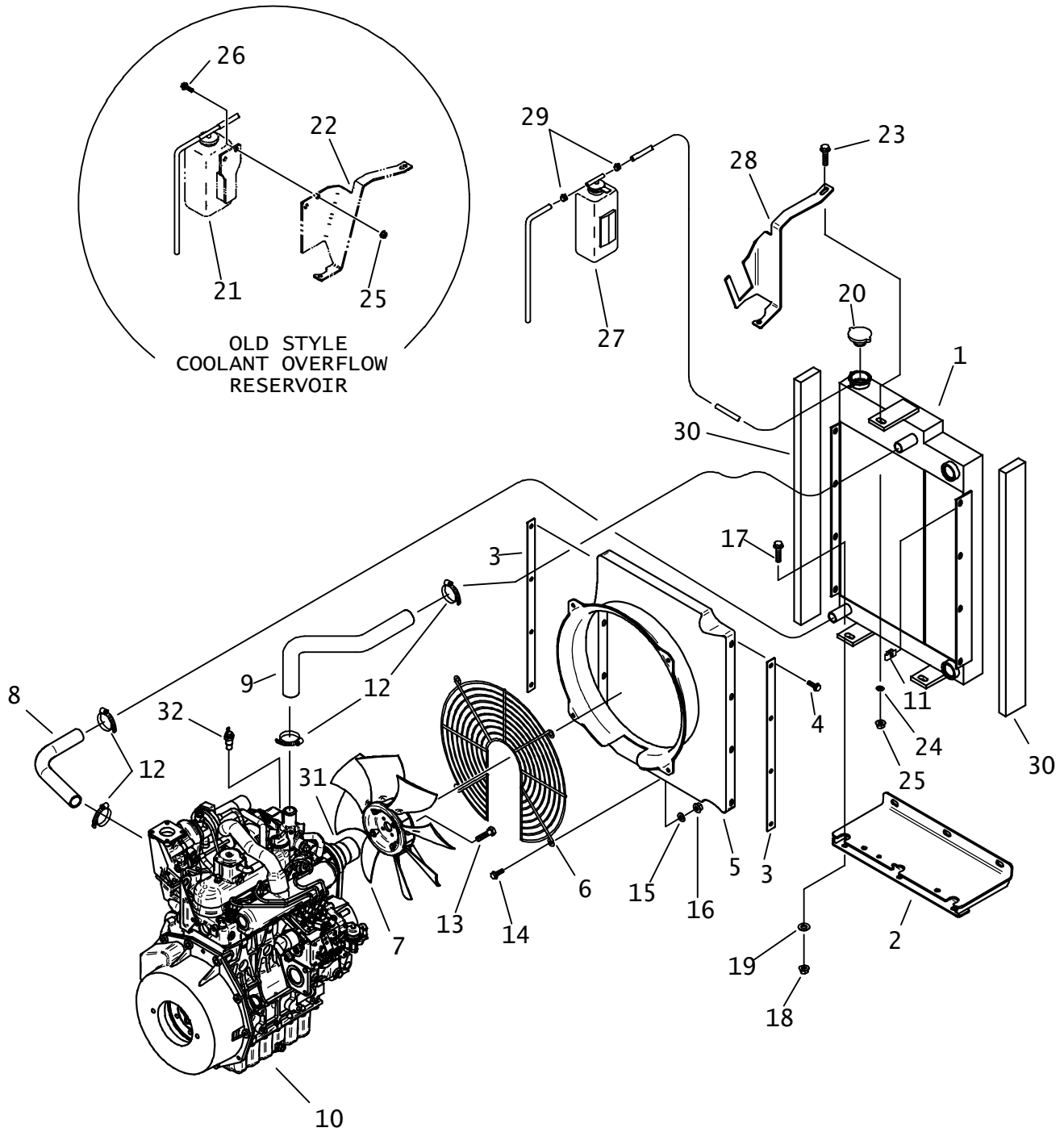
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FOOTNOTES:

1. REFER TO ENGINE MOUNT PAGE FOR SERVICE PARTS.
2. EPA TIER 1 ENGINE ENDS WITH S/N 2Y1290.
3. EPA TIER 2 ENGINE BEGINS WITH S/N 2Y1471.
4. EPA TIER 2 ENGINE ENDS WITH S/N _____.
5. EPA TIER 3 ENGINE BEGINS WITH S/N _____.

NOTE:

RADIATOR



RADIATOR

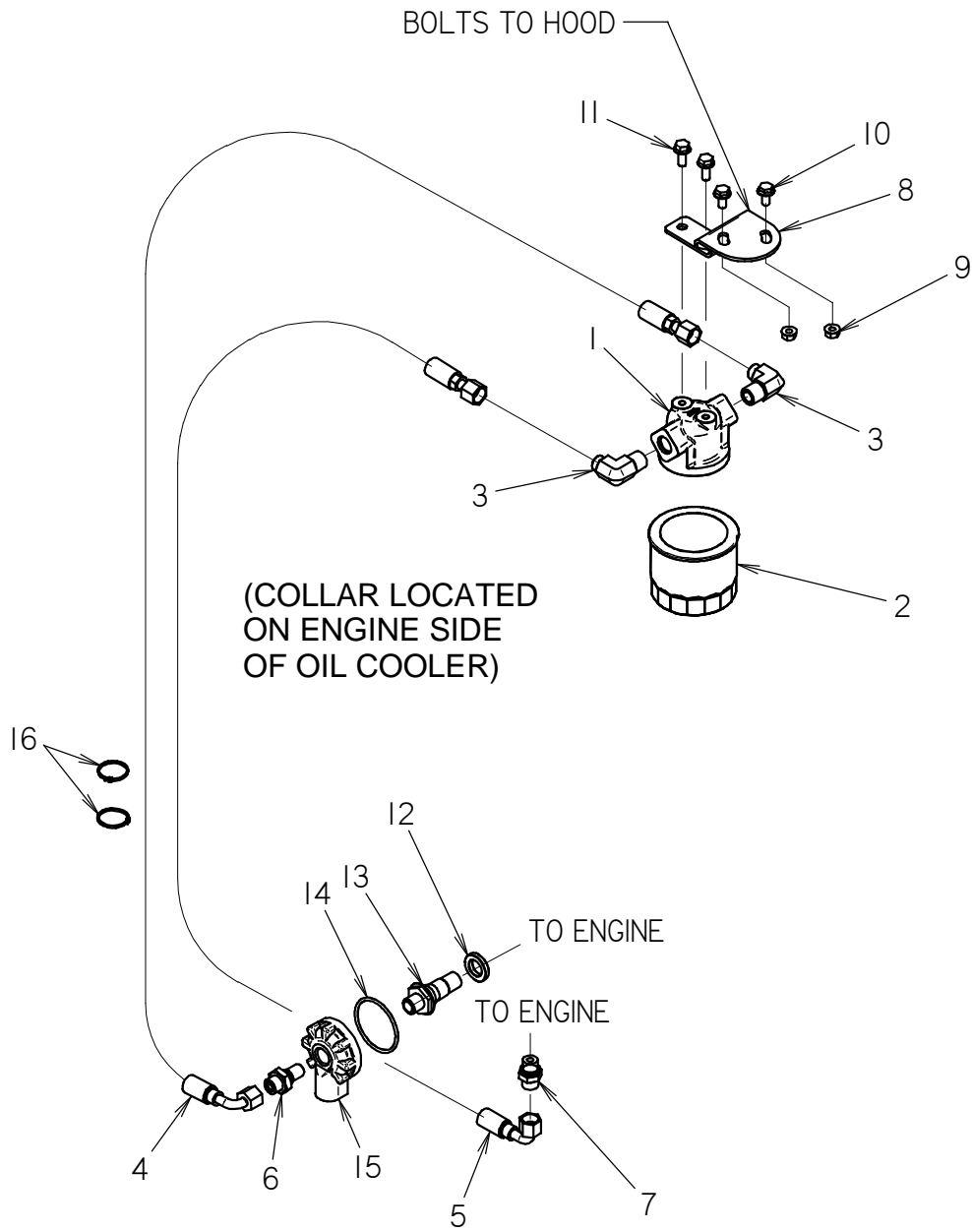
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-697	1	RADIATOR/OIL COOLER	SEE FOOTNOTE 3, 4, & 5
	195-1163	1	RADIATOR/OIL COOLER	SEE FOOTNOTE 6
2.	302-758	1	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 3, 4, & 5
	300-3752	1	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 6
3.	302-769	2	SHROUD MOUNT BAR	SEE FOOTNOTE 3, 4, & 5
	300-3801	2	SHROUD MOUNT BAR	SEE FOOTNOTE 6
4.	107-334	8	SCREW (M8-1.25 X 25MM,BUT SOC)	
5.	196-367	1	FAN SHROUD	SEE FOOTNOTE 3, 4, & 5
	362-1117	1	FAN SHROUD	SEE FOOTNOTE 6
6.	196-369	1	FAN GUARD	
7.	195-1165	1	FAN	SEE FOOTNOTE 6
8.	116-857	1	OUTLET HOSE	SEE FOOTNOTE 3, 4, & 5
	195-1144	1	OUTLET HOSE	SEE FOOTNOTE 6
9.	116-858	1	INLET HOSE	
10.	194-034	-	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTES 1 AND 3.
	194-541	-	ENGINE - KUBOTA D1105 DIESEL T2	SEE FOOTNOTES 1, 4 AND 5.
	195-1169	-	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTES 1 AND 6
11.	106-551	8	CLIP NUT (M8-1.25)	
12.	110-353	4	WORM CLAMP (3/4" TO 1-1/2")	
13.	106-972	4	SCREW (M6-1.00 X 65MM)	TORQUE TO 84 IN-LBS., USE LOCTITE 242 OR EQUIVALENT
14.	106-162	4	FLG SCREW (M8-1.25 X 20MM, GD8)	
15.	106-389	4	WASHER (M8)	
16.	107-096	4	LOCKNUT (M8-1.25, NLK)	
17.	106-383	2	FLG LK SCREW (M10-1.50 X 30MM)	
18.	105-894	2	LOCKNUT (M10-1.50, PRV TRQ,10.9)	
19.	106-396	2	WASHER (M10, HARDENED)	
20.	110-898	1	RADIATOR CAP (14 PSI)	
21.	149-369	-	COOLANT OVERFLOW RESERVOIR	OBSOLETE. SEE FOOTNOTE 2.
22.	305-535	-	RADIATOR BRACKET	OBSOLETE. SEE FOOTNOTE 2.
23.	106-992	1	FLG LK SCREW (M8-1.25 X 25MM)	
24.	105-117	1	WASHER (5/16")	
25.	106-386	1	FLG LOCKNUT (M8-1.25)	
26.	106-916	2	SCREW (M8-1.25 X 25MM, SOC)	
27.	364-529	1	COOLANT OVERFLOW RESERVOIR	
	364-520	1	RESERVOIR BOTTLE	
	364-521	1	RESERVOIR CAP	
28.	306-393	1	RADIATOR BRACKET	SEE FOOTNOTE 3, 4, & 5
	300-4487	1	RADIATOR BRACKET	SEE FOOTNOTE 6
29.	310-343	2	SPRING CLAMP	
30.	116-883	2	SOUND INSULATION	SEE FOOTNOTE 3, 4, & 5
	118-166	2	SOUND INSULATION	SEE FOOTNOTE 6
31.	194-100	1	FAN SPACER	SEE FOOTNOTE 7
32.	213-338	1	TEMP SWITCH	

FOOTNOTES:

- REFER TO ENGINE MOUNT PAGE FOR SERVICE PARTS.
- REPLACEMENT PARTS FOR REF. 21 & 22 TO INCLUDE REF. 27 & 28
- EPA TIER 1 ENGINE ENDS WITH S/N 2Y1290.
- EPA TIER 2 ENGINE BEGINS WITH S/N 2Y1471.
- EPA TIER 2 ENGINE ENDS WITH S/N CMWJT520L80000181
- EPA TIER 3 ENGINE BEGINS WITH S/N CMWJT520L80000182
- REMOVE 21 MM FAN SPACER (194-561) AND REPLACE IT WITH 50 MM FAN SPACER (194-100) FOUND IN 190-1262 KIT

NOTE:

REMOTE OIL FILTER



REMOTE OIL FILTER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	502-161	1	REMOTE HEAD	
2	194-881	1	OIL FILTER	
3	154-420	2	CONNECTOR (08N-06090)	
4	153-315	1	HOSE (060FX90S-36"-3000)	
5	153-315	1	HOSE (060FX90S-36"-3000)	
6	195-1153	1	CONNECTOR, REMOTE OIL FILTER	SEE FOOTNOTE 1
7	150-1936	1	CONNECTOR (M16-1.50-060)	
8	300-4842	1	REMOTE FILTER MOUNT	
9	106-386	2	FLG LOCKNUT (M8-1.25)	
10	106-380	2	FLG LK SCREW (M8-1.25 X 16MM)	
11	106-162	2	FLG SCREW (M8-1.25 X 20MM, GD8)	
12	502-165	1	COLLAR	
13	500-1254	1	CONNECTOR I	
14	502-166	1	O-RING	
15	502-162	1	BASE (OIL FILTER)	
16	110-248	2	CABLE TIE (11/16" TO 11/4")	

NOT SHOWN:

FOOTNOTES:

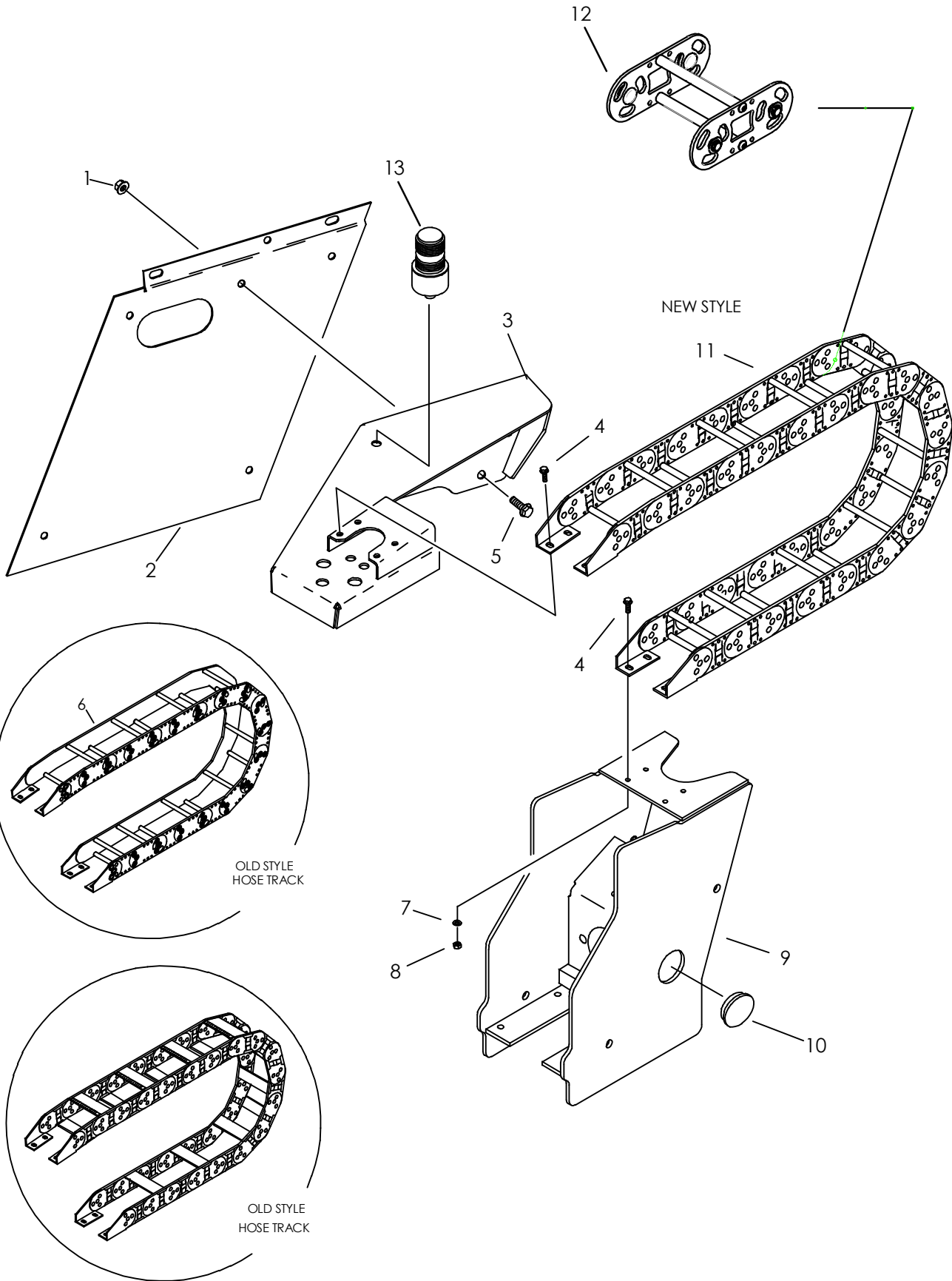
- I. REMOVE STANDARD KUBOTA FITTING AND REPLACE WITH REF #6, 195-1153.

NOTE:

FRAME COMPONENTS

HOSE TRACK

END WITH S/N: 2V2594



HOSE TRACK

END WITH S/N: 2V2594

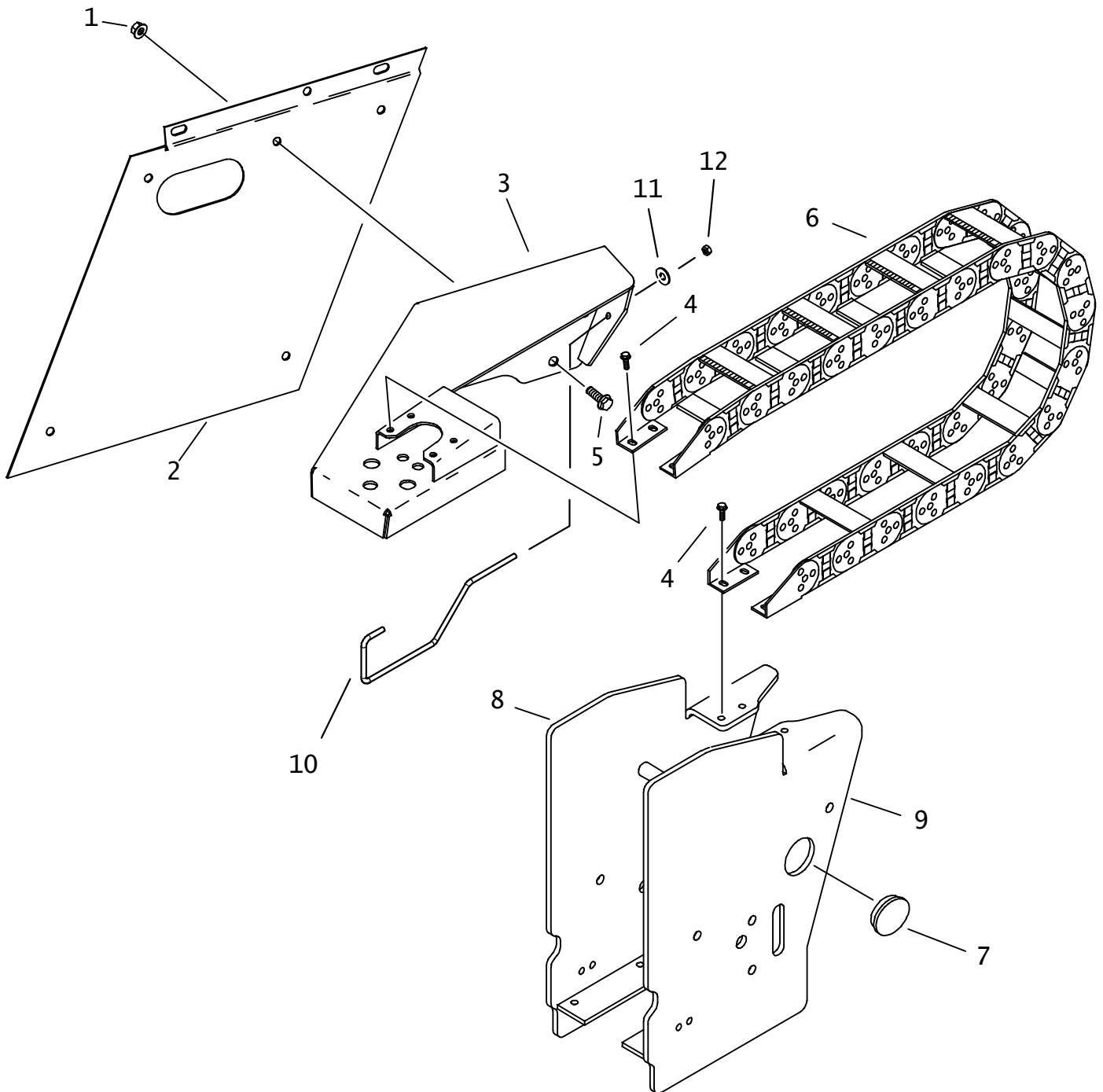
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-387	4	FLG LOCKNUT (M10-1.50)	
2.	302-773	-	UPPER LEFT COVER	
3.	303-289	1	BULKHEAD BRACKET	
4.	106-712	8	FLG SCREW (M6-1.00 X 16MM)	
5.	107-001	4	FLG LK SCREW (M10-1.50 X 25MM)	
6.	149-198	-	HOSE TRACK (4" X 54")	SUPERSEDED BY REF. # 11
	303-973	-	REPAIR SECTION (4" X 12")	
	303-974	-	ALUMINUM RND BAR (3/8" X 4")	
	303-975	-	ALUMINUM RND BAR (3/8" X 4.156")	
	303-976	-	MOUNT BRACKET (LH)	
	303-977	-	MOUNT BRACKET (RH)	
7.	105-284	4	WASHER (3/16")	
8.	106-538	4	LOCKNUT (M6-1.00,PRV TRQ,10.9)	
9.	302-665	-	CARRIAGE	
10.	111-067	2	EXPANSION PLUG (2.125")	
11.	149-573	1	HOSE CARRIER	
	308-918	-	REPAIR SECTION (4" X 15")	INCLUDES 15" HOSE CARRIER SECTION AND HARDWARE
	178-519	-	MOLDED BAR	SUPERSEDED BY REF. # 12
12.	500-1100	1	INNER LINK KIT	BEGINS WITH S/N: 2V2659
13.	217-297	1	STROBE LIGHT-GREEN MEDIUM PROFILE	BEGINS WITH S/N: 2V2659

NOT SHOWN:

FOOTNOTES:

NOTE:

HOSE TRACK



HOSE TRACK

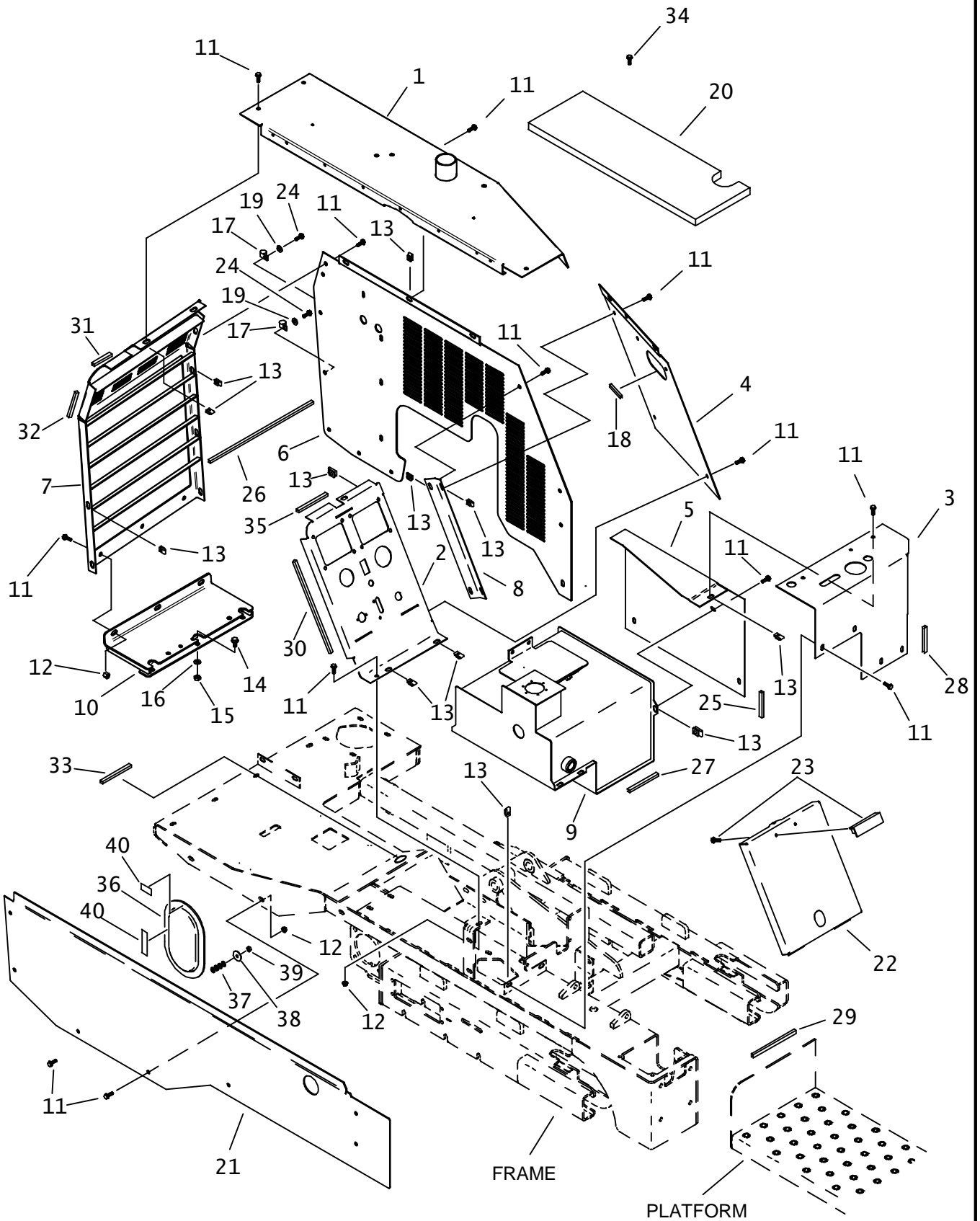
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-387	4	FLG LOCKNUT (M10-1.50)	
2.	302-773	-	UPPER LEFT COVER	
3.	303-289	1	BULKHEAD BRACKET	
4.	106-161	8	FLG SCREW (M6-1.00 X 20MM)	
5.	107-001	4	FLG LK SCREW (M10-1.50 X 25MM)	
6.	118-253	1	HOSE CARRIER	INCLUDES 15" HOSE CARRIER SECTION AND HARDWARE
	308-918	-	REPAIR SECTION (4" X 15")	
	178-519	-	MOLDED BAR	
7.	111-067	2	EXPANSION PLUG (2.125")	
8.	314-425	-	CARRIAGE	
9.	313-997	-	CARRIAGE	
10.	118-409	1	RETAINER ROD	
11.	105-095	1	FLAT WASHER	
12.	107-770	1	NYLOK NUT	

NOT SHOWN:

FOOTNOTES:

NOTE:

COVERS



COVERS

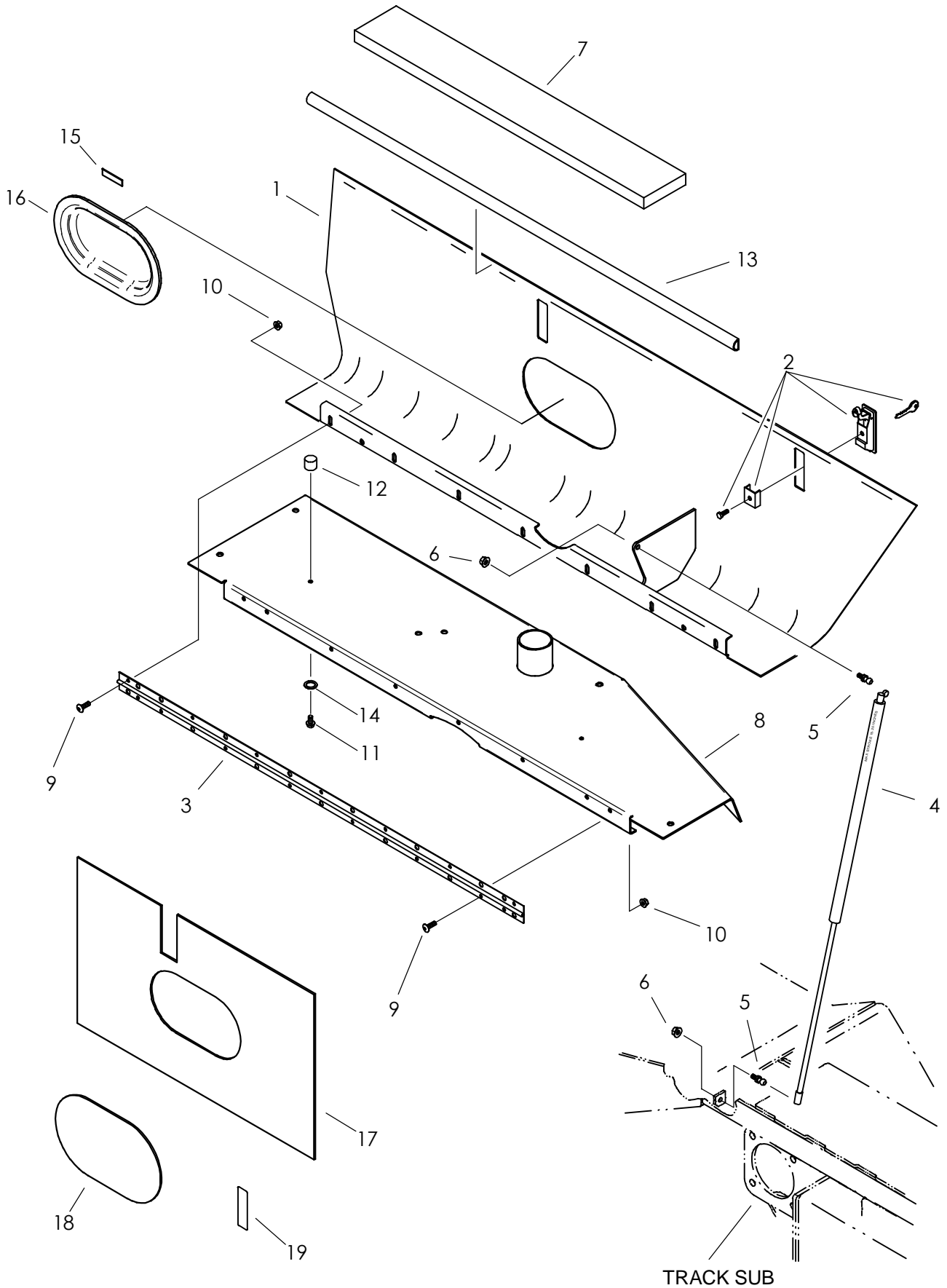
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-275	1	TOP COVER	SEE FOOTNOTE 1
	300-4041	1	TOP COVER	SEE FOOTNOTE 2
2.	302-771	1	UPPER FRONT COVER	
3.	302-772	1	LOWER FRONT COVER	
4.	302-773	1	UPPER LEFT COVER	
5.	302-774	1	LOWER LEFT COVER	
6.	302-775	1	LEFT COVER FRAME	SEE FOOTNOTE 1
	300-4146	1	LEFT COVER FRAME	SEE FOOTNOTE 2
7.	302-887	1	GRILLE	SEE FOOTNOTE 1
	300-3792	1	GRILLE	SEE FOOTNOTE 2
8.	302-787	1	PLATE	
9.	302-831	-	HYDRAULIC RESERVOIR	
10.	302-758	-	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 1
	300-3752	-	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 2
11.	106-991	38	FLG LK SCREW (M8-1.25 X 20mm)	
12.	106-386	7	FLG LOCKNUT (M8-1.25)	
13.	106-551	34	CLIP NUT (M8-1.25)	
14.	106-724	3	FLG SCREW (M10-1.50 X 25mm)	
15.	105-894	3	LOCKNUT (M10-1.5, PRV TRQ, 10.9)	
16.	106-396	3	WASHER (M10, HARDENED)	
17.	110-259	2	BOLT-ON CLAMP (.625")	
18.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 13"
19.	105-117	2	WASHER (5/16")	
20.	117-239	1	TOP COVER INSULATION	SEE FOOTNOTE 1
	362-1144	1	SOUND INSULATION	SEE FOOTNOTE 2
21.	302-885	1	LOWER COVER	SEE FOOTNOTE 1
	300-4996	1	LOWER COVER	SEE FOOTNOTE 2
22.	302-930	1	CONSOLE COVER	
23.	110-503	1	PULL HANDLE	
24.	106-992	2	FLG LK SCREW (M8-1.25 X 25mm)	
25.	116-259	AR	BULK EDGE (1/2", SOLD PER 1')	USE 1 @ 2.5"
26.	116-421	AR	BULK EDGE (1/8", SOLD PER 1')	USE 1 @ 17"
27.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 4"
28.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 2.5"
29.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 6"
30.	116-724	AR	BULK SEAL (3/32", SOLD PER 1')	USE 1 @ 15.75"
31.	116-724	AR	BULK SEAL (3/32", SOLD PER 1')	USE 1 @ 3"
32.	116-724	AR	BULK SEAL (3/32", SOLD PER 1')	USE 1 @ 5.5"
33.	115-663	AR	GROMMET EDGE (1/4" X 12.7")	USE 1 @ .500
34.	107-950	6	INSULATION STUD	
35.	116-724	AR	BULK SEAL (3/32", SOLD PER 1')	USE 1 @ 4"
36.	111-066	1	SLOT PLUG (2.438" X 4.000")	
37.	105-881	AR	WASHER (5/16")	
38.	105-117	2	WASHER (5/16")	
39.	106-078	2	NUT (M8-1.25)	
40.	111-075	AR	MAGNET (SOLD PER 1')	USE 2 @ 5" & 1 @ 2"

FOOTNOTES:

1. ENDS WITH S/N _____
2. BEGINS WITH S/N _____

NOTE:

DOOR



DOOR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-777	1	DOOR	SEE FOOTNOTE 1
	300-4044	1	DOOR	SEE FOOTNOTE 2
2.	117-558	2	ADJUST LEVER LATCH (LOCKING)	
	214-961		KEY, PAIR (BASE CODE)	
	217-309		LOCK PLUG 4/LATCH (BASE CODE)	
	<u>110-757</u>	2	LEVER LATCH	ADJUSTABLE LOCKING; INCLUDES KEYS
	110-596		KEYS (PAIR)	
3.	303-350	1	HINGE	
4.	111-057	1	STRUT (40 LB)	
5.	110-727	2	BALL SCREW (5/16-NC X 1/2")	
6.	105-003	2	FLG LOCKNUT (5/16-NC)	
7.	117-240	1	DOOR INSULATION	
8.	303-275	-	TOP COVER	SEE FOOTNOTE 1
	300-4041	-	TOP COVER	SEE FOOTNOTE 2
9.	106-103	15	BOLT (1/4-NC X 1/2", BUT SOC)	
10.	105-085	15	LOCKNUT (1/4-NC)	
11.	106-224	2	FLG SCREW (M6-1.00 X 10mm)	
12.	116-853	2	BUFFER (M6-1.00)	
13.	116-724	AR	BULK SEAL (3/32", SOLD PER 1')	USE 1 @ 59"
14.	105-284	2	WASHER (3/16")	
15.	118-184	AR	VHB TAPE (.50")	USE 1 @ 25"
16.	362-1229	1	FILLER PLUG	
17.	362-1245	1	HEAT INSULATION	SEE FOOTNOTE 2
18.	362-1246	1	HEAT INSULATION	SEE FOOTNOTE 2
19.	118-187	AR	FOIL TAPE (HI TEMP ALUM) 2" WD	USE 110", SEE FOOTNOTE 2

NOT SHOWN:

FOOTNOTES:

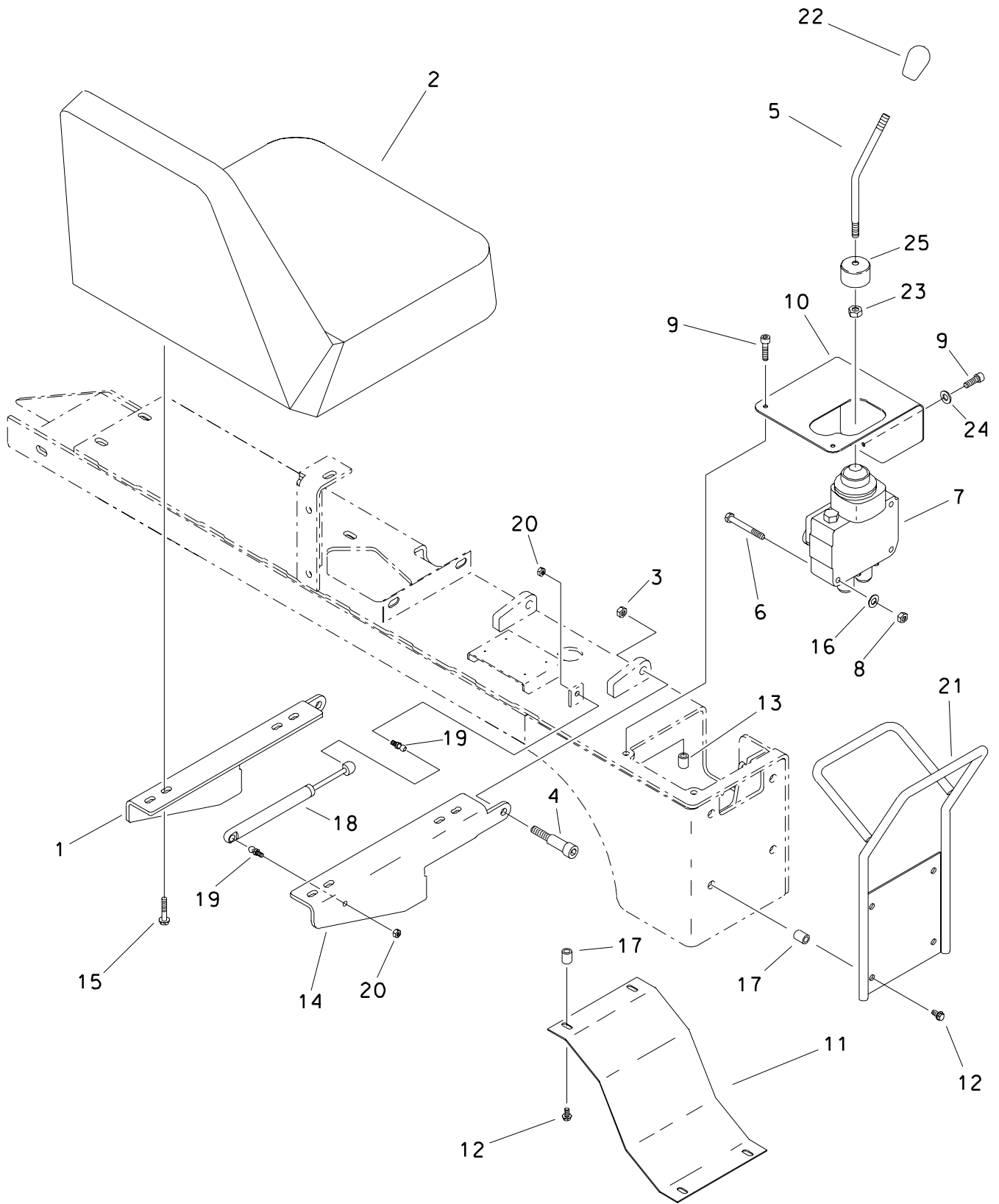
1. ENDS WITH S/N _____
2. BEGINS WITH S/N _____

NOTE:

NOTES:

OPERATOR'S STATION

SEAT MOUNT



SEAT MOUNT

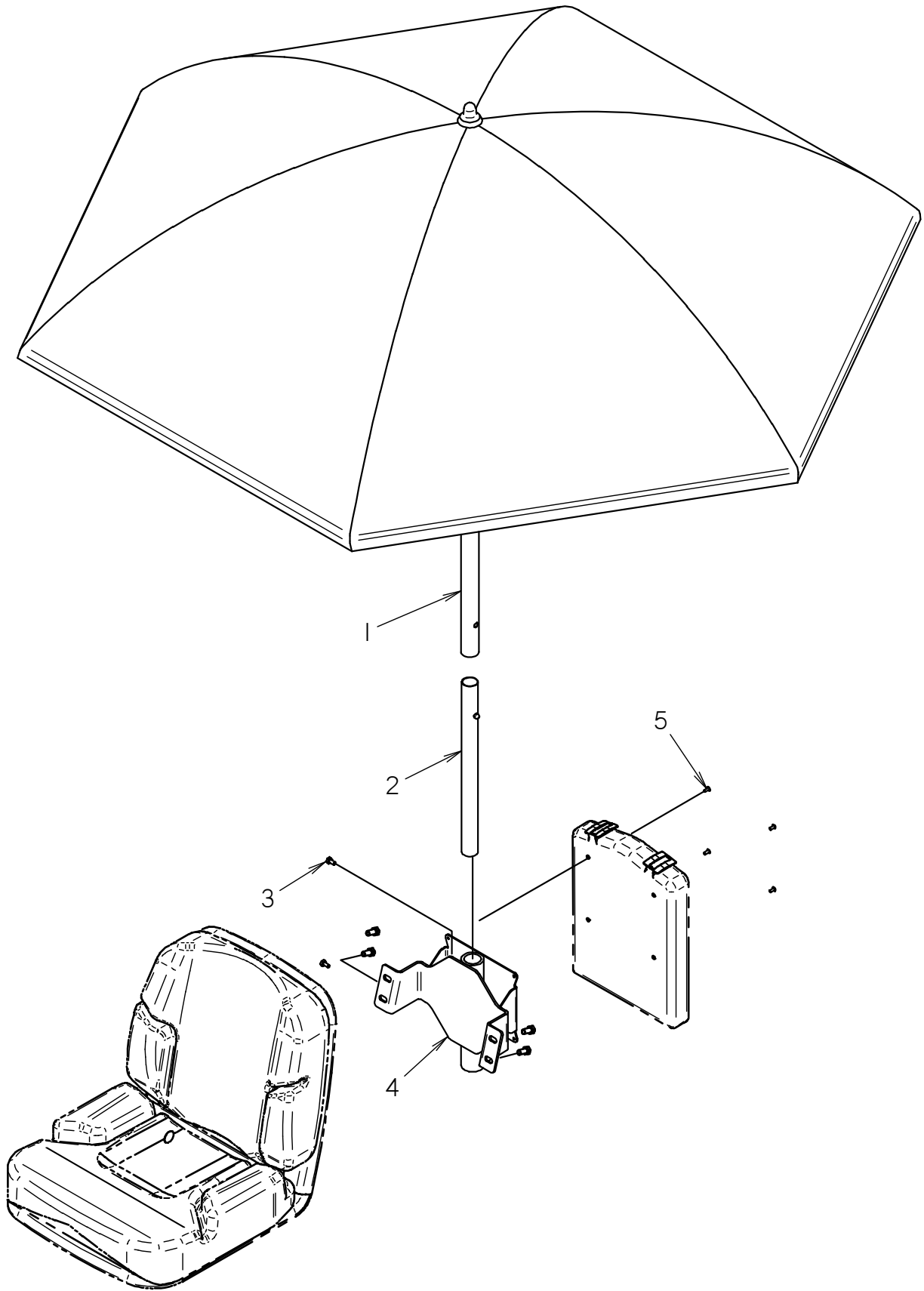
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-760	1	LEFT SEAT MOUNT	
2.	117-230	1	SEAT	
3.	105-894	2	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
4.	106-739	2	SHLD BLT (M12 X 20MM, M10-1.50)	
5.	303-386	1	HANDLE	
6.	106-330	3	SCREW (M8-1.25 X 70MM)	
7.	516-107	1	HYD CONTRDL VALVE	
	190-736	-	SEAL REPAIR KIT	
8.	106-561	3	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
9.	106-640	3	BOLT (M6-1.00 X 20MM, BUT SOC)	
10.	302-762	1	VALVE COVER	
11.	302-761	1	ACCESS COVER	
12.	106-381	8	FLG LK SCREW (M8-1.25 X 25MM)	
13.	105-631	3	NUTSERT (M6X1.0) 4.20-6.60THK	
14.	302-759	1	RIGHT SEAT MOUNT	
15.	501-325	4	FLG LOCK BOLT (5/16-NC X 5/8")	
16.	105-117	3	WASHER (5/16")	
17.	105-633	8	NUTSERT (M8X1.25) 3.80-7.90THK	
18.	105-694	1	STRUT	
19.	110-655	2	BALL SCREW (5/16-NC X 1/2")	
20.	105-089	2	LOCKNUT (5/16-NC)	
21.	302-901	1	JOYSTICK GUARD	
22.	110-022	1	KNOB (1/2-NC, BLACK)	
23.	106-089	1	NUT (M12-1.75, 10.9)	
24.	105-284	1	WASHER (3/16")	
25.	111-077	1	VINYL CAP (1.625")	

NOT SHOWN:

190-884 - ARMREST KIT

FOOTNOTES

UMBRELLA KIT



UMBRELLA KIT

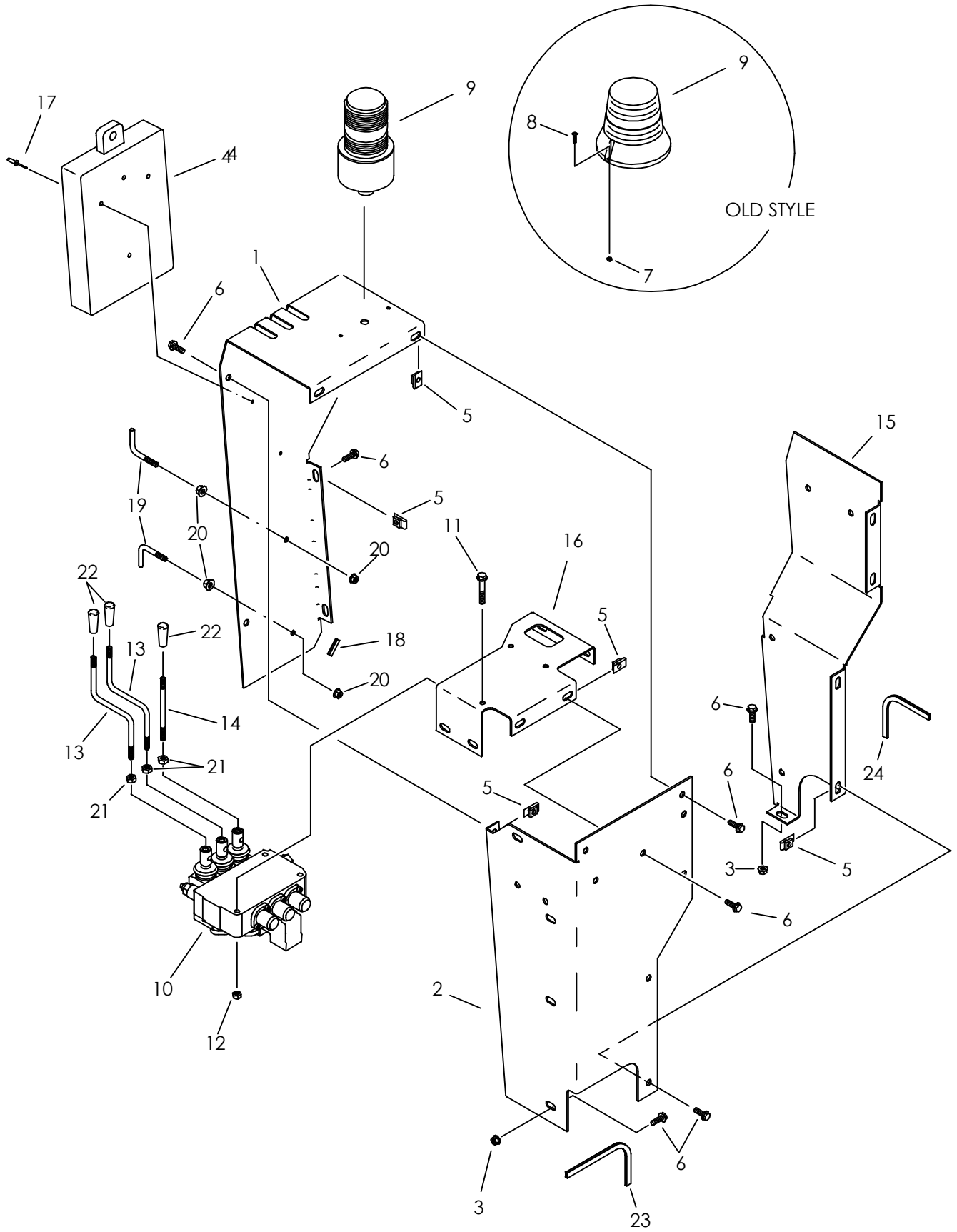
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	190-1731		UMBRELLA KIT	INCLUDES REFERENCE NUMBERS 1-5
1	344-0001	1	UMBRELLA	INCLUDES REFERENCE NUMBER 2
2	500-1962	1	UMBRELLA POLE (16")	
3	105-174	2	BOLT (1/4-NC X 1/2")	
4	301-2607	1	UMBRELLA MOUNT	
5	110-560	4	POP RIVET (3/16" X 1/2", ALUM)	

NOT SHOWN:

FOOTNOTES:

NOTE:

TOWER



TOWER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-838	1	SET-UP CONSOLE COVER	
2.	302-843	1	CONSOLE FRONT	
3.	106-386	5	FLG LOCKNUT (M8-1.25)	
4.	250-622	1	MANUAL COMPARTMENT	
5.	106-551	15	CLIP NUT (M8-1.25)	
6.	106-991	19	FLG LK SCREW (M8-1.25 X 20MM)	
7.	106-048	-	LOCKNUT (#10-24)	ENDS WITH S/N: 2W0902
8.	105-185	-	BOLT (#10-24 X 1/2", RD SLT)	ENDS WITH S/N: 2W0902
9.	217-108	-	STROBE LIGHT W/AMBER LENS	ENDS WITH S/N: 2W0902
	214-576	-	LINEAR FLASHTUBE	ENDS WITH S/N: 2W0902
	214-633	-	AMBER DOME LENS	ENDS WITH S/N: 2W0902
	217-296	1	STROBE LIGHT AMBER MED PROFILE	BEGINS WITH S/N: 2W0967
	214-991	1	REPLACEMENT FLASH BULB	BEGINS WITH S/N: 2W0967
	217-302	1	REPLACEMENT LENS (AMBER)	BEGINS WITH S/N: 2W0967
	217-301	1	BRUSH GUARD	BEGINS WITH S/N: 2W0967
10.	516-108	-	HYD CONTROL VALVE	
	190-734	-	SEAL REPAIR KIT	
11.	106-570	3	SCREW (M8-1.25 X 60MM)	
12.	106-386	3	FLG LOCKNUT (M8-1.25)	
13.	303-619	2	LEVER ROD	
14.	303-667	1	ROD	
15.	302-844	1	CONSOLE SIDE	
16.	302-845	1	VALVE MOUNT	
17.	110-560	3	POP RIVET (3/16" X 1/2", ALUM)	
18.	115-686	AR	BULK EDGE (5/32",SOLD PER 1")	USE 1 @ 1.5"
19.	343-086	2	CABLE SUPPORT	
20.	105-003	4	FLG LOCKNUT (5/16-NC)	
21.	106-078	3	NUT (M8-1.25)	
22.	116-906	3	KNOB (5/16-NC, BLACK)	
23.	115-686	AR	BULK EDGE (5/32",SOLD PER 1")	USE 1 @ 9"
24.	115-686	AR	BULK EDGE (5/32",SOLD PER 1")	USE 1 @ 7.5"

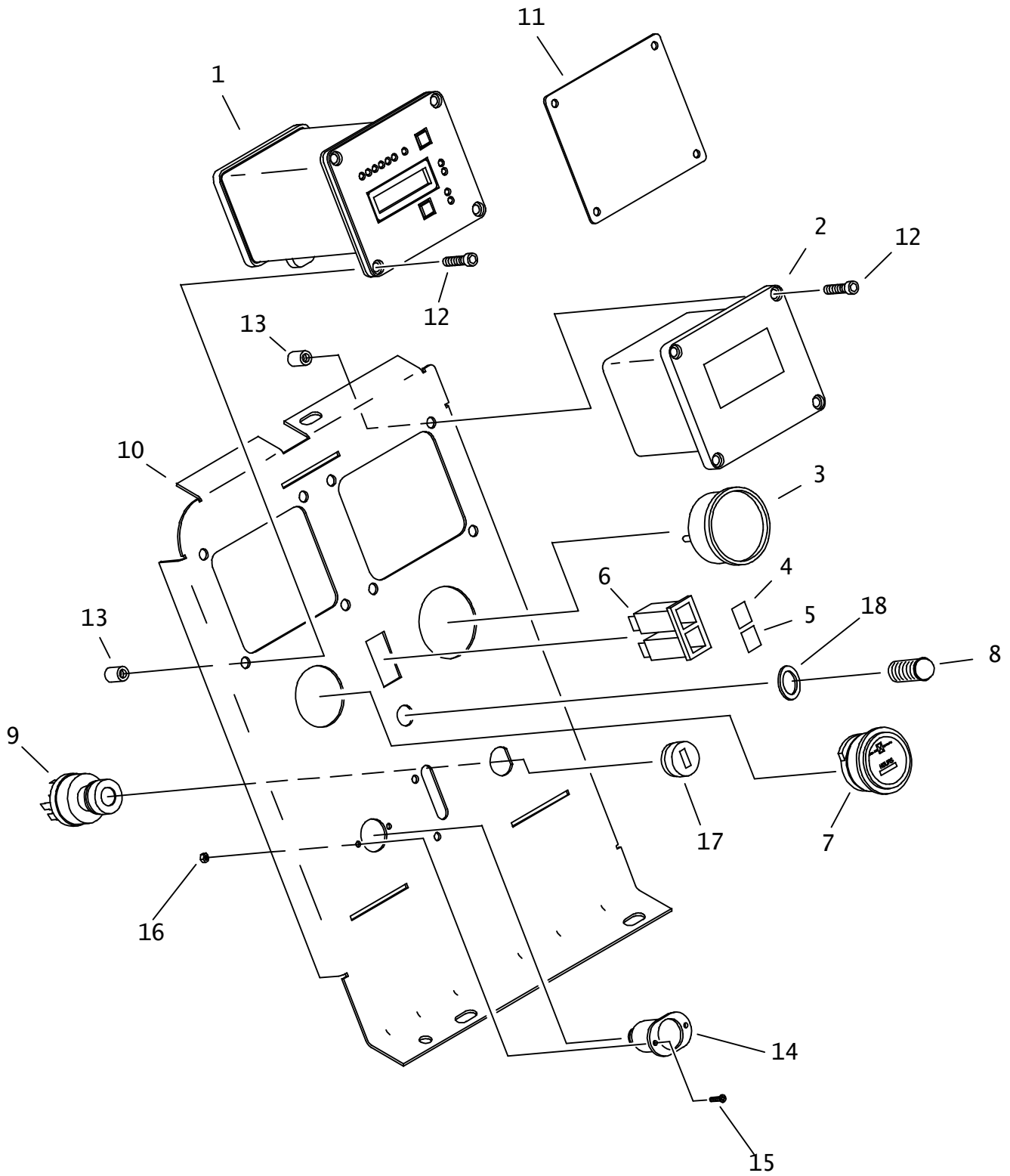
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FOOTNOTES:

NOTE:

CONSOLE

JT520_FT5



CONSOLE

JT520_FT5

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	220-027	1	ESID MODULE	
2.	N/A	1	SUBSITE 90D/ANTENNA	FOR REPLACEMENT CONTACT SUBSITE ELECTRONICS
3.	191-047	1	GAUGE KIT	
4.	217-034	1	INSERT (RED) ENG OIL TEMP	
5.	217-021	1	INSERT (RED) ENG OIL PSI	
6.	217-020	1	PILOT LIGHT	
	217-046	2	BULB (12V, DC)	
7.	215-128	1	HOUR METER	
8.	217-071	1	RED PILOT LIGHT	
	214-563	1	RED LED 12V	
9.	214-852	1	IGNITION SWITCH	
	214-961		KEY, PAIR (BASE CODE)	
	214-962		SWITCH MOUNTING NUT	
10.	302-771	-	UPPER FRONT COVER	
11.	348-896	1	COVER PLATE	FOR UNITS WITHOUT REMOTE DISPLAY
12.	106-640	8	BOLT (M6-1.00 X 20MM, BUT SOC)	
13.	105-630	8	NUTSERT (M6X1.0).70-4.20THK	
14.	214-301	1	ACCESSORY SOCKET	
15.	106-273	2	SCREW (#6-32 X 5/8", FLT, BRASS)	
16.	105-215	2	NUT (#6-32)	
17.	216-009	1	COVER (13/16", NYLON)	
18.	107-767	1	WASHER	

NOT SHOWN:

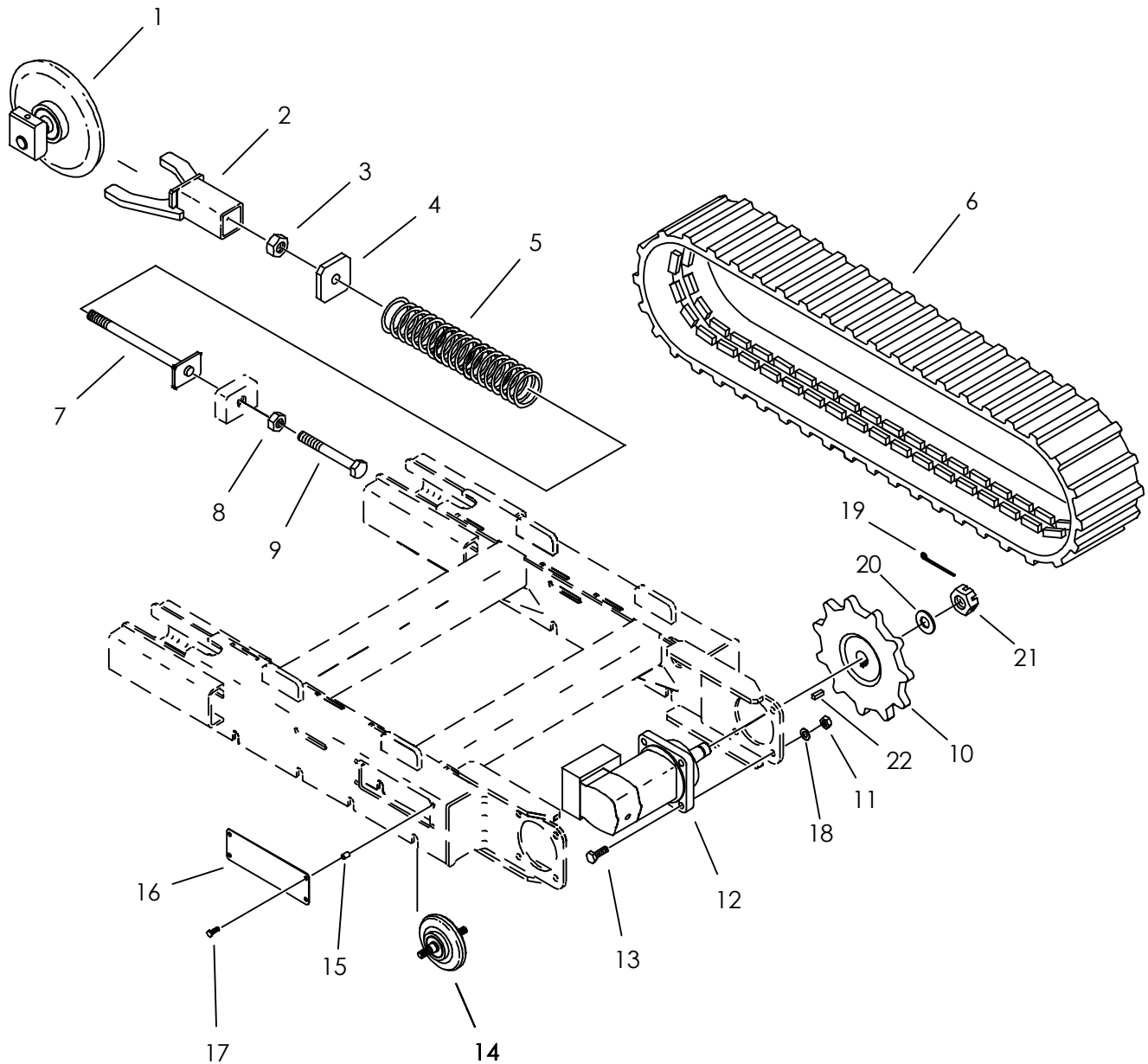
FOOTNOTES:

NOTE:

NOTES:

TRACK FRAME

TRACK GROUP



TRACK GROUP

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	347-019	2	IDLER	
2.	355-930	2	YOKE	
3.	106-851	2	LOCKNUT (M18-2.50)	
4.	355-926	2	END PLATE	
5.	117-047	2	COMPRESSION SPRING	
6.	302-644	2	RUBBER TRACK (180MM, 39P, 72MM)	
7.	355-924	2	SHAFT	
8.	106-374	2	NUT (M20-2.50, 10.9)	
9.	106-672	2	BOLT (M20-2.50 X 160MM)	USE LOCTITE 767 OR EQUIVALENT
10.	174-009	2	SPROCKET (180B11)	
11.	106-685	8	LOCKNUT (M12-1.75,PRV TRQ,10.9)	
12.	158-965	2	HYD MOTOR W/ COUNTER BALANCE	INCLUDES REF NO.'S 21 & 22
	500-658	AR	SEAL REPAIR KIT	
	155-776	2	O-RING (117-D70)	BETWEEN BLOCK AND MOTOR
	500-2063	-	COUNTERBALANCE MANIFOLD	
13.	106-334	8	SCREW (M12-1.75 X 50MM)	
14.	355-972	8	ROLLER	
15.	105-631	8	NUTSERT(M6X1.0) 4.20-6.60THK	
16.	302-707	2	ADJUSTMENT COVER	
17.	106-712	8	FLG SCREW (M6-1.00 X 16MM)	
18.	106-397	8	WASHER (M12, HARDENED)	
19.	105-511	2	COTTER PIN (1/8" X 1-1/4")	
20.	110-112	2	MACHINERY BUSHING (1")	
21.	107-034	1	CASTLE NUT (1-20 NEF)	
22.	165-915	1	KEY (5/16" X 1")	

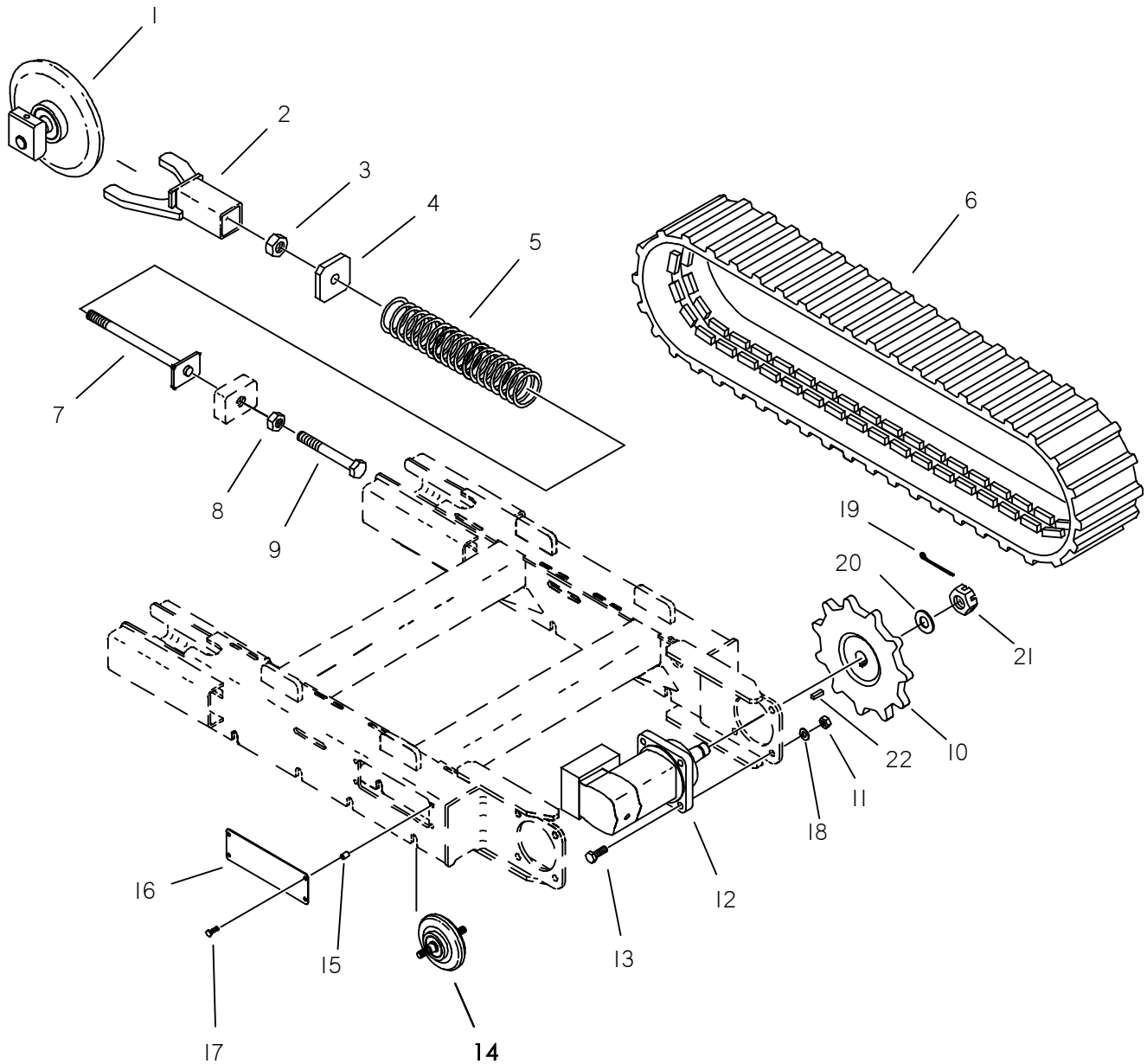
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FOOTNOTES:

NOTE:

TRACK GROUP

ENDS WITH S/N
BEGINS WITH S/N



TRACK GROUP
ENDS WITH S/N
BEGINS WITH S/N

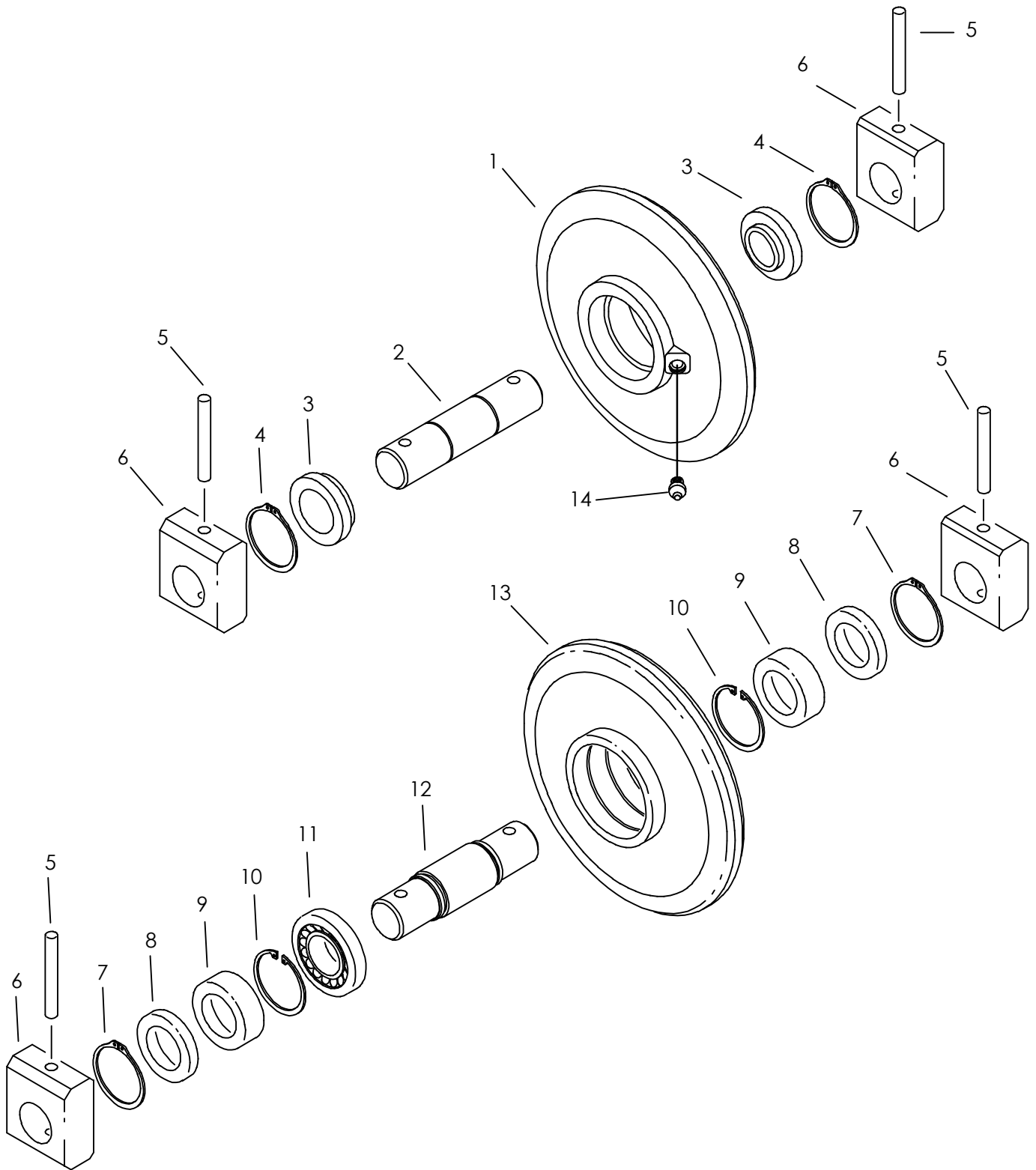
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	347-019	2	IDLER	
2.	355-930	2	YOKE	
3.	106-851	2	LOCKNUT (M18-2.50)	
4.	355-926	2	END PLATE	
5.	117-047	2	COMPRESSION SPRING	
6.	302-644	2	RUBBER TRACK (180MM, 39P, 72MM)	
7.	355-924	2	SHAFT	
8.	106-374	2	NUT (M20-2.50, 10.9)	
9.	106-672	2	BOLT (M20-2.50 X 160MM)	USE LOCTITE 767 OR EQUIVALENT
10.	140-1085	2	SPROCKET (180B11)	SUPERCEDES 174-009
11.	106-685	8	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
12.	158-965	2	HYD MOTOR W/ COUNTER BALANCE	INCLUDES REF NO.'S 21 & 22
	500-658	AR	SEAL REPAIR KIT	
	155-776	2	O-RING (117-D70)	BETWEEN BLOCK AND MOTOR
	500-2063	-	COUNTERBALANCE MANIFOLD	
13.	106-334	8	SCREW (M12-1.75 X 50MM)	
14.	355-972	8	ROLLER	
15.	105-631	8	NUTSERT(M6X1.0) 4.20-6.60THK	
16.	302-707	2	ADJUSTMENT COVER	
17.	106-712	8	FLG SCREW (M6-1.00 X 16MM)	
18.	106-397	8	WASHER (M12, HARDENED)	
19.	105-511	2	COTTER PIN (1/8" X 1-1/4")	
20.	110-112	2	MACHINERY BUSHING (1")	
21.	107-034	1	CASTLE NUT (1-20 NEF)	
22.	165-915	1	KEY (5/16" X 1")	

NOT SHOWN:

FOOTNOTES:

NOTE:

IDLER



IDLER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	347-019	1	IDLER	SEE FOOTNOTES 1 & 3
2.	167-340	1	IDLER SHAFT	
3.	125-550	2	BALL BEARING (1.378") GREASABLE	
4.	115-465	2	EXTERNAL SNAP RING (1.375")	
5.	105-561	2	ROLL PIN (3/8" X 2-3/4")	
6.	347-023	2	PUSH BLOCK	
7.	118-021	2	EXTERNAL SNAP RING (1.500")	
8.	110-478	2	MACHINERY BUSHING (1.585")	
9.	157-650	2	INTERNAL SEAL (1.574")	
10.	115-464	2	INT SNAP RING (3.149")	
11.	125-107	1	BALL BEARING (1.574")	
12.	347-024	1	IDLER SHAFT	
13.	375-277	1	IDLER	SEE FOOTNOTE 2
14.	115-001	1	ZERK (02N)	

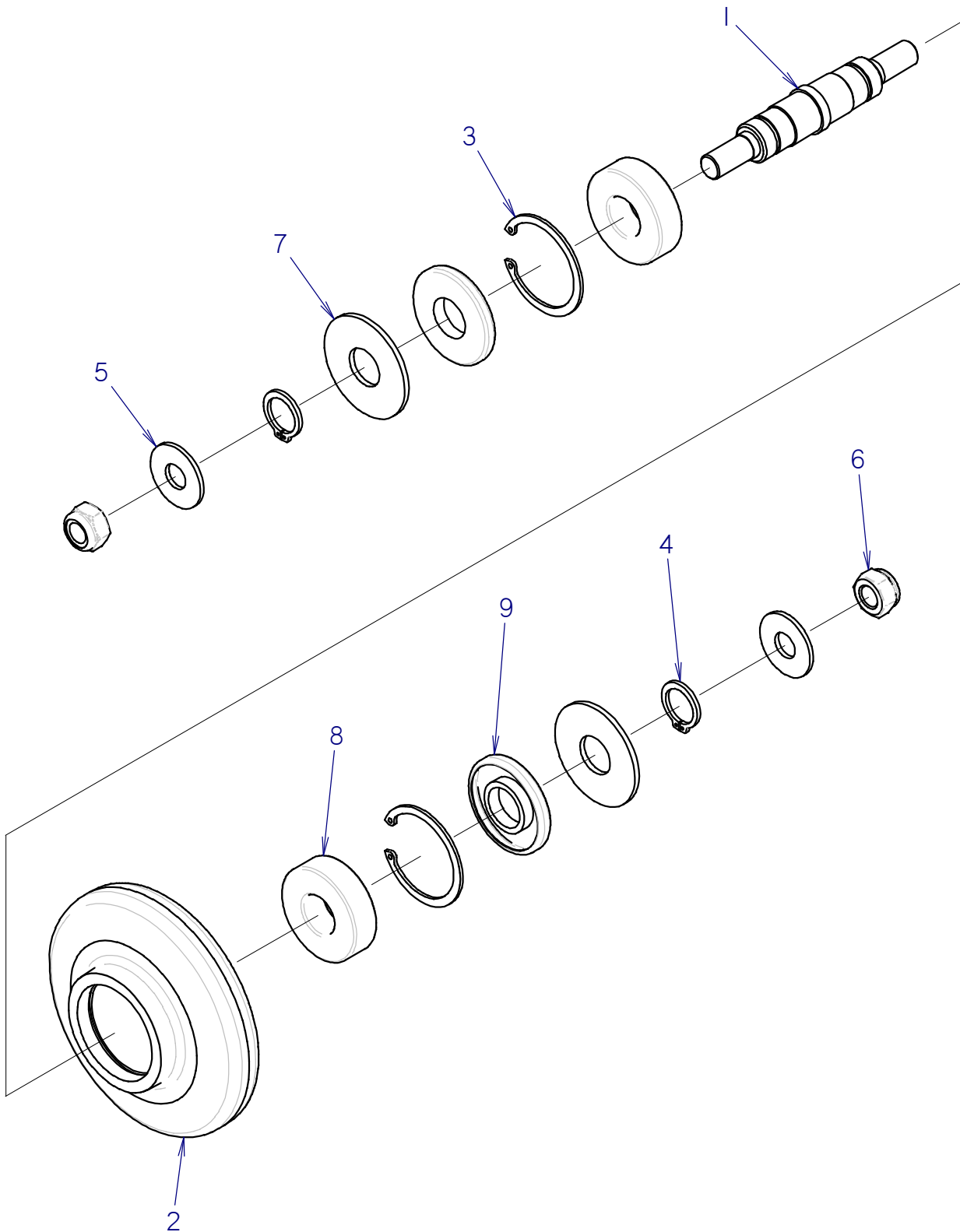
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FOOTNOTES:

NOTE:

1. REF NO'S 1 - 6 & 14, NEW STYLE (DOUBLE BEARING)
2. REF NO'S 5 - 13 OLD STYLE (SINGLE BEARING)
3. AFTER ASSEMBLY, ADD GREASE TO IDLER.

INNER ROLLER



INNER ROLLER

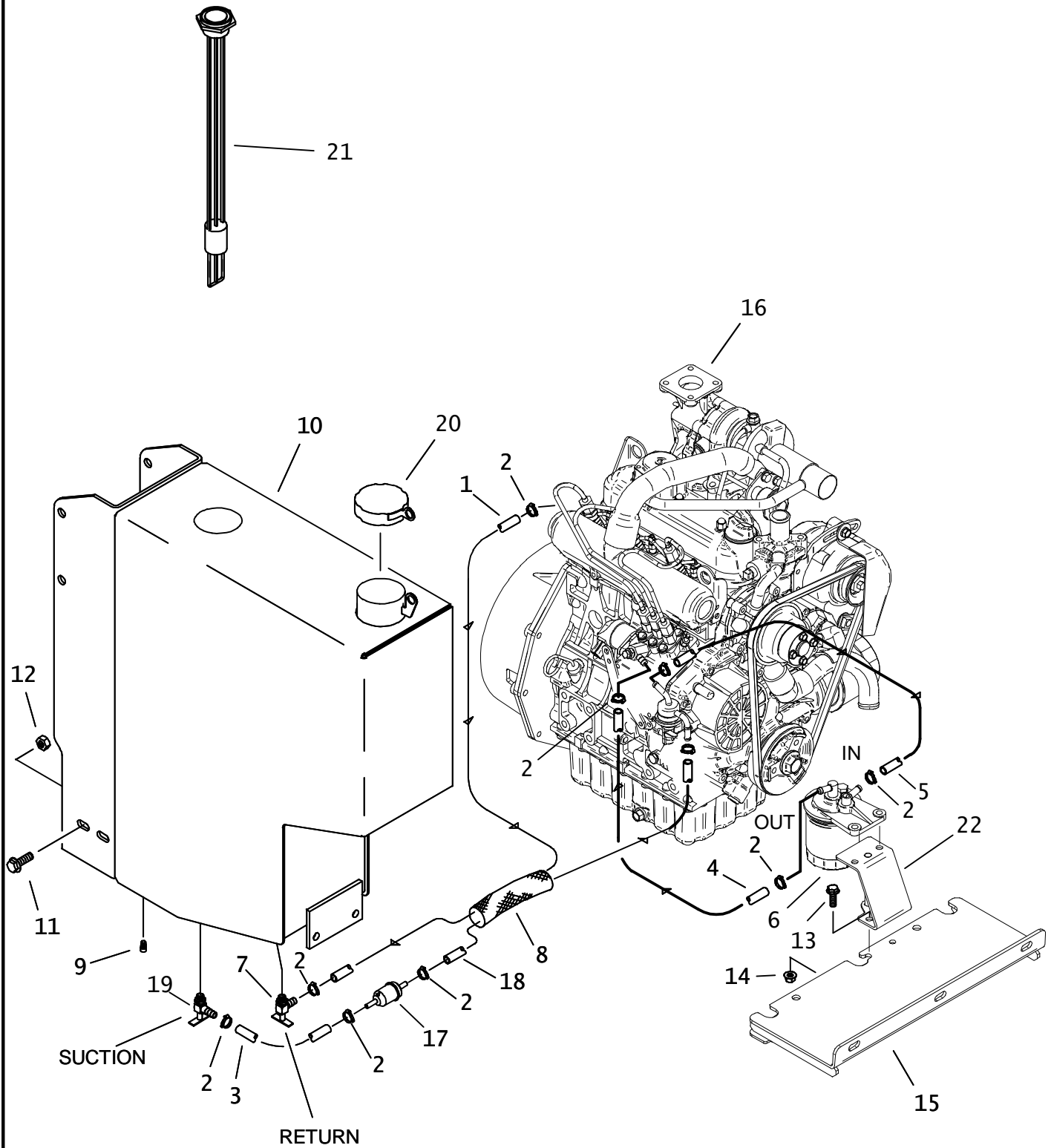
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	355-972		ROLLER	INCLUDES REF No's 1 - 9
1	355-942	1	ROLLER SHAFT	
2	356-265	1	ROLLER	
3	118-018	2	INTERNAL SNAP RING (1.875)	
4	115-545	2	EXTERNAL SNAP RING (.750)	
5	105-059	2	WASHER (.7/16")	
6	106-031	2	LOCKNUT (M12-1.75, NLK)	
7	110-773	2	MACHINERY BUSHING (3/4"X18 GA)	
8	125-094	2	BALL BEARING (.787")	
9	157-500	2	INTERNAL SEAL	

NOT SHOWN:

FOOTNOTES:

NOTE:

FUEL TANK



FUEL TANK

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	116-866	AR	BULK HOSE (3/16", SOLD PER 1")	USE 1 @ 43"
2.	110-249	10	WORM CLAMP (1/4" TO 5/8")	
3.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 6"
4.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 36"
5.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 45"
6.	159-510	1	FUEL FILTER	
	194-386	1	FUEL FILTER ELEMENT	
7.	156-064	1	SHUT-OFF (02N-03H90)	
8.	117-672	1	ABRASION SLEEVE (1.00" X 20")	
9.	115-157	2	PLUG (02N, SOC)	
10.	302-799	1	FUEL TANK	INCLUDE REF. 20
11.	106-724	6	FLG SCREW (M10-1.50 X 25MM)	
12.	105-894	4	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
13.	106-162	4	FLG SCREW (M8-1.25 X 20MM)	LOCKTITE 242
14.	106-386	4	FLG LOCKNUT (M8-1.25)	
15.	302-758	-	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 2, 3, & 4
	300-3752	-	RADIATOR/OIL COOLER MOUNT	SEE FOOTNOTE 5
16.	194-034	-	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTE 1 AND 2
	194-541	-	ENGINE - KUBOTA D1105 DIESEL T2	SEE FOOTNOTE 1, 3 AND 4
	195-1169	-	ENGINE - KUBOTA D1105-T T3	SEE FOOTNOTE 1 AND 5
17.	194-095	1	FUEL FILTER (05H-05H, IN-LINE)	SEE FOOTNOTE 2, 3, & 4
	155-941	1	FUEL FILTER (05H-05H, IN-LINE)	SEE FOOTNOTE 5
18.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 35"
19.	156-239	1	S/O SHUT-OFF (02N-05H90)	
20.	111-065	1	FUEL CAP	USE BEFORE SN: CMWJT520P60000072
21.	364-730	1	FUEL GAUGE	USE 567 LOCKTITE
22.	300-3947	1	FUEL FILTER MOUNT	

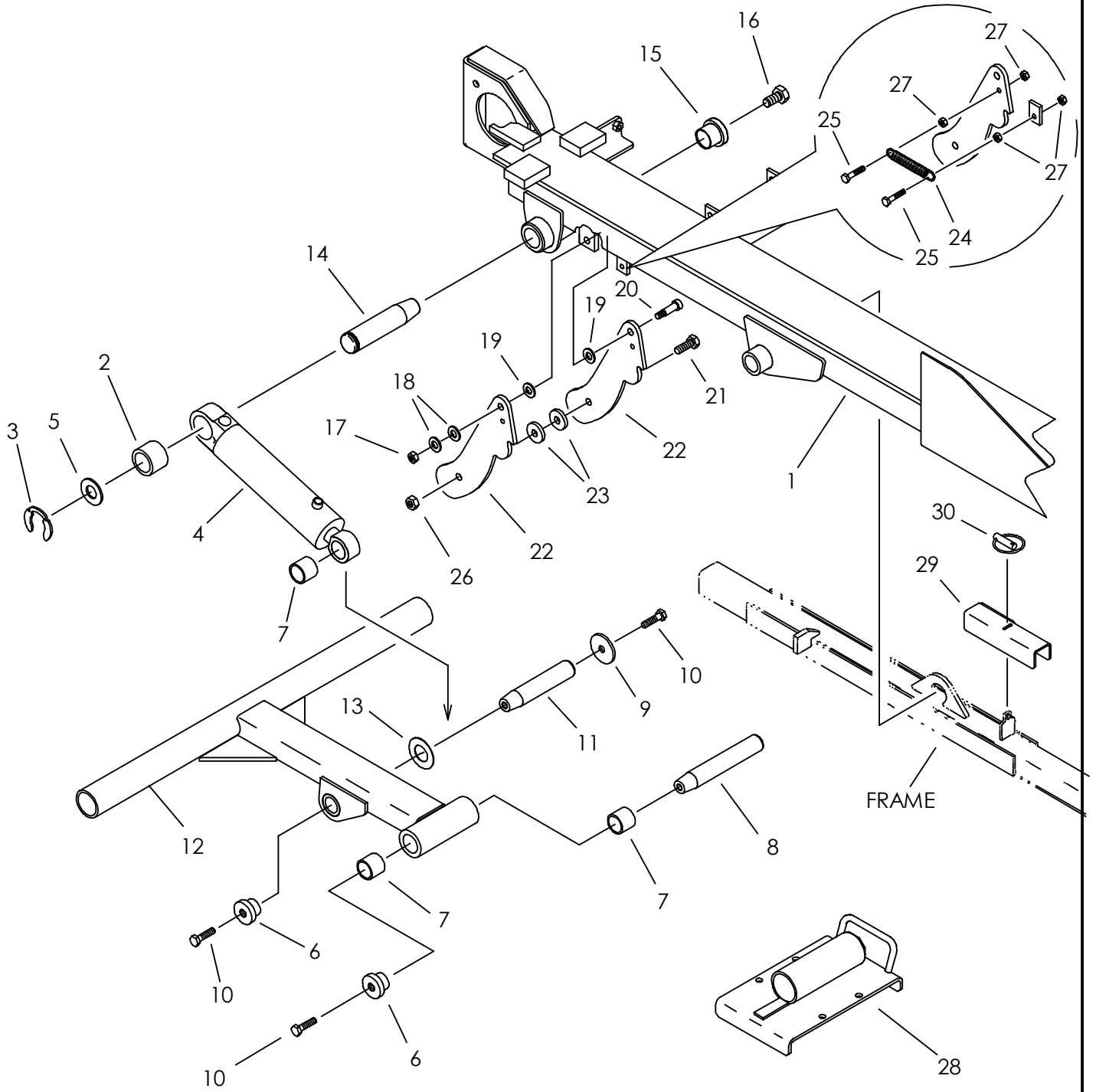
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FOOTNOTES:

1. REFER TO ENGINE MOUNT PAGE FOR SERVICE PARTS.
2. EPA TIER 1 ENGINE ENDS WITH S/N 2Y1290.
3. EPA TIER 2 ENGINE BEGINS WITH S/N 2Y1471.
4. EPA TIER 2 ENGINE ENDS WITH S/N CMWJT520L8000181.
5. EPA TIER 4 ENGINE BEGINS WITH S/N CMWJT520L8000182.

NOTE:

STABILIZER



STABILIZER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	302-710	-	DRILL FRAME	
2.	125-772	1	COMPOSITION BUSHING (1.5")	
3.	115-511	1	KLIP RING (1-1/2")	
4.	151-045	1	CYL (2.5" X 1.25" X 8.0")	
	190-166	-	SEAL REPAIR KIT (2.5" X 1.25")	
5.	110-220	1	MACH BUSHING (1-1/2", 14GA)	
6.	181-982	2	TAPERED INSERT (1.25")	
7.	125-771	3	COMPOSITION BUSHING (1.25")	
8.	303-278	1	TAPERED PIN (1.25" X 8.70")	
9.	105-475	1	WASHER (1/2")	
10.	106-559	3	SCREW (M12-1.75 X 25MM)	LOCTITE 242
11.	302-731	1	PIN	
12.	302-689	1	STABILIZER	
13.	180-118	1	BRASS BUSHING (1.25")	
14.	179-277	1	TAPERED PIN	
15.	181-974	1	TAPERED INSERT (1.5")	
16.	106-338	1	SCREW (M16-2.00 X 30MM)	
17.	105-047	1	LOCKNUT (3/8-NC)	
18.	105-058	2	BELLEVILLE WASHER (1/2")	
19.	110-096	2	MACHINERY BUSHING (1/2")	
20.	107-361	1	SHLD BOLT (1/2" X 1-1/4", 3/8-NC)	
21.	106-333	1	SCREW (M12-1.75 X 40MM)	
22.	303-255	2	LATCH	
23.	105-398	2	WASHER (1/2")	
24.	115-568	1	EXTENSION SPRING	
25.	106-328	2	BOLT (M8-1.25 X 40MM)	
26.	106-685	1	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
27.	106-078	4	NUT (M8-1.25)	
28.	305-533	2	STABILIZER PAD	ACCESSORY
29.	303-381	1	CYLINDER LOCK	
30.	110-228	1	LYNCH PIN (7/16" X 2")	

NOT SHOWN:

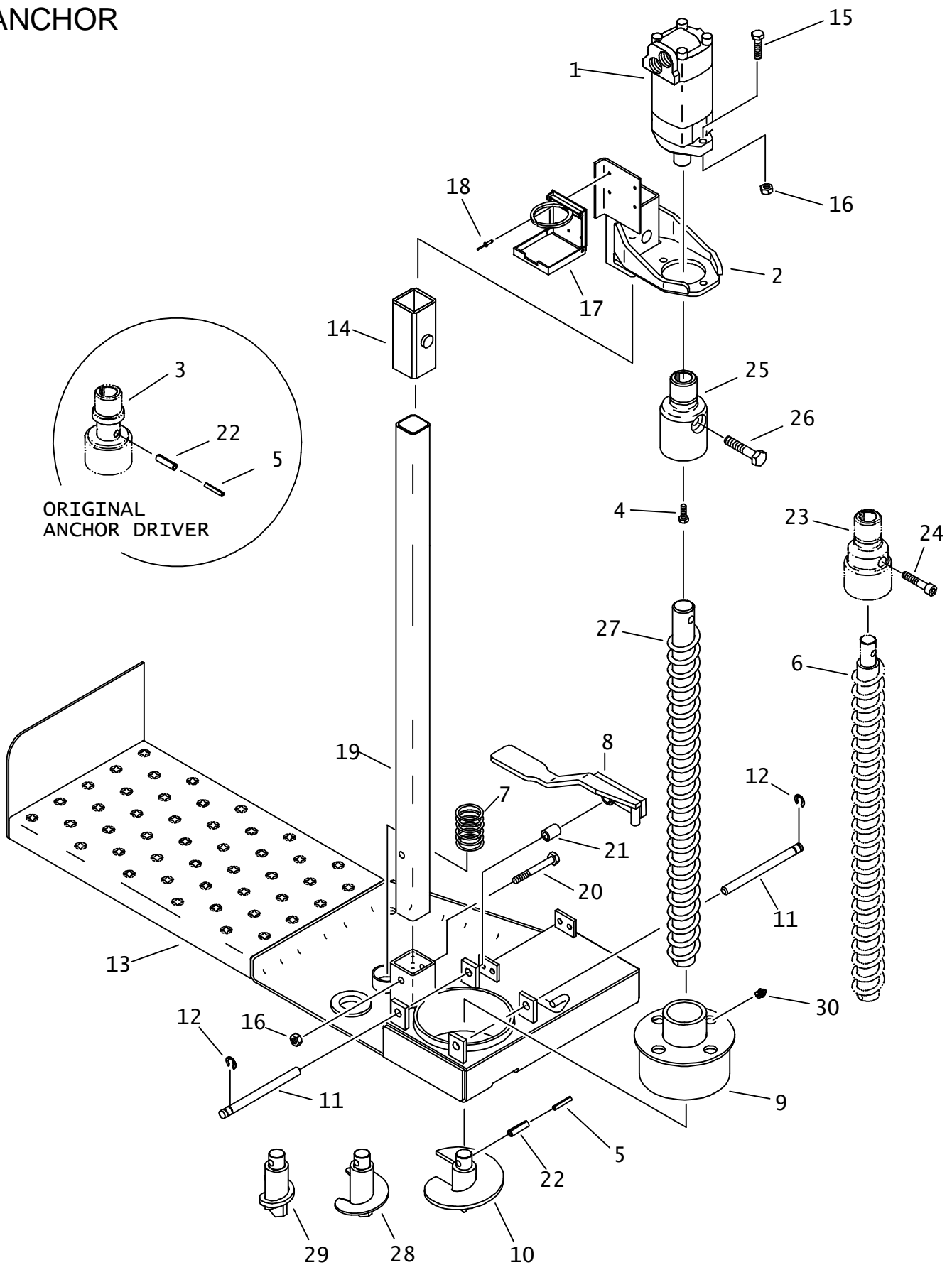
FOOTNOTES:

NOTE:

NOTES:

ANCHOR SYSTEMS

ANCHOR



ANCHOR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	158-700	1	HYD MOTOR	
	500-568	-	SEAL REPAIR KIT	
2.	302-713	1	MOTOR TROLLEY	
3.	302-802	-	ANCHOR DRIVER	SEE FOOTNOTE 1 & 3
4.	105-052	1	BOLT (3/8-NC X 1-1/4")	
5.	105-670	1	ROLL PIN (5/16" X 1-3/4")	
6.	305-731	1	ANCHOR SHAFT	SEE FOOTNOTE 2
7.	115-057	1	SPRING	
8.	302-715	1	LATCH	
9.	111-099	1	CENTER CAP	
10.	302-695	AR	AUGER (6")	
11.	302-727	2	PIN	
12.	115-780	4	KLIP RING (.625")	
13.	302-710	-	DRILL FRAME	
14.	140-013	1	BOOM SLEEVE	
15.	106-477	2	SCREW (M12-1.75 X 45MM, 10.9)	
16.	106-685	4	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
17.	354-905	1	CUP HOLDER	
18.	110-560	4	POP RIVET (3/16" X 1/2 ", ALUM)	
19.	302-846	1	TROLLEY RAIL TUBE	
20.	106-578	2	SCREW (M12-1.75 X 80MM)	
21.	125-403	1	BRONZE BUSHING (.625")	
22.	105-671	1	ROLL PIN (1/2" X 1-3/4")	
23.	305-920	1	ANCHOR DRIVER	SEE FOOTNOTES 1 & 3
24.	105-938	1	BOLT (1/2-NC X 2-1/4", SOC)	
25.	307-750	1	ANCHOR DRIVER	SEE FOOTNOTE 1
26.	107-457	1	SCREW (M16-2.00 X 75MM, 10.9)	
27.	307-751	1	ANCHOR SHAFT	
28.	141-433	AR	AUGER (4")	
29.	101-049	AR	ANCHOR BIT	
30.	115-001	1	ZERK (02N)	

NOT SHOWN:

FOOTNOTES:

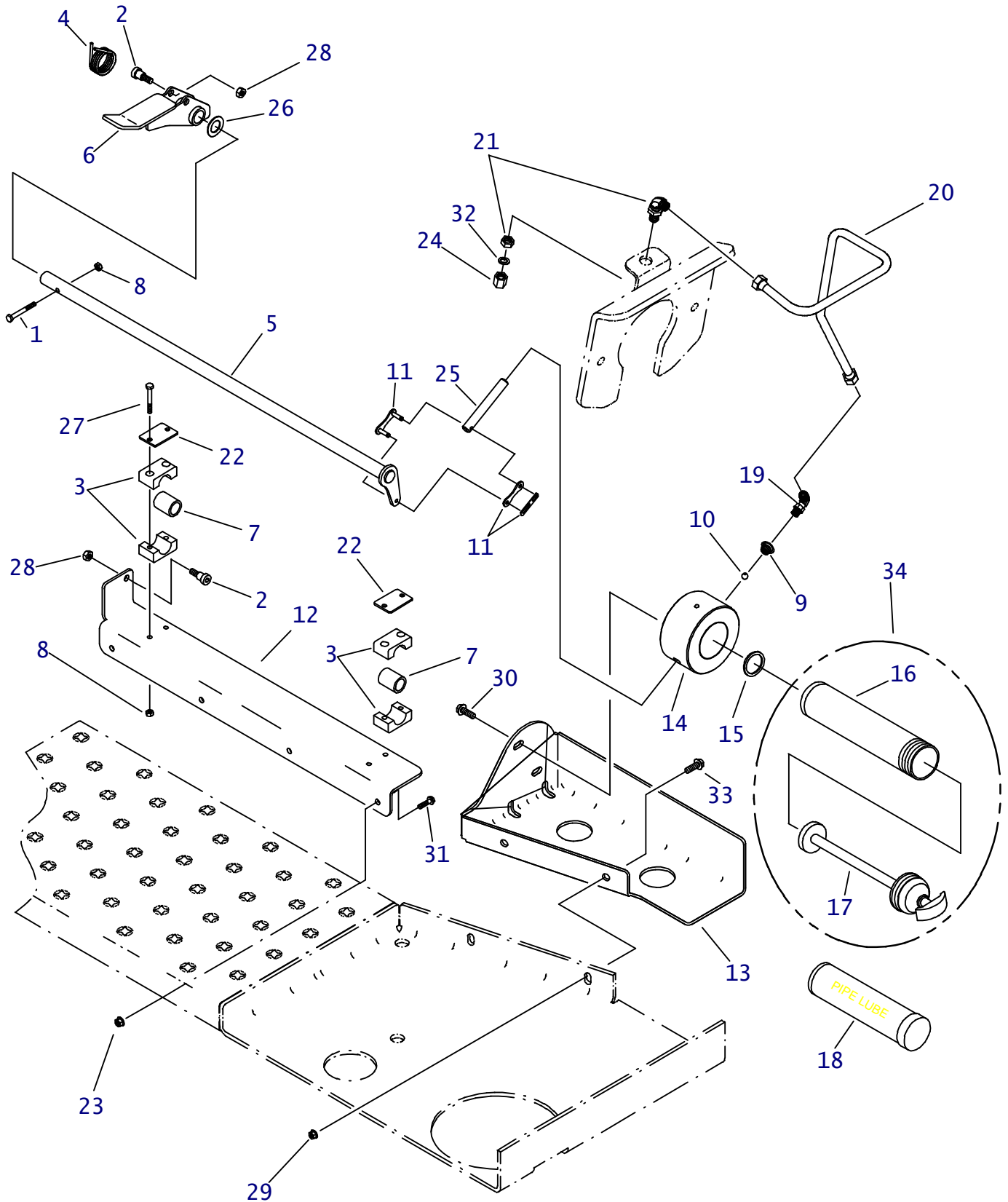
1. USE LOCKTITE 767 ANTI-SEIZE COMPOUND (OR EQUIVALENT) ON MOTOR AND ANCHOR SHAFTS.
2. NO LONGER AVAILABLE. REPLACEMENT SHAFT (REF 27) REQUIRES DRIVER (REF 25) AND M16 SCREW (REF 26).
3. NO LONGER AVAILABLE. REPLACEMENT DRIVER (REF 25) REQUIRES SHAFT (REF 27) AND M16 SCREW (REF 26).

NOTE:

NOTES:

LUBRICATOR SYSTEMS

THREAD LUBRICATOR



THREAD LUBRICATOR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	105-818	1	BOLT (1/4-NC X 1-1/2")	
2.	106-070	2	SHLD BLT (1/2" X 3/8", 3/8-NC)	
3.	110-573	2	BOLT-ON CLAMP (1", SOLD PER SET)	
4.	117-257	1	TORSION SPRING	
5.	303-375	1	SHAFT	
6.	303-371	1	PEDAL	
7.	125-301	2	COMPOSITION BUSHING (.750")	
8.	105-085	5	LOCKNUT (1/4-NC)	
9.	117-162	1	COMPRESSION SPRING (.438")	
10.	125-136	1	DETENT BALL (.187", CHROME)	
11.	130-331	1	CONNECTOR LINK (1-1/4")	
12.	303-374	1	FORMED MOUNT	
13.	303-379	1	PUMP MOUNT	
14.	359-925	1	LUBER BASE	
15.	157-716	1	GREASE SEAL	
16.	359-869	1	GREASE BARREL	SEE FOOTNOTE 2
17.	359-871	1	PLUNGER	SEE FOOTNOTE 2
18.	256-663	1	GREASE (14 OZ CARTRIDGE)	SUMMER GRADE, SEE FOOTNOTE 1
19.	154-342	1	CONNECTOR (06S-06090)	
20.	156-991	1	GREASE LINE (060FX-060FX)	
21.	154-229	1	BK CONNECTOR (060-06090BK)	
22.	322-289	2	BACKUP (BOLT-ON)	
23.	106-386	4	FLG LOCKNUT (M8-1.25)	
24.	149-221	1	NOZZLE	
25.	359-924	1	PLUNGER	
26.	110-095	1	MACHINERY BUSHING (3/4", 18GA)	
27.	105-106	4	BOLT (1/4-NC X 2")	
28.	105-047	2	LOCKNUT (3/8-NC)	
29.	105-894	2	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
30.	106-382	2	FLG LK SCREW (M10-1.5 X 20MM)	
31.	106-991	4	FLG SCREW (M8-1.25 X 20MM)	
32.	105-890	1	SEAL WASHER (7/16")	
33.	106-724	2	FLG LK SCREW (M10-1.50 X 25MM)	
34.	300-4655	1	GREASE BARREL/PLUNGER ASSEMBLY	

NOT SHOWN:

FOOTNOTES:

1. USE 256-026 GREASE (14OZ CART, ARCTIC GD) AS STANDARD GREASE.
2. OBSOLETE, SUPERCEED WITH 300-4655

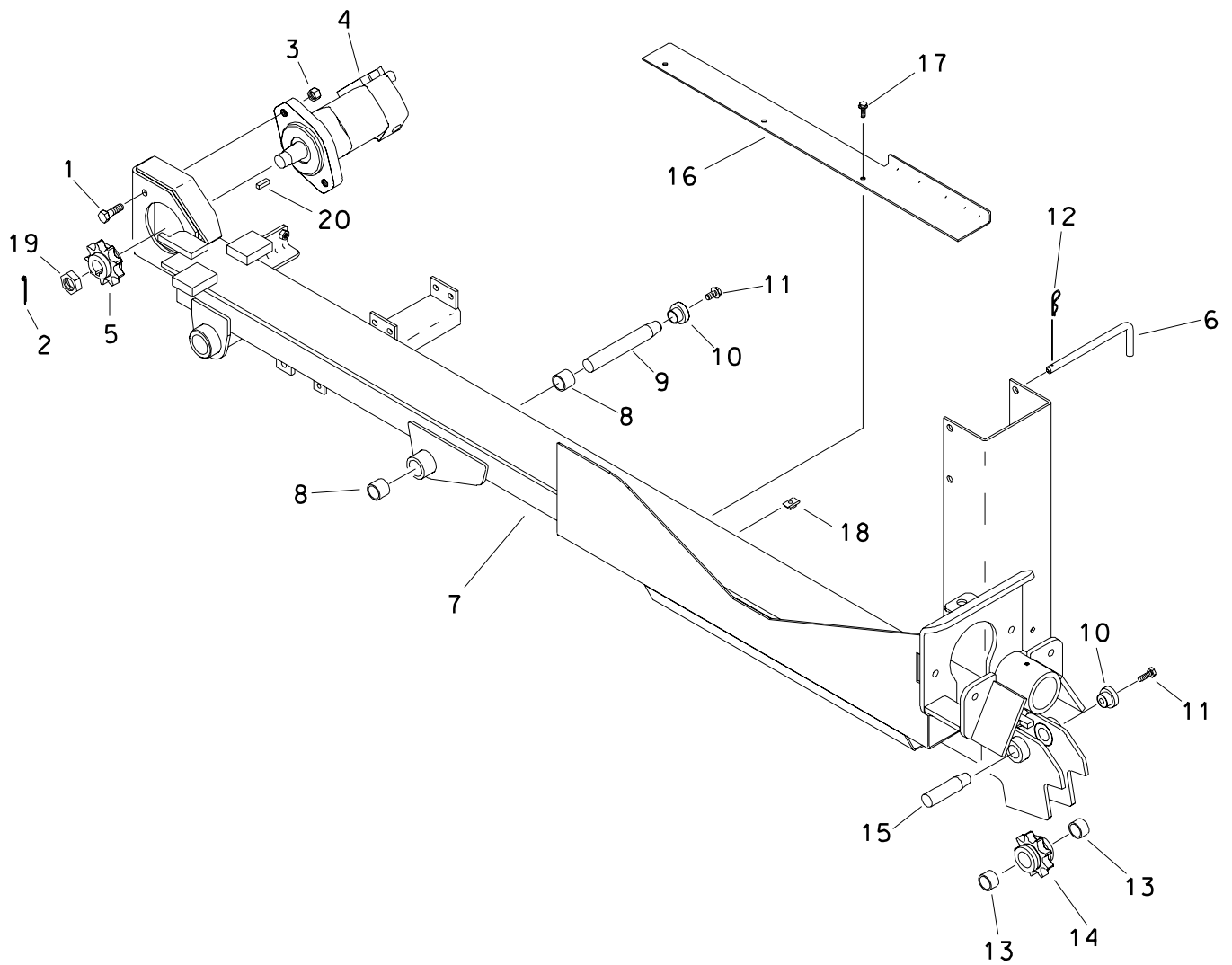
NOTE:

REFER TO O-RING CHAR (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

NOTES:

DRILL FRAME

DRILL FRAME

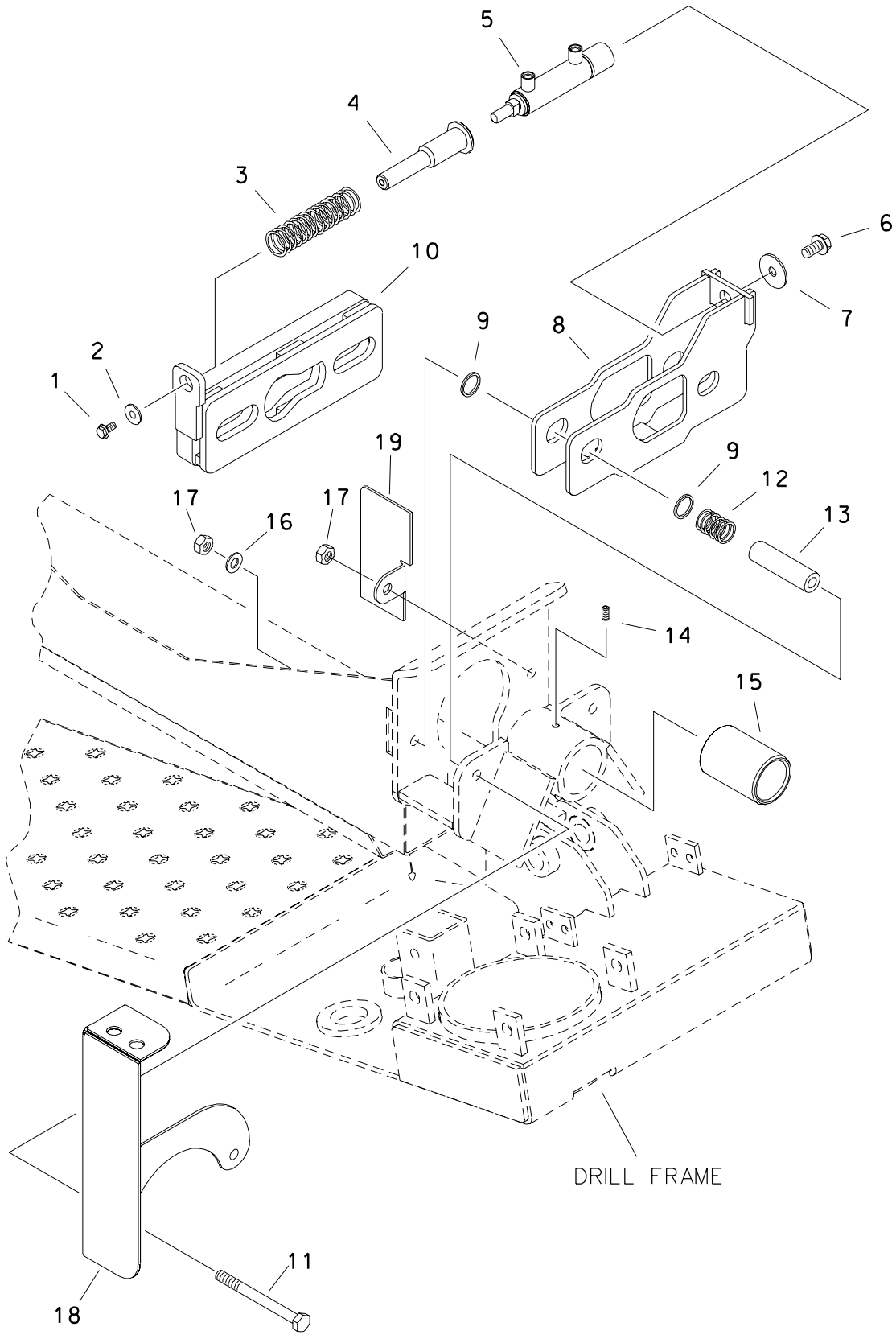


DRILL FRAME

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-547	2	SCREW (M12-1.75 X 40MM,10.9)	
2.	105-511	1	COTTER PIN (.125" X 1.250")	
3.	106-685	2	LOCKNUT (M12-1.75,PRV TRQ,10.9)	TORQUE TO 90 FT-LBS (122 N.M)
4.	158-971	1	HYDRAULIC MOTOR	INCLUDES REF NO.'S 19 & 20
	500-658	-	SEAL REPAIR KIT	
5.	175-547	1	SPROCKET (80C9)	
6.	302-757	2	PIN	
7.	302-710	1	DRILL FRAME	
8.	125-770	2	COMPOSITION BUSHING (1")	
9.	302-735	1	TAPERED PIN (1" X 7.20")	
10.	181-981	2	TAPERED INSERT (1")	
11.	106-079	2	SCREW (M10-1.50 X 30MM)	USE LOCKTITE 242 OR EQUIVALENT
12.	110-033	2	HAIR CLIP PIN (1/8" X 1/2")	
13.	125-813	2	COMPOSITION BUSHING (1")	
14.	175-548	1	SPROCKET (80C9)	
15.	302-686	1	TAPERED PIN (1" X 4.02")	
16.	305-493	1	GUARD	
17.	106-991	3	FLG LK SCREW (M8-1.25 X 20MM)	
18.	106-551	3	CLIP NUT (M8-1.25)	
19.	107-034	1	CASTLE NUT (1-20 NEF)	
20.	165-915	1	KEY (5/16" X 1")	

FOOTNOTES

FRONT WRENCH



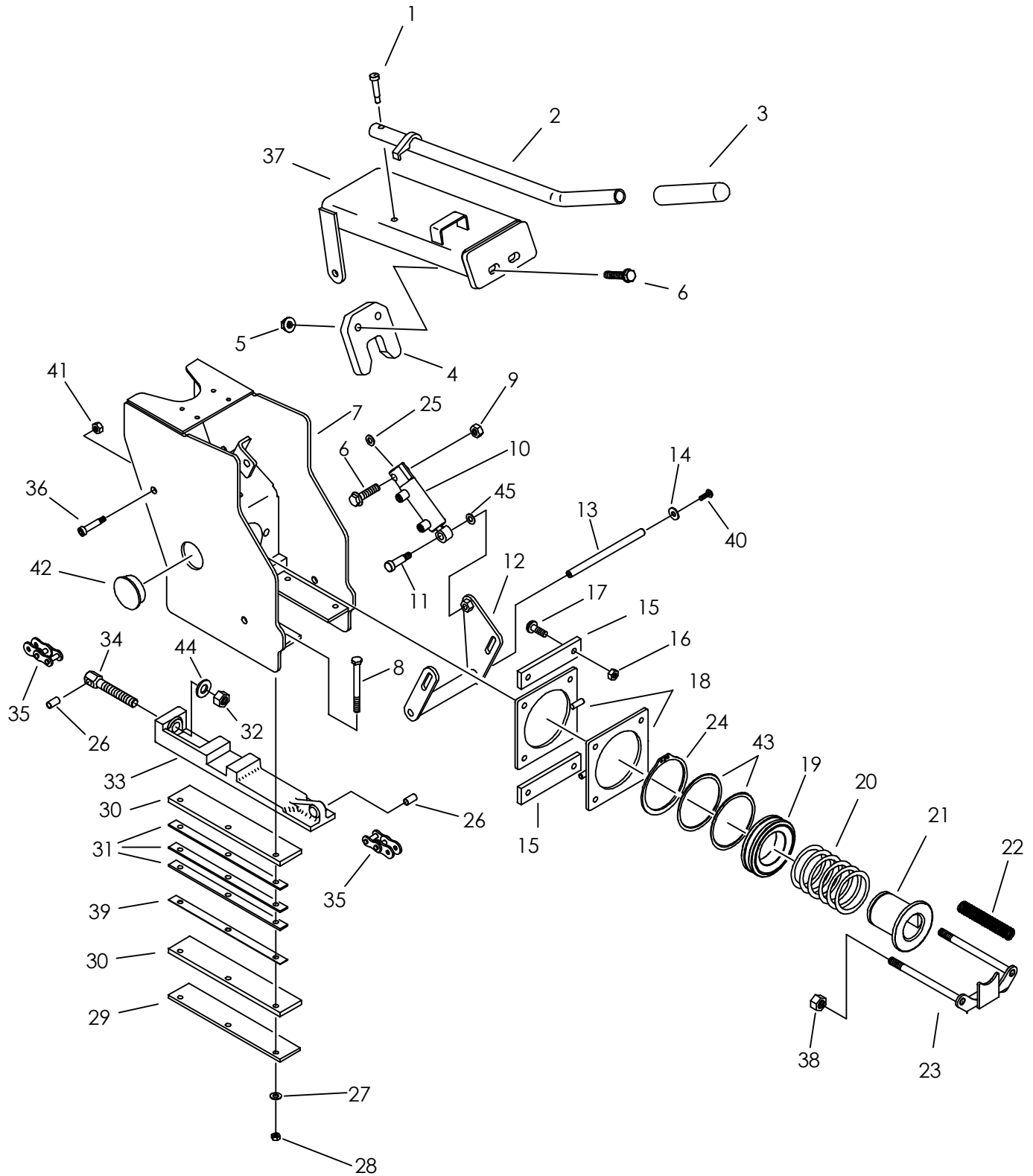
FRONT WRENCH

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-380	1	FLG LK SCREW (M8-1.25 X 16MM)	
2.	106-260	1	WASHER (3/8")	
3.	117-052	1	COMPRESSION SPRING	
4.	184-945	1	SPRING GUIDE	
5.	151-153	1	HYD CYL (1" X 2.5")	LOCKTITE WITH 242
	150-725	1	CYL (1" X 2.5")	
6.	106-806	1	FLG LK SCREW (M12-1.75 X 25MM)	LOCKTITE WITH 242
7.	106-397	1	WASHER (M12, HARDENED)	
8.	348-314	1	SLIDE PLATE	
9.	110-078	4	MACH BSHG (1.000", 14 GA)	
10.	302-638	1	WRENCH PLATE	
11.	106-618	2	SCREW (M12-1.75 X 130MM)	
12.	117-017	2	COMPRESSION SPRING	
13.	183-966	2	BUSHING (.53" X 1" X 3.6")	
14.	107-353	1	SET SCREW (M8-1.25 X 10MM)	LOCKTITE WITH 242
15.	185-167	1	ROD GUIDE BUSHING	
16.	106-391	1	WASHER (M12)	
17.	106-685	2	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
18.	302-897	1	BULKHEAD BRACKET	
19.	305-806	1	GUARD	

FOOTNOTES

CARRIAGE

ENDS WITH S/N: 2V2594



CARRIAGE

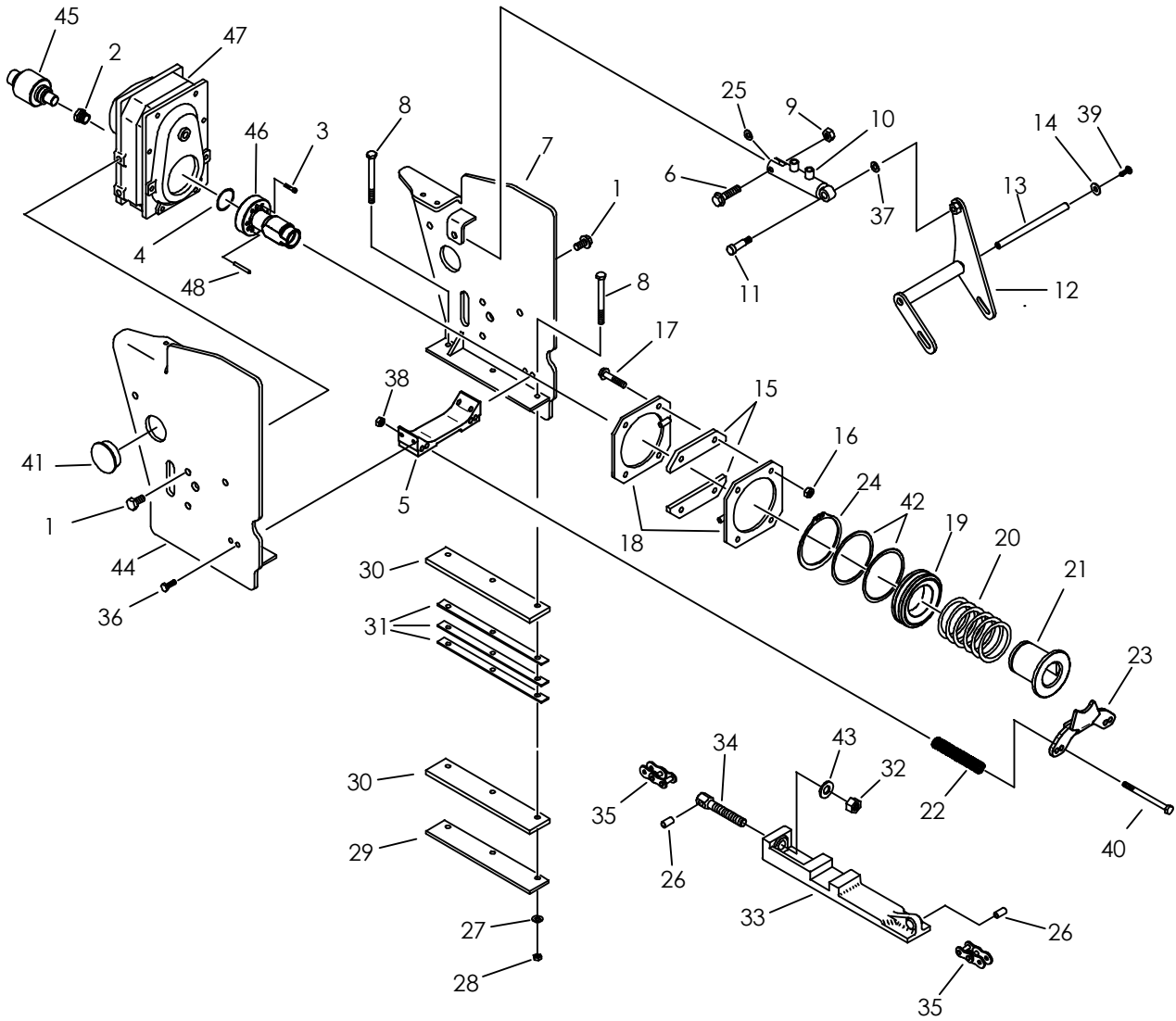
ENDS WITH S/N: 2V2594

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	107-223	1	SHLD BOLT (M10 X 35MM, M8-1.25)	USE 242 LOCTITE OR EQUIVALENT
2.	302-729	1	HANDLE	
3.	110-013	1	HAND GRIP (1", BLACK)	
4.	302-663	1	BACKUP WRENCH	
5.	106-354	2	FLG LOCKNUT (M12-1.75)	
6.	107-004	3	FLG LK SCREW (M12-1.75 X 45MM)	
7.	302-665	1	CARRIAGE	
8.	107-763	6	SCREW (M8-1.25 X 55MM)	
9.	106-685	1	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
10.	159-464	1	HYD CYL (1")	OBSOLETE
	150-723	1	CYL (1" X 2") W/EYE	
11.	107-422	1	SHLD BLT (M12 X 25MM, M10-1.50)	USE 242 LOCTITE OR EQUIVALENT
12.	302-647	1	SHIFT LEVER	
13.	302-646	1	SHIFT LEVER PIN	
14.	106-076	2	WASHER (1/4")	
15.	302-655	2	PLATE	
16.	105-894	4	LOCKNUT (M10-1.5, PRV TRQ, 10.9)	
17.	107-421	4	SCREW (M10-1.5X35MM, BUT SOC)	
18.	302-656	2	SLIDE PLATE	
19.	302-652	1	SHIFT RING	
20.	117-219	1	COMPRESSION SPRING	
21.	302-659	1	WRENCH COLLAR	
22.	117-232	2	SPRING	
23.	302-848	1	CRADLE	
24.	115-457	1	EXTERNAL SNAP RING (2.5")	
25.	106-397	1	WASHER (M12, HARDENED)	
26.	130-300	2	ROLLER BUSHING (#80)	
27.	106-390	6	WASHER (M10)	
28.	106-561	6	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
29.	302-685	2	PLATE	
30.	302-683	4	SLIDE	
31.	302-684	6	SPACER	
32.	105-357	1	LOCKNUT (5/8-NC)	
33.	375-355	1	FLOAT CASTING (MACHINED)	
34.	302-873	1	CHAIN ADJUSTER	
35.	130-333	1	ROLLER CHAIN (#80, 166P)	
	130-304	2	CONNECTOR LINK (#80)	
36.	106-070	2	SHLD BOLT (1/2" X 3/8 ", 3/8-NC)	
37.	302-786	1	WRENCH MOUNT	
38.	105-065	2	LOCKNUT (1/2-NC)	
39.	302-939	AR	SPACER	
40.	106-103	2	BOLT (1/4-NC X 1/2 ", BUT SOC)	USE 242 LOCTITE OR EQUIVALENT
41.	105-047	2	LOCKNUT (3/8-NC)	
42.	111-067	2	EXPANSION PLUG (2.125")	
43.	107-386	2	SHIM	
44.	106-398	1	WASHER (M16, HARDENED)	
45.	106-396	1	WASHER (M10, HARDENED)	

FOOTNOTES:

CARRIAGE

BEGINS WITH S/N: 2V2595



CARRIAGE

BEGINS WITH S/N: 2V2595

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-559	4	SCREW (M12-1.75 X 25MM)	USE 277 LOCTITE OR EQUIVALENT, TORQUE TO 86 FT-LBS
2.	115-126	1	REDUCER (12N-08F)	
3.	107-322	6	SCREW (M6-1.00X25MM,SOC,12.9)	USE 242 LOCTITE OR EQUIVALENT, TORQUE TO 15 FT LBS
4.	155-792	1	O-RING (212 D70)	
5.	318-518	1	MOUNT BLOCK	
6.	107-004	2	FLG LK SCREW (M12-1.75 X 45MM)	
7.	313-997	1	CARRIAGE	
8.	107-763	6	SCREW (M8-1.25 X 55MM)	
9.	106-685	1	LOCKNUT (M12-1.75,PRV TRQ,10.9)	
10.	151-218	1	CYLINDER	
11.	107-422	1	SHLD BLT (M12 X 25MM,M10-1.50)	USE 242 LOCTITE OR EQUIVALENT
12.	313-998	1	SHIFT LEVER	
13.	179-402	1	PIN	
14.	106-076	2	WASHER (1/4")	
15.	315-715	2	PLATE	
16.	105-894	4	LOCKNUT (M10-1.5,PRV TRQ,10.9)	
17.	107-421	4	SCREW (M10-1.5X35MM, BUT SOC)	
18.	315-717	2	SLIDE PLATE	
19.	302-652	1	SHIFT RING	
20.	117-219	1	COMPRESSION SPRING	
21.	302-659	1	WRENCH COLLAR	
22.	115-604	2	COMPRESSION SPRING	
23.	315-594	1	CRADLE	
24.	115-457	1	EXTERNAL SNAP RING (2.5")	
25.	106-391	1	WASHER (M12)	
26.	130-300	2	ROLLER BUSHING (#80)	
27.	106-390	4	WASHER (M10)	
28.	106-561	4	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
29.	302-685	2	PLATE	
30.	302-683	4	SLIDE	
31.	302-684	6	SPACER	
32.	105-357	1	LOCKNUT (5/8-NC)	
33.	375-355	1	FLOAT CASTING (MACHINED)	
34.	302-873	1	CHAIN ADJUSTER	
35.	130-333	1	ROLLER CHAIN (#80, 166P)	
	130-304	2	CONNECTOR LINK (#80)	
36.	106-083	4	SCREW (M8-1.25 X 20MM)	USE 242 LOCTITE OR EQUIVALENT
37.	106-396	1	WASHER (M10, HARDENED)	
38.	105-047	2	LOCKNUT (3/8-NC)	
39.	106-103	2	BOLT (1/4-NC X 1/2 ", BUT SOC)	USE 242 LOCTITE OR EQUIVALENT
40.	500-301	2	BOLT (3/8-NC X 8")	
41.	111-067	2	EXPANSION PLUG (2.125")	
42.	107-386	2	SHIM	
43.	106-398	1	WASHER (M16, HARDENED)	
44.	314-425	1	CARRIAGE	
45.	153-765	1	FLUID SWIVEL (8N-8NF)	ENDS WITH S/N:
	150-1462	1	FLUID SWIVEL (-08)	SEE FOOTNOTE 1, USE SEAL KIT 500-2127, BEGINS WITH S/N:
46.	400-828	1	SAVER SUB	
47.	166-411	1	GEARBOX	
48.	107-796	3	DOWEL PIN (8MM X 30MM)	USE LOCTITE 680

NOT SHOWN:

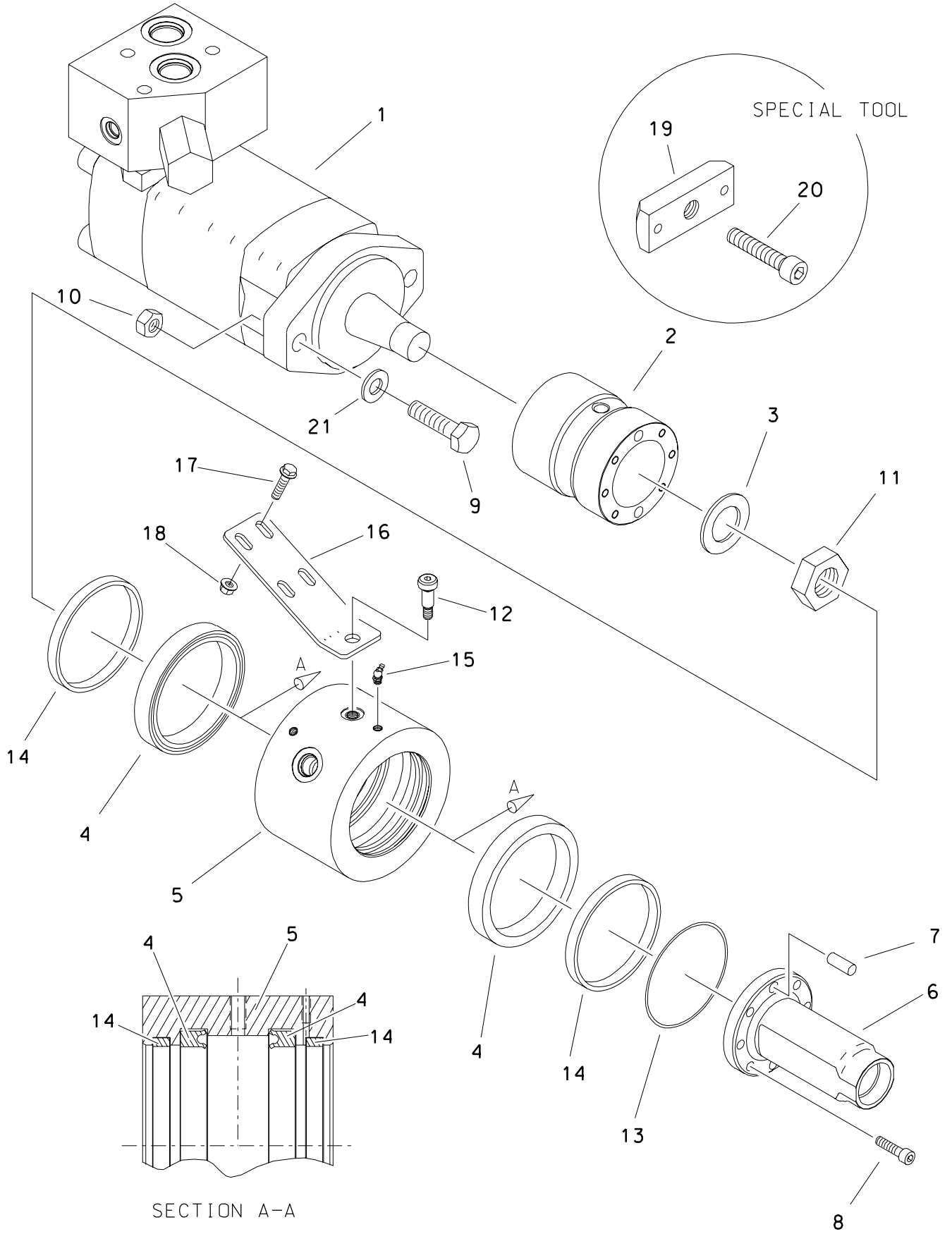
FOOTNOTES:

I. INSTALL USING NICKLE THREAD SEALING TAPE (117-555) ON MALE THREADS.

NOTE:

WATER SWIVEL

ENDS WITH S/N: 2V2594



WATER SWIVEL

ENDS WITH S/N: 2V2594

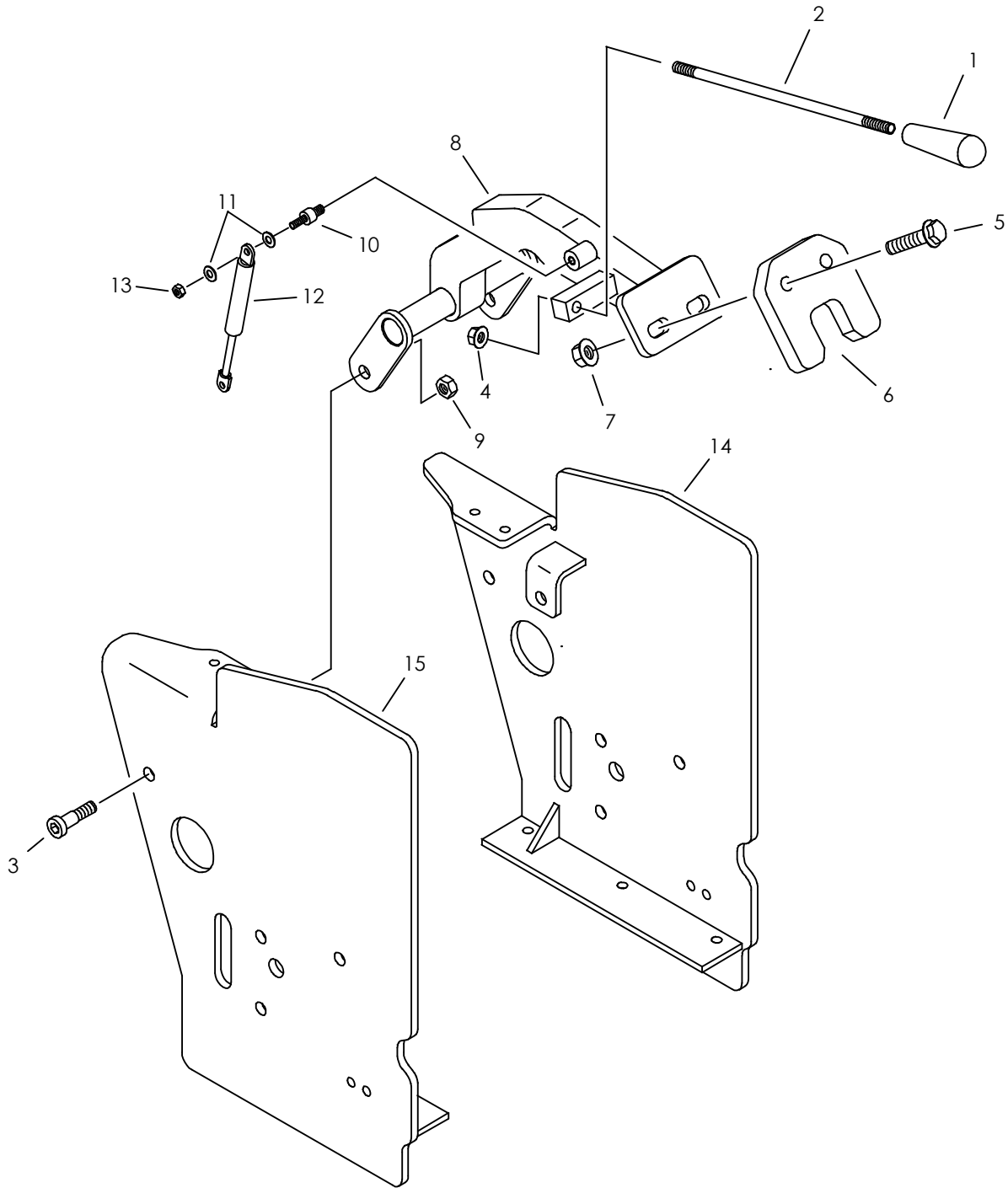
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	302-878	-	WATER SWIVEL ASSEMBLY	INCLUDES REF NO.'S 2, 4, 5, 7, 14 & 15
1.	158-054	-	HYDRAULIC MOTOR W/ RELIEF	
	156-980	-	RELIEF VALVE	
	156-985	-	HYDRAULIC MOTOR	
	155-580	-	HYDRAULIC MOTOR	
	500-752	-	SEAL REPAIR KIT	
2.	302-641	1	SHAFT	USE RED RTV SILICONE; SEE FOOTNOTE 1
3.	178-134	1	BRASS BUSHING (1-3/4")	SEE ILLUSTRATION FOR ORIENTATION
4.	157-227	2	EXTERNAL SEAL (3")	
5.	303-158	1	SWIVEL HOUSING	
6.	302-643	1	SAVER SUB	USE LOCTITE 680 OR EQUIVALENT
7.	105-618	2	DOWEL PIN (8MM X 20MM)	USE LOCTITE 242, TORQUE TO 15 FT-LBS
8.	107-322	6	SCREW (M6-1.00 X 25MM, SOC, 12.9)	TORQUE TO 110 FT-LBS
9.	105-871	2	BOLT (1/2-NC X 2", GD 8)	
10.	105-065	2	LOCKNUT (1/2-NC)	SEE FOOTNOTE 3
11.	105-418	1	LOCKNUT (1-20 NEF)	USE LOCTITE 242 OR EQUIVALENT
12.	105-748	1	SHLD BOLT (1/2" X 1/2", 3/8-NC)	
13.	157-159	1	O-RING (O33 D90)	SEE FOOTNOTE 2
14.	125-166	2	WEAR RING	SEE FOOTNOTE 2
15.	115-006	2	ZERK (1/4-NF, 45)	
16.	302-893	1	TORQUE BRACKET	
17.	106-991	4	FLG LK SCREW (M8-1.25 X 20MM)	
18.	106-386	4	FLG LOCKNUT (M8-1.25)	ACCESSORY, SEE FOOTNOTE 4
19.	303-463	1	PULLER BAR	ACCESSORY USED WITH REF. 19
20.	106-244	1	SCREW (M16-2.00 X 60MM, SOC)	
21.	107-605	2	WASHER (1/2", HARDENED)	

FOOTNOTES

- SILICONE BRASS BUSHING, REF NO 3, BOTH SIDES INTO SHAFT, REF NO 2.
- APPLY GENERAL PURPOSE GREASE ON INSIDE DIAMETER OF WEAR RINGS BEFORE ASSEMBLY AND APPLY GREASE THROUGH ZERKS AFTER COMPLETE ASSEMBLY.
- REQUIRES A THIN WALL 1-7/16" SOCKET 1.93" O.D. MAX (REF: PROTO 7446).
- AFTER REMOVING LOCKNUT (REF. 11) USE WITH TWO M6 SCREWS (REF. 8) & M16 SCREW (REF. 20) TO REMOVE SHAFT (REF. 2) FROM MOTOR.

BACKUP WRENCH

BEGINS WITH S/N: CMWJT520T60000037



BACKUP WRENCH

BEGINS WITH S/N: CMWJT520T60000037

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-439	1	HANDLE (3/8-NC, BLACK)	
2.	318-662	1	LEVER	SEE F/N
3.	107-802	2	SHLD BLT (M12 X 16MM,M10-1.50)	
4.	105-834	1	FLG LOCKNUT (3/8-NC)	
5.	107-004	2	FLG LK SCREW (M12-1.75 X 45MM)	
6.	302-663	1	BACKUP WRENCH	
7.	106-354	2	FLANGE NUT (M12-1.75)	
8.	318-596	1	WRENCH MOUNT	
9.	105-894	2	LOCKNUT(M10-1.50,PRV TRQ,10.9)	
10.	179-463	2	STRUT PIN	USE 242 LOCTITE OR EQUIVALENT
11.	105-095	4	WASHER (1/4")	
12.	151-217	1	STRUT	
13.	106-237	2	LOCKNUT (M6-1.00,PRV TRQ,NLK)	
14.	313-997	-	CARRIAGE	
15.	314-425	-	CARRIAGE	

NOT SHOWN:

FOOTNOTES:

USE LOCTITE 680 OR EQUIVALENT ON SHAFT MATING SURFACE WITH 3/8" HOLE IN WELDMENT.

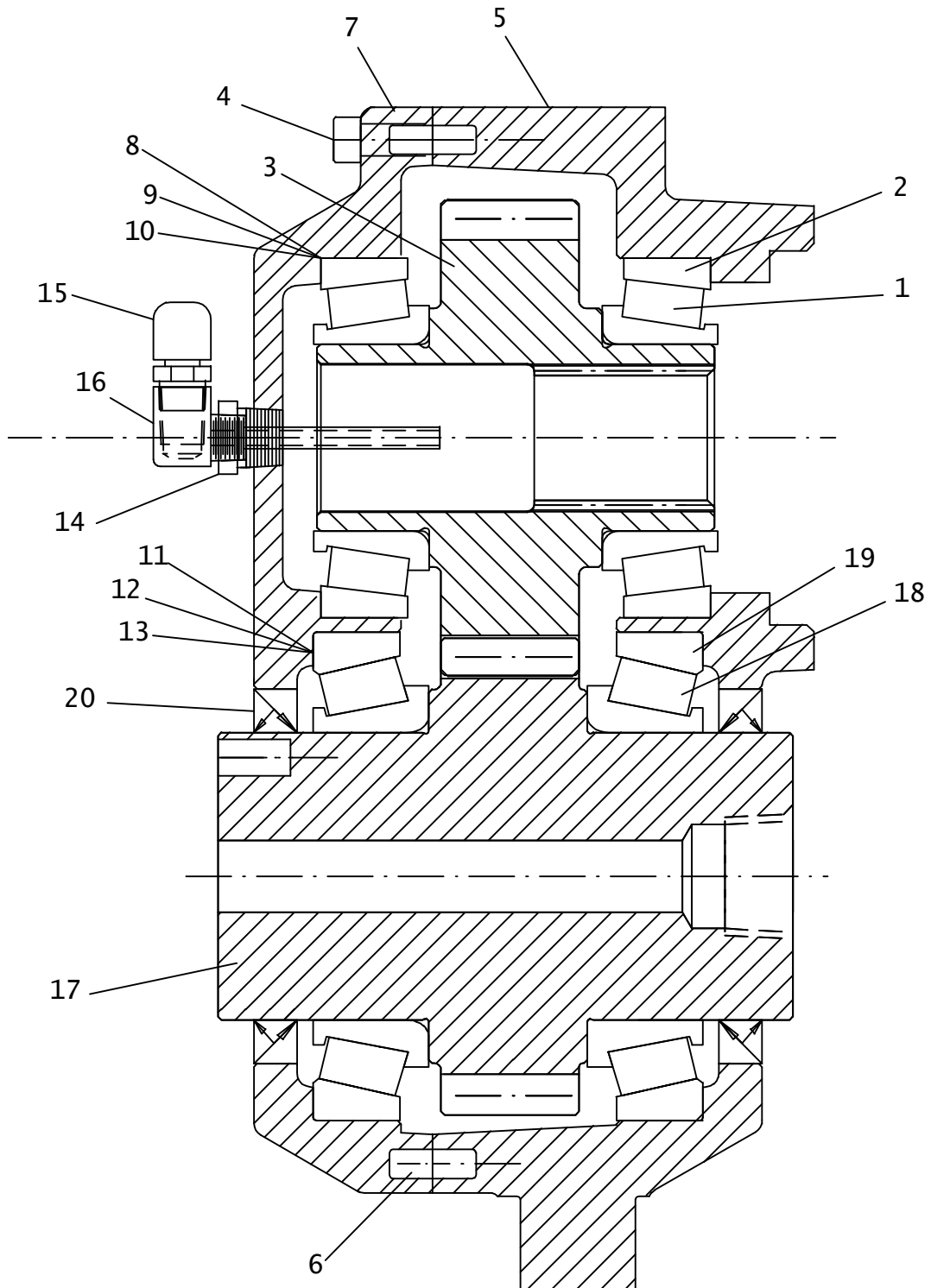
USE LOCTITE 242 OR EQUIVALENT ON THREADS OF LEVER.

TORQUE 3/8" FLANGE NUT ON LEVER TO 70-75 FT/LBS.

NOTE:

ROTATION GEARBOX

BEGINS WITH S/N: 2Z4659



ROTATION GEARBOX

BEGINS WITH S/N: 2Z4659

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-411		GEARBOX	INCL REF NO.'S 1 - 21
1.	125-331	2	TAPERED BEARING (1.625")	
2.	125-332	2	TAPERED RACE (3.125")	
3.	166-407	1	PINION	
4.	106-063	8	SCREW (M8-1.25 X 40MM, 10.9)	
5.	166-418	1	GEARBOX HOUSING	
6.	106-906	2	DOWEL PIN (.250 X .750)	
7.	166-419	1	GEARBOX COVER	
8.	178-930	2	SHIM	
9.	178-927	2	SHIM	
10.	178-928	2	SHIM	
11.	178-931	2	SHIM	
12.	178-932	2	SHIM	
13.	178-933	2	SHIM	
14.	115-181	1	REDUCER (04N-02NF)	
15.	159-003	1	AIR VENT (02N)	
16.	514-123	1	PICKUP TUBE (02N-02NF90-2")	
17.	166-408	1	OUTPUT SHAFT	
18.	125-529	2	BEARING CONE	
19.	125-528	2	BEARING CUP	
20.	153-638	2	INTERNAL SEAL	

NOT SHOWN:

115-444 2 PLUG (04N, SOC, SS)

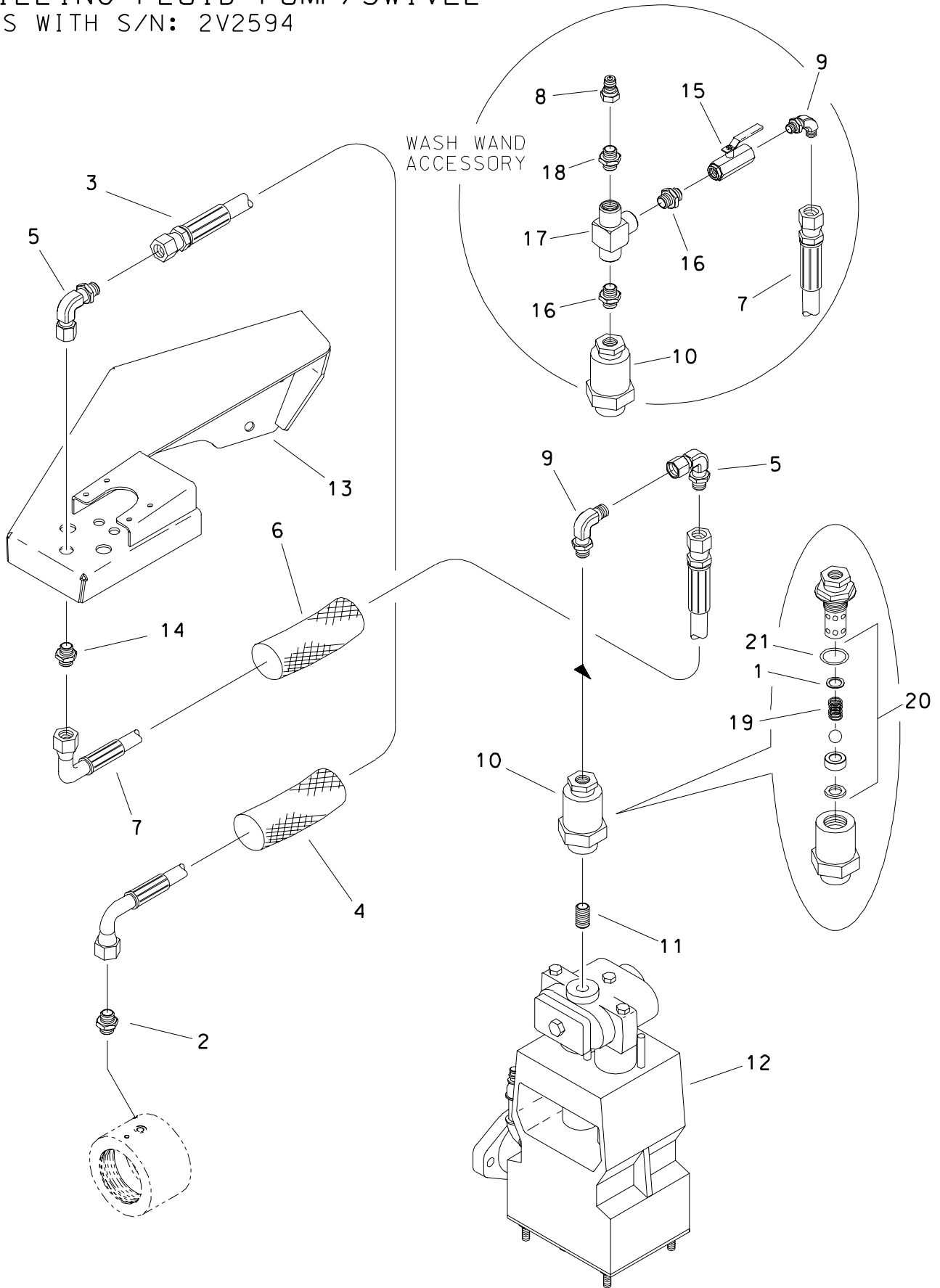
FOOTNOTES:

NOTE:

FLUID SYSTEMS

DRILLING FLUID PUMP/SWIVEL

ENDS WITH S/N: 2V2594



DRILLING FLUID PUMP/SWIVEL

ENDS WITH S/N: 2V2594

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-096	-	MACHINERY BUSHING (1/2")	SEE FOOTNOTE 2
2.	154-221	1	CONNECTOR (06S-060)	
3.	154-954	1	HOSE (06DFX90S-70"-3000)	
4.	117-702	1	ABRASION SLEEVE (1.0" X 68")	
5.	154-228	2	UNION (060-06DFX90)	
6.	117-213	1	ABRASION SLEEVE (1.00" X 96")	
7.	515-151	1	HOSE (06DFX90-96"-3000)	
8.	159-089	1	QDC ADAPTER (08-08SF)	INCLUDED WITH WASH WAND KIT
9.	154-420	1	CONNECTOR (08N-06090)	
10.	149-324	1	FLOW CHECK (08NF-08NF, 64PSI)	
11.	115-148	1	ALL THREAD (08N)	
12.	158-057	-	DRILLING FLUID PUMP	SEE FOOTNOTE 1
13.	303-289	-	BULKHEAD BRACKET	
14.	514-163	1	BK CONNECTOR (060-060BK)	
15.	158-579	1	SHUT-OFF (08NF-08NF)	INCLUDED WITH WASH WAND KIT
16.	155-210	2	CONNECTOR (08N-08N)	INCLUDED WITH WASH WAND KIT
17.	514-241	1	TEE (08N-08N-08N)	INCLUDED WITH WASH WAND KIT
18.	514-240	1	CONNECTOR (08N-08S)	INCLUDED WITH WASH WAND KIT
19.	159-326	-	COMPRESSION SPRING	
20.	190-963	-	REPAIR KIT (CHECK VALVE)	INCLUDES REF 1,19, 21, & 052-097 INSTRUCTIONS
21.	155-748	-	O-RING (916 D90)	

FOOTNOTES

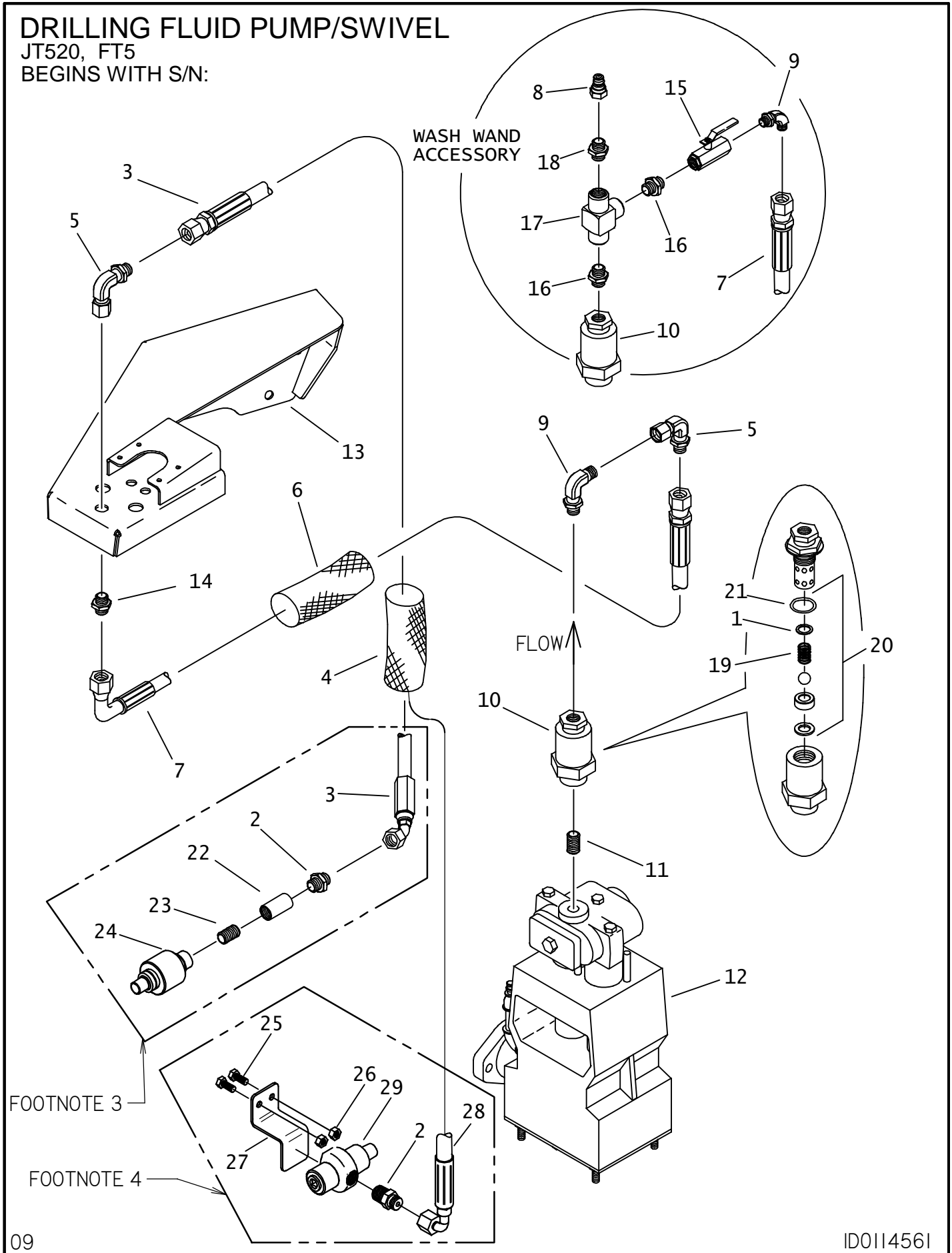
- REFER TO DRILLING FLUID PUMP PAGE FOR SERVICE PARTS. IF REPLACING REFER TO FOOTNOTE ON DRILLING FLUID PUMP INLET PAGE.
- NOT REQUIRED WITH INITIAL KIT INSTALLATION. REFER TO 052-097 INSTRUCTIONS.

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

DRILLING FLUID PUMP/SWIVEL

JT520, FT5
 BEGINS WITH S/N:



DRILLING FLUID PUMP/SWIVEL

JT520, FT5

BEGINS WITH S/N:

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-096	-	MACHINERY BUSHING (1/2")	SEE FOOTNOTE 2
2.	153-858	1	FITTING (060-08N)	
3.	157-344	1	HOSE (060FX45S-65"-3000)	SEE FOOTNOTE 3
4.	117-613	1	ABRASION SLEEVE (1.00" X 64")	
5.	154-228	2	UNION (060-060FX90)	
6.	117-213	1	ABRASION SLEEVE (1.00" X 96")	
7.	515-151	1	HOSE (060FX90-96"-3000)	
8.	159-089	1	QDC ADAPTER (08-08SF)	INCLUDED WITH WASH WAND KIT
9.	154-420	1	CONNECTOR (08N-06090)	
10.	149-324	1	FLOW CHECK (08NF-08NF/64PSI)	
11.	115-148	1	ALL THREAD (08N)	
12.	158-057	-	DRILLING FLUID PUMP	SEE FOOTNOTE 1
13.	303-289	-	BULKHEAD BRACKET	
14.	514-163	1	BK CONNECTOR (060-060BK)	
15.	158-579	1	SHUT-OFF (08NF-08NF)	INCLUDED WITH WASH WAND KIT
16.	155-210	2	CONNECTOR (08N-08N)	INCLUDED WITH WASH WAND KIT
17.	514-241	1	TEE (08N-08N-08N)	INCLUDED WITH WASH WAND KIT
18.	514-240	1	CONNECTOR (08N-08S)	INCLUDED WITH WASH WAND KIT
19.	159-326	-	COMPRESSION SPRING	
20.	190-963	-	REPAIR KIT (CHECK VALVE)	INCLUDES REF 1,19, 21, & 052-097 INSTRUCTIONS
21.	155-748	-	O-RING (916 D90)	
22.	115-155	1	COLLAR (08NF)	SEE FOOTNOTE 3
23.	115-118	1	NIPPLE (08N-2")	SEE FOOTNOTE 3
24.	153-765	1	WATER SWIVEL	SEE FOOTNOTE 3
25.	106-083	2	SCREW (M8-1.25 X 20MM)	SEE FOOTNOTE 4
26.	106-078	2	NUT (M8-1.25)	SEE FOOTNOTE 4
27.	300-6671	1	SWIVEL SUPPORT	SEE FOOTNOTE 4
28.	154-954	1	(060FX90S-70"-3000)	SEE FOOTNOTE 4
29.	150-1462	1	WATER SWIVEL	SEE FOOTNOTES 4 & 5, USE SEAL KIT 500-2127

NOT SHOWN:

FOOTNOTES:

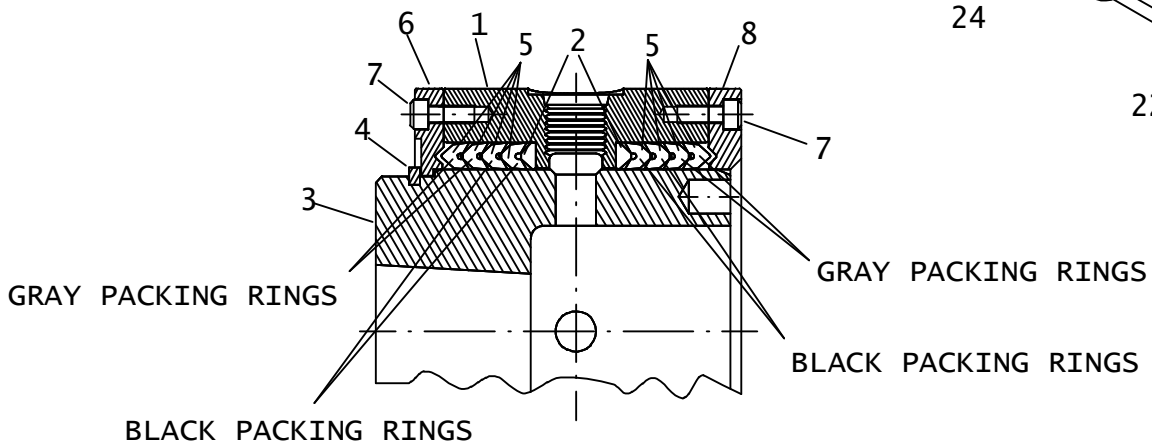
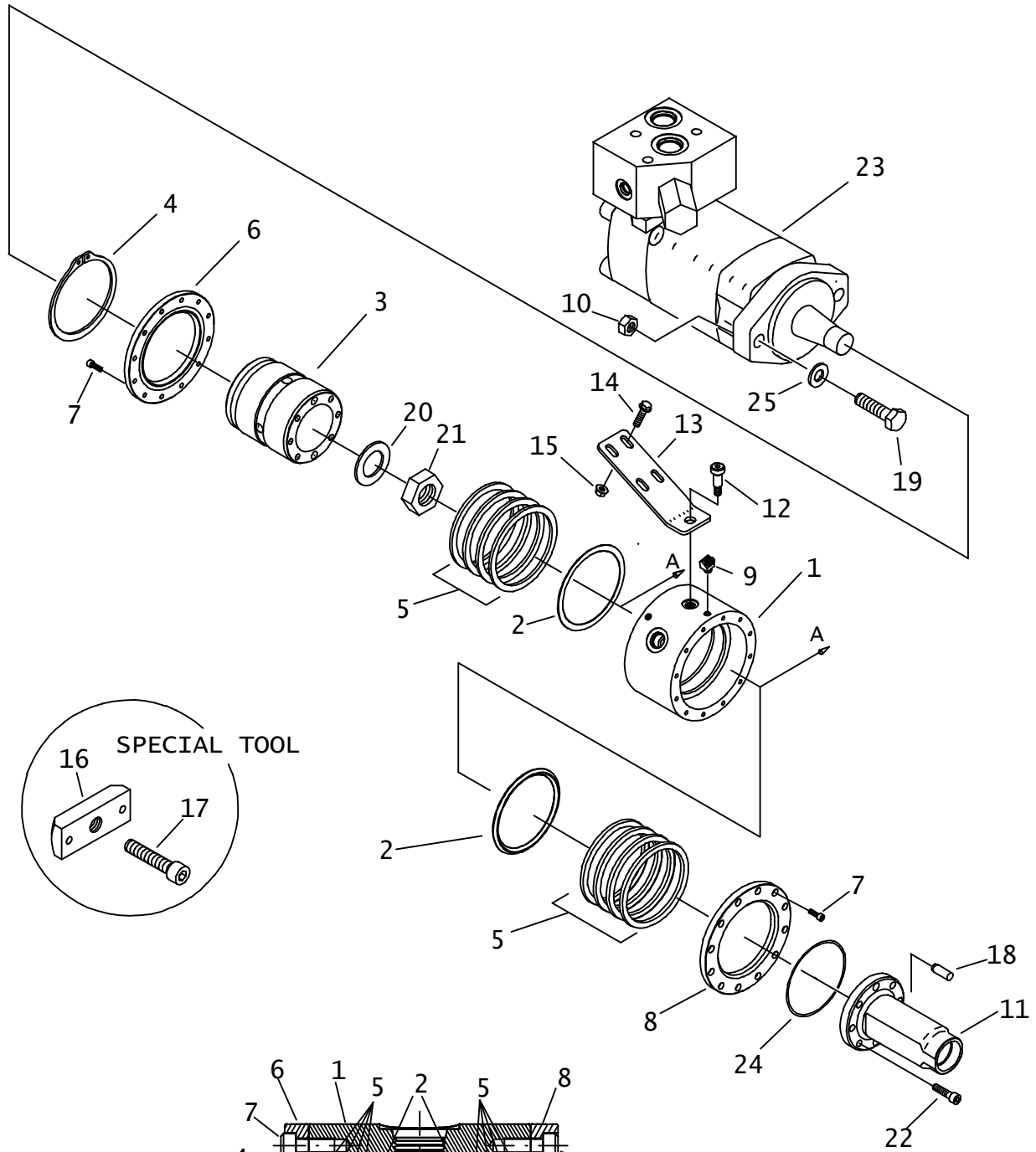
1. REFER TO DRILLING FLUID PUMP PAGE FOR SERVICE PARTS. IF REPLACING REFER TO FOOTNOTE ON DRILLING FLUID PUMP INLET PAGE.
2. NOT REQUIRED WITH INITIAL KIT INSTALLATION. REFER TO 052-097 INSTRUCTIONS.
3. BEGINS WITH S/N: 2V2659, ENDS WITH S/N:
4. BEGINS WITH S/N:
5. INSTALL USING NICKLE THREAD SEALING TAPE (117-555) ON MALE THREADS.

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

DRILLING FLUID SWIVEL

ENDS WITH S/N: 2V2595



DRILLING FLUID SWIVEL ENDS WITH S/N: 2V2595

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	153-246		SWIVEL	INCLUDES REF NO.'S 1-9
	303-281		SWIVEL	SEE FOOTNOTE 6
	150-1654		SWIVEL ASSEMBLY	SEE FOOTNOTE 8
1.	499-290	1	SWIVEL BARREL	
	369-791		SWIVEL BARREL	SEE FOOTNOTE 6
	500-1334	1	SWIVEL BARREL	SEE FOOTNOTE 8
2.	369-792	2	MALE PACKING ADAPTER	
3.	369-789	1	SWIVEL SHAFT	
4.	107-370	1	EXTERNAL SNAP RING (2.875")	
5.	369-790	1	PACKING SET	SEE FOOTNOTES 2 & 5
6.	400-310	1	BOTTOM CAP	
	369-788		BOTTOM CAP	SEE FOOTNOTE 6
	500-1333		BOTTOM CAP	SEE FOOTNOTE 8
7.	106-715	24	SCREW (M4-0.7 X 12MM, SOC)	USE LOCKTITE 242 OR EQUIVALENT
	106-591	24	SCREW (M6-1.00 X 16MM, SOC)	USE LOCKTITE 242 OR EQUIVALENT.SEE FOOTNOTE 8
8.	400-311	1	TOP CAP	
	369-787		TOP CAP	SEE FOOTNOTE 6
	500-1332		TOP CAP	SEE FOOTNOTE 8
9.	115-006	2	ZERK (1/4-NF,45)	SEE FOOTNOTE 2
10.	105-065	2	LOCKNUT (1/2-NC)	
11.	302-643	1	SAVER SUB	
12.	105-748	1	SHLD BLT (1/2" X ", 3/8-NC)	USE LOCKTITE 242 OR EQUIVALENT
13.	302-893	1	TORQUE BRACKET	
14.	106-991	4	FLG LK SCREW (M8-1.25 X 20MM)	
15.	106-386	4	FLG LOCKNUT (M8-1.25)	
16.	303-463	1	PULLER BAR	ACCESSORY SEE FOOTNOTE 4
17.	106-244	1	SCREW (M16-2.00 X 60MM, SOC)	ACCESSORY WITH REF. 16
18.	105-618	2	DOWEL PIN (8MM X 20MM)	SEE FOOTNOTE 7
19.	105-871	2	BOLT (1/2-NC X 2",GD 8)	TORQUE TO 110 FT-LBS
20.	178-134	1	BRASS BUSHING (1-3/4")	USE RED RTV SILICONE: SEE FOOTNOTE 1
21.	105-418	1	LOCKNUT (1-20 NEF)	SEE FOOTNOTE 3
22.	107-322	6	SCREW (M6-1x25MM, SOC, 12.9)	USE LOCTITE 242, TORQUE TO 15 FT-LBS
23.	158-054	-	HYDRAULIC MOTOR W/RELIEF	
	156-980	-	RELIEF VALVE	
	156-985	-	HYDRAULIC MOTOR	
	155-580	-	HYDRAULIC MOTOR	
24.	157-159	1	O-RING (O33 D90)	
25.	107-605	2	WASHER (1/2", HARDENED)	

NOT SHOWN:

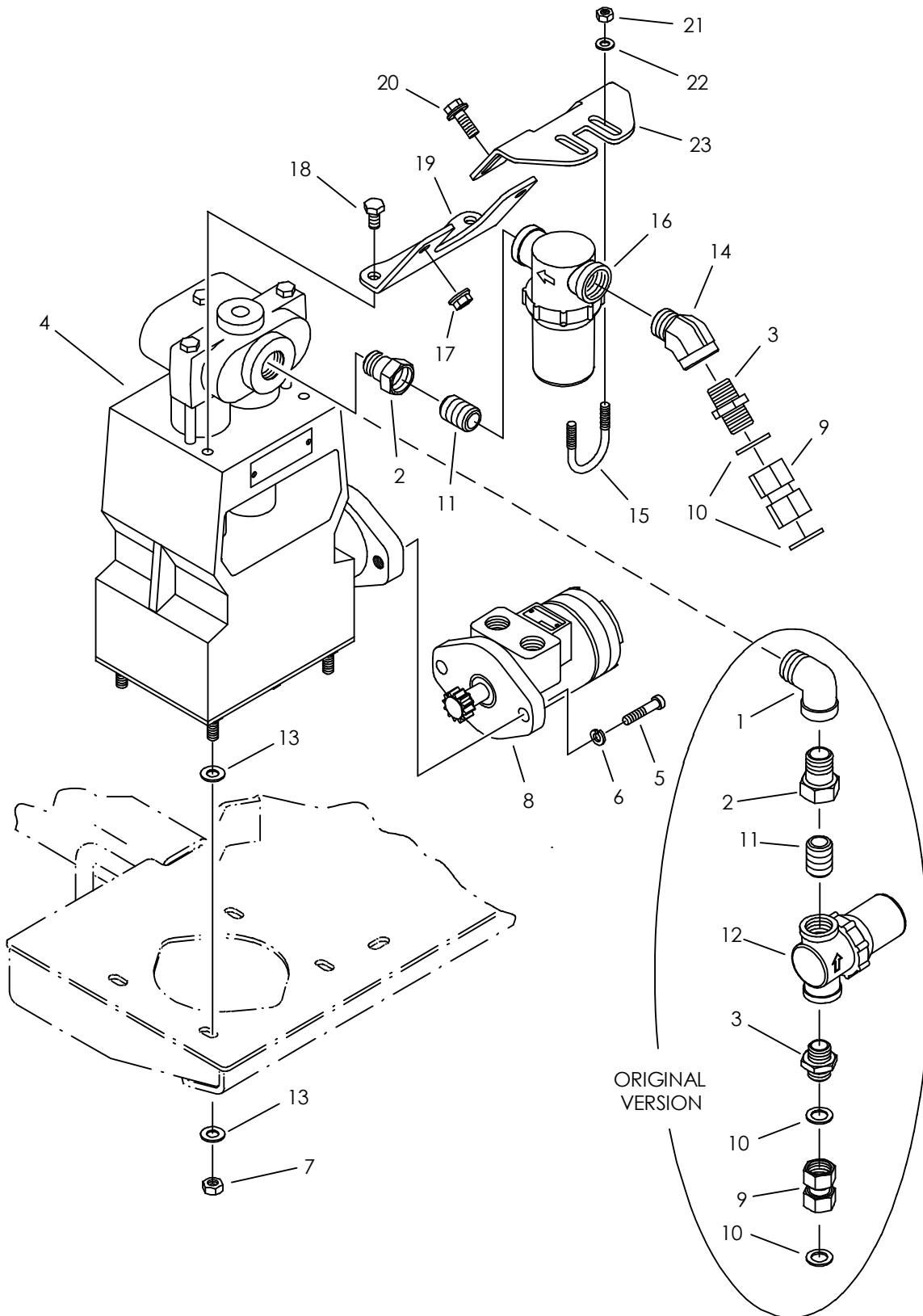
FOOTNOTES:

- SILICONE BRASS BUSHING, (REF NO. 20) BOTH SIDES INTO SHAFT, REF NO 3.
- APPLY HIGH TEMPERATURE GREASE ON PACKING RINGS BEFORE ASSEMBLY AND THROUGH ZERKS AFTER COMPLETE ASSEMBLY.
- REQUIRES A THIN WALL 1-7/16" SOCKET 1.93" O.D. MAX. (REF:PROTO 7446).
- AFTER REMOVING LOCKNUT (REF. 21) USE WITH TWO M6 SCREWS (REF. 22) & M16 SCREW (REF. 17) TO REMOVE SHAFT (REF. 3) FROM MOTOR.
- INCLUDES 8 PACKING RINGS. REFER TO 051-212 INSTRUCTIONS.
- ORIGINAL VERSION (NOT SHOWN). USED SIX MOUNTING SCREWS (REF 7) EACH END CAP.
- USE LOCTITE 680 OR EQUIVALENT. INSERT TAPERED END OF PIN FIRST.
- BOLT PATTERN THAT HOLDS TOP AND BOTTOM CAP CHANGED FROM 4MM SCREWS TO 6MM SCREWS. CHANGE MADE DECEMBER 2006.

NOTE:

DRILLING FLUID PUMP INLET

ENDS WITH SERIAL # 2T4484



DRILLING FLUID PUMP INLET ENDS WITH SERIAL # 2T4484

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	115-440	-	STREET ELBOW (16N-16NF90)	
2.	115-151	1	REDUCER (16N-12NF)	
3.	115-449	1	REDUCER (12N-12GM)	
4.	158-057	-	DRILLING FLUID PUMP	SEE FOOTNOTE 1
5.	106-204	2	BOLT (1/2-NC X 1-1/2", ALN)	
6.	105-070	2	LOCK WASHER (.500")	
7.	105-047	4	LOCKNUT (3/8-NC)	
8.	158-1008	-	HYDRAULIC MOTOR	
9.	156-968	1	CONNECTOR(-12GF12GF)	
10.	116-896	2	WASHER (1.100", RUBBER)	
11.	115-163	1	ALL THREAD (12N)	
12.	149-381	-	STRAINER (12NF)	BLACK
	149-478		SCREEN (20-MESH)	1.0" DIA X 2.65" LG
13.	107-368	8	WASHER (3/8", HARDENED)	
14.	149-513	1	STREET ELBOW (12N-12NF45)	
15.	107-563	1	U-BOLT (5/16-NC X 1-3/8")	
16.	153-133	1	STRAINER (12NF)	WHITE WITH TRANSPARENT BOWL
	153-198		SCREEN (20-MESH)	1.5" DIA X 3.7" LG
17.	106-387	2	FLG LOCKNUT (M10-1.50)	
18.	105-032	2	BOLT (3/8-NC Xf")	
19.	309-302	1	LOWER BRACKET	
20.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
21.	105-089	2	LOCKNUT (5/16-NC)	DO NOT OVER TIGHTEN
22.	105-226	2	WASHER (5/16")	
23.	309-301	1	UPPER BRACKET	

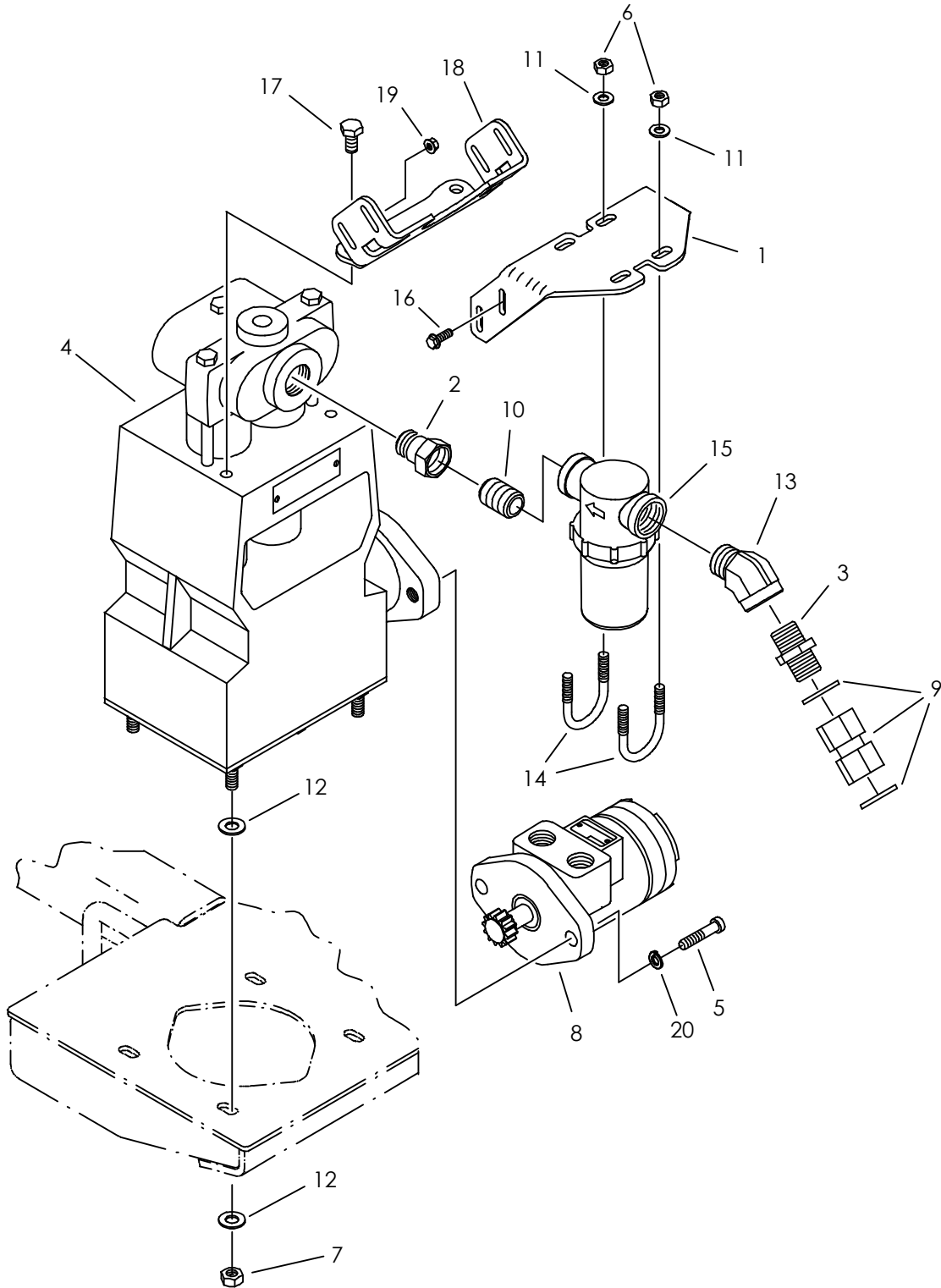
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FOOTNOTES:

1. REFER TO DRILLING FLUID PUMP PAGE FOR SERVICE PARTS.
PUMPS ON EARLY MACHINES USED (4) 105-826 FLG LOCK BOLTS FOR MOUNTING. IF REPLACING EARLY MACHINE PUMP WITH CURRENT PUMP (MOUNTED WITH STUDS) SHEET METAL MODIFICATION IS REQUIRED. REFER TO 052-215 SERVICE BULLETIN.

NOTE:

DRILLING FLUID PUMP INLET
 BEGINS WITH SERIAL # 2T4485



DRILLING FLUID PUMP INLET BEGINS WITH SERIAL # 2T4485

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	310-509	1	UPPER BRACKET	
2.	115-151	1	REDUCER (16N-12NF)	
3.	115-449	1	REDUCER (12N-12G, BRASS)	
4.	158-057	-	DRILLING FLUID PUMP	SEE FOOTNOTE 1
5.	106-204	2	BOLT (1/2-NC X 1-1/2", SOC)	USE 242 LOCTITE, TORQUE TO 100 FT-LB
6.	105-089	4	LOCKNUT (5/16-NC)	DO NOT OVER TIGHTEN
7.	105-047	4	LOCKNUT (3/8-NC)	
8.	158-1008	-	HYDRAULIC MOTOR	SEE FOOTNOTE 2
9.	156-968	1	CONNECTOR(12GF-12GF)	
10.	115-163	1	ALL THREAD (12N) SCH 80	
11.	105-226	4	WASHER (5/16")	
12.	107-368	8	WASHER (3/8", HARDENED)	
13.	149-513	1	STREET ELBOW (12N-12NF45)	
14.	107-563	2	U-BOLT (5/16-NC X 1-3/8")	
15.	153-133	1	STRAINER (12NF)	WHITE WITH TRANSPARENT BOWL
	153-198		SCREEN (20-MESH)	1.5" DIA X 3.7" LG
16.	106-161	4	FLG SCREW (M6-1.00 X 20MM)	
17.	105-032	2	BOLT (3/8-NC X 3/4")	
18.	310-510	1	LOWER BRACKET	
19.	106-385	4	FLG LOCKNUT (M6-1.00)	
20.	105-070	2	LOCK WASHER (1/2")	

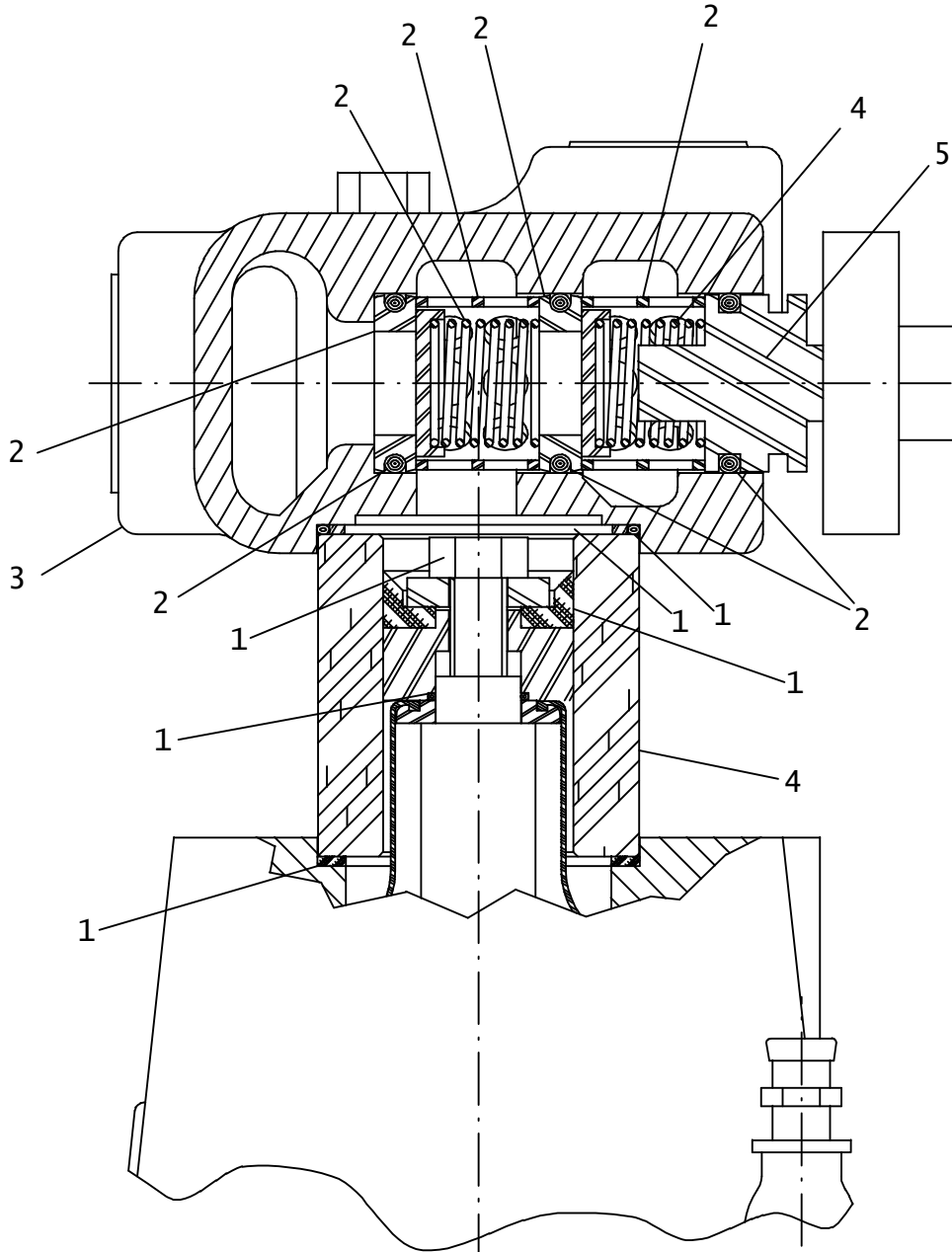
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FOOTNOTES:

1. REFER TO DRILLING FLUID PUMP PAGE FOR SERVICE PARTS.
2. USE COUPLING GREASE.

NOTE:

DRILLING FLUID PUMP



DRILLING FLUID PUMP

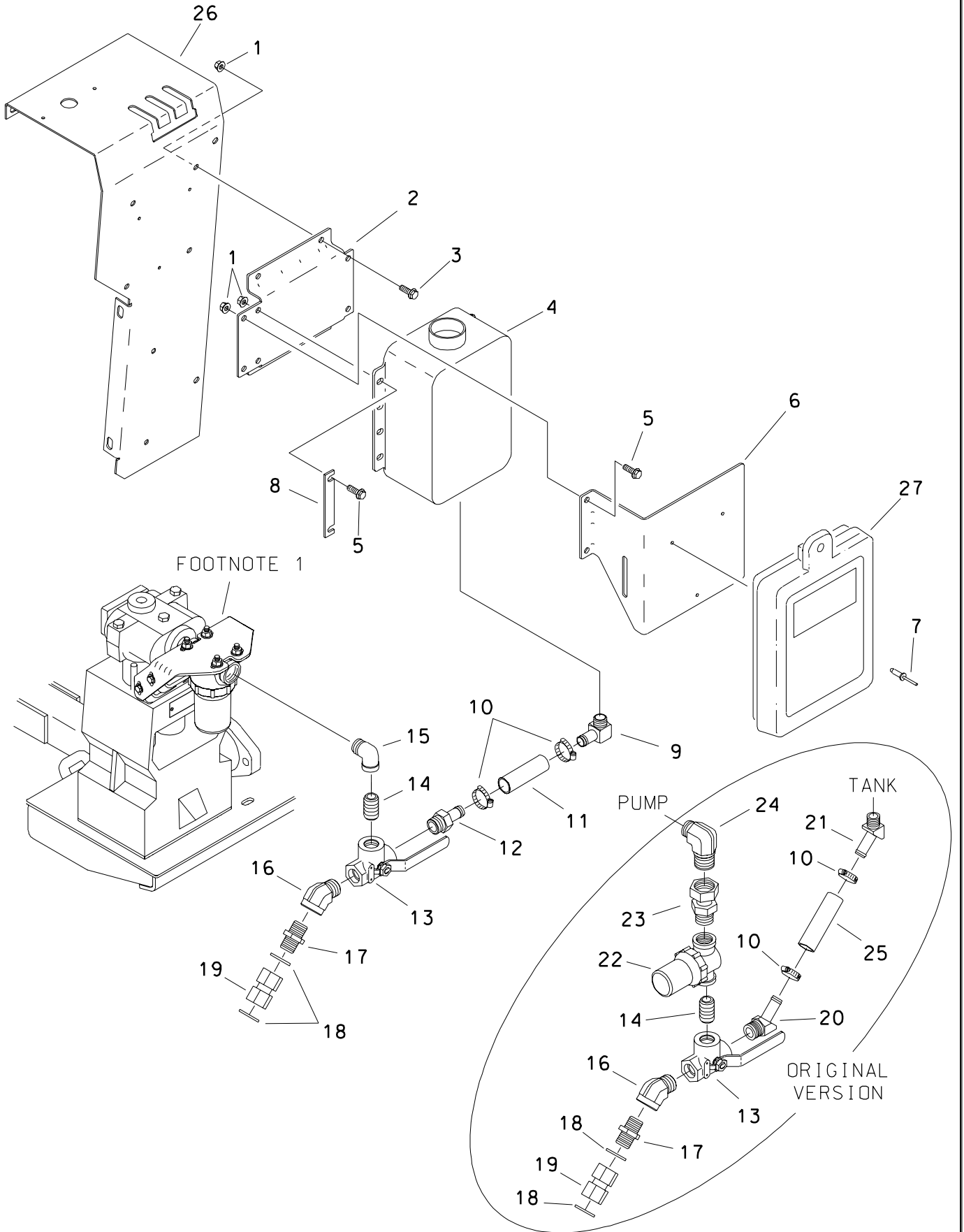
REF PART NO. NUMBER	QTY	DESCRIPTION	REMARKS
158-057	1	DRILLING FLUID PUMP	
197-087	-	REBUILT 158-057 FLUID PUMP	
1. 190-933	-	PACKING REPAIR KIT	
2. 190-815	-	VALVE REPAIR KIT	
3. 499-015	1	VALVE CHAMBER/FLUID CYLINDER	
4. 500-903	2	CLINDER, CERAMIC	
5. 499-086	2	VALVE COVER	

NOT SHOWN:

FOOTNOTES:

NOTE:

ANTIFREEZE KIT



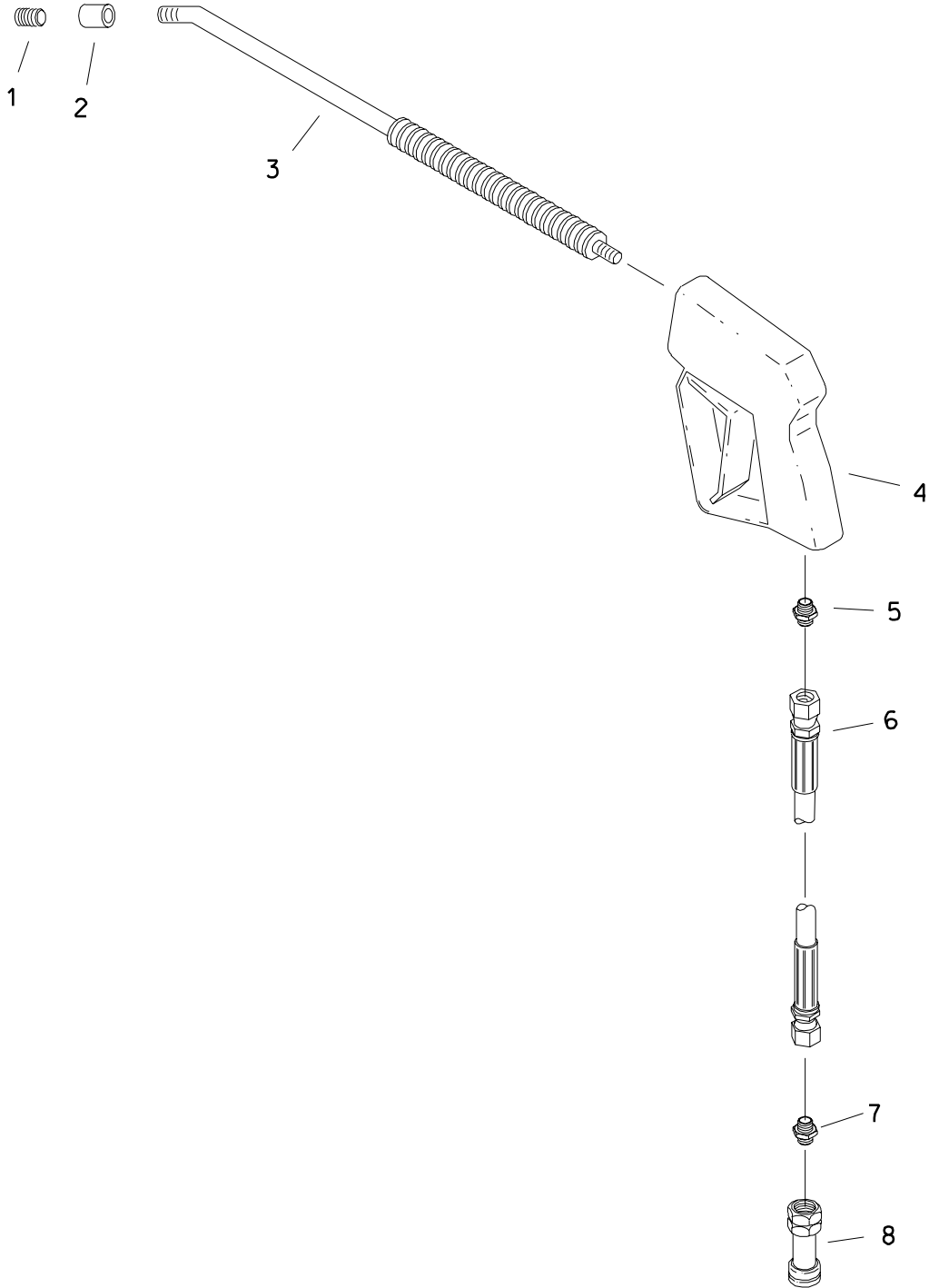
ANTIFREEZE KIT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	101-031	-	ANTIFREEZE KIT	INCLUDES REF NO.'S 1-15
1.	106-386	10	FLG LOCKNUT (M8-1.25)	
2.	305-576	1	FORMED MOUNT	
3.	106-380	4	FLG LK SCREW (M8-1.25 X 16MM)	
4.	149-382	1	ANTIFREEZE TANK (1 GAL)	
5.	106-162	6	FLG SCREW (M8-1.25 X 20MM)	
6.	305-577	1	COMPARTMENT MOUNT	
7.	110-560	3	POP RIVET (3/16" X 1/2", ALUM)	
8.	305-579	2	MOUNT BAR	
9.	514-285	1	S/O COUPLER (08N-10H90)	
10.	110-217	2	WORM CLAMP (7/16" TO 1")	
11.	116-855	AR	BULK TUBE (.625", SOLD PER 1")	USE 1 @ 4"
12.	153-196	1	S/O COUPLER (12N-10H)	
13.	149-431	1	SHUT-OFF (12NF, 3-WAY)	
14.	115-163	1	ALL THREAD (12N) SCH 80	
15.	153-197	1	STREET ELBOW (12N-12NF90)	
16.	149-513	-	STREET ELBOW (12N-12NF45)	SEE FOOTNOTE 2
17.	115-449	-	REDUCER (12N-12G, BRASS)	SEE FOOTNOTE 2
18.	116-896	-	WASHER (1.100", RUBBER)	SEE FOOTNOTE 2
19.	156-968	-	CONNECTOR (12GF-12GF)	SEE FOOTNOTE 2
20.	149-488	-	S/O COUPLER (12N-10H45)	
21.	149-487	-	S/O COUPLER (08N-10H45)	
22.	149-381	-	STRAINER (12NF)	
	153-133	-	STRAINER (12NF)	
23.	149-489	-	UNION (12N-12JFX)	
24.	149-490	-	CONNECTOR (16N-12J90)	USE 1 @ 7.5"
25.	116-855	-	BULK TUBE (.625", SOLD PER 1")	SEE FOOTNOTE 2
26.	302-838	-	SETUP CONSOLE COVER	SEE FOOTNOTE 2
27.	250-622	-	MANUAL COMPARTMENT	

FOOTNOTES

- SEE PAGES ENTITLED "DRILLING FLUID PUMP INLET" FOR PART NUMBERS.
- INCLUDED WITH BASIC MACHINE.

WASH WAND



WASH WAND

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	101-024	-	WASH WAND ACCESSORY KIT	SEE FOOTNOTE 1
1.	155-242	1	NOZZLE (04N, ORF .047", TC)	
2.	115-170	1	COLLAR (04NF)	
3.	259-353	1	WASH WAND (04N-36")	
4.	259-197	1	SPRAY GUN	
	190-938	-	REPAIR KIT, SPRAY GUN	
5.	514-141	1	CONNECTOR (06N-080)	
6.	154-804	1	HOSE (080FX-290"-3000)	
7.	154-233	1	CONNECTOR (08S-080)	
8.	159-088	1	QDC BODY (08-08SF)	
	190-186	-	SEAL REPAIR KIT	

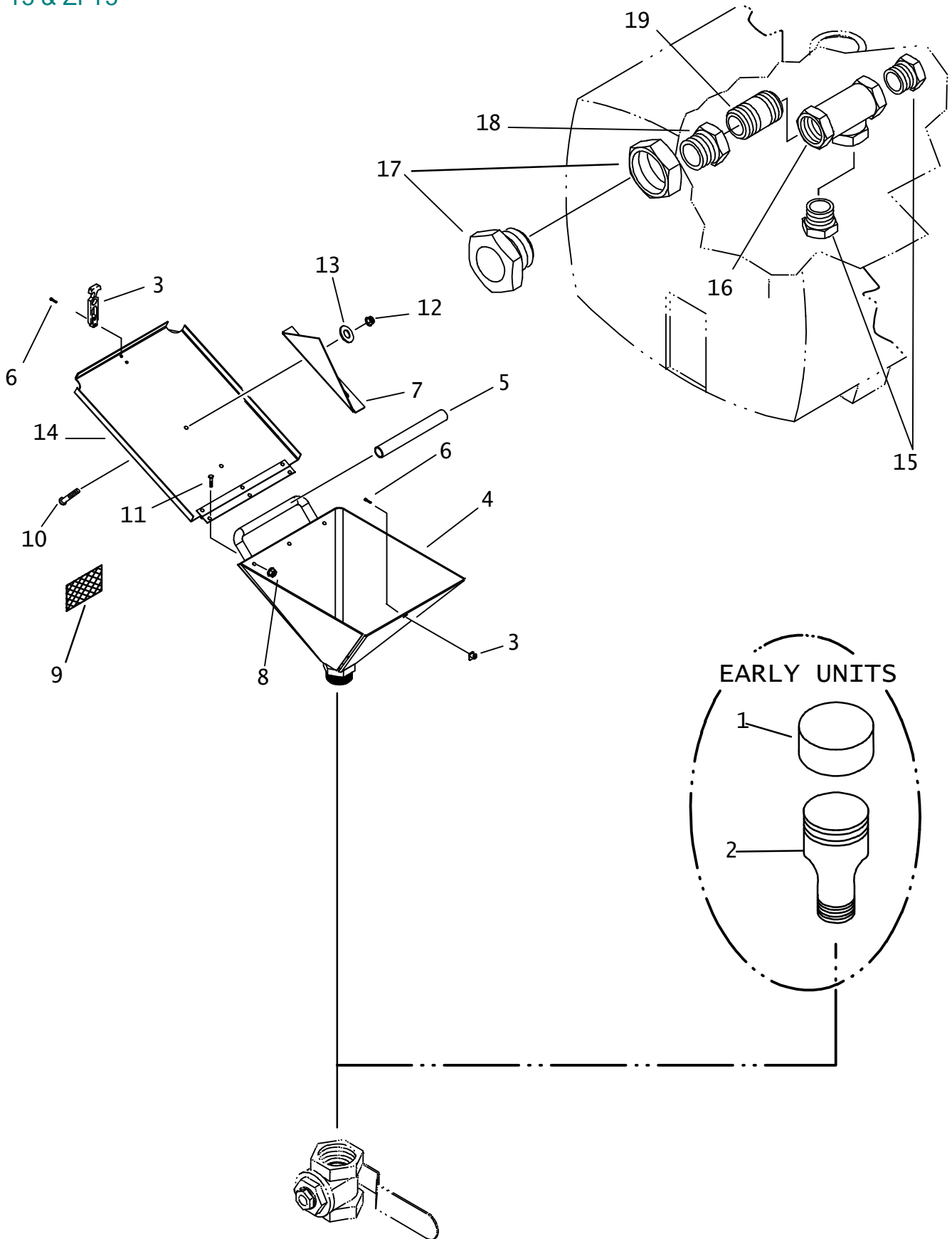
FOOTNOTES

1. INCL REF NO.'S 1 THRU 8 & PARTS NOTED ON "DRILLING FLUID PUMP/SWIVEL" PAGE.

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

FLUID TRANSFER HOPPER FT5 & ZFT5



FLUID TRANSFER HOPPER FT5 & ZFT5

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	105-768	1	PLASTIC CAP (64N)	USED ON EARLY UNITS
2.	149-379	1	SWAGE NIPPLE (34N X 64N)	USED ON EARLY UNITS
3.	110-638	1	FLEX DRAW LATCH	
4.	308-478	1	HOPPER	
5.	116-389	AR	BULK TUBING (3/4" SOLD PER 1')	USE 1 @ 6"
6.	106-428	3	SCREW (M5-0.80 X 14mm, SOC)	
7.	346-521	1	BAG OPENER	
8.	105-085	3	LOCK NUT (1/4-NC)	
9.	275-184	1	WARNING MOVING PARTS DECAL	
10.	105-835	2	CARRIAGE BOLT (3/8-NC Xf")	
11.	105-174	3	BOLT (1/4-NC X ")	
12.	105-047	2	LOCKNUT (3/8-NC)	
13.	105-118	2	WASHER (3/8)	
14.	308-476	1	LID	
15.	115-271	2	REDUCER(24N-12NF)	SEE FOOTNOTE 1
16.	115-269	1	TEE (24NF)	SEE FOOTNOTE 1
17.	<u>514-269</u>	-	BK CONN. (48N-32NFBK, NYL)	
	157-492	-	BK CONNECTOR (32NF, POLY)	SEE FOOTNOTE 2
18.	115-087	1	REDUCER (32N-24NF)	SEE FOOTNOTE 1
19.	115-263	1	ALL THREAD (24N)	SEE FOOTNOTE 1

NOT SHOWN:

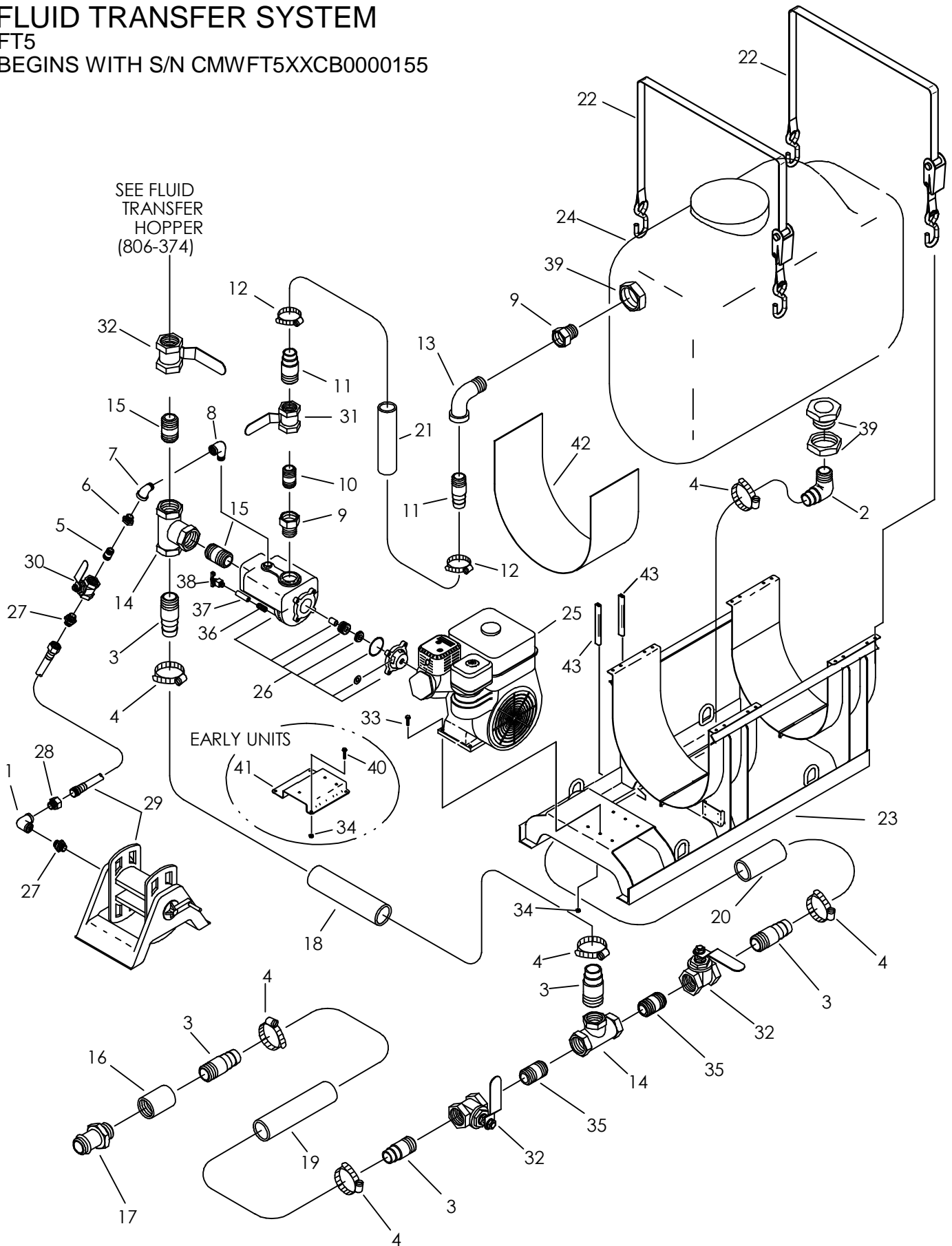
FOOTNOTES:

1. USE ONLY ON UNITS WITH HOPPER
2. HOLES MAY REQUIRE MODIFICATION FOR NEW FITTINGS.

NOTE:

FLUID TRANSFER SYSTEM

FT5
BEGINS WITH S/N CMWFT5XXCB0000155



FLUID TRANSFER SYSTEM

FT5

BEGINS WITH S/N CMWFT5XXCB0000155

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	115-108	1	ELBOW (12NF-12NF90)	NOT INCLUDED WITH SYSTEM
2.	514-320	1	S/O COUPLER (32N-32H90)	
3.	514-089	5	S/O COUPLER (32N-32H)	
4.	110-134	6	WORM CLAMP (2.062" TO 2.750")	
5.	115-104	1	NIPPLE (12N X 1-1/2")	
6.	115-151	1	REDUCER (16N-12NF)	
7.	114-007	1	STREET ELBOW (16N-16NF45)	
8.	115-440	1	STREET ELBOW (16N-16NF90)	
9.	115-087	2	REDUCER (32N-24NF)	
10.	115-040	1	NIPPLE (24N-3")	
11.	155-188	2	S/O COUPLER (24N-24H)	
12.	110-250	2	WORM CLAMP (1-1/4" TO 2-1/8")	
13.	115-044	1	STREET ELBOW (24N-24NF90)	
14.	154-484	2	TEE (32NF-32NF-32NF)	
15.	115-295	2	ALL THREAD (32N-2")	
16.	115-186	1	COLLAR (32NF)	
17.	159-181	1	FHC ADAPTER (40-32N)	
18.	116-505	AR	BULK HOSE (2", SOLD PER 1')	SEE FOOTNOTE 1
19.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 23"
20.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 27"
21.	116-047	AR	BULK HOSE (1-1/2", SOLD PER 1')	USE 1 @ 21"
22.	118-181	2	RATCHET STRAP (1" X 6')	
23.	319-176	1	SADDLE PUMP SKID	
	303-209	1	SADDLE PUMP SKID	OBSOLETE SEE FOOTNOTE 2
24.	364-591	1	WATER TANK (200 GAL)	
	153-718	1	TANK LID	
	190-053		POLY-PATCH TANK REPAIR KIT	
	<u>364-519</u>	1	WATER TANK (200 GAL)	OBSOLETE INCL FILLWELL AND COVER
	303-982	1	FILLWELL (10"), WATER TANK	SERVICE PART FOR 364-519
	303-983	1	COVER (10")	SERVICE PART FOR 364-519
25.	195-028	1	ENGINE - HONDA	
	194-009	-	FUEL TANK CAP	
26.	158-398	-	WATER PUMP	OBSOLETE
	149-929	1	CENTRIFUGAL PUMP	
	165-834	1	SHIM (.015", IMPELLER)	
	157-668	-	EXTERNAL SHAFT SEAL (3/4")	OBSOLETE
	191-017	1	PUMP SEAL KIT	
	180-817	1	SLEEVE	
	500-248	1	O-RING (246 D70)	
	194-044	1	ENGINE ADAPTER (HONDA 5.5 HP)	
	500-860	1	SLINGER	
27.	114-038	2	NIPPLE (12N-12NH)	ONE INCLUDED WITH SYSTEM
28.	114-037	1	CONNECTOR (12N-12NHF)	NOT INCLUDED WITH SYSTEM
29.	NA	1	WATER HOSE & HOSE REEL	NOT INCLUDED WITH SYSTEM

NOT SHOWN:

FOOTNOTES:

1. USE 1 @ 8". EARLY UNITS WITH ORIGINAL SKID USE 1 @ 10"
2. ORIGINAL SKID USED ENGINE MOUNT PLATE (REF. 46).

NOTE:

FLUID TRANSFER SYSTEM

FT5

BEGINS WITH S/N CMWFT5XXCB0000155

REF PART NO. NUMBER	QTY	DESCRIPTION	REMARKS
30. 120-018	1	SHUT-OFF (12NF)	
31. 120-023	1	SHUT-OFF (24NF-24NF)	
32. 120-059	3	SHUT-OFF (32NF-32NF)	
33. 106-989	4	FLG LK SCREW (M8-1.25 X 35mm)	
34. 106-386	4	FLG LOCKNUT (M8-1.25)	8 USED ON EARLY UNITS
35. 115-296	2	NIPPLE (32N-4")	
36. 115-166	1	NIPPLE (04N-1.5")	
37. 115-170	1	COLLAR (04NF)	
38. 110-141	1	DRAIN VALVE (04N)	
39. 155-261	2	BK CONNECTOR (32NF-32NF, NYL)	OBSOLETE
	2	157-492 BK CONNECTOR (32NF, POLY)	SEE FOOTNOTE 4
40. 106-991	4	FLG LK SCREW (M8-1.25 X 20mm)	USED ON EARLY UNITS WITH ORIGINAL SKID
41. 346-350	1	ENGINE MOUNT PLATE	USED ON EARLY UNITS WITH ORIGINAL SKID
42. 305-597	2	TANK PAD (13")	USED ON EARLY UNITS WITH ORIGINAL SKID. SEE FOOTNOTE 3
	2	305-572 TANK PAD (15")	BEGINS WITH S/N 2S0739. SEE FOOTNOTE 3
	AR	256-665 ADHESIVE	ENDS WITH S/N 2S0738. SEE FOOTNOTE 3
43. 115-704	AR	BULK EDGE (1/4",SOLD PER 1")	USE 2 @ 6"

NOT SHOWN:

FOOTNOTES:

3. NOT REQUIRED PARTS.

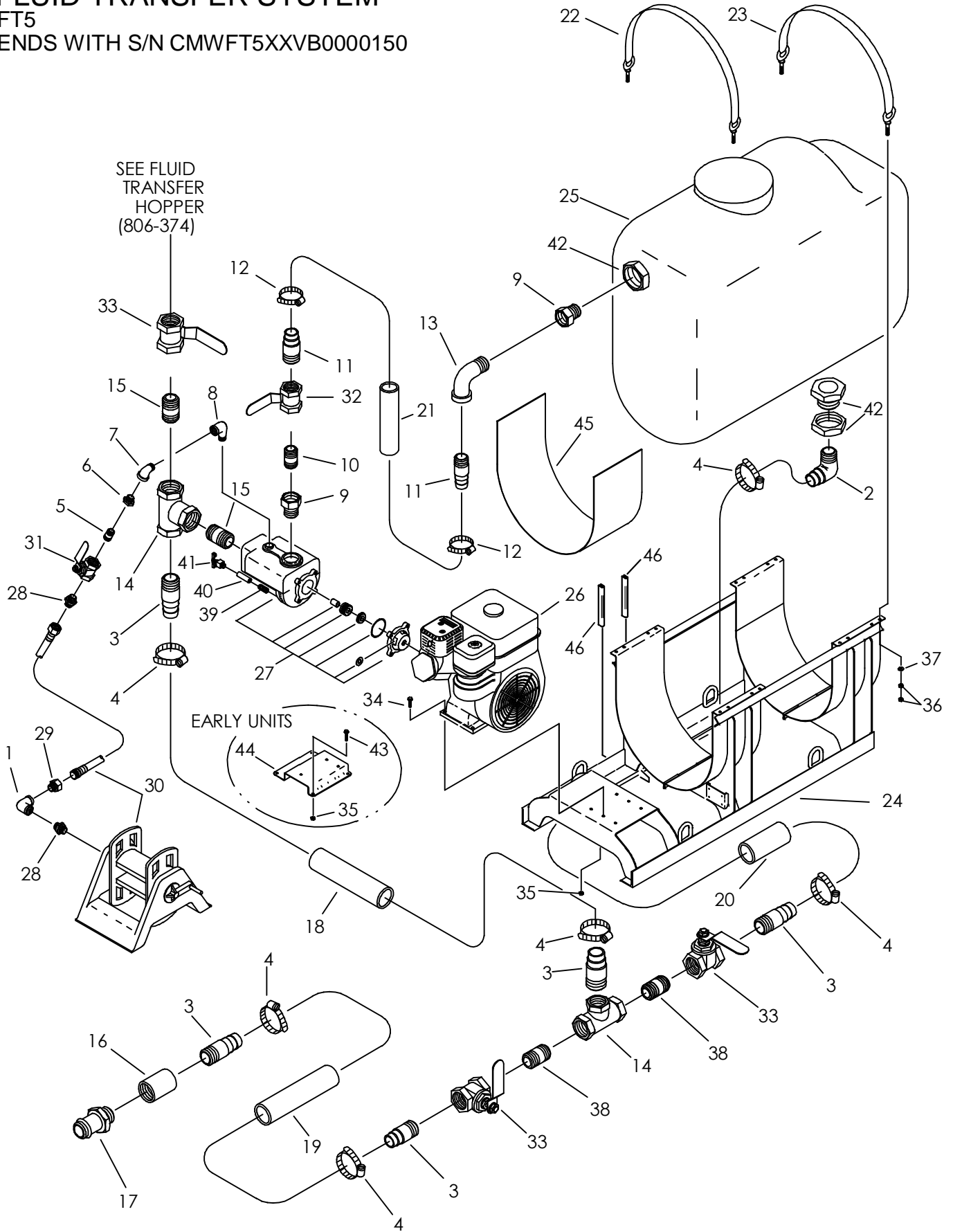
4. HOLES MAY REQUIRE MODIFICATION FOR NEW FITTINGS.

NOTE:

REFER TO O-RING CHART (800-301) IN THE BACK OF THE BOOK FOR REPLACEMENT O-RINGS.

FLUID TRANSFER SYSTEM

FT5
ENDS WITH S/N CMWFT5XXVB0000150



FLUID TRANSFER SYSTEM

FT5

ENDS WITH S/N CMWFT5XXVB0000150

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	115-108	1	ELBOW (12NF-12NF90)	NOT INCLUDED WITH SYSTEM
2.	514-320	1	S/O COUPLER (32N-32H90)	
3.	514-089	5	S/O COUPLER (32N-32H)	
4.	110-134	6	WORM CLAMP (2.062" TO 2.750")	
5.	115-104	1	NIPPLE (12N X 1-1/2")	
6.	115-151	1	REDUCER (16N-12NF)	
7.	114-007	1	STREET ELBOW (16N-16NF45)	
8.	115-440	1	STREET ELBOW (16N-16NF90)	
9.	115-087	2	REDUCER (32N-24NF)	
10.	115-040	1	NIPPLE (24N-3")	
11.	155-188	2	S/O COUPLER (24N-24H)	
12.	110-250	2	WORM CLAMP (1-1/4" TO 2-1/8")	
13.	115-044	1	STREET ELBOW (24N-24NF90)	
14.	154-484	2	TEE (32NF-32NF-32NF)	
15.	115-295	2	ALL THREAD (32N-2")	
16.	115-186	1	COLLAR (32NF)	
17.	159-181	1	FHC ADAPTER (40-32N)	
18.	116-505	AR	BULK HOSE (2", SOLD PER 1')	SEE FOOTNOTE 1
19.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 23"
20.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 27"
21.	116-047	AR	BULK HOSE (1-1/2", SOLD PER 1')	USE 1 @ 21"
22.	316-596	1	STRAP	
23.	316-595	1	STRAP	
24.	319-176	1	SADDLE PUMP SKID	
	303-209	1	SADDLE PUMP SKID	OBSOLETE SEE FOOTNOTE 2
25.	364-591	1	WATER TANK (200 GAL)	
	153-718	1	TANK LID	
	190-053		POLY-PATCH TANK REPAIR KIT	
	<u>364-519</u>	1	WATER TANK (200 GAL)	OBSOLETE INCL FILLWELL AND COVER
	303-982	1	FILLWELL (10"), WATER TANK	SERVICE PART FOR 364-519
	303-983	1	COVER (10")	SERVICE PART FOR 364-519
26.	195-028	1	ENGINE - HONDA	
	194-009	-	FUEL TANK CAP	
27.	158-398	-	WATER PUMP	OBSOLETE
	149-929	1	CENTRIFUGAL PUMP	
	165-834	1	SHIM (.015", IMPELLER)	
	157-668	-	EXTERNAL SHAFT SEAL (3/4")	OBSOLETE
	191-017	1	PUMP SEAL KIT	
	180-817	1	SLEEVE	
	500-248	1	O-RING (246 D70)	
	194-044	1	ENGINE ADAPTER (HONDA 5.5 HP)	
	500-860	1	SLINGER	
28.	114-038	2	NIPPLE (12N-12NH)	ONE INCLUDED WITH SYSTEM
29.	114-037	1	CONNECTOR (12N-12NHF)	NOT INCLUDED WITH SYSTEM
30.	NA	1	WATER HOSE & HOSE REEL	NOT INCLUDED WITH SYSTEM

NOT SHOWN:

FOOTNOTES:

1. USE 1 @ 8". EARLY UNITS WITH ORIGINAL SKID USE 1 @ 10"
2. ORIGINAL SKID USED ENGINE MOUNT PLATE (REF. 46).

NOTE:

FLUID TRANSFER SYSTEM

FT5

ENDS WITH S/N CMWFT5XXVB0000150

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
31.	120-018	1	SHUT-OFF (12NF)	
32.	120-023	1	SHUT-OFF (24NF-24NF)	
33.	120-059	3	SHUT-OFF (32NF-32NF)	
34.	106-989	4	FLG LK SCREW (M8-1.25 X 35mm)	
35.	106-386	4	FLG LOCKNUT (M8-1.25)	8 USED ON EARLY UNITS
36.	106-175	8	LOCKNUT (M10-1.50)	
37.	105-118	4	WASHER (3/8")	
38.	115-296	2	NIPPLE (32N-4")	
39.	115-166	1	NIPPLE (04N-1.5")	
40.	115-170	1	COLLAR (04NF)	
41.	110-141	1	DRAIN VALVE (04N)	
42.	155-261	2	BK CONNECTOR (32NF-32NF, NYL)	OBSOLETE
	157-492	2	BK CONNECTOR (32NF, POLY)	SEE FOOTNOTE 4
43.	106-991	4	FLG LK SCREW (M8-1.25 X 20mm)	USED ON EARLY UNITS WITH ORIGINAL SKID
44.	346-350	1	ENGINE MOUNT PLATE	USED ON EARLY UNITS WITH ORIGINAL SKID
45.	305-597	2	TANK PAD (13")	USED ON EARLY UNITS WITH ORIGINAL SKID. SEE FOOTNOTE 3
	305-572	2	TANK PAD (15")	BEGINS WITH S/N 2S0739. SEE FOOTNOTE 3
	256-665	AR	ADHESIVE	ENDS WITH S/N 2S0738. SEE FOOTNOTE 3
46.	115-704	AR	BULK EDGE (1/4",SOLD PER 1")	USE 2 @ 6"

NOT SHOWN:

FOOTNOTES:

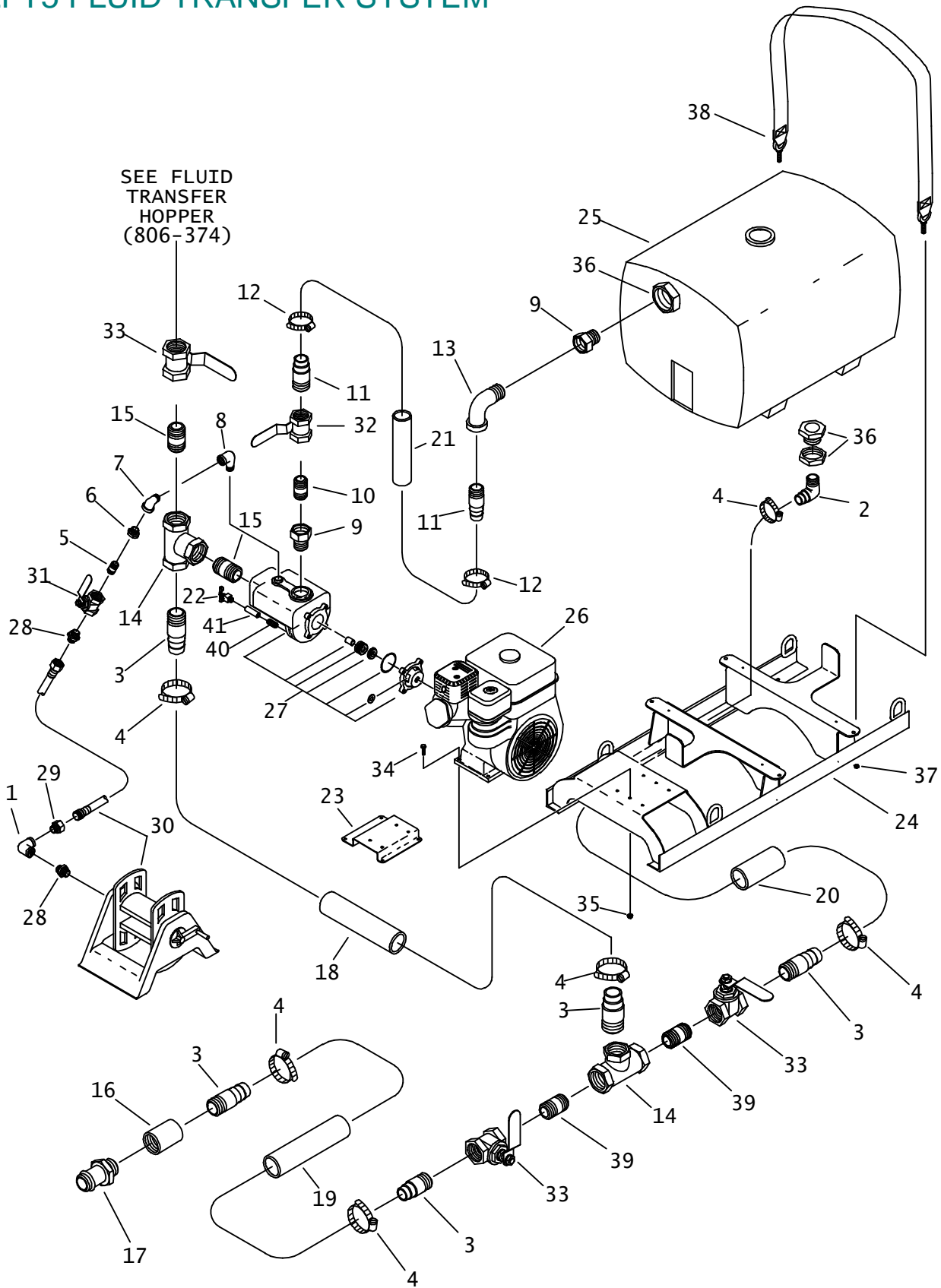
3. NOT REQUIRED PARTS.

4. HOLES MAY REQUIRE MODIFICATION FOR NEW FITTINGS.

NOTE:

REFER TO O-RING CHART (800-301) IN THE BACK OF THE BOOK FOR REPLACEMENT O-RINGS.

ZFT5 FLUID TRANSFER SYSTEM



ZFT5 FLUID TRANSFER SYSTEM

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	115-108	1	ELBOW (12NF-12NF90)	NOT INCLUDED WITH SYSTEM
2.	514-320	1	S/O COUPLER (32N-32H90)	
3.	514-089	5	S/O COUPLER (32N-32H)	
4.	110-134	6	WORM CLAMP (2.062" TO 2.750")	
5.	115-104	1	NIPPLE (12N X 1-1/2")	
6.	115-151	1	REDUCER (16N-12NF)	
7.	114-007	1	STREET ELBOW (16N-16NF45)	
8.	115-440	1	STREET ELBOW (16N-16NF90)	
9.	115-087	2	REDUCER (32N-24NF)	
10.	115-040	1	NIPPLE (24N-3")	
11.	155-188	2	S/O COUPLER (24N-24H)	
12.	110-250	2	WORM CLAMP (1-1/4" TO 2-1/8")	
13.	115-044	1	STREET ELBOW (24N-24NF90)	
14.	154-484	2	TEE (32NF-32NF-32NF)	
15.	115-295	2	ALL THREAD (32N-2")	
16.	115-186	1	COLLAR (32NF)	
17.	159-181	1	FHC ADAPTER (40-32N)	
18.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 8"
19.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 23"
20.	116-505	AR	BULK HOSE (2", SOLD PER 1')	USE 1 @ 18"
21.	116-047	AR	BULK HOSE (1-1/2", SOLD PER 1")	USE 1 @ 25"
22.	110-141	1	DRAIN VALVE (04N)	
23.	346-350	1	ENGINE MOUNT PLATE	USED ON EARLY UNITS
24.	305-795	1	ZFT5 SKID	
25.	149-432	1	WATER TANK (100 GAL)	INCL COVER
	305-799	1	COVER (5")	
26.	195-028	1	ENGINE - HONDA	
	194-009	-	FUEL TANK CAP	
27.	<u>158-398</u>	1	WATER PUMP	
	149-929	1	CENTRIFUGAL PUMP	
	165-834	1	SHIM (.015", IMPELLER)	
	<u>157-668</u>	1	EXTERNAL SHAFT SEAL (3/4")	
	191-017	1	PUMP SEAL KIT	
	180-817	1	SLEEVE	
	500-248	1	O-RING (246 D70)	
	194-044	1	ENGINE ADAPTER (HONDA 5.5 HP)	
NOT SHOWN	500-860	1	SLINGER	
28.	114-038	2	NIPPLE (12N-12NH)	ONE INCLUDED WITH SYSTEM
29.	114-037	1	CONNECTOR (12N-12NHF)	NOT INCLUDED WITH SYSTEM
30.	NA	1	WATER HOSE & HOSE REEL	NOT INCLUDED WITH SYSTEM
31.	120-018	1	SHUT-OFF (12NF)	
32.	120-023	1	SHUT-OFF (24NF-24NF)	

FOOTNOTES:

NOTE:

ZFT5 FLUID TRANSFER SYSTEM

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
33.	120-059	3	SHUT-OFF (32NF-32NF)	
34.	106-989	4	FLG LK SCREW (M8-1.25 X 35MM)	
35.	106-386	4	FLG LOCKNUT (M8-1.25)	
36.	155-261	2	BK CONNECTOR (32NF-32NF, NYL)	
	157-492	2	BK CONNECTOR (32NF, POLY)	SEE FOOTNOTE 1
37.	105-814	4	FLG LOCKNUT (3/8-NC)	
38.	105-779	2	STRAP	
39.	115-296	2	NIPPLE (32N-4")	
40.	115-166	1	NIPPLE (04N-1.5")	
41.	115-170	1	COLLAR (04NF)	

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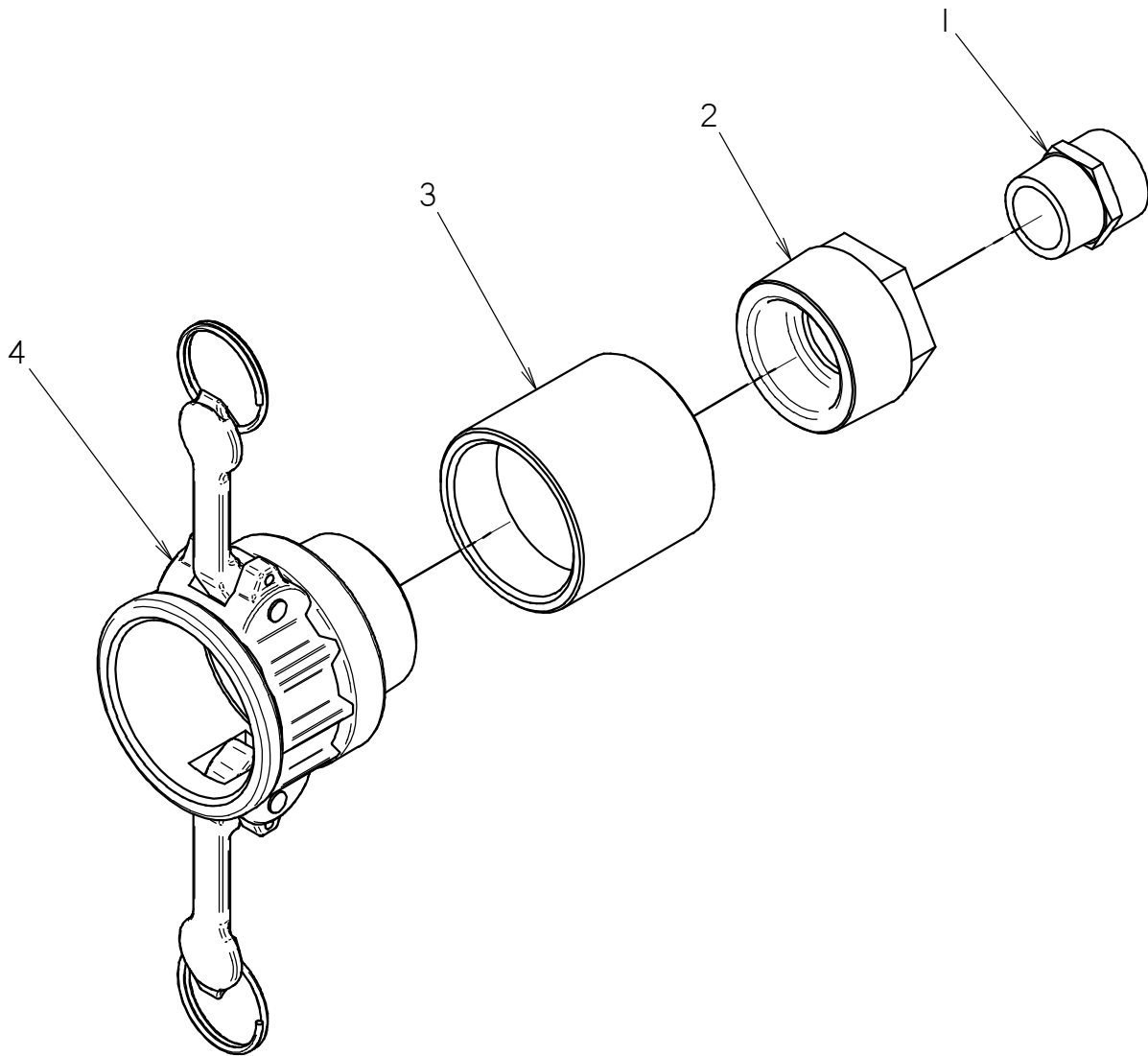
FOOTNOTES:

1. HOLES MAY REQUIRE MODIFICATION FOR NEW FITTINGS.

NOTE:

REFER TO O-RING CHART (800-301) IN THE BACK OF THE BOOK FRO REPLACEMENT O-RINGS

GARDEN HOSE ADAPTER



GARDEN HOSE ADAPTER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	159-891		GARDEN HOSE ADAPTER	INCL. REF No's 1 - 4
1	114-038	1	NIPPLE (12N-12NH)	
2	115-271	1	REDUCER (24N-12NF)	
3	115-134	1	COLLAR (24NF)	
4	159-500	1	FHC BODY (24-24N)	

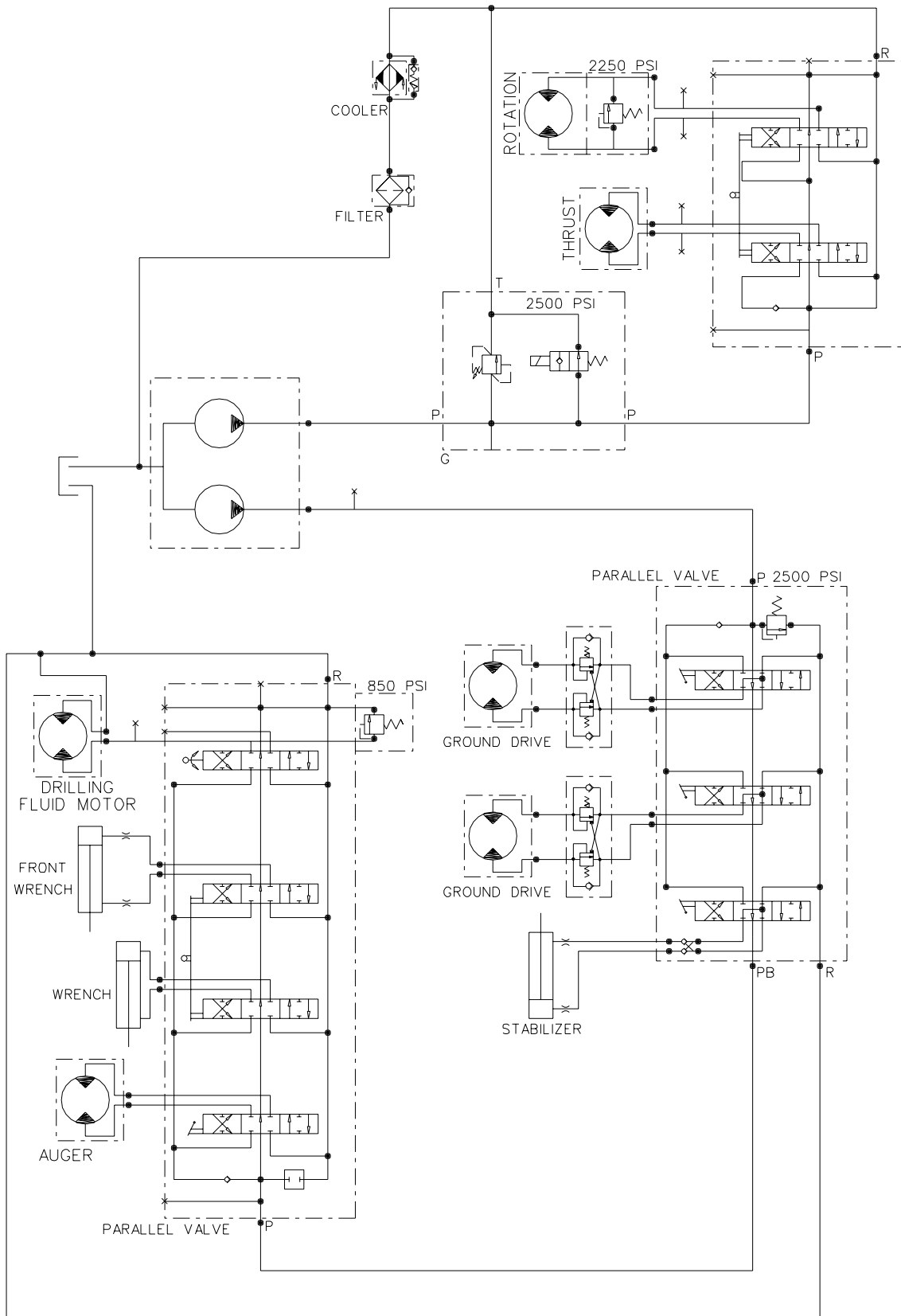
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FOOTNOTES:

NOTE:

HYDRAULICS

HYDRAULIC SCHEMATIC



HYDRAULIC SCHEMATIC

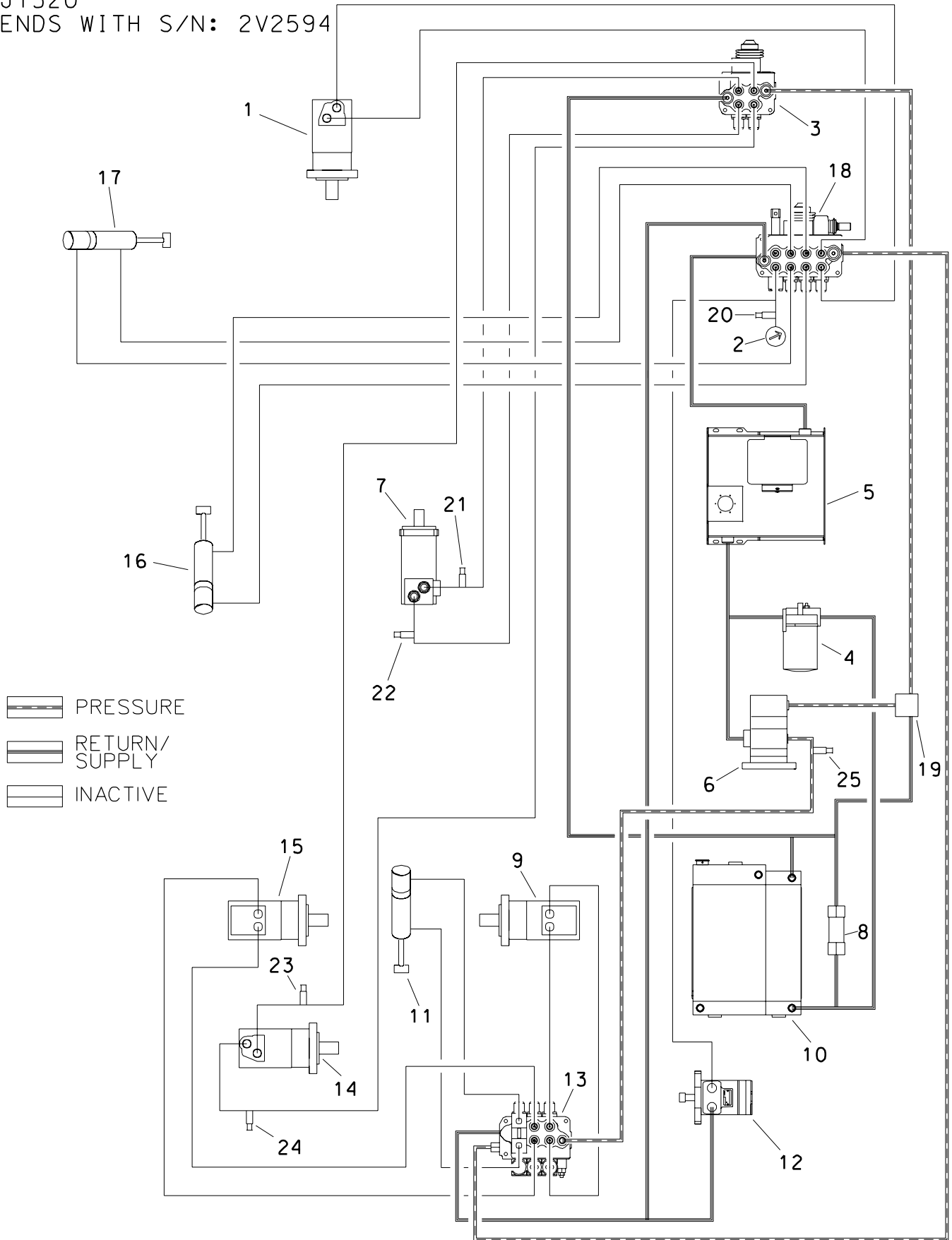
SPECIFICATIONS

ENGINE		PUMP			MOTOR	
MFG (NO LOAD)	RPM	TYPE	GPM	DISPLACEMENT	TYPE	DISPLACEMENT
KUBOTA D1105B-1	3200	THRUST/ROT. AUXILIARY	15	1.2 CU IN/REV	ROTATION	18.7 CU IN/REV
			10	.84 CU IN/REV	THRUST	18.7 CU IN/REV
					GROUND DRIVE	24 CU IN/REV
					DRILLING FLUID	5.9 CU IN/REV
					ANCHOR	24 CU IN/REV

HYDRAULIC DIAGRAM

JT520

ENDS WITH S/N: 2V2594



HYDRAULIC DIAGRAM

JT520

ENDS WITH S/N: 2V2594

REF

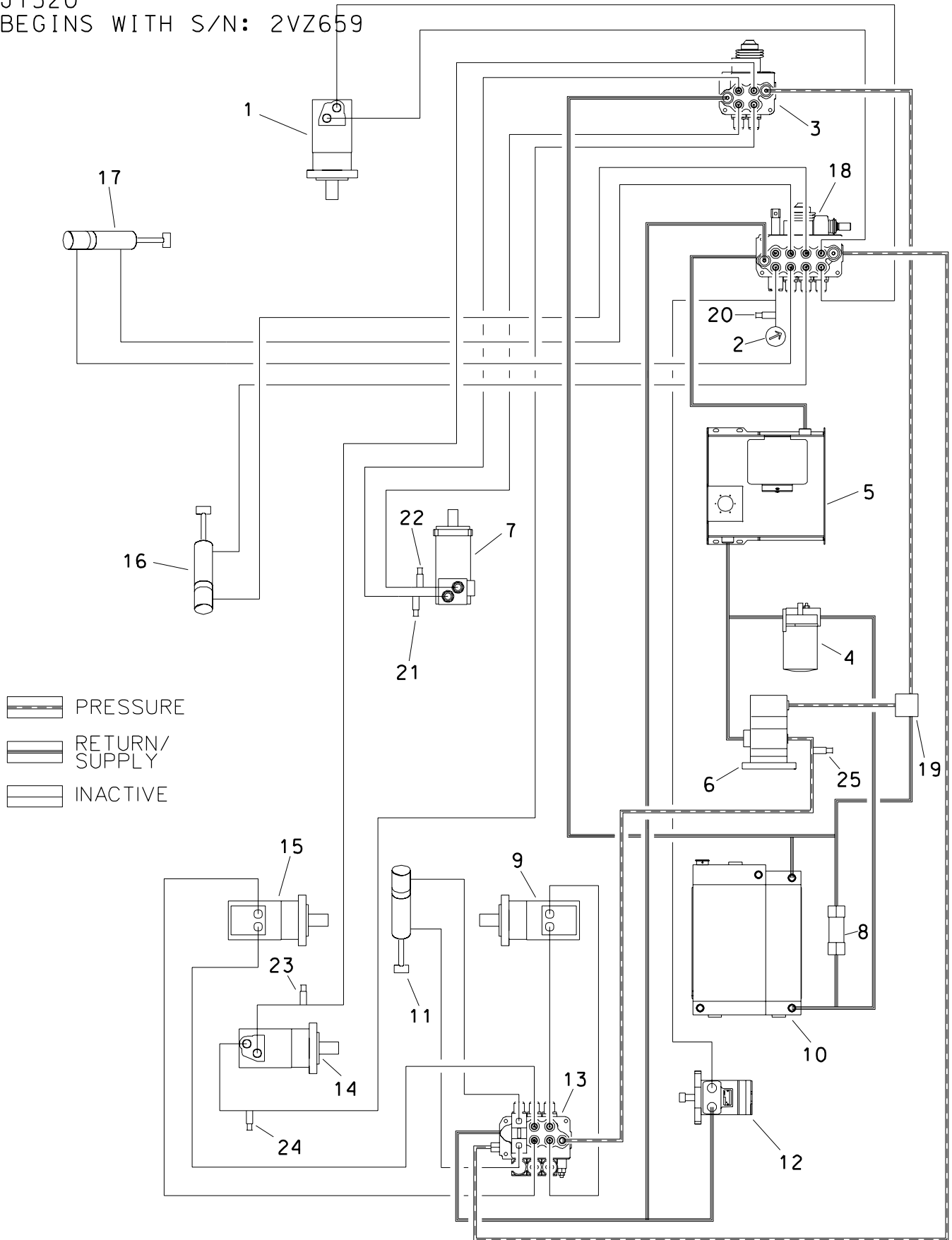
NO.	DESCRIPTION	REMARKS
1.	ANCHOR MOTOR	
2.	MUD GAUGE	
3.	ROTATION/THRUST VALVE	
4.	HYD FILTER	
5.	HYD TANK	
6.	THRUST/AUX PUMP	
7.	ROTATION MOTOR	
8.	COOLER BYPASS VALVE	
9.	RIGHT GROUND DRIVE MOTOR	
10.	RADIATOR/OIL COOLER	
11.	STABILIZER CYLINDER	
12.	MUD PUMP MOTOR	
13.	MOBILE/SETUP VALVE	
14.	THRUST MOTOR	
15.	LEFT GROUND DRIVE MOTOR	
16.	REAR WRENCH CYLINDER	
17.	FRONT WRENCH CYLINDER	
18.	WRENCH VALVE	
19.	RELIEF VALVE	
20.	DRILLING FLUID TESTPORT	
21.	FORWARD ROTATION TESTPORT	
22.	REVERSE ROTATION TESTPORT	
23.	PULLBACK TESTPORT	
24.	THRUST TESTPORT	
25.	AUXILIARY PRESSURE TESTPORT	

FOOTNOTES

HYDRAULIC DIAGRAM

JT520

BEGINS WITH S/N: 2VZ659



HYDRAULIC DIAGRAM

JT520

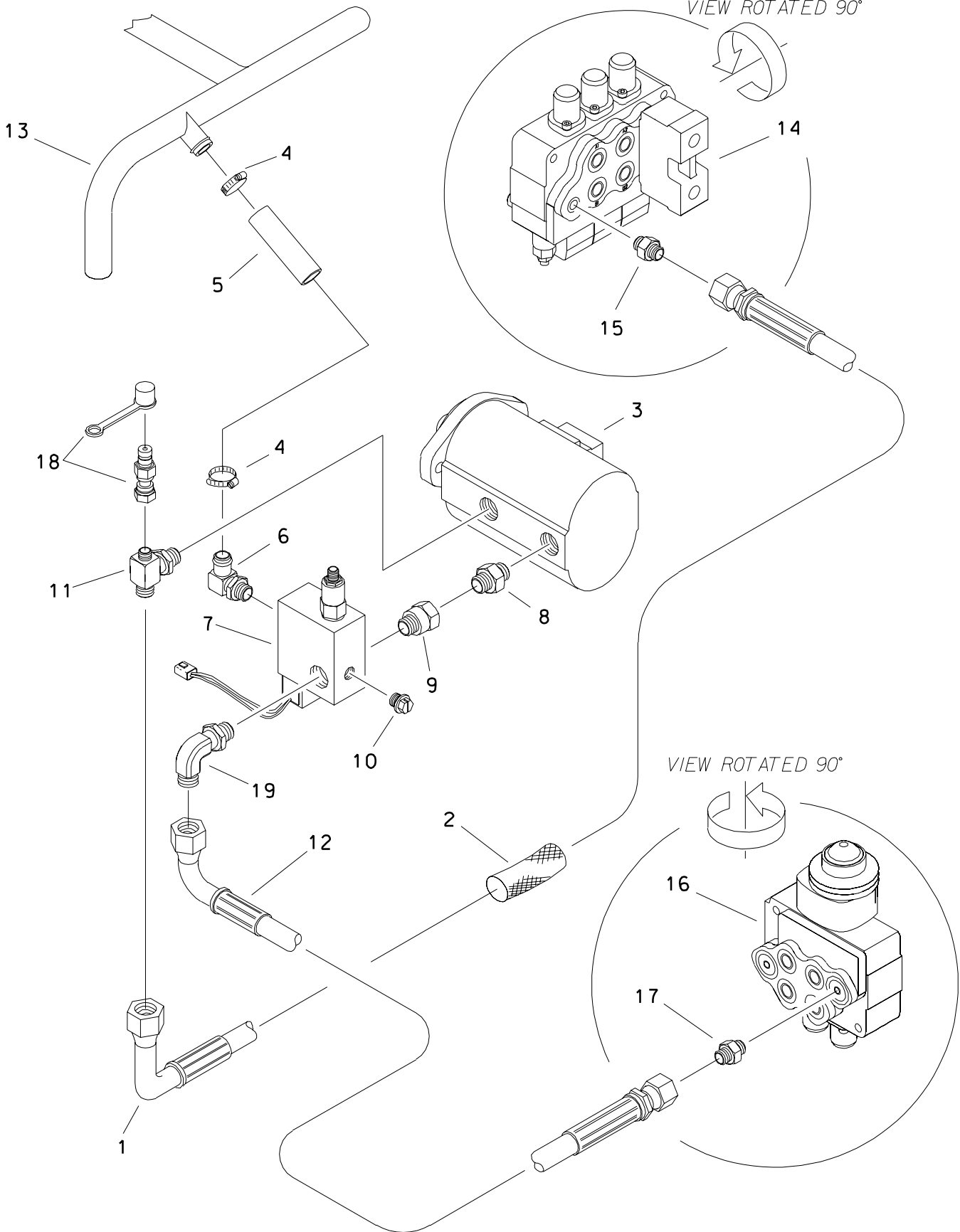
BEGINS WITH S/N: 2VZ659

REF

NO.	DESCRIPTION	REMARKS
1.	ANCHOR MOTOR	
2.	MUD GAUGE	
3.	ROTATION/THRUST VALVE	
4.	HYD FILTER	
5.	HYD TANK	
6.	THRUST/AUX PUMP	
7.	ROTATION MOTOR	
8.	COOLER BYPASS VALVE	
9.	RIGHT GROUND DRIVE MOTOR	
10.	RADIATOR/OIL COOLER	
11.	STABILIZER CYLINDER	
12.	MUD PUMP MOTOR	
13.	MOBILE/SETUP VALVE	
14.	THRUST MOTOR	
15.	LEFT GROUND DRIVE MOTOR	
16.	REAR WRENCH CYLINDER	
17.	FRONT WRENCH CYLINDER	
18.	WRENCH VALVE	
19.	RELIEF VALVE	
20.	DRILLING FLUID TESTPORT	
21.	FORWARD ROTATION TESTPORT	
22.	REVERSE ROTATION TESTPORT	
23.	PULLBACK TESTPORT	
24.	THRUST TESTPORT	
25.	AUXILIARY PRESSURE TESTPORT	

FOOTNOTES

TANDEM HYDRAULIC PUMP (PRESSURE)



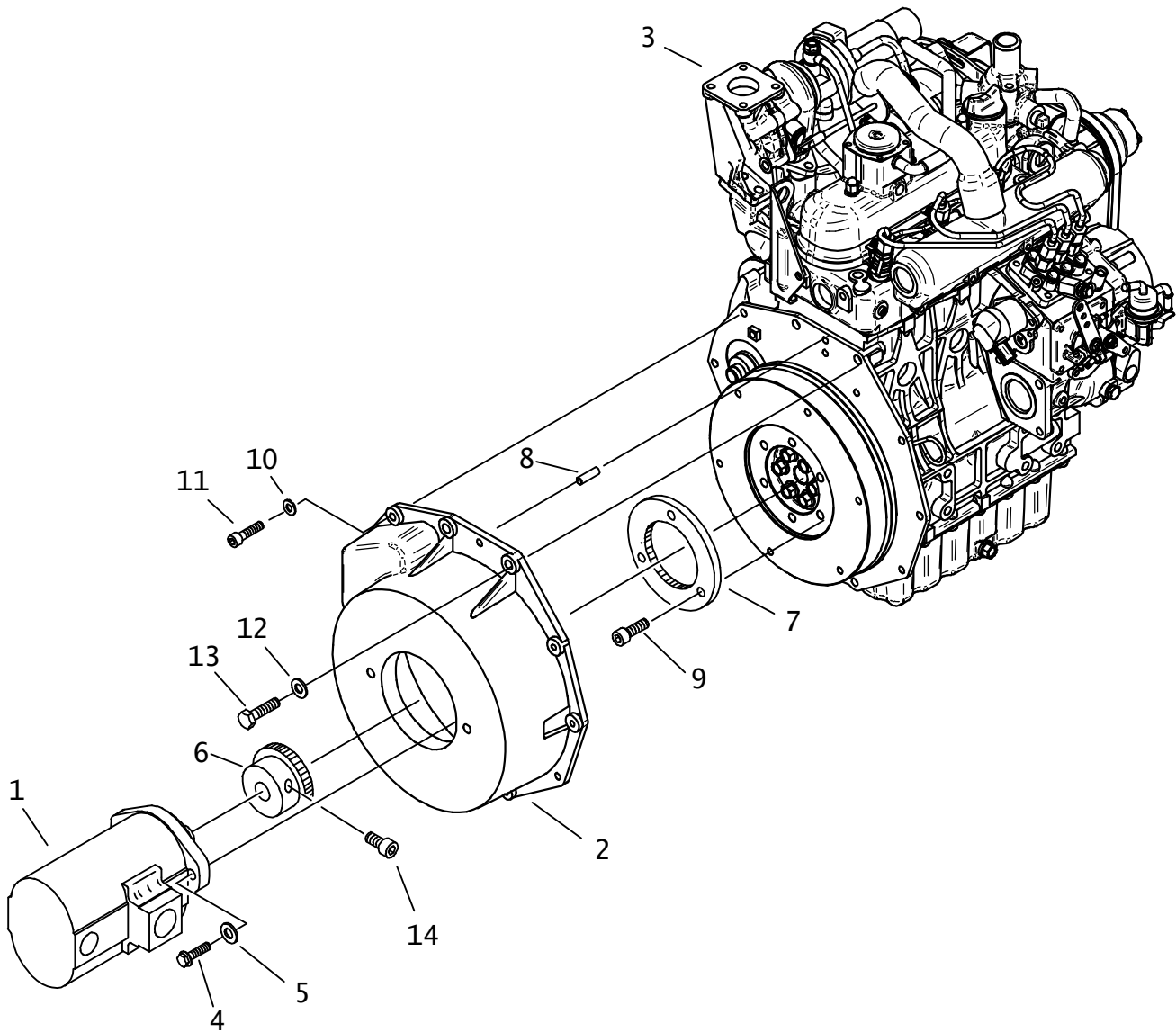
TANDEM HYDRAULIC PUMP (PRESSURE)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-742	1	HOSE (080FX90L-48"-3000)	
2.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
3.	158-491	-	HYDRAULIC PUMP	
	500-967	-	SEAL REPAIR KIT	
4.	110-026	2	WORM CLAMP (1/2" TO 1-1/4")	
5.	116-636	AR	BULK HOSE (3/4", SOLD PER 1')	USE 1 @ 7"
6.	154-362	1	S/O COUPLER (10S-12H90)	
7.	156-986	1	RELIEF VALVE	
8.	154-179	1	CONNECTOR (10J-10S)	
9.	154-216	1	UNION (10S-10JFX)	
10.	155-125	1	PLUG (04S)	
11.	156-973	1	BRANCH TEE (080-040-10S)	
12.	515-743	1	HOSE (100FX90M-47"-3000)	
13.	149-145	-	HYD LINE (10H-16H-16H)	
14.	516-108	-	HYD CONTROL VALVE	
	190-734	-	SEAL REPAIR KIT	
15.	154-233	1	CONNECTOR (08S-080)	
16.	516-107	-	HYD CONTROL VALVE	
	190-736	-	SEAL REPAIR KIT	
17.	154-391	1	CONNECTOR (08S-100)	
18.	159-156	1	ODC ADAPTER (02-040F)	159-146 TEST ADAPTER
	159-148		DUST CAP (1/8")	
19.	154-298	1	CONNECTOR (10S-10090)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF BOOK FOR REPLACEMENT OF O-RINGS.

PUMP MOUNTING



PUMP MOUNTING

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	158-491	1	HYDRAULIC PUMP	
	500-967	-	SEAL REPAIR KIT	
2.	194-376	1	PUMP MOUNT	SEE FOOTNOTE 1
3.	194-034	-	ENGINE, KUBOTA, 25 HP	SEE FOOTNOTE 3. SERVICE PARTS ON ENGINE MOUNT PAGE.
	194-541	-	ENGINE - KUBOTA D1105 DIESEL T2	SEE FTNOTE 4 & 5. SERVICE PARTS ON ENGINE MOUNT PAGE.
	195-1169	-	ENGINE - KUBOTA D1105-T T3	SEE FOOTNOTE 6. SERVICE PARTS ON ENGINE MOUNT PAGE.
4.	105-052	2	BOLT (3/8-NC X 1-1/4")	TORQUE TO 25 FT-LBS (34 N.M.) SEE FOOTNOTE 2
5.	105-072	2	LOCK WASHER (3/8")	
6.	194-388	1	HUB (PUMP MOUNT)	REFER TO 052-245 INSTRUCTIONS FOR POSTION ON SHAFT
7.	194-387	1	PUMP MOUNT FLANGE (135MM)	
8.	N/A	1	ROLL PIN (M8 X 12MM)	
9.	107-925	3	SCREW (M10-1.25 X 30MM,SOC)	TORQUE TO 52 FT-LBS (70 N.M).APPLY GREASE TO CENTER SEE FOOTNOTE 2
10.	106-389	8	WASHER (M8)	
11.	105-892	8	SCREW (M8-1.25 X 30MM, SOC)	TORQUE TO 18 FT-LBS (24 N.M) SEE FOOTNOTE 2
12.	106-390	2	WASHER (M10)	
13.	107-357	2	SCREW (M10-1.25 X 35MM, 8.8)	TORQUE TO 36 FT-LBS (49 N.M) SEE FOOTNOTE 2
14.	106-305	1	BOLT (7/16-NCX1-1/4",SOC, GD8)	TORQUE TO 72 FT-LBS (98 N.M) SEE FOOTNOTE 2

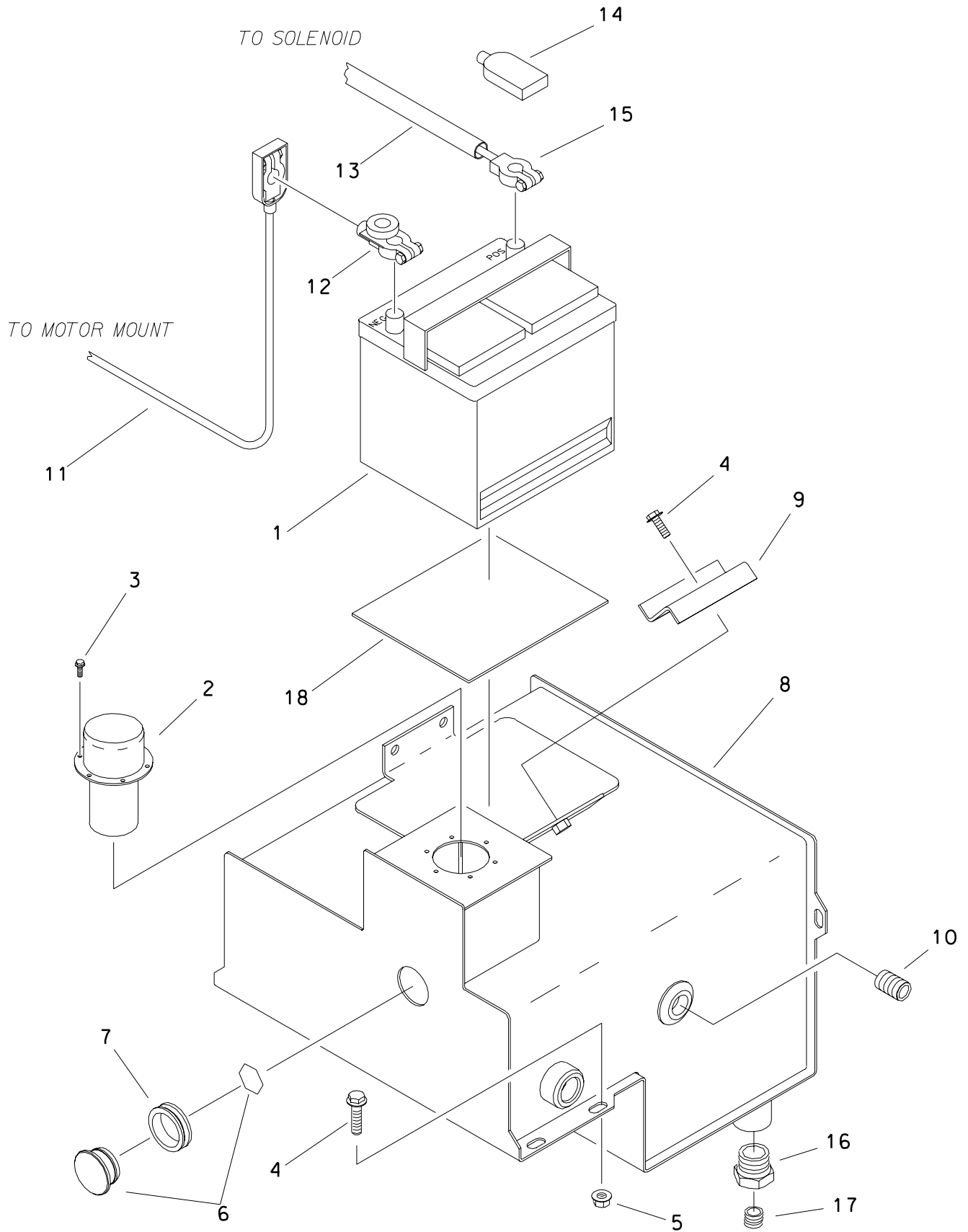
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FOOTNOTES:

1. INCLUDES REF NUMBERS 6-14. SEE 052-245 MOUNTING INSTRUCTIONS
2. USE 242 LOCTITE OR EQUIVALENT.
3. EPA TIER 1 ENGINE ENDS WITH S/N 2Y1290.
4. EPA TIER 2 ENGINE BEGINS WITH S/N 2Y1471.
5. EPA TIER 2 ENGINE ENDS WITH S/N CMWJT520L80000181.
6. EPA TIER 3 ENGINE BEGINS WITH S/N CMWJT520C80000183.

NOTE:

HYDRAULIC RESERVOIR/BATTERY



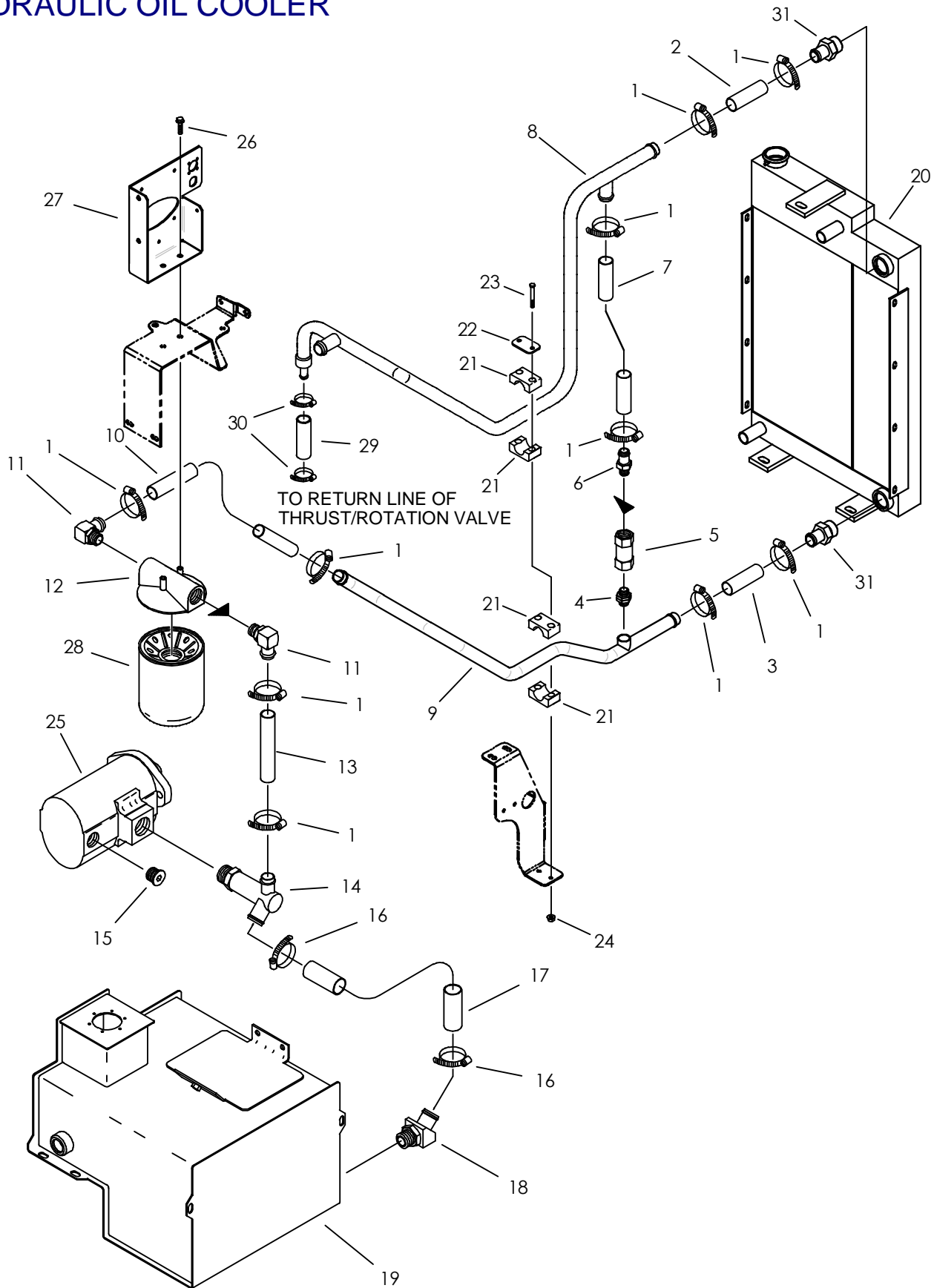
HYDRAULIC RESERVOIR/BATTERY

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	215-258	1	BATTERY	
2.	110-008	1	FILLER BREATHER (2-1/8")	
3.	105-214	6	FLG SCREW (#10-24 X .5")	
4.	106-382	5	FLG LK SCREW (M10-1.5 X 20MM)	
5.	105-894	4	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
6.	116-218	1	SIGHT GLASS (2")	INCL REFLECTOR; SEE FOOTNOTE 1
	360-849		REFLECTOR	
7.	115-320	1	GROMMET (1-1/2")	
8.	302-831	1	HYDRAULIC RESERVOIR	
9.	302-859	1	BATTERY RETAINER	
10.	115-152	1	PLUG (12N, SQ FM)	
11.	215-351	1	BAT CABLE (1 GA X 40", BLK)	
	116-208	1	TERMINAL COVER (BLACK)	
12.	217-833	1	BATTERY DISCONNECT SWITCH	
13.	116-389	1	BULK TUBING (3/4", SOLD PER 1')	
14.	116-193	1	TERMINAL COVER (RED)	
15.	215-310	1	BAT CABLE (1 GA X 50", RED)	
16.	115-235	1	PIPE BUSHING (1NPT TP 3/8 NPT)	
17.	115-178	1	PLUG (06N, SQ FM)	
18.	116-995	1	BATTERY PAD	

FOOTNOTES

- REFER TO SPECIAL TOOL DIAGRAM 052-524.

HYDRAULIC OIL COOLER



HYDRAULIC OIL COOLER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-353	10	WORM CLAMP (3/4" TO 1-1/2")	
2.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 4.00"
3.	116-460	1	BULK HOSE (1", SOLD PER 1')	USE 1 @ 4.00"
4.	155-152	1	CONNECTOR (12S-12S)	
5.	158-576	1	CHECK VALVE (12SF-12SF)	
6.	155-161	1	S/O COUPLER (12S-16H)	
7.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 12.25", SEE FOOTNOTE 1
	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 15.88", SEE FOOTNOTE 2
8.	149-145	1	HYD LINE (10H-16H-16H)	
9.	149-144	1	HYD LINE (12S-16H-16H)	SEE FOOTNOTE 1
	150-1591	1	HYD LINE (12S-16H-16H)	SEE FOOTNOTE 2
10.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 4.50"
11.	154-188	2	S/O COUPLER (16S-16H90)	
12.	155-999	1	FILTER HEAD (16SF-16SF)	
13.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 10.50"
14.	156-958	1	S/O BRANCH TEE (20S-20H-16H)	
15.	155-184	1	PLUG (16S)	
16.	110-133	2	WORM CLAMP (1-1/16" TO 1-15/16")	
17.	116-587	AR	BULK HOSE (1-1/4", SOLD PER 1')	USE 1 @ 5.00"
18.	115-281	1	S/O COUPLER (16S-20H45)	
19.	302-831	-	HYDRAULIC RESERVOIR	
20.	302-697	-	RADIATOR/OIL COOLER	SEE FOOTNOTE 1
	195-1163	-	RADIATOR/OIL COOLER	SEE FOOTNOTE 2
	110-898	-	RADIATOR CAP (14PSI)	
21.	110-573	2	BOLT-ON CLAMP(1", SOLD PER SET)	
22.	322-289	1	BACKUP (BOLT-ON)	
23.	107-151	2	SCREW (M6-1.00 X 85MM)	
24.	106-538	2	LOCKNUT (M6-1.00, PRV TRQ, 10.9)	
25.	158-491	-	HYDRAULIC PUMP	
	500-967	-	SEAL REPAIR KIT	
26.	105-823	2	FLG LK BOLT (5/16-NC X 3/4")	
27.	302-876	-	RELAY PANEL	
28.	155-954	1	FILTER ELEMENT (1-1/2-UNF)	
29.	116-044	AR	BULK HOSE (5/8", SOLD PER 1")	USE 1 @ 4.50"
30.	110-026	2	WORM CLAMP (1/2" TO 1-1/4")	
31.	514-088	2	S/O COUPLER (16S-16H)	SEE FOOTNOTE 2

NOT SHOWN:

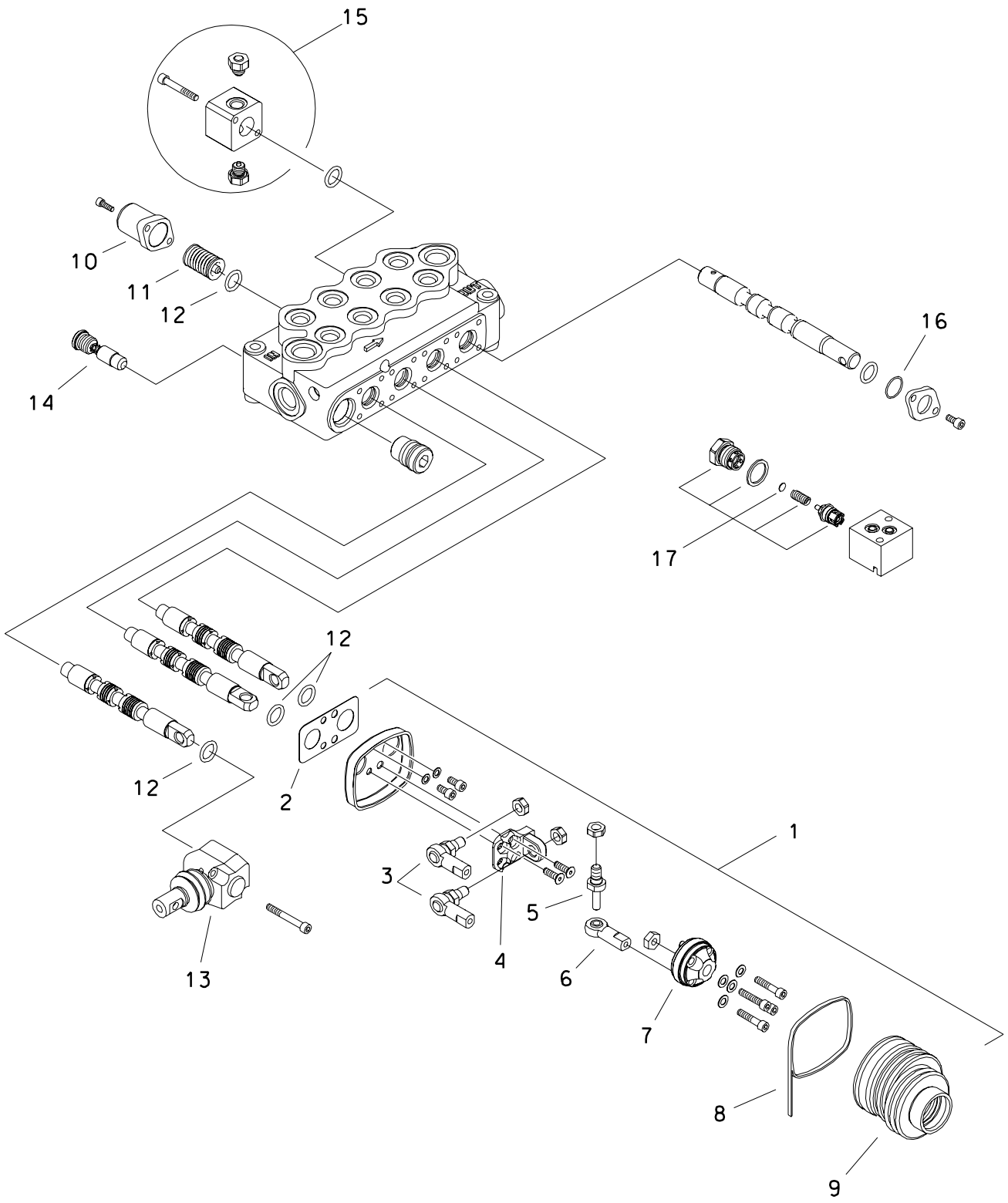
FOOTNOTES:

1. ENDS WITH S/N _____
2. BEGINS WITH S/N _____

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

AUXILIARY VALVE

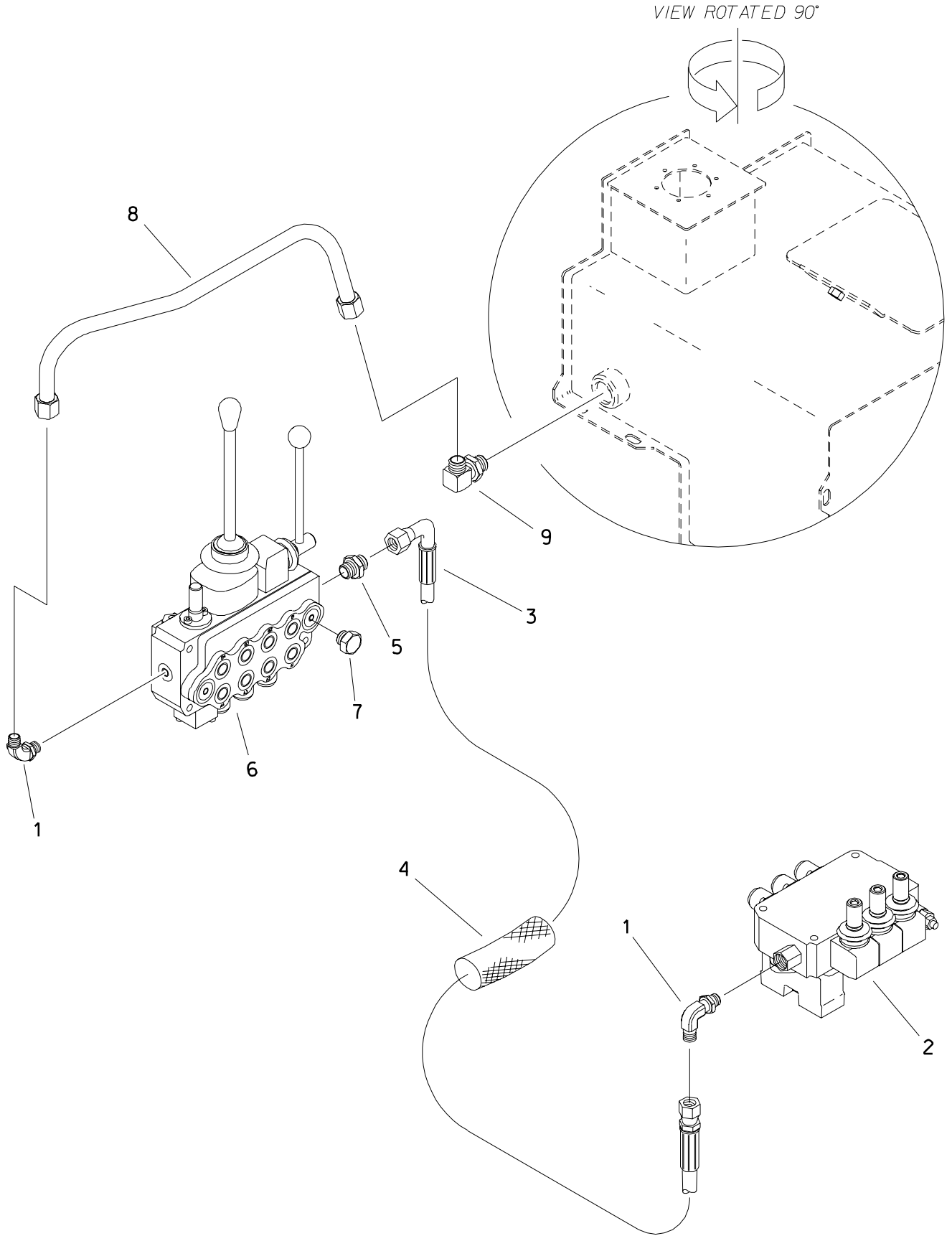


AUXILIARY VALVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	516-109	-	HYD CONTROL VALVE	
1.	499-006	-	JOYSTICK LEVER	
2.	157-744	1	SEAL, JOYSTICK	
3.	499-139	2	ARTICULATED JOINT	
4.	499-166	1	FULCRUM (JOYSTICK)	
5.	499-133	1	ROD END PIN	
6.	499-138	1	ROD END	
7.	499-134	1	ARTICULATION HOLDER	
8.	499-137	1	BELLOW CLAMP	
9.	499-135	1	RUBBER BELLOW	
10.	500-731	3	SPOOL BONNET	
11.	499-142	3	SPOOL CONTROL KIT	
12.	157-218	6	O-RING (D70)	
13.	499-143	1	VALVE LEVER	
14.	149-664	1	CHECK VALVE	
15.	499-459	1	DETENT KIT	
16.	153-067	1	15.80X1.78 70 SEAL RING	
17.	499-460	1	RELIEF VALVE	

FOOTNOTES

SET-UP/AUXILIARY VALVE



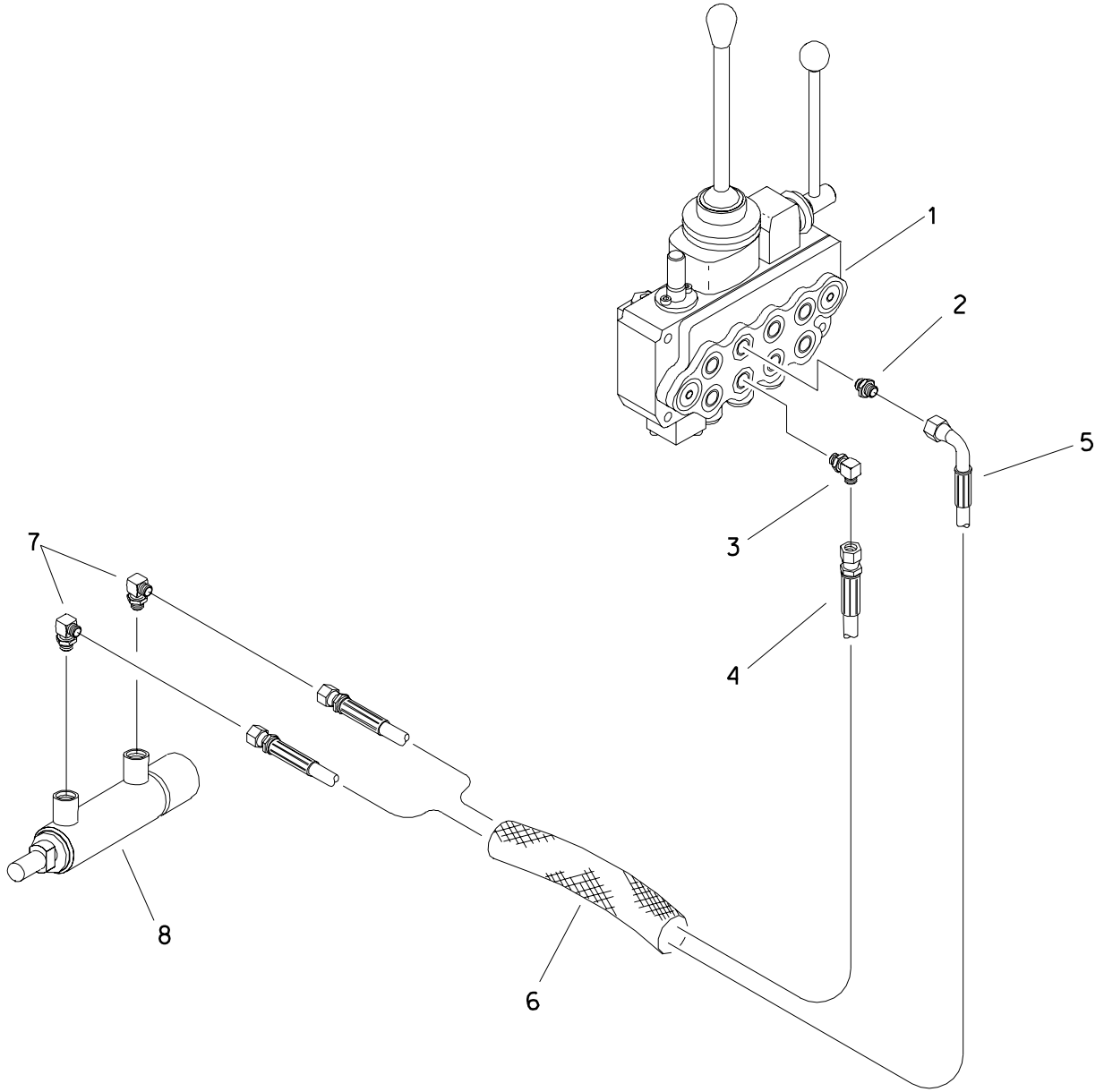
SET-UP/AUXILIARY VALVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-235	1	CONNECTOR (08S-08090)	
2.	516-108	-	HYD CONTROL VALVE	
3.	515-745	1	HOSE (08DFX90M-94"-3000)	
4.	117-211	1	ABRASION SLEEVE (1.25" X 90")	
5.	154-233	1	CONNECTOR (08S-080)	
6.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
7.	155-074	1	PLUG (08S, SOC, FM)	
8.	149-151	1	HYDRAULIC LINE	
9.	154-236	1	CONNECTOR (080-12S90)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

FRONT WRENCH HYDRAULICS



FRONT WRENCH HYDRAULICS

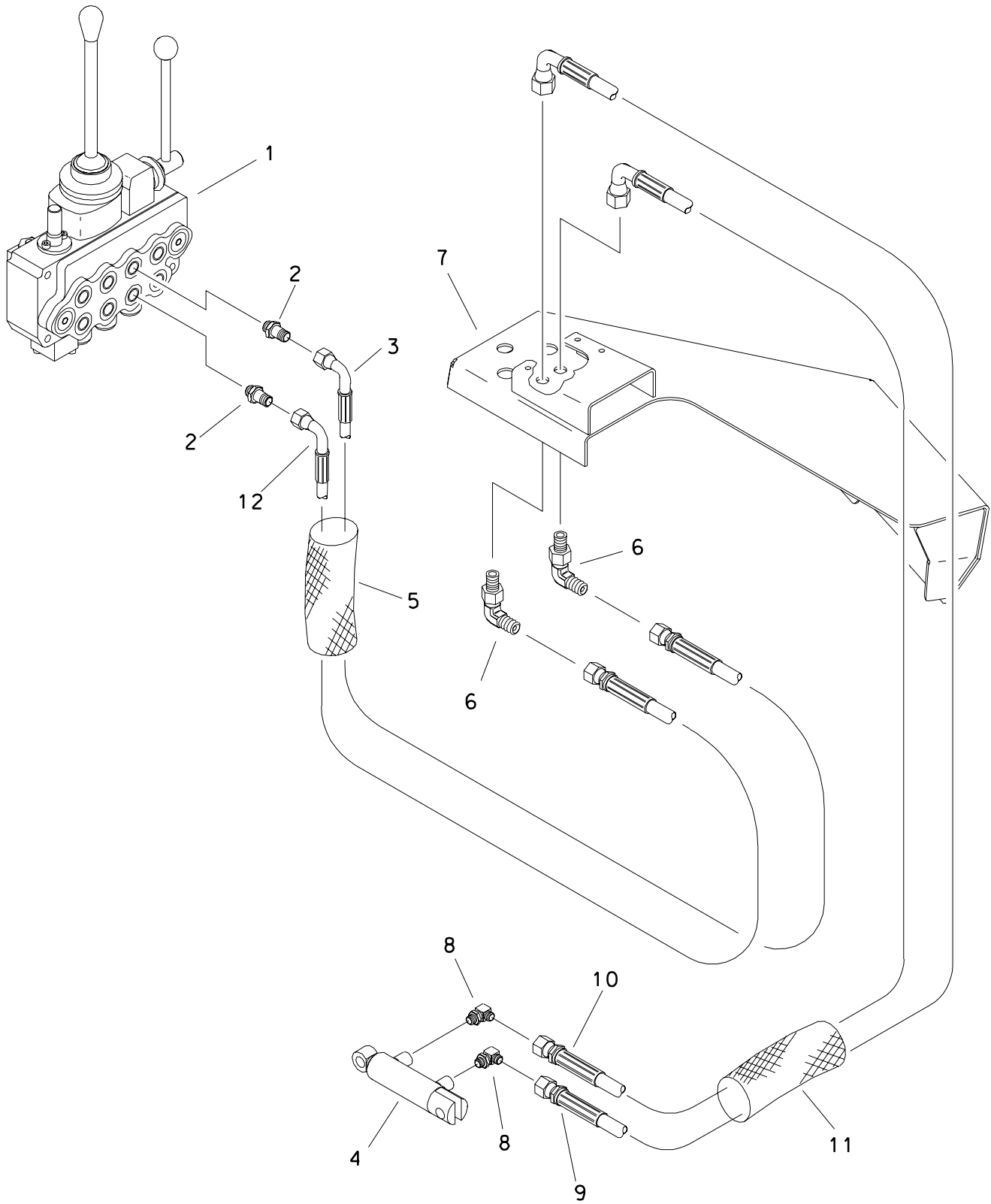
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
2.	154-220	1	CONNECTOR (04D-06S)	
3.	154-226	1	CONNECTOR (04D-06S90)	
4.	515-533	1	HOSE (04DFX-68"-3000)	
5.	515-712	1	HOSE (04DFX90L-68"-3000)	
6.	117-603	1	ABRASION SLEEVE (1.59" X 62")	
7.	156-967	2	CONNECTOR (04S-04090, ORF)	
8.	151-153	-	CYL (1" X 2.5")	
	150-725	1	CYL (1" X 2.5")	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

REAR WRENCH HYDRAULICS

ENDS WITH S/N: 2V2594



REAR WRENCH HYDRAULICS

ENDS WITH S/N: 2V2594

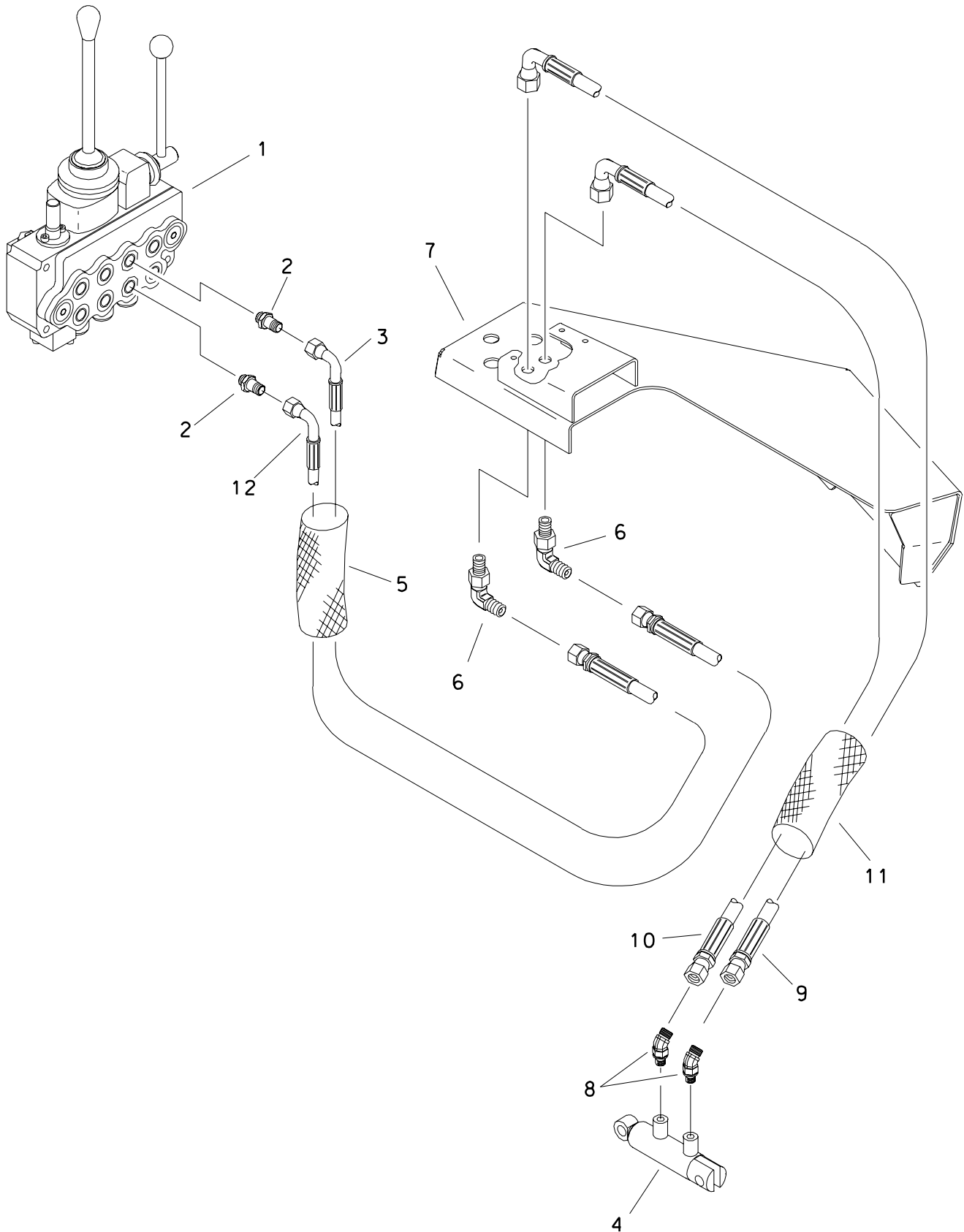
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
2.	154-220	2	CONNECTOR (040-06S)	
3.	515-012	1	HOSE (040FX90-42"-3000)	
4.	159-464	-	CYL (1")	
	150-723	-	CYL (1" X 2") W/EYE	
5.	115-737	1	ABRASION SLEEVE (1.59" X 40")	
6.	154-355	2	BK CONNECTOR (040-04090BK)	
7.	303-289	-	BULKHEAD BRACKET	
8.	154-252	2	CONNECTOR (04S-04090)	
9.	154-900	1	HOSE (040FX90S-62"-3000)	
10.	154-840	1	HOSE (040FX90S-66"-3000)	
11.	117-603	1	ABRASION SLEEVE (1.59" X 62")	
12.	515-753	1	HOSE (040FX90L-44"-3000)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

REAR WRENCH HYDRAULICS

BEGINS WITH S/N: 2V2659



REAR WRENCH HYDRAULICS

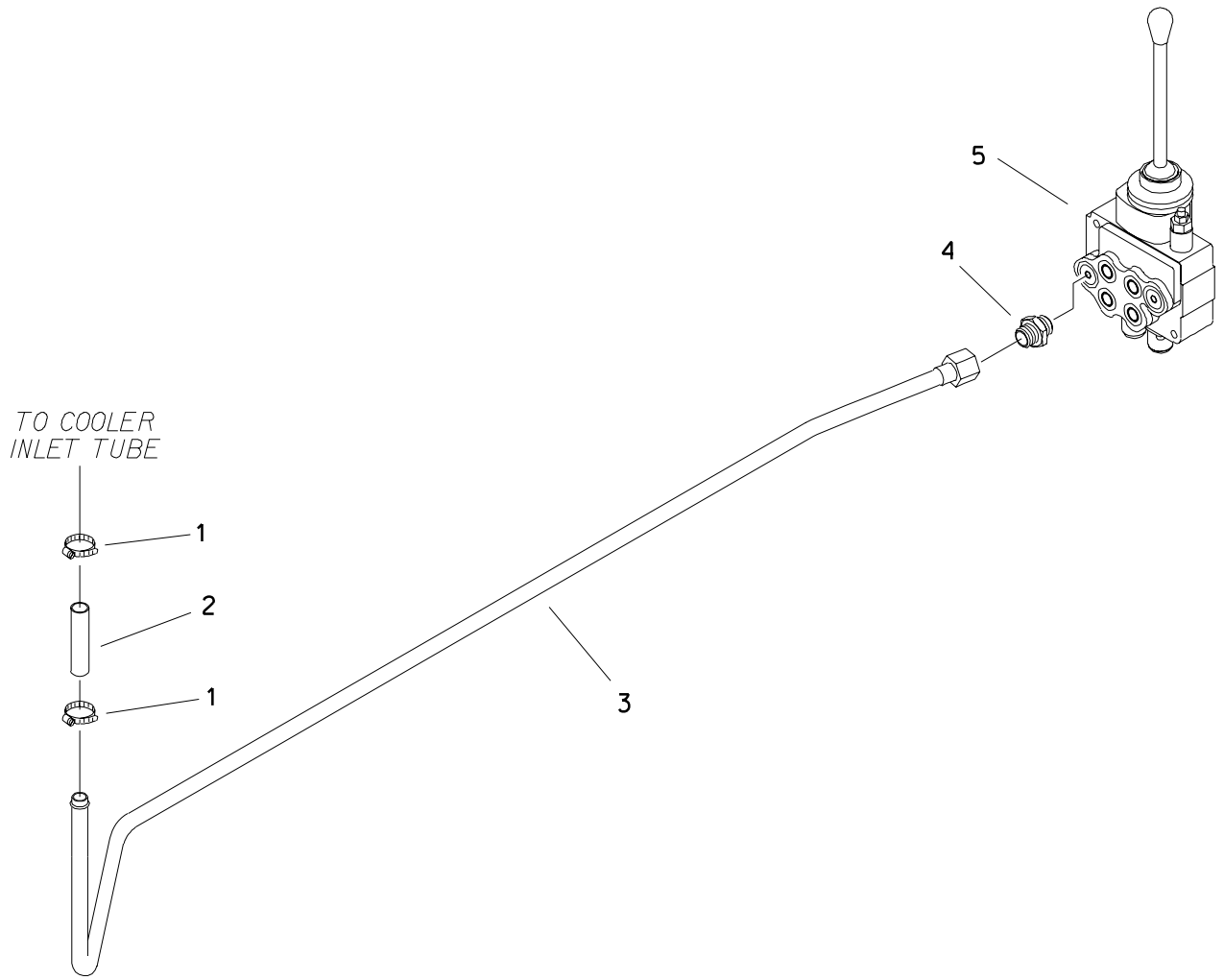
BEGINS WITH S/N: 2V2659

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
2.	154-220	2	CONNECTOR (04D-06S)	
3.	515-012	1	HOSE (040FX90-42"-3000)	
4.	151-218	1	HYDRAULIC CYLINDER	
5.	115-737	1	ABRASION SLEEVE (1.59" X 40")	
6.	154-355	2	BK CONNECTOR (040-04090BK)	
7.	303-289	-	BULKHEAD BRACKET	
8.	154-263	2	CONNECTOR (04S-04045)	
9.	154-900	1	HOSE (040FX90S-62"-3000)	
10.	154-840	1	HOSE (040FX90S-66"-3000)	
11.	117-603	1	ABRASION SLEEVE (1.59" X 62")	
12.	515-753	1	HOSE (040FX90L-44"-3000)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

ROTATION/THRUST VALVE RETURN HYDRAULICS



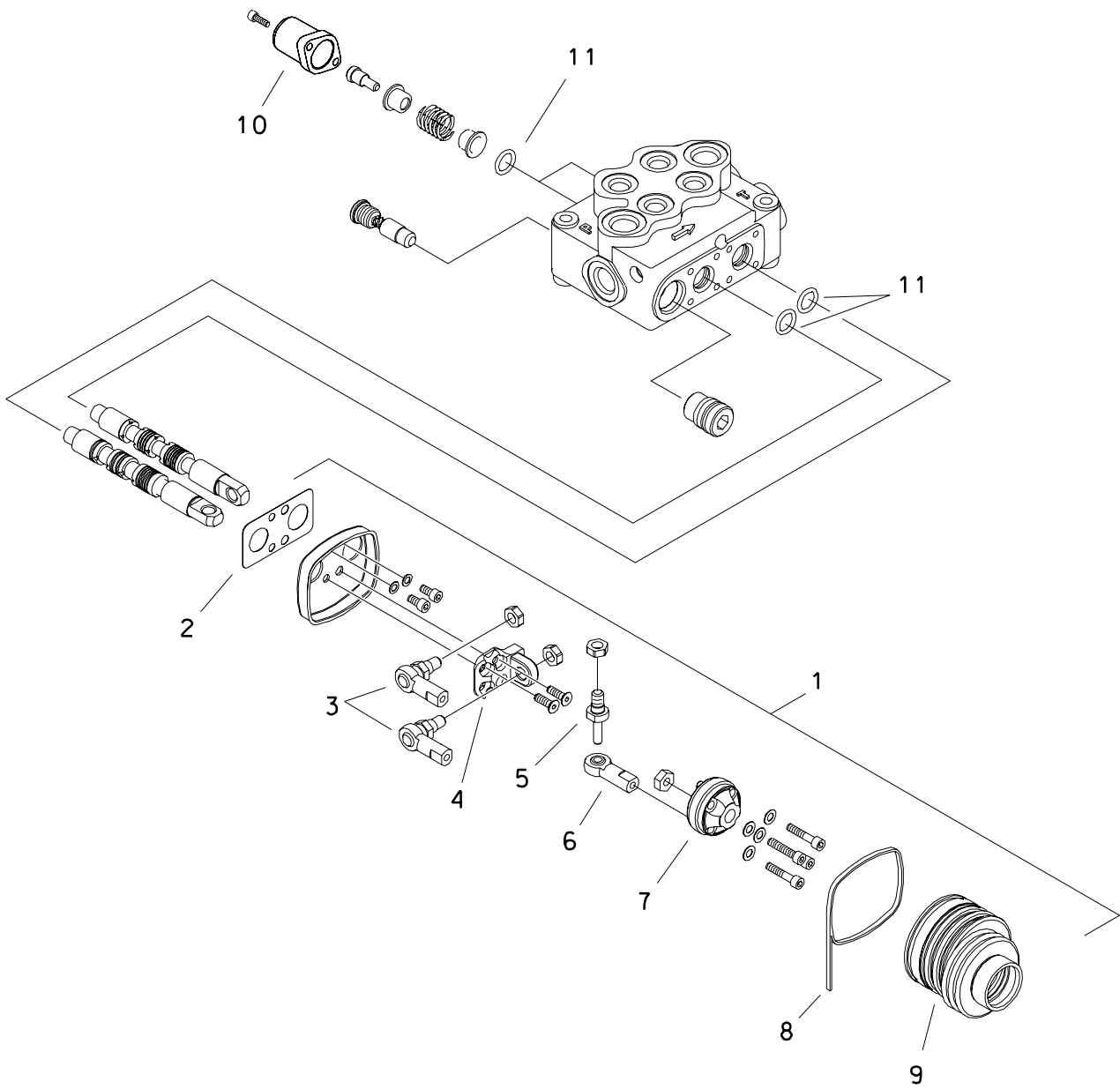
ROTATION/THRUST VALVE RETURN HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-026	-	WORM CLAMP (1/2" TO 1-1/4")	
2.	116-044	-	BULK HOSE (5/8", SOLD PER 1")	USE 1 @ 4.5"
3.	149-148	1	HYDRAULIC LINE	
4.	154-391	1	CONNECTOR (08S-100)	
5.	516-107	-	HYD CONTROL VALVE	
	190-736	-	SEAL REPAIR KIT	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

THRUST/ROTATION VALVE

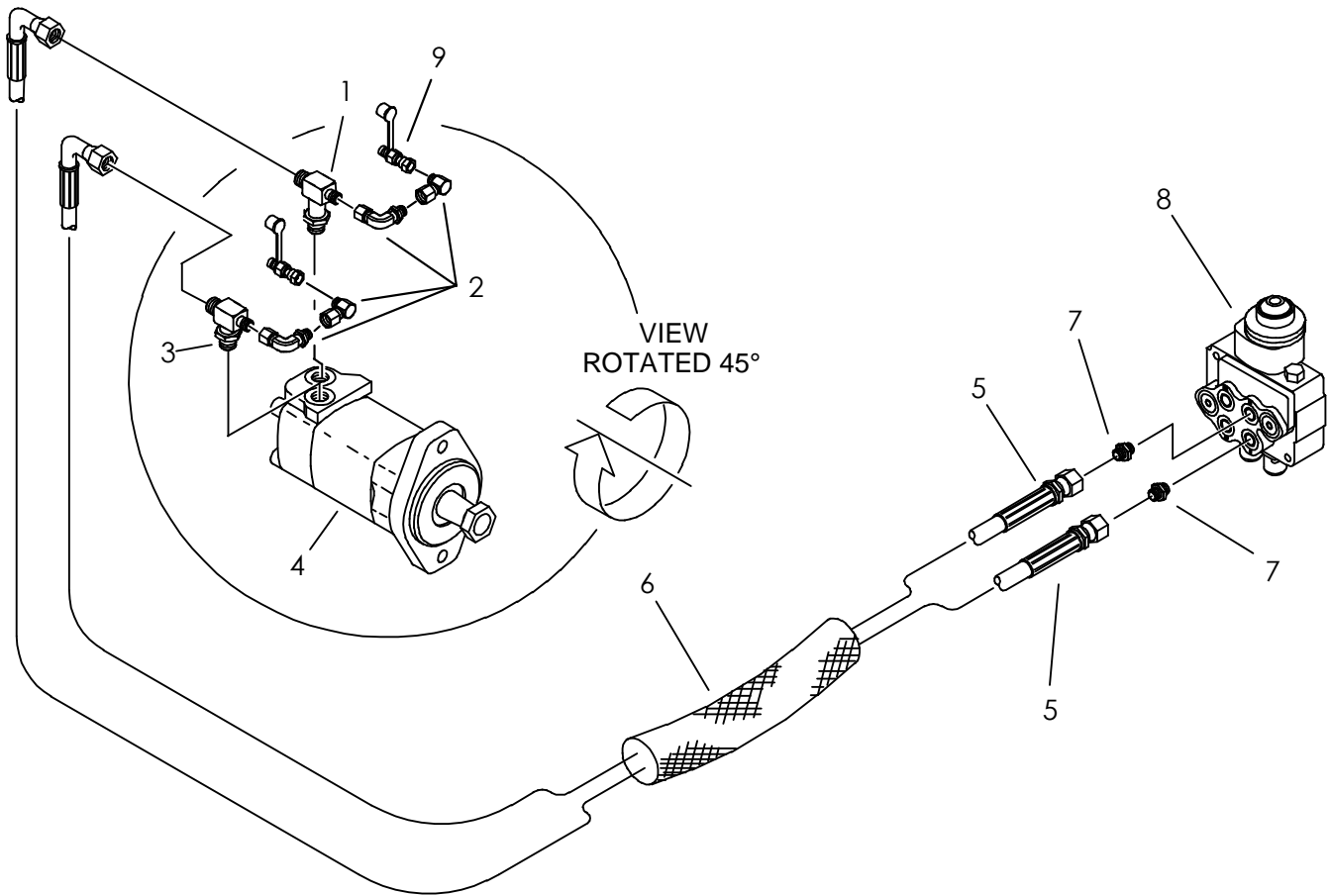


THRUST/ROTATION VALVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	516-107	-	HYD CONTROL VALVE	
1.	499-006	-	JOYSTICK LEVER	
2.	157-744	1	SEAL, JOYSTICK	
3.	499-139	2	ARTICULATED JOINT	
4.	499-166	1	FULCRUM (JOYSTICK)	
5.	499-133	1	ROD END PIN	
6.	499-138	1	ROD END	
7.	499-134	1	ARTICULATION HOLDER	
8.	499-137	1	BELLOW CLAMP	
9.	499-135	1	RUBBER BELLOW	
10.	500-731	2	SPOOL BONNET	
11.	157-218	4	O-RING (D70)	

FOOTNOTES

THRUST MOTOR HYDRAULICS



THRUST MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	156-975	1	BRANCH TEE (080-040-10S)	
2.	154-255	4	UNION (040-040FX90)	
3.	156-973	1	BRANCH TEE (080-040-10S)	
4.	158-971	-	HYDRAULIC MOTOR	
	500-658	-	SEAL REPAIR KIT	
5.	515-741	2	HOSE (080FX90S-112"-3000)	
6.	117-687	1	ABRASION SLEEVE (1.75" X 83")	
7.	154-246	2	CONNECTOR (06S-080)	
8.	516-107	-	HYD CONTROL VALVE	
	190-736	-	SEAL REPAIR KIT	
9.	159-156	2	QDC ADAPTER (02-040F)	

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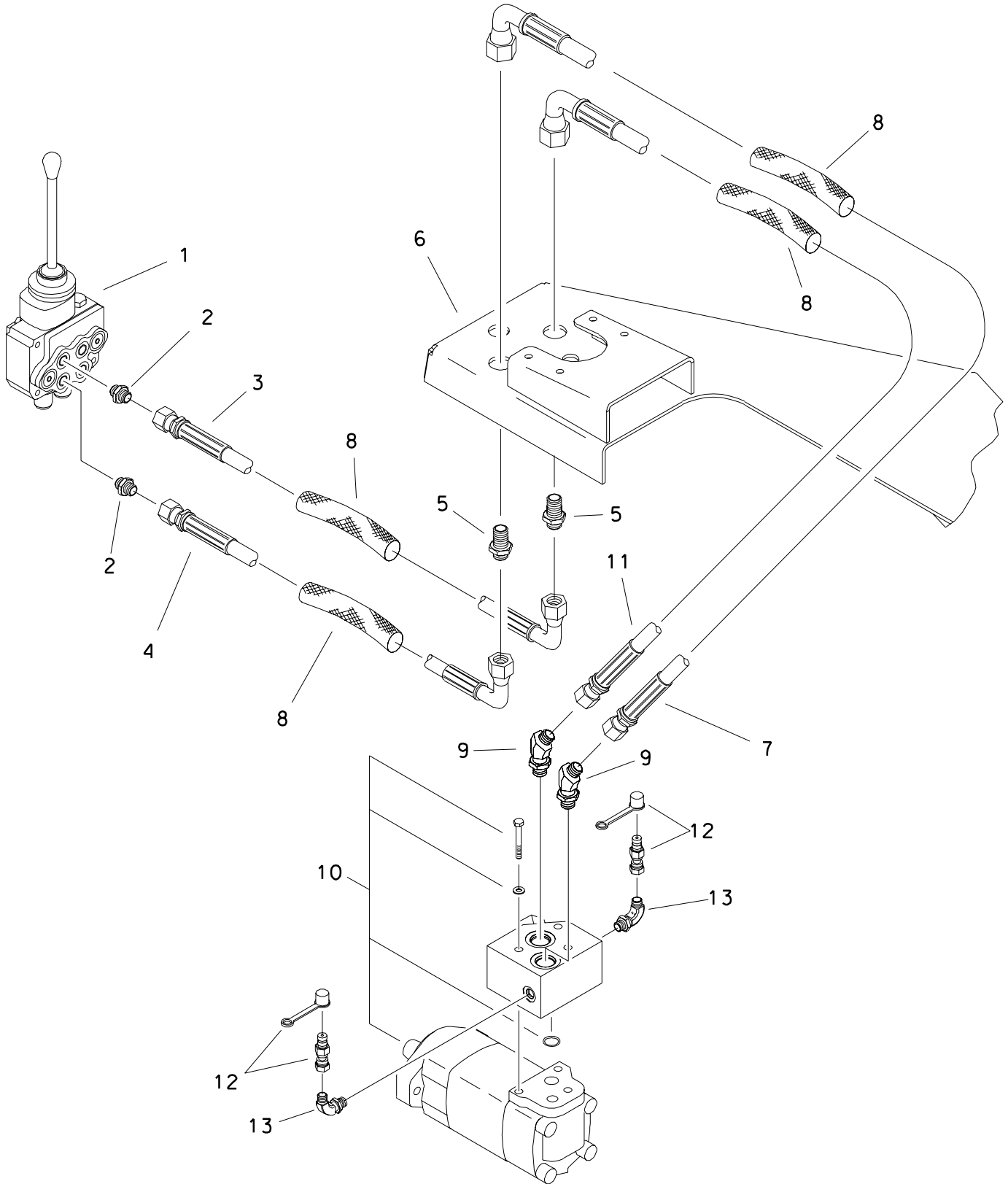
FOOTNOTES:

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

ROTATION MOTOR HYDRAULICS

ENDS WITH S/N: 2V2594



ROTATION MOTOR HYDRAULICS

ENDS WITH S/N: 2V2594

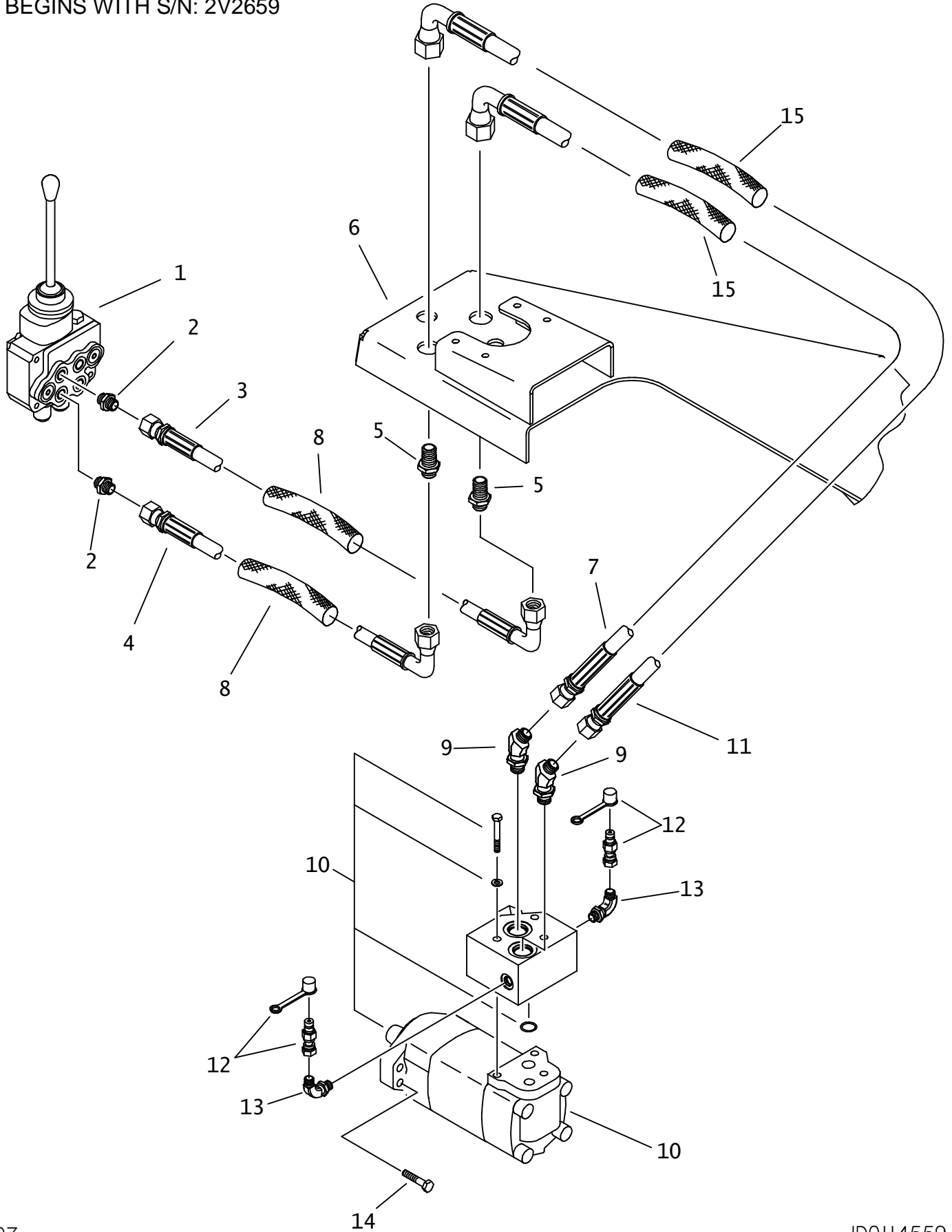
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-107	-	HYD CONTROL VALVE	
	190-736	-	SEAL REPAIR KIT	
2.	154-246	2	CONNECTOR (06S-080)	
3.	515-264	-	HOSE (080FX90S-70"-3000)	
4.	515-452	1	HOSE (080FX90-72"-3000)	
5.	154-390	2	BK CONNECTOR (080)	
6.	303-289	-	BULKHEAD BRACKET	
7.	515-140	1	HOSE (080FX90-56"-3000)	
8.	117-690	4	ABRASION SLEEVE (1.25" X 58")	
9.	154-264	2	CONNECTOR (080-10S45)	
10.	158-054	1	HYDRAULIC MOTOR W/RELIEF	
	156-985	1	HYDRAULIC MOTOR	
	155-580	1	HYDRAULIC MOTOR	
	156-980	1	RELIEF VALVE	
	105-055	3	BOLT (3/8-NC X 3")	TORQUE TO 30 FT-LBS
	106-396	3	WASHER (M10, HARDENED)	
	155-776	2	O-RING (117 D70)	
11.	515-303	1	HOSE (080FX90-58"-3000)	
12.	159-156	2	ODC ADAPTER (02-040F)	
	159-148		DUST CAP (1/8")	
13.	154-252	2	CONNECTOR (04S-04090)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

ROTATION HYDRAULICS

BEGINS WITH S/N: 2V2659



ROTATION HYDRAULICS

BEGINS WITH S/N: 2V2659

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-107	-	HYD CONTROL VALVE	
	190-736	-	SEAL REPAIR KIT	
2.	154-246	2	CONNECTOR (06S-080)	
3.	515-264	-	HOSE (080FX90S-70"-3000)	
4.	515-452	1	HOSE (080FX90-72"-3000)	
5.	154-390	2	BK CONNECTOR (080)	
6.	303-289	-	BULKHEAD BRACKET	
7.	515-191	1	HOSE (080FX90S-54"-3000)	
8.	117-690	2	ABRASION SLEEVE (1.25" X 58")	
9.	154-264	2	CONNECTOR (080-10S45)	
10.	153-714	1	HYDRAULIC MOTOR W/RELIEF	SEE FOOTNOTE #1
	500-1469	-	SHAFT AND BEARING KIT	
	156-980	-	RELIEF VALVE	
	105-055	3	BOLT (3/8-NC X 3")	TORQUE TO 30 FT-LBS
	106-396	3	WASHER (M10, HARDENED)	
	155-776	2	O-RING (117 D70)	
11.	157-324	1	HOSE (080FX90S-53"-3000)	
12.	159-156	2	QDC ADAPTER (02-040F)	
	159-148		DUST CAP (1/8")	
13.	154-252	2	CONNECTOR (04S-04090)	
14.	106-204	4	BOLT (1/2-NC X 1-1/2, SOC)	TORQUE TO 100 FT-LBS; USE 271 LOCTITE OR EQUIVALENT
15.	117-395	2	ABRASION SLEEVE (1.25" X 50")	

NOT SHOWN:

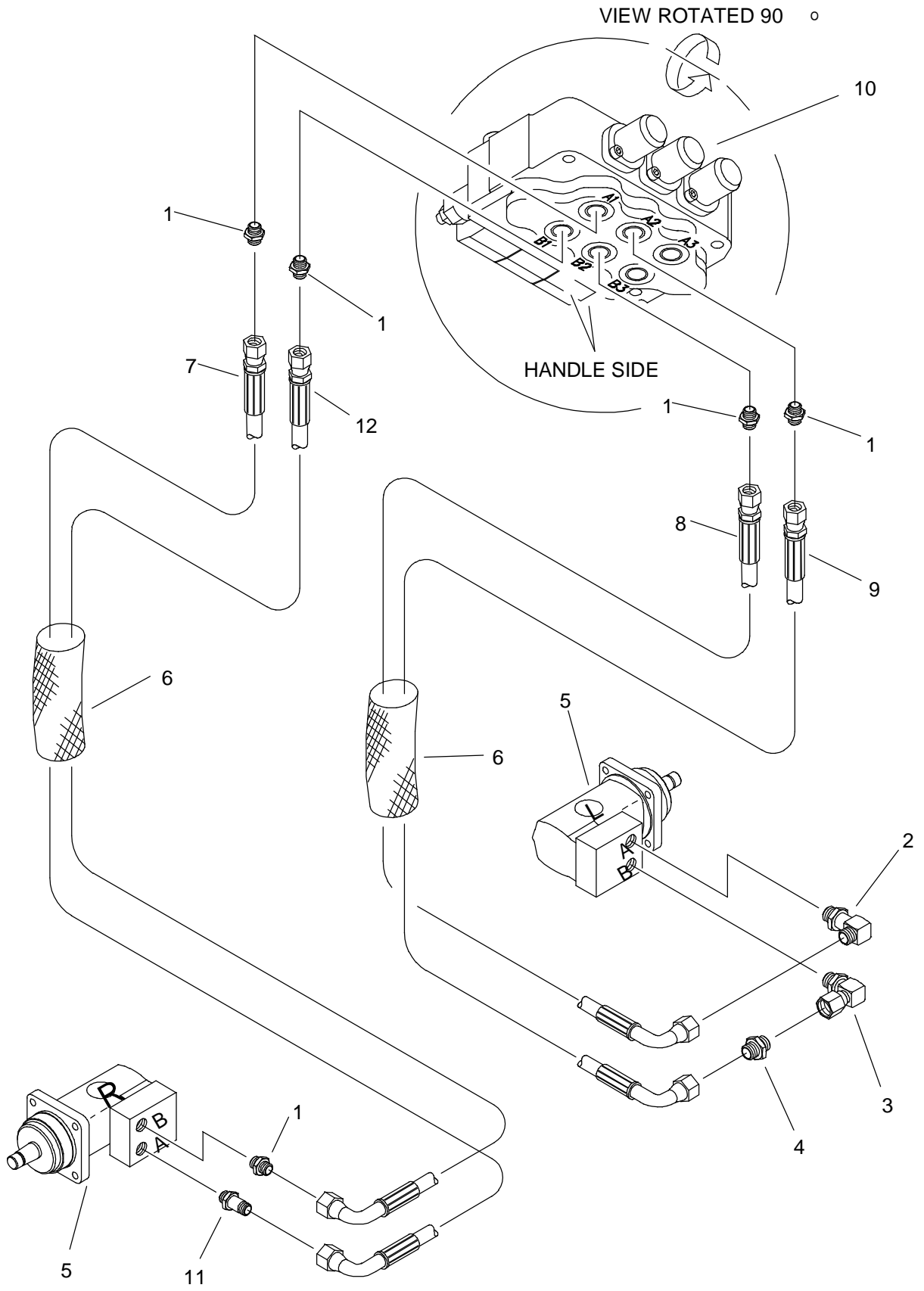
FOOTNOTES:

1. USE LOCTITE 518 OR EQUIVALENT ON MOTOR FACE

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

GROUND DRIVE/VALVE HYDRAULICS



GROUND DRIVE/VALVE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-221	5	CONNECTOR (06S-060)	
2.	154-342	1	CONNECTOR (06S-06090)	
3.	154-343	1	CONNECTOR (06S-060FX90)	
4.	154-413	1	CONNECTOR (060-060)	
5.	158-965	-	HYD MOTOR W/ COUNTER BALANCE	
	500-658	-	SEAL REPAIR KIT	
	155-776	2	O-RING (117 D70)	BETWEEN BLOCK AND MOTOR
	500-2063	-	COUNTERBALANCE MANIFOLD	
6.	115-903	2	ABRASION SLEEVE (1.59" X 50")	
7.	515-746	1	HOSE(060FX90S-58"-3000)	
8.	515-747	1	HOSE(060FX90M-50"-3000)	
9.	515-748	1	HOSE(060FX90L-50"-3000)	
10.	516-108	-	HYD CONTROL VALVE	
	190-734	-	SEAL REPAIR KIT	
11.	156-174	1	CONNECTOR (06S-060)	
12.	150-1338	1	HOSE(060FX90S-56"-3000)	

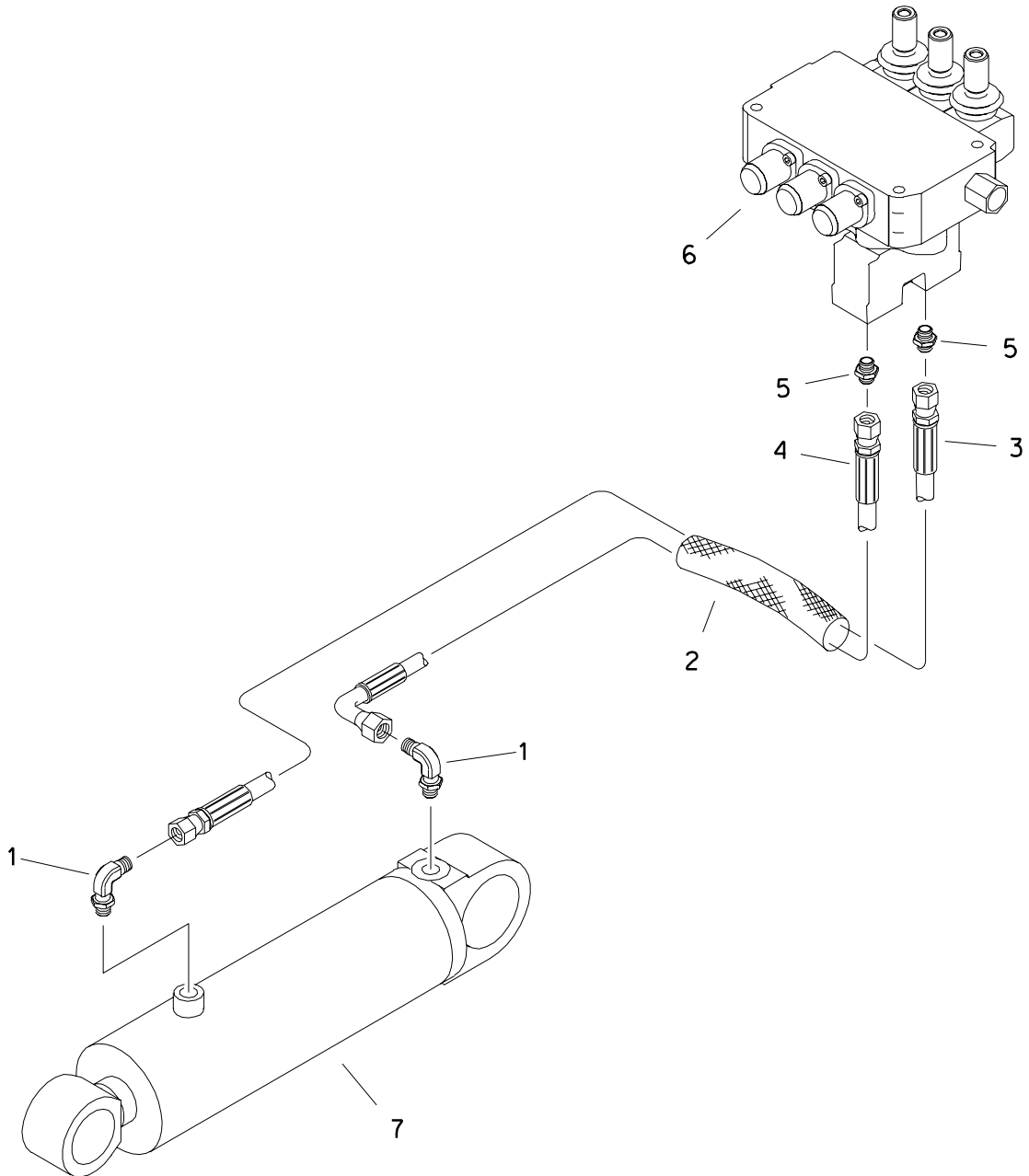
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FOOTNOTES:

NOTE:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

STABILIZER HYDRAULICS



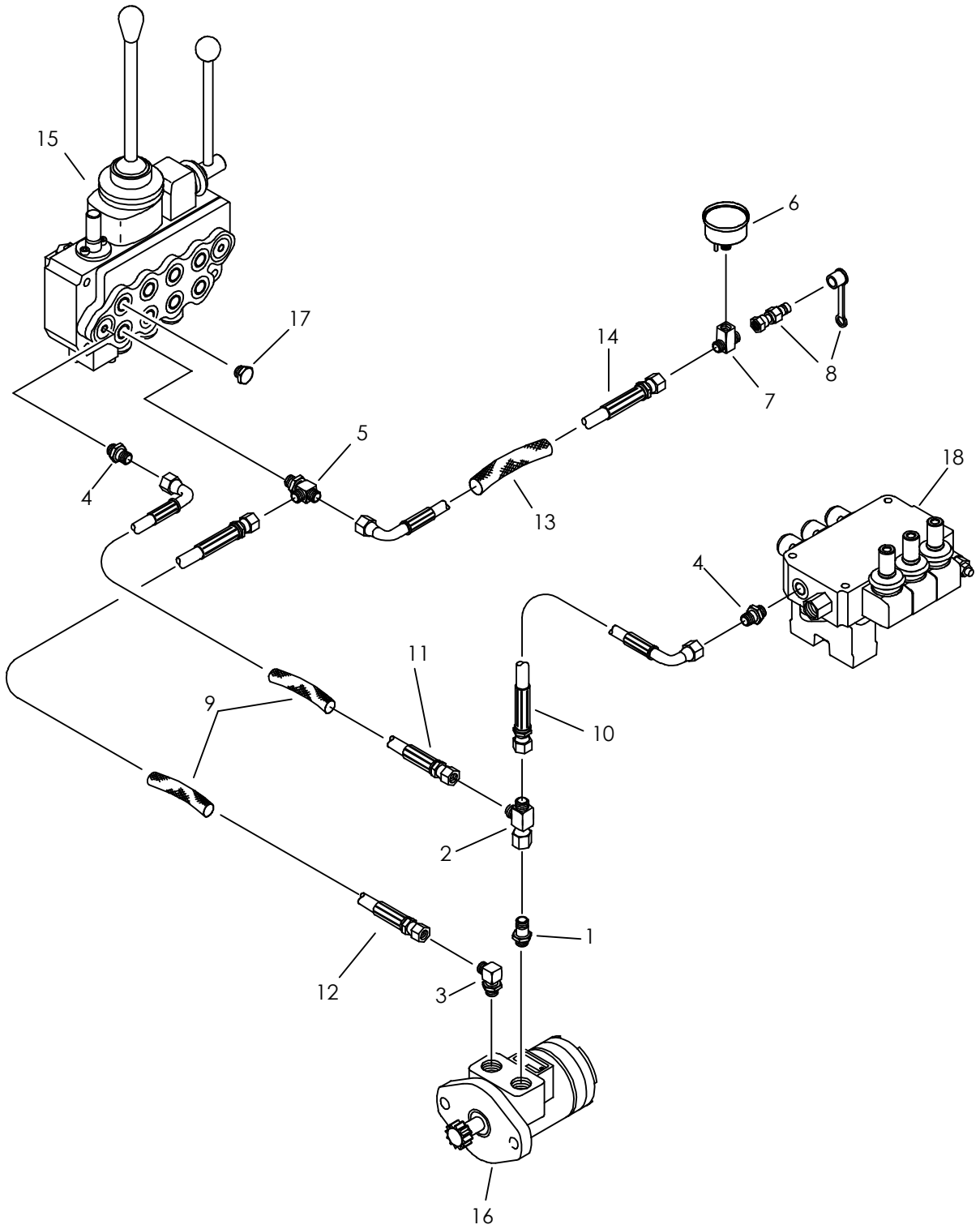
STABILIZER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-226	2	CONNECTOR (040-06S90)	
2.	115-811	1	ABRASION SLEEVE (1.59" X 20")	
3.	154-695	1	HOSE (040FX-38"-3000)	
4.	515-744	1	HOSE (040FX90S-28"-3000)	
5.	154-385	2	CONNECTOR (040-06S, ORF)	
6.	516-108	-	HYD CONTROL VALVE	
	190-734	-	SEAL REPAIR KIT	
7.	151-045	-	CYL (2.5" X 1.25" X 8.0")	
	190-166	-	SEAL REPAIR KIT (2.5" X 1.25")	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

DRILLING FLUID MOTOR HYDRAULICS



DRILLING FLUID MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-279	1	CONNECTOR (080-10S)	
2.	154-266	1	UN RUN TEE (080FX-080-080)	
3.	154-322	1	CONNECTOR (080-10S90)	
4.	154-233	2	CONNECTOR (08S-080)	
5.	156-962	1	TEE (040-06S-080)	
6.	191-047	1	GAUGE KIT	
7.	156-974	1	BRANCH TEE (040-040-04NF)	
8.	159-156	1	QDC ADAPTER (02-040F)	
	159-148	1	DUST CAP (1/8")	
9.	117-690	2	ABRASION SLEEVE (1.25" X 58")	
10.	154-749	1	HOSE (080FX90S-18"-3000)	
11.	154-884	1	HOSE (080FX90-60"-3000)	
12.	154-853	1	HOSE (080FX-58"-3000)	
13.	117-194	1	ABRASION SLEEVE (1.00" X 16")	
14.	154-715	1	HOSE (040FX90-18"-3000)	
15.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
16.	158-1008	-	HYDRAULIC MOTOR	
	500-506	-	SEAL REPLACEMENT KIT	
17.	154-384	1	PLUG (06S)	
18.	516-108	-	HYD CONTROL VALVE	
	190-734	-	SEAL REPAIR KIT	

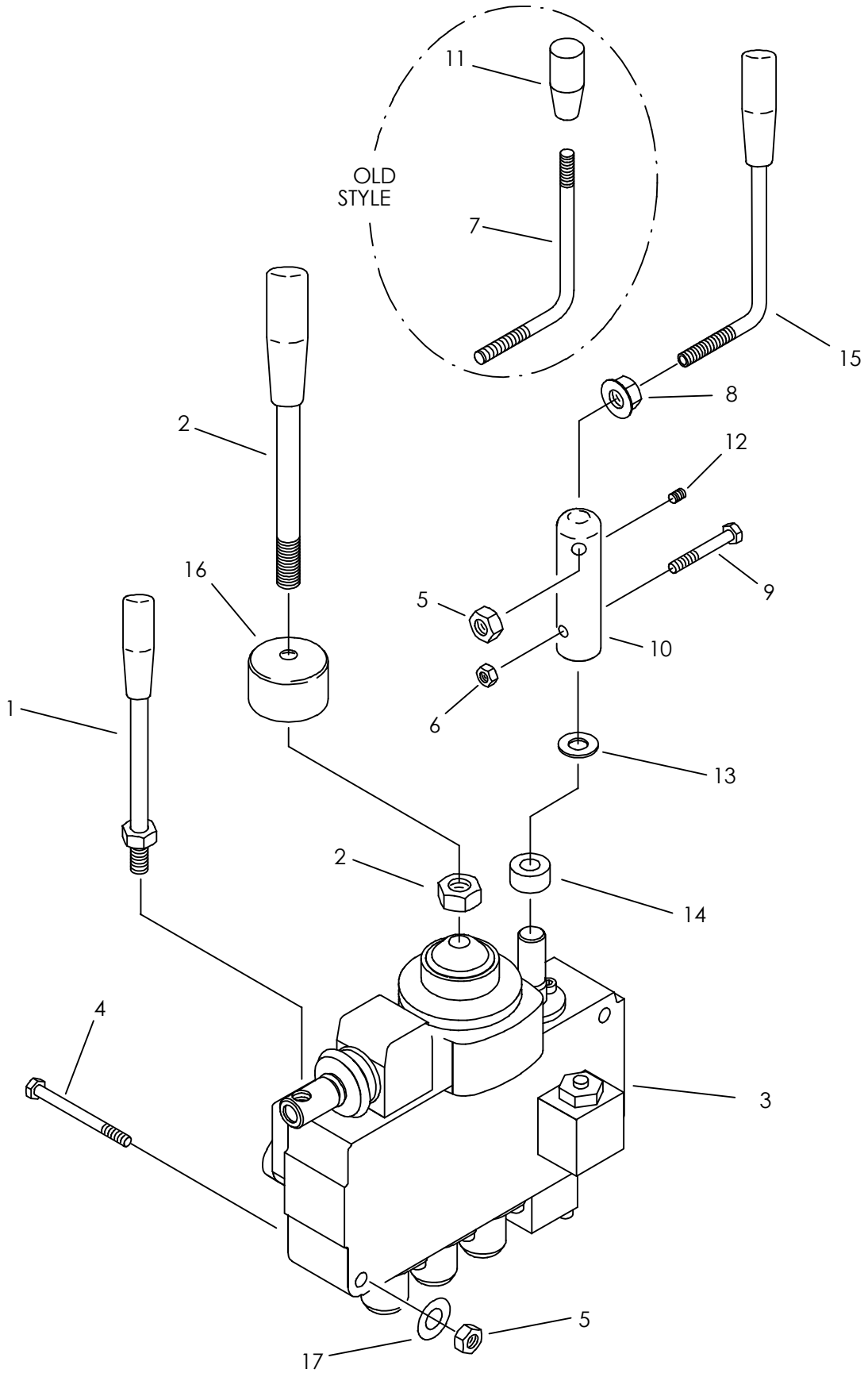
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FOOTNOTES:

REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

NOTE:

WRENCH VALVE



WRENCH VALVE

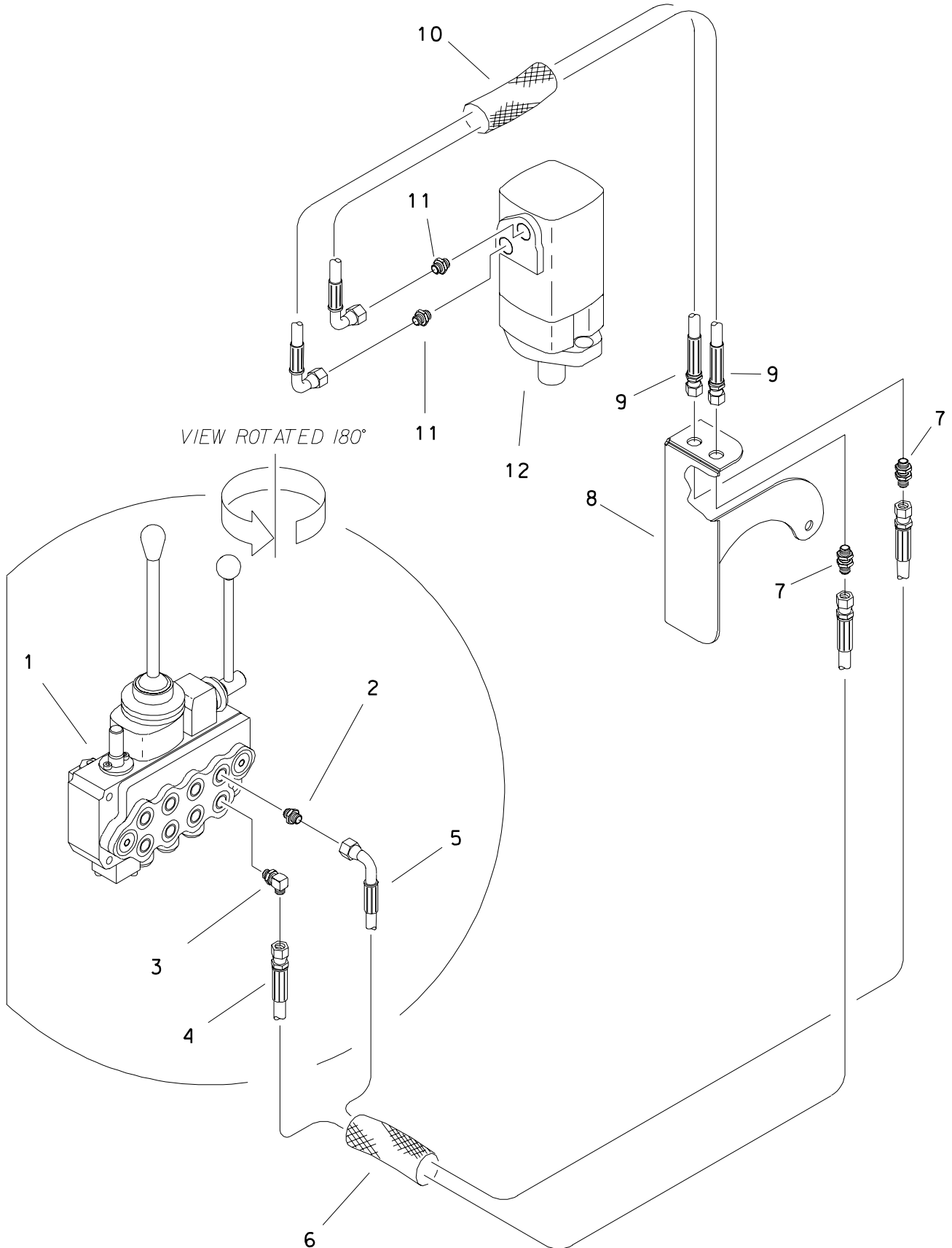
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	500-908	1	LEVER (M8-1.25, BLACK)	
2.	149-163	1	LEVER (M12-1.75, BLACK)	
3.	516-109	1	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
4.	106-330	3	SCREW (M8-1.25 X 70MM)	
5.	106-561	4	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
6.	105-085	1	LOCKNUT (1/4-NC)	
7.	303-951	1	LEVER ROD	SUPERSEDED WITH REF. 15
8.	106-386	1	FLG LOCKNUT (M8-1.25)	
9.	105-856	1	BOLT (1/4-NC X 1-1/4")	
10.	302-767	1	TUBE	
11.	116-906	1	KNOB (5/16-NC, BLACK)	
12.	105-712	1	SET SCREW (1/4-NC X 1/4", CUP)	
13.	110-085	AR	SPRING WASHER (9/16")	
14.	178-266	1	SPACER	
15.	149-127	1	LEVER (M8-1.25, BLACK)	
16.	111-077	1	VINYL CAP (1.625")	
17.	105-117	3	WASHER (5/16")	

NOT SHOWN:

FOOTNOTES:

NOTE:

ANCHOR MOTOR HYDRAULICS



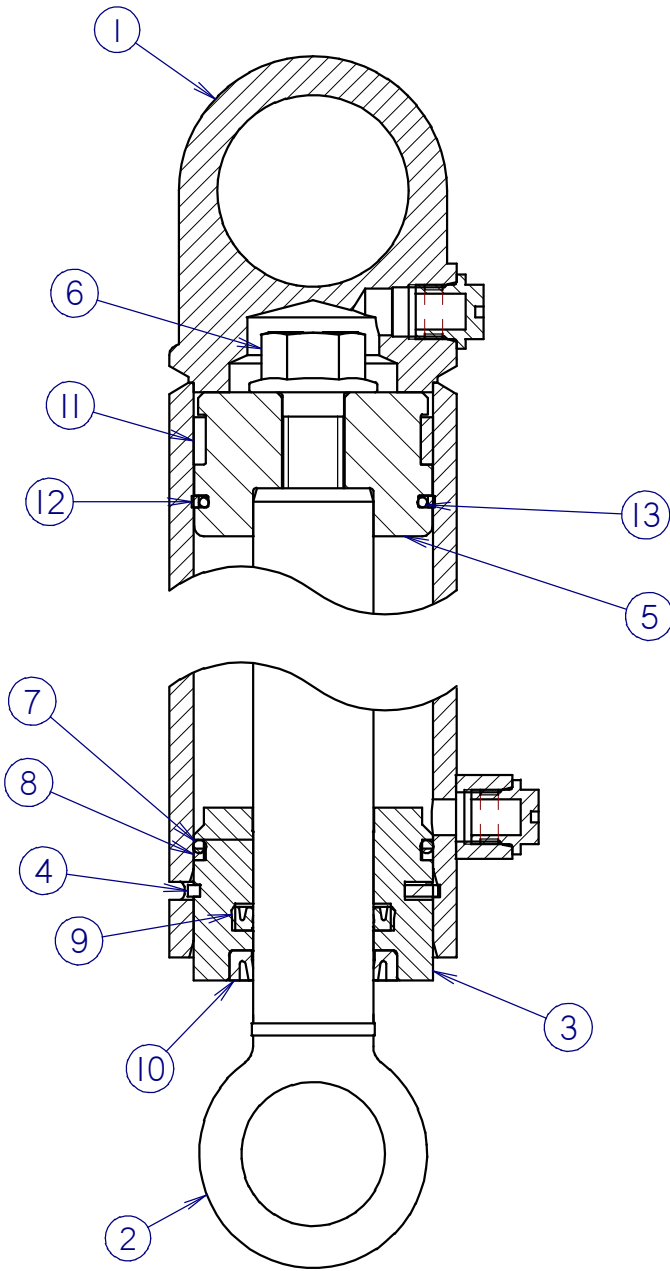
ANCHOR MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	516-109	-	HYD CONTROL VALVE	
	190-641	-	SEAL REPAIR KIT	
2.	154-221	1	CONNECTOR (06S-060)	
3.	154-342	1	CONNECTOR (06S-06090)	
4.	515-739	1	HOSE (060FX-72"-3000)	
5.	515-740	1	HOSE (060FX90M-72"-3000)	
6.	115-935	1	ABRASION SLEEVE (1.75" X 70")	
7.	514-163	2	BK CONNECTOR (060-060BK)	
8.	302-897	-	BULKHEAD BRACKET	
9.	515-015	2	HOSE (060FX90M-44"-3000)	
10.	117-686	1	ABRASION SLEEVE (1.75" X 43")	
11.	154-369	2	CONNECTOR (06Q-10S)	
12.	158-700	-	HYDRAULIC MOTOR	
	166-278	1	SHAFT ASSEMBLY	
	500-658	-	SEAL REPAIR KIT	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-301) IN BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

HYDRAULIC CYLINDERS (2.5" X 1.25")



HYDRAULIC CYLINDERS (2.5" X 1.25")

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	151-101	-	CYL (2.5 X 1.25 X 2.0)	SEE FOOTNOTES 1 & 2
1	152-034	1	CYLINDER BARREL (2.5 X 2.0)	
2	153-012	1	CYLINDER ROD (1.25 X 2.0)	
	151-084	-	CYL (2.5 X 1.25 X 2.5)	SEE FOOTNOTES 1 & 2
1	152-022	1	CYLINDER BARREL (2.5 X 2.5)	
2	153-005	1	CYLINDER ROD (1.25 X 2.5)	
	151-055	-	CYL (2.5 X 1.25 X 3.0)	SEE FOOTNOTES 1 & 2
1	152-005	1	CYLINDER BARREL (2.5 X 3.0)	
2	150-435	1	CYLINDER ROD (1.25 X 3.0)	
	151-028	-	CYL (2.5 X 1.25 X 4.0)	SEE FOOTNOTES 1 & 2
1	150-283	1	CYLINDER BARREL (2.5 X 4.0)	
2	150-415	1	CYLINDER ROD (1.25 X 4.0)	
	149-797	-	CYL (2.5 X 1.25 X 5.0)	SEE FOOTNOTES 1 & 2
1	149-810	1	CYLINDER BARREL (2.5 X 5.0)	
2	150-423	1	CYLINDER ROD (1.25 X 5.0)	
	151-061	-	CYL (2.5 X 1.25 X 6.0)	SEE FOOTNOTES 1 & 2
1	152-010	1	CYLINDER BARREL (2.5 X 6.0)	
2	150-438	1	CYLINDER ROD (1.25 X 6.0)	
	151-045	-	CYL (2.5 X 1.25 X 8.0)	SEE FOOTNOTES 1 & 2
1	150-295	1	CYLINDER BARREL (2.5 X 8.0)	
2	150-427	1	CYLINDER ROD (1.25 X 8.0)	
	149-675	-	CYL (2.5 X 1.25 X 10.0)	SEE FOOTNOTES 1 & 2
1	150-692	1	CYLINDER BARREL (2.5 X 10.0)	
2	149-730	1	CYLINDER ROD (1.25 X 10.0)	
	151-180	-	CYL (2.5 X 1.25 X 12.0)	SEE FOOTNOTES 1 & 2
1	152-015	1	CYLINDER BARREL (2.5 X 12.0)	
2	150-418	1	CYLINDER ROD (1.25 X 12.0)	
3	150-773	1	CYLINDER HEAD (2.5 X 1.25)	
4	150-779	1	LOCK RING (2.5)	
5	150-776	1	CYLINDER PISTON (2.5 X 1.25)	
6	106-097	1	FLG BOLT (5/8-NC X 1-3/4",GD8)	SEE FOOTNOTE 3
7	500-031	1	O-RING (228 D90)	
8	157-021	1	BACKUP RING (228 D90)	
9	157-541	1	U-SEAL (1.250")	
10	157-538	1	WIPER SEAL (1.250")	
11	125-775	1	WEAR RING	
12	157-535	1	BACKUP RING (139 D90)	
13	157-019	1	O-RING (139 D90)	

NOT SHOWN:

259-100	U-SEAL INSTALLER (1" - 1.499")
259-236	WIPER INSTALLER (1.25")
259-242	PISTON SEAL INSTALLER (2.5")
259-243	PISTON INSTALLER (2.5")
259-188	CYL HEAD SPANNER - TWO PIN

FOOTNOTES:

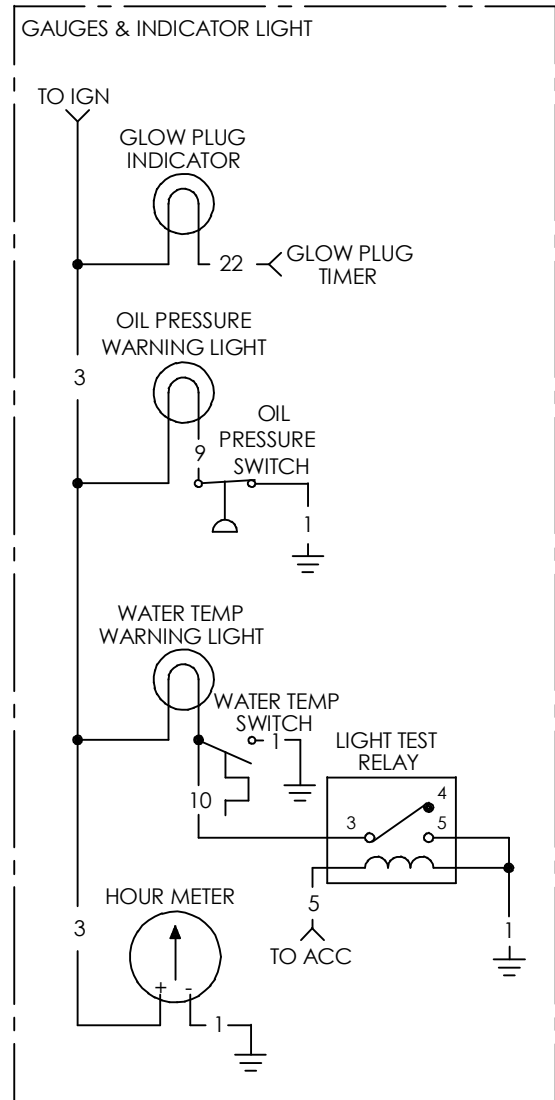
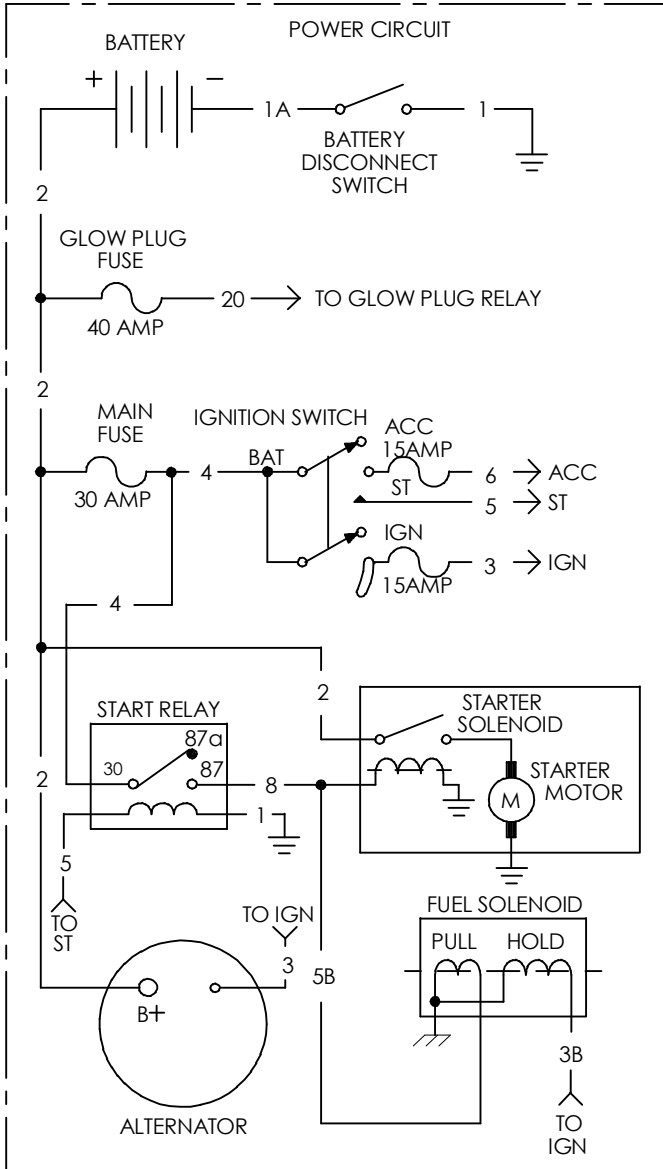
- REF. #1 & #2 ARE SPECIFIC TO EACH CYLINDER, REF #3 THRU #13 ARE COMMON FOR ALL THE ABOVE LISTED CYLINDERS.
- SEAL REPAIR KIT P/N: 190-166
- APPLY LOCTITE 277 OR EQUIVALENT, TORQUE TO 180-200 FT-LBS

NOTE:

ELECTRICAL

ELECTRICAL SCHEMATIC

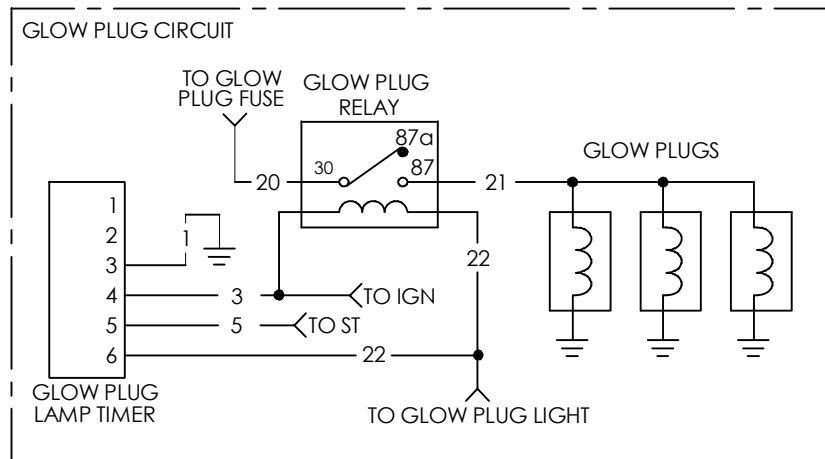
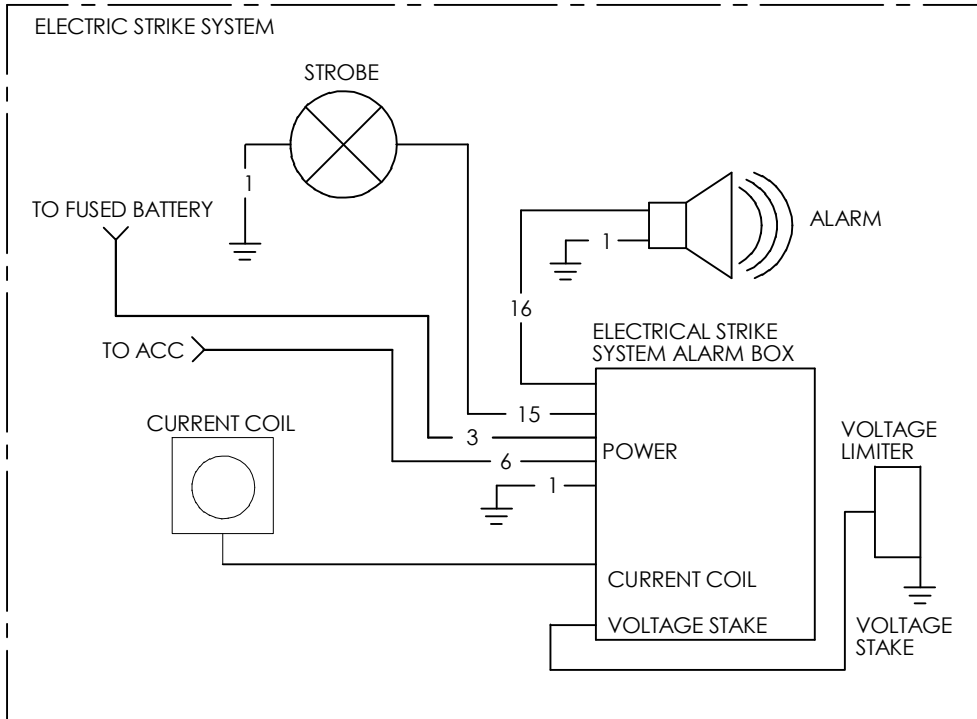
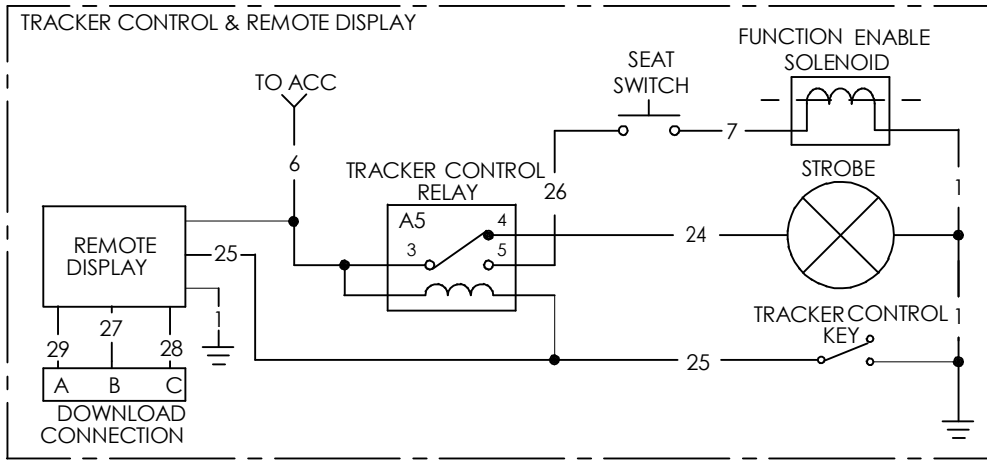
JT520
BEGINS WITH S/N 2Z0888



ELECTRICAL SCHEMATIC

JT520

BEGINS WITH S/N 2Z0888



ELECTRICAL SCHEMATIC

JT520

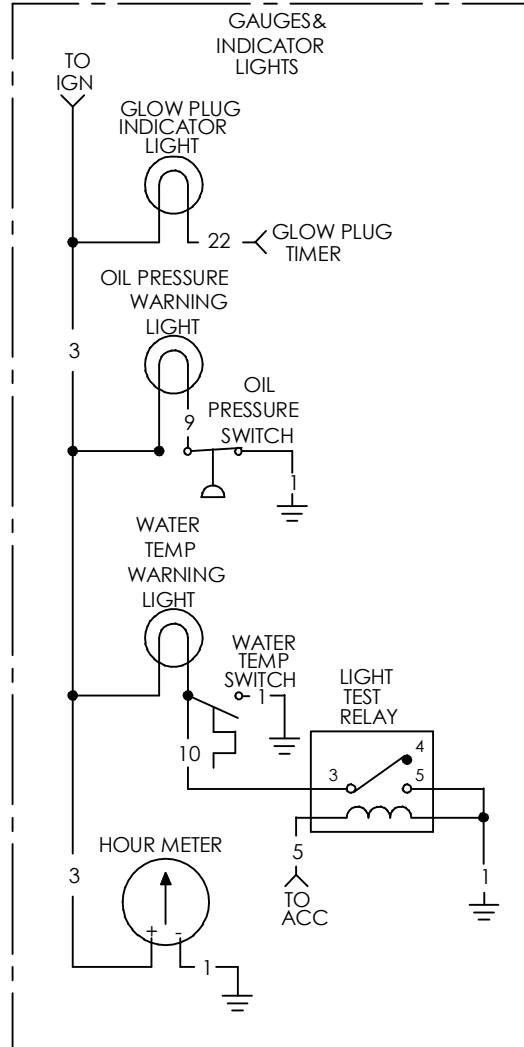
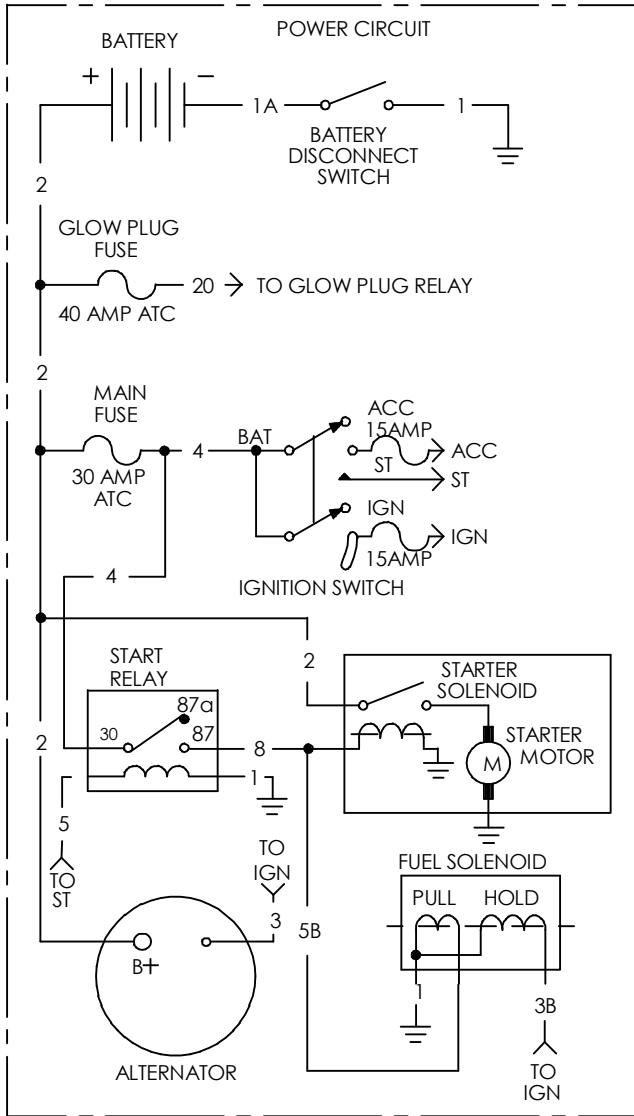
BEGINS WITH S/N 2Z0888

CKT NO.	WIRE COLOR	FUNCTION	REMARKS
1.	BLK	SYSTEM GROUND	
1A.	BLK	BATTERY GROUND TO BATTERY DISCONNECT SWITCH	
2.	RED	BATTERY POSITIVE CIRCUIT	
3.	ORG	IGNITION CIRCUIT	
3B.	RED	IGNITION CIRCUIT TO HOLD CIRCUIT OF FUEL SOLENOID	
4.	RED	FUSED BATTERY CIRCUIT	
4A.	RED/BLU	SHUTDOWN RELAY TO DELAY TIMER	
5.	WHT	IGNITION SWITCH TO START RELAY AND GLOW PLUG TIMER	
5B.	WHT	STARTER SOLENOID TO PULL CIRCUIT OF FUEL SOLENOID	
6.	ORG/BLU	ACCESSORY CIRCUIT	
7.	GRA	SEAT SWITCH TO FUNCTION ENABLE SOLENOID	
8.	WHT/BLK	START RELAY TO STARTER SOLENOID	
9.	WHT/BLU	OIL PRESSURE SWITCH TO OIL PRESSURE WARNING LIGHT	
10.	WHT/GRN	WATER TEMP GAUGE TO SENDER	
11.		NOT USED	
12.		NOT USED	
13.		NOT USED	
14.		NOT USED	
15.	WHT/PUR	E.S.I.D. TO STROBE	
16.	BRN	ELECTRIC STRIKE TO ALARM	
17.		NOT USED	
18.		NOT USED	
19.		NOT USED	
20.	BLU	GLOW PLUG FUSE TO GLOW PLUG RELAY	
21.	GRN	GLOW PLUG RELAY TO GLOW PLUGS	
22.	BLK/YEL	GLOW PLUG RELAY & INDICATOR LIGHT TO TIMER	
23.		NOT USED	
24.	GRA/PUR	TRACKER CONTROL RELAY TO STROBE LIGHT	
25.	TAN/RED	TRACKER CONTROL RELAY TO REMOTE DISPLAY & TRACKER CONTROL SWITCH	
26.	TAN/PUR	TRACKER CONTROL RELAY TO SEAT SWITCH	
27.	WHT	REMOTE DISPLAY TO DOWNLOAD CONNECTION "B"	
28.	YEL	REMOTE DISPLAY TO DOWNLOAD CONNECTION "C"	
29.	BLK	REMOTE DISPLAY TO DOWNLOAD CONNECTION "A"	

FOOTNOTES

ELECTRICAL SCHEMATIC

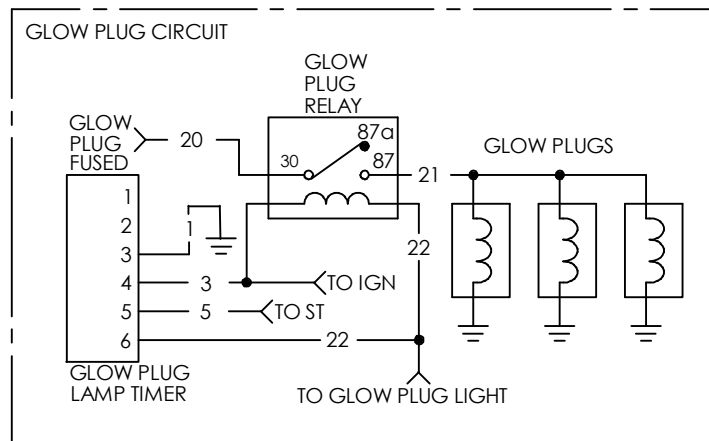
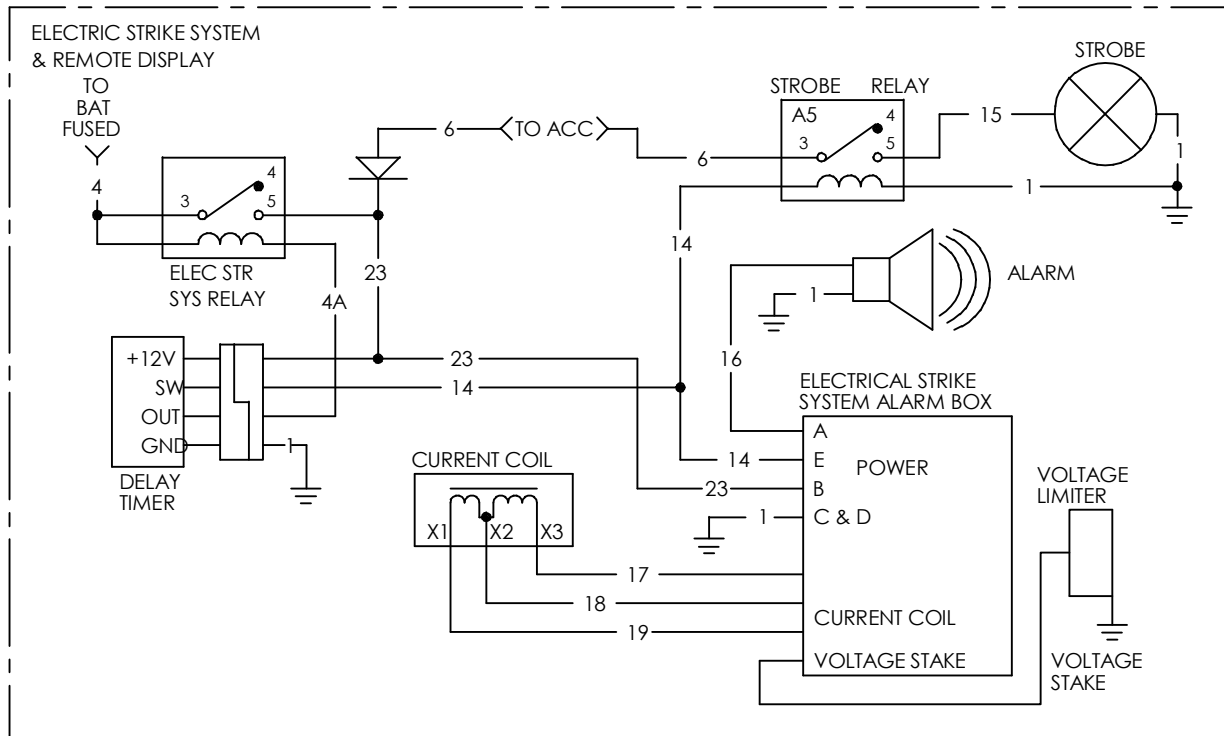
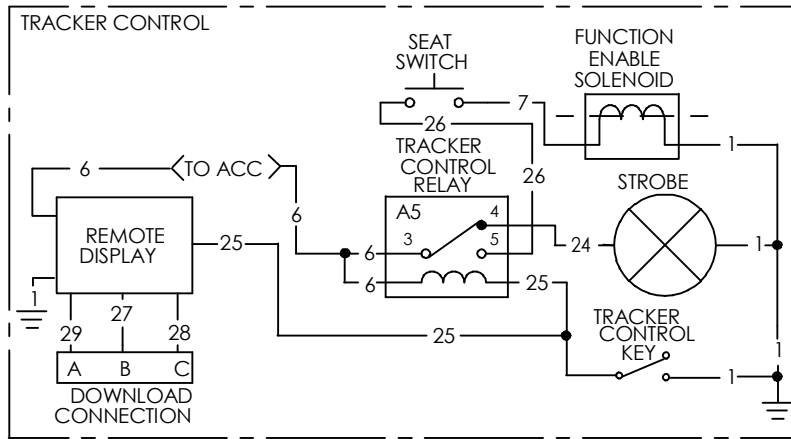
JT520 T2/T4i
ENDS WITH S/N 2Z0887



ELECTRICAL SCHEMATIC

JT520 T2/T4i

ENDS WITH S/N 2Z0887



ELECTRICAL SCHEMATIC

JT520 T2/T4i

ENDS WITH S/N 2Z0887

CKT NO.	WIRE COLOR	FUNCTION	REMARKS
1.	BLK	SYSTEM GROUND	
1A.	BLK	BATTERY GROUND TO BATTERY DISCONNECT SWITCH	
2.	RED	BATTERY POSITIVE CIRCUIT	
3.	ORG	IGNITION CIRCUIT	
3B.	RED	IGNITION CIRCUIT TO HOLD CIRCUIT OF FUEL SOLENOID	
4.	RED	FUSED BATTERY CIRCUIT	
4A.	RED/BLU	SHUTDOWN RELAY TO DELAY TIMER	
5.	WHT	IGNITION SWITCH TO START RELAY AND GLOW PLUG TIMER	
5B.	WHT	STARTER SOLENOID TO PULL CIRCUIT OF FUEL SOLENOID	
6.	ORG/BLU	ACCESSORY CIRCUIT	
7.	GRA	SEAT SWITCH TO FUNCTION ENABLE SOLENOID	
8.	WHT/BLK	START RELAY TO STARTER SOLENOID	
9.	WHT/BLU	OIL PRESSURE SWITCH TO OIL PRESSURE WARNING LIGHT	
10.	WHT/ GRN	WATER TEMP GAUGE TO SENDER	
11.	BLU	REGULATOR/RECTIFIER TO STATOR ALTERNATOR	
12.	BLU	REGULATOR/RECTIFIER TO STATOR ALTERNATOR	
13.	GRN	REGULATOR/RECTIFIER TO RESISTOR	
14.	WHT/YEL	ELECTRIC STRIKE TO STROBE RELAY	
15.	WHT/PUR	STROBE RELAY TO STROBE	
16.	BRN	ELECTRIC STRIKE TO ALARM	
17.	RED	ELECTRIC STRIKE TO CURRENT COIL X3	
18.	BLK	ELECTRIC STRIKE TO CURRENT COIL X2	
19.	WHT	ELECTRIC STRIKE TO CURRENT COIL X1	
20.	BLU	GLOW PLUG FUSE TO GLOW PLUG RELAY	
21.	GRN	GLOW PLUG RELAY TO GLOW PLUGS	
22.	BLK/YEL	GLOW PLUG RELAY & INDICATOR LIGHT TO TIMER	
23.	ORG/RED	DIODE CATHODE TO DELAY TIMER & ELEC STR SYSTEM	
24.	GRA/PUR	TRACKER CTRL RELAY TO STROBE LIGHT	
25.	TAN/RED	TRACKER CTRL RELAY TO REMOTE DISPLAY & TRACKER CTRL SWITCH	
26.	TAN/PUR	TRACKER CTRL RELAY TO SEAT SWITCH	
27.	WHT	REMOTE DISPLAY TO DOWNLOAD CONNECTION "B"	
28.	YEL	REMOTE DISPLAY TO DOWNLOAD CONNECTION "C"	
29.	BLK	REMOTE DISPLAY TO DOWNLOAD CONNECTION "A"	

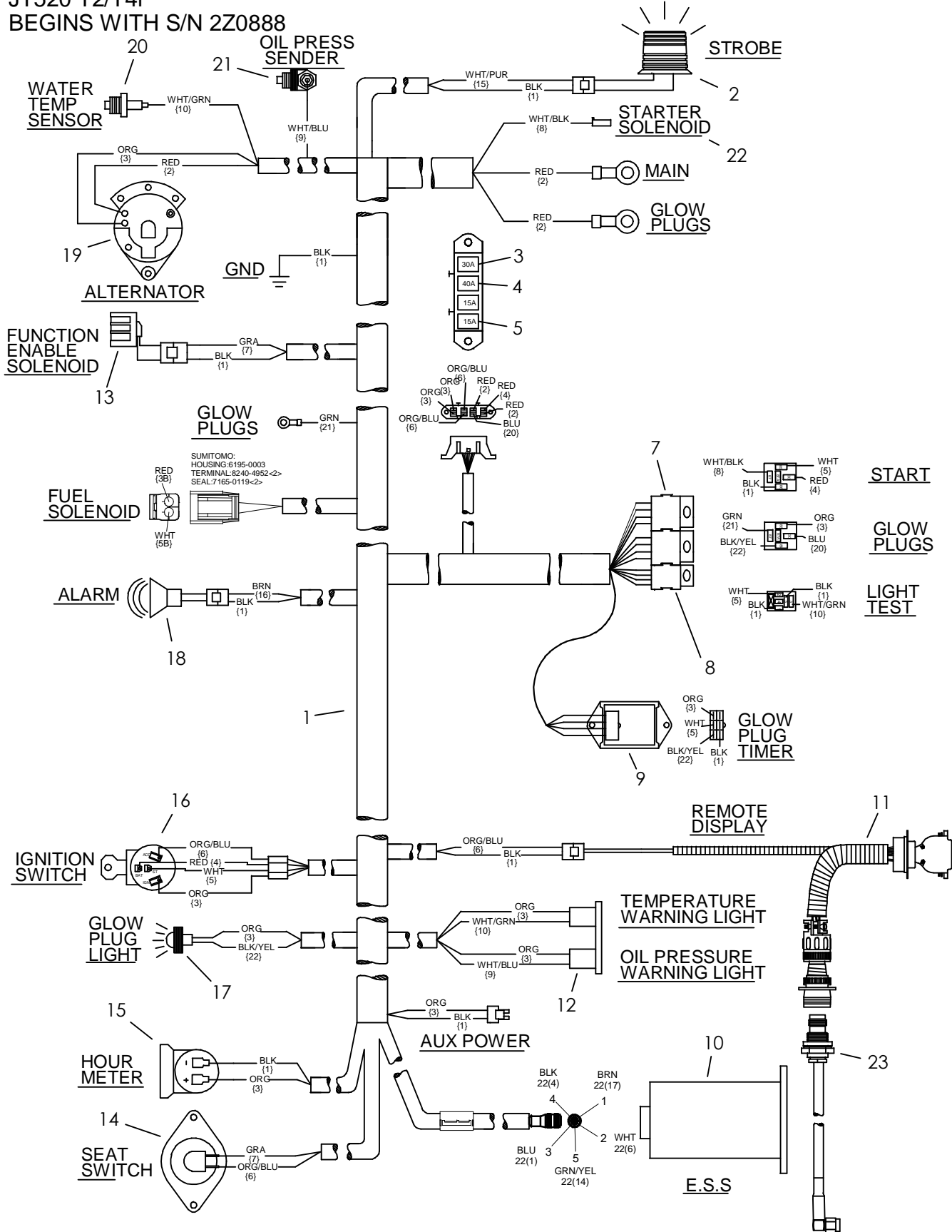
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FOOTNOTES:

NOTE:

ELECTRICAL DIAGRAM

JT520 T2/T4i
BEGINS WITH S/N 2Z0888



ELECTRICAL DIAGRAM

JT520 T2/T4i

BEGINS WITH S/N 2Z0888

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	214-494	1	ENGINE/FRAME HARNESS	SEE FOOTNOTE 1
2.	217-296	1	STROBE LIGHT (AMBER)	
	214-991	1	FLASH BULB	
	217-302	1	LENS (AMBER)	
3.	217-813	1	FUSE (ATC, 30 AMP)	
4.	N/A	1	FUSE (40 AMP)	
5.	217-811	2	FUSE (ATC, 15 AMP)	
6.	214-502	1	DELAY TIMER	
7.	217-826	1	MINI RELAY (SPDT)	
8.	217-710	2	MICRO RELAY (SPDT)	
9.	217-856	1	LAMP TIMER 12V	BEGINS WITH S/N: 2T3168
10.	217-241	1	ESID MODULE	ENDS WITH S/N: 2T3165
	217-232	1	CONTROL MODULE	
11.	214-415	1	90D MODULE TO RIG CABLE	
12.	217-020	1	PILOT LIGHT	
13.	158-569	1	SOLENOID DIVERSION VALVE	
14.	217-750	1	SEAT SWITCH	
15.	215-128	1	HOUR METER	
16.	214-852	1	IGNITION SWITCH	
	214-961		KEY, PAIR (BASE CODE)	
	214-962		SWITCH MOUNTING NUT	
17.	214-563	1	RED LED 12V	
18.	306-602	1	BACKUP ALARM	
19.	217-453	1	ALTERNATOR	
20.	213-338	1	TEMPERATURE SWITCH	BEGINS WITH S/N: _____
	215-242	-	TEMPERATURE SWITCH	ENDS WITH S/N" _____
21.	217-952	1	OIL PRESSURE SWITCH	
22.	194-382	1	STARTER	
23.	214-412	1	RIG RF CABLE	

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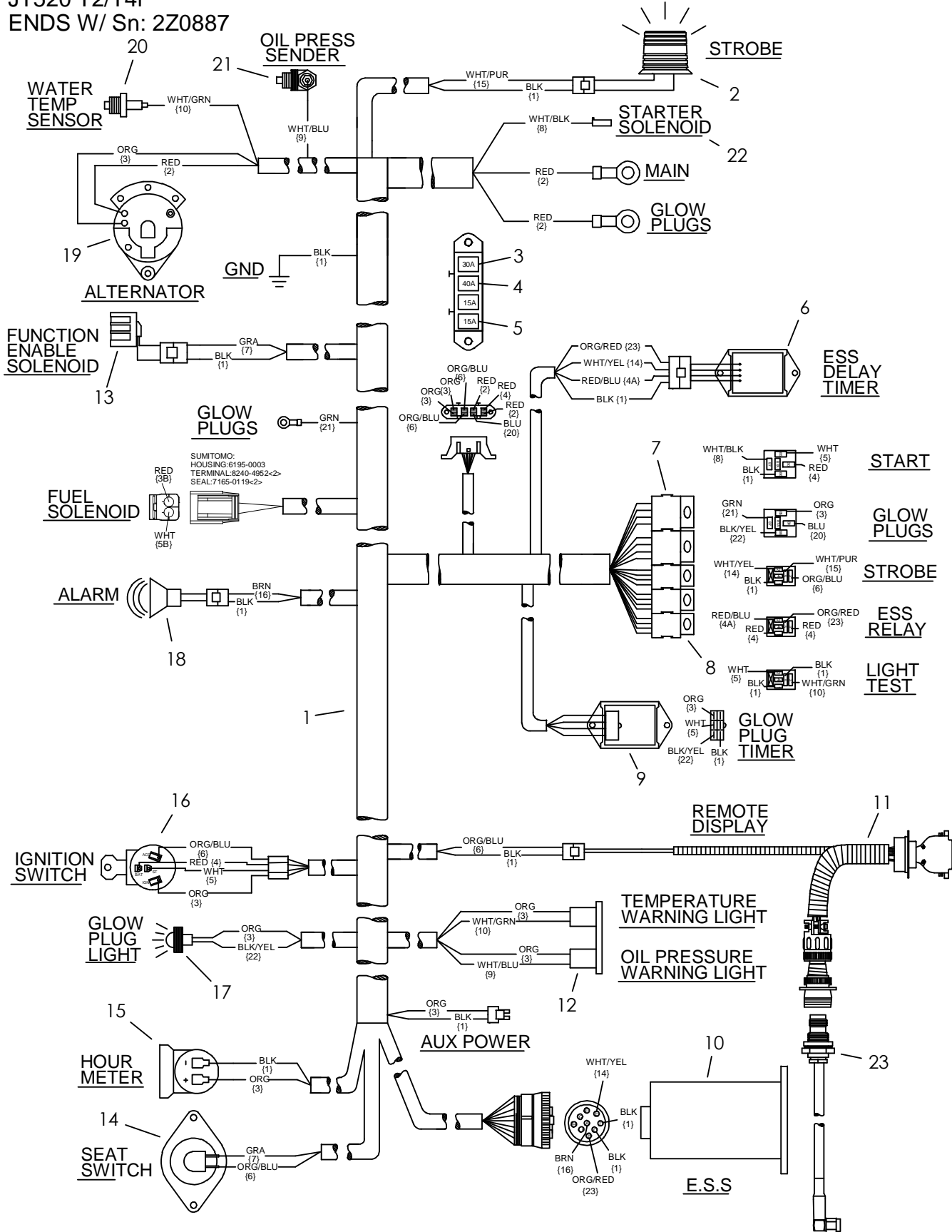
FOOTNOTES:

1. 214-494 V01 REV. H, BEGINS WITH S/N 2Z08888 & 214-494 V09 REV. G, ENDS WITH S/N 2Z0887.

NOTE:

ELECTRICAL DIAGRAM

JT520 T2/T4i
ENDS W/ Sn: 2Z0887



ELECTRICAL DIAGRAM

JT520 T2/T4i

ENDS W/ Sn: 2Z0887

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	214-494	1	ENGINE/FRAME HARNESS	SEE FOOTNOTE #1
2.	217-296	1	STROBE LIGHT (AMBER)	
	214-991	1	FLASH BULB	
	217-302	1	LENS (AMBER)	
3.	217-813	1	FUSE (ATC, 30 AMP)	
4.	N/A	1	FUSE (40 AMP)	
5.	217-811	2	FUSE (ATC, 15 AMP)	
6.	214-502	1	DELAY TIMER	
7.	217-826	2	MINI RELAY (SPDT)	
8.	217-710	3	MICRO RELAY (SPDT)	
9.	217-856	1	LAMPTIMER 12V	
10.	217-241	1	ESID MODULE	BEGINS WITH SERIAL # 2T3168
	217-232	1	CONTROL MODULE	ENDS WITH SERIAL # 2T3165
11.	214-415	1	90D MODULE TO RIG CABLE	
12.	217-020	1	PILOT LIGHT	
13.	158-569	1	SOLENOID DIVERSION VALVE	
14.	217-750	1	SEAT SWITCH	
15.	215-128	1	HOUR METER	
16.	214-852	1	IGNITION SWITCH	
	214-961		KEY, PAIR (BASE CODE)	
	214-962		SWITCH MOUNTING NUT	
17.	214-563	1	RED LED 12V	
18.	306-602	1	BACKUP ALARM	
19.	217-453	1	ALTERNATOR	
20.	213-338	1	TEMPERTURE SWITCH	BEGINS WITH S/N:2Y1471
	<u>215-242</u>	-	TEMPERTURE SWITCH	ENDS WITH S/N:2Y1290
21.	217-952	1	OIL PRESSURE SWITCH	
22.	194-382	1	STARTER	
23.	214-412	1	RIG RF CABLE	

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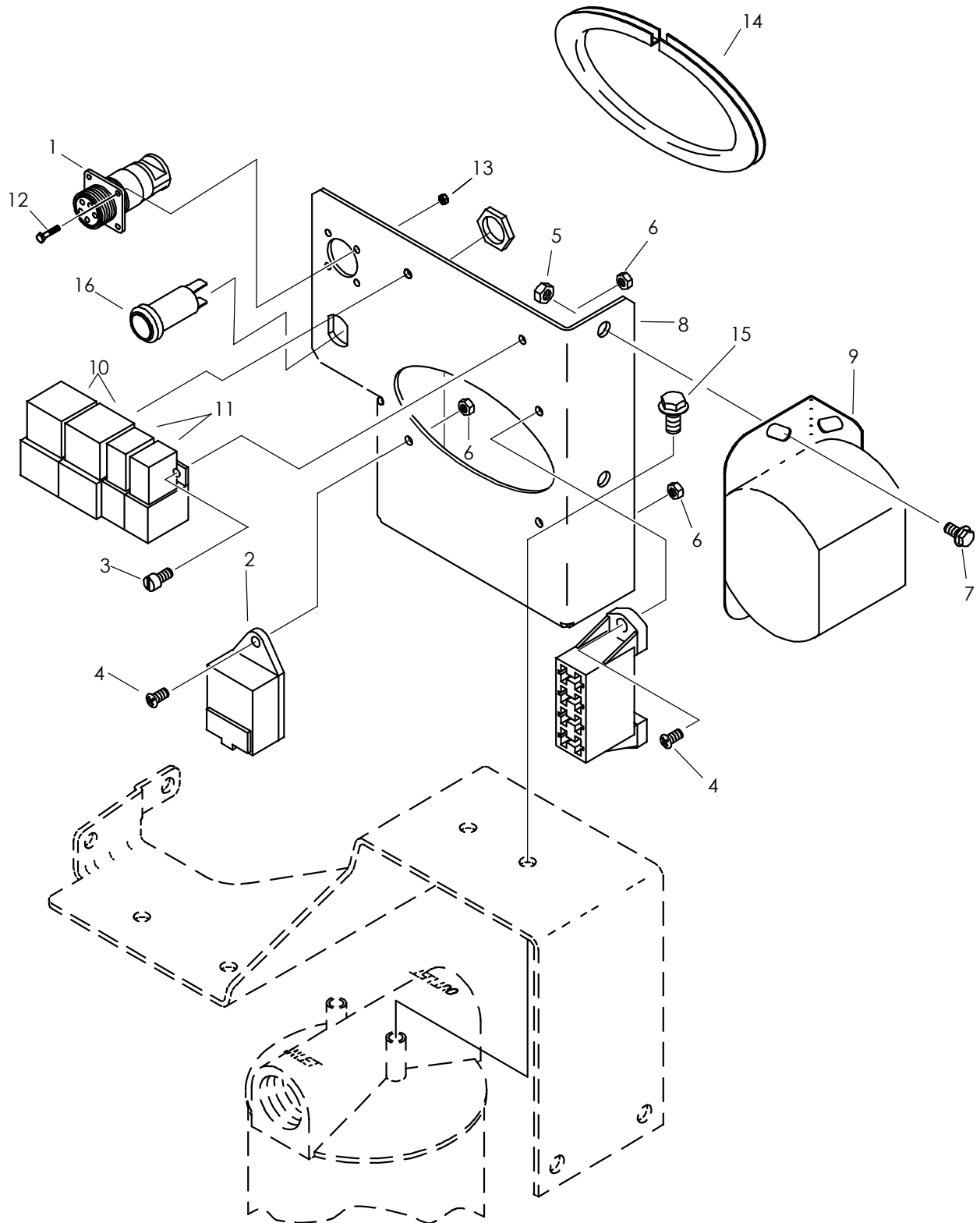
FOOTNOTES:

1. 214-494 V01 Rev.H, BEGINS WITH S/N 2Z0888 & 214-494 V09 REV.G, ENDS WITH S/N 2Z0887.

NOTE:

RELAY PANEL

JT520 T2/T4i



RELAY PANEL

JT520 T2/T4i

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	214-415	1	90D MODULE TO RIG CABLE	
2.	217-856	1	LAMPTIMER 12 V	
3.	105-185	2	BOLT (#10-24 X 1/2", RD SLT)	
4.	106-049	3	BOLT (#10-24 X 3/4", PLPS)	
5.	106-561	2	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
6.	106-048	7	LOCKNUT (#10-24)	
7.	106-380	2	FLG LK SCREW (M8-1.25 X 16MM)	
8.	302-876	1	RELAY PANEL	
9.	306-602	1	BACKUP ALARM	
10.	217-826	2	MINI RELAY (SPDT)	
11.	217-710	2	MICRO RELAY (SPDT)	
12.	107-269	4	SCREW (#4-40 X 3/4", PAN)	
13.	106-277	4	NUT (#4-40, BRASS)	
14.	115-686	AR	BULK EDGE (5/32, SOLD PER 1")	USE 1 @ 12"
15.	105-823	-	FLG LK BOLT (5/16-NC X 3/4")	
16.	214-908	1	ON-OFF KEY SWITCH	BEGINS WITH S/N:2V2659

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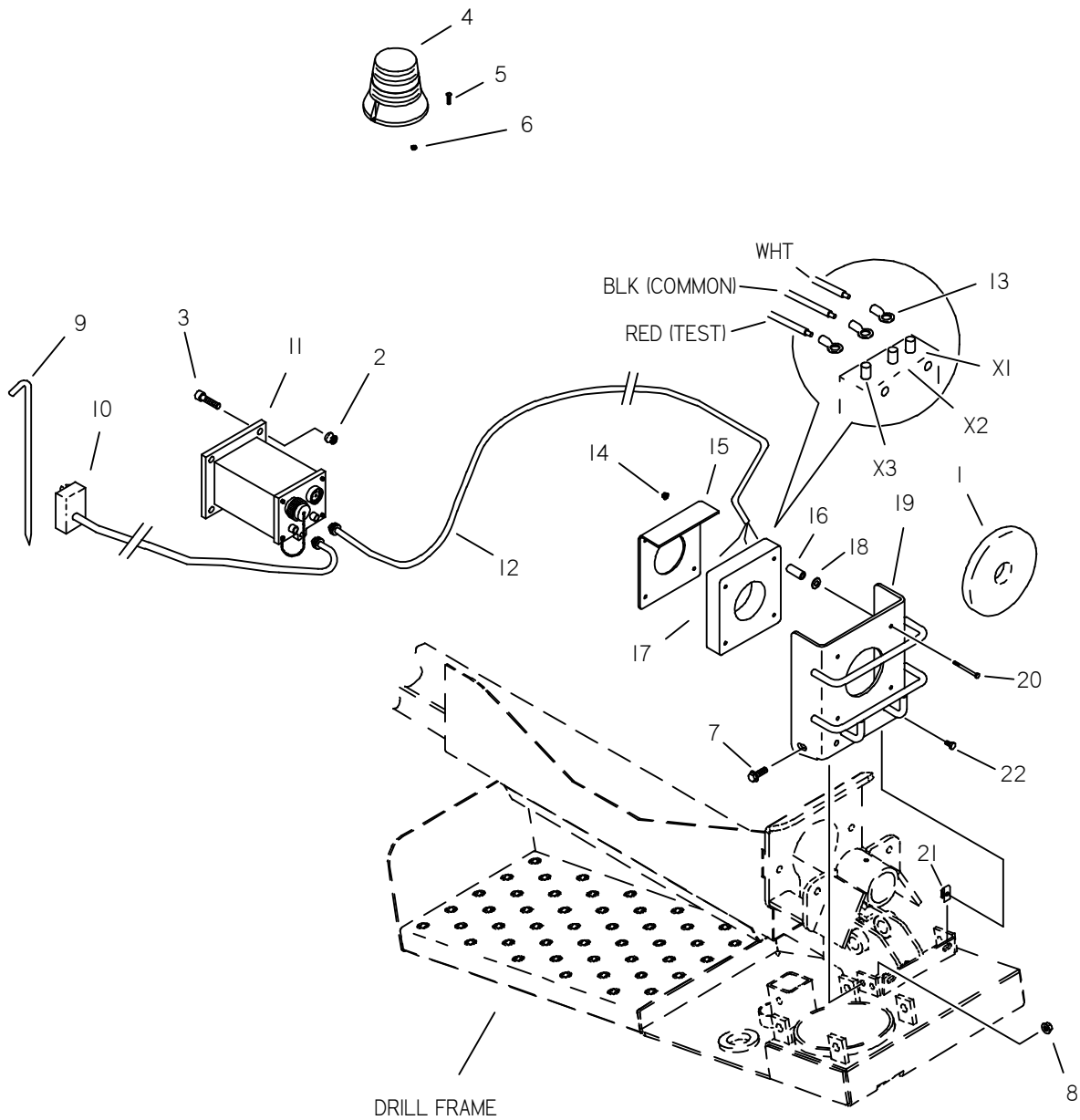
FOOTNOTES:

NOTE:

ORIENTATE FUSE BLOCK WITH 15 AMP FUSE ON TOP.

ELECTRICAL STRIKE SYSTEM

JT520 T2/T4i
ENDS WITH SERIAL #2T3165



ELECTRICAL STRIKE SYSTEM

JT520 T2/T4i

ENDS WITH SERIAL #2T3165

REF PART

NO.	NUMBER	QTY	DESCRIPTION	REMARKS
1.	116-515		- ROD WIPER (1.0")	
2.	105-631		- NUTSERT IM6X1.014.20-6.60THK	
3.	106-640		- SCREW IM6-1.00 X 20MM, BUT SOC)	
4.	217-108		- STROBE LIGHT W/ AMBER LENS	
	214-576		- LINEAR FLASHTUBE	
	214-633		- AMBER DOME LENS	
5.	105-185		- SCREW (#10-24 X 1/2", RD SLT)	
6.	106-048		- LOCKNUT (#10-24)	
7.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
8.	105-894	2	LOCKNUT (M10-1.50,PRV TRQ,10.9)	
9.	215-799		- VOLTAGE STAKE	
10.	216-032	1	VOLT LIMITER (EL STR SYS)	
11.	217-232		- CONTROL MODULE	
12.	214-173	1	EL STR SYSTM CABLE (3.7M)	SEE FOOTNOTE 1
13.	215-476		- RING TERMINAL (#10)	
14.	106-538	4	LOCKNUT (M6-1.00,PRV TRQ,10.9)	
15.	362-623	1	COIL COVER (BACK)	SEE FOOTNOTE 1
16.	116-376	4	SPACER	
17.	216-023	1	CURRENT TRANSFORMER	SEE FOOTNOTE 1
18.	116-283	4	WASHER (53", RUBBER)	
19.	359-952	1	COIL COVER	
20.	105-843	4	SCREW (M6-1.00 X 80MM)	
21.	106-558	2	CLIP NUT (M10-1.50)	
22.	106-079	2	SCREW (M10-1.50 X 30MM)	

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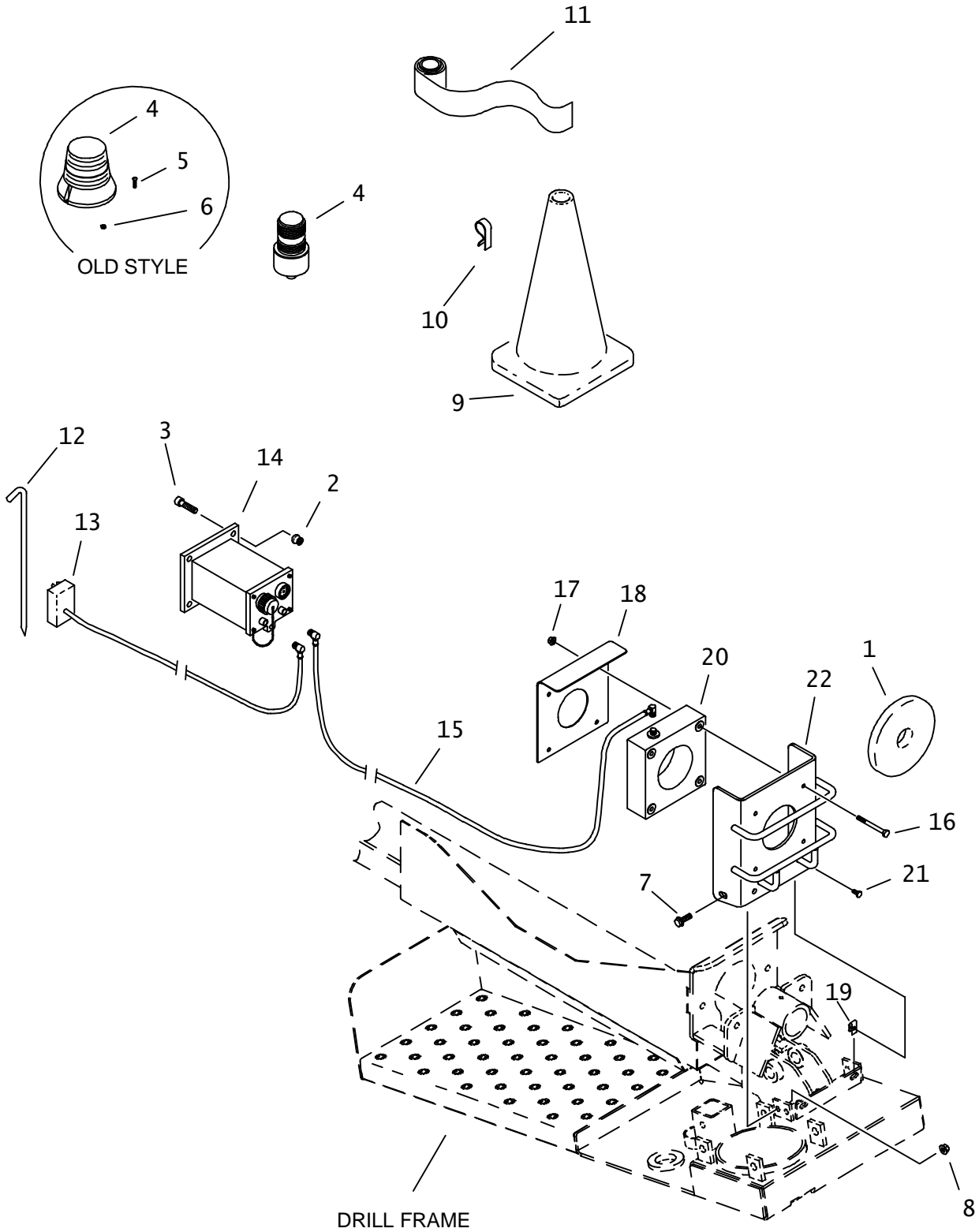
FOOTNOTES:

1. REF 20 OBSOLETE, 216-023 REPLACE W/214-554, 309-758 & 211-083. REFERENCE PAGE 807-434.

NOTE:

ELECTRICAL STRIKE SYSTEM

JT520 T2/T4i
BEGINS WITH SERIAL # 2T3168



ELECTRICAL STRIKE SYSTEM

JT520 T2/T4i

BEGINS WITH SERIAL # 2T3168

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	116-515	-	ROD WIPER (1.0")	
2.	105-630	-	NUTSERT(M6X1.0).70-4.20THK	
3.	106-640	-	SCREW (M6-1.00 X 20MM, BUT SOC)	
4.	217-108	-	STROBE LIGHT W/ AMBER LENS	ENDS WITH S/N: 2W0902
	214-576	-	LINEAR FLASHTUBE	ENDS WITH S/N: 2W0902
	214-633	-	AMBER DOME LENS	ENDS WITH S/N: 2W0902
	217-296	1	STROBE LIGHT (AMBER)	BEGINS WITH S/N: 2W0967
	214-991	1	FLASH BULB	BEGINS WITH S/N: 2W0967
	217-302	1	LENS (AMBER)	BEGINS WITH S/N: 2W0967
	217-301	1	BRUSH GUARD	BEGINS WITH S/N: 2W0967
5.	105-185	-	BOLT (#10-24 X 1/2", RD SLT)	ENDS WITH S/N: 2W0902
6.	106-048	-	LOCKNUT (#10-24)	ENDS WITH S/N: 2W0902
7.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
8.	105-894	2	LOCKNUT (M10-1.50,PRV TRQ,10.9)	
9.	<u>259-210</u>	-	TRAFFIC CONE - ORANGE	
10.	<u>259-234</u>	-	CONE CLIP	
11.	<u>260-223</u>	-	BARRIER TAPE (3" X 1000')	
12.	215-799	-	VOLTAGE STAKE	
13.	211-042	1	VOLTAGE LIMITER CABLE	
14.	220-1024	-	ESID MODULE NEW (T)	
15.	214-554	1	CURRENT COIL CABLE	
16.	106-602	4	SCREW (M8-1.25 X 80MM)	
17.	106-386	4	FLG LOCKNUT (M8-1.25)	
18.	309-758	1	COVER	
19.	106-558	2	CLIP NUT (M10-1.50)	
20.	<u>216-064</u>	1	CURRENT TRANSFORMER	
	211-083	1	CURRENT TRANSFORMER	
21.	106-079	2	SCREW (M10-1.50 X 30MM)	
22.	359-952	1	COIL COVER	

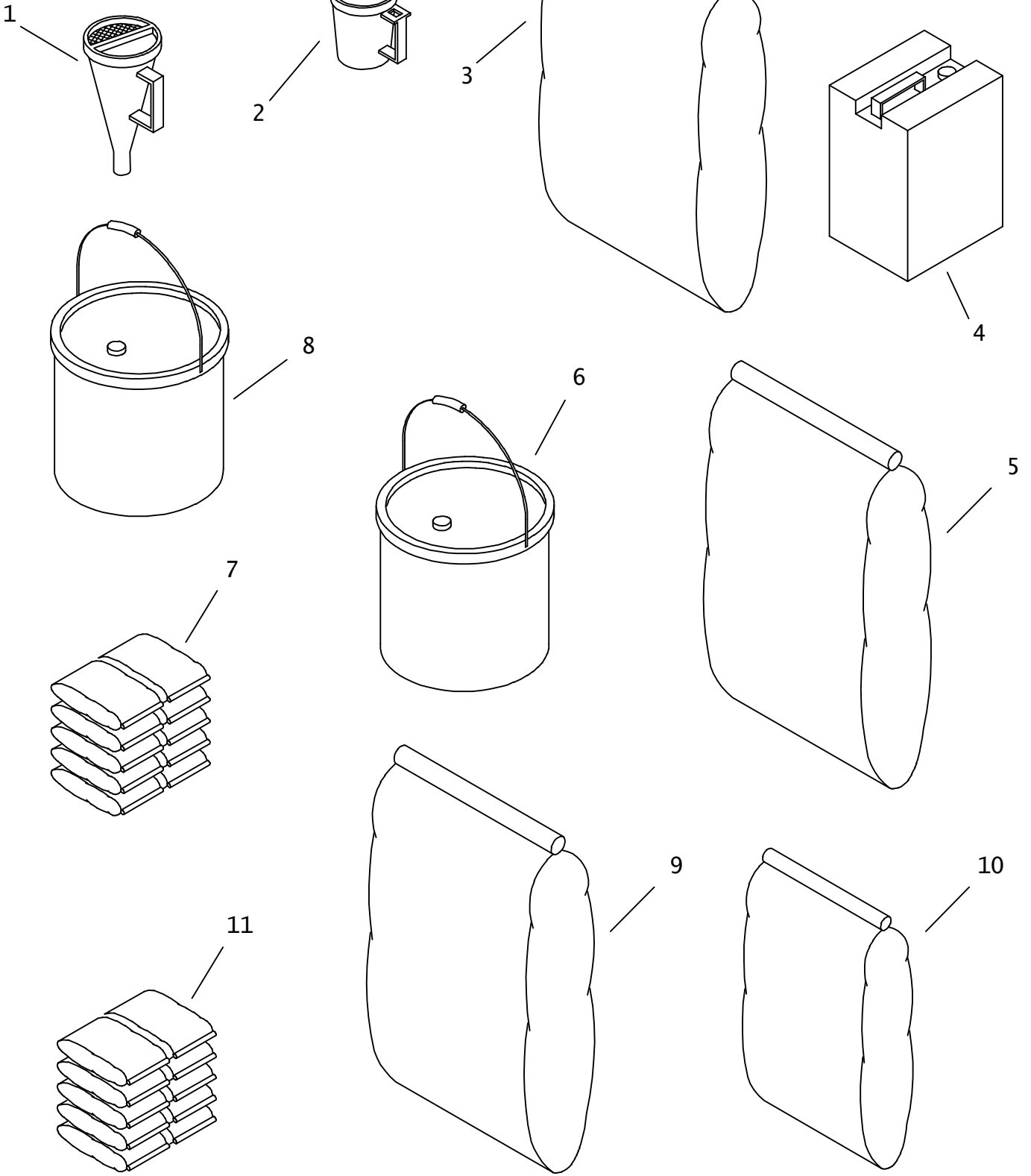
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FOOTNOTES:

NOTE:

ACCESSORIES

FLUID MIXING ACCESSORIES



FLUID MIXING ACCESSORIES

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	259-195	1	VISCOSITY FUNNEL	
2.	259-196	1	VISCOSITY CUP	
3.	259-804	AR	BENTONITE, QUIK-GEL (50 LB)	
4.	259-805	AR	LIQUID POLYMER, EZ-MUD (5 GAL)	
5.	259-807	AR	BENTONITE, BORE-GEL (50 LB)	
6.	259-808	AR	VISCOSIFIER, LIQUI-TROL (5 GAL)	
7.	259-809	AR	POWDER POLYMER, QUIK-TROL (20 LB)	
8.	259-810	AR	WET AGENT, CON-DET (5 GAL)	
9.	259-821	AR	'PAC-R' FILTRATION CONTROL	
10.	259-822	AR	'BARAZAN D+' VISCOSIFIER	
11.	259-832	AR	'NO SAG' (20# BOX/10-2#BAGS)	

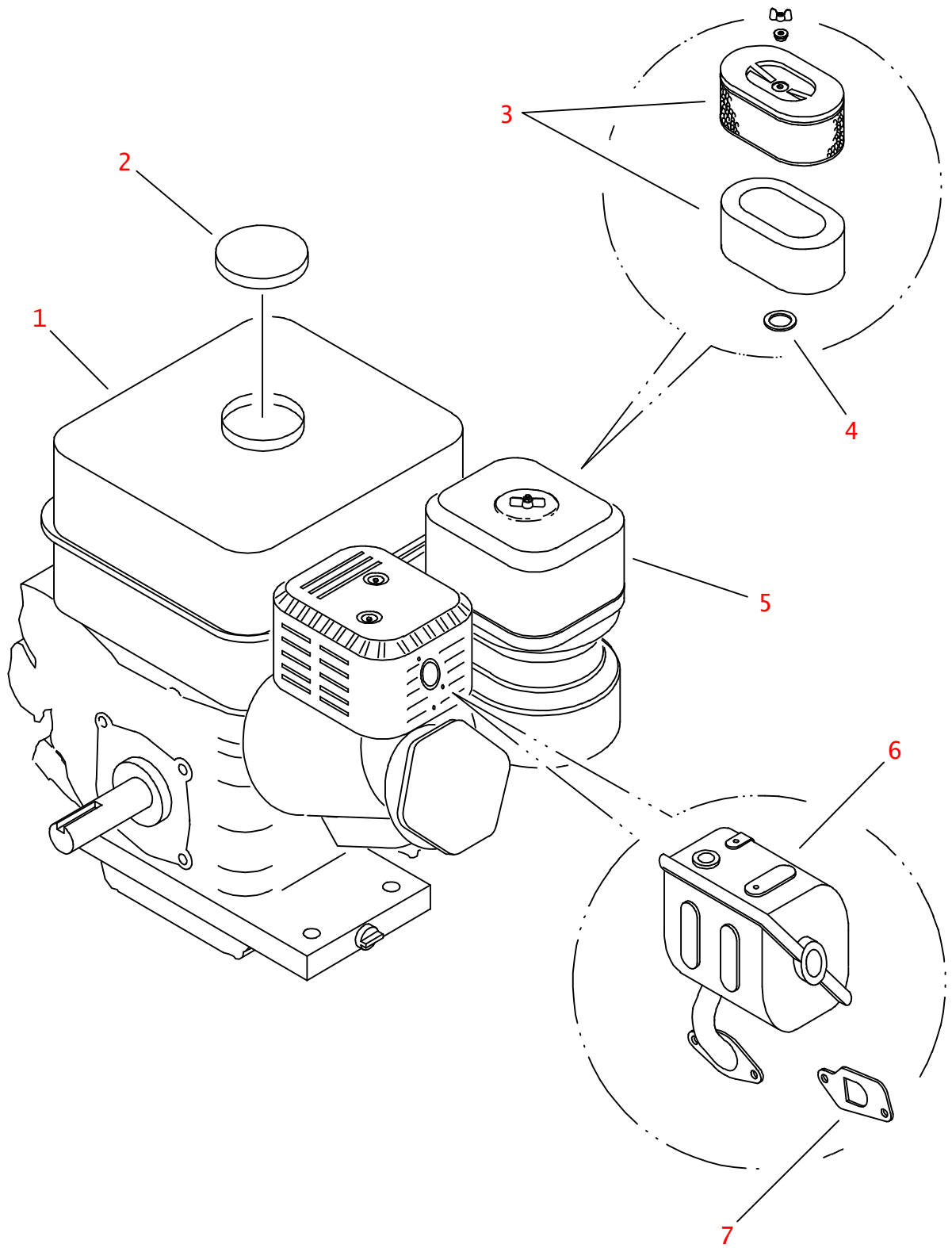
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191-158	1	DRILLING FLUID TEST KIT
259-487	1	SHEAROMETER

FOOTNOTES:

NOTE:

ENGINE - HONDA



ENGINE - HONDA

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	194-598	1	ENGINE - HONDA (GX160K1QX)	GASOLINE
	195-028	1	ENGINE - HONDA (GX160K1TX)	GASOLINE
1.	194-010	1	FUEL TANK	
2.	194-009	1	CAP	FUEL TANK
3.	194-001	1	ELEMENT SET (PRIMARY/SECONDARY)	AIR FILTER
4.	194-007	1	GASKET	AIR FILTER
5.	194-003	1	COVER	AIR FILTER
6.	194-004	1	MUFFLER	
7.	194-005	1	GASKET	MUFFLER

NOT SHOWN:

194-011	1	OIL LEVEL SWITCH
194-002	1	FUEL FILTER (04H-04H, IN-LINE)
194-006	1	RECOIL STARTER
194-008	1	CARBURETOR

FOOTNOTES:

NOTE:

MISCELLANEOUS

SAE Bolt and Nut Torque Value Chart

Grade 5: UNC or UNF Thread

Size	Hex nut, or bolt tapped into hex nut, or d&t hole		Hex top deformed locknut		Flange nut, locknut, or bolt tapped into flange nut or d&t* hole	
	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m
1/4	12	16	8	11	20	27
5/16	25	34	15	20	45	60
3/8	40	54	25	34	75	100
7/16	65	90	40	55	125	170
1/2	100	135	60	80	190	260
9/16	150	200	90	125	270	370
5/8	200	270	120	165	370	500
3/4	350	475	210	285	650	880
7/8	560	760	340	460	1250	1425
1	840	1140	500	680	1580	2145
1-1/8	1030	1400	320	840	1950	3645
1-1/4	1460	1980	880	1195	2760	3475

Grade 8: UNC or UNF Thread

Size	Hex nut, or bolt tapped into hex nut, or d&t hole		Hex top deformed locknut		Flange nut, locknut, or bolt tapped into flange nut or d&t* hole	
	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m
1/4	14	19	10	14	24	33
5/16	30	40	18	25	50	70
3/8	55	73	35	50	90	125
7/16	85	115	50	70	140	190
1/2	130	175	80	110	220	300
9/16	190	260	110	150	310	420
5/8	260	355	160	245	430	585
3/4	450	610	270	365	750	1015
7/8	730	990	440	600	1210	1640
1	1090	1480	650	880	1320	2465
1-1/8	1550	2100	930	1260	2580	3500
1-1/4	2180	2955	1310	1780	3640	4935

*drilled and tapped

Metric Bolt and Cap Screw Torque Values

Size	Class 4.8				Class 8.8 and 9.8				Class 10.9				Class 12.9			
	Lubricated		Dry		Lubricated		Dry		Lubricated		Dry		Lubricated		Dry	
	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb	N•m	ft•lb
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1600	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

Do not use these values if a different torque value or tightening procedure is given for specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class fasteners.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to strength of original.

Make sure fastener threads are clean and that the threads are properly started. This will prevent them from cross threading or galling when tightened.

Tighten plastic insert or crimped type steel locknuts to approximately 50% of dry torque indicated on chart. Apply torque to the nut - not the bolt head. Tighten toothed or serrated type locknuts to full torque value.

LUBRICATED means coated with lubricant. DRY means plain or zinc plated without any type of lubricant.

Hydraulic Cylinder Bolt Torque Chart

Bolt Size (inch)	Bolt Part No.	Cylinder Repair Kit Part No.	Torque (ft•lb)	Torque (N•m)
1/2	106-096	190-165	90-100	120-135
5/8	106-097	190-166 & 190-169	180-200	245-270
3/4	106-098	190-167 & 190-170	290-325	395-440
7/8	106-122	190-172 & 190-174	410-640	550-625
1	106-145	190-175 & 190-189	630-700	855-950
1-1/8	106-146	190-177	770-850	1045-1170

As a general rule:

- 1/2-inch bolts are used in cylinders with 1-inch rods
- 5/8-inch bolts are used in cylinders with 1 1/4-inch rods
- 3/4-inch bolts are used in cylinders with 1 1/2-inch rods
- 7/8-inch bolts are used in cylinders with 1 3/4-inch rods
- 1-inch bolts are used in cylinders with 2-inch rods (one with 1 3/4-inch)
- 1-1/8-inch bolts are used in cylinders with 2-1/4-inch rods

IMPORTANT: Do not reuse cylinder piston bolts when rebuilding a hydraulic cylinder. Each cylinder repair kit contains a new bolt. Use it. Lubricate lightly and torque to value shown on chart.

SAE & ORS Hydraulic Fitting Replacement O-Ring Chart

Fraction Size	Dash Size	SAE (Port Seal O-Ring)		ORS (Face Seal O-Ring)	
		Thread Size	O-Ring P/N	Thread Size	O-Ring P/N
1/16	1	NA	NA	NA	NA
1/8	2	5/16 - 24	NA	NA	NA
3/16	3	3/8 - 24	NA	NA	NA
1/4	4	7/16 - 20	155-760	9/16 - 18	157-037
5/16	5	1/2 - 20	NA	NA	NA
3/8	6	9/16 - 18	155-705	11/16 - 16	157-038
1/2	8	3/4 - 16	155-706	13/16 - 16	157-039
5/8	10	7/8 - 14	155-707	1 - 14	157-040
3/4	12	1-1/16 - 12	155-709	1-3/16 - 12	157-017
7/8	14	1-3/16 - 12	155-747	NA	NA
1	16	1-5/16 - 12	155-748	1-7/16 - 12	155-714
1-1/4	20	1-5/8 - 12	155-702	1-11/16 - 12	NA
1-1/2	24	1-7/8 - 12	157-001	2 - 12	NA
2	32	2-1/2 - 12	NA	NA	NA
2-1/2	40	3 - 12	NA	NA	NA
3	48	3-1/2 - 12	NA	NA	NA

Thread size indicates the diameter of the threaded area in fractions of an inch and number of threads per inch.

NA = not a current CMW part numbered o-ring, or dash size does not occur in current CMW applications

SAE = straight thread fitting that seals by sandwiching a hard o-ring between a shoulder on the male part and an angular surface at the mouth of the female port.

ORS = o-ring face seal; a type of fitting that seals by compressing a hard, captive o-ring between two flat parallel faces, one grooved for the o-ring and the other plain to act as the sealing surface

JT520

Related Publications

Component	Ass'y	P/N
Model:		
JT520 - FT5 Parts Manual		053-062
JT520 Operators Manual		054-053
FT5 Operators Manual		054-058
JT520 - FT5 Repair Guide (Service Manual)		055-053
JT520 - FT5 Supplementary Maint Guide - Trenchless		055-485
JT520 - FT5 Special Tools Guide		052-901
Engine:		
Kubota 25 Parts Manual - D1105B-1 194-034/194-54		053-082
Kubota 31.5 hp Parts Manual - D1105-T-E3B 195-1169.....		053-1339
Kubota Operators Manual - D1105B-1/D1105-T-E3B		054-051/053-1337
Kubota Service (Shop) Manual - D1105B-1/D1105-T-E3B		055-051
WATER TRANSFER SYSTEM OPTION: FT5		
Honda 5.5hp Parts Manual - GX160K1TX	195-028	053-042
Honda 5.5hp Operators Manual - GX160K1TX		N/A
Honda 5.5hp Service (Shop) Manual - GX160K1TX		N/A

Filters

Engine:		
Air Filter Parts Ass'y (D1105B-1)/(D1105-T-E3B).....	194-035/194-093	
Element (primary, paper)	194-038	
Element (secondary, foam)	194-039	
Oil Filter Element (spin-on) - Kubota (D1105B-1)/(D1105-T-E3B).....	194-041/194-881	
Fuel Filter (04H-04H)/(05H-05H, in-line) – Kohler & Kubota/Kubota	195-256/155-941	
Fuel Filter Element (spin-on) - Kubota (D1105B-1)/(D1105-T-E3B)	194-386	
WATER TRANSFER SYSTEM OPTION: FT5		
Air Filter Parts Ass'y - Honda 5.5hp (GX160K1TX)		N/A
Element Set (primary, paper) - Honda (GX160K1TX)	194-001	
(secondary, foam) - Honda (GX160K1TX)	194-001	
Fuel Filter (04H-04H, in-line) - Honda 5.5hp (GX160K1TX)	194-002	
Hydraulic:		
Oil Filter Element (1-1/2-UNF, spin-on)	155-954	

Optional Kits

O-ring Repair Kit - FLG, ORS & SAE (15 different O-rings)	190-051
O-ring Repair Kit - Field Service (46 different O-rings)	190-052



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1. _____ - _____	1. _____
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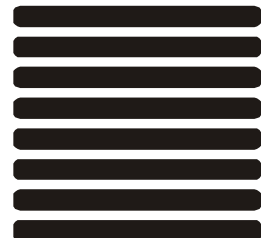
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