

Ditch Witch[®]

JT2720 Mach 1 All Terrain Tier 2

ISSUE NO. 08PL07/11

For Replacement Copy Order **P/N 053-133**

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

US 4,953,638; 5,148,880; 5,242,026; 5,341,887; 5,490,569; 5,684,466; 5,713,423; 5,740,703; 5,758,553; 5,794,719; 5,880,680; 5,941,322; 6,085,852C1; 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; 6,761,231; 6,776,246; 6,808,210; 6,827,158; 6,848,506; 6,871,712; 6,896,077; 7,000,710; 7,011,166; 7,013,990; 7,018,164; 7,025,152; 7,038,454; 7,111,693; 7,150,331; RE37,450; RE37,923; RE37,975; RE38,418

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

CA 2,156,398; 2,217,899

FR 674,093

DE 694 17 019; 695 29 634; 697 28 716;

EP 0927892; 1466068


GB 2,312,006; 2,418,553; EP674,093; EP817,901; EP846,841; EP927,892

JP 3,458,247

Other U.S. and foreign patents pending

This manual contains information concerning the following models:
JT2720 Mach 1 All Terrain Tier 2 Directional Drilling System

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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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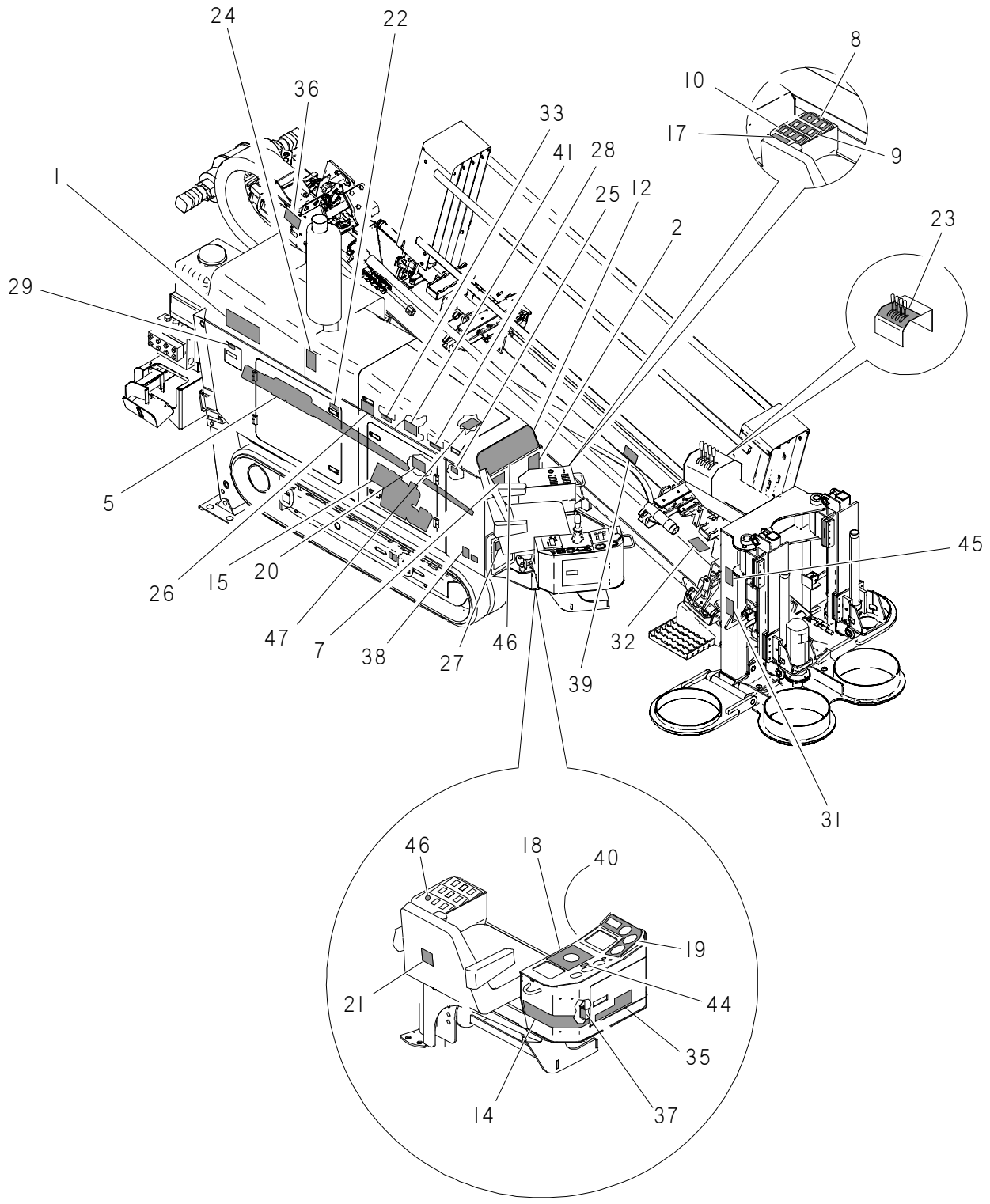
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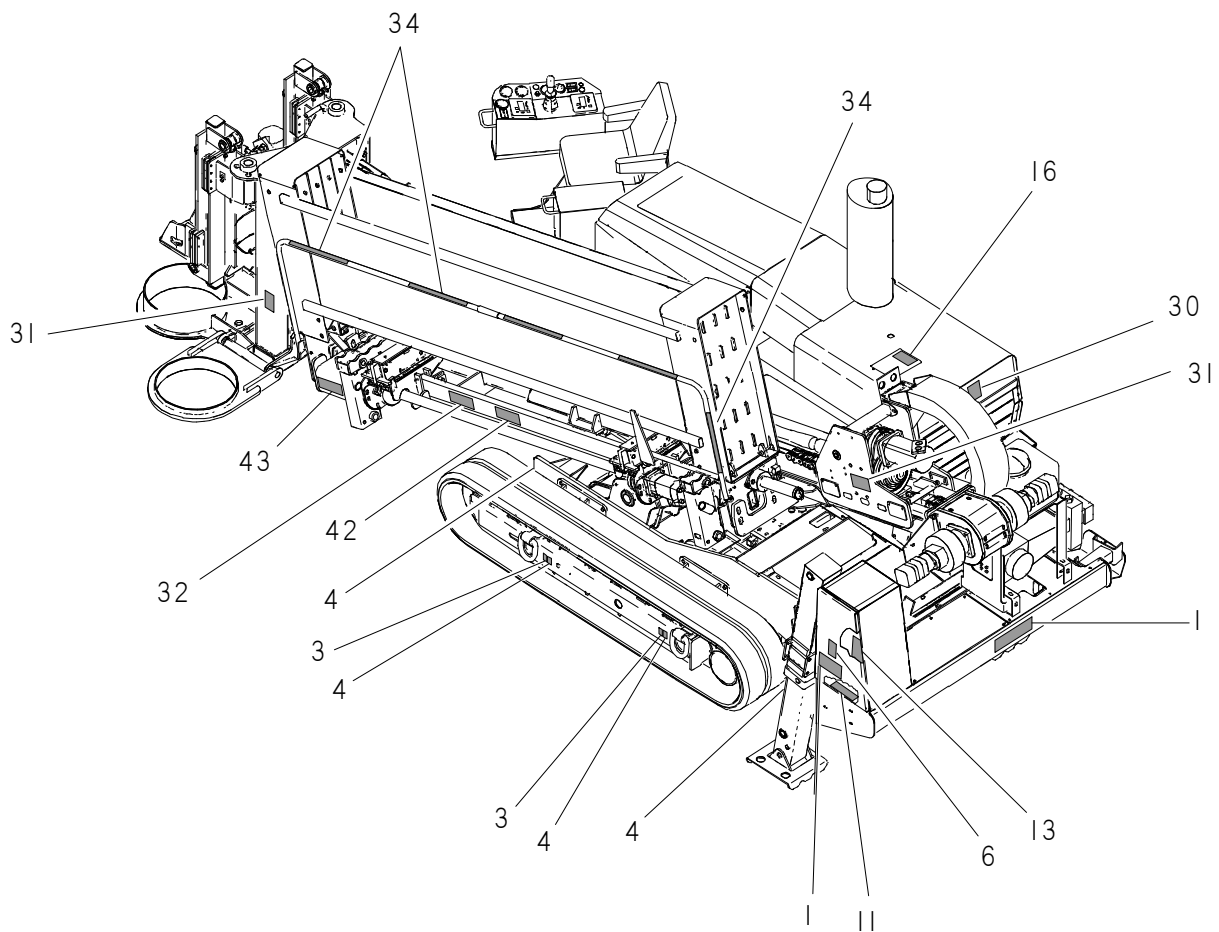
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DECALS

DECAL LOCATION AT/JT27T2



DECAL LOCATION AT/JT27T2



DECAL LOCATION AT/JT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	275-941		DECAL KIT - AT27T2	
	275-940		DECAL KIT - JT27T2	
1	274-049	3	DANGER ELECTROCUTION	
2	274-050	1	WARNING JOBSITE HAZARD	
3	274-318	4	TIE DOWN LOCATION	
4	274-442	8	LIFT LOCATION	
5	273-571	1	JT2720MI MODEL ID W/STRIPE	SEE FOOTNOTE 1
	273-572	1	JT2720AT MODEL ID W/STRIPE	SEE FOOTNOTE 2
6	274-724	1	ONE CALL NOTIFICATION	
7	274-780	1	JET TRAC PATENT(S)	
8	273-185	1	FRONT-BACK-WRENCH	
9	273-184	1	PIPE-LIFT-SHUTTLE	
10	273-183	1	FLOW-LUBE-GRIPPER	
11	274-865	1	SETUP CONTROL PANEL	
12	700-216	1	CONTROL PANEL	SEE FOOTNOTE 3 (ENDS WITH S/N#)
	270-1241	1	CONTROL PANEL	SEE FOOTNOTE 1 (BEGINS WITH S/N#)
	700-215	1	CONTROL PANEL	SEE FOOTNOTE 3 (ENDS WITH S/N#)
	270-1240	1	CONTROL PANEL	SEE FOOTNOTE 2 (BEGINS WITH S/N#)
13	700-214	1	IGNITION PANEL	
14	274-877	AR	GRAPHIC STRIPE	(SOLD PER INCH) USE 16"
15	273-434	1	DITCH WITCH	
16	273-452	1	NOTICE COOLANT	
17	273-182	1	BORE-PIPE-THROTTLE	
18	273-190	1	JOYSTICK-INDICATOR LIGHTS	
19	273-189	1	THRUST-ROTATION-FLUID	
20	274-198	1	NOTICE OIL LEVEL	
21	275-449	1	DITCH WITCH LOGO PLACARD	
22	275-400	1	NOTICE OIL LEVEL	
23	273-181	1	ANCHOR ROTATION-THRUST	
24	275-355	1	CAUTION HOT PARTS	
25	275-023	1	OIL LEVEL	
26	275-033	1	NOTICE ELECTRICAL SYSTEM	
27	275-048	1	IMPORTANT SAFETY RULES	
28	275-120	1	RESERVOIR (THF)	
29	275-148	1	FUEL TANK (DIESEL)	
30	275-450	1	LOGO PLACARD	
31	275-184	3	WARNING MOVING PARTS	
32	275-197	2	DANGER ROTATION SHAFT	
33	275-203	1	BATTERY	
34	275-230	6	DANGER STRIPE 1.75" X 18"	
35	273-186	1	MACH I IDENTIFIER	
36	275-341	1	WARNING SLIDING PARTS	
37	273-198	1	TRACKER CONTROL	
38	273-016	1	SOUND POWER II	SEE FOOTNOTE 3

FOOTNOTES

1. PART OF KIT NUMBER 275-940
2. PART OF KIT NUMBER 275-941
3. NOT PART OF KIT
4. LOCATE DECAL ON BATTERY SO THAT DECAL IS VISIBLE WHEN VIEWING BATTERY.

DECAL LOCATION

AT/JT27T2

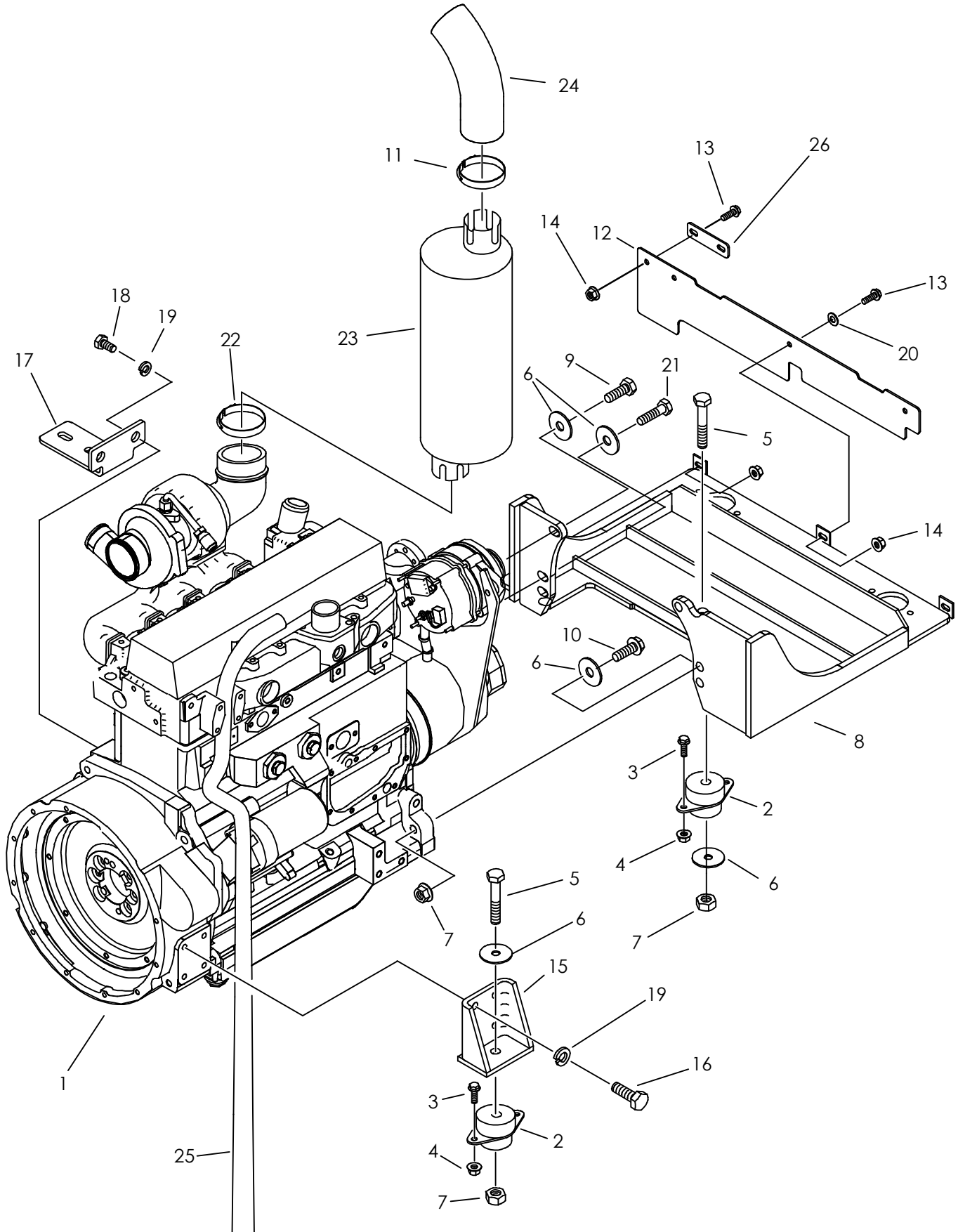
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
39	273-226	1	SHUTTLE STOP INDICATOR	
40	273-235	1	CONSOLE ELECTRICAL CENTER	
41	273-579	1	ENGINE ELECTRICAL CENTER	
42	273-234	1	PIPELOADER VALVE	
43	273-233	1	FRONT WRENCH VALVE	
44	273-230	1	ENGINE-STOP	
45	273-278	1	DANGER WRENCH	
46	274-940	2	INDICATOR	SEE FOOTNOTE 2
	274-290	1	INDICATOR	SEE FOOTNOTE 1
47	700-213	1	BATTERY/ FAN SWITCH	
48	273-267	1	DITCH WITCH BATTERY	SEE FOOTNOTE 4

FOOTNOTE:

1. PART OF KIT NUMBER 275-940
2. PART OF KIT NUMBER 275-941
3. NOT PART OF KIT
4. LOCATE DECAL ON BATTERY SO THAT DECAL IS VISIBLE WHEN VIEWING BATTERY.

ENGINE COMPONENTS

ENGINE



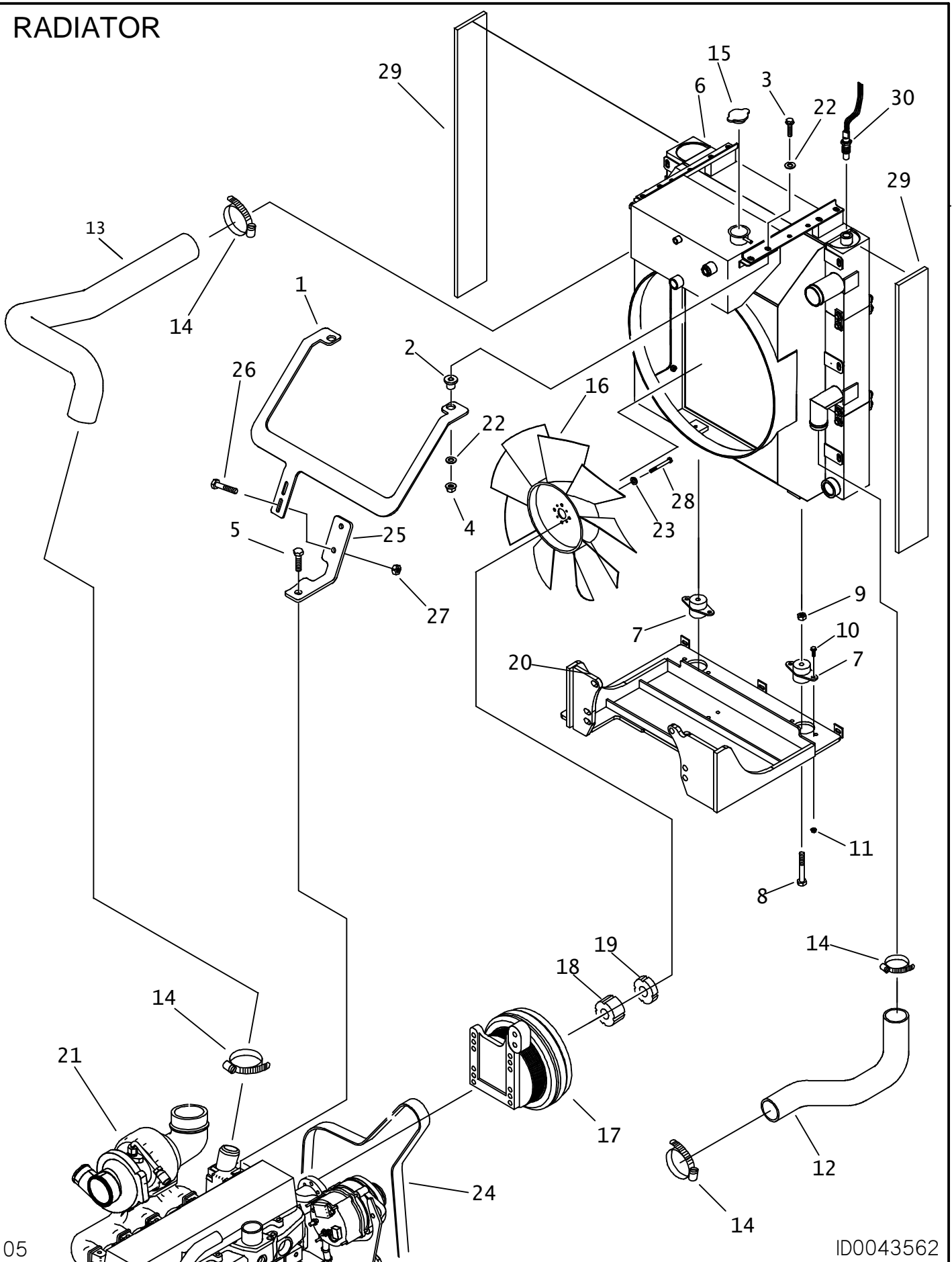
ENGINE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-286	1	ENGINE - 125HP	OBSOLETE
	217-451		ALTERNATOR	
	195-897		STARTER	
	194-823		THERMOSTAT	
	165-883		GASKET, THERMOSTAT	
	194-478		OIL FILTER ELEMENT	
	499-944		OIL FILTER SEAL RING	
	194-492		PRIMARY FUEL FILTER ELEMENT	
	194-498		SECONDARY FUEL FILTER	
	165-755		EXHAUST MUFFLER GASKET	
	165-769		AIR INLET GASKET	
	213-080		WHEEL SPEED SENSOR	
	213-081		COOLANT TEMPERATURE SENSOR	
	213-082		ENGINE HEAD TEMPERATURE SENSOR	
2.	116-488	3	ISOLATION MOUNT	
3.	106-383	6	FLG LK SCREW (M10-1.5 X 30MM)	
4.	106-387	6	FLG LOCKNUT (M10-1.50)	
5.	106-342	3	SCREW (M16-2.00 X 90MM)	
6.	106-398	12	WASHER (M16, HARDENED)	
7.	106-545	5	LOCKNUT (M16-2.0, PRV TRQ, 10.9)	
8.	323-260	1	ENGINE MOUNT	
9.	105-998	4	SCREW (M16-2.00 X 40MM)	
10.	106-341	1	SCREW (M16-2.00 X 70MM)	
11.	194-049	1	MUFFLER CLAMP	
12.	324-713	1	RUBBER GUARD	
13.	106-162	4	FLG SCREW (M8-1.25 X 20MM)	
14.	107-096	4	LOCKNUT (M8-1.25, NLK)	
15.	353-313	2	REAR ENGINE MOUNT	
16.	105-247	8	SCREW (M12-1.75 X 35MM)	
17.	323-207	1	BRACKET	
18.	105-273	2	SCREW (M12-1.75 X 30MM)	
19.	105-070	10	LOCK WASHER (1/2")	
20.	105-117	5	WASHER (5/16")	
21.	106-074	1	SCREW (M16-2.00 X 60MM)	
22.	194-027	1	MUFFLER CLAMP (4.143")	
23.	196-372	1	MUFFLER OUTLINE	
24.	196-373	1	MUFFLER EXTENSION TUBE	
25.	117-378	AR	BULK HOSE, LOW PRESSURE (-12)	USE 1 @ 93.5"
26.	324-744	1	BRACKET	

FOOTNOTES:

NOTE:

RADIATOR



RADIATOR

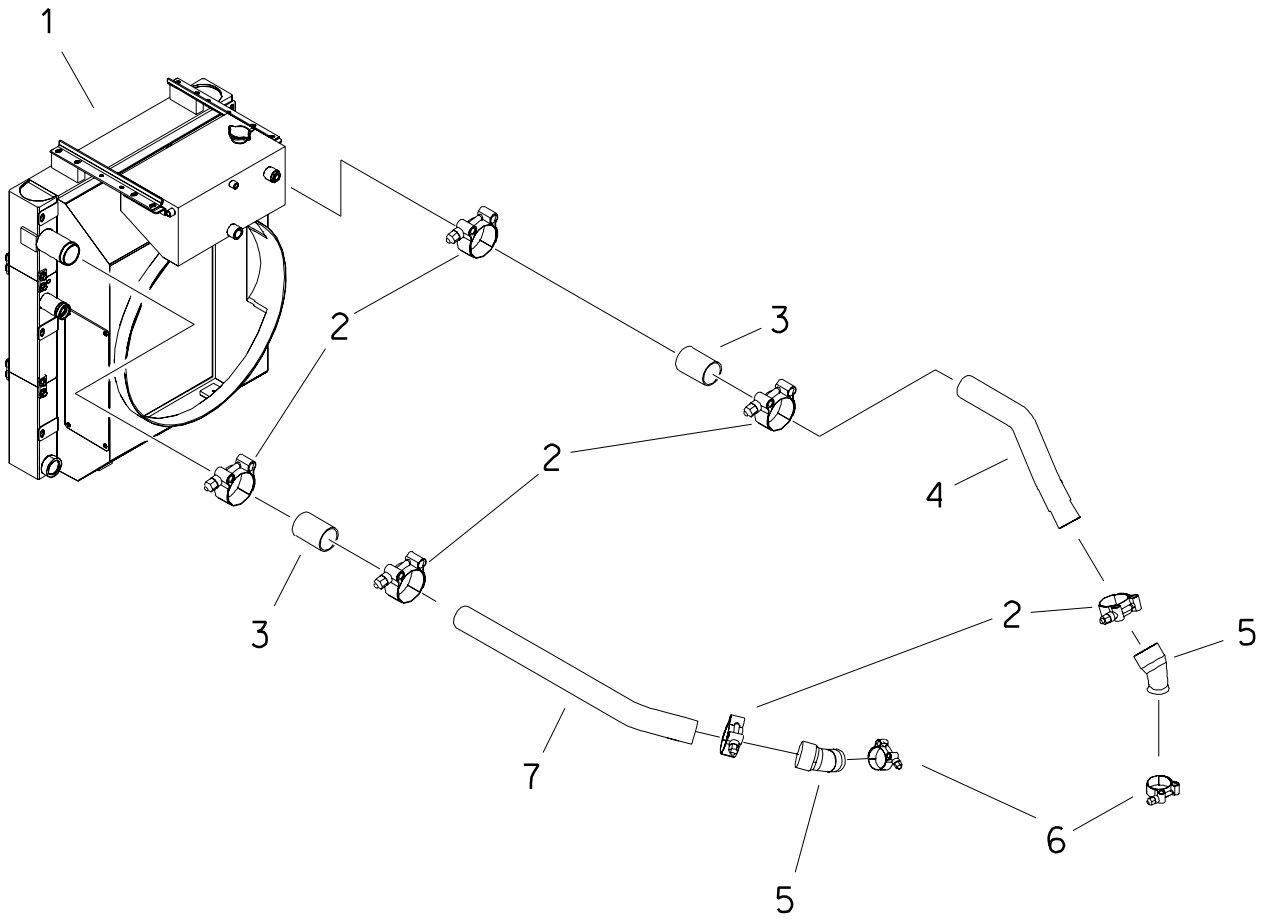
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	323-407	1	UPPER RADIATOR BRACKET	
2.	116-727	2	SHOCK MOUNT	
3.	106-628	2	SCREW (M10-1.5 X 60MM)	
4.	105-894	2	LOCKNUT (M10-1.5, PRV TRQ, 10.9)	
5.	107-004	1	FLG LK SCREW (M12-1.75 X 45MM)	
6.	194-527	1	RADIATOR	
7.	116-487	2	ISOLATION MOUNT	
8.	106-336	2	SCREW (M12-1.75 X 90MM)	
9.	106-685	2	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
10.	106-164	4	FLG LK SCREW (M10-1.50 X 30MM)	
11.	105-894	4	LOCKNUT (M10-1.5,PRV TRQ,10.9)	
12.	118-139	1	RADIATOR OUTLET HOSE	
13.	118-140	1	RADIATOR INLET HOSE	
14.	110-134	4	WORM CLAMP (2.062" TO 2.750")	
15.	111-091	1	CAP	
16.	194-589	1	FAN ACS#444150-23	
17.	323-161	1	FAN DRIVE	
18.	184-190	1	FAN SPACER (SPACING 2.50)	
19.	194-573	1	FAN SPACER (SPACING 1.00)	
20.	323-260	-	ENGINE MOUNT	
21.	194-286	-	ENGINE - JOHN DEERE DIESEL	OBSOLETE
22.	106-397	4	WASHER (M12, HARDENED)	
23.	105-091	4	LOCK WASHER (5/16")	
24.	171-013	1	BELT, SERPENTINE FAN DRV	
25.	323-406	1	LOWER RADIATOR BRACKET	
26.	106-381	2	FLG LK SCREW (M8-1.25 X 25MM)	
27.	106-386	2	FLG LOCKNUT (M8-1.25)	
28.	106-128	4	BOLT (M8-1.25 X 110MM)	TORQUE TO 20 FT LBS
29.	118-233	2	NOISE BARRIER	
30.	213-262	1	TEMPERATURE SWITCH	USE 567 LOCTITE

NOT SHOWN:

FOOTNOTES:

NOTE:

CHARGE AIR

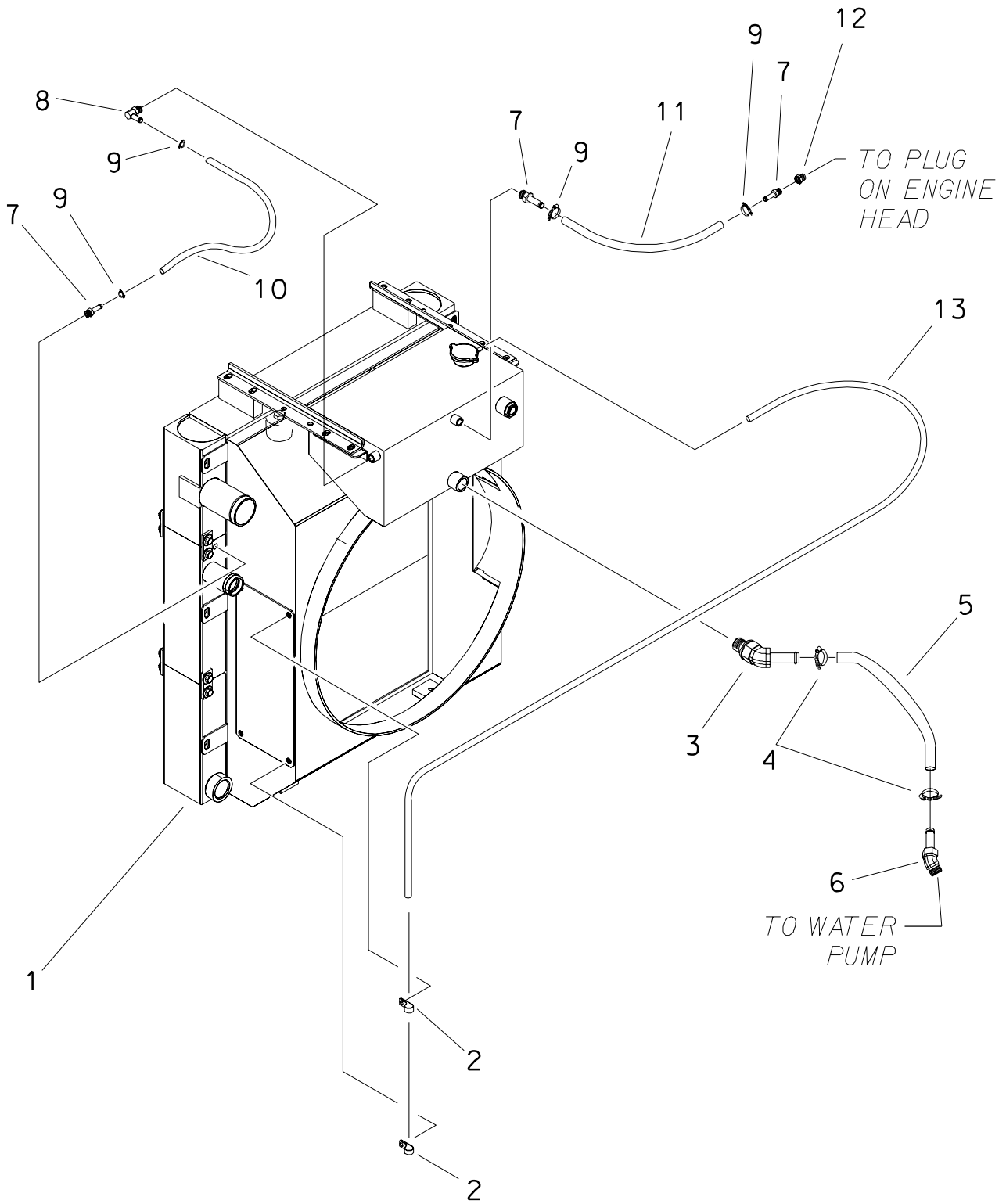


CHARGE AIR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-527	-	RADIATOR	
	362-987	-	SHROUD	
2.	111-135	6	T-BOLT CLAMP (2.750-3.062)	
3.	159-551	2	HUMP HOSE 2.5 STRAIGHT	
4.	157-325	1	CHARGE AIR COOLER EXIT TUBE	
5.	157-814	2	HOSE (32F-40F-45)	
6.	110-815	2	T-BOLT CLAMP(2.25" TO 2.56")	
7.	159-671	1	CHARGE AIR COOLER INLET TUBE	

FOOTNOTES

DEAERATION

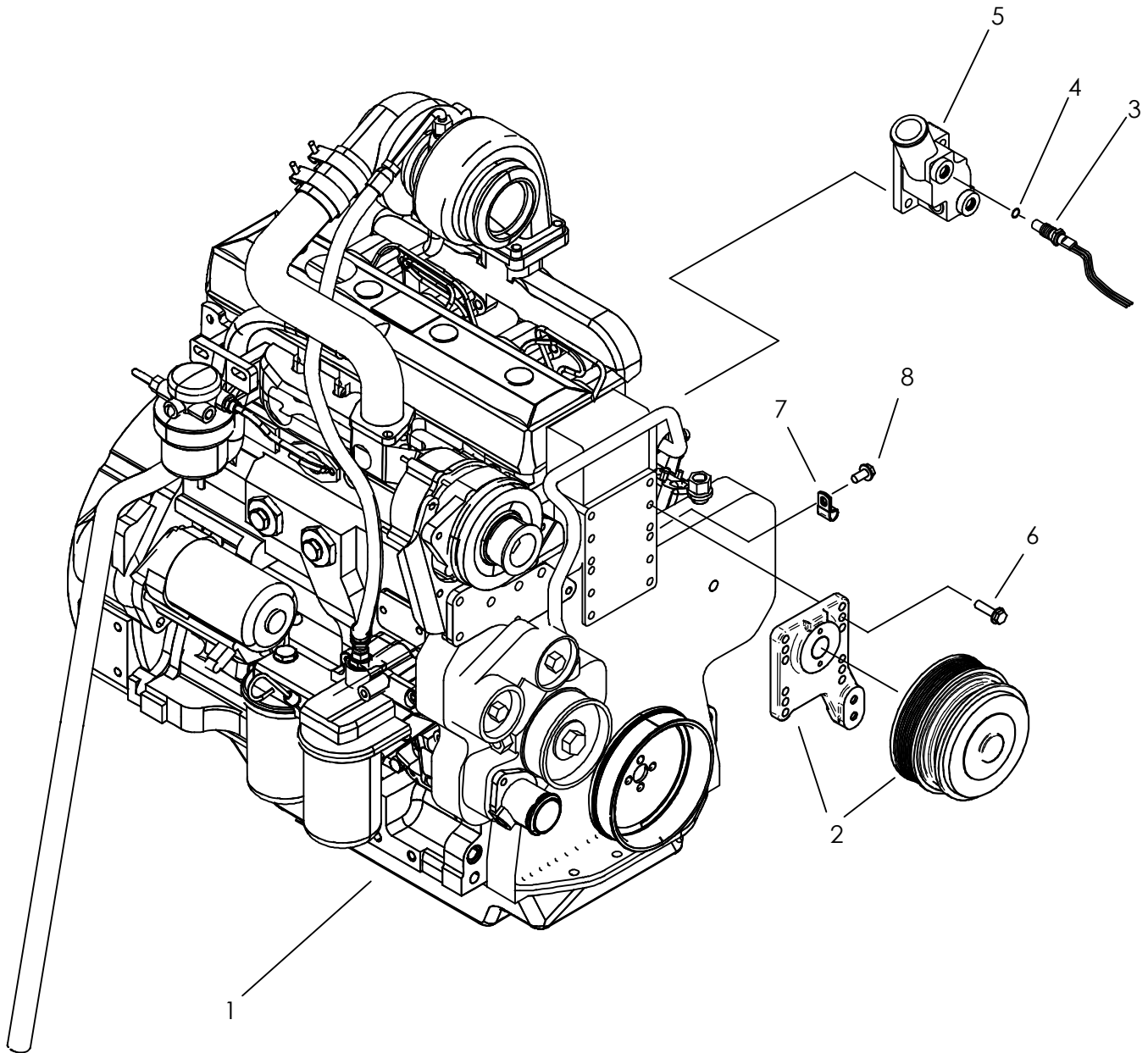


DEAERATION

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-527	-	RADIATOR	
2.	110-126	2	BOLT-ON CLAMP (1/2")	
3.	149-488	1	S/O COUPLER (12N-10H45)	USE 567 LOCTITE
4.	110-026	2	WORM CLAMP (1/2" TO 1-1/4")	
5.	116-750	1	BULK HOSE (5/8", SOLD PER FT)	USE 1 @ 31"
6.	153-160	1	S/O COUPLER (18M-10H45)	
7.	155-162	3	S/O COUPLER (04N-05H)	USE 567 LOCTITE
8.	155-164	1	S/O COUPLER (04N-05H90)	USE 567 LOCTITE
9.	110-249	4	WORM CLAMP (1/4" TO 5/8")	
10.	116-108	1	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 26 1/2"
11.	116-108	1	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 34 1/2"
12.	115-286	1	REDUCER (08N-1/4-NF)	USE 567 LOCTITE
13.	116-108	1	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 74"

FOOTNOTES

FAN CLUTCH



FAN CLUTCH

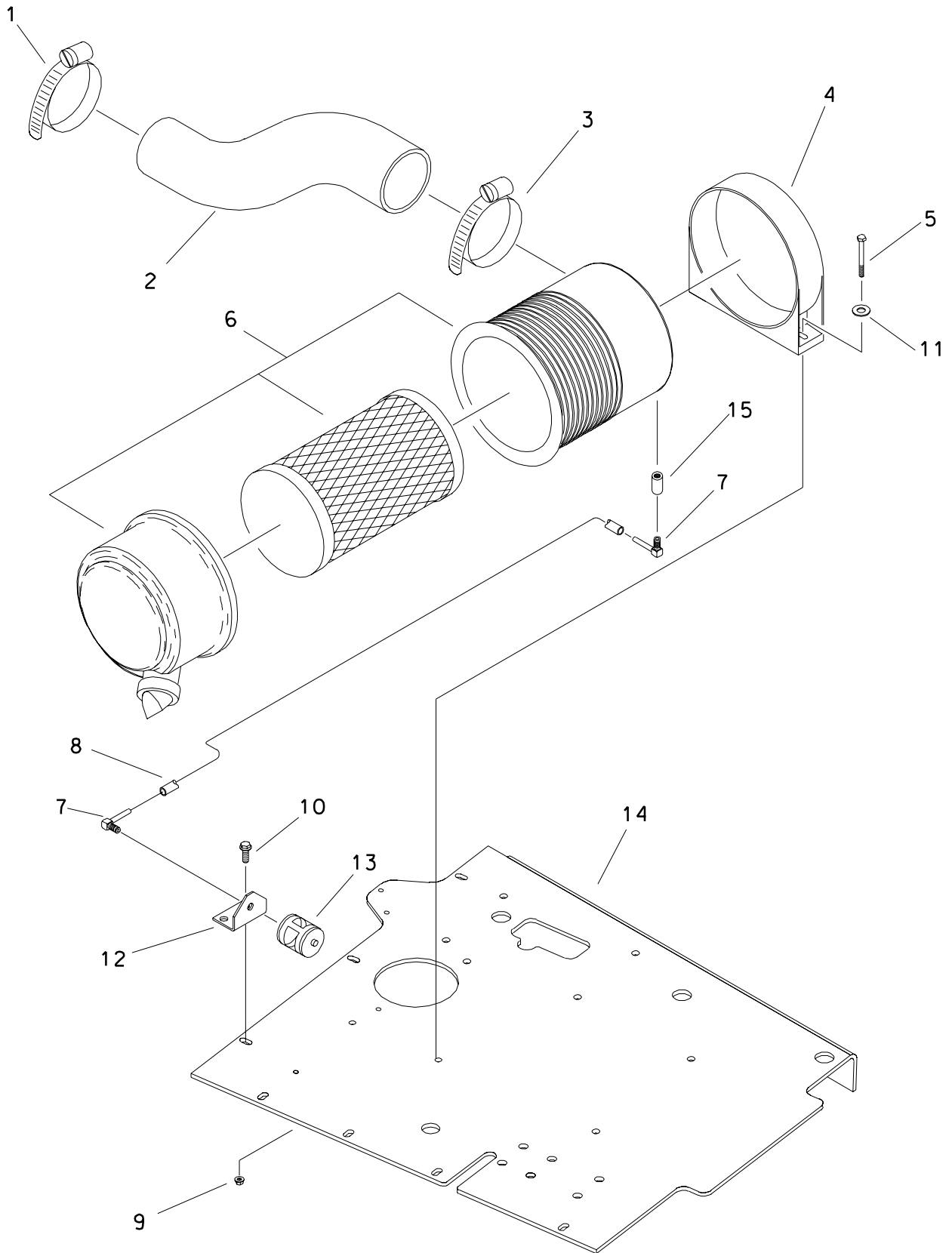
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-286	-	ENGINE - 125HP	OBSOLETE
2.	323-161	-	FAN DRIVE	
3.	214-895	1	TEMPERATURE SWITCH	
4.	155-705	1	O-RING (906 D90)	
5.	164-027	-	THERMOSTAT HOUSING	
6.	106-993	4	FLG LK SCREW (M10-1.50 X 35MM)	
7.	110-126	1	BOLT-ON CLAMP (1/2")	
8.	106-382	1	FLG LK SCREW (M10-1.50 X 20MM)	

NOT SHOWN:

FOOTNOTES:

NOTE:

AIR FILTER SYSTEM

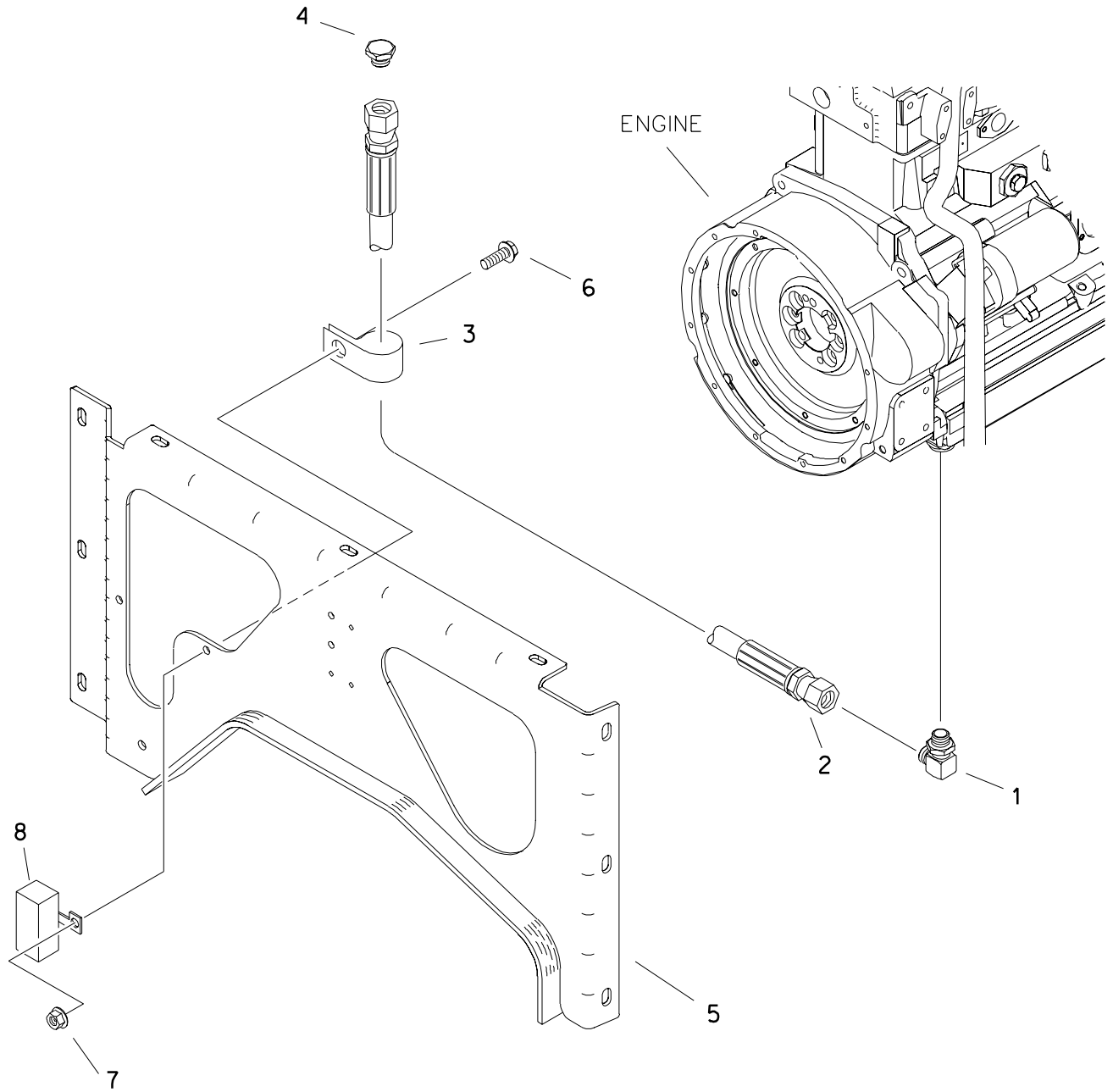


AIR FILTER SYSTEM

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	110-169	1	WORM CLAMP (2.812" TO 3.750")	
2.	118-142	1	FILTER HOSE	
3.	110-367	1	WORM CLAMP (3.250" TO 4.125")	
4.	309-877	1	MOUNTING BAND (9.330")	
5.	106-327	2	SCREW (M8-1.25 X 30MM)	
6.	194-121	1	AIR CLEANER ASSEMBLY	
	194-147		ELEMENT (PRIMARY)	
	194-148		ELEMENT (SECONDARY)	
7.	155-241	2	SLIP-ON COUPLER (O2N-05H90)	LOCTITE 567
8.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 16 1/2"
9.	106-561	2	LOCKNUT (M8-1.25, PRV TR0, 10.9)	
10.	106-992	2	FLG LK SCREW (M8-1.25 X 25MM)	
11.	105-117	2	WASHER (5/16")	
12.	348-846	1	RESTRICTION INDICATOR SUPPORT	
13.	194-788	1	RESTRICTION INDICATOR (25"H2O)	
14.	323-195	-	BATTERY SUPPORT	
15.	115-172	1	COLLAR (O2NF-02NF)	

FOOTNOTES

REMOTE ENGINE OIL DRAIN



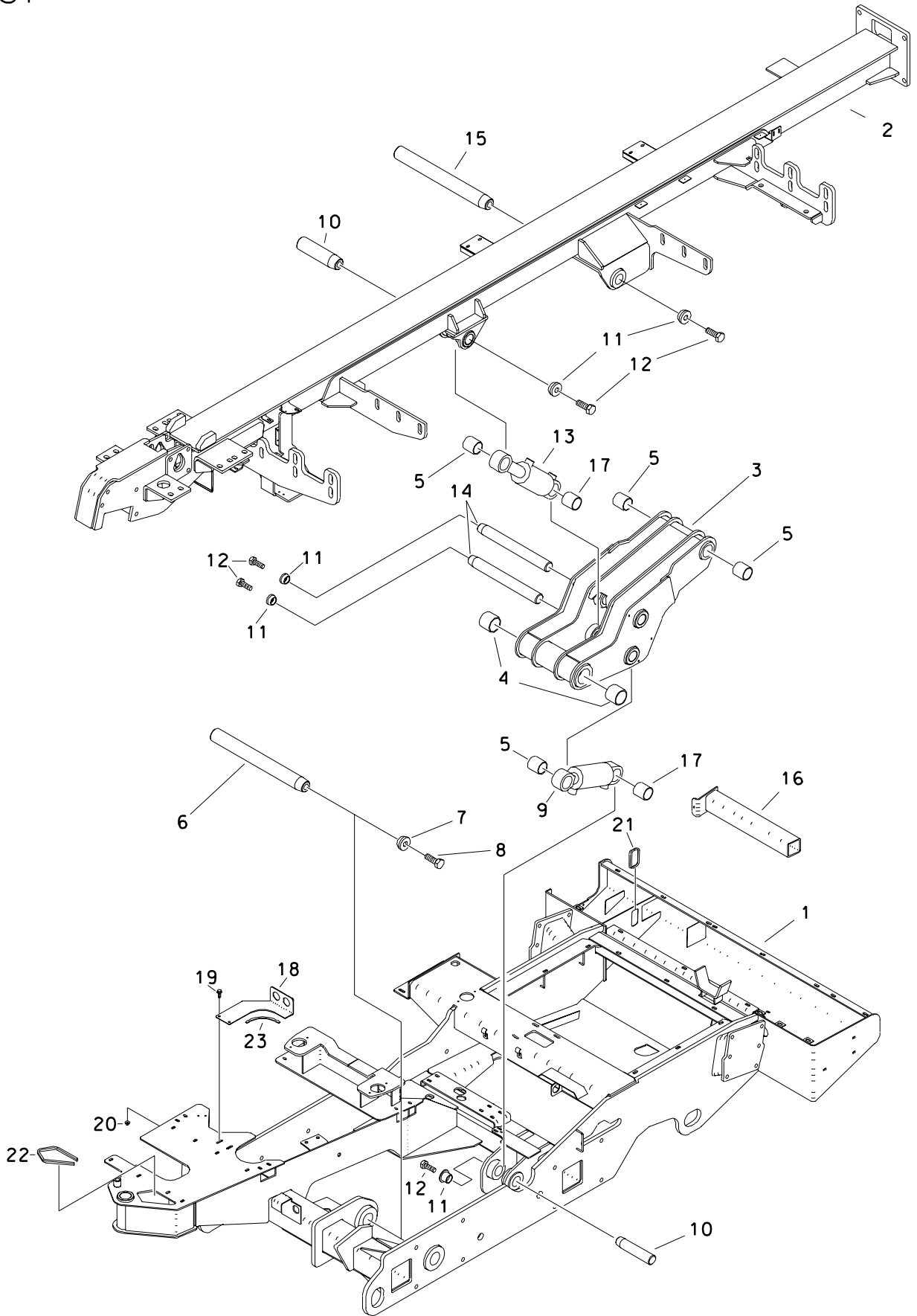
REMOTE ENGINE OIL DRAIN

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-467	1	CONNECTOR (M18-1.50-08J90)	
2.	154-894	1	HOSE (08JFX-30"-3000)	
3.	110-332	1	BOLT-ON CLAMP (1-5/8")	
4.	154-093	1	PLUG (08J)	
5.	323-434	-	SHEET METAL SUPPORT	
6.	106-162	1	FLG SCREW(M8-1.25 X 20MM)	
7.	106-386	1	FLG LOCKNUT (M8-1.25)	
8.	214-449	1	DIODE CONNECTOR	

FOOTNOTES

FRAME COMPONENTS

PIVOT

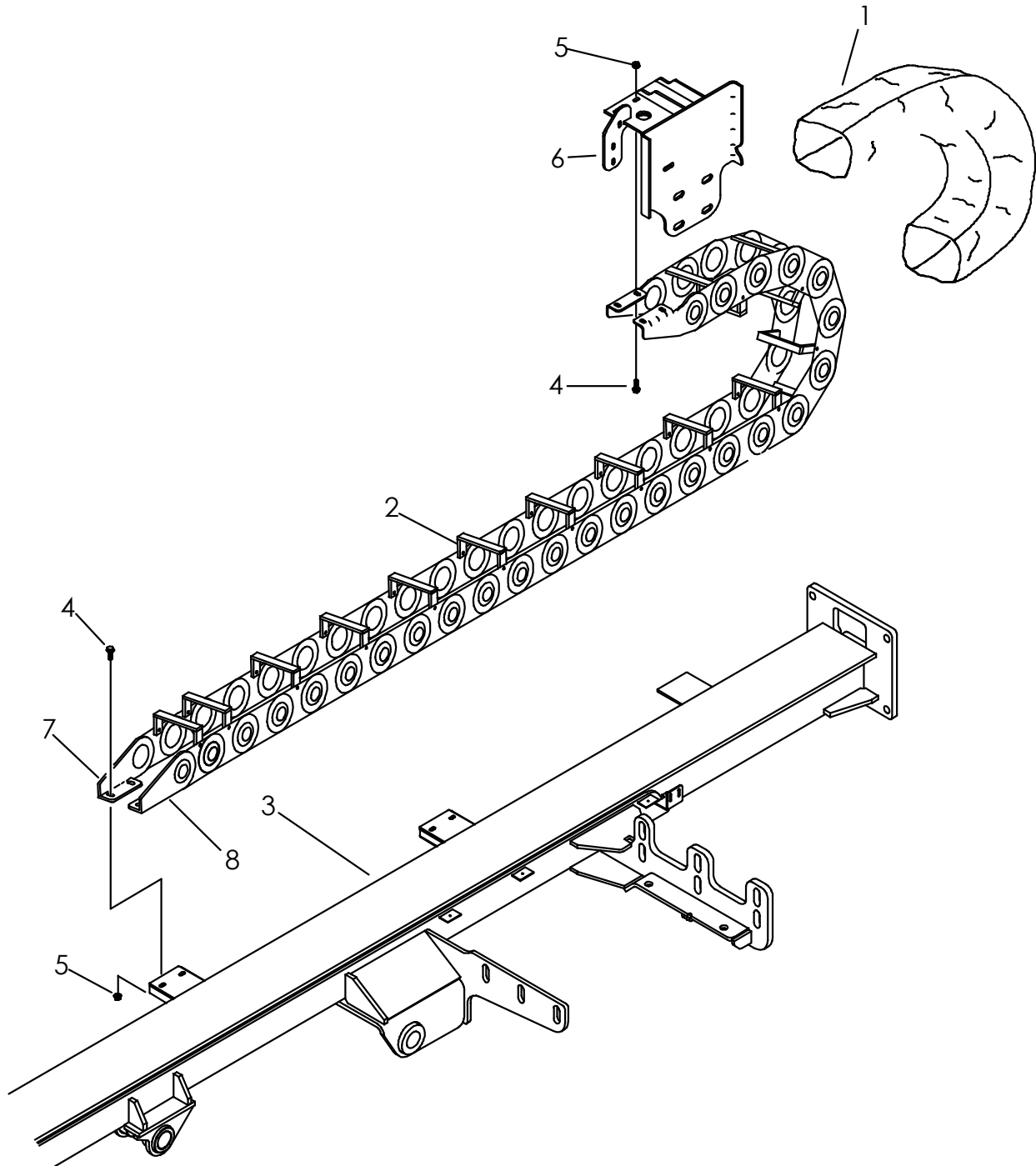


PIVOT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	305-710	-	MAIN FRAME	
2.	303-648	1	DRILL FRAME WLDMN'T	
3.	305-874	1	LINK WELDMENT	
4.	125-762	2	SPRING BUSHING (2.500")	
5.	125-754	4	COMPOSITION BUSHING (2.000")	
6.	179-186	1	TAPERED PIN (63.5mm X 480mm)	
7.	184-575	1	TAPERED INSERT (2.500")	
8.	106-667	1	SCREW (M24-3.0 X 65mm, 10.9)	LOCTITE 277
9.	149-698	1	CYLINDER ASSEMBLY	
10.	179-188	2	TAPERED PIN (50.8mm X 158mm)	
11.	184-064	5	TAPERED INSERT (2.000")	
12.	106-607	5	SCREW (M20-2.50 X 50MM, 10.9)	LOCTITE 277
13.	151-066	1	CYL (4.0" X 2.0" X 5.0")	
14.	179-189	2	TAPERED PIN (50.8MM X 300MM)	
15.	179-187	1	TAPERED PIN (50.8mm X 390mm)	
16.	343-242	1	SUPPORT	SERVICE PROP ROD
17.	125-844	2	COMPOSITION BUSHING (2")	
18.	306-501	1	ELECTRIC BULKHEAD	
19.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
20.	106-387	2	FLG LOCKNUT (M10-1.50)	
21.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 9"
22.	115-704	AR	BULK EDGE (1/4", SOLD PER 1")	USE 1 @ 17"
23.	115-686	AR	BULK EDGE (5/32", SOLD PER 1")	USE 1 @ 7"

FOOTNOTES

HOSE TRACK AT/JT27T2



HOSE TRACK

AT/JT27T2

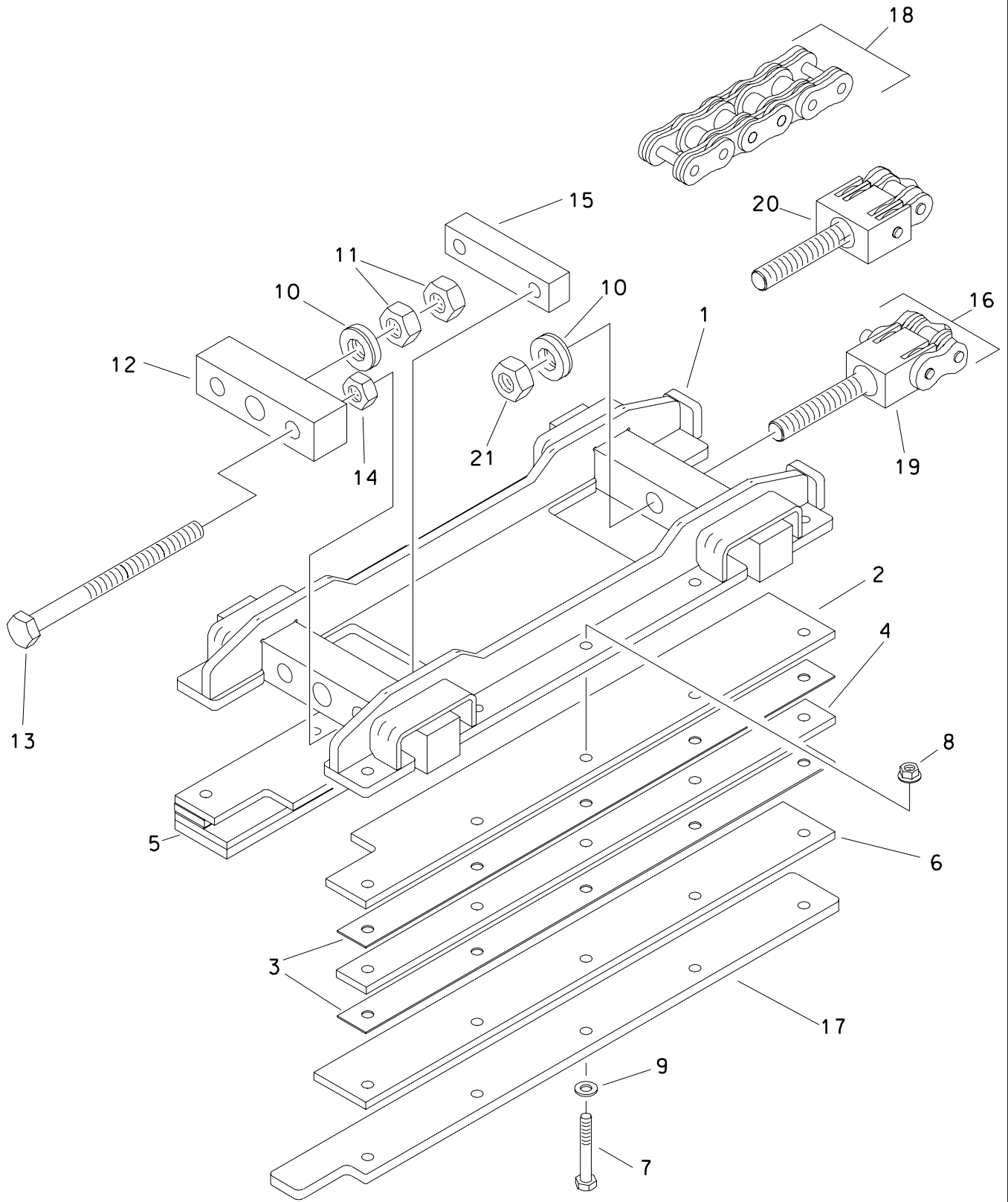
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	117-282	1	CABLE BAG	USE ON AT27T2 ONLY
	117-361	1	CABLE BAG	USE ON JT27T2 ONLY
2.	324-498	1	HOSE TRAC	
	117-626	-	4 LINK REPAIR SECTION	
	191-190	-	HARDWARE KIT	
	359-941	12	EASY-OUT BAR (1/2" X 5-3/4")	
	359-942	12	ALUMINUM BAR (1/2" X 5-3/4")	
	307-339	12	6" ALUMINUM FLAT BAR	
	308-834	24	WINDOW EXTENDER	
3.	303-648	-	DRILL FRAME	
4.	105-600	8	CARRIAGE BOLT (3/8-NC X 1")	
5.	105-834	8	FLG LOCKNUT (3/8-NC)	
6.	309-775	-	HOSE TRACK MOUNT	
7.	307-338	2	BRACKET (RIGHT)	
8.	307-337	2	BRACKET (LEFT)	

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FOOTNOTES:

NOTE:

CARRIAGE CHAIN

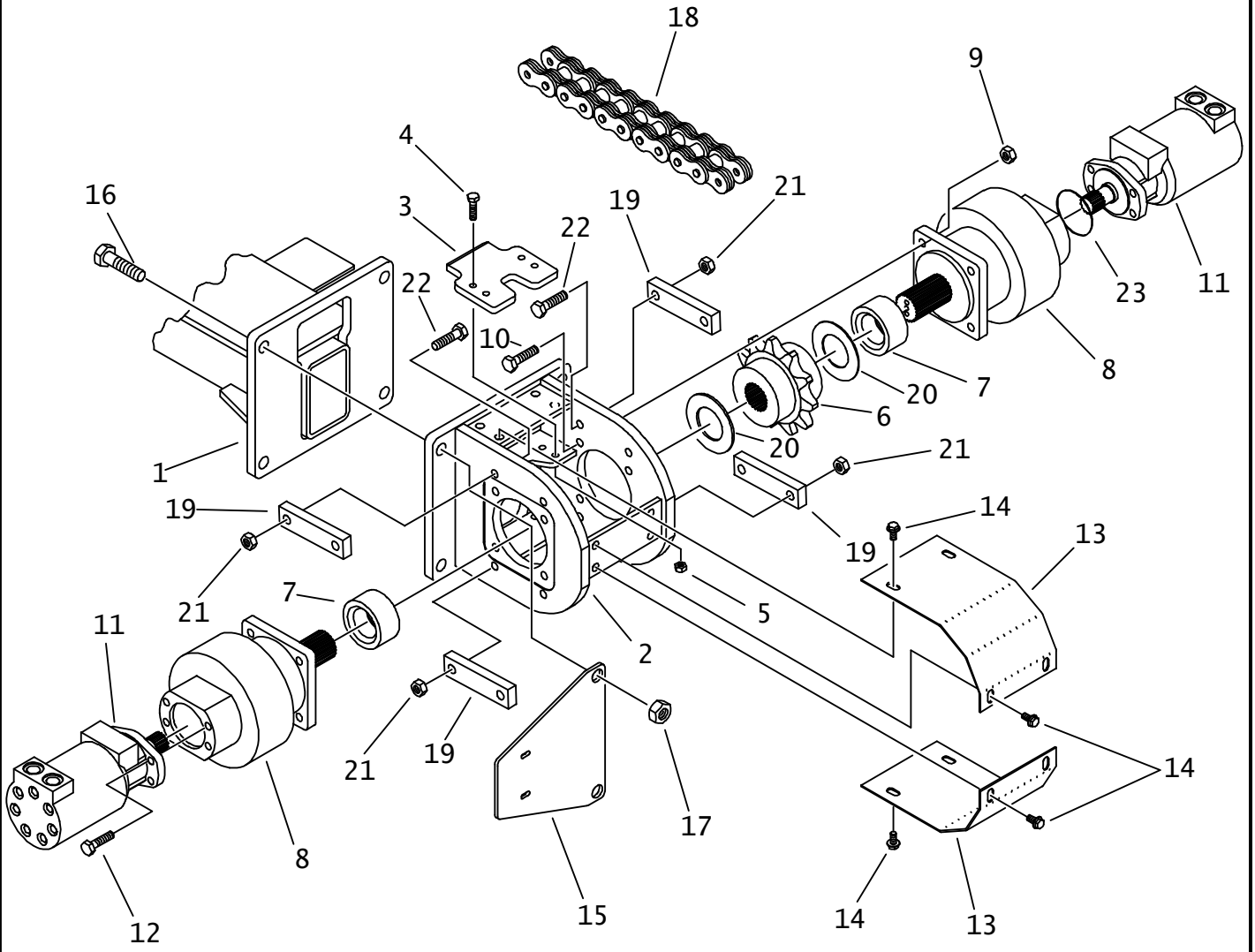


CARRIAGE CHAIN

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-304	-	CARRIAGE	
2.	309-568	2	SLIDE BAR, TOP	
3.	309-622	4	SHIM PLATE	
4.	309-621	2	SLIDE BAR	
5.	309-623	1	BACKUP PLATE	
6.	309-570	2	SLIDE BAR, BOTTOM	
7.	106-578	10	SCREW (M12-1.75 X 80mm)	
8.	106-685	10	LOCKNUT (M12-1.75,PRV TRQ,10.9)	
9.	106-397	10	WASHER (M12, HARDENED)	
10.	107-273	2	WASHER (1/2")	
11.	106-352	2	HEX NUT (M24-3.00) ZP	
12.	343-758	1	BAR, CHAIN TENSIONER	
13.	105-594	2	SCREW (M20-2.50 X 240MM)	
14.	106-374	4	HEX NUT (M20-2.50, 10.9) ZP	
15.	343-759	1	THREADED BAR	
16.	129-009	1	ROLLER CHAIN (#140-ECH, 205P)	
17.	306-581	1	BAR, BACKUP	
18.	191-044	-	CHAIN REPAIR KIT (#140 ECH,5P)	
19.	130-612	-	CLEVIS (#140-2)	USED WITH FULL LENGTH CHAIN
20.	107-448	-	140-EC CLEVIS	USED WITH CHAIN SHORTENED 1 PITCH.
21.	106-587	1	LOCKNUT (M24-3.0,PRV TRQ,10.9)	

FOOTNOTES

THRUST DRIVE



THRUST DRIVE

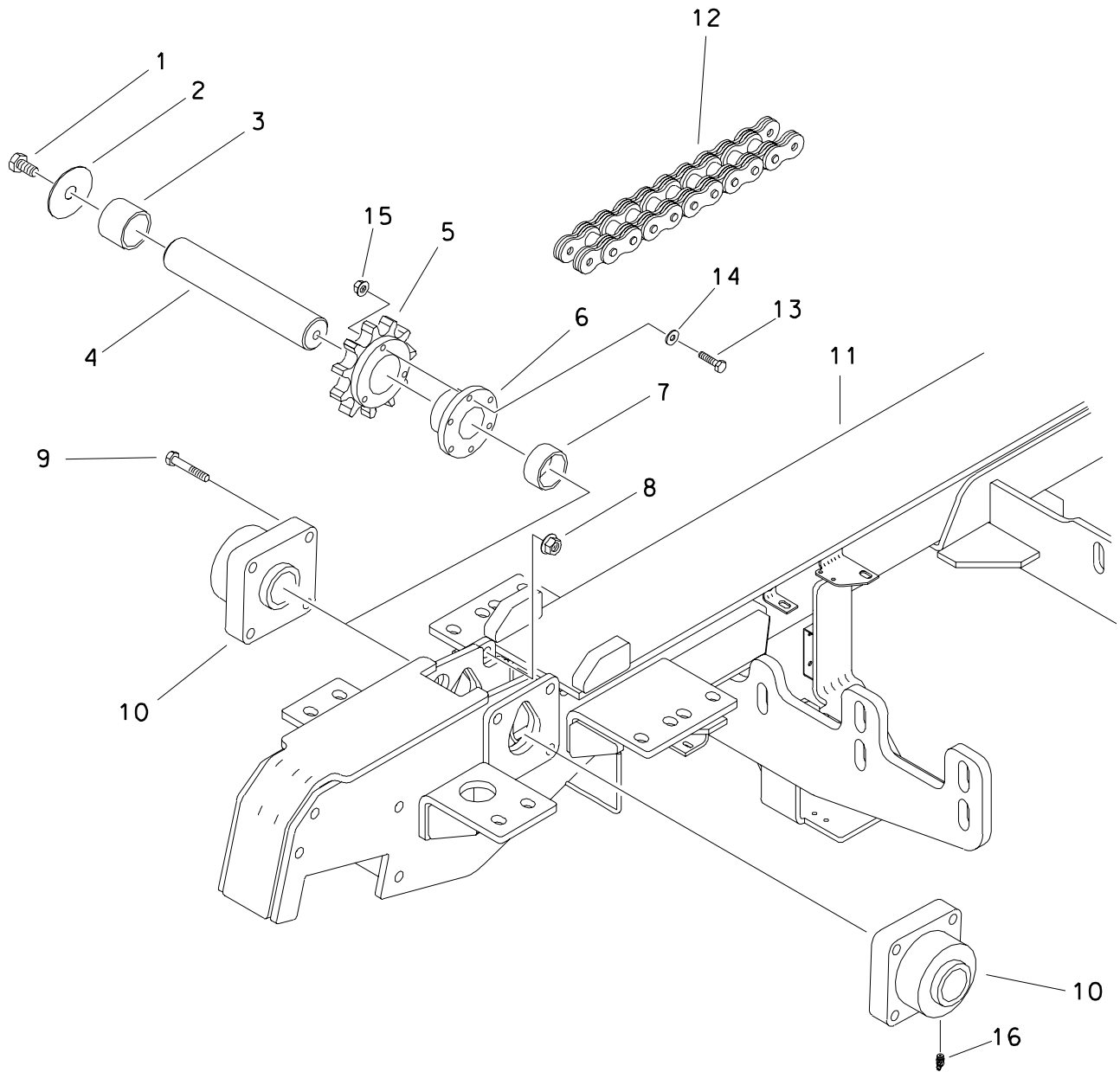
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-648	-	DRILL FRAME	
2.	353-417	1	MOUNT, THRUST DRIVE	
3.	305-616	1	WEAR PLATE	
4.	105-271	4	SCREW (M10-1.5 X 40MM)	
5.	105-894	4	LOCKNUT(M10-1.50,PRV TRQ,10.9)	
6.	175-738	1	SPROCKET (140B11)	
7.	353-383	2	SPACER	
8.	166-333	2	GEARBOX, PLANETARY, AXIAL	THRUST DRIVE
	190-061	AR	SEAL REPAIR KIT	
	190-799	AR	BEARING & SEAL REPAIR KIT	
	125-368	2	TAPERED RACE (4.330")	
	125-387	1	TAPERED BEARING (2.625")	
	125-388	1	TAPERED BEARING (2.687")	
	157-521	1	EXTERNAL SEAL (3.375")	
	501-629	AR	EXTERNAL SNAP RING SET (2.63")	
	499-893	1	THRUST WASHER (1.031")	
	157-521	1	EXTERNAL SEAL	
9.	107-319	8	LOCKNUT (M14-2.0, PRV TRQ,10.9)	
10.	107-318	8	SCREW (M14-2.0 X 60mm, 10.9)	
11.	153-141	-	HYDRAULIC MOTOR	THRUST
	500-510	-	SEAL REPAIR KIT	
12.	106-204	8	BOLT (1/2-NC X 1-1/2", SOC)	TORQUE TO 130 FT LBS- 242 LOCTITE
13.	353-380	2	COVER	
14.	106-382	8	FLG LK SCREW (M10-1.5 X 20mm)	
15.	343-453	1	MOUNT PLATE	
16.	106-346	4	SCREW (M20-2.5 X 70mm)	
17.	106-665	4	LOCKNUT (M20-2.50, 10.9)	
18.	129-009	-	ROLLER CHAIN (#140-ECH, 205P)	
19.	343-322	4	PLANETARY SUPPORT BAR	
20.	181-504	2	BUSHING	
21.	105-065	8	LOCKNUT (1/2-NC)	
22.	106-575	8	BOLT (1/2-NC X 2-1/4", GD8)	
23.	157-099	1	O-RING (042 D70)	

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FOOTNOTES:

NOTE:

FRONT SPROCKET



FRONT SPROCKET

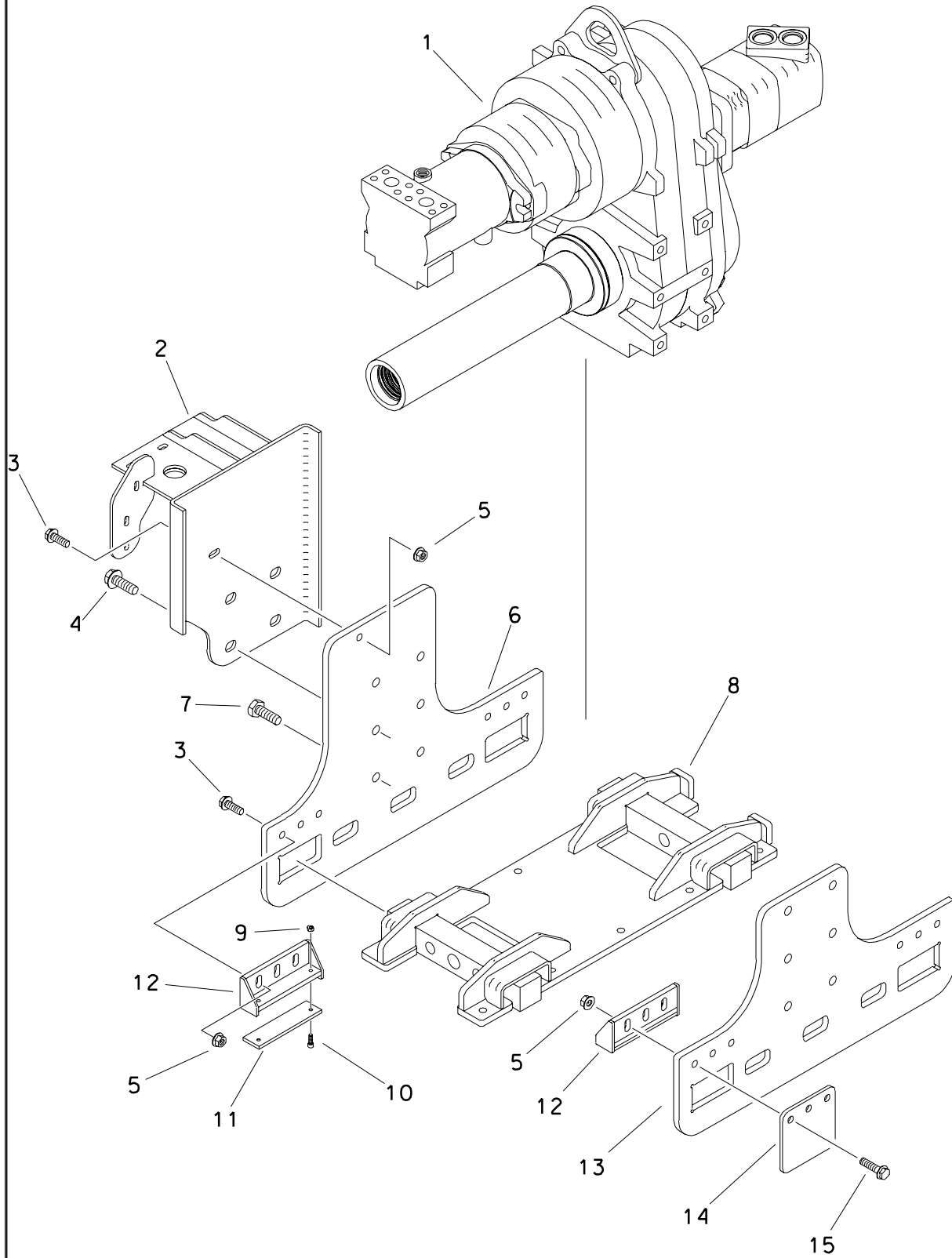
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	106-470	2	FLG SCREW (M16-2.00 X 40MM)	
2.	107-660	2	WASHER	
3.	343-621	1	RIGHT SPACER	
4.	343-792	1	IDLER SHAFT	
5.	175-700	1	SPROCKET (140A11)	
6.	178-082	1	BUSHING (2.187", QT)	
7.	343-622	1	LEFT SPACER	
8.	106-545	8	LOCKNUT (M16-2.00, PRV TRQ, 10.9)	
9.	106-340	8	SCREW (M16-2.00 X 50mm)	
10.	125-154	2	FLANGE BEARING (2.187")	SEE FOOTNOTE 1
11.	303-648	-	DRILL FRAME	
12.	129-009	-	ROLLER CHAIN (#140-ECH, 205P)	
13.	105-667	3	SCREW (3/8-NC X 2.50", GD8)	TORQUE TO 52 FT LBS LOCTITE 242
14.	107-594	3	WASHER (.406", HARDENED)	
15.	105-047	3	LOCKNUT (3/8-NC)	
16.	115-002	2	ZERK (02N90)	SEE FOOTNOTE 1

FOOTNOTES

- 1. AT ASSEMBLY EACH ZERK NEEDS 20X OF MULTI PURPOSE GREASE

CARRIAGE

AT27T2



CARRIAGE

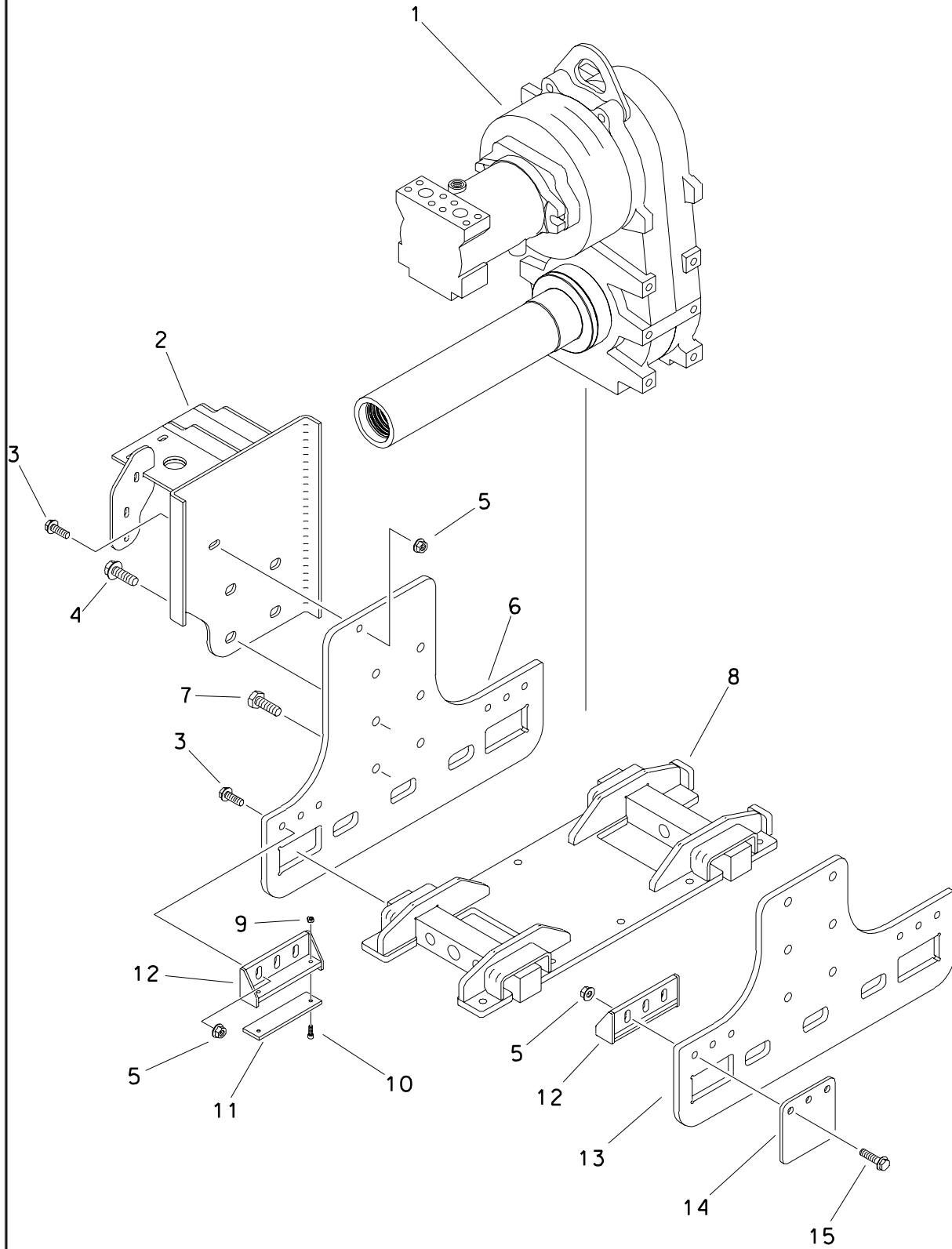
AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-455	-	AT SPNDL DRV PRTS ASS'Y	
	197-090	-	REMANUFACTURED 166-286 SPNDL	
	166-455	-	AT SPNDL DRV PRTS ASS'Y	
2.	309-775	1	HOSE TRACK MOUNT	BEGINS WITH S/N 2X0001
3.	107-003	4	FLG LK SCREW (M12-1.75 X 35MM)	
4.	106-470	4	FLG SCREW (M16-2.00 X 40MM)	
5.	106-354	13	FLANGE NUT (M12-1.75)	
6.	309-815	1	SIDE PLATE, RIGHT	USE 242 LOCTITE
7.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	
8.	303-304	1	CARRIAGE WELDMENT	
9.	106-237	8	LOCKNUT (M6-1.00,PRV TRQ,NLK)	USE 242 LOCTITE
10.	106-640	8	SCREW (M6-1.00 X 20MM,BUT SOC)	
11.	309-666	4	WEAR STRIP	
12.	309-657	4	WEAR STRIP SUPPORT	
13.	308-987	1	SIDE PLATE, LEFT	
14.	309-669	3	GUARD	
15.	107-004	9	FLG LK SCREW (M12-1.75 X 45MM)	

FOOTNOTES

CARRIAGE

JT27T2



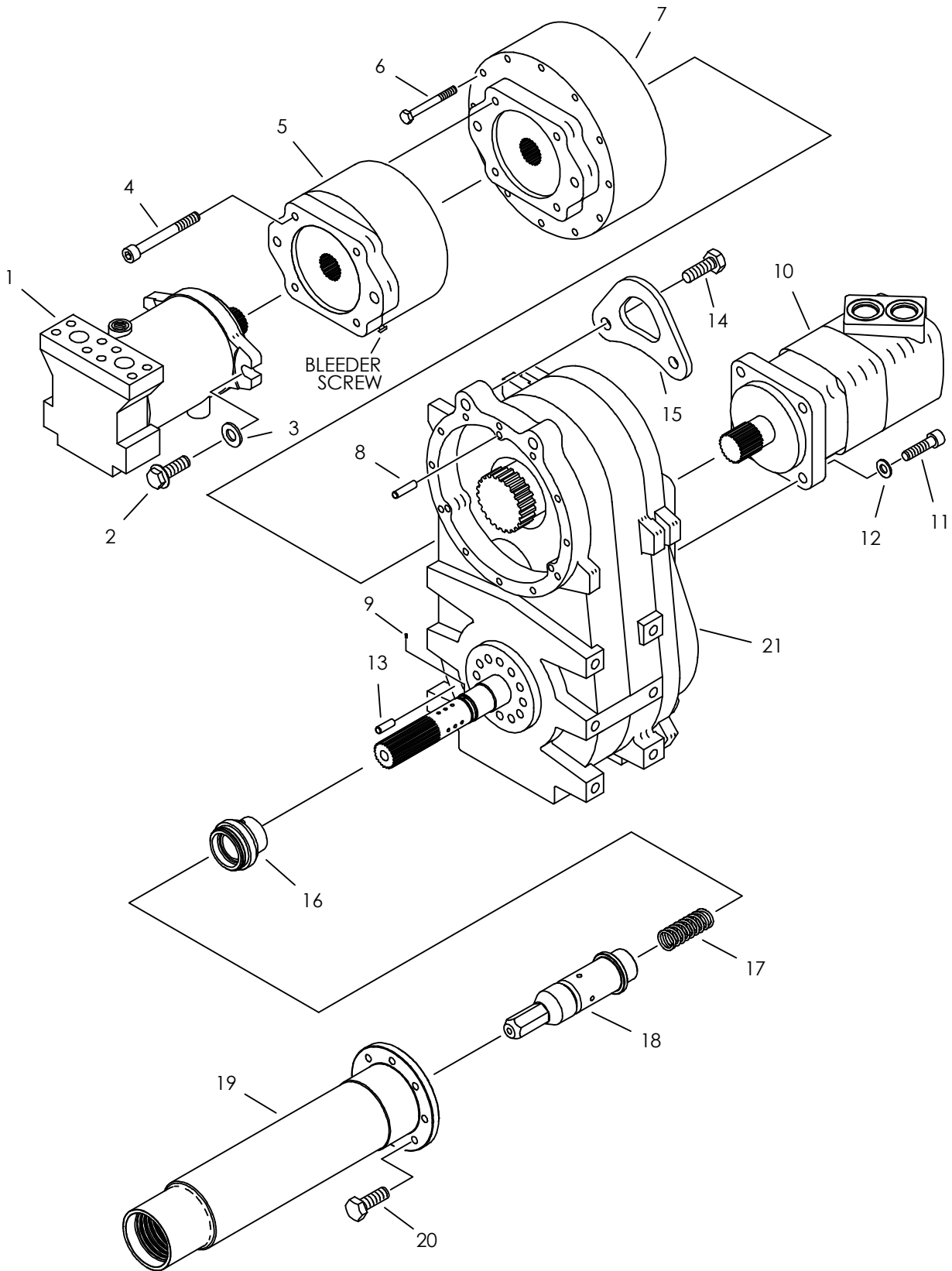
CARRIAGE

JT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-456	-	JT SPINDLE DRIVE PARTS ASS'Y	
2.	309-775	1	HOSE TRACK MOUNT	
3.	107-003	4	FLG LK SCREW (M12-1.75 X 35MM)	
4.	106-470	4	FLG SCREW (M16-2.00 X 40MM)	
5.	106-354	13	FLANGE NUT (M12-1.75)	USE 242 LOCTITE
6.	309-815	1	SIDE PLATE, RIGHT	
7.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	
8.	303-304	1	CARRIAGE WELDMENT	USE 242 LOCTITE
9.	106-237	8	LOCKNUT (M6-1.00,PRV TRQ,NLK)	
10.	106-640	8	SCREW (M6-1.00 X 20MM,BUT SOC)	
11.	309-666	4	WEAR STRIP	
12.	309-657	4	WEAR STRIP SUPPORT	
13.	308-987	1	SIDE PLATE, LEFT	
14.	309-669	3	GUARD	
15.	107-004	9	FLG LK SCREW (M12-1.75 X 45MM)	

FOOTNOTES

SPINDLE DRIVE ASS'Y AT27T2



SPINDLE DRIVE ASS'Y

AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-455	-	AT SPNDL DRV PRTS ASS'Y	
	166-457	-	SPINDL DRV PRTS ASSY, COBBLE	
1.	149-970	1	HYDRAULIC MOTOR	USE RED SILICONE SEALER
2.	105-970	2	FLG BOLT (5/8-NC X 1.750",GD8)	USE 242 LOCTITE, TORQUE TO 200 FT LBS
3.	106-398	2	WASHER (M16, HARDENED)	
4.	107-495	4	BLT (1/2-NC X 4.50", SOC GD 8)	USE 242 LOCTITE, SEE FOOTNOTE 1
5.	160-1099	1	MODULAR BRAKE	
	500-1283	-	OIL SEAL	
	191-166	-	O-RING KIT	
	191-167	-	GASKET KIT	
	191-168	-	BEARING KIT	
	191-169	-	STACK SERVICE KIT	
	163-212	-	BLEEDER SCREW, DISC BRAKE	
6.	105-179	12	BOLT (3/8-NC X 3-1/2")	USE 242 LOCTITE, SEE FOOTNOTE 1
7.	166-298	1	ROTATION GEARBOX PLANETARY	
8.	105-534	3	DOWEL PIN (.375" X .875")	
9.	107-803	1	PIN .125 X .25	INCLUDED IN REF #16
10.	149-976	1	HYDRAULIC MOTOR	
	500-390	1	SEAL REPAIR KIT - REAR	
	500-391	1	SEAL REPAIR KIT - SHAFT	
	215-1061	1	SENSOR	
11.	105-869	4	BOLT (1/2-NC X 2", SOC)	USE 242 LOCTITE, SEE FOOTNOTE 1
12.	106-397	4	WASHER (M12, HARDENED)	
13.	500-818	2	DOWEL PIN (16MM X 40MM)	
14.	106-478	2	SCREW (M16-2.00 X 40MM, 10.9)	
15.	310-965	1	LIFT BRACKET	
16.	191-341	1	INNER WATER SWIVL REPLCMNT KIT	INCLUDES: WATER SWIVEL 157-469 & REF #9.
	191-257	-	SEAL REPAIR KIT (157-469)	REPLACEMENT O-RING KIT; NOT INCLUDED IN 191-341
17.	117-300	1	SPRING	
18.	319-443	1	HEX STUB	USE WITH OLD STYLE PIPE
	400-1501	1	HEX STUB	USE WITH COLLARED PIPE
19.	400-1227	1	SAVER SUB 2.77-4F-DS	
	400-1228	1	SAVER SUB 2.77-4F SS	
20.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	SEE FOOTNOTE 1
21.	166-286	-	AT2720 GEARBOX	REFER TO PARTS PAGE 809-419

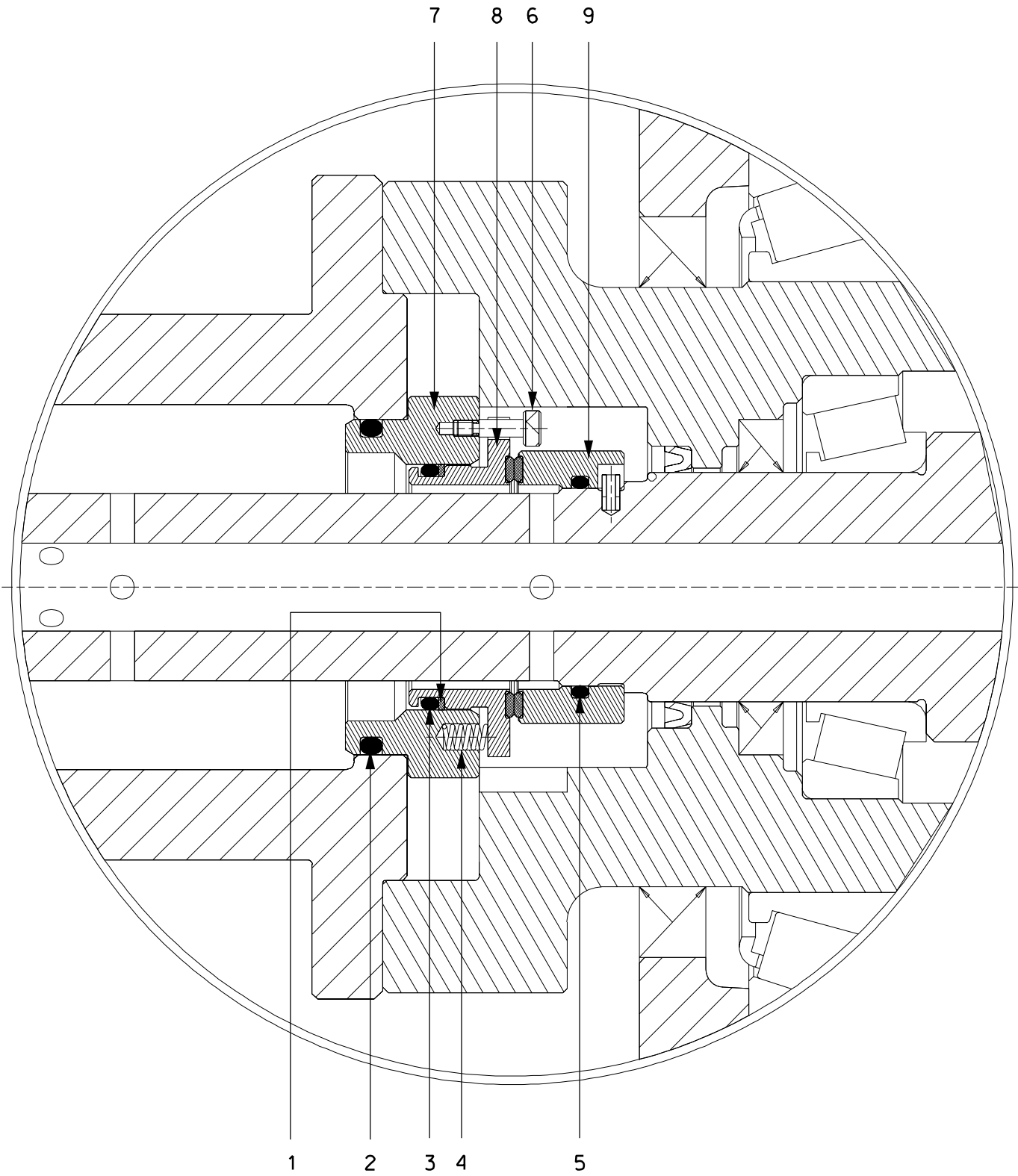
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FOOTNOTES:

1. REFER TO TORQUE CHART IN BACK OF PARTS BOOK.

NOTE:

INTERNAL WATER SWIVEL AT27T2

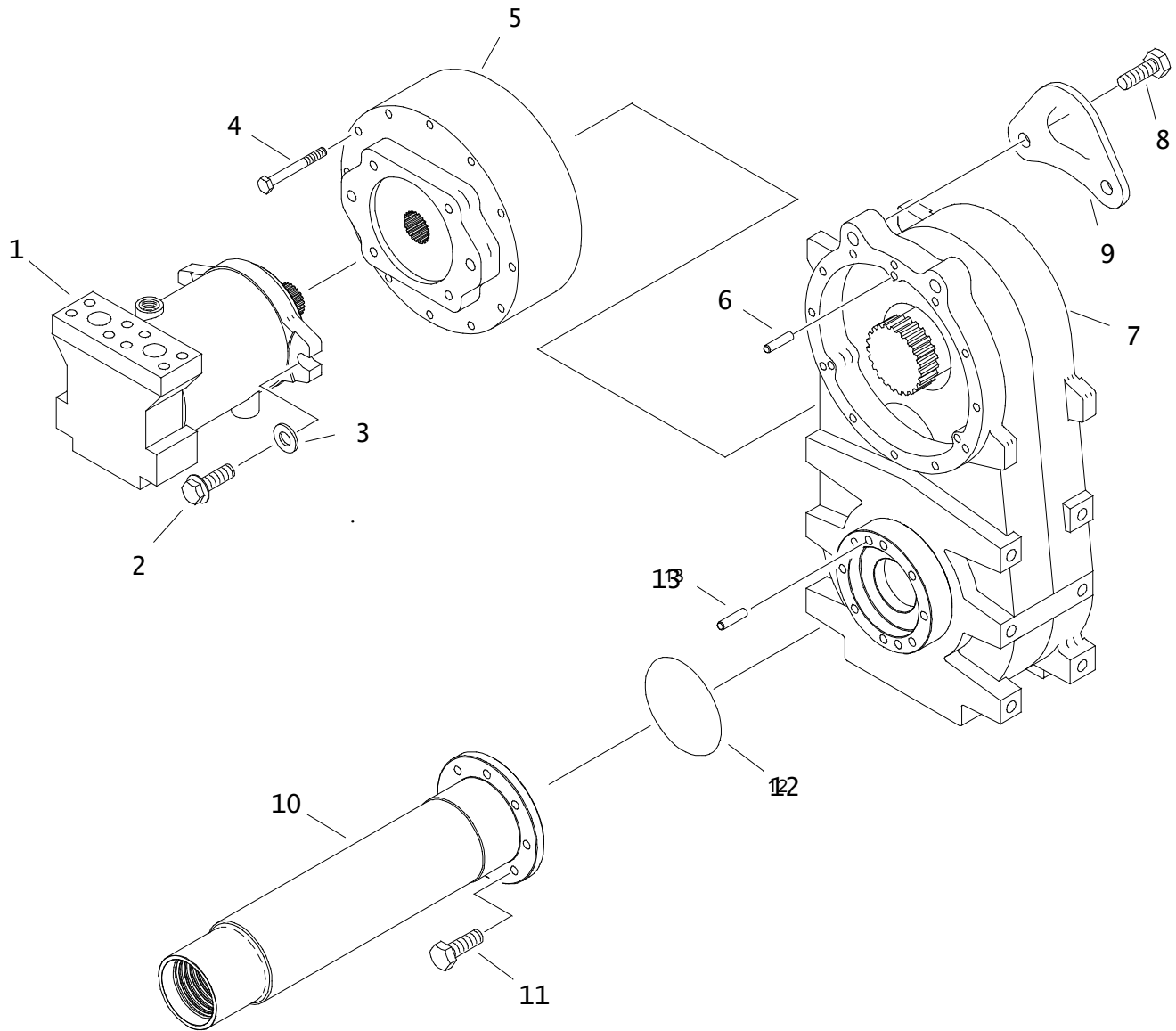


INTERNAL WATER SWIVEL AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	191-257	-	SEAL REPAIR KIT (157-469)	USED ONLY ON GEARBOX NUMBER 166-455 OR 166-457
1.		-	BACKUP WASHER	
2.		-	VITON O-RING	
3.		-	VITON O-RING	
4.		-	COIL SPRING	
5.		-	VITON O-RING	
6.		-	SHOULDER SCREW	
7.		-	HOUSING	
8.		-	FLOATING SEAL ASSEMBLY	
9.		-	SEAL ASSEMBLY	

FOOTNOTES

SPINDLE DRIVE ASS'Y (JT27T2)



SPINDLE DRIVE ASS'Y (JT27T2)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-456	-	JT SPINDLE DRIVE PARTS ASS'Y	
1.	149-970	1	HYDRAULIC MOTOR	BEFORE S/N
	149-944	1	HYDRAULIC MOTOR	AFTER S/N
2.	105-970	2	FLG BOLT (5/8-NC X 1.750",GD8)	USE 242 LOCTITE, TORQUE TO 200 FT LBS
3.	106-398	2	WASHER (M16, HARDENED)	
4.	105-179	12	BOLT (3/8-NC X 3-1/2")	USE 242 LOCTITE, SEE FOOTNOTE
5.	166-298	1	ROTATION GEARBOX PLANETARY	
6.	105-534	3	DOWEL PIN (.375" X .875")	
7.	-	-	JT2720 GEARBOX	REFER TO PARTS PAGE 809-418
8.	106-478	2	SCREW (M16-2.00 X 40MM, 10.9)	
9.	310-965	1	LIFT BRACKET	
10.	400-1229	1	SAVER SUB 2.11-4F DS	
11.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	USE 242 LOCTITE, SEE FOOTNOTE
12.	155-770	1	O-RING (250 D70)	
13.	500-818	2	DOWEL PIN (16MM X 40MM)	

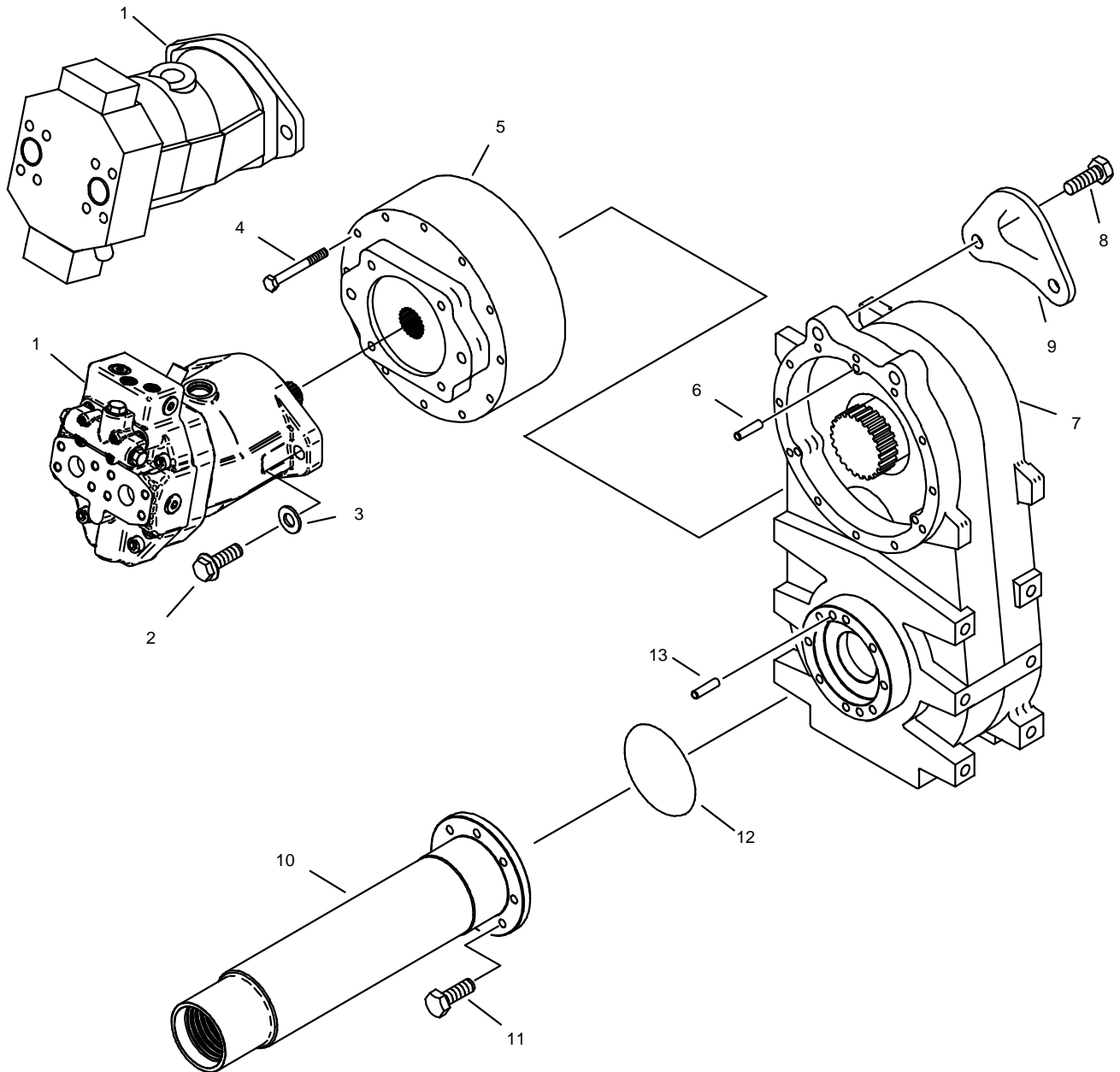
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FOOTNOTES:

NOTE:

SPINDLE DRIVE ASSEMBLY (JT27T2)

WNDS WITH S/N A6000031



SPINDLE DRIVE ASSEMBLY (JT27T2)

WNDS WITH S/N A60000031

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-456	-	JT SPINDLE DRIVE PARTS ASS'Y	
1.	149-944	1	HYDRAULIC MOTOR	ENDS WITH S/N: A60000030
	150-1230	1	HYDRAULIC MOTOR	BEGINS WITH S/N: A60000031
	150-1422	-	SEAL KIT	SEE FOOTNOTE 2
	150-1426	-	SHAFT SEAL RING	SEE FOOTNOTE 2
2.	105-970	2	FLG BOLT (5/8-NC X 1.750",GD8)	USE 242 LOCTITE, TORQUE TO 200 FT LBS
3.	106-398	2	WASHER (M16, HARDENED)	
4.	105-179	12	BOLT (3/8-NC X 3-1/2")	USE 242 LOCTITE, SEE FOOTNOTE 1
5.	166-298	1	ROTATION GEARBOX PLANETARY	
6.	105-534	3	DOWEL PIN (.375" X .875")	
7.	-	-	JT2720 GEARBOX	REFER TO PARTS PAGE 809-418
8.	106-478	2	SCREW (M16-2.00 X 40MM, 10.9)	
9.	310-965	1	LIFT BRACKET	
10.	400-1229	1	SAVER SUB 2.11-4F DS	
11.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	USE 242 LOCTITE, SEE FOOTNOTE 1
12.	155-770	1	O-RING (250 D70)	
13.	500-818	2	DOWEL PIN (16MM X 40MM)	

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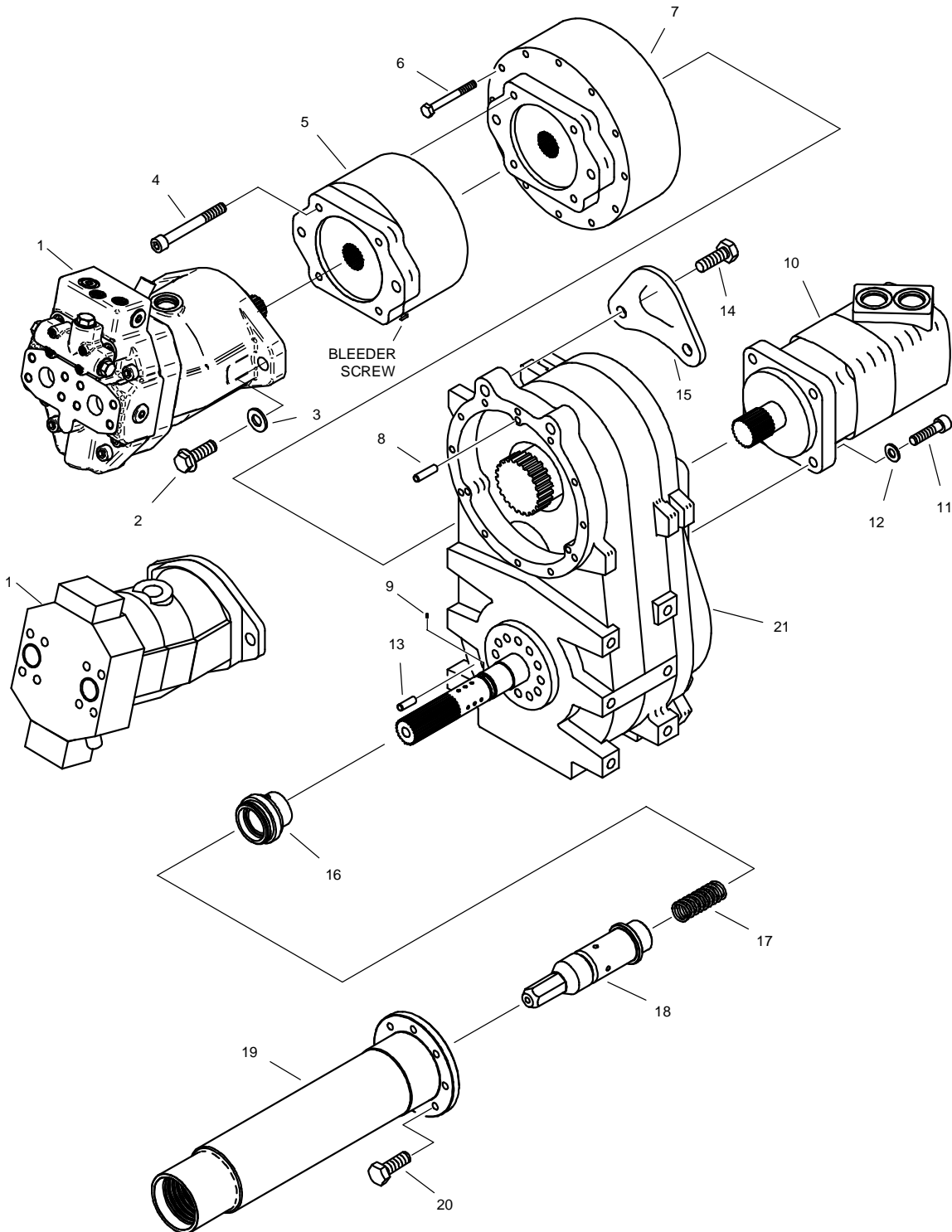
FOOTNOTES:

1. REFER TO TORQUE CHART IN BACK OF PARTS BOOK.
2. FOR USE WITH 149-944 AND 150-1230

NOTE:

SPINDLE DRIVE ASSEMBLY (AT27T2)

BEGINS WITH S/N H60000033



SPINDLE DRIVE ASSEMBLY (AT27T2) BEGINS WITH S/N H60000033

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-455	-	AT SPNDL DRV PRTS ASS'Y	
	166-457	-	SPINDL DRV PRTS ASSY, COBBLE	
1.	149-944	1	HYDRAULIC MOTOR	ENDS WITH S/N:H60000032 USE RED SILICONE SEALER
	150-1230	1	HYDRAULIC MOTOR	BEGINS WITH S/N:H60000033 USE RED SILICONE SEALER
	500-1422	-	SEAL KIT	SEE FOOTNOTE 2
	500-1426	-	SHAFT SEAL RING	SEE FOOTNOTE 2
2.	105-970	2	FLG BOLT (5/8-NC X 1.750",GD8)	USE 242 LOCTITE, TORQUE TO 200 FT LBS
3.	106-398	2	WASHER (M16, HARDENED)	
4.	107-495	4	BLT (1/2-NC X 4.50", SOC GD 8)	USE 242 LOCTITE, SEE FOOTNOTE 1
5.	160-510	1	MODULAR BRAKE	USE RED SILICONE SEALER
	191-166	-	O-RING KIT (160-510)	
	191-167	-	GASKET KIT (160-510)	
	191-168	-	BEARING KIT (160-510)	
	191-169	-	STACK SERVICE KIT (160-510)	
	163-212	-	BLEEDER SCREW, DISC BRAKE	
6.	105-179	12	BOLT (3/8-NC X 3-1/2")	USE 242 LOCTITE, SEE FOOTNOTE 1
7.	166-298	1	ROTATION GEARBOX PLANETARY	
8.	105-534	3	DOWEL PIN (.375" X .875")	
9.	107-803	1	PIN .125 X .25	INCLUDED IN REF #16
10.	149-976	1	HYDRAULIC MOTOR	
	215-1061	1	SENSOR	
	500-390	1	SEAL REPAIR KIT - REAR	
	500-391	1	SEAL REPAIR KIT - SHAFT	
11.	105-869	4	BOLT (1/2-NC X 2", SOC)	USE 242 LOCTITE, SEE FOOTNOTE 1
12.	106-397	4	WASHER (M12, HARDENED)	
13.	500-818	2	DOWEL PIN (16MM X 40MM)	
14.	106-478	2	SCREW (M16-2.00 X 40MM, 10.9)	
15.	310-965	1	LIFT BRACKET	
16.	191-341	1	WATER SWIVEL SEAL ASS'Y	INCLUDES: WATER SWIVEL 157-469 & REF #9.
	191-257	-	SEAL REPAIR KIT (157-469)	REPLACEMENT O-RING KIT; NOT INCLUDED IN 191-341
17.	117-300	1	SPRING	
18.	319-443	1	HEX STUB	USE WITH OLD STYLE PIPE
	400-1501	1	HEX STUB	USE WITH COLLARD PIPE
19.	400-1227	1	SAVER SUB 2.77-4F DS	
	400-1228	1	SAVER SUB 2.77-4F SS	
20.	106-478	8	SCREW (M16-2.00 X 40MM, 10.9)	SEE FOOTNOTE 1
21.	-	-	AT2720 GEARBOX	REFER TO PARTS PAGE 809-419

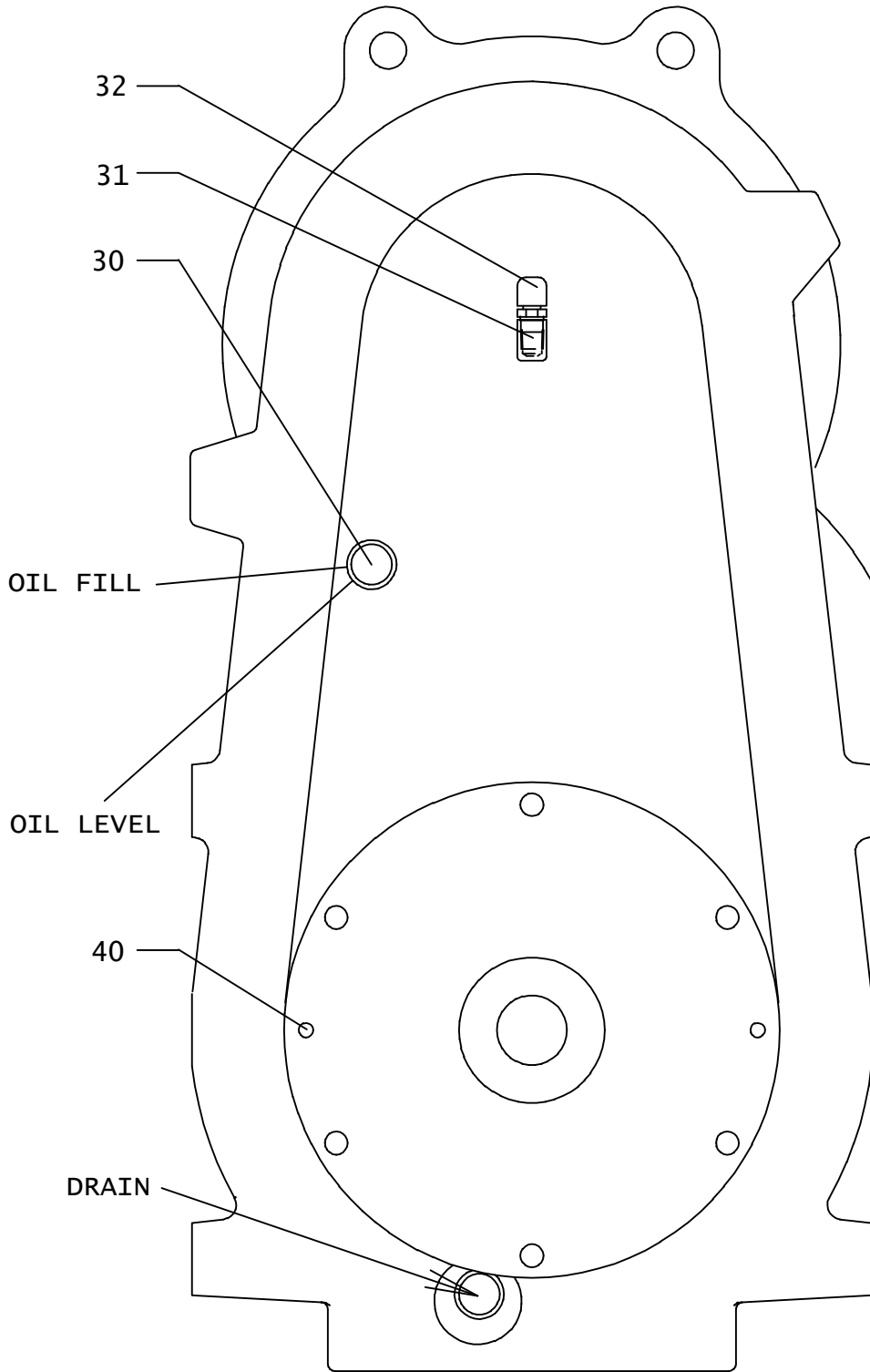
NOT SHOWN:

FOOTNOTES:

1. REFER TO TORQUE CHART IN BACK OF PARTS BOOK.
2. FOR USE WITH 149-944 AND 150-1230

NOTE:

ROTATION GEARBOX JT27T2



ROTATION GEARBOX

JT27T2

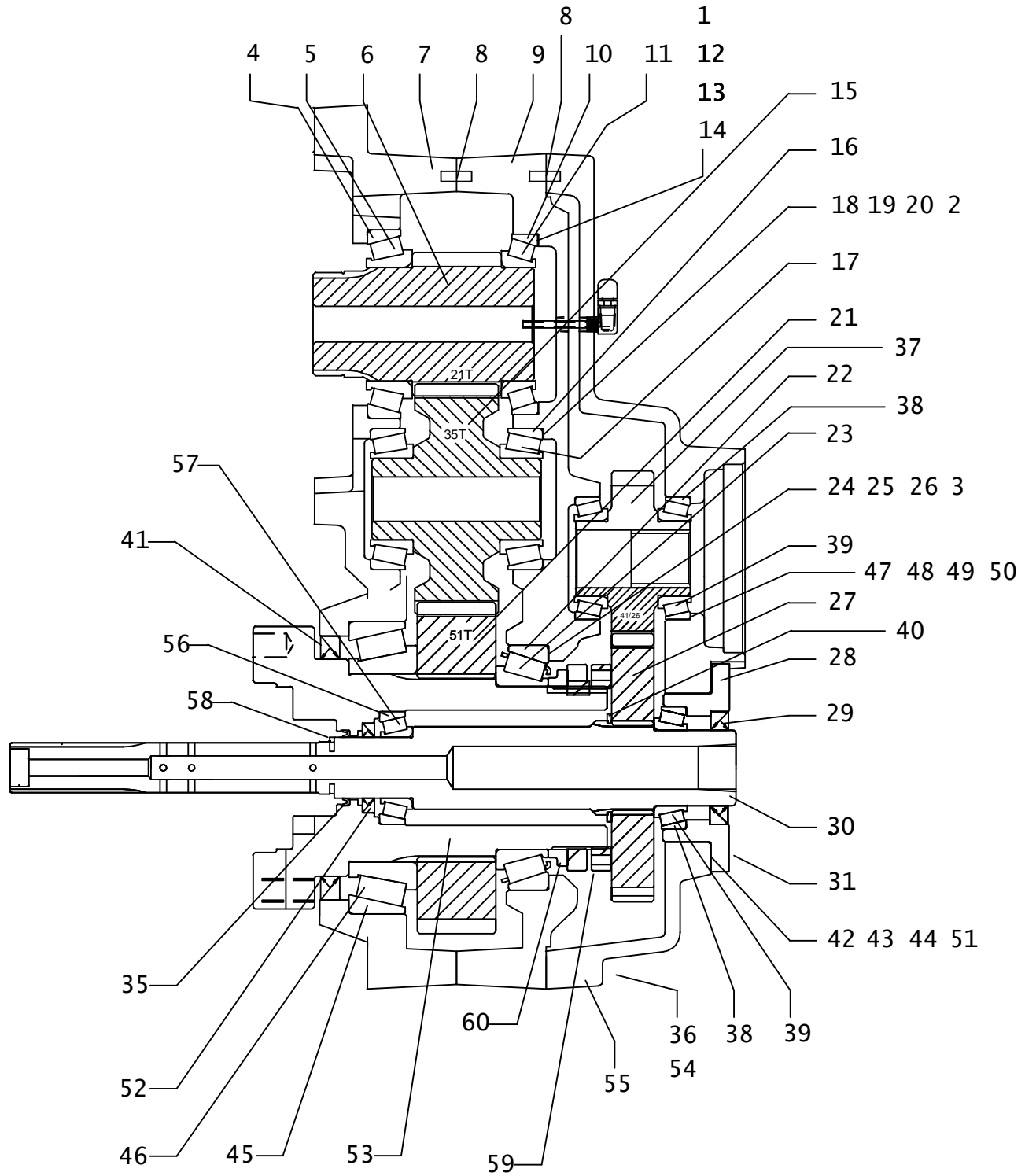
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-456	-	JT SPINDLE DRIVE PARTS ASS'Y	
1.	107-578	1	SHIM	
2.	107-577	1	SHIM	
3.	107-576	1	SHIM	
4.	125-309	1	TAPERED RACE (5.000")	
5.	125-308	1	TAPERED BEARING (3.000")	
6.	168-034	1	INPUT PINION	
7.	164-028	1	HOUSING	
8.	107-050	2	PRECISION DOWEL PIN (M12 X 30)	
9.	164-029	1	HOUSING	
10.	125-359	1	TAPERED RACE (4.781")	
11.	125-360	1	TAPERED BEARING (3.000")	
12.	165-869	1	SHIM (.051MM)	
13.	165-868	1	SHIM (.076MM)	
14.	165-870	1	SHIM (.178MM)	
15.	168-035	1	IDLER GEAR	
16.	126-171	2	TAPERED RACE (3.740")	
17.	126-170	2	TAPERED BEARING (2.250")	
18.	165-842	1	SHIM (.051MM)	
19.	165-843	1	SHIM (.076MM)	
20.	165-844	1	SHIM (.178MM)	
21.	174-025	1	OUTPUT GEAR	
22.	126-063	1	TAPERED RACE (6.496")	
23.	126-064	1	TAPERED BEARING (4.330")	
24.	165-803	1	SHIM (.0002")	
25.	165-804	1	SHIM (.003")	
26.	165-805	1	SHIM (.007")	
27.	300-7825	1	SPACER	
28.	166-453	1	OUTPUT SHAFT	
29.	106-617	14	SCREW (M10-1.50 X 80MM)	
30.	115-211	2	PLUG (08N, SQ, MAG)	
31.	514-123	1	PICKUP TUBE (02N-02NF90-2")	
32.	159-003	1	AIR VENT (02N)	
33.	106-396	14	WASHER (M10, HARDENED)	
34.	153-615	1	INTERNAL SEAL (5.750" ID)	
35.	106-755	6	SCREW (M10-1.50 X 30MM, SOC)	
36.	318-459	1	COVER	
37.	153-638	1	INTERNAL SEAL	
38.	125-543	1	TAPERED RACE (7.75)	
39.	125-542	1	TAPERED BEARING	
40.	105-580	2	ROLL PIN (1/4" X 3/4")	
41.	105-1313	1	HARDEND WASHER	
42.	107-706	1	NUT, SPANNER	
	190-1386	1	GEARBOX NUT	
	255-1006	-	MOLLY PASTE (SINGLE APPLICATION)	

NOT SHOWN:

FOOTNOTES:

NOTE:

ROTATION GEARBOX AT27T2



ROTATION GEARBOX

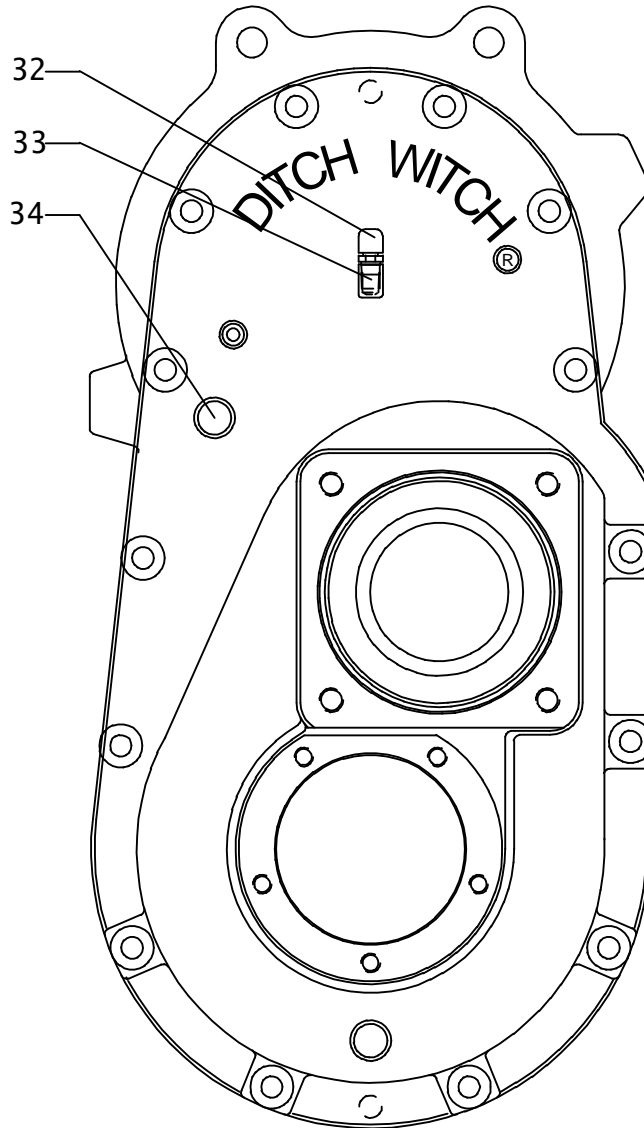
AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-455	-	AT SPNDL DRV PRTS ASS'Y	
	166-457	-	SPINDL DRV PRTS ASSY, COBBLE	
1.	107-578	1	SHIM	
2.	107-577	1	SHIM	
3.	107-576	1	SHIM	
4.	125-308	1	TAPERED BEARING (3.000")	
5.	125-309	1	TAPERED RACE (5.000")	
6.	168-034	1	INPUT PINION	
7.	164-028	1	HOUSING	
8.	107-050	4	PRECISION DOWEL PIN (M12 X 30)	
9.	318-608	1	COVER	
10.	125-359	1	TAPERED RACE (4.781")	
11.	125-360	1	TAPERED BEARING (3.000")	
12.	165-869	1	SHIM (.051MM)	
13.	165-868	1	SHIM (.076MM)	
14.	165-870	1	SHIM (.178MM)	
15.	168-035	1	IDLER GEAR	
16.	126-171	2	TAPERED RACE (3.740")	
17.	126-170	2	TAPERED BEARING (2.250")	
18.	165-842	1	SHIM (.051MM)	
19.	165-843	1	SHIM (.076MM)	
20.	165-844	1	SHIM (.178MM)	
21.	174-025	1	OUTPUT GEAR	
22.	126-063	1	TAPERED RACE (6.496")	
23.	126-064	1	TAPERED BEARING (4.330")	
24.	165-803	1	SHIM (.0002")	
25.	165-804	1	SHIM (.003")	
26.	165-805	1	SHIM (.007")	
27.	174-026	1	INNER GEAR	
28.	178-438	1	BEARING RETAINER	
29.	157-501	1	INTERNAL SEAL	
30.	166-444	1	INNER SHAFT	
31.	106-755	5	SCREW (M10-1.50 X 30MM, SOC)	
32.	159-003	1	AIR VENT (02N)	
33.	514-123	1	PICKUP TUBE (02N-02NF90-2")	
34.	115-211	2	PLUG (08N, SQ, MAG)	
35.	149-927	1	SEAL (BLOCK V) LIP CD (D)	
36.	106-805	14	SCREW (M10-1.50 X 120MM, SOC)	
37.	166-271	1	INNER PINION	
38.	126-099	3	TAPERED RACE (3.25")	
39.	126-100	3	TAPERED BEARING (2")	
40.	115-457	1	EXTERNAL SNAP RING (2.500")	

FOOTNOTES:

NOTE:

ROTATION GEARBOX AT27T2



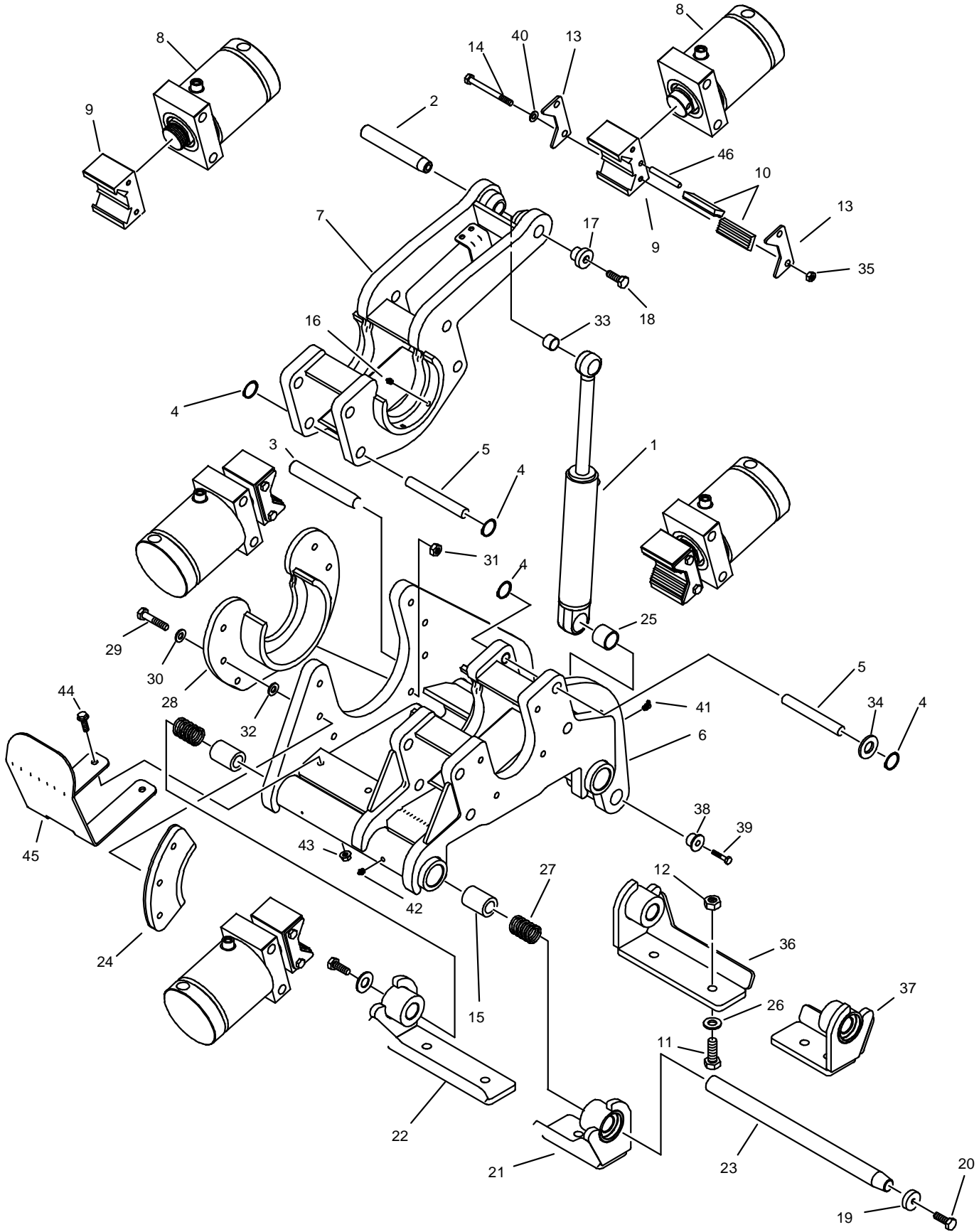
ROTATION GEARBOX AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
41.	153-615	1	INTERNAL SEAL (5.750" ID)	
42.	107-485	1	SHIM	
43.	107-486	1	SHIM	
44.	107-487	1	SHIM	
45.	125-543	1	TAPERED RACE (7.75)	
46.	125-542	1	TAPERED BEARING	
47.	165-800	1	SHIM (.002")	
48.	165-801	1	SHIM (.003")	
49.	165-802	1	SHIM (.007")	
50.	107-575	1	SHIM	
51.	107-579	1	SHIM	
52.	153-153	1	SEAL	
53.	166-452	1	OUTPUT SHAFT	
54.	106-396	14	WASHER (M10, HARDENED)	
55.	307-904	1	MOTOR COVER	
56.	125-249	1	BEARING RACE	
57.	125-248	1	BEARING	
58.	107-803	1	PIN .125 X .25	
59.	<u>107-706</u>	1	NUT, SPANNER	
	190-1386	1	GEARBOX NUT	
	255-1006	-	MOLLY PASTE (SINGLE APPLICATION)	
60.	160-1146	1	SPACER	

FOOTNOTES:

NOTE:

CLAMP ASSEMBLY



CLAMP ASSEMBLY

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	151-031	1	CYL (2" X 1" X 8")	
2.	184-789	1	TAPERED PIN (25.4MM X 158.7MM)	
3.	178-075	1	TAPERED PIN (31.7MM X 240MM)	
4.	118-053	16	EXTERNAL SNAP RING (.875")	
5.	105-1133	8	PIN	
6.	303-360	1	STATIONARY CLAMP	
7.	303-624	1	ROTATION CLAMP	
8.	151-206	4	CYL (4.50" X 2.25" X 2.75")	BEFORE S/N:CMWA27T2E6000020
	151-212	4	CYL (4.50" X 2.25" X 2.75")	AFTER S/N: CMWA27T2A6000021
9.	303-817	4	JAW BLOCK	LOCTITE 242. BEFORE S/N:CMWA27T2E6000020
	329-179	4	JAW BLOCK	AFTER S/N: CMWA27T2A6000021
10.	350-446	8	GRIPPER INSERT	
11.	106-616	8	SCREW (M16-2 X 55MM, CL10.9)	
12.	106-545	8	LOCKNUT (M16-2.0,PRV TRQ,10.9)	
13.	308-643	8	RETAINER FORGING	
14.	105-022	8	BOLT (3/8-NC X 4")	LOCTITE 242
15.	178-456	4	BUSHING 1.25ID X 1.75OD X 1.75	LOCTITE 609
16.	115-003	8	ZERK (1/4-NF, STR)	
17.	181-981	1	TAPERED INSERT (1")	
18.	105-245	1	SCREW (M10-1.50 X 25MM)	
19.	106-006	4	WASHER (.531", HARDENED)	
20.	107-507	4	SCREW (M12-1.75X65MM) FULL THD	LOCTITE 242
21.	308-795	1	WRENCH MOUNT BRACKET, FRONT RH	
22.	308-796	1	WRENCH MOUNT BRACKET, REAR RH	
23.	178-489	2	PIN	
24.	306-783	2	BACKUP PLATE	
25.	125-771	1	COMPOSITION BUSHING (1.25")	
26.	106-398	8	WASHER (M16, HARDENED)	
27.	117-297	4	COMPRESSION SPRING	
28.	303-622	1	RETAINER	
29.	106-659	7	SCREW (M12-1.75 X 55MM)	
30.	106-397	7	WASHER (M12, HARDENED)	
31.	106-685	1	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
32.	110-096	7	MACHINERY BUSHING (1/2")	

NOT SHOWN:

117-437 AR SHIM PLATE, FRONT MOUNT
117-436 AR SHIM PLATE, REAR MOUNT

FOOTNOTES:

NOTE:

CLAMP ASSEMBLY

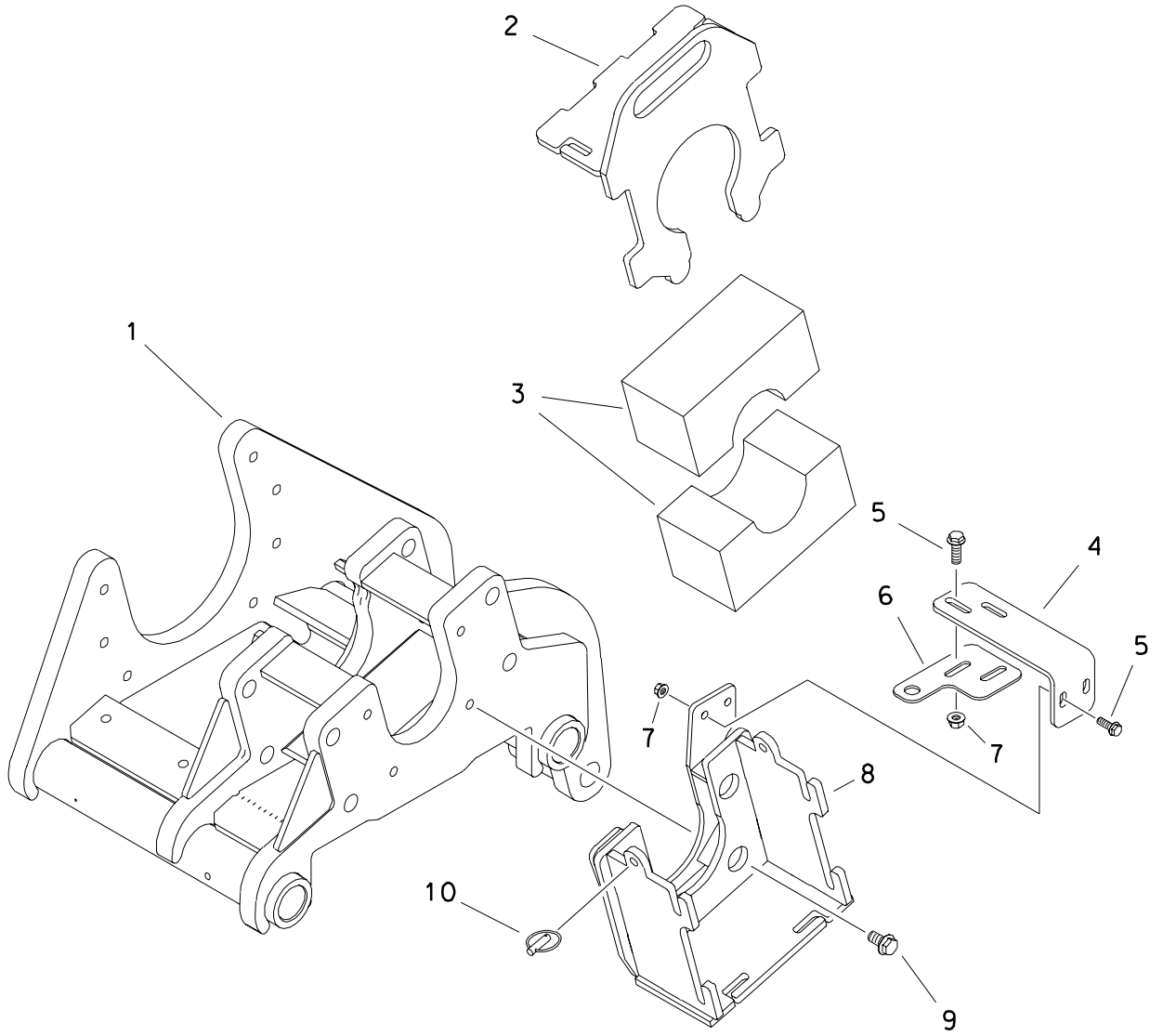
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
33.	125-770	1	COMPOSITION BUSHING (1")	
34.	105-318	AR	WASHER (7/8")	
35.	105-053	8	NUT (3/8-NC)	LOCTITE 242
36.	308-731	1	WRENCH MOUNT BRACKET, REAR	
37.	308-732	1	WRENCH MOUNT BRACKET, FRONT	
38.	181-982	1	TAPERED INSERT (1.25")	
39.	106-469	1	FLG SCREW (M12-1.75 X 30MM)	
40.	105-118	8	WASHER (3/8")	
41.	115-017	1	ZERK (02N65)	
42.	115-001	1	ZERK (02N)	
43.	106-387	2	FLG LOCKNUT (M10-1.50)	
44.	106-383	2	FLG LK SCREW (M10-1.50 X 30MM)	
45.	310-114	1	PLATE	
46.	107-777	4	SPIRAL SPRING PIN (.375" X 3.00")	

NOT SHOWN:

FOOTNOTES:

NOTE:

WRENCH PIPE GUIDE



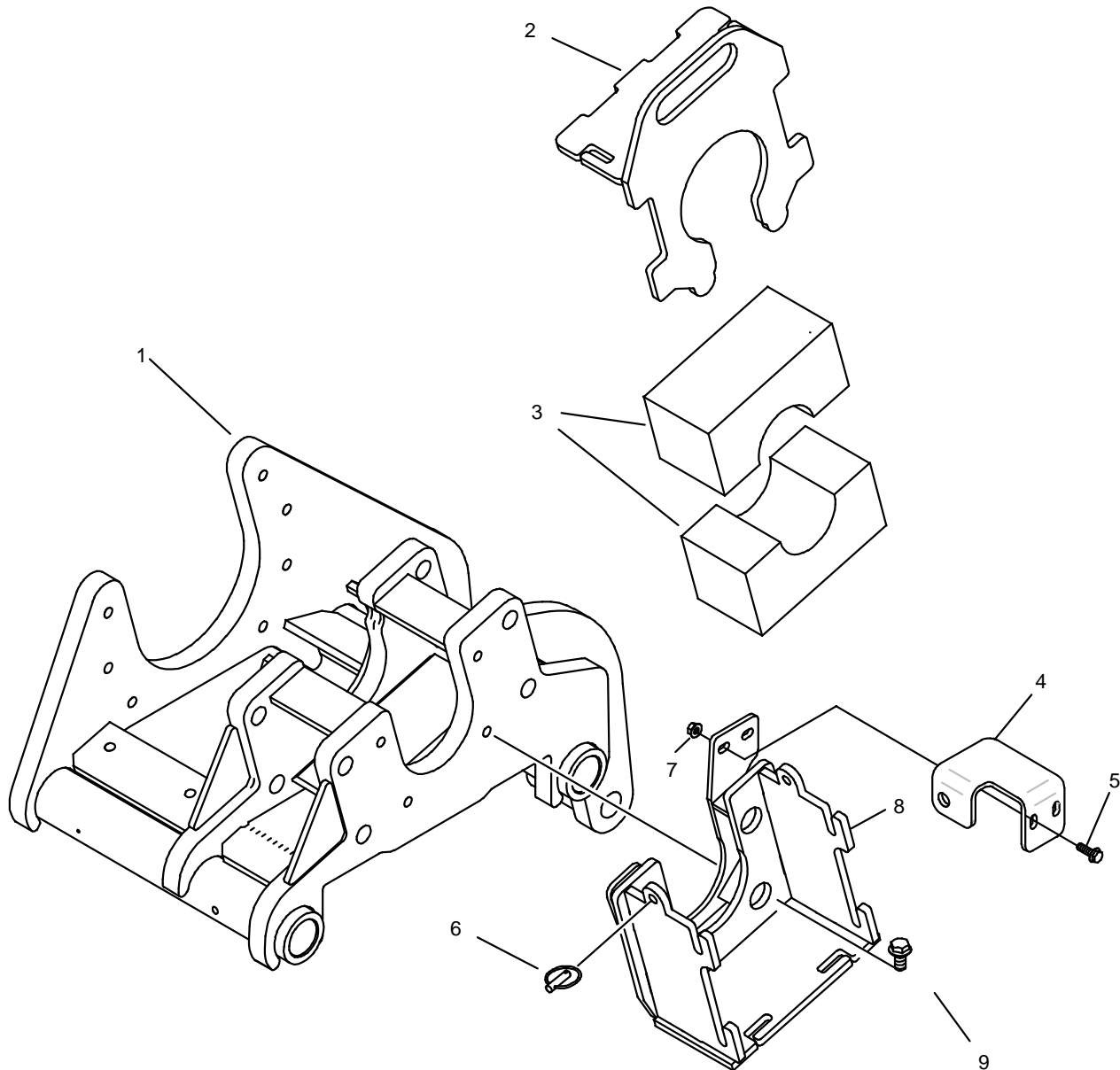
WRENCH PIPE GUIDE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-360	-	STATIONARY CLAMP	
2.	310-421	1	BLOCK RETAINER WELDMENT	
3.	314-361	2	GUIDE BLOCK (3.25)	
4.	305-950	1	BRACKET, SPRAY	
5.	106-724	4	FLG SCREW (M10-1.50 X 25MM)	
6.	305-951	1	BRACKET, SPRAY	
7.	106-387	4	FLG LOCKNUT (M10-1.50)	
8.	310-454	1	WRENCH GUIDE FRAME	
9.	106-806	4	FLG LK SCREW (M12-1.75 X 25MM)	
10.	110-228	2	LYNCH PIN (7/16" X 2")	

FOOTNOTES

WRENCH PIPE GUIDE

BEGINS WITH S/N



WRENCH PIPE GUIDE BEGINS WITH S/N

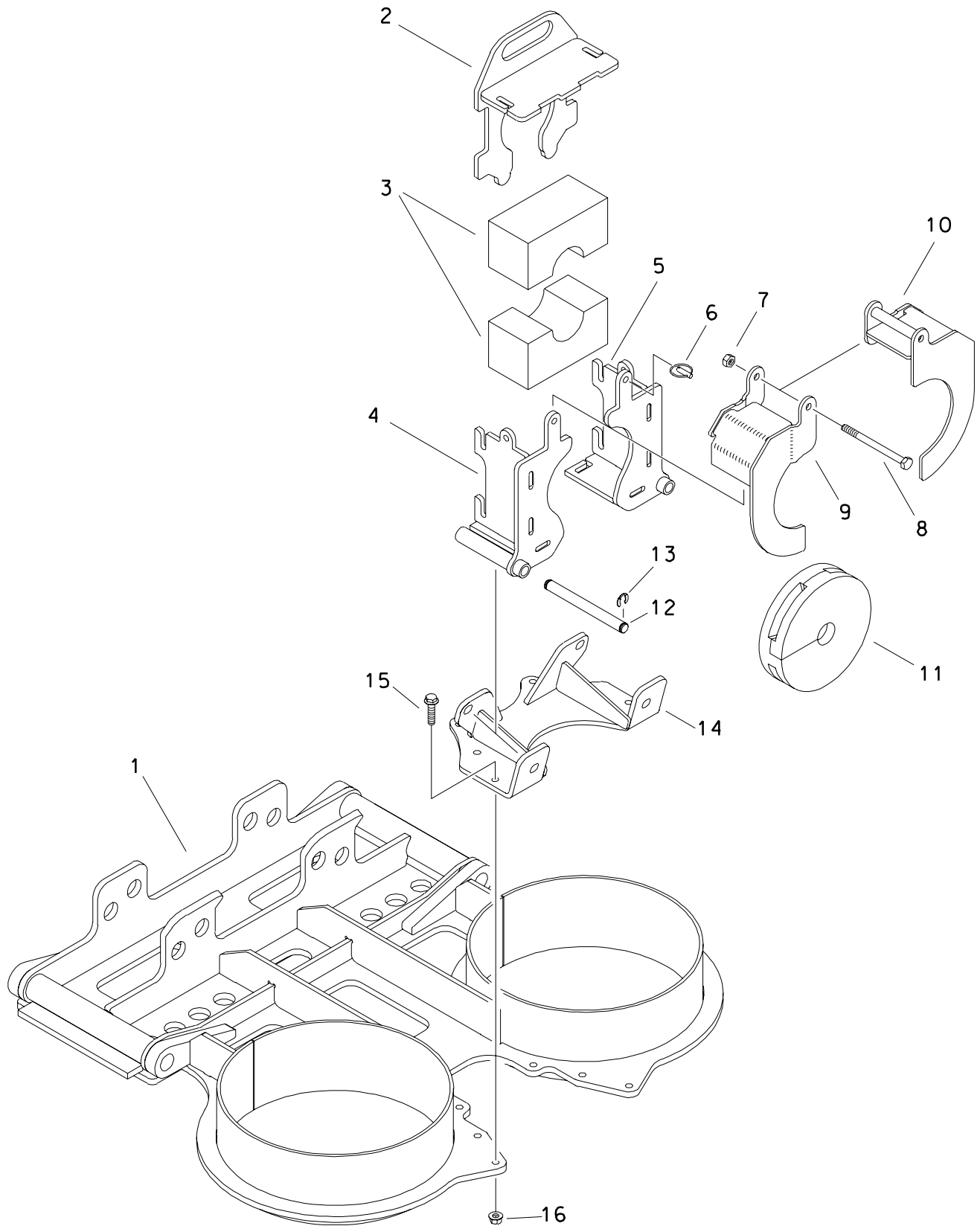
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-360	-	STATIONARY CLAMP	
2.	310-421	1	BLOCK RETAINER WELDMENT	
3.	314-361	2	GUIDE BLOCK (3.25)	
4.	300-1183	1	BRACKET, SPRAY	
5.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
6.	110-228	2	LYNCH PIN (7/16" X 2")	
7.	106-387	2	FLG LOCKNUT (M10-1.50)	
8.	310-454	1	WRENCH GUIDE FRAME	
9.	106-806	4	FLG LK SCREW (M12-1.75 X 25MM)	USE 242 LOCTITE

NOT SHOWN:

FOOTNOTES:

NOTE:

FRONT GUIDE / WIPER

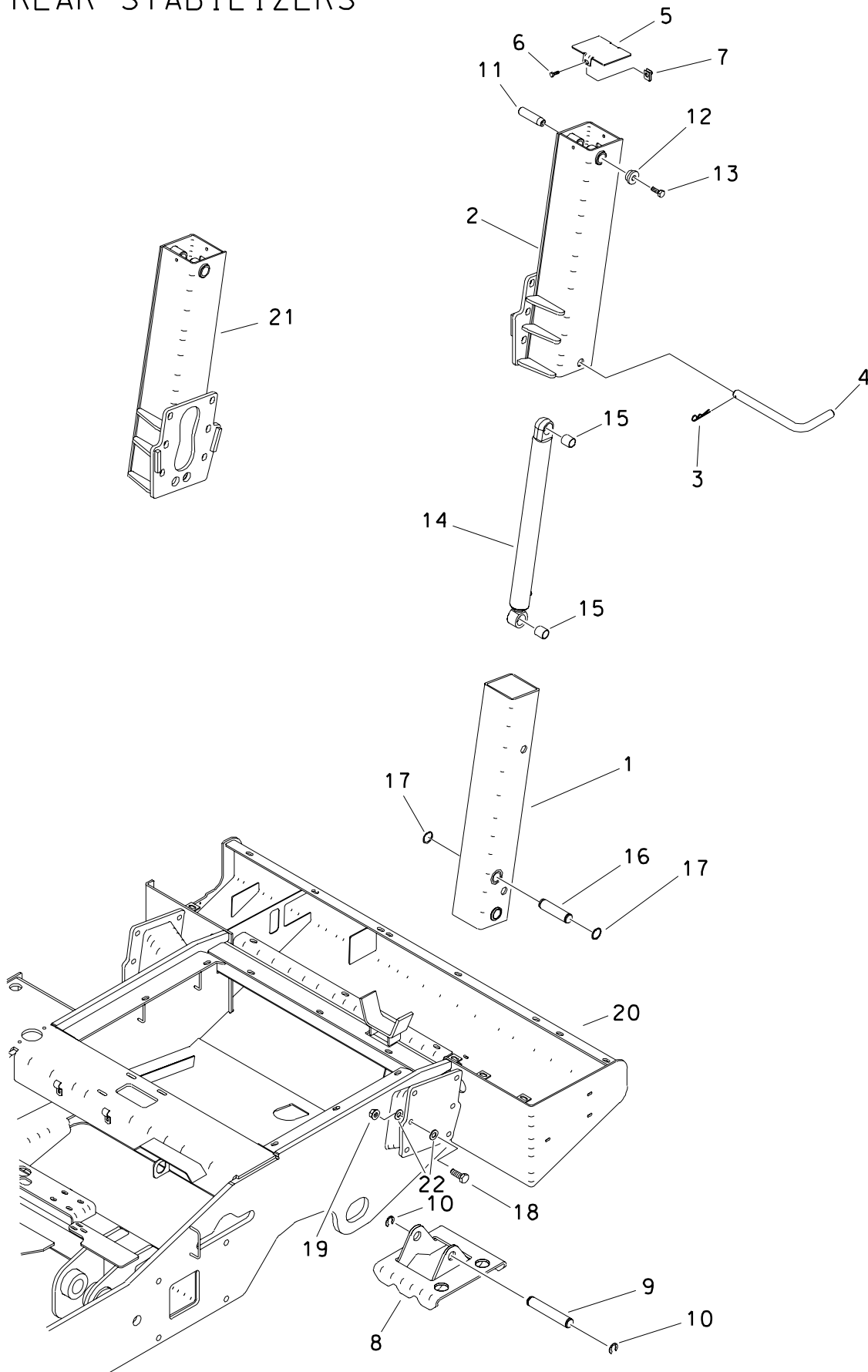


FRONT GUIDE / WIPER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	313-592	-	ANCHOR	
2.	310-421	1	BLOCK RETAINER WELDMENT	
3.	314-361	2	GUIDE BLOCK (3.25)	
4.	310-420	1	SUPPORT FRAME (RIGHT)	
5.	310-419	1	SUPPORT FRAME (LEFT)	
6.	110-228	2	LYNCH PIN (7/16" X 2")	
7.	106-031	1	LOCKNUT (M12-1.75, NLK)	
8.	107-213	1	SCREW (M12-1.75 X 160MM)	
9.	310-423	1	WIPER ARM WELDMENT	
10.	310-422	1	WIPER COVER WELDMENT	
11.	149-973	1	SPLIT ROD WIPER 1.75" ID	
12.	178-459	2	MOUNT PIN	
13.	115-503	4	KLIP RING (.750")	
14.	313-593	1	GUIDE MOUNT	
15.	105-743	6	FLG LK SCREW (M12-1.75 X 45MM)	
16.	106-709	6	FLG LK NUT (M12-1.75)	

FOOTNOTES

REAR STABILIZERS

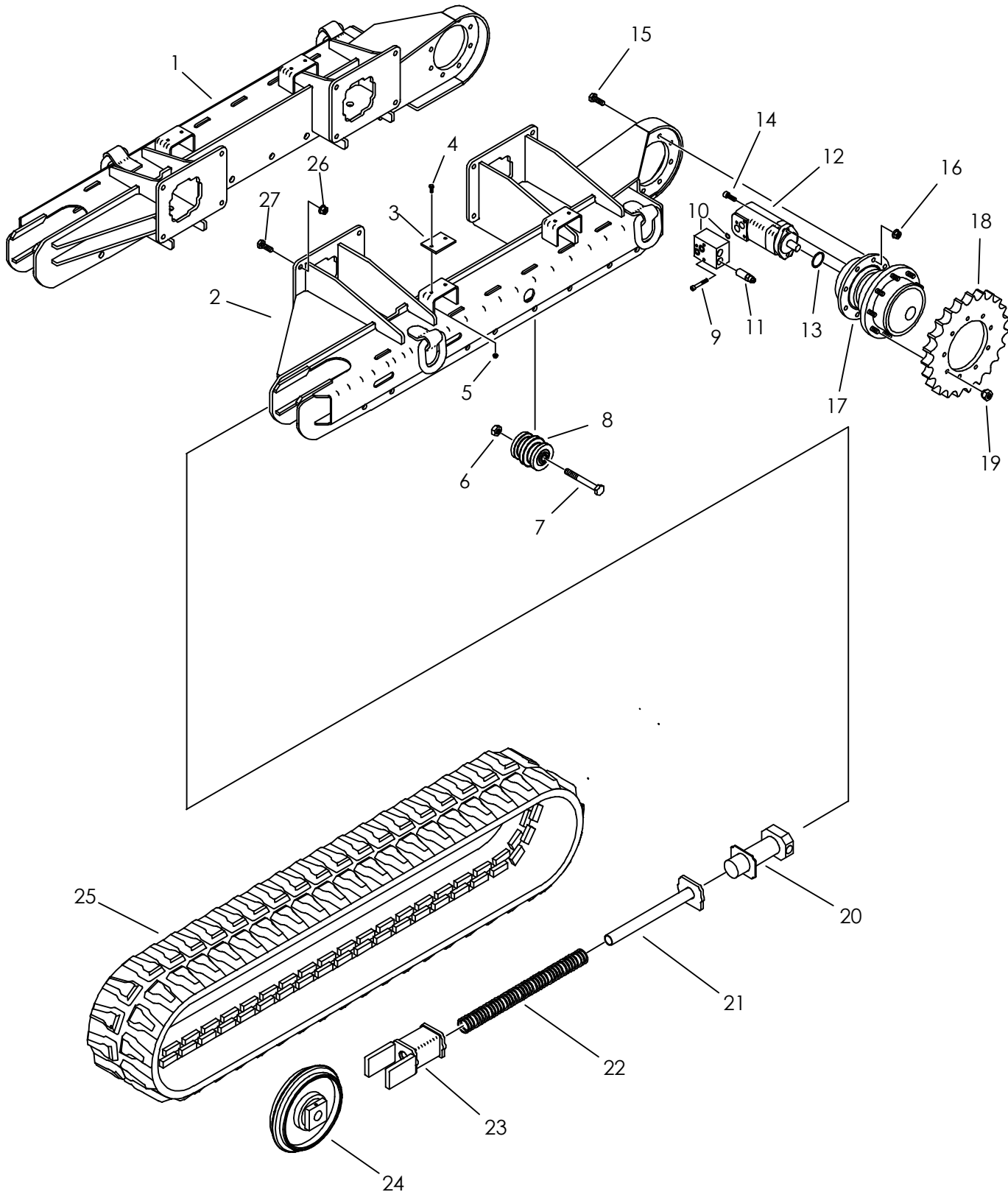


REAR STABILIZERS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	343-561	2	STABILIZER TUBE	
2.	309-642	1	TUBE ASS'Y (LEFT)	
3.	110-128	2	SPRING CLIP PIN (5/32" X 1")	
4.	343-540	2	PIN	
5.	309-974	2	COVER	
6.	106-162	4	SCREW (M8-1.25 X 20MM)	
7.	106-551	4	CLIP NUT (M8-1.25)	
8.	343-562	2	STABILIZER FOOT	
9.	343-919	2	PIN, STABILIZER FOOT	
10.	115-483	4	KLIP RING (1.25")	
11.	179-042	2	TAPERED PIN (31.7MM X 144MM)	
12.	181-982	2	TAPERED INSERT (1.25")	
13.	106-469	2	FLG SCREW (M12-1.75 X 30MM)	
14.	151-065	2	CYL (2.0 X 1.25 X 20.0)	
15.	125-771	4	COMPOSITION BUSHING (1.25")	
16.	343-918	2	PIN, LOWER	
17.	118-007	4	INTERNAL SNAP RING (1.25")	
18.	106-340	12	SCREW (M16-2.00 X 50MM)	
19.	106-545	12	LOCKNUT (M16-2.0, PRV TRQ, 10.9)	
20.	305-710	-	MAIN FRAME	
21.	309-672	1	TUBE ASS'Y (RIGHT)	
22.	106-398	24	WASHER (M16, HARDENED)	

FOOTNOTES

TRACK GROUP



TRACK GROUP

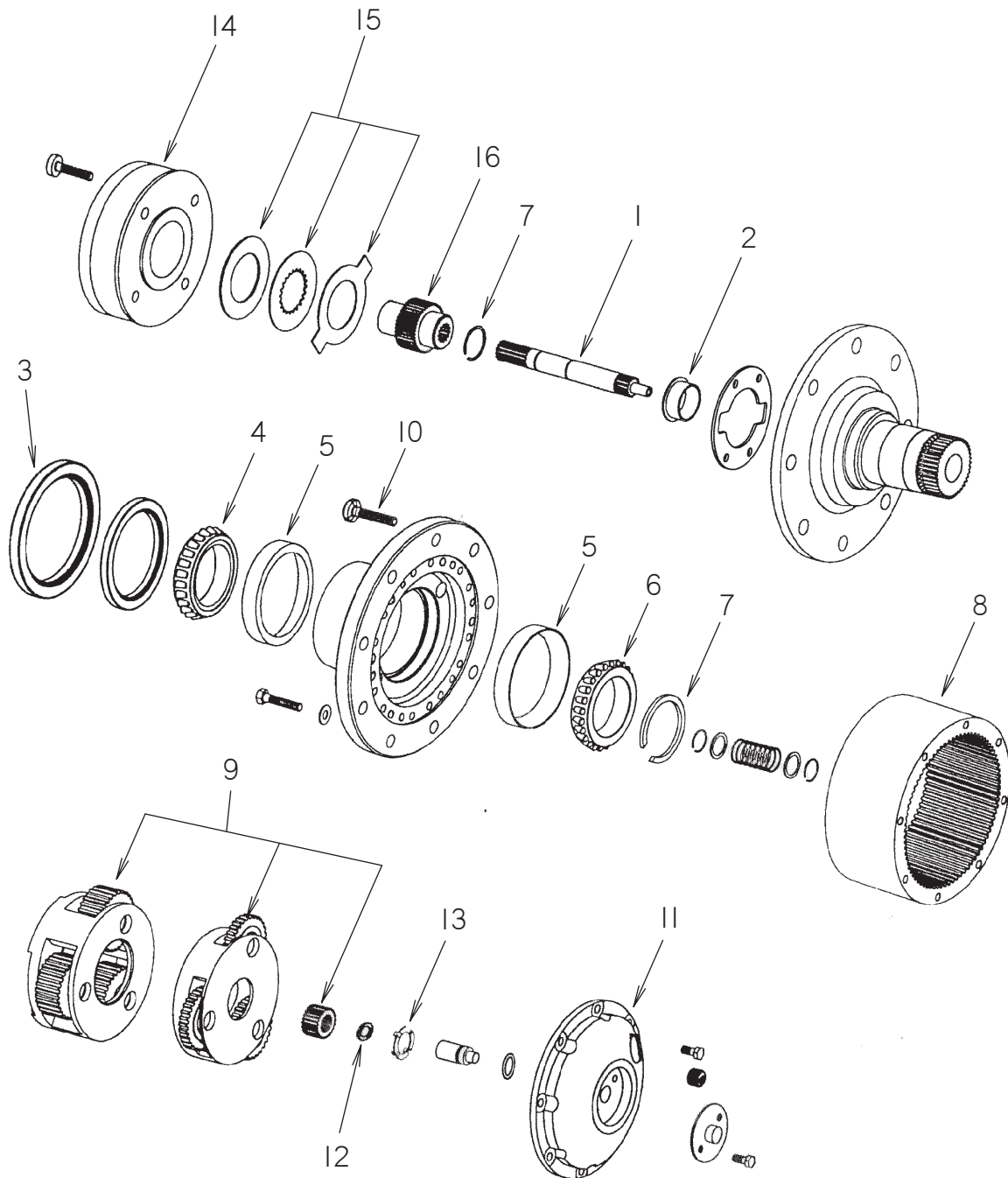
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	308-307	1	R.H. TRACK FRAME	
2.	308-306	1	L.H. TRACK FRAME	
3.	356-788	4	SLIDE PAD	
4.	106-381	8	FLG LK SCREW (M8-1.25 X 25mm)	
5.	106-386	8	FLG LOCKNUT (M8-1.25)	
6.	106-665	18	LOCKNUT (M20-2.50, 10.9)	
7.	106-727	18	SCREW (M20-2.50 X 180mm, 10.9)	
8.	129-010	18	IDLER ROLLER PARTS	
9.	105-857	6	BOLT (3/8-NC X 3", SOC, GD8)	
10.	153-143	-	COUNTERBALANCE MANIFOLD	INCL O-RINGS
	155-776	-	O-RING (117 D70)	
11.	158-018	4	RELIEF CARTRIDGE	
	500-373		SEAL REPAIR KIT	
12.	158-953	2	HYD MOTOR	
	500-658		SEAL REPAIR KIT	
13.	157-099	2	O-RING (042 D70)	
14.	105-282	4	BOLT (1/2-NC X 1-1/2", SOC)	INSTALL WITH 277 LOCTITE; TORQUE TO 130 FT LBS
15.	106-074	16	SCREW (M16-2.00 X 60mm)	
16.	106-355	16	FLG NUT (M16-2.00, 10.9)	
17.	166-414	2	PLANETARY GEARBOX	
18.	141-586	2	23 TOOTH TRACK SPROCKET	
19.	105-114	18	LUG NUT (1/2-NF)	INSTALL WITH 242 LOCTITE; TORQUE TO 100 FT LBS
20.	151-181	2	GREASE CYLINDER	
21.	343-550	2	TUBE	
22.	117-112	2	SPRING	
23.	343-551	2	YOKE	
24.	170-339	2	FRONT IDLER ROLLER	
25.	308-746	2	RUBBER TRACK 320MM,98P,52.5MM)	
26.	106-545	16	LOCKNUT (M16-2.0,PRV TRQ, 10.9)	
27.	106-340	16	SCREW (M16-2.00 X 50MM)	

NOT SHOWN:

FOOTNOTES:

NOTE:

PLANETARY GEAR BOX - TRACK DRIVE

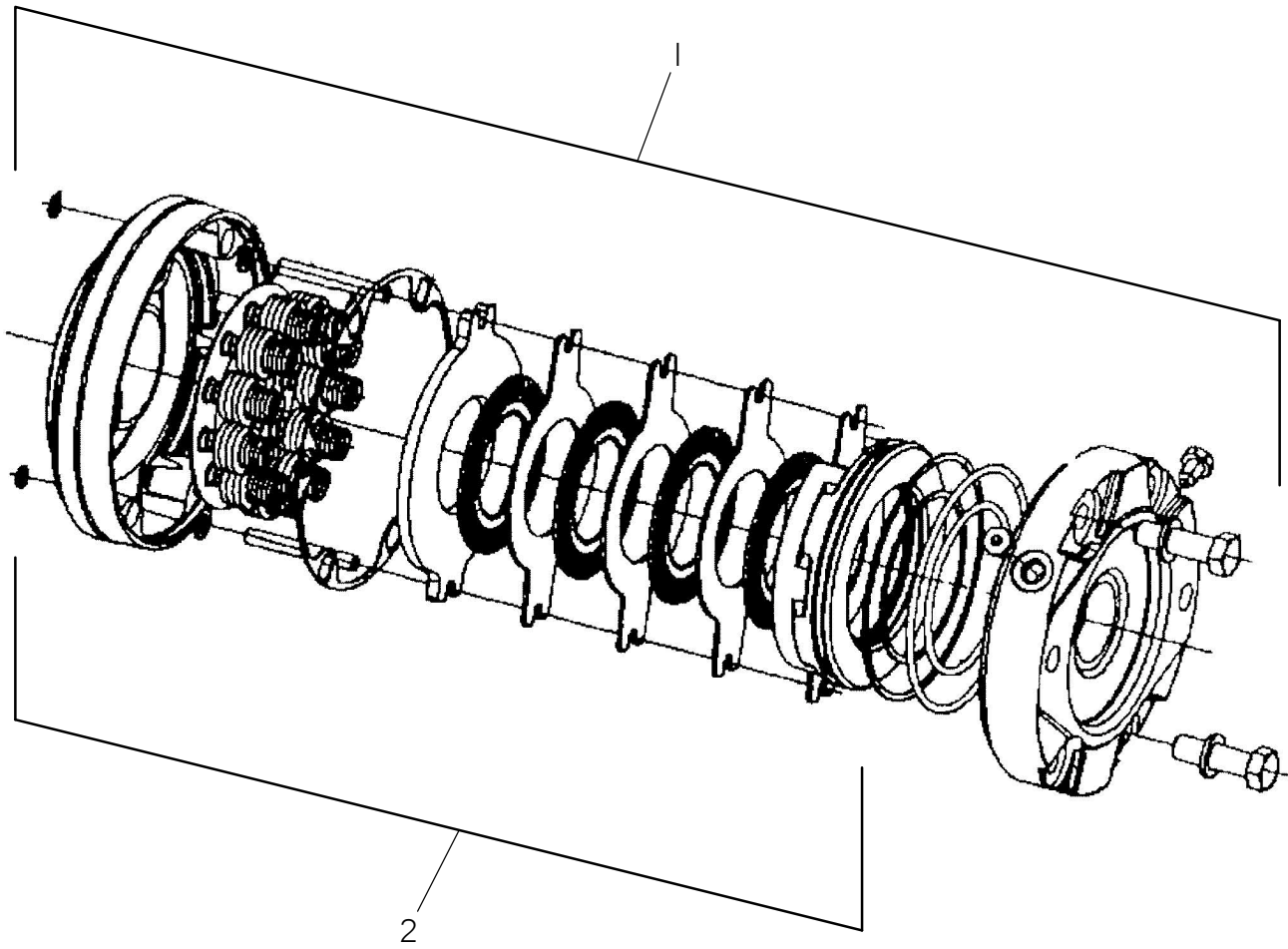


PLANETARY GEAR BOX - TRACK DRIVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	166-414		PLANETARY GEARBOX	
1	501-838	1	INPUT SHAFT (6")	
2	126-074	1	FLANGE BEARING (L- / L-")	
3	157-521	1	EXTERNAL SEAL (3.375")	
4	125-387	1	TAPERED BEARING (2.625")	
5	125-368	1	TAPERED RACE (4.330")	
6	125-388	1	TAPERED BEARING (2.687")	
7	501-629	2	EXTERNAL SNAP RING KIT (2.63")	
8	501-839	1	RING GEAR (6")	
9	499-409	1	PLANET-SUN GEAR SET	
10	105-232	9	LUG BOLT (1/2 - NF X 2-3/8")	
11	501-855	1	COVER (6")	
12	501-842	1	THRUST WASHER (L- / L-")	
13	501-630	1	THRUST WASHER	
14	499-405	1	HYDRAULIC BRAKE	
15	499-404	-	STACK SERVICE KIT	
16	501-836	1	ADAPTER, SPLINED	

FOOTNOTES

GROUND DRIVE BRAKE



GROUND DRIVE BRAKE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	499-405		HYDRAULIC BRAKE	
2.	499-404		STACK SERVICE KIT	SEE FOOTNOTE 1

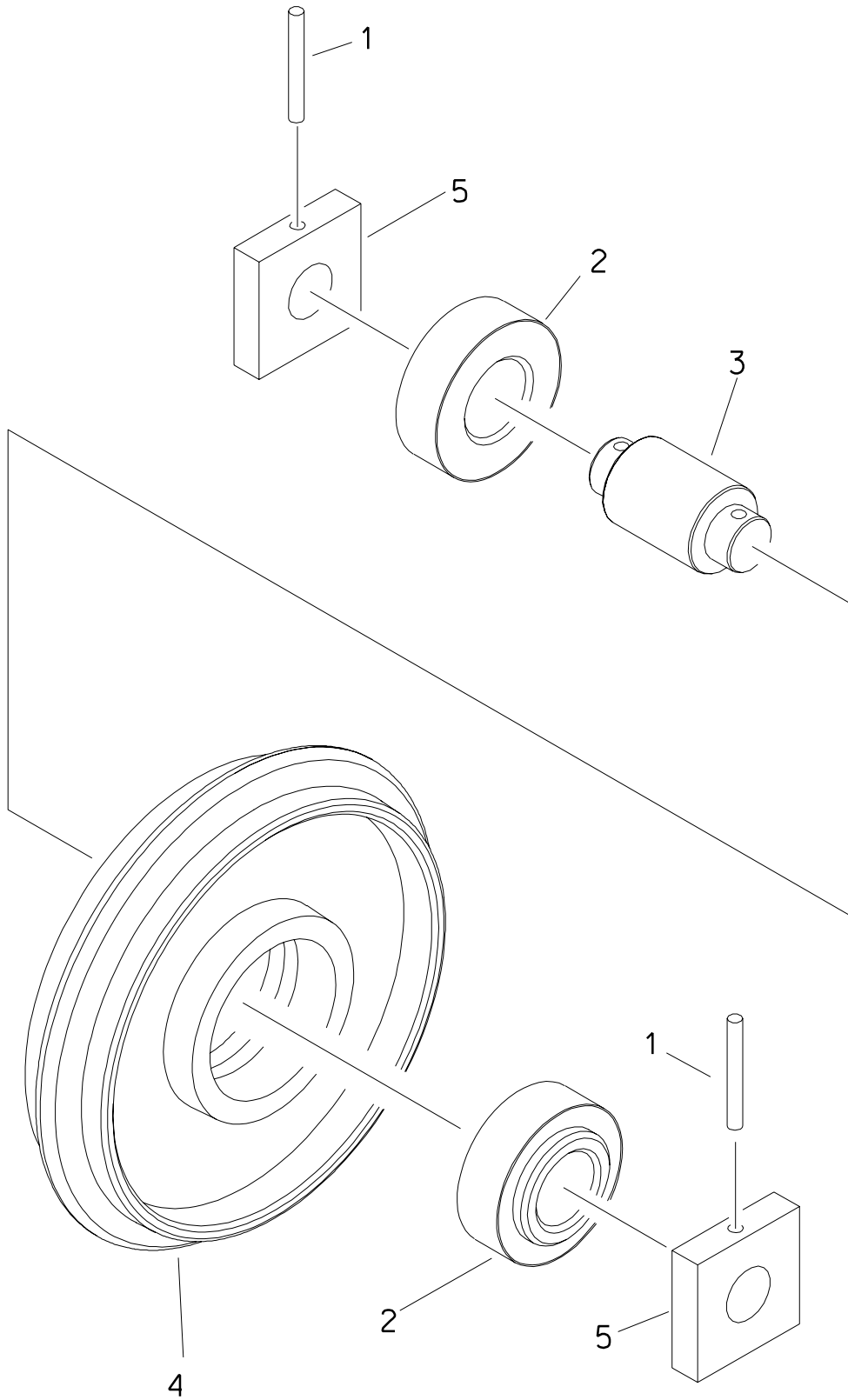
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FOOTNOTES:

KIT INCLUDES: TORQUE PIN O-RING, TORQUE PIN PUSH RETAINER, 2X SPRING, TORQUE PIN, PRIMARY DISC, ROTATING DISC & STATIONARY DISC.

NOTE:

IDLER

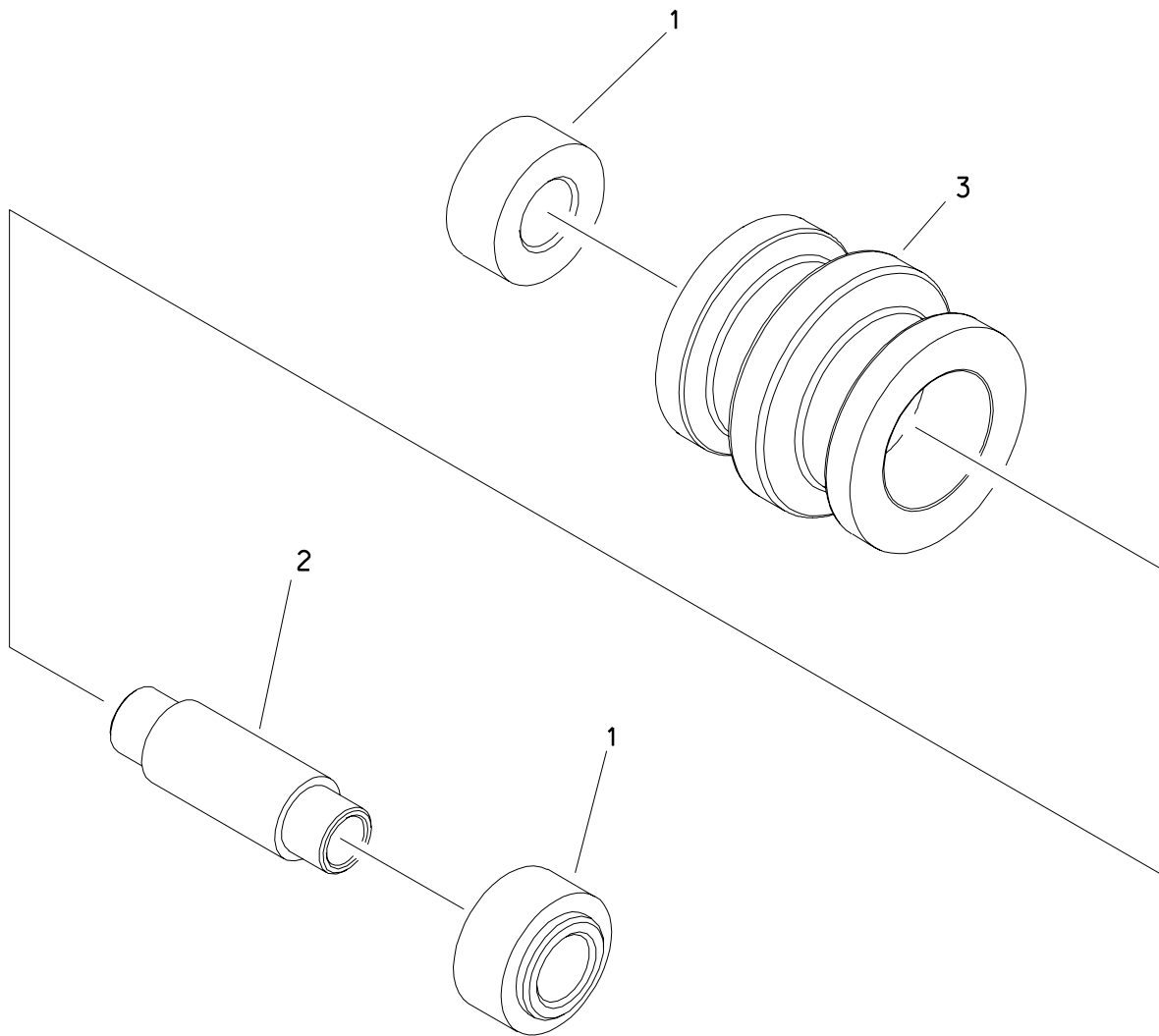


IDLER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	170-339		FRONT IDLER ROLLER	INCL REF NO'S 1 THRU 5
1.	105-561	2	ROLL PIN (3/8" X 2-3/4")	
2.	125-134	2	BALL BEARING (2.362")	
3.	343-836	1	IDLER SHAFT	
4.	343-837	1	IDLER	
5.	343-835	2	PUSH BLOCK	

FOOTNOTES

IDLER ROLLER

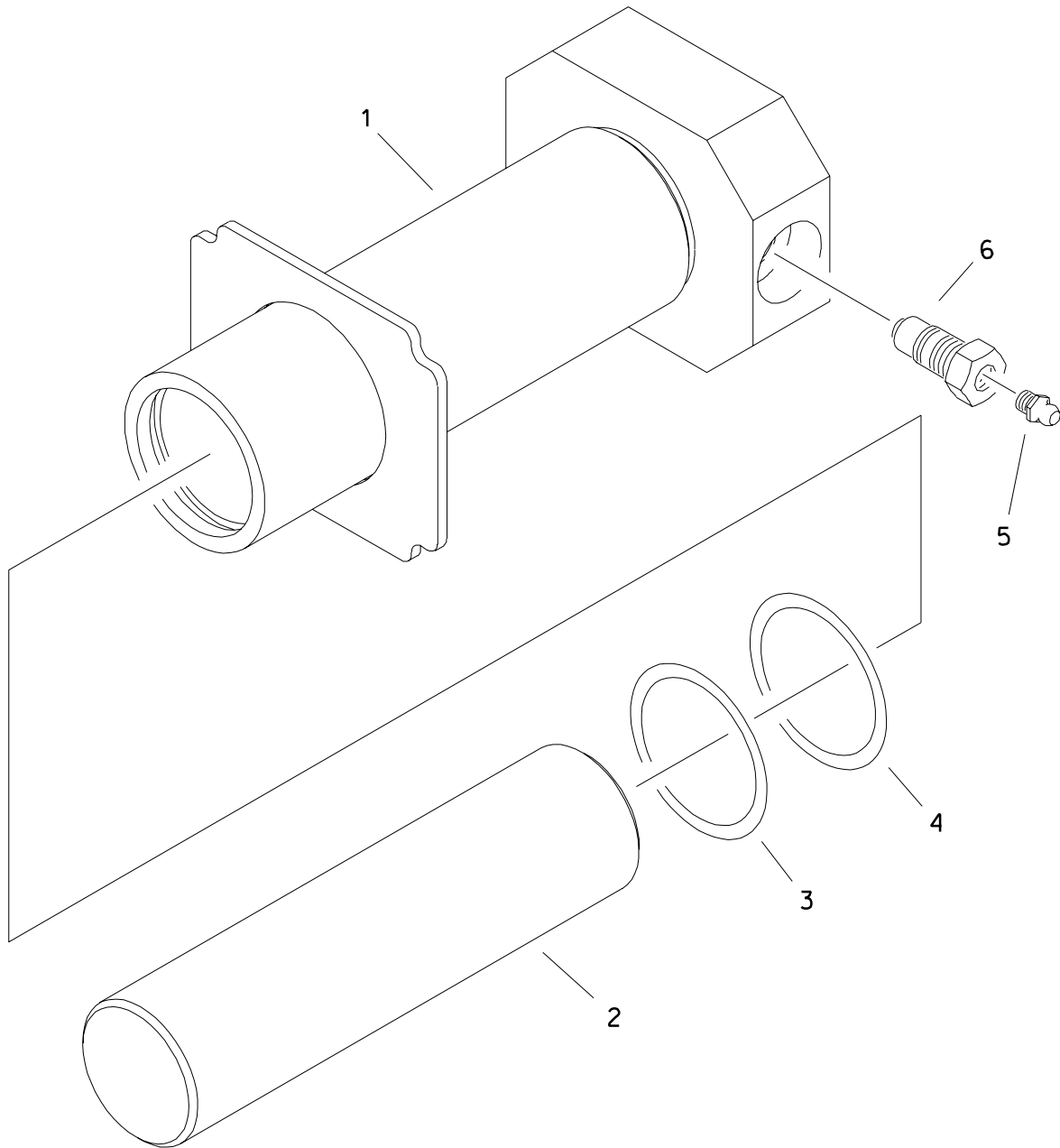


IDLER ROLLER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	170-338		IDLER ROLLER	INCL REF NO'S 1 THRU 3
1.	125-135	2	BALL BEARING (2.362")	
2.	343-825	1	ROLLER SHAFT	
3.	343-824	1	ROLLER SHELL	

FOOTNOTES

GREASE CYLINDER

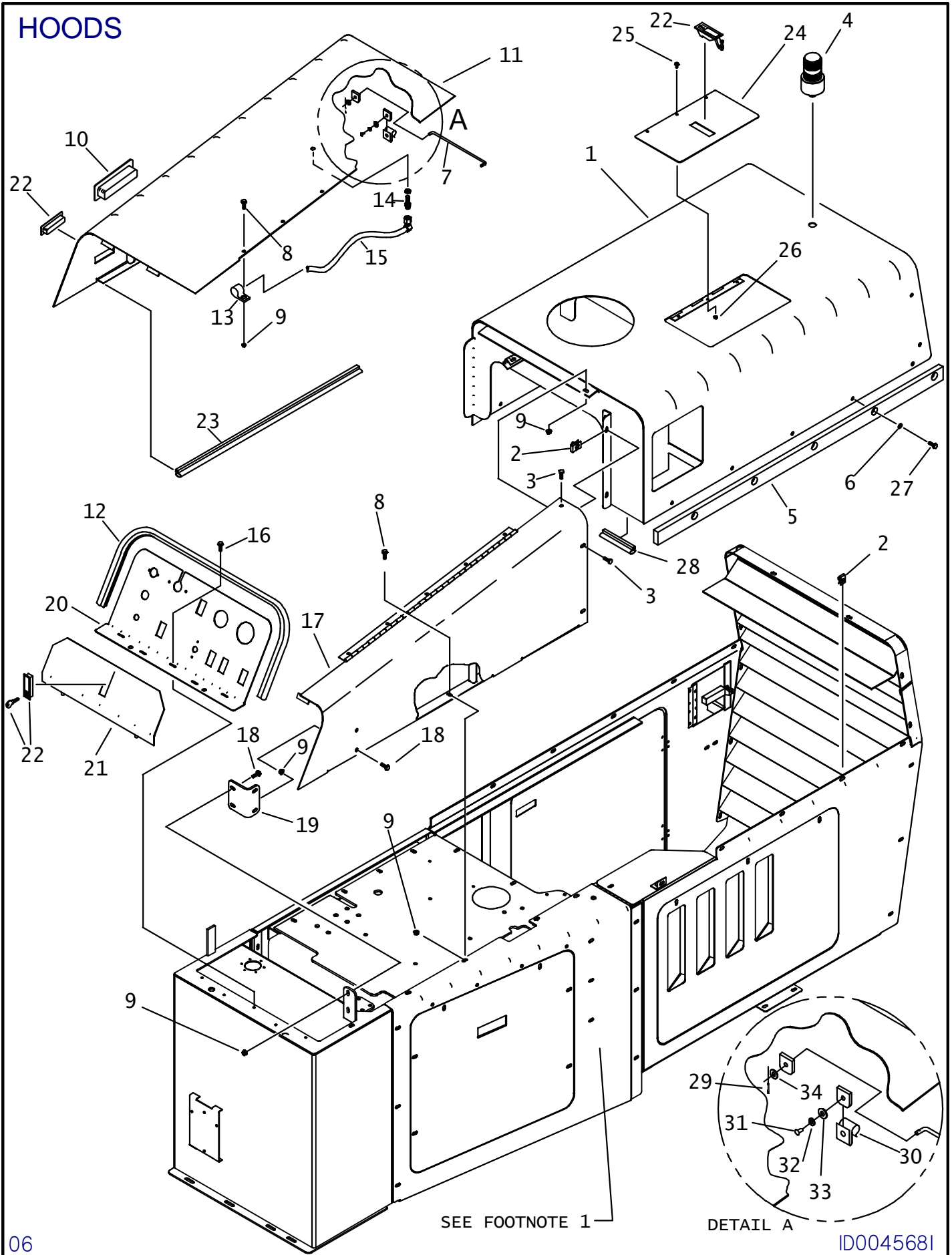


GREASE CYLINDER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	151-181		GREASE CYLINDER	INCL REF NO'S 1,2,3,4, & 6.
1.	343-552	1	GREASE CYLINDER	
2.	350-804	1	CYLINDER ROD	
3.	157-021	1	BACKUP RING (228 D90)	
4.	500-031	1	O-RING (228 D90)	
5.	115-019	1	ZERK (Q2N)	
6.	159-093	1	RELIEF VALVE (5/8 - NF, Q2N)	

FOOTNOTES

HOODS



HOODS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	323-242	1	HOOD	
2.	106-551	30	CLIP NUT (M8-1.25)	
3.	106-991	27	FLG LK SCREW (M8-1.25 X 20mm)	
4.	217-296	1	STROBE LIGHT AMBER MED PROFILE	
	214-991	-	REPLACEMENT FLASH TUBE	
	217-302	-	REPLACEMENT LENS (AMBER)	
	217-301	-	BRUSH GUARD	
	157-645	2	WEATHER PAC-SEAL (2.80MM)	
	214-103	1	(2-WAY) MALE CONNECTOR	
	214-104	2	PACKARD MALE TERMINAL	
5.	323-920	1	WEAR STRIP	
6.	105-117	7	WASHER (5/16")	
7.	179-847	1	PROP ROD	
8.	106-162	11	FLG SCREW (M8-1.25 X 20MM)	
9.	106-386	15	FLG LOCKNUT (M8-1.25)	
10.	110-989	2	POCKET PULL	
11.	323-341	1	RIGHT HOOD	
12.	116-421	AR	BULK EDGE (1/8", SOLD PER 1')	USE 1 @ 44"
13.	110-126	2	BOLT-ON CLAMP (1/2")	
14.	211-055	1	ANTENNA BULKHEAD CONNECTOR	
15.	211-072	1	CABLE	
16.	106-378	5	FLG LK SCREW (M6-1.00 X 12MM)	
17.	323-332	1	LEFT HOOD	
18.	106-992	17	FLG LK SCREW (M8-1.25 X 25MM)	
19.	323-212	1	HOOD ADJUSTMENT BRACKET	
20.	323-488	1	PANEL, ENGINE CONSOLE	
21.	323-897	1	VANDAL GUARD	
22.	117-558	3	ADJUST LEVER LATCH (LOCKING)	
	214-961		KEY, PAIR (BASE CODE)	
	217-309		LOCK PLUG 4/LATCH (BASE CODE)	
	106-270	1	SCREW (M6-1.00 X 20MM)	ADJUSTMENT BOLT
23.	116-489	AR	BULK EDGE (1/8",SOLD PER FT)	USE 1 @ 39"
24.	323-594	1	RADIATOR DOOR	
25.	105-836	3	FLG LOCK BOLT (1/4-NC X 1/2")	
26.	105-832	3	FLG LOCKNUT (1/4-NC)	
27.	106-183	7	SHLD BOLT (1/2" X 1-1/2", 3/8-NC)	
28.	116-421	1	BULK EDGE (1/8",SOLD PER FT)	USE 1 @ 6"
29.	105-512	1	COTTER PIN (3/32" X 3/4")	
30.	110-492	1	J-CLIP (.343")	
31.	110-560	1	POP RIVET (3/16" X 1/2", ALUM)	
32.	105-284	1	WASHER (3/16")	
33.	106-205	1	WASHER (.191")	
34.	106-076	1	WASHER (1/4")	

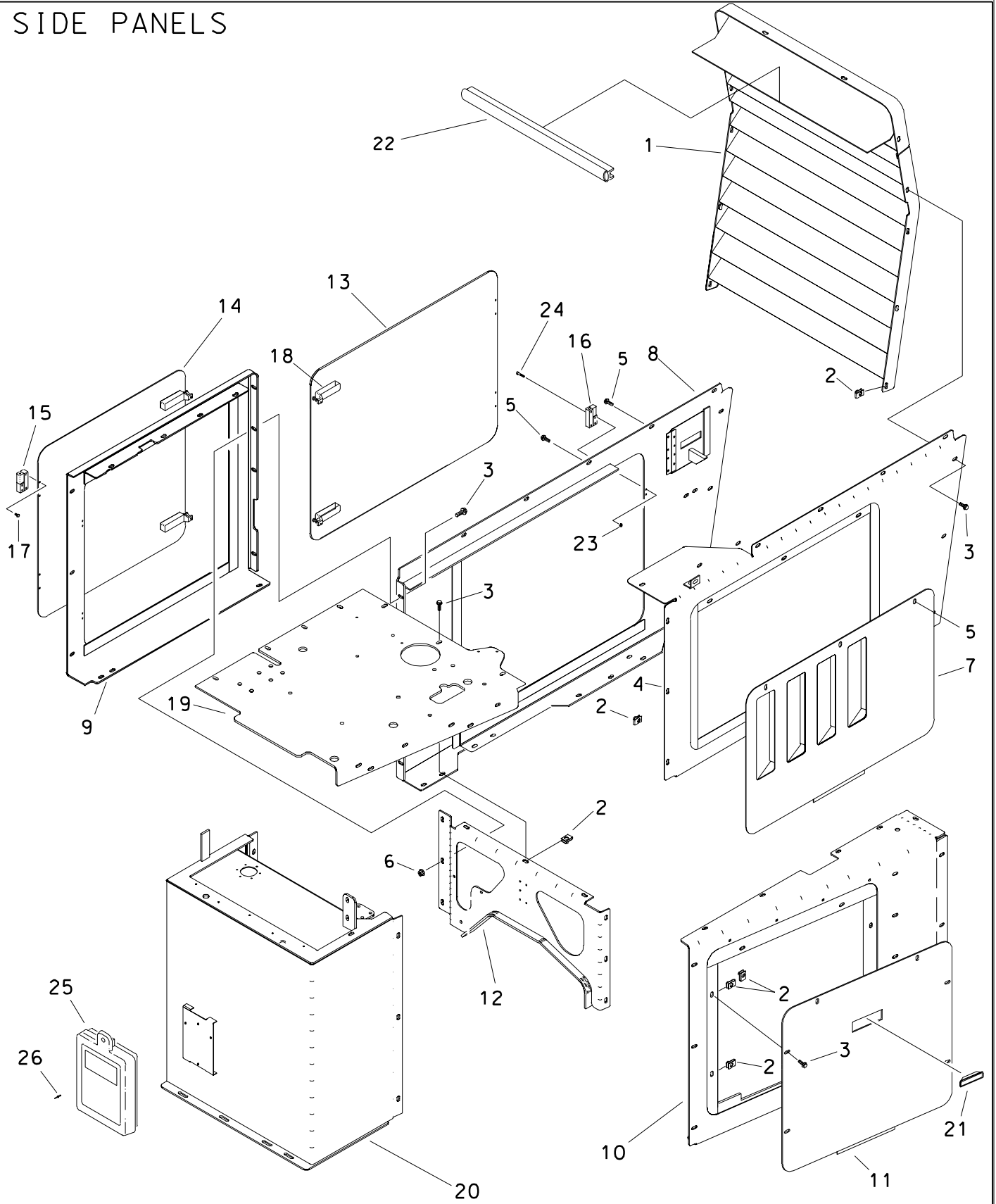
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FOOTNOTES:

1. SEE PAGE TITLED "SIDE PANELS" FOR PANELS.

NOTE:

SIDE PANELS



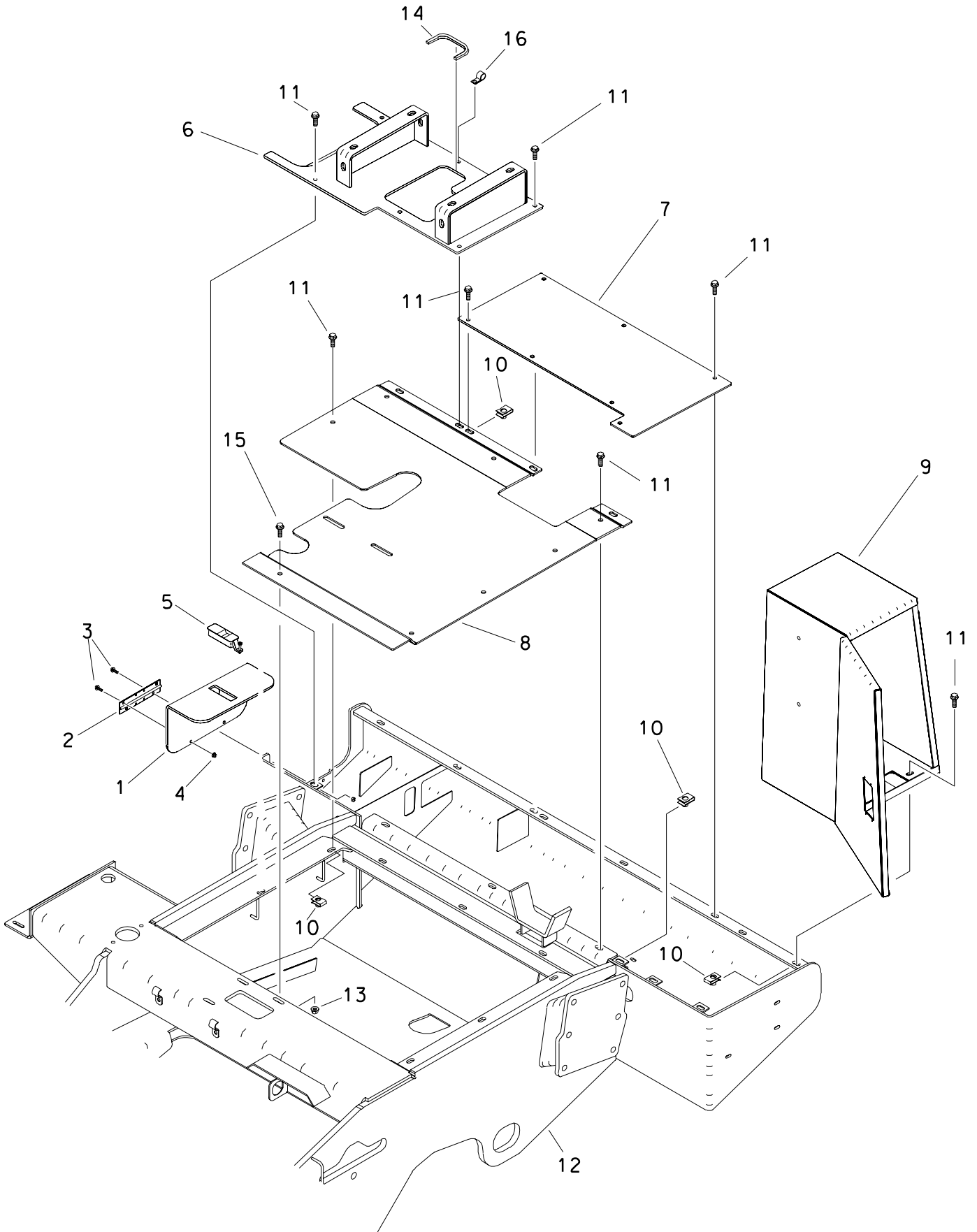
SIDE PANELS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	323-238	1	GRILLE	
2.	106-551	42	CLIP NUT (M8-1.25)	
3.	106-992	45	FLG LK SCREW (M8-1.25 X 25MM)	
4.	323-253	1	REAR LOWER PANEL, LH	
5.	106-991	5	FLG LOCK SCREW (M8-1.25 X 20mm)	
6.	106-386	22	FLG LOCKNUT (M8-1.25)	
7.	323-471	1	L.H. VENT PANEL	
8.	323-258	1	REAR, RH, LWR	
9.	323-249	1	FRONT PANEL (RH)	
10.	323-470	1	FRONT PANEL, LH	
11.	309-092	1	FRONT LEFT DOOR	
12.	323-434	1	SHEET METAL SUPPORT	
13.	323-487	1	RIGHT REAR DOOR	
14.	343-514	1	RIGHT DOOR	
15.	107-550	2	LIFT-OFF HINGE (OFFSET) LH	
16.	107-549	2	LIFT-OFF HINGE (OFFSET) RH	
17.	106-428	8	SCREW (M5-0.80 X 14mm, SOC)	LOCTITE 242
18.	117-558	5	ADJUST LEVER LATCH (LOCKING)	
	214-961		KEY, PAIR (BASE CODE)	
	217-309		LOCK PLUG 4/LATCH (BASE CODE)	
	110-596		KEYS (PAIR)	
19.	323-195	1	BATTERY SUPPORT	
20.	364-673	-	HYDRAULIC TANK	
21.	117-427	1	POCKET PULL HANDLE	
22.	116-421	1	BULK EDGE (1/8", SOLD PER FT)	
23.	106-850	8	LOCKNUT (M5-0.80)	
24.	106-426	8	SCREW (M5-0.80 X 25MM, SOC)	
25.	318-588	1	MANUAL COMPARTMENT	
26.	110-560	4	POP RIVET (3/16" X 1/2", ALUM)	

USE 1 @ 29³/₄"

FOOTNOTES

COVERS



COVERS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	343-262	1	RIGHT REAR DOOR	
2.	303-336	1	HINGE	
3.	106-379	4	FLG LK SCREW (M6-1.00 X 20mm)	
4.	106-385	4	FLG LOCKNUT (M6-1.00)	
5.	117-558	1	ADJUST LEVER LATCH (LOCKING)	
	214-961		KEY, PAIR (BASE CODE)	
	217-309		LOCK PLUG 4/LATCH (BASE CODE)	
	110-596		KEYS (PAIR)	
6.	343-563	1	COVER	
7.	343-889	1	PLATE, TOP REAR	
8.	323-490	1	COVER, TOP	
9.	307-830	1	TOOL BOX	
10.	106-558	24	CLIP NUT (M10-1.50)	
11.	106-383	24	FLG LK SCREW (M10-1.50 X 30MM)	
12.	305-710	-	MAIN FRAME	
13.	106-387	1	FLG LOCKNUT (M10-1.50)	
14.	115-704	AR	BULK EDGE (1/4", SOLD PER 1")	USE 1 @ 9"
15.	106-724	1	FLG SCREW (M10-1.50 X 25MM)	
16.	110-333	1	BOLT-ON CLAMP (1")	

FOOTNOTES

FUEL TANK

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	364-668	1	FUEL TANK	
2.	353-490	5	RUBBER BELT (15.3mm X 526mm)	
3.	353-420	1	FUEL SENDER	
	165-704	1	GASKET	
4.	105-214	5	BOLT (#10-24 X 1/2")	
5.	156-269	2	S/O COUPLER (04H-05H90)	SEE FOOTNOTE 1
6.	116-325	1	GROMMET (.362")	SEE FOOTNOTE 1
7.	118-096	AR	BULK FUEL TUBING (1/4", PER 1')	USE 1 @ 6"
8.	116-881	AR	BULK HOSE (3/8", SOLD PER FT)	USE 1 @ 9"
9.	110-563	1	WORM CLAMP (1/4" TO 5/8")	
10.	194-874	1	FUEL PICKUP (06H)	
11.	116-108	AR	BULK HOSE (5/16", SOLD PER 1")	USE 1 @ 78"
12.	116-881	AR	BULK HOSE (3/8", SOLD PER FT)	USE 1 @ 100"
13.	110-249	2	SNAP-ON CLAMP (.531" TO .593")	
14.	156-275	1	TUBE CONNECTOR (04H-05T)	INCL REF NO'S 15 & 16
15.	156-276	1	FERRULE (05T)	
16.	156-277	1	COMPRESSION NUT (05T)	
17.	115-444	1	PLUG (04N, SOC, SS)	
18.	343-240	1	RETAINER, FUEL TANK	
19.	106-383	3	FLG LK SCREW (M10-1.5 X 30mm)	
20.	106-558	3	CLIP NUT (M10-1.50)	
21.	364-487	1	FUEL FILL BRACKET	
22.	106-162	2	FLG SCREW (M8-1.25 X 20mm, GD8)	
23.	106-386	2	FLG LOCKNUT (M8-1.25)	
24.	364-659	1	FILLER NECK	
25.	110-010	1	FUEL CAP (1-1/2")	
26.	118-290	1	FUEL HOSE	
27.	110-134	3	WORM CLAMP (2.062" TO 2.750")	
28.	116-322	AR	BULK HOSE (1/2",SOLD PER 1")	USE 1 @ 32"

NOT SHOWN:

FOOTNOTES:

1. APPLY RED RTV SILICONE AROUND OUTSIDE CIRCUMFERENCE OF REF. 5 & 6 PRIOR TO INSTALLATION.

NOTE:

FUEL TANK

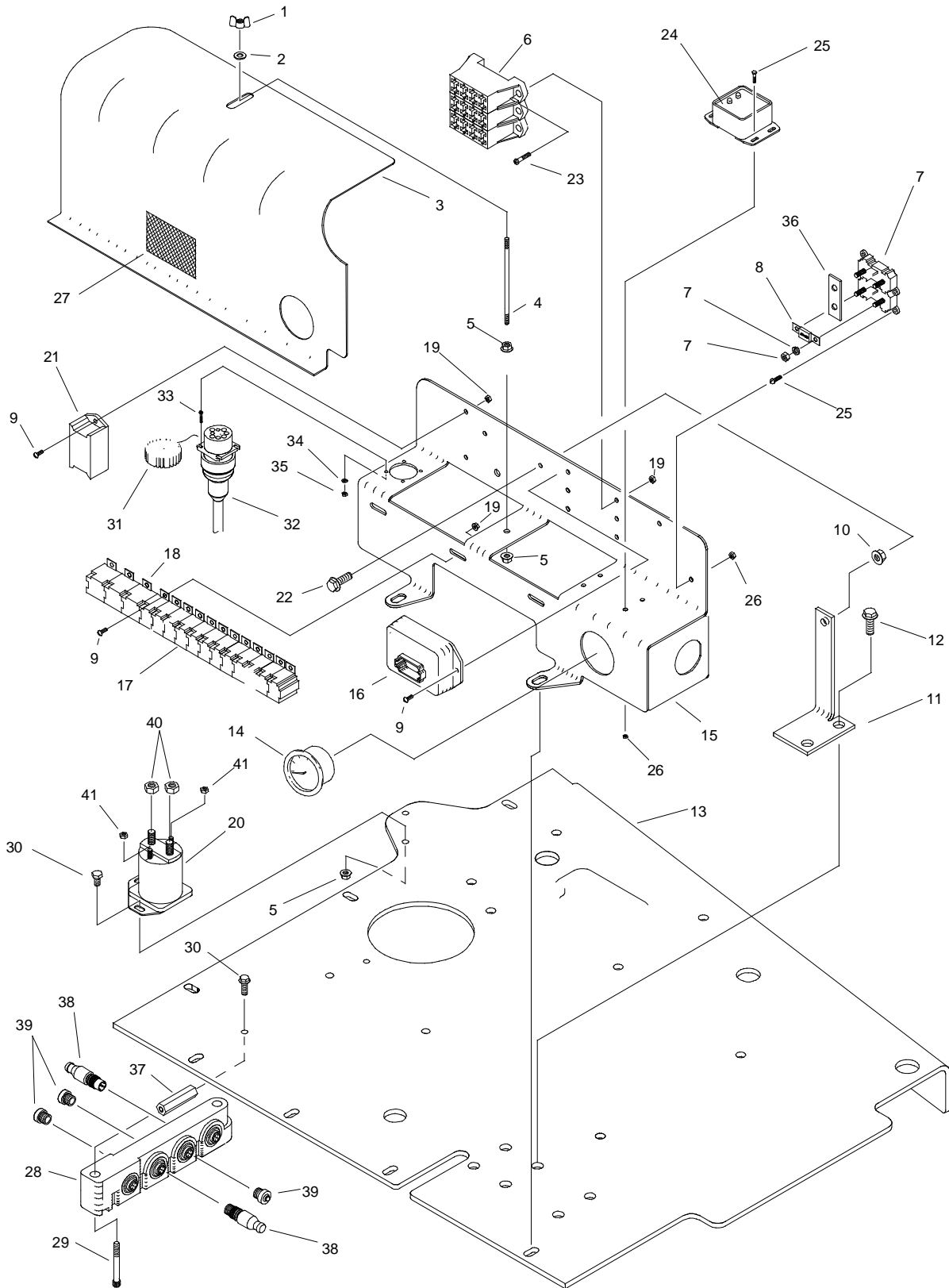
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
29.	110-217	2	WORM CLAMP (7/16" TO 1")	
30.	117-690	1	ABRASION SLEEVE (1.25" X 58")	
31.	110-249	2	WORM CLAMP (1/4" TO 5/8")	
32.	106-048	4	LOCKNUT (#10-24)	
33.	364-663	1	FILLER NECK SCREEN	
34.	155-708	1	O-RING (218 D70)	
35.	111-133	2	SPRING CLAMP (.580 TO .660)	
36.	117-990	1	GROMMET (.620 X .750)	
37.	159-755	1	S/O COUPLER (06H-06H90, 1.75")	
38.	159-763	1	STEM (06FFORX90S)	
39.	159-757	1	CONN (M12-1.5,4MM X 060,6.5MM)	
40.	105-185	4	BOLT (#10-24 X 1/2", RD SLT)	

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FOOTNOTES:

NOTE:

RELAY PANEL



RELAY PANEL

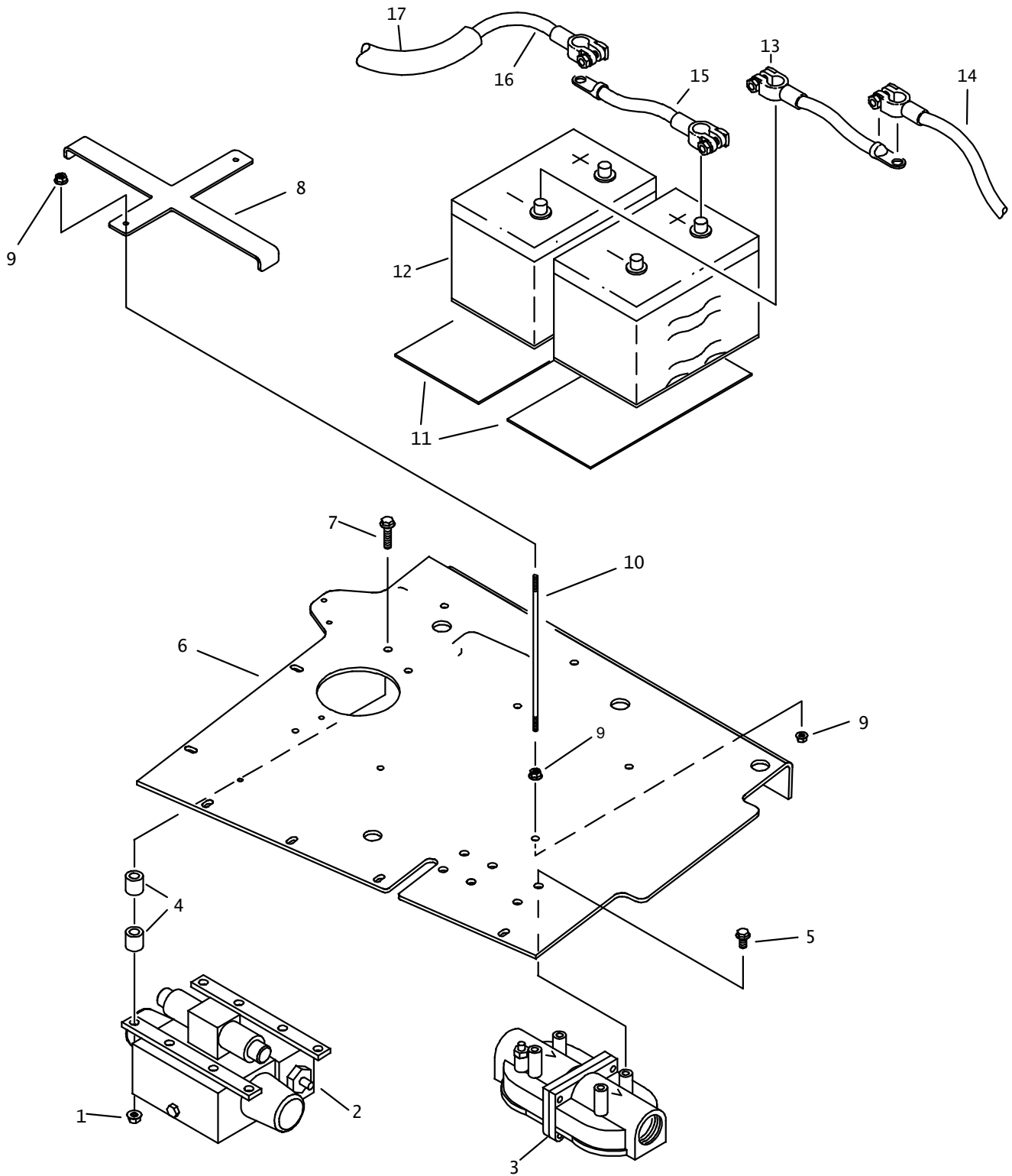
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	195-339	1	WING NUT (1/4-NC)	
2.	105-095	1	WASHER (1/4")	
3.	308-957	1	RELAY PANEL COVER	
4.	106-289	1	STUD BOLT (1/4-NC X 5", GD8)	
5.	105-832	2	FLG LOCKNUT (1/4-NC)	
6.	214-746	3	RELAY/ENGINE HARNESS	
7.	363-714	2	FUSE HOLDER & COVER	COMES WITH NUTS & WASHERS
8.	211-305	2	BK/AMI 125 AMP FUSE	
9.	105-185	7	BOLT (#10-24 X 1/2", RD SLT)	
10.	106-386	1	FLG LOCKNUT (M8-1.25)	
11.	323-208	1	SUPPORT BRACKET	
12.	105-826	2	FLG LK BOLT (3/8-NC X 1")	
13.	323-195	1	BATTERY SUPPORT	
14.	215-128	1	HOUR METER	USE ON AT27T2 ONLY
15.	323-209	1	RELAY PANELCONTROL PANEL	
16.	211-031	1	BORE/MOBILE RESISTOR PACK	
17.	217-710	12	MICRO RELAY (SPDT)	
18.	217-826	3	MINI RELAY (SPDT)	
19.	106-048	11	LOCKNUT (#10-24)	
20.	214-979	1	PREHEAT SOLENOID	
21.	217-184	1	DELAY TIMER (2-SECOND)	
22.	106-162	1	FLG SCREW(M8-1.25 X 20MM, GD8)	
23.	106-049	6	BOLT (#10-24 X 3/4", PLPS)	
24.	211-017	1	12V-5V VOLTAGE CONVERTOR	
25.	105-189	6	SCREW (#6-32 X 1/2")	
26.	105-215	6	NUT (#6-32)	
27.	273-236	-	ENGINE ELECTRICAL CENTER	
28.	213-061	1	CAN MULTIPOINT MODULE	
29.	505-070	2	BOLT (1/4-NC X 2", SOC)	
30.	105-820	4	FLG LK BOLT (1/4-NC X 3/4")	
31.	213-035	1	DUST CAP W/ LANYARD	
32.	213-165	1	CAN DIAGNOSTIC HARNESS	
33.	107-269	4	SCREW (#4-40 X 3/4", PAN)	
34.	106-279	4	WASHER, FLAT, #4, BRS	
35.	106-277	4	NUT, (#4-40 BRASS)	
36.	211-321	1	BUSSBAR	
37.	324-752	2	J-BOX STAND OFF	
38.	211-274	2	CAN RESISTOR	
39.	211-078	3	CONNECTOR CAP (TURCK RS-CC)	
40.	105-092	2	NUT (5/16-NC)	
41.	506-021	2	NUT (#10-32)	

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FOOTNOTES:

NOTE:

BATTERY SUPPORT



BATTERY SUPPORT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	105-894	4	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
2.	153-543	1	THRUST VALVE (ELECTRIC)	
3.	159-411	1	FILTER HEAD (20SF-20SF)	
	168-616	-	FILTER HEAD GASKET	
	153-791	2	FILTER ELEMENT (1-1/2-UNF)	50 HOUR BREAK-IN FILTER
	153-792	2	FILTER ELEMENT (1-1/2-UNF)	
4.	178-011	8	BOSS	
5.	105-826	4	FLG LK BOLT (3/8-NC X 1")	
6.	323-195	-	BATTERY SUPPORT	
7.	106-617	4	SCREW (M10-1.50 X 80MM)	
8.	347-857	1	DUAL BATTERY STRAP	
9.	105-832	6	FLG LOCKNUT (1/4-NC)	
10.	108-155	2	BATTERY ROD	
11.	116-717	2	BATTERY PAD	
12.	215-262	2	BATTERY (12V, 925 AMP)	
13.	215-350	1	BAT CABLE (2 GA X 8", BLK)	
14.	215-337	1	BAT CABLE (2/0 GA X 19", BLK)	
15.	215-349	1	BAT CABLE (2 GA X 8", RED)	
16.	215-317	1	BAT CABLE (2/0 GA X 54", RED)	
17.	116-389	1	BULK TUBING (3/4".SOLD PER FT)	

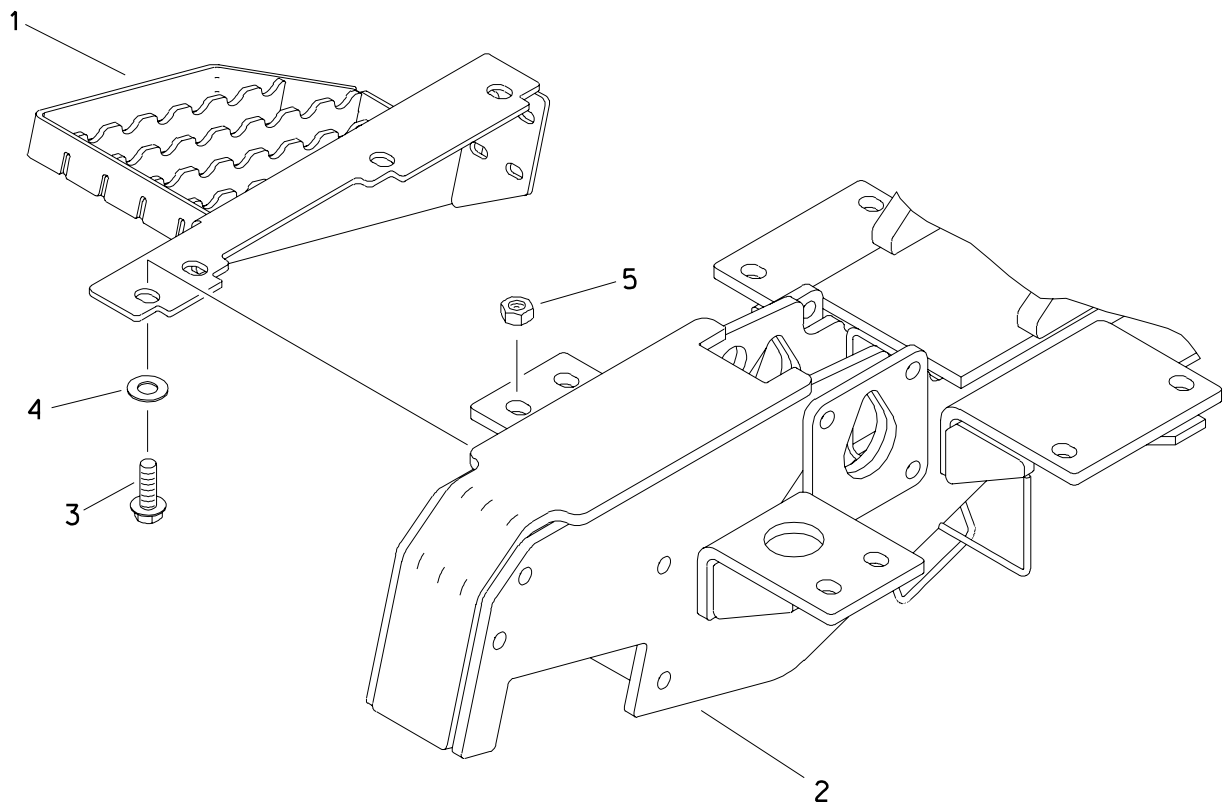
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FOOTNOTES:

NOTE:

OPERATOR'S STATION

STEP

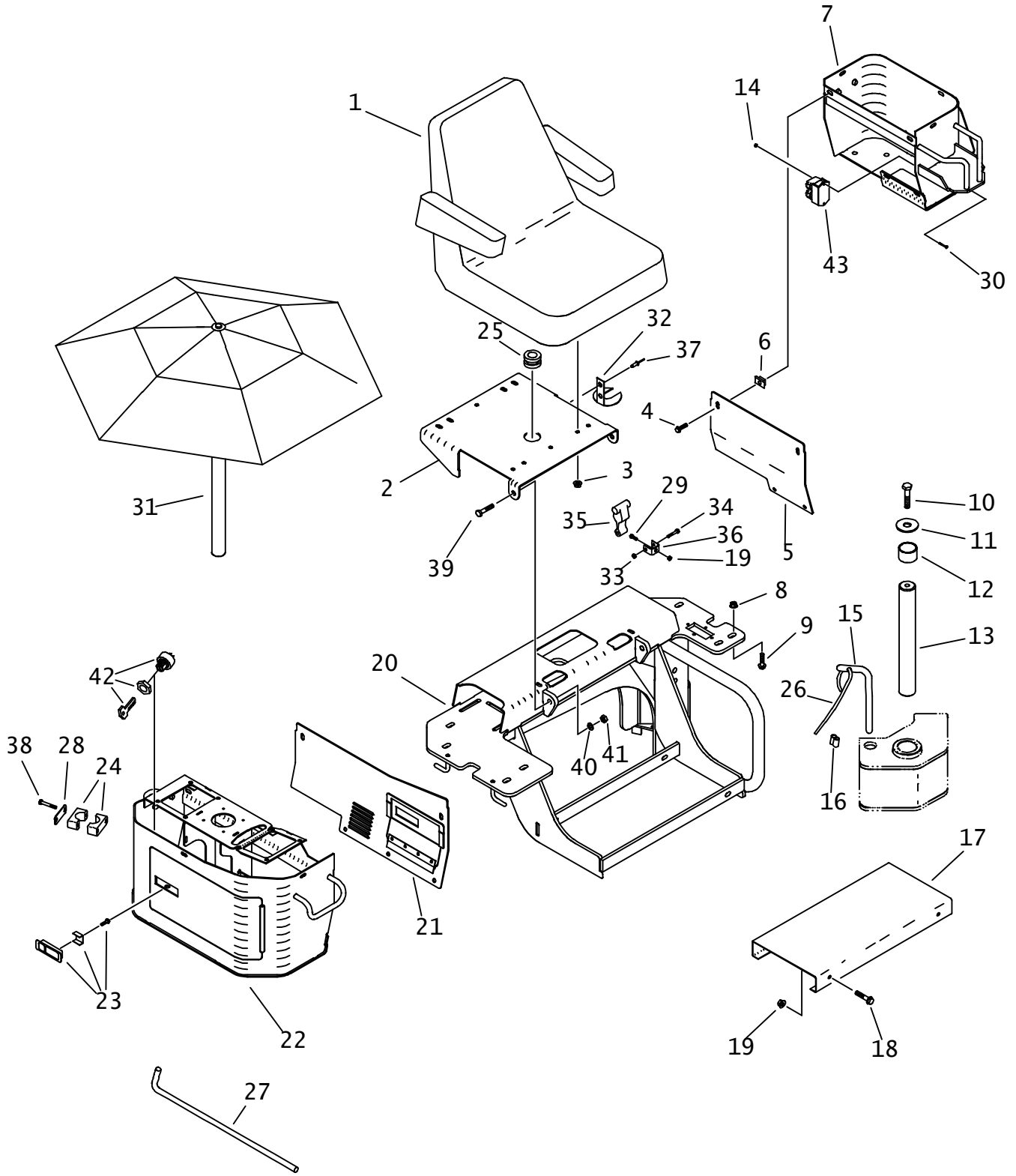


STEP

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-960	1	STEP	
2.	303-648	-	DRILL FRAME	
3.	106-616	1	SCREW (M16-2.00 X 55MM, 10.9)	
4.	106-398	1	WASHER (M16, HARDENED)	
5.	106-545	1	LOCKNUT (M16-2.0,PRV TRQ,10.9)	

FOOTNOTES

SEAT MOUNT



SEAT MOUNT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	117-914	1	SEAT ASS'Y W/ ARM REST	
	117-912		SEAT CUSHION ASSM'Y W/SWITCH	
	214-964		SEAT SWITCH W/ BOOT	
	214-965		SEAT SWITCH HARNESS	
	117-573		BACK CUSHION	
	191-170		L. ARMREST KIT	
	191-171		R. ARMREST KIT	
	191-172		SEAT SLIDE KIT	
2.	310-634	1	SEAT PLATE	
3.	105-003	4	FLG LOCKNUT (5/16-NC)	
4.	107-095	9	FLG SCREW (M8-1.25 X 16MM)	
5.	348-694	1	LEFT COVER	
6.	106-551	9	CLIP NUT (M8-1.25)	
7.	211-004	1	LEFT CONSOLE	
8.	105-833	8	FLG LOCKNUT (1/2-NC)	
9.	106-413	8	CARRIAGE BOLT (1/2-NC X 1")	
10.	107-206	2	SCREW (M12-1.75 X 35MM)	LOCTITE 277
11.	105-057	2	WASHER (9/16")	
12.	125-739	4	COMPOSITION BUSHING (1.756")	
13.	179-240	1	PIN	
14.	106-048	1	LOCKNUT (#10-24)	
15.	179-244	1	PIN	
16.	350-275	2	ALUMINUM SLEEVE (1/16")	
17.	348-695	1	FLOOR TREAD	
18.	106-992	4	FLG LK SCREW (M8-1.25 X 25MM)	
19.	106-386	5	FLG LOCKNUT (M8-1.25)	
20.	348-711	1	SEAT MOUNT	
21.	309-234	1	RIGHT COVER	
22.	303-956	1	RIGHT CONSOLE	
	314-591	-	RIGHT CONSOLE ACCESS DOOR	
23.	117-558	2	ADJUST LEVER LATCH (LOCKING)	
	214-961		KEY, PAIR (BASE CODE)	
	217-309		LOCK PLUG 4/LATCH (BASE CODE)	
	110-596	-	KEY (PAIR)	
24.	111-026	2	BOLT-ON CLAMP (1-1/4", PAIR)	
25.	115-320	1	GROMMET (1-1/2")	
26.	110-981	AR	BULK CABLE (1/16", SOLD PER 1')	USE 1 @ 12"
27.	215-799	1	VOLTAGE STAKE	
28.	322-362	2	BACKUP SPACER	
29.	105-806	1	SCREW (M8-1.25 X 25MM)	
30.	106-049	1	BOLT (#10-24 Xf", PLPS)	

FOOTNOTES:

NOTE:

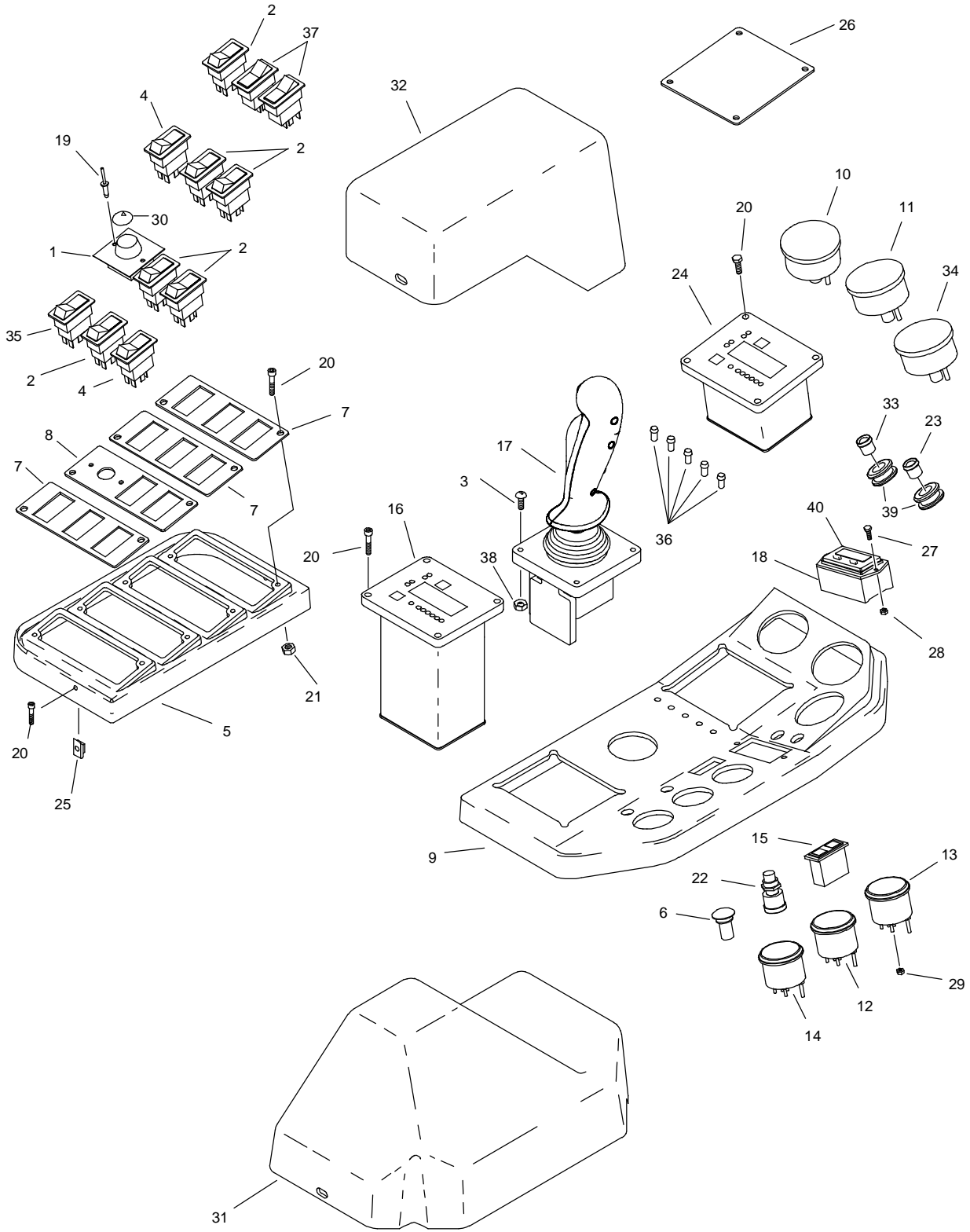
SEAT MOUNT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
31.	344-0001	1	UMBRELLA (6.5')	
	500-1962	-	UMBRELLA POLE (16")	
32.	110-223	1	LATCH BRACKET	
33.	106-237	1	LOCKNUT (M6-1.00,PRV TRQ,NLK)	
34.	106-093	1	SCREW (M6-1.00 X 45MM)	
35.	110-222	1	HOOD LATCH	
36.	110-224	1	ANCHOR BRACKET	
37.	110-253	2	POP RIVET (3/16" X 1/2")	
38.	105-297	4	BOLT (1/4-NC X 3-1/4")	
39.	106-739	2	SHLD BLT (M12 X 20MM,M10-1.50)	
40.	106-391	2	WASHER (M12)	
41.	106-758	2	LOCKNUT (M10-1.50)	
42.	214-908	1	OFF-ON KEY SWITCH	
43.	211-026	1	DIODE PACK (DEUTSCH)	

FOOTNOTES:

NOTE:

OPERATOR STATION GAUGES



OPERATOR STATION GAUGES

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	214-566	1	POTENTIOMETER	
2.	214-489	6	ROCKER SW (DPDT) (ON)-OFF-(ON)	
3.	105-815	4	BOLT (#10-24 X 1", PAN SLT)	
4.	217-911	2	ROCKER SWITCH (SPDT) ON-OFF-ON	
5.	211-009	1	LEFT CONSOLE COVER	
6.	217-206	1	BUTTON SWITCH (SPST)	
	215-754	1	MC INSULATOR (2-TERMINAL)	
7.	362-929	3	SWITCH PANEL	
8.	362-931	1	SWITCH PANEL	
9.	211-014	1	RIGHT CONSOLE COVER	
10.	258-045	1	GAUGE (4000 PSI)	
11.	258-036	1	HYD PRESSURE GAUGE (6000 PSI)	
12.	258-076	1	OIL PRESSURE GAUGE	
	215-415	1	NITE-LIGHT KIT (12V DC)	OPTION
13.	258-077	1	WATER TEMPERATURE GAUGE	
14.	215-133	1	FUEL GAUGE	
	215-415	1	NITE-LIGHT KIT (12V DC)	OPTION
15.	217-020	1	PILOT LIGHT	
	217-027	1	INSERT (RED) HYD OIL HI TEMP	
	217-036	1	INSERT (YELLOW) HYD OIL PSI	
	217-074	2	LENS REFLECTOR	
	217-046		BULB (12V DC)	
16.	220-027	1	ESID MODULE	
17.	215-1224	1	DUAL AXIS JOYSTICK	
	197-104		REMANUFACTURED 214-565 JYSTK	
18.	217-221	1	FLOW METER DISPLAY	
19.	110-560	2	POP RIVET (3/16" X 1/2", ALUM)	
20.	106-640	19	BOLT (M6-1.00 X 20MM, BUT SOC)	
21.	106-237	8	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
22.	306-607	1	HORN BUTTON	
	306-608	1	BUTTON COVER	
23.	214-840	1	GREEN LED (12V DC)	
24.	N/A	1	REMOTE DISPLAY	
25.	106-574	3	CLIP NUT (M6-1.00)	
26.	348-896	1	COVER PLATE	FOR UNITS WITHOUT REMOTE DISPLAY
27.	501-343	2	BOLT (#10-24 X 1/2", SOC)	
28.	106-048	2	LOCKNUT (#10-24)	
29.	105-215	6	NUT (#6-32)	

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FOOTNOTES:

NOTE:

OPERATOR STATION GAUGES

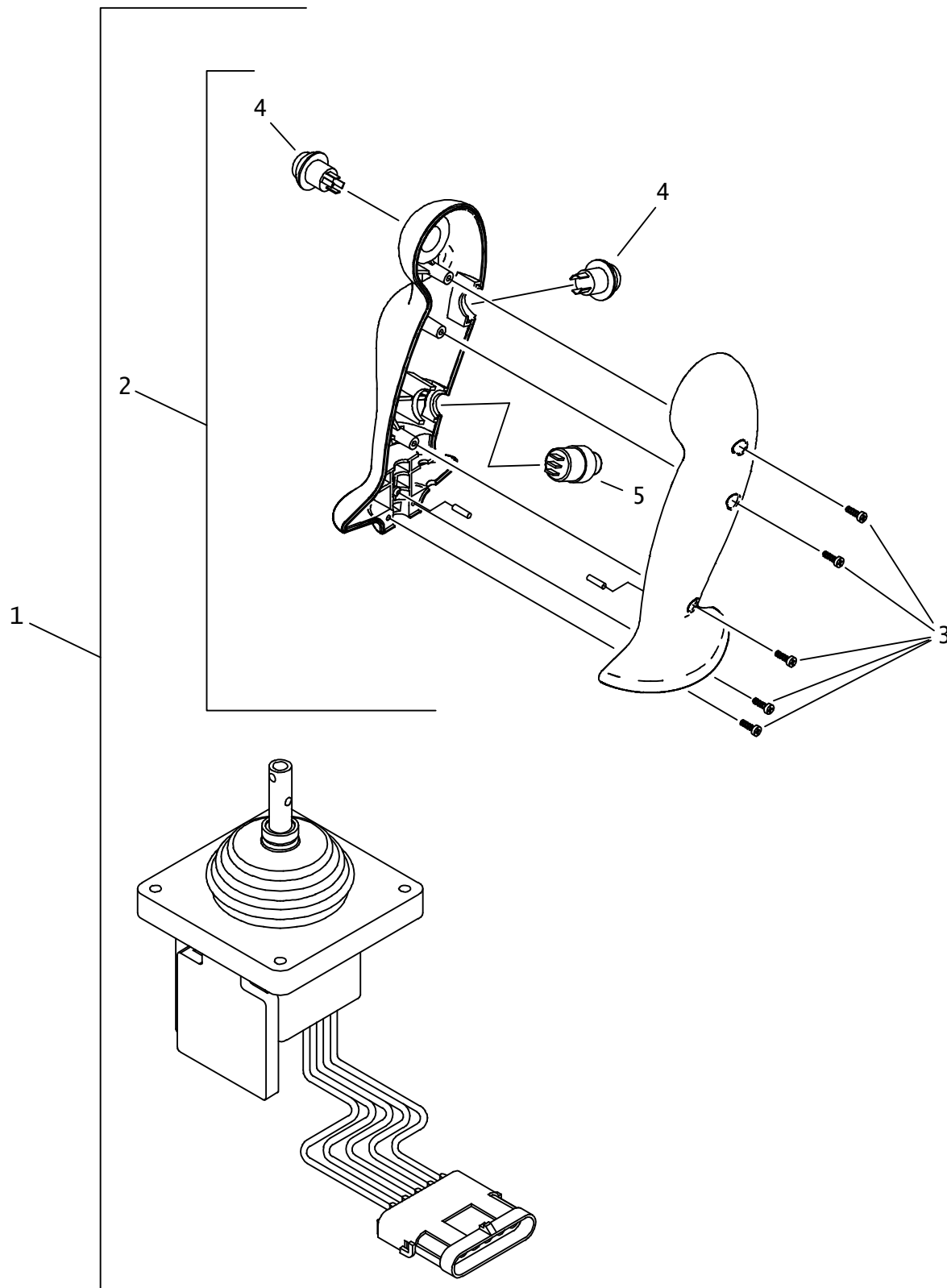
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
30.	274-940	1	INDICATOR	
31.	348-960	1	RIGHT CONSOLE COVER	
32.	310-184	1	LEFT CONSOLE COVER	
33.	214-563	1	RED LED 12V	
34.	258-046	1	PRESSURE GAUGE (1500PSI)	
35.	217-912	1	ROCKER SWITCH (DPDT) ON-ON-ON	
36.	214-701	5	STATUS LIGHT	
37.	217-908	2	ROCKER SWITCH DPDT ON-ON-(ON)	
38.	105-186	4	NUT (#10-24)	
39.	116-203	AR	GROMMET (9/16")	
40.	319-412	1	FLOW METER WEATHER COVER	

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FOOTNOTES:

NOTE:

DUAL AXIS JOYSTICK



DUAL AXIS JOYSTICK

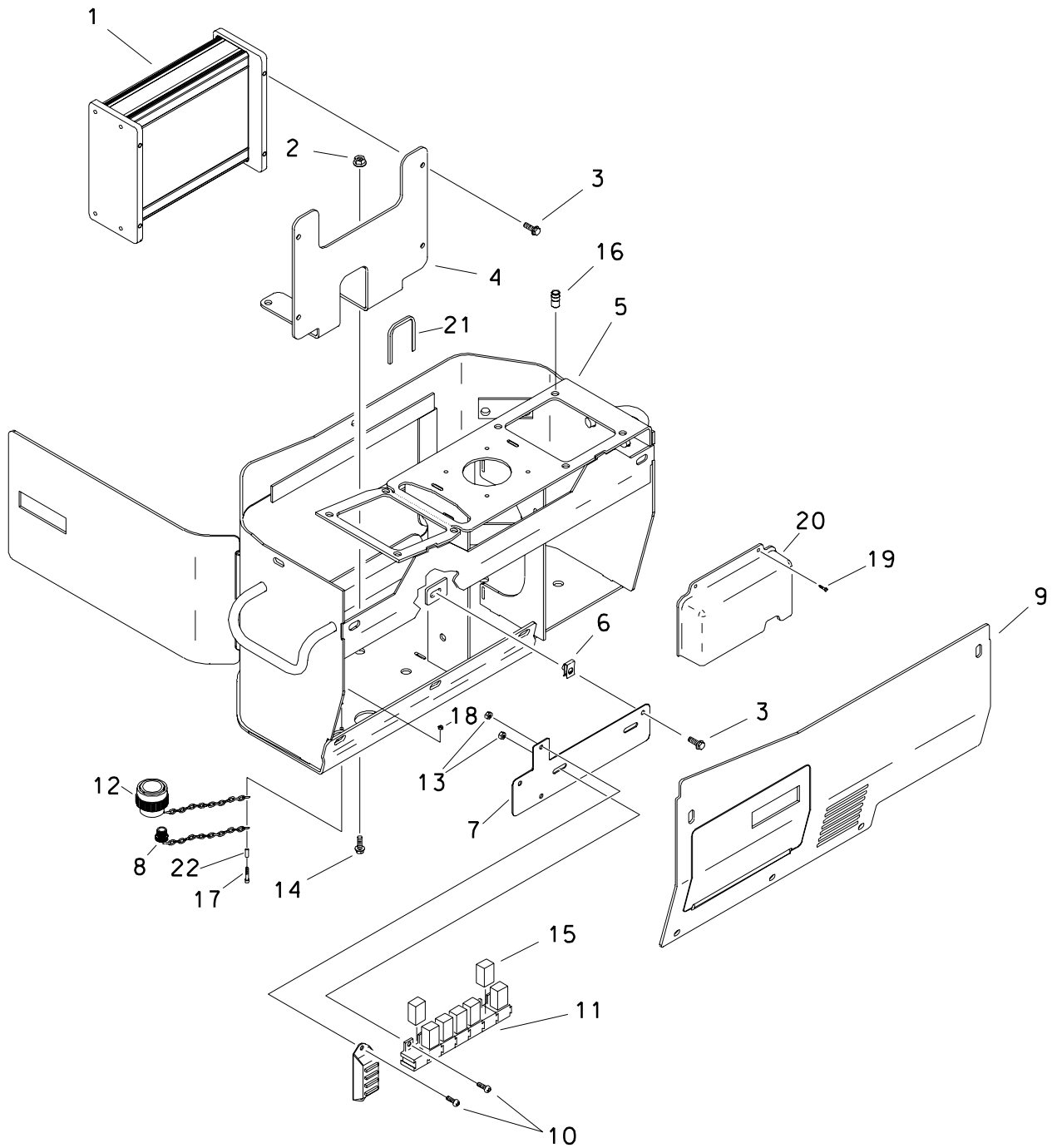
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	215-1224	-	DUAL AXIS JOYSTICK	
2.	500-1433	-	JOYSTICK HANDLE ASSEMBLY	INCLUDES REF No's 3,4,& 5
3.	107-410	-	SCREW (#2.5 X 8", PAN, PLASTIC)	
4.	214-614	-	PUSHBUTTON SW (SPST) OFF-(ON)	
5.	214-616	-	PUSHBUTTON SW (SPDT) ON-ON	

NOT SHOWN:

FOOTNOTES:

NOTE:

RIGHT CONSOLE ELECTRICAL

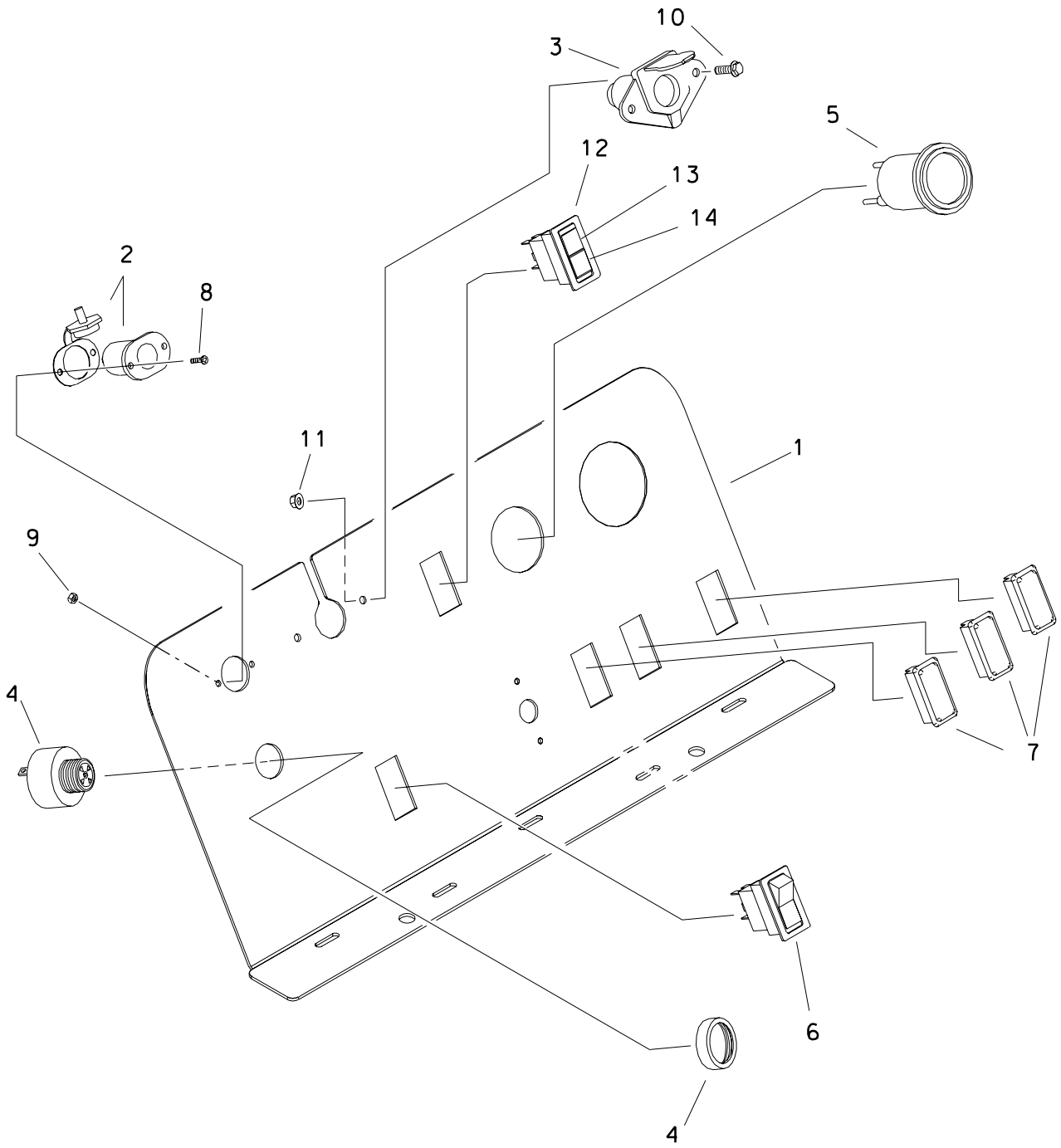


RIGHT CONSOLE ELECTRICAL

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	216-059	1	CONTROL MODULE	
2.	106-386	2	FLG LOCKNUT (M8-1.25)	
3.	106-378	6	FLG LK SCREW (M6-1.00 X 12MM)	
4.	305-990	1	BRACKET, CONTROLLER	
5.	303-956	-	RIGHT CONSOLE	
6.	106-574	2	CLIP NUT (M6-1.00)	
7.	315-439	1	RELAY PANEL	
8.	211-078	1	CONNECTOR CAP (TURCK RS-CC)	
9.	309-234	-	RIGHT COVER	
10.	106-049	4	BOLT (#10-24 X 3/4", PLPS)	
11.	213-161	1	CONSOLE HARNESS	
	110-930	1	SPIRAL WRAP (1.5", SOLD PER FT)	1 @ 50"
12.	214-812	1	PROTECTIVE CAP	
13.	106-048	4	LOCKNUT (#10-24)	
14.	106-380	2	FLG LK SCREW (M8-1.25 X 16MM)	
15.	217-710	7	MICRO RELAY (SPDT)	
16.	106-670	8	NUTSERT (M6-1.00)	
17.	107-269	4	SCREW (#4-40 X 3/4", PAN)	
18.	105-662	4	NUT (#4-40)	
19.	105-214	2	FLG SCREW (#10-24 X 1/2")	
20.	315-410	1	RELAY COVER	
21.	115-686	-	BULK EDGE (5/32", SOLD PER 1')	1 @ 2.5"
22.	350-275	1	ALUMINUM SLEEVE (1/16")	

FOOTNOTES

AUXILIARY CONSOLE JT27T2



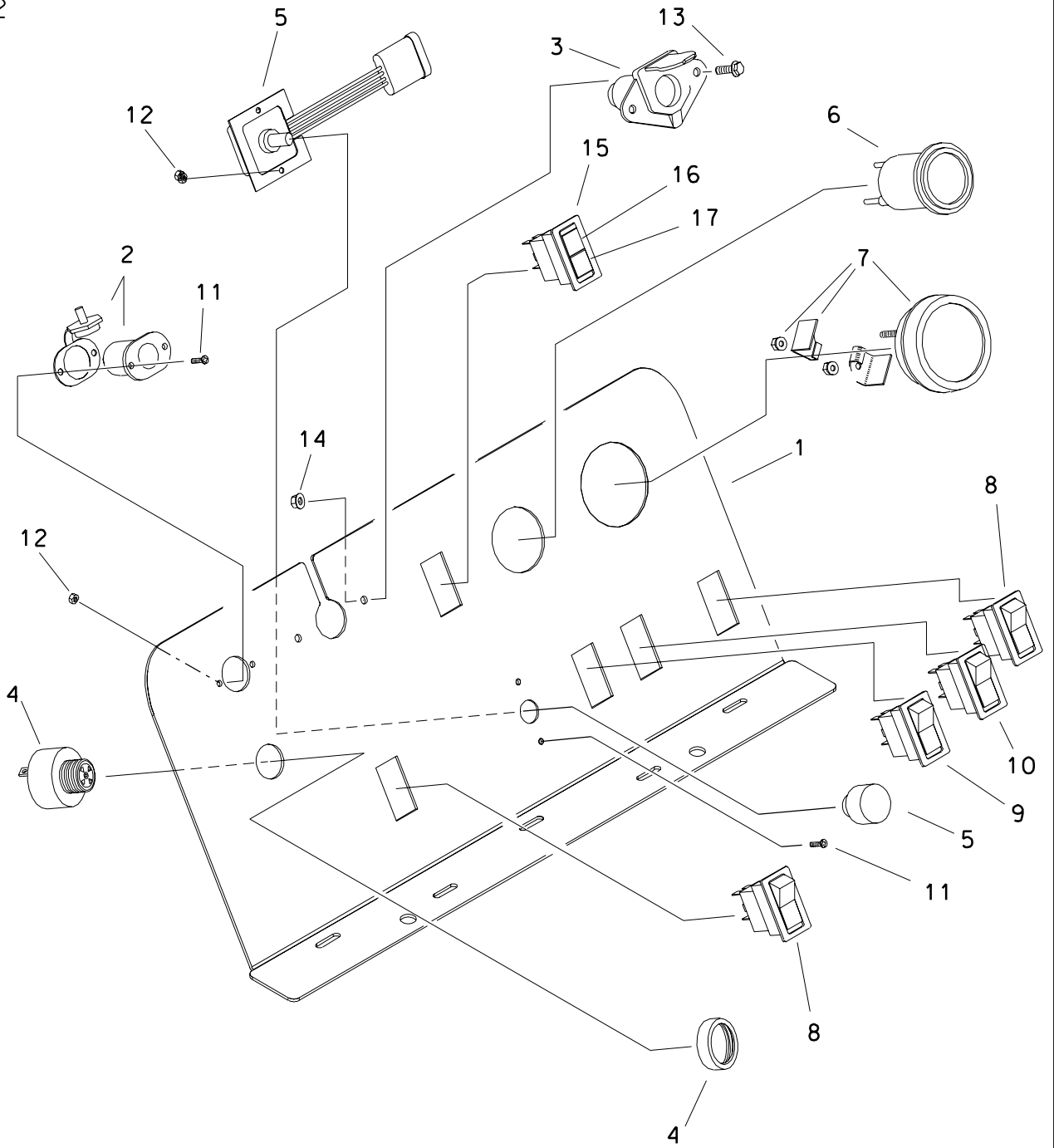
AUXILIARY CONSOLE

JT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	323-488	1	PANEL, ENGINE CONSOLE	
2.	214-301	1	ACCESSORY SOCKET	
3.	217-017	1	CONNECTOR (4-WAY, FM)	
4.	306-603	1	AUDIO ALARM	
5.	211-275	1	DIAGNOSTIC GAUGE	
6.	217-907	1	ROCKER SWITCH (DPDT) ON-ON	
7.	110-962	3	FILLER PLUG	
8.	106-273	2	SCREW (#6-32 X ⁵ / ₈ " ,FLT, BRASS)	
9.	105-215	2	NUT (#6-32)	
10.	106-379	2	FLG LK SCREW (M6-1.00 X 20MM)	
11.	106-385	2	FLG LOCKNUT (M6-1.00)	
12.	217-020	1	PILOT LIGHT	
	217-046	-	BULB (12V DC)	
13.	213-278	1	INSERT (RED) ENGINE FAULT	
14.	217-028	1	INSERT (BLACK) BLANK	

FOOTNOTES

AUXILIARY CONSOLE AT27T2



AUXILIARY CONSOLE

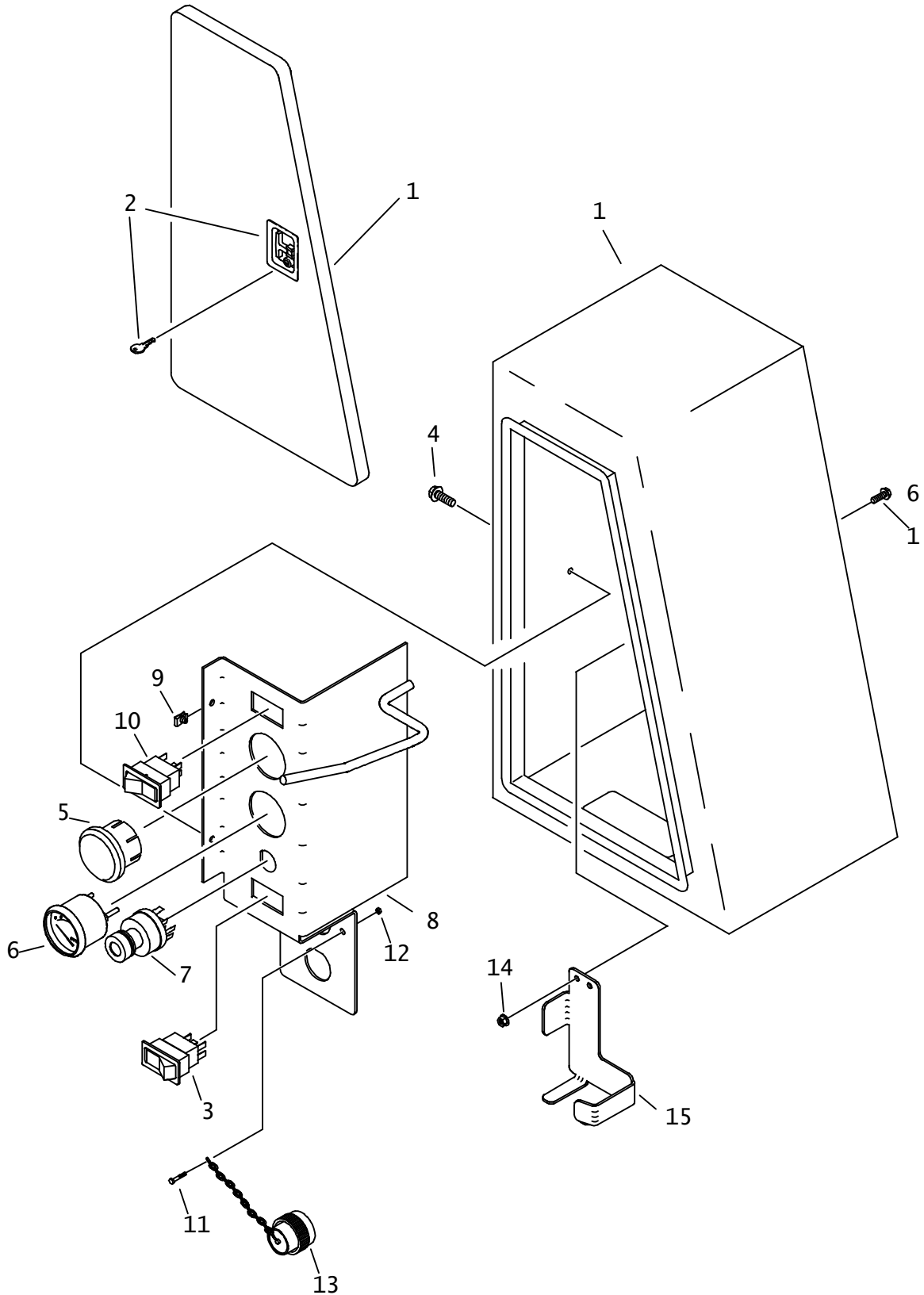
AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	323-488	1	PANEL, ENGINE CONSOLE	
2.	214-301	1	ACCESSORY SOCKET	
3.	217-017	1	CONNECTOR (4-WAY, FM)	
4.	306-603	1	AUDIO ALARM	
5.	211-089	1	4.5V-12.0V POTENTIOMETER	
6.	211-275	1	DIAGNOSTIC GAUGE	
7.	258-036	1	HYD PRESSURE GAUGE (6000 PSI)	
8.	217-907	2	ROCKER SWITCH (DPDT) ON-ON	
9.	217-908	1	ROCKER SWITCH DPDT ON-ON-(ON)	
10.	217-911	1	ROCKER SWITCH (SPDT) ON-OFF-ON	
11.	106-273	4	SCREW (#6-32 X 5/8", FLT, BRASS)	
12.	105-215	4	NUT (#6-32)	
13.	106-379	2	FLG LK SCREW (M6-1.00 X 20MM)	
14.	106-385	2	FLG LOCKNUT (M6-1.00)	
15.	217-020	1	PILOT LIGHT	
	217-046	-	BULB (12V DC)	
16.	213-278	1	INSERT (RED) ENGINE FAULT	
17.	213-277	1	INSERT (YELLOW) PREHEAT	

FOOTNOTES

TOOL BOX GAUGES

JT27T2 - AT27T2



TOOL BOX GAUGES

JT27T2 - AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	307-830	1	TOOL BOX	
2.	110-514	1	LOCKING LATCH, ADJUSTABLE	INCL KEYS
	110-596		KEYS (PAIR)	
3.	217-917	1	ROCKER SWITCH (DPDT) OFF-ON	NYOGEL 700016
4.	106-640	2	SCREW (M6-1.00 X 20MM,BUT SOC)	
5.	111-067	1	EXPANSION PLUG (2.125")	
6.	215-129	1	VOLT METER	
	215-415		NITE-LIGHT KIT (12V DC)	OPTION
7.	214-852	1	IGNITION SWITCH	
	214-961		KEY, PAIR (BASE CODE)	
	214-962		SWITCH MOUNTING NUT	
	217-769	2	KEY (PAIR)	
8.	306-998	1	GAUGE PANEL WELDMENT	
9.	106-574	2	CLIP NUT (M6-1.00)	
10.	217-907	1	ROCKER SWITCH (DPDT) ON-ON	NYOGEL 700016
11.	107-269	1	SCREW (#4-40 X 3/4", PAN)	
12.	106-277	1	NUT (#4-40, BRASS)	
13.	214-812	1	PROTECTIVE CAP	
14.	106-385	2	FLG LOCKNUT (M6-1.00)	
15.	313-986	1	CONTROL BOX BRACKET	
16.	106-378	2	FLG LK SCREW (M6-1.00 X 12MM)	

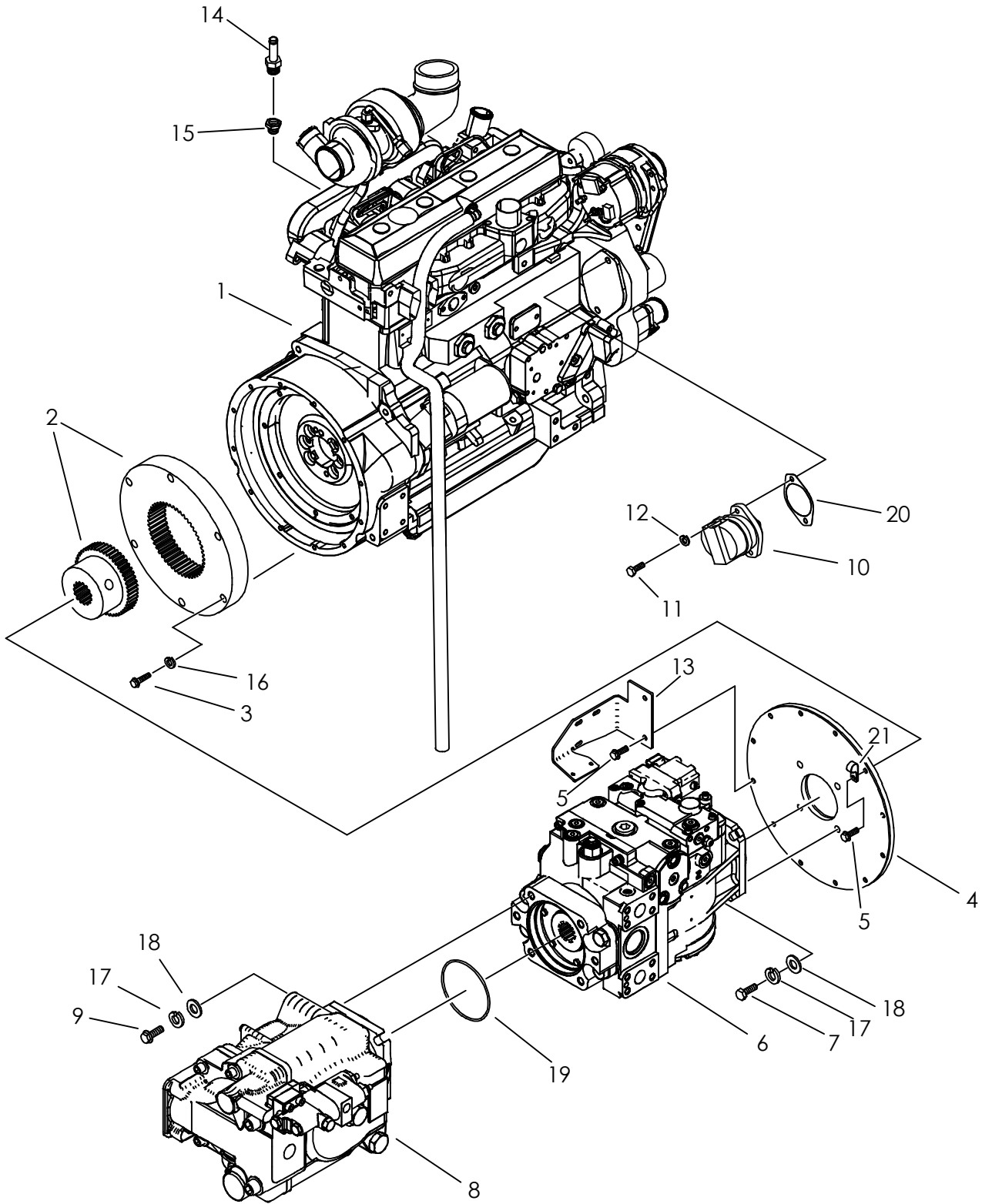
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FOOTNOTES:

NOTE:

HYDRAULICS

HYDRAULIC PUMPS



HYDRAULIC PUMPS

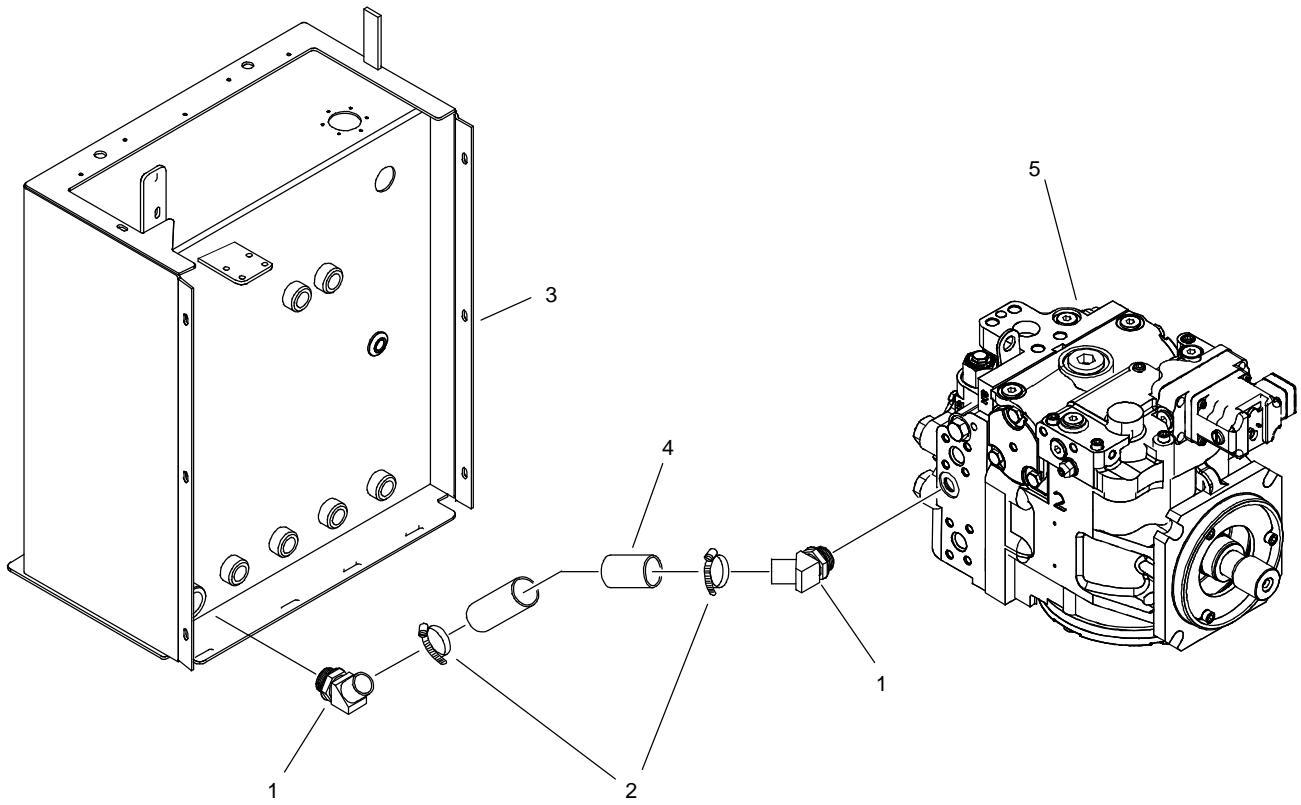
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	194-286	-	ENGINE - 125HP	OBSOLETE
2.	160-914	1	FLYWHEEL COUPLING	
	105-918	-	BOLT (7/16-NC X 1-1/2", SOC)	TORQUE TO 90 FT LBS
3.	105-156	8	BOLT (3/8-NC X 1-1/2")	LOCTITE 277. TORQUE TO 40 FT LBS
4.	160-901	1	PUMP PLATE	
5.	106-164	12	FLG LK SCREW (M10-1.50 X 30mm)	
6.	153-105	1	HYD PUMP	
	197-099	-	REBUILT 153-105 HYD. PUMP	
	499-061		CHARGE PUMP - 26CC	
	499-062		PUMP SHAFT (13T)	
	500-764		MULTIFUNCTION VALVE - LIMITER	
	190-764		SEAL REPAIR KIT	
7.	106-333	4	SCREW (M12-1.75 X 40mm)	
8.	149-390	1	HYDRAULIC PUMP	INCLUDES REF 19
	197-100	-	REBUILT 149-390 HYD. PUMP	
	190-803		SEAL REPAIR KIT	
	190-804		BEARING KIT	
	499-063		SHAFT (SPLINED 14T)	
	499-064		LOAD SENSE CONTROL	
9.	105-048	4	BOLT (1/2-NC X 1-1/2")	
10.	158-461	1	HYD PUMP	
	500-966		SEAL REPAIR KIT	
11.	106-081	2	SCREW (M10-1.50 X 35MM, 12.9)	
12.	106-090	2	LOCK WASHER (M10)	
13.	307-400	1	BRACKET, HYD. MOUNTING	
14.	155-162	1	COUPLER (04N-5/160D, STR)	
15.	115-286	1	PIPE BUSHING (1/2NMX1/4NF)	
16.	105-072	8	LOCK WASHER (3/8")	
17.	105-070	8	LOCK WASHER (1/2")	
18.	105-244	8	WASHER (1/2")	
19.	157-183	1	O-RING (048 D70)	
20.	168-619	1	PUMP GASKET	
21.	110-333	1	BOLT-ON CLAMP (1")	

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FOOTNOTES:

NOTE:

PUMP INLET



PUMP INLET

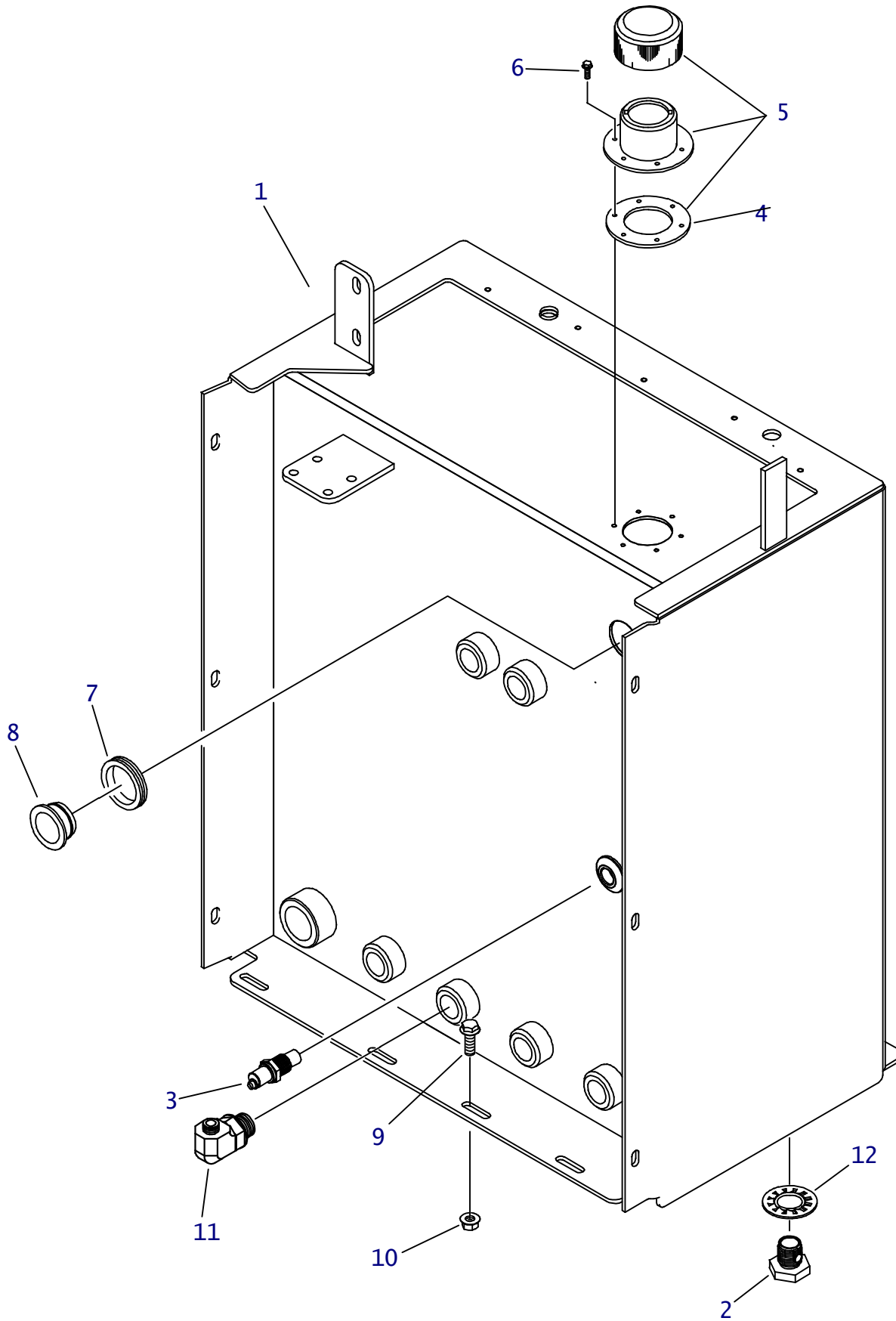
REF	PART				
NO.	NUMBER	QTY	DESCRIPTION		REMARKS
1.	514-226	2	S/O COUPLER (20S-24H45)		
2.	111-028	2	T-BOLT CLAMP (1.75"-2.00")		
3.	364-673	-	HYDRAULIC TANK WELDMENT		
4.	116-588	AR	BULK HOSE (1-1/2",SOLD PER 1')		USE 1 @ 18.5"
5.	153-105	-	HYDRAULIC PUMP		

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FOOTNOTES:

NOTE:

HYDRAULIC RESERVOIR



HYDRAULIC RESERVOIR

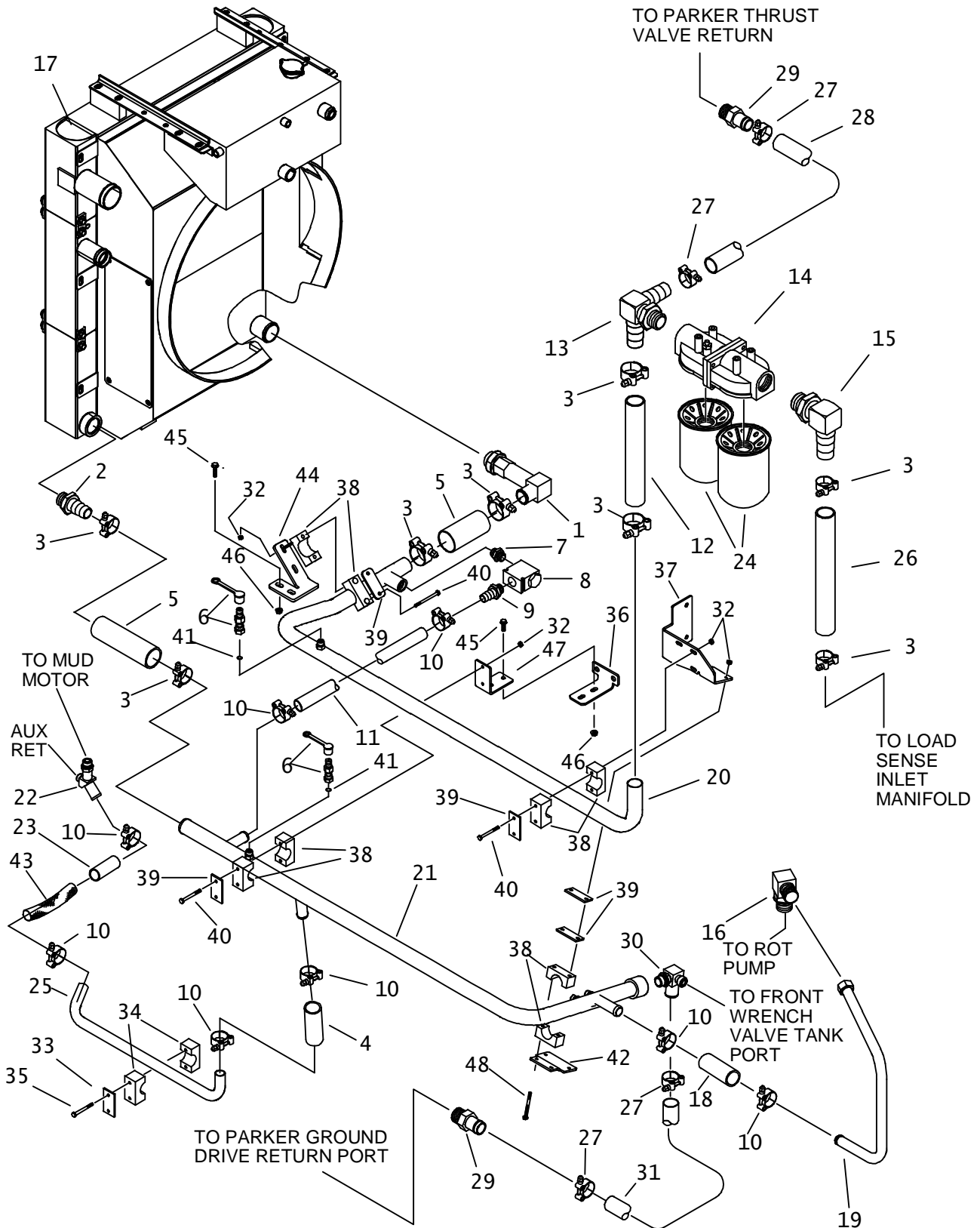
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	364-673	1	HYDRAULIC TANK	
2.	149-398	1	DRAIN PLUG (1" W/.375 ORF)	
3.	214-819	1	TEMPERATURE SWITCH	
4.	165-626	1	FILLER NECK GASKET	
5.	110-008	1	FILLER BREATHER (2-1/8")	INCL REF NO.4
6.	105-214	6	FLG SCREW (#10-24 X ")	
7.	115-320	1	GROMMET (1-1/2")	
8.	116-218	1	SIGHT GLASS (2")	INCL REFLECTOR
	360-849	1	REFLECTOR	
9.	106-724	8	FLG SCREW (M10-1.50 X 25mm)	
10.	106-387	8	FLG LOCKNUT (M10-1.50)	
11.	514-197	1	CONNECTOR (060-12S90)	
12.	149-829	1	1" SEAL WASHER	

NOT SHOWN:

FOOTNOTES:

NOTE:

COOLER HYDRAULICS



COOLER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	153-994	1	SPECIAL ELBOW (20S-24H, XL)	
2.	155-148	1	S/O COUPLER (20S-24H)	
3.	111-028	8	T-BOLT CLAMP (1.75"-2.00")	
4.	116-460	1	BULK HOSE (1", SOLD PER 1')	USE 1 @ 4.5"
5.	116-588	2	BULK HOSE (1-1/2" SOLD PER 1")	USE 1 @ 6.0"
6.	159-157	2	QDC ADAPTER (02-060F)	
	159-148	2	DUST CAP (1/8")	
7.	155-152	1	CONNECTOR (12S-12S)	
8.	159-253	1	FLOW CHECK VALVE	
	500-820		SEAL REPAIR KIT	
9.	155-161	1	S/O COUPLER (12S-16H)	
10.	111-027	8	WORM CLAMP (3/4" TO 1-1/2")	
11.	116-460	1	BULK HOSE (1", SOLD PER 1")	USE 1 @ 15"
12.	116-588	1	BULK HOSE (1-1/2", SOLD PER 1")	USE 1 @ 13"
13.	149-506	1	TEE (24S-20H-24H, SPECIAL)	
14.	159-411	1	FILTER HEAD (20SF-20SF)	
	168-616	1	FILTER HEAD GASKET	
15.	514-135	1	S/O COUPLER (24S-24H90)	
16.	154-377	1	CONNECTOR (12S-16090)	
17.	194-527	1	RADIATOR	
18.	116-460	1	BULK HOSE (1" SOLD PER 1")	USE 1 @ 5.5"
19.	156-918	1	ROTATION CASE DRAIN	
20.	159-679	1	COOLER RETURN LINE	
21.	159-672	1	HYD COOLER LINE INLET	
22.	149-511	1	TEE (10S-080-16H), SPECIAL	
23.	116-460	1	BULK HOSE (1", SOLD PER 1")	USE 1 @ 25"
24.	153-792	2	FILTER ELEMENT (1-1/2-UNF)	SEE FOOTNOTE 1
	153-791	-	FILTER ELEMENT (1-1/2-UNF)	SEE FOOTNOTE 1
25.	153-890	1	HYDRAULIC LINE	
26.	116-588	1	BULK HOSE (1-1/2", SOLD PER 1")	USE 1 @ 14.75"

NOT SHOWN:

FOOTNOTES:

NOTE:

COOLER HYDRAULICS

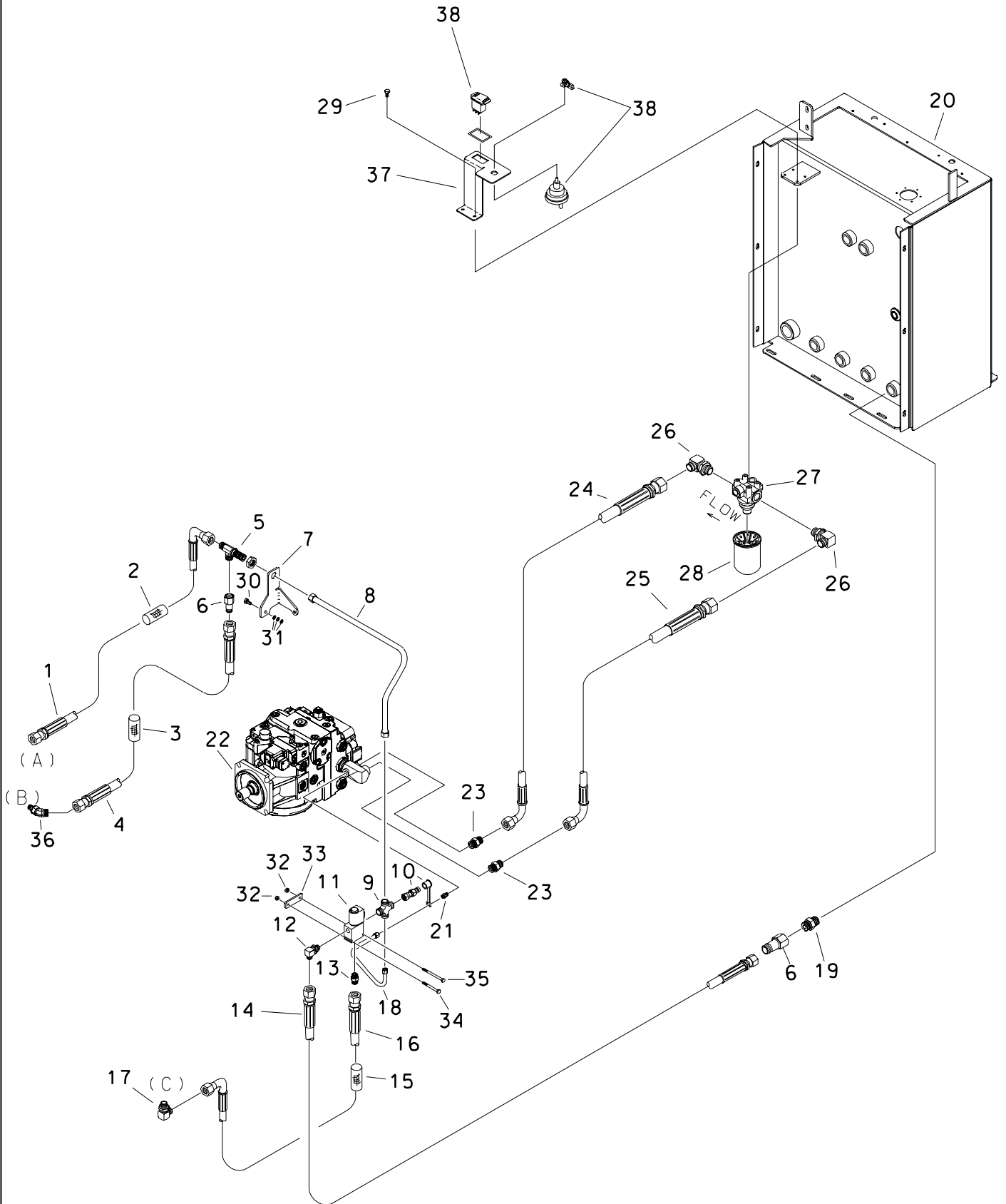
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
27.	149-342	4	T-BOLT CLAMP (1.687"-1.50")	
28.	116-587	1	BULK HOSE (1-1/4", SOLD PER 1")	USE 1 @ 25"
29.	155-047	2	S/O COUPLER (16S-20H)	
30.	149-507	1	TEE (12S-100-20H, SPECIAL)	
31.	116-587	1	BULK HOSE (1-1/4", SOLD PER 1")	USE 1 @ 31"
32.	105-085	8	LOCKNUT (1/4-NC)	
33.	322-289	1	BACKUP (BOLT-ON)	
34.	110-573	1	BOLT-ON CLAMP (1", PER SET)	
35.	105-818	2	BOLT (1/4-NC X 1-1/2")	
36.	323-207	-	BRACKET	
37.	307-400	1	BRACKET, HYD. MOUNTING	
38.	111-008	4	BLT-ON CLP (1.5",SOLD PER SET)	
39.	322-362	5	BACKUP SPACER	
40.	107-283	6	BOLT (1/4-NC X 3")	
41.	157-038	2	O-RING (O12 D90)	
42.	305-931	1	PLATE, VALVE MOUNT	
43.	117-675	1	ABRASION SLEEVE (1.75" X 24")	
44.	324-453	1	BRACKET, HARDLINE	
45.	106-163	4	FLG SCREW (M8-1.25 X 30MM)	
46.	106-386	4	FLG LOCKNUT (M8-1.25)	
47.	325-275	1	HARDLINE BRACKET	
48.	105-297	2	BOLT (1/4-NC X 3-1/4")	

NOT SHOWN:

FOOTNOTES:

NOTE:

CHARGE FILTER & SERIES PARALLEL SHIFTING SOLENOID



CHARGE FILTER & SERIES PARALLEL SHIFTING SOLENOID

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-357	1	HOSE (0800F90L-50"-3000)	
2.	117-395	1	ABRASION SLEEVE (1.25" X 50")	
3.	117-416	1	ABRASION SLEEVE (1.00" X 50")	
4.	153-304	1	HOSE (060FX-50"-3000)	
5.	154-295	1	BK RUN TEE (080-080-080BK)	
6.	154-262	2	REDUCER (060-080F)	
7.	305-933	1	BULKHEAD BRACKET	
8.	149-526	1	HYDRAULIC LINE (-08)	
9.	149-847	1	SPECIAL CROSS 06S-060-060-080	
10.	159-157	1	QDC ADAPTER (02-060F)	
11.	158-627	1	SOLENOID VALVE	
12.	154-342	1	CONNECTOR (06S-06090)	
13.	154-250	1	CONNECTOR (040-06S45)	
14.	154-722	1	HOSE (060FX-32"-3000)	
15.	117-759	1	ABRASION SLEEVE (1.00" X 160")	
16.	515-522	1	HOSE (040FX90-169"-3000)	
17.	154-252	1	CONNECTOR (04S-04090)	
18.	149-527	1	HYDRAULIC LINE (-06)	
19.	154-234	1	CONNECTOR (080-12S)	
20.	364-673	1	HYDRAULIC TANK	
21.	154-221	1	CONNECTOR (06S-060)	
22.	153-105	-	HYDRAULIC PUMP	
23.	154-301	2	CONNECTOR (10S-100)	
24.	153-267	1	SPECIAL HOSE 100FX90S-28"-1500	
25.	153-268	1	SPECIAL HOSE 100FX90S-24"-1500	
26.	154-300	2	CONNECTOR (100-12S90)	
27.	153-050	1	FILTER HEAD (-12 SAE PORTS)	
28.	149-939	1	FILTER	
29.	105-823	4	FLG LK BOLT (5/16-NC X 3/4")	
30.	105-806	1	SCREW (M8-1.25 X 25MM)	TORQUE TO 24 FT/LBS
31.	106-389	3	WASHER (M8)	
32.	105-085	2	LOCKNUT (1/4-NC)	
33.	343-342	1	FLOW DIVIDER BRACKET	
34.	105-224	1	BOLT (1/4-NC X 2-1/2")	
35.	106-064	1	BOLT (1/4-NC X 4-1/2")	
36.	154-224	1	CONNECTOR (06S-06045)	
37.	324-714	1	ROCKER SWITCH BRACKET	
38.	217-907	1	ROCKER SWITCH (DPDT)	
39.	217-819	1	BATTERY DISCONNECT SWITCH	

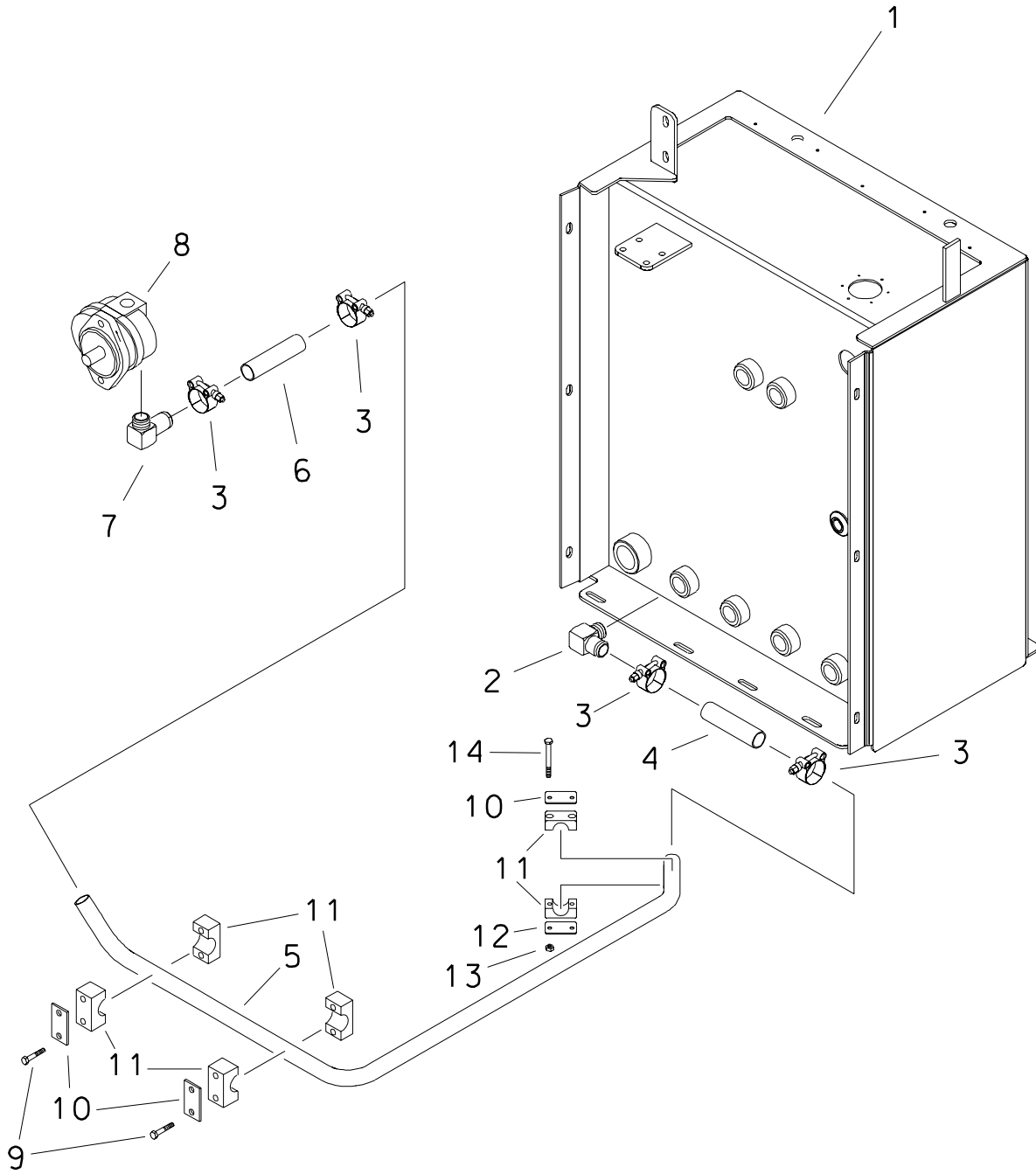
FOOTNOTES

1. (A) CONNECTS TO CHARGE PRESSURE HARDLINE ON DRILL FRAME
2. (B) CONNECTS TO PARKER GROUND DRIVE MOBILE VALVE "CP"
3. (C) CONNECTS TO SERIES PARALLEL VALVE

NOTE

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

AUXILARY PUMP INLET HYDRAULICS



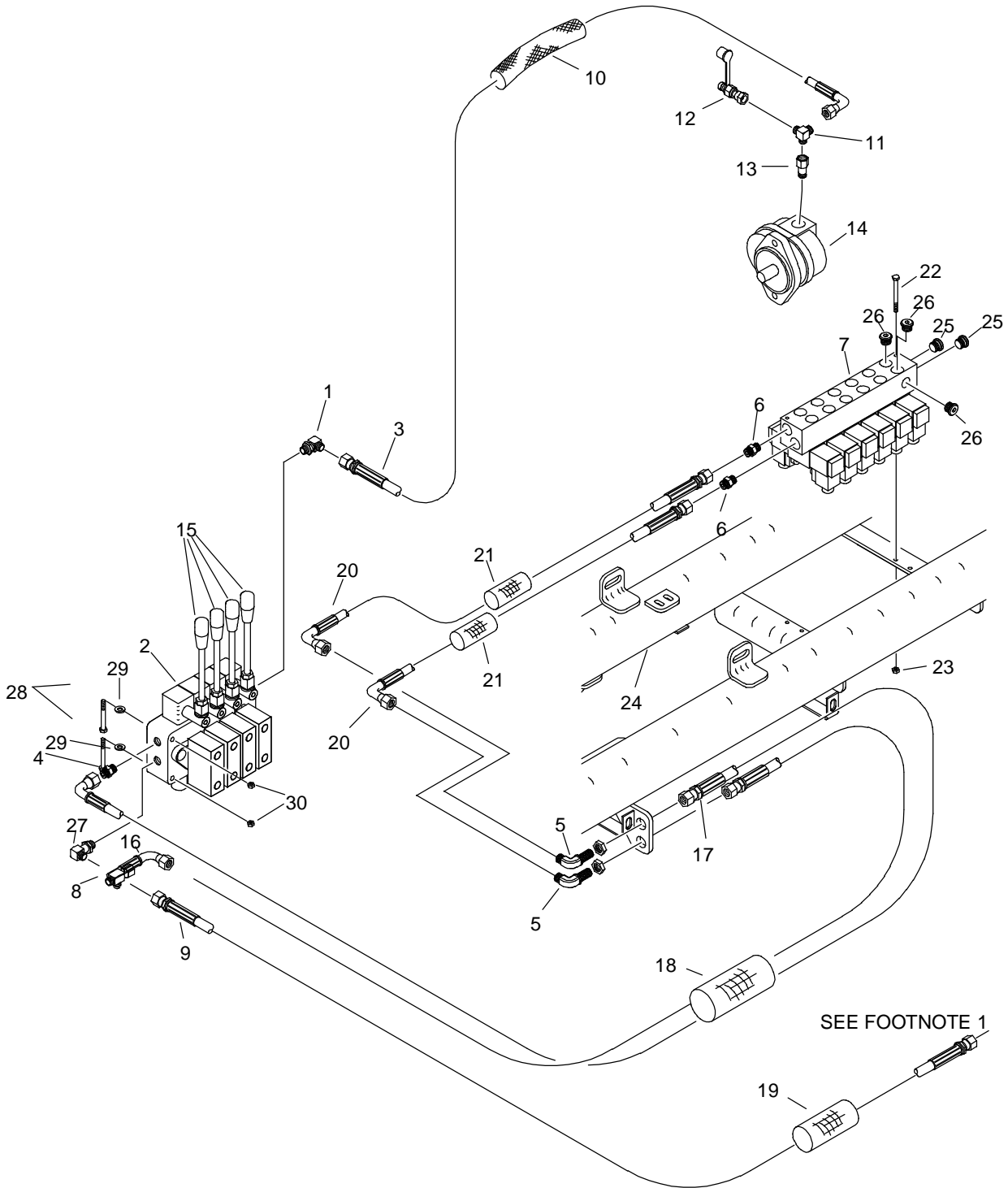
AUXILIARY PUMP INLET HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	364-673	1	HYDRAULIC TANK	
2.	155-146	1	S/O COUPLER (12S-16H90)	
3.	111-027	4	T-BOLT CLAMP (1.25"-1.50")	
4.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 13.5"
5.	149-535	1	HYDRAULIC LINE (-16)	
6.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 22.5"
7.	154-188	1	S/O COUPLER (16S-16H90)	
8.	158-461	1	HYDRAULIC PUMP	
	500-966	-	SEAL REPAIR KIT	
9.	105-818	4	BOLT (1/4-NC X 1-1/2")	
10.	322-289	3	BACKUP (BOLT-ON)	
11.	110-573	3	BOLT-ON CLAMP (1", SOLD PER SET)	
12.	366-001	1	SPACER PLATE	
13.	105-085	2	LOCKNUT (1/4-NC)	
14.	105-224	2	BOLT (1/4-NC X 2-1/2")	

FOOTNOTES

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

AUXILIARY PRESSURE HYDRAULICS



AUXILIARY PRESSURE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-235	1	CONNECTOR (08S-08090)	
2.	149-077	1	HYD CONTROL VALVE (4-SPOOL)	
3.	515-356	1	HOSE (080FX90-128"-3000)	
4.	154-233	1	CONNECTOR (08S-080)	
5.	154-396	2	BK CONNECTOR (080-08090BK)	
6.	154-246	2	CONNECTOR (06S-080)	
7.	153-741	1	HYD VALVE	
	153-095	1	HYD VALVE	OBSOLETE
	191-152	-	COIL KIT	
	191-164	-	BOLT KIT (LONG)	USE WITH 499-307
	191-165	-	BOLT KIT (SHORT)	USE WITH 499-306
	499-305	-	SOLENOID COIL	
	499-306	-	DIRECTIONAL CONTROL SOLENOID	FOR "DUMP" SECTION
	499-307	-	DIRECTIONAL CONTROL SOLENOID	FOR "WORK" SECTIONS
	499-308	-	P.O. CHECK VALVE	
8.	154-266	1	UN RUN TEE (080FX-080-080)	
9.	153-303	1	HOSE (080FX-65"-3000)	
10.	117-281	1	ABRASION SLEEVE (1.25" X 122")	
11.	514-160	1	BRANCH TEE (08S-080-040)	
12.	159-156	1	QDC ADAPTER (02-040F)	
	159-148		DUST CAP (1/8")	
13.	155-193	1	REDUCER (10S-08SF)	
14.	158-461	-	HYD PUMP	
15.	365-426	4	LEVER (M8-1.25 X 200MM)	
16.	153-301	1	HOSE (080FX90S-108"-3000)	
17.	515-741	1	HOSE (080FX90S-112"-3000)	
18.	117-197	1	ABRASION SLEEVE (2.07" X 90")	
19.	117-391	1	ABRASION SLEEVE (1.25" X 66")	
20.	515-438	2	HOSE (080FX90L-23"-3000)	
21.	117-394	2	ABRASION SLEEVE (1.25" X 23")	
22.	106-972	2	SCREW (M6-1.00 X 65MM)	
23.	106-237	2	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
24.	303-783	-	PIPE LOADER WELDMENT	
25.	154-384	2	PLUG (06S)	
26.	154-383	3	PLUG (04S)	
27.	154-254	1	CONNECTOR (08S-08090, XL)	
28.	106-330	3	SCREW (M8-1.25 X 70MM)	
29.	105-117	3	WASHER (5/16")	
30.	106-561	3	LOCKNUT (M8-1.25,PRV TRQ,10.9)	

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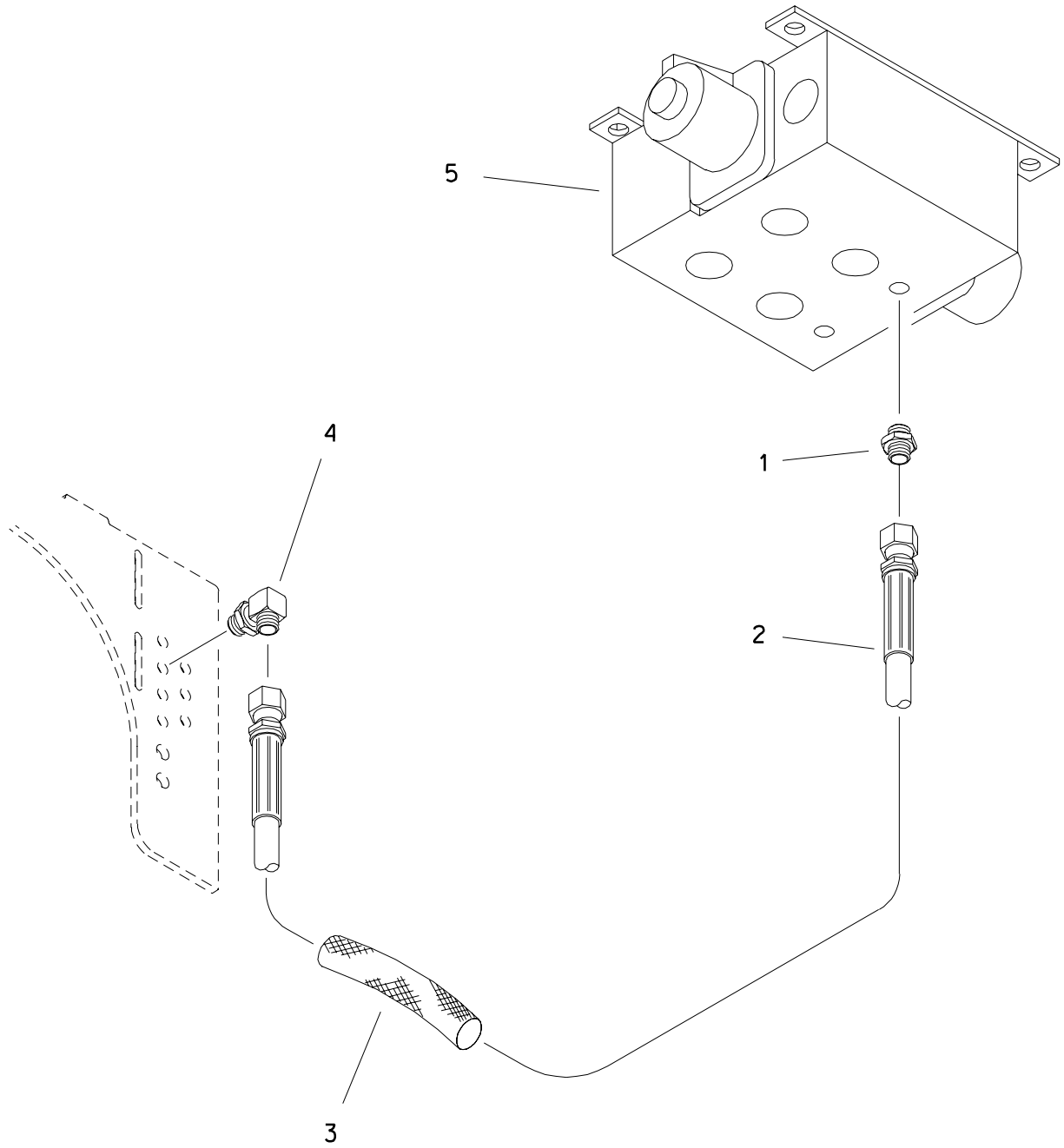
FOOTNOTES:

- CONNECTS RETURN HOSE TO 08 ORS SPUD ON MUD MOTOR RETURN FITTING.

NOTE:

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

THRUST PRESSURE GAUGE



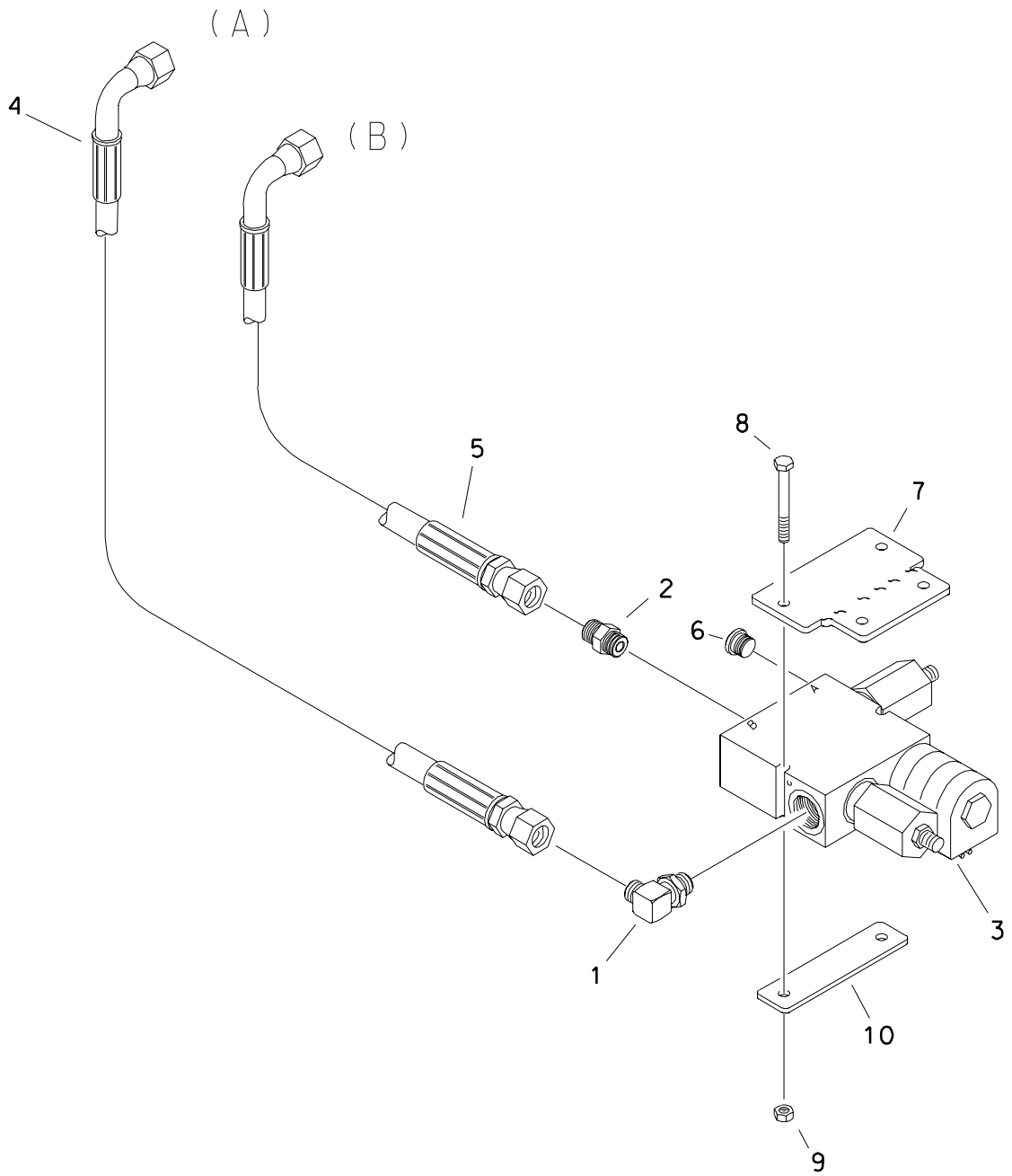
THRUST PRESSURE GAUGE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-278	1	CONNECTOR (04S-040)	
2.	515-170	1	HOSE (040FX-86"-3000)	
3.	117-398	1	ABRASION SLEEVE (1.00" X 86")	
4.	154-355	1	BK CONNECTOR (040-04090BK)	
5.	153-543	-	THRUST VALVE (ELECTRIC)	

FOOTNOTES

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

THRUST LIMITER



THRUST LIMITER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-276	1	CONNECTOR (040-08S90)	
2.	154-222	1	CONNECTOR (060-08S)	
3.	153-328	1	HYDRAULIC VALVE	
4.	515-011	1	HOSE (040FX90-32"-3000)	
5.	515-708	1	HOSE (060FX90-30"-4000)	
6.	155-074	1	PLUG (08S, SOC, FM)	SEE FOOTNOTE 3
7.	305-931	-	PLATE, VALVE MOUNT	
8.	106-893	2	SCREW (M6-1.00 X 55MM)	
9.	106-237	2	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
10.	310-400	1	BACKUP PLATE	

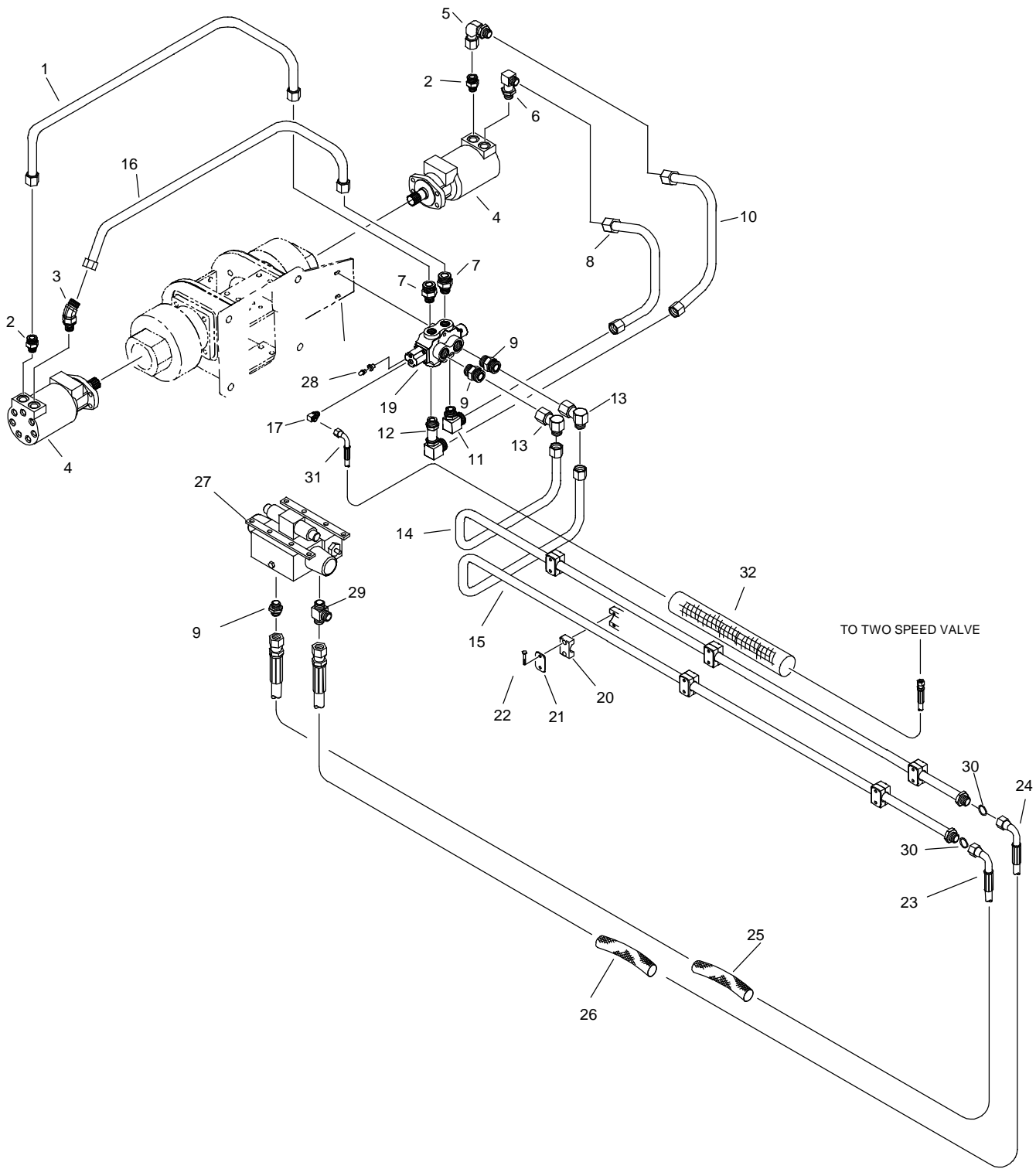
FOOTNOTES

1. (A) CONNECTS TO LOAD SENSE TEE IN "Y" PORT ON THRUST VALVE
2. (B) CONNECTS TO TEE IN "B" PORT ON THRUST VALVE
3. IF FACTORY PLUG (HAS NO O-RING) IT IS TO BE INSTALLED, TORQUE TO 24 FT. LBS.
IF A SERVICE PLUG (HAS O-RING) IT IS TO BE INSTALLED, TORQUE TO 72 FT. LBS.

NOTE

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

THRUST DRIVE HYDRAULICS



THRUST DRIVE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-386	1	HYD LINE (-12)	THRUST PORT, RH A
2.	154-247	2	CONNECTOR (10S-120)	
3.	154-336	1	CONNECTOR (10S-12045)	
4.	153-141	2	HYDRAULIC MOTOR	
5.	154-457	1	UNION (120-120FX90)	
6.	154-273	1	CONNECTOR (10S-12090)	
7.	154-269	2	CONNECTOR (12S-120)	
8.	149-385	1	HYD LINE (-12)	THRUST PORT, LH A
9.	154-281	3	CONNECTOR (16S-160)	
10.	149-384	1	HYD LINE (-12)	THRUST PORT, LH B
11.	154-270	1	CONNECTOR (12S-12090)	
12.	154-338	1	CONNECTOR (12S-12090, XL)	
13.	154-290	2	UNION (160-160FX90)	
14.	149-612	1	HYD LINE (___)	
15.	156-903	1	HYD LINE (160-160FX)	THRUST PRESSURE
16.	149-387	1	HYD LINE (-12)	THRUST PORT, RH B
17.	154-252	1	CONNECTOR (04S-04090)	
18.	343-453	1	MOUNT PLATE	
19.	149-343	1	HYDRAULIC CONTROL VALVE	
	190-863		SEAL REPAIR KIT	
	310-800	1	END CAP	
20.	110-573	6	BOLT-ON CLAMP (1", SOLD PER SET)	
21.	322-289	6	BACKUP (BOLT-ON)	
22.	105-818	12	BOLT (1/4-NC X 1-1/2")	
23.	515-722	1	HOSE (16FX90-60"-3000)	
24.	515-723	1	HOSE (16FX90-62"-3000)	
25.	117-295	1	ABRASION SLEEVE (2.07" X 60")	
26.	117-179	1	ABRASION SLEEVE (2.07" X 62")	
27.	153-543	-	THRUST VALVE (ELECTRIC)	
28.	163-101	1	BLEEDER VALVE	
29.	514-411	1	RUN TEE (16S-160-060)	
30.	155-714	2	O-RING (021 D90)	
31.	515-522	1	HOSE (040FX90-169"-3000)	
32.	117-759	1	ABRASION SLEEVE (1.00" X 160")	

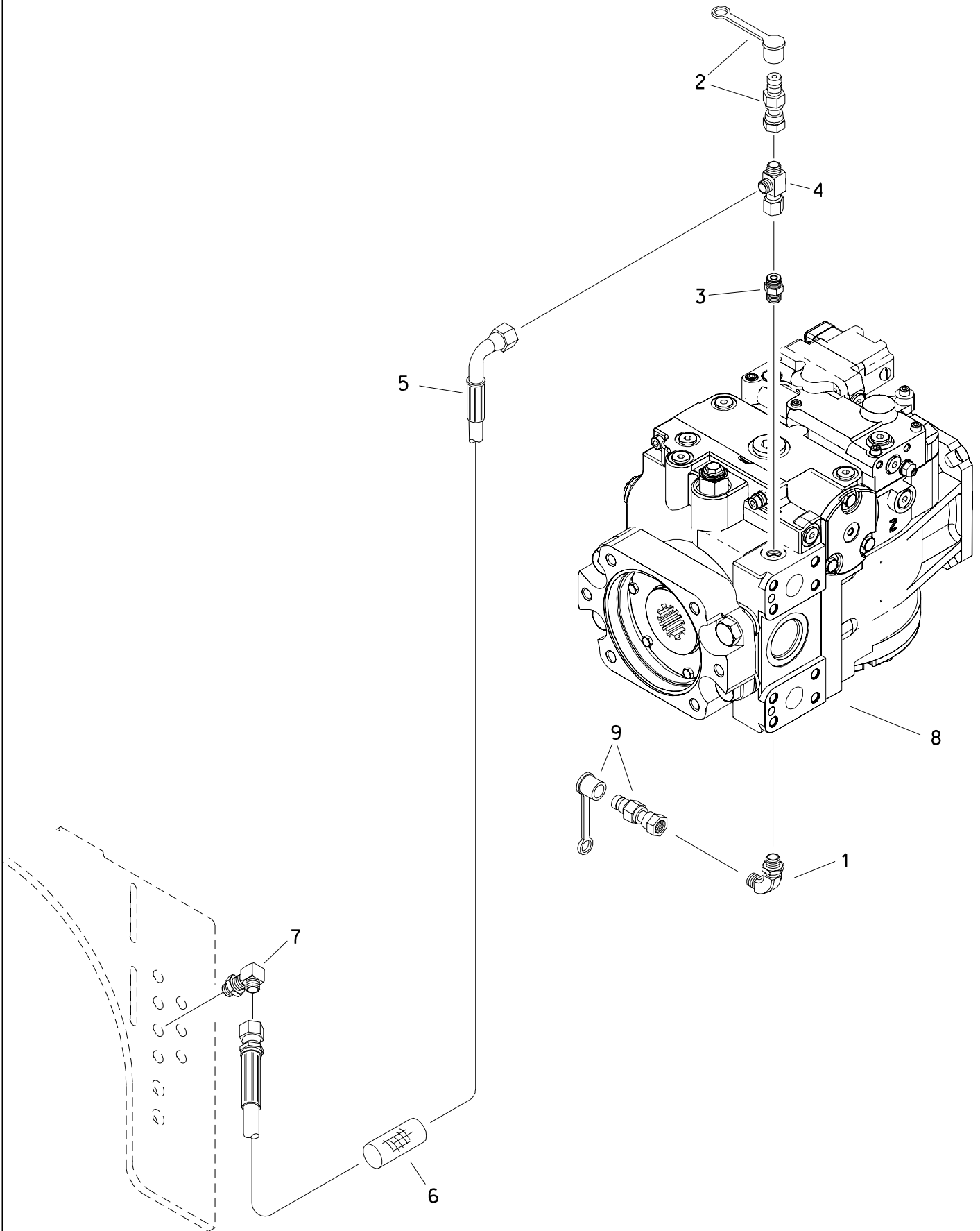
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FOOTNOTES:

NOTE:

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

ROTATION PRESSURE GAUGE

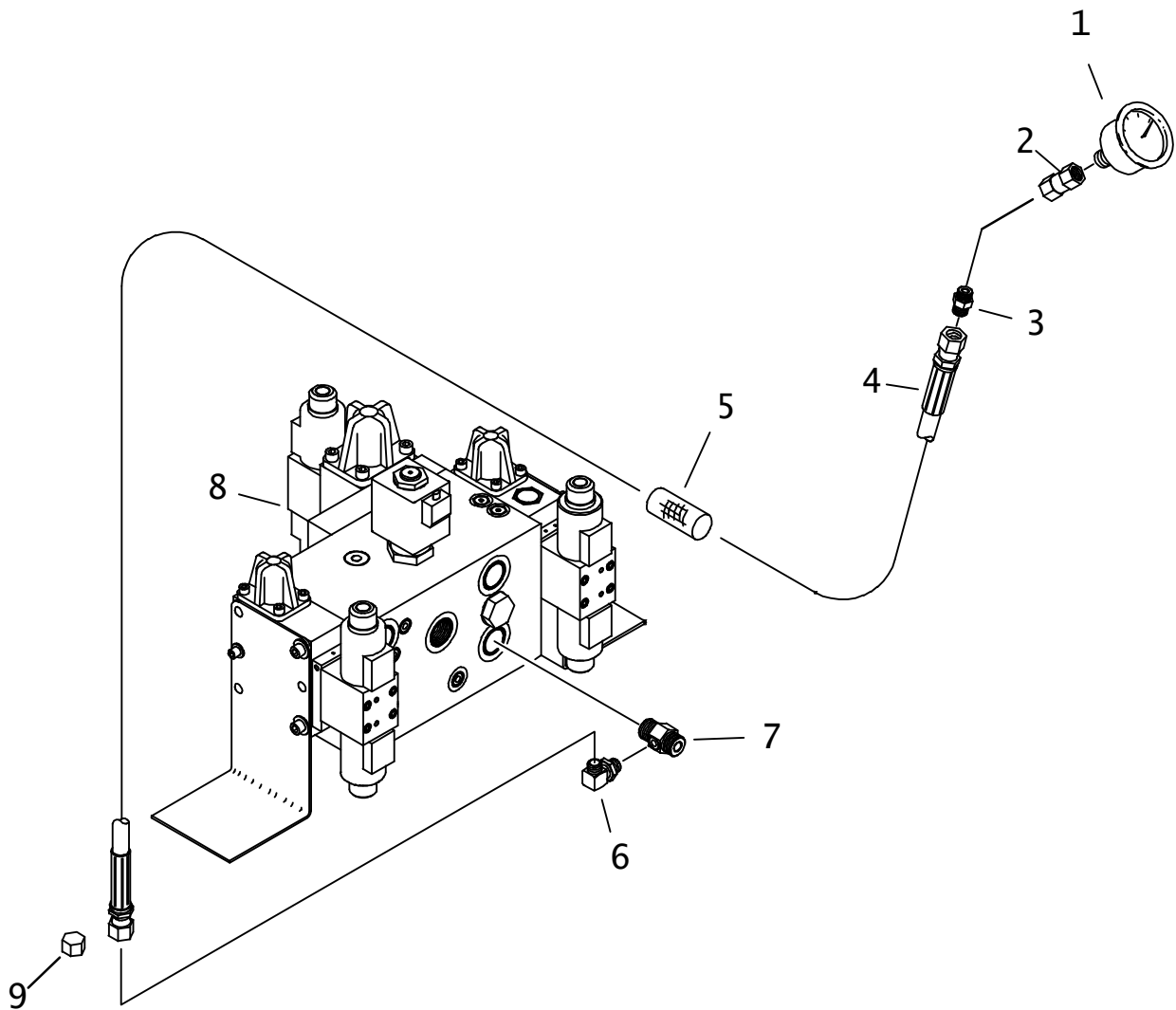


ROTATION PRESSURE GAUGE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-342	1	CONNECTOR (06S-06090)	
2.	159-156	1	QDC ADAPTER (02-040F)	
3.	154-220	1	CONNECTOR (04D-06S)	
4.	154-265	1	UNION RUN TEE (040FX-040-040)	
5.	153-296	1	HOSE (040FX90M-66"-5000)	
6.	117-419	1	ABRASION SLEEVE (1.00" X 66")	
7.	154-355	1	BK CONNECTOR (040-04090BK)	
8.	153-105	-	PUMP, HYDRAULIC	
9.	159-157	1	QDC ADAPTER (02-060F)	

FOOTNOTES

INNER ROTATION PRESSURE GAUGE



INNER ROTATION PRESSURE GAUGE

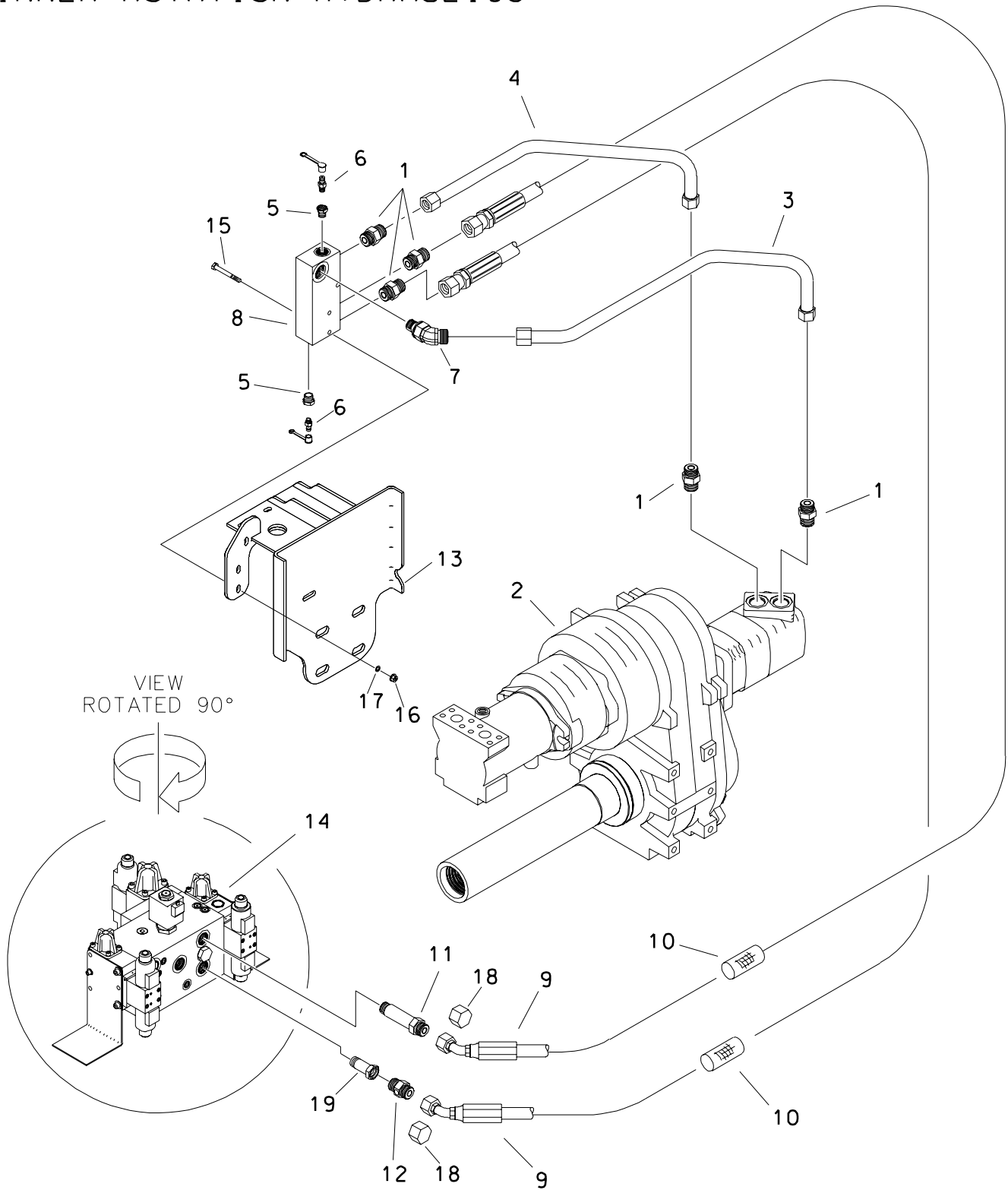
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	258-036	1	HYD PRESSURE GAUGE (6000 PSI)	
2.	514-408	1	COLLAR (04NF)	
3.	154-339	1	CONNECTOR (04N-040)	
4.	154-724	1	HOSE (040FX-82"-3000)	
5.	117-413	1	ABRASION SLEEVE (1.00" X 84")	
6.	154-252	1	CONNECTOR (04S-04090)	
7.	149-636	-	TEE (12S-04SF-160, SPECIAL)	
8.	150-2251	-	HYDRAULIC CONTROL VALVE	
9.	154-296	1	CAP (040F)	REPLACES REF NO'S 1-5 ON JT2720 MACH 1 ONLY

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FOOTNOTES:

NOTE:

INNER ROTATION HYDRAULICS



INNER ROTATION HYDRAULICS

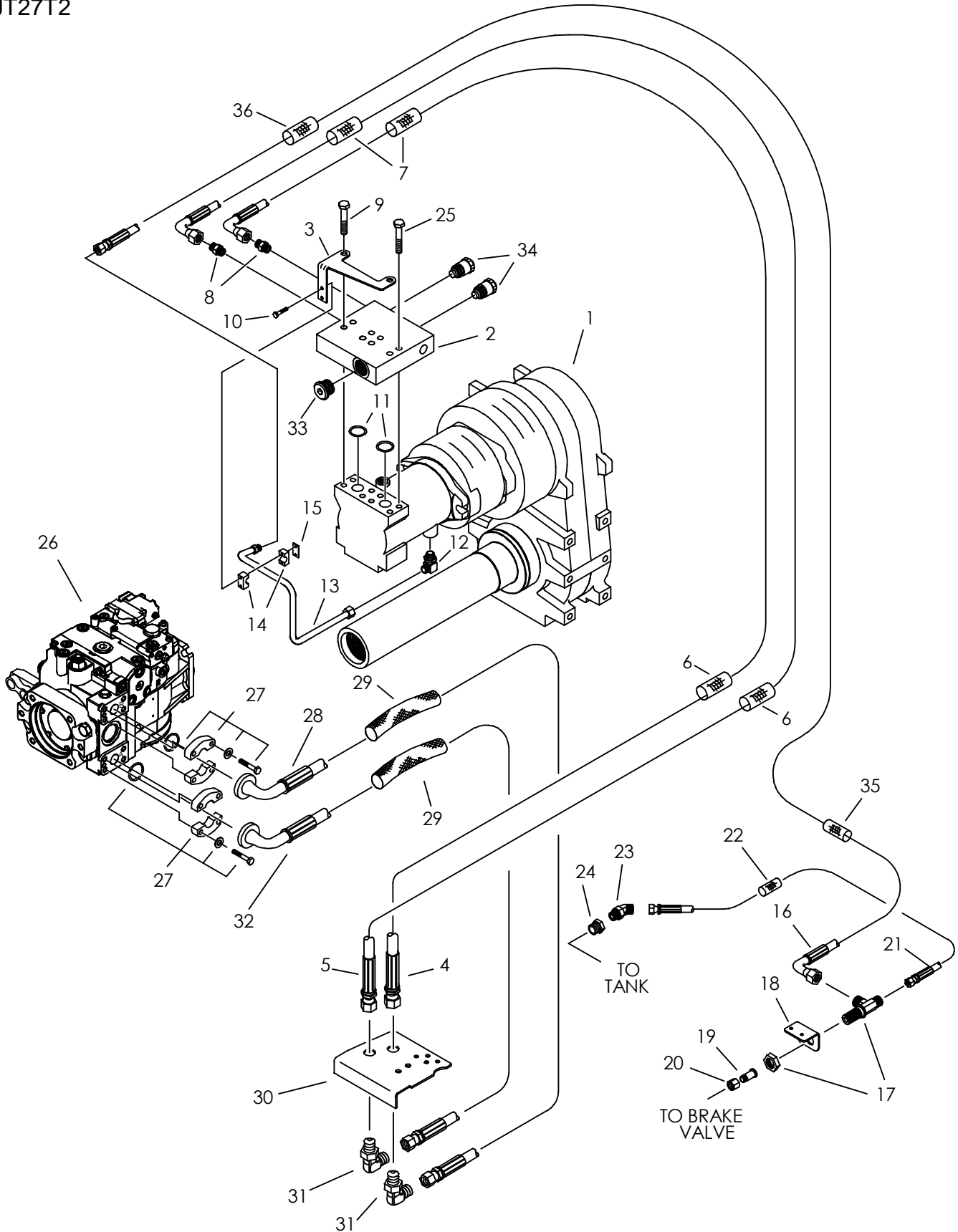
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-281	5	CONNECTOR (16S-160)	
2.	166-455	-	AT2720 SPINDLE DRIVE ASS'Y	
3.	153-237	1	HYDRAULIC LINE (-16)	
4.	153-236	1	HYDRAULIC LINE (-16)	
5.	155-171	2	REDUCER (10S-06SF)	
6.	159-147	2	QDC ADAPTER (02-06S)	
7.	154-388	1	CONNECTOR (16S-16045)	
8.	153-228	1	MANIFOLD BLOCK	
9.	153-312	2	HOSE (160FX45-172"-3000)	
10.	117-292	2	ABRASION SLEEVE (2.07" X 70")	
11.	153-539	1	ADAPTER (12S-160, SPECIAL)	
12.	149-636	1	TEE (12S-04SF-160, SPECIAL)	
13.	309-775	-	HOSE TRACK MOUNT WELDMENT	
14.	516-102	1	HYDRAULIC VALVE	
15.	106-330	3	SCREW (M8-1.25 X 70MM)	
16.	106-561	3	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
17.	105-117	3	WASHER (5/16")	
18.	154-329	2	CAP (160F)	SEE FOOTNOTE 1
19.	153-540	1	CONNECTOR (12S-12SF, SPECIAL)	

FOOTNOTES

1. REPLACES REF NO'S 1 THRU 10, AND 15 THRU 17 ON JT2720 MACH 1 ONLY

OUTER ROTATION HYDRAULICS

JT27T2



OUTER ROTATION HYDRAULICS

JT27T2

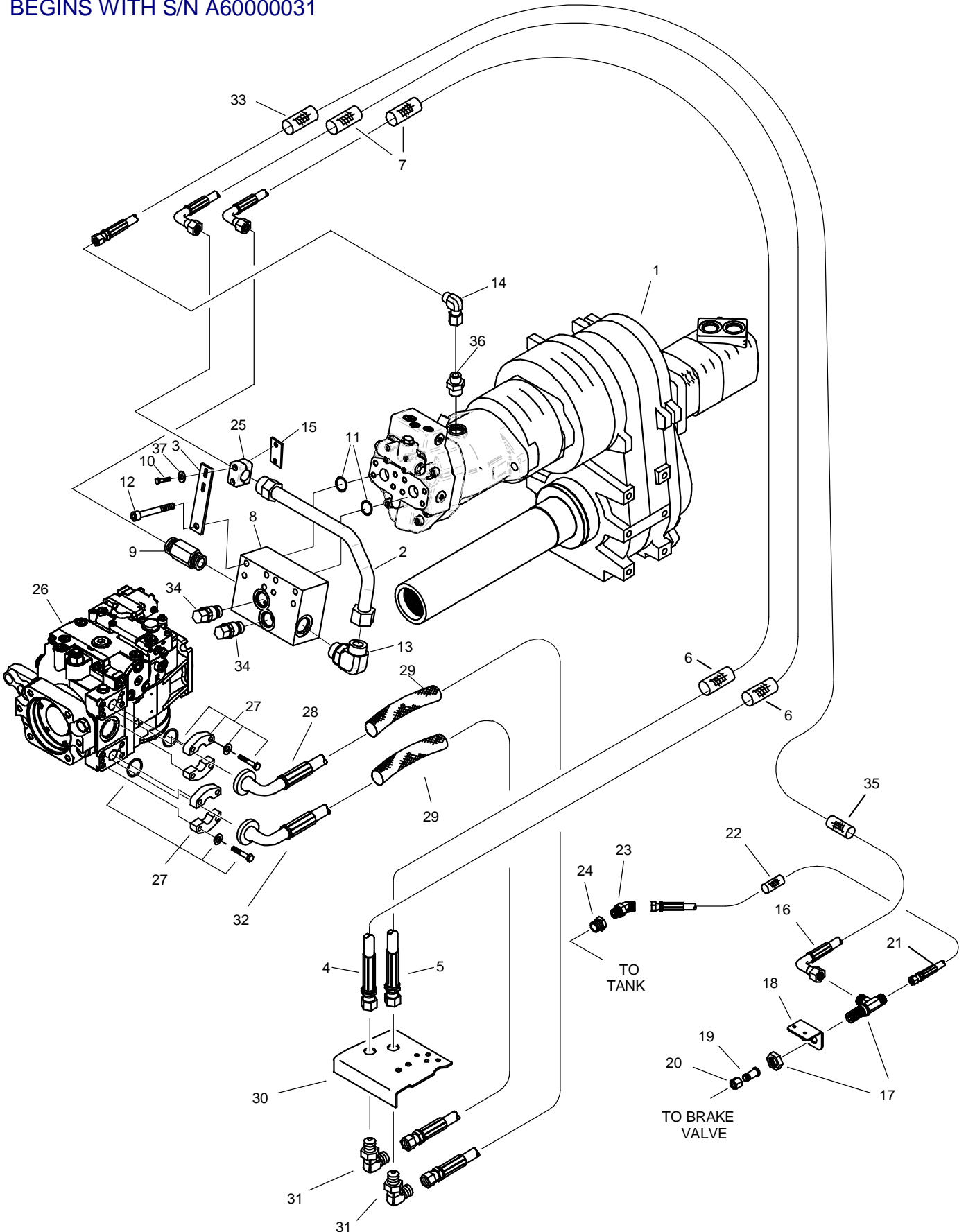
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-456	-	JT SPINDLE DRIVE PARTS ASS'Y	
2.	153-187	1	SPIKE MANIFOLD	OBSOLETE
3.	309-907	1	BRACKET	
4.	153-400	1	HOSE (160FX90M-170"-5000)	
5.	153-401	1	HOSE (160FX90M-173"-5000)	
6.	117-295	2	ABRASION SLEEVE (2.07" X 60")	
7.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
8.	154-281	2	CONNECTOR (16S-160)	
9.	106-335	2	SCREW (M12-1.75 X 70MM)	TORQUE TO 70 FT-LBS
10.	105-818	2	BOLT (1/4-NC X 1-1/2")	
11.	157-029	2	O-RING (219 D90)	
12.	153-362	1	ELBOW (M22-1.5 PSEAL X 08090)	
13.	149-534	1	HYDRAULIC LINE (-08)	
14.	110-866	1	CLAMP (1/2")	
15.	110-783	1	WELD PLATE	
16.	153-402	1	HOSE (080FX90M-159"-3000)	
17.	154-295	1	BK RUN TEE (080-080-080BK)	
18.	309-891	1	BRACKET	
19.	154-248	1	REDUCER STEM (040)	
20.	154-272	1	REDUCER NUT (080F)	
21.	153-303	1	HOSE (080FX-65"-3000)	
22.	117-391	1	ABRASION SLEEVE (1.25" X 66")	
23.	154-264	1	CONNECTOR (080-10S45)	
24.	510-017	1	REDUCER (12S-10SF)	
25.	107-507	6	SCREW (M12-1.75X65MM) FULL THD	TORQUE TO 70 FT-LBS
26.	153-105	-	HYDRAULIC PUMP	
27.	159-077	2	SPLIT FLANGE (16SFL)	
	105-222	4	BOLT (7/16-NC X 1-3/4")	
	105-073	4	LOCK WASHER (7/16")	
	157-029	2	O-RING (219 D90)	
28.	515-705	1	HOSE (16FL90-160FX-38.5"-3000)	
29.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
30.	305-710	-	MAIN FRAME	
31.	154-419	2	BK CONNECTOR (160-16090BK)	
32.	154-803	1	HOSE (16FL90-160FX-33.5"-5000)	
33.	155-184	1	PLUG (16S)	
34.	149-497	2	HYDRAULIC VALVE	TORQUE TO 85 FT-LBS
35.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
36.	117-396	1	ABRASION SLEEVE (1.25" X 28")	

NOT SHOWN:

FOOTNOTES:

NOTE:

OUTER ROTATION HYDRAULICS (JT27T2) BEGINS WITH S/N A6000031



OUTER ROTATION HYDRAULICS (JT27T2) BEGINS WITH S/N A6000031

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-456	-	JT SPNDL DRV PRTS ASS'Y	SEE FOOTNOTE I
2.	150-1223	1	HYD LINE (-16)	
3.	300-1990	1	HARDLINE BRACKET	
4.	153-400	1	HOSE (160FX90M-170"-5000)	ENDS WITH S/N
	153-314	1	HOSE (160FX90M-177"-5000)	BEGINS WITH S/N
5.	153-401	1	HOSE (160FX90M-173"-5000)	
6.	117-295	2	ABRASION SLEEVE (2.07" X 60")	
7.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
8.	194-142	1	CARTRIDGE MANIFOLD	
9.	154-281	1	CONNECTOR (16S-160)	
10.	105-198	2	BOLT (1/4-NC X 1-3/4")	
11.	157-029	2	O-RING (219 D90)	
12.	107-535	8	BOLT (7/16-NC X 3.75", SOC, GD8)	TORQUE TO 70 FT/LBS
13.	154-287	1	CONNECTOR (16S-16090)	
14.	154-256	1	UNION (080-080FX90)	
15.	322-290	1	MOUNT (WELD-ON)	
16.	153-402	1	HOSE (080FX90M-159"-3000)	
17.	154-295	1	BK RUN TEE (080-080-080BK)	
18.	309-891	1	BRACKET	
19.	154-248	1	REDUCER STEM (040)	
20.	154-272	1	REDUCER NUT (080F)	
21.	153-303	1	HOSE (080FX-65"-3000)	
22.	117-391	1	ABRASION SLEEVE (1.25" X 66")	
23.	154-264	1	CONNECTOR (080-10S45)	
24.	510-017	1	REDUCER (12S-10SF)	
25.	110-573	1	BOLT-ON CLAMP (1")	
26.	153-105	-	HYDRAULIC PUMP	
27.	159-077	2	SPLIT FLANGE (16SFL)	
	105-222	4	BOLT (7/16-NC X 1-3/4")	
	105-073	4	LOCK WASHER (7/16")	
	157-029	2	O-RING (219 D90)	
28.	515-705	1	HOSE (16FL90-160FX-38.5"-3000)	
29.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
30.	305-710	-	MAIN FRAME	
31.	154-419	2	BK CONNECTOR (160-16090BK)	
32.	154-803	1	HOSE (16FL90-160FX-33.5"-5000)	
33.	117-396	1	ABRASION SLEEVE (1.25" X 28")	
34.	149-497	2	HYDRAULIC VALVE	TORQUE TO 85 FT-LBS
35.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
36.	154-234	1	CONNECTOR (080-12S)	
37.	106-076	2	WASHER	

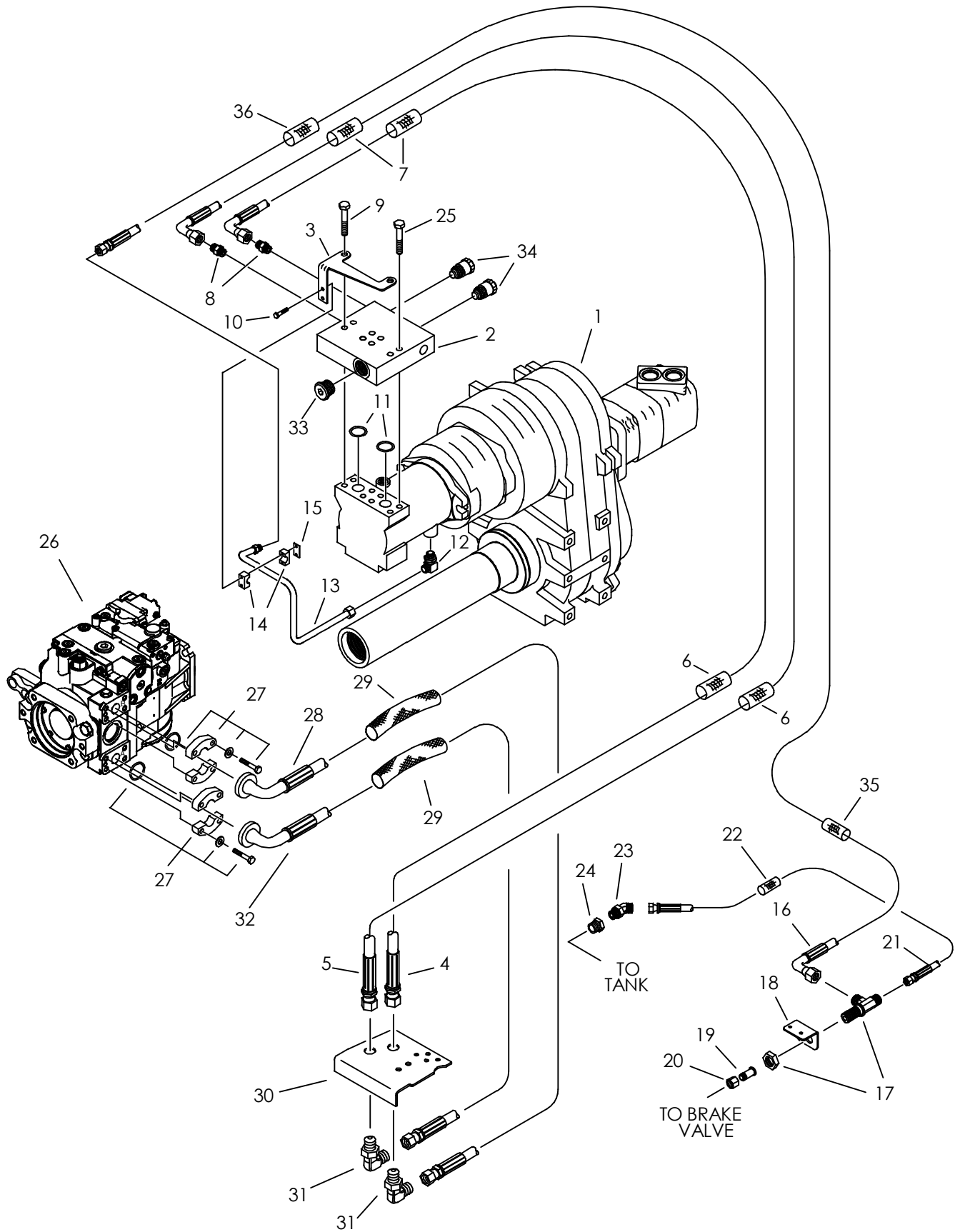
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FOOTNOTES:

I. WHEN ORDERING MOTOR REPLACEMENT FOR 149-944, YOU MUST ORDER THE KIT 190-1071.

NOTE:

ROTATION MOTOR HOT OIL HYDRUALICS AT27T2



ROTATION MOTOR HOT OIL HYDRUALICS AT27T2

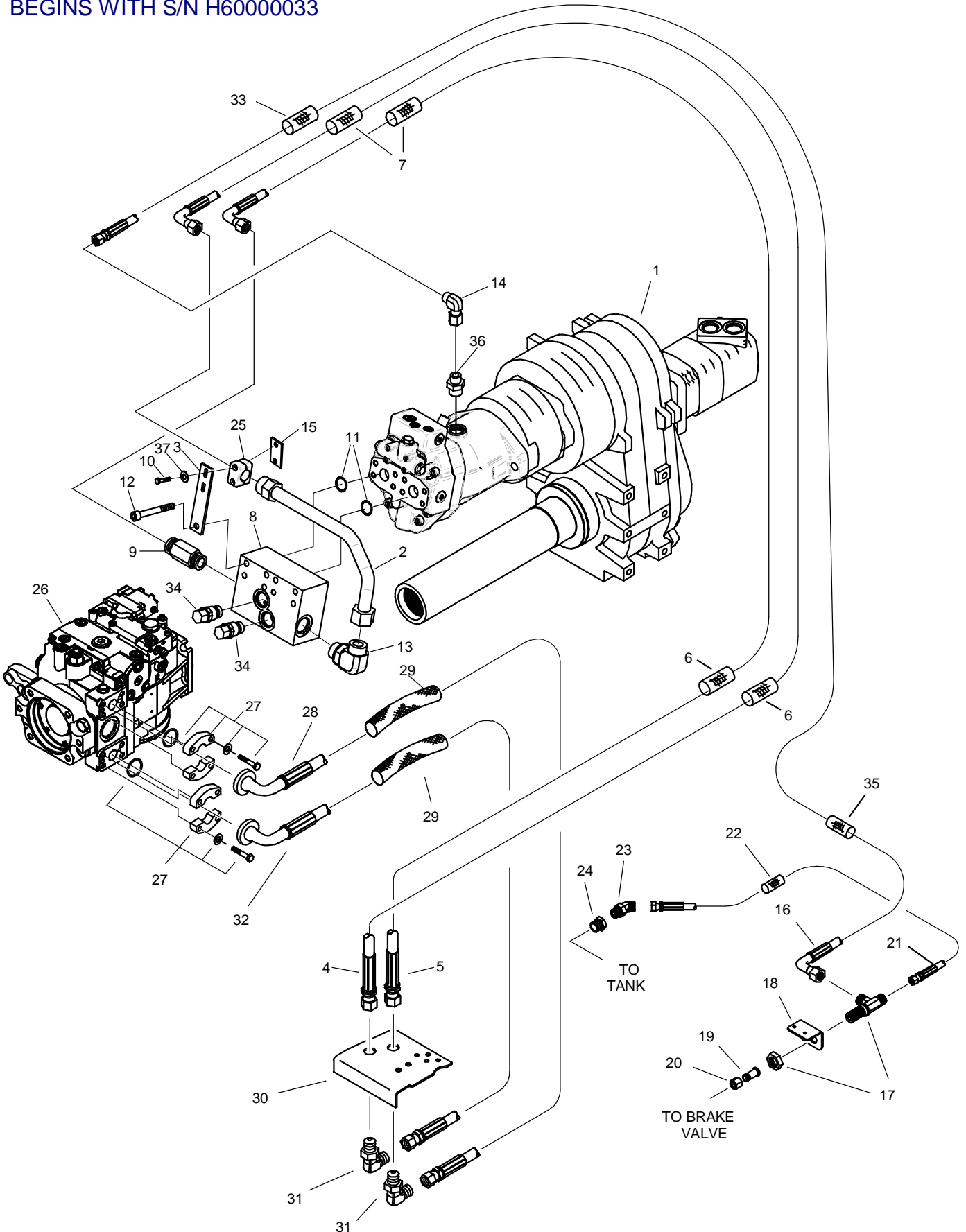
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-455	-	AT SPNDL DRV PRTS ASS'Y	
2.	153-187	1	SPIKE MANIFOLD	OBSOLETE
3.	309-907	1	BRACKET	
4.	153-313	1	HOSE (160FX90M-174"-5000)	
5.	153-314	1	HOSE (160FX90M-177"-5000)	
6.	117-295	2	ABRASION SLEEVE (2.07" X 60")	
7.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
8.	154-281	2	CONNECTOR (16S-160)	
9.	106-335	2	SCREW (M12-1.75 X 70MM)	TORQUE TO 70 FT-LBS
10.	105-818	2	BOLT (1/4-NC X 1-1/2")	
11.	157-029	2	O-RING (219 D90)	
12.	153-362	1	ELBOW (M22-1.5 PSEAL X 08090)	
13.	149-534	1	HYDRAULIC LINE (-08)	
14.	110-866	1	CLAMP (1/2")	
15.	110-783	1	WELD PLATE	
16.	153-302	1	HOSE (080FX90M-163"-3000)	
17.	154-295	1	BK RUN TEE (080-080-080BK)	
18.	309-891	1	BRACKET	
19.	154-248	1	REDUCER STEM (040)	
20.	154-272	1	REDUCER NUT (080F)	
21.	153-303	1	HOSE (080FX-65"-3000)	
22.	117-391	1	ABRASION SLEEVE (1.25" X 66")	
23.	154-264	1	CONNECTOR (080-10S45)	
24.	510-017	1	REDUCER (12S-10SF)	
25.	107-507	6	SCREW (M12-1.75X65MM) FULL THD	TORQUE TO 70 FT-LBS
26.	153-105	-	HYDRAULIC PUMP	
27.	159-077	2	SPLIT FLANGE (16SFL)	
	105-222	4	BOLT (7/16-NC X 1-3/4")	
	105-073	4	LOCK WASHER (7/16")	
	157-029	2	O-RING (219 D90)	
28.	515-705	1	HOSE (16FL90-160FX-38.5"-3000)	
29.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
30.	305-710	-	MAIN FRAME	
31.	154-419	2	BK CONNECTOR (160-16090BK)	
32.	154-803	1	HOSE (16FL90-160FX-33.5"-5000)	
33.	155-184	1	PLUG (16S)	
34.	149-497	2	HYDRAULIC VALVE	TORQUE TO 85 FT-LBS
35.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
36.	117-396	1	ABRASION SLEEVE (1.25" X 28")	

NOT SHOWN:

FOOTNOTES:

NOTE:

OUTER ROTATION HYDRAULICS (AT27T2) BEGINS WITH S/N H60000033



OUTER ROTATION HYDRAULICS (AT27T2) BEGINS WITH S/N H60000033

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	166-455	-	AT SPNDL DRV PRTS ASS'Y	SEE FOOTNOTE I
2.	150-1232	1	HYD LINE (-16)	
3.	300-1990	1	HARDLINE BRACKET	
4.	153-313	1	HOSE (160FX90M-174"-5000)	ENDS WITH S/N
	150-1164	1	HOSE (160FX90M-180"-5000)	BEGINS WITH S/N
5.	153-314	1	HOSE (160FX90M-177"-5000)	
6.	117-295	2	ABRASION SLEEVE (2.07" X 60")	
7.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
8.	150-1228	1	CROSS PORT RELIEF MANIFOLD	
9.	154-281	1	CONNECTOR (16S-160)	
10.	105-198	2	BOLT (1/4-NC X 1-3/4")	
11.	157-029	2	O-RING (219 D90)	
12.	107-535	8	BOLT (7/16-NC X 3.75", SOC, GD8)	TORQUE TO 70 FT/LBS
13.	154-287	1	CONNECTOR (16S-16090)	
14.	154-256	1	UNION (080-080FX90)	
15.	322-290	1	MOUNT (WELD-ON)	
16.	153-302	1	HOSE (080FX90M-163"-3000)	
17.	154-295	1	BK RUN TEE (080-080-080BK)	
18.	309-891	1	BRACKET	
19.	154-248	1	REDUCER STEM (040)	
20.	154-272	1	REDUCER NUT (080F)	
21.	153-303	1	HOSE (080FX-65"-3000)	
22.	117-391	1	ABRASION SLEEVE (1.25" X 66")	
23.	154-264	1	CONNECTOR (080-10S45)	
24.	510-017	1	REDUCER (12S-10SF)	
25.	110-573	1	BOLT-ON CLAMP (1")	
26.	153-105	-	HYDRAULIC PUMP	
27.	159-077	2	SPLIT FLANGE (16SFL)	
	105-222	4	BOLT (7/16-NC X 1-3/4")	
	105-073	4	LOCK WASHER (7/16")	
	157-029	2	O-RING (219 D90)	
28.	515-705	1	HOSE (16FL90-160FX-38.5"-3000)	
29.	117-296	2	ABRASION SLEEVE (2.07" X 30")	
30.	305-710	-	MAIN FRAME	
31.	154-419	2	BK CONNECTOR (160-16090BK)	
32.	154-803	1	HOSE (16FL90-160FX-33.5"-5000)	
33.	117-396	1	ABRASION SLEEVE (1.25" X 28")	
34.	149-497	2	HYDRAULIC VALVE	TORQUE TO 85 FT-LBS
35.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
36.	154-234	1	61CONNECTOR (080-12S)	
37.	106-076	2	WASHER	

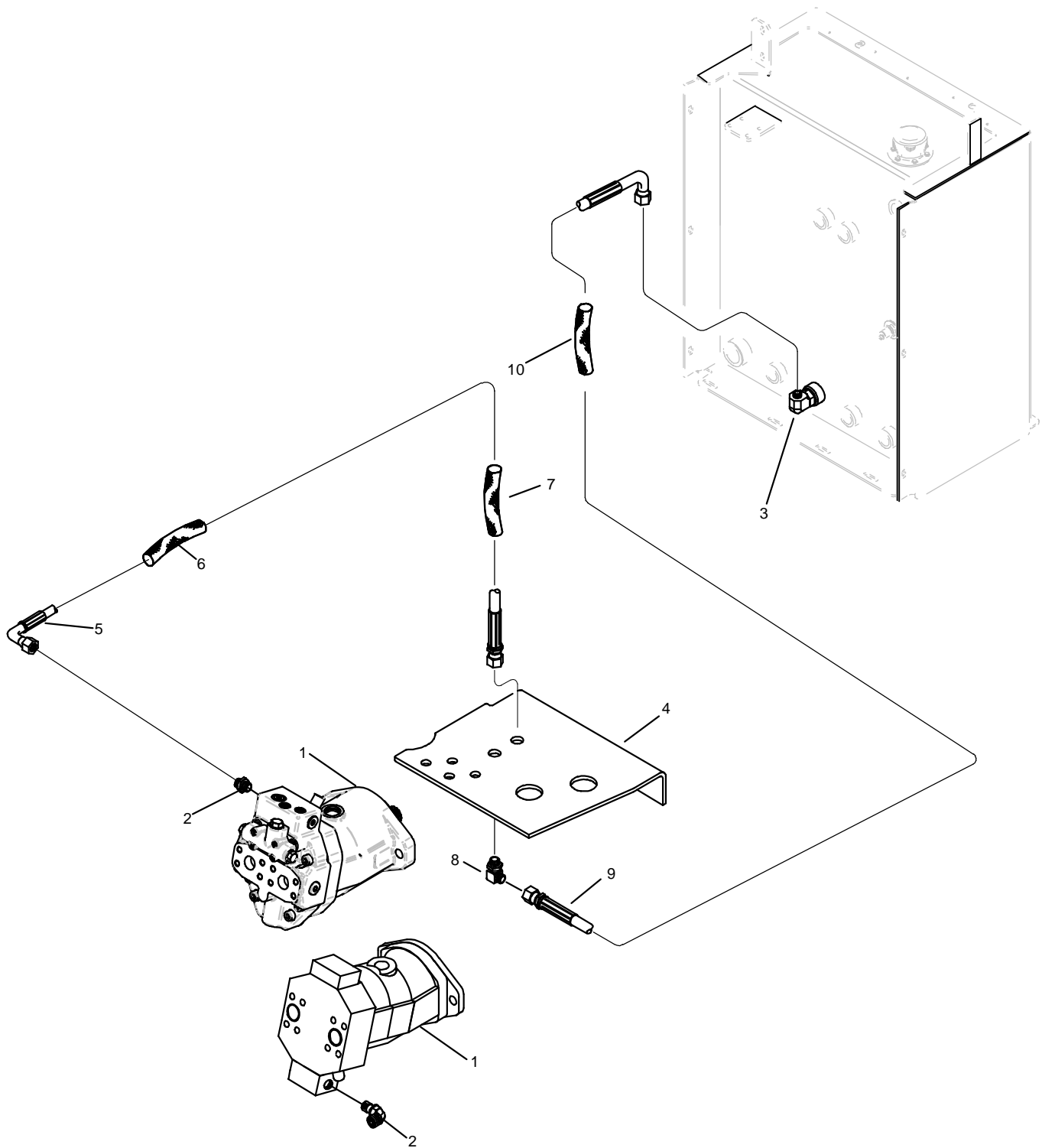
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FOOTNOTES:

I. WHEN ORDERING MOTOR REPLACEMENT FOR THE 149-944, YOU MUST ORDER THE KIT 190-1071.

NOTE:

ROTATION MOTOR HOT OIL HYDRAULICS



ROTATION MOTOR HOT OIL HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-944	-	HYDRAULIC MOTOR	ENDS WITH S/N:
	150-1230	-	HYDRAULIC MOTOR	BEGINS WITH S/N:
	500-1422	-	SEAL KIT	SEE FOOTNOTE 1
	500-1426	-	SHAFT SEAL RING	SEE FOOTNOTE 1
2.	154-342	1	CONNECTOR (06S-06090)	ENDS WITH S/N:
	154-221	1	CONNECTOR (06S-060)	BEGINS WITH S/N:
3.	514-197	1	CONNECTOR (060-12S90)	
4.	305-710	1	MAIN FRAME	
5.	153-388	1	HOSE (060FX90S-174"-3000)	USED ON AT27T2 ONLY
	156-936	1	HOSE (060FX90-170"-3000)	USED ON JT27T2 ONLY
6.	117-676	1	ABRASION SLEEVE (1.00" X 30")	
7.	117-714	1	ABRASION SLEEVE (1.00" X 54")	
8.	154-229	1	BK CONNECTOR (060-06090BK)	
9.	515-716	1	HOSE (060FX90-42"-3000)	
10.	117-717	1	ABRASION SLEEVE (1.00" X 40")	

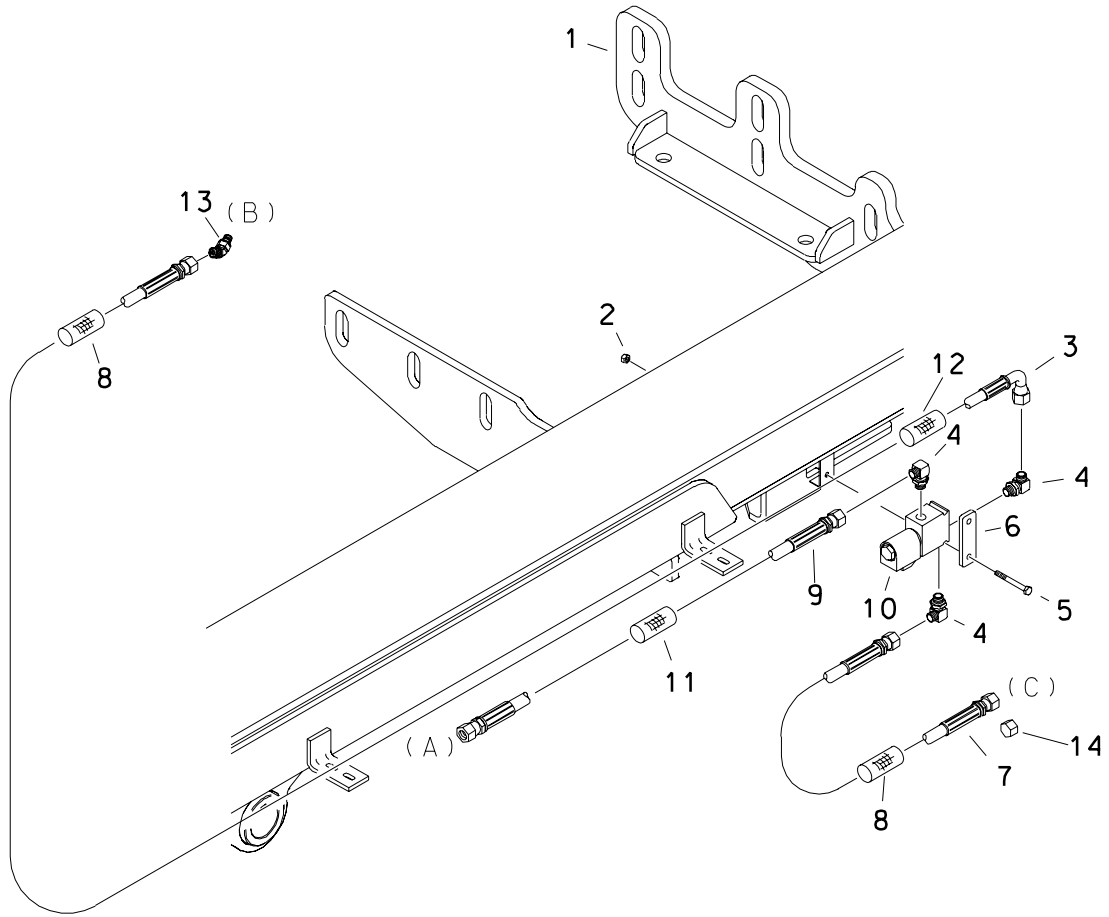
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FOOTNOTES:

- I. FOR USE WITH 149-944 AND 150-1230

NOTE:

ROTATION BRAKE HYDRAULICS



ROTATION BRAKE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-648	-	DRILL FRAME WLDMN'T	
2.	105-085	2	LOCKNUT (1/4-NC)	
3.	153-297	1	HOSE (O4DFX90M-198"-3000)	
4.	154-226	3	CONNECTOR (O4O-06S90)	
5.	107-215	2	FLG LK BLT (1/4-NC X 2-1/4")	
6.	343-342	1	FLOW DIVIDER BRACKET	
7.	154-800	1	HOSE (O4DFX-18"-3000)	
8.	117-328	2	ABRASION SLEEVE (1.00" X 18")	
9.	154-653	1	HOSE (O4DFX-40"-3000)	
10.	158-627	1	SOLENOID VALVE	
11.	117-717	1	ABRASION SLEEVE (1.00" X 40")	
12.	117-398	1	ABRASION SLEEVE (1.00" X 86")	
13.	154-263	1	CONNECTOR (O4S-04O45)	
14.	154-296	1	CAP (O4DF)	REPLACES REF NO'S 2 THRU 13 ON JT2720 MACH 1 ONLY

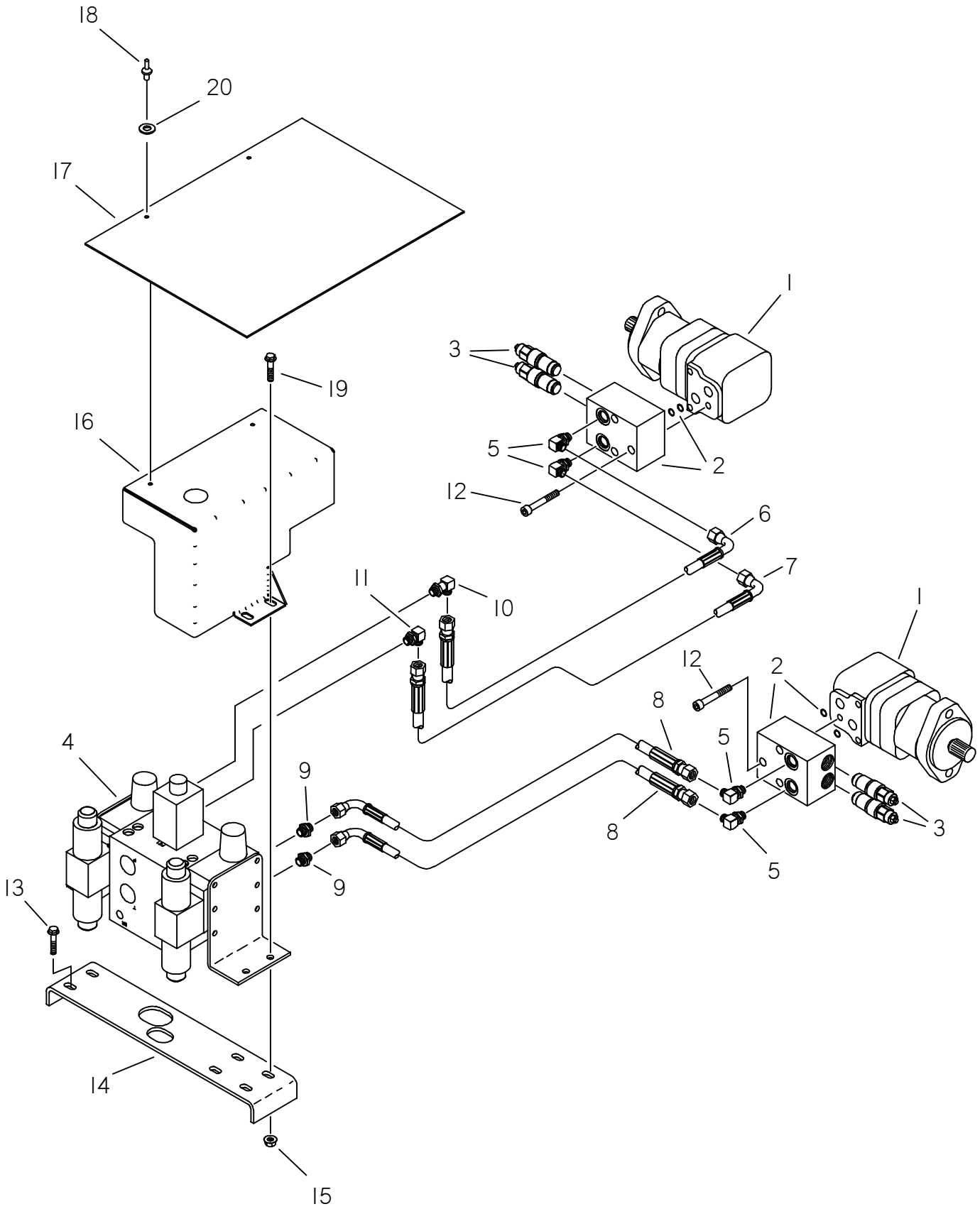
FOOTNOTES

- 1. (A) CONNECTS TO REDUCER ON BULKHEAD RUN TEE
- 2. (B) CONNECTS TO PORT IN BRAKE
- 3. (C) CONNECTS TO TEE IN FRONT WRENCH VALVE

NOTE

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

GROUND DRIVE CONTROL HYDRAULICS



GROUND DRIVE CONTROL HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	158-953	2	HYD MOTOR	
	500-658	-	SEAL REPAIR KIT	
2.	153-143	2	COUNTERBALANCE MANIFOLD	
	155-776	-	O-RING (117 D70)	
3.	158-018	4	RELIEF CARTRIDGE	
4.	150-2251	-	HYDRAULIC CONTROL VALVE	
	501-904	-	FLOW CONTROL VALVE	
5.	154-323	4	CONNECTOR (08S-10090)	
6.	153-294	1	HOSE (100FX90S-17"-3000)	
7.	153-295	1	HOSE (100FX90S-18"-3000)	
8.	515-720	2	HOSE (100FX90S-32"-3000)	
9.	154-288	1	CONNECTOR (10S-10090, XL)	
10.	154-288	1	CONNECTOR (10S-10090, XL)	
11.	154-298	1	CONNECTOR (10S-10090)	
12.	105-857	6	BOLT (3/8-NC X 3", SOC, GD8)	
13.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
14.	305-710	-	MAIN FRAME	
15.	106-387	4	FLG LOCKNUT (M10-1.50)	
16.	320-230	1	GROUND DRIVE VALVE COVER	
17.	117-307	1	FLAP	
18.	110-560	2	POP RIVET (3/16" X 1/2", ALUM)	
19.	106-383	2	FLG LK SCREW (M10-1.50 X 30MM)	
20.	105-284	2	WASHER (3/16")	

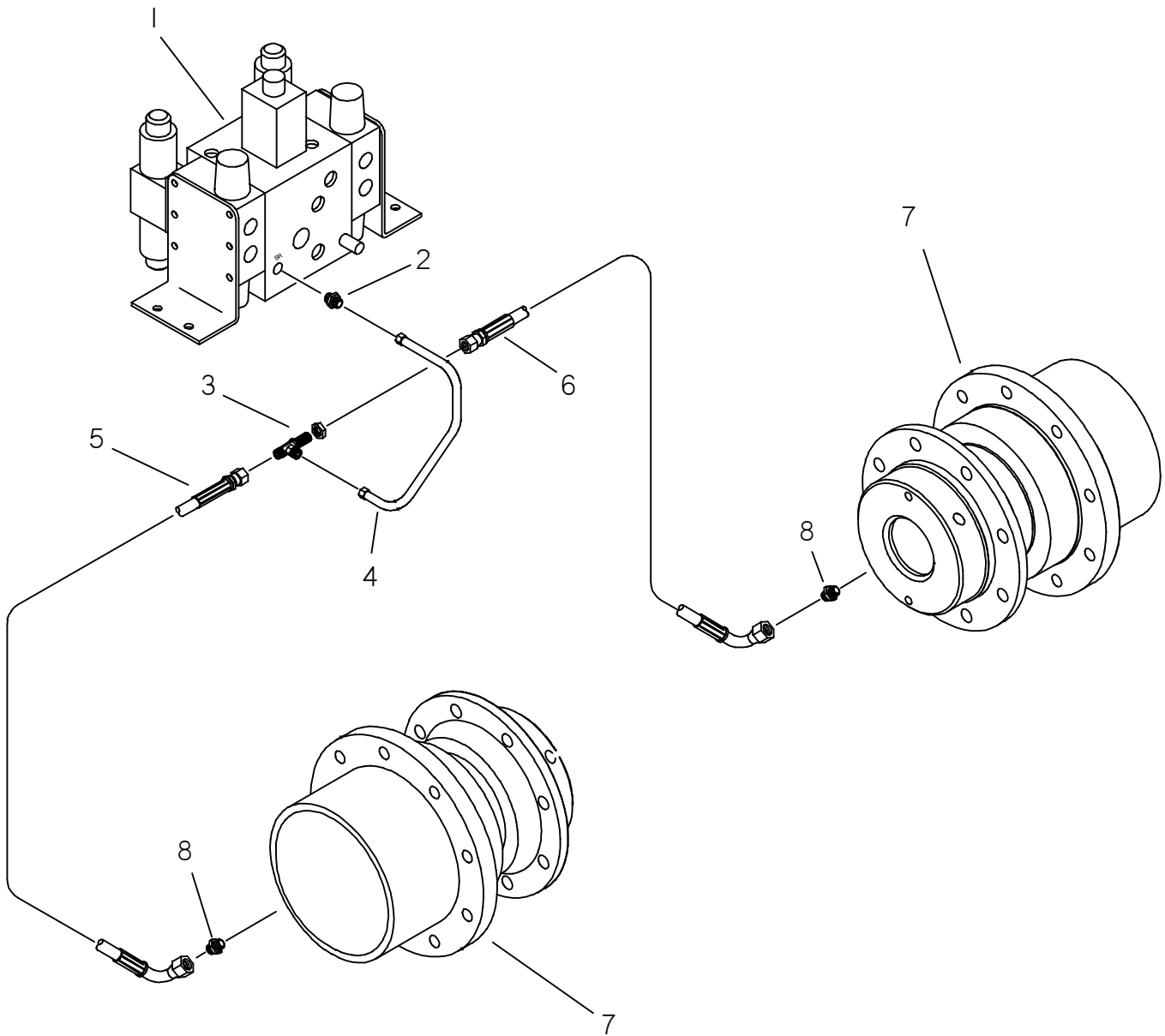
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FOOTNOTES:

NOTE:

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

BRAKE LINE



BRAKE LINE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	150-225I	-	HYDRAULIC CONTROL VALVE	
2.	154-221	1	CONNECTOR (06S-060)	
3.	154-400	1	BK RUN TEE (060-060-060BK)	
4.	149-401	1	HYDRAULIC LINE (I-06)	BRAKE LINE
5.	153-315	1	HOSE (060FX90S-36"-3000)	
6.	153-316	1	HOSE (060FX90S-25"-3000)	
7.	166-140	2	PLANETARY GEAR BOX	TRACK
8.	154-411	2	CONNECTOR (04S-060)	

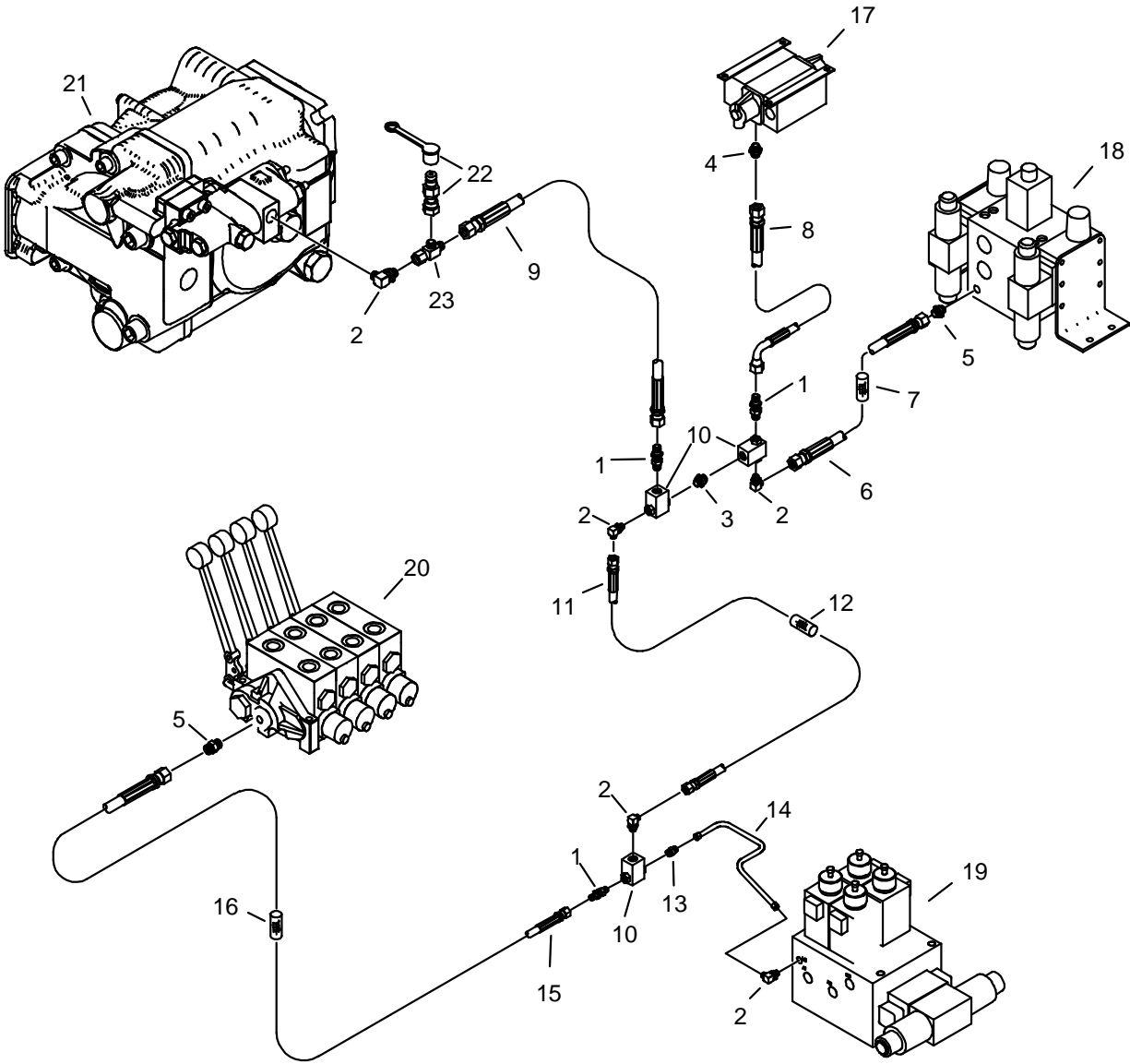
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FOOTNOTES:

NOTE:

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

LOAD SENSE HYDRAULICS



LOAD SENSE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-518	3	CONNECTOR (06S-040)	
2.	154-226	5	CONNECTOR (040-06S90)	
3.	155-153	1	CONNECTOR (06S-06S)	
4.	154-316	1	RUN TEE (04S-040-040)	
5.	154-278	2	CONNECTOR (04S-040)	
6.	154-702	1	HOSE (040FX-30"-3000)	
7.	117-676	1	ABRASION SLEEVE (1.00" X 30")	
8.	515-683	1	HOSE (040FX90-28"-3000)	
9.	515-735	1	HOSE (040FX-22"-3000)	
10.	158-600	3	HYD SHUTTLE VALVE	
11.	154-966	1	HOSE (040FX-95"-3000)	
12.	117-213	1	ABRASION SLEEVE (1.00" X 96")	
13.	154-220	1	CONNECTOR (040-06S)	
14.	149-648	1	HYDRAULIC LINE (-04)	
15.	153-299	1	HOSE (040FX-84"-3000)	
16.	117-413	1	ABRASION SLEEVE (1.00" X 84")	
17.	153-543	1	THRUST VALVE (ELECTRIC)	
18.	150-2251	1	HYDRAULIC CONTROL VALVE	
	501-904	-	FLOW CONTROL VALVE	
	500-1362	-	COMPENSATOR VALVE	
	500-1363	-	COMPENSATOR VALVE - SEAL KIT	
19.	149-258	1	HYDRAULIC VALVE	
20.	158-064	1	HYD CONTROL VALVE	
21.	149-390	1	HYDRAULIC PUMP	
22.	159-156	1	QDC ADAPTER (02-040F)	
23.	154-265	1	UNION RUN TEE (040FX-040-040)	

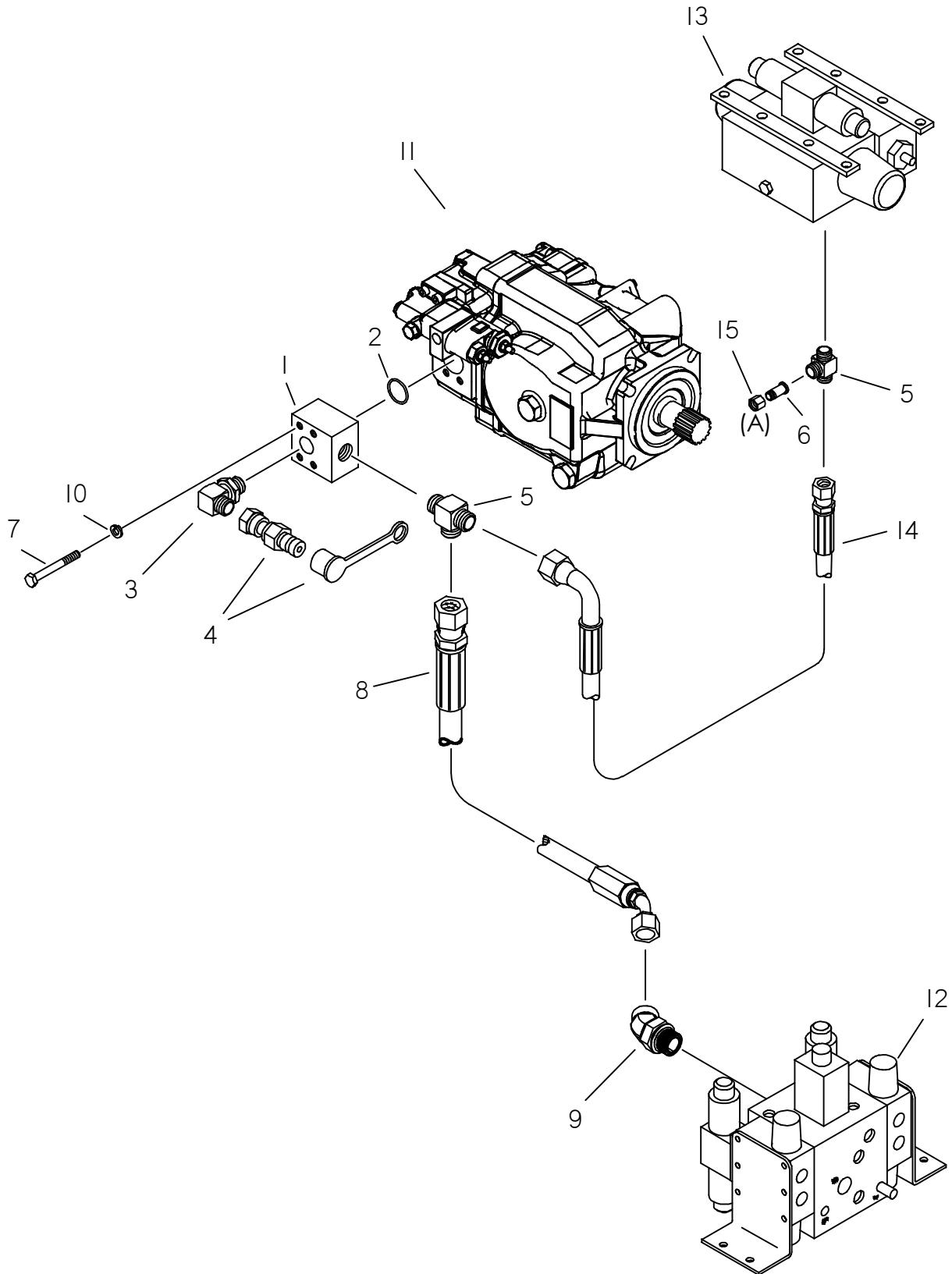
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FOOTNOTES:

NOTE:

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

LOAD SENSE PRESSURE HYDRAULICS



LOAD SENSE PRESSURE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-605	1	BLOCK, MANIFOLD, HORTON	
2.	157-078	1	O-RING (222 D90)	
3.	154-226	1	CONNECTOR (040-06S90)	
4.	159-156	1	QDC ADAPTER (02-040F)	
	159-148	1	DUST CAP (1/8")	
5.	154-359	2	RUN TEE (16S-160-160)	
6.	154-442	1	REDUCER STEM (100)	
7.	105-136	4	BOLT (1/2-NC X 3-1/2", GD 8)	
8.	153-311	1	HOSE (160FX45-54"-3000)	
9.	154-388	1	CONNECTOR (16S-16045)	
10.	105-070	4	LOCK WASHER (1/2")	
11.	149-390	-	HYDRAULIC PUMP	
12.	150-2251	-	HYDRAULIC CONTROL VALVE	
13.	153-543	-	THRUST VALVE (ELECTRIC)	
14.	153-418	1	HOSE (160FX90S-52"-3000)	
15.	154-340	1	REDUCER NUT (160F)	

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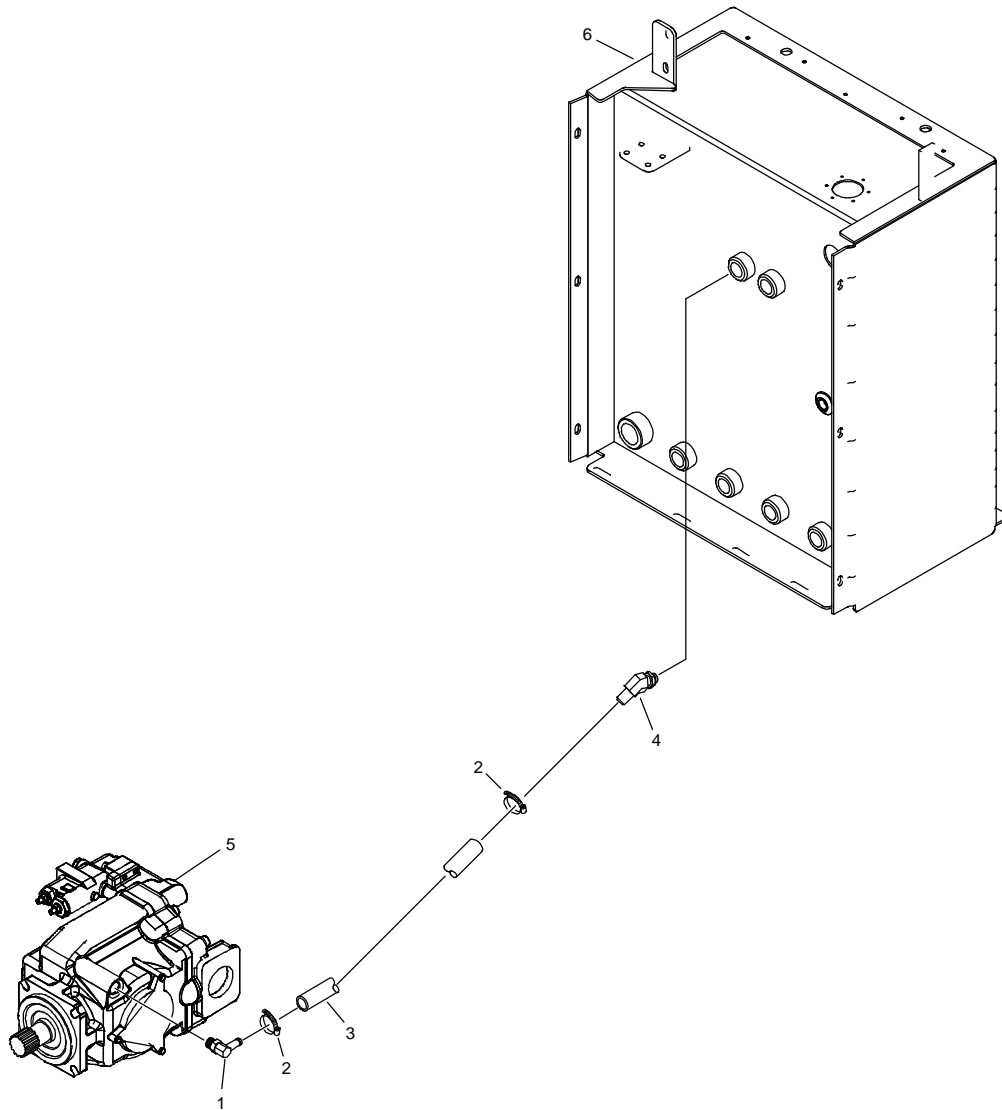
FOOTNOTES:

(A) PRESSURE SUPPLY TO PARKER FRONT WRENCH VALVE AND GRESEN ANCHOR VALVE.

NOTE:

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

LOAD SENSE PUMP/CASE DRAIN



LOAD SENSE PUMP/CASE DRAIN

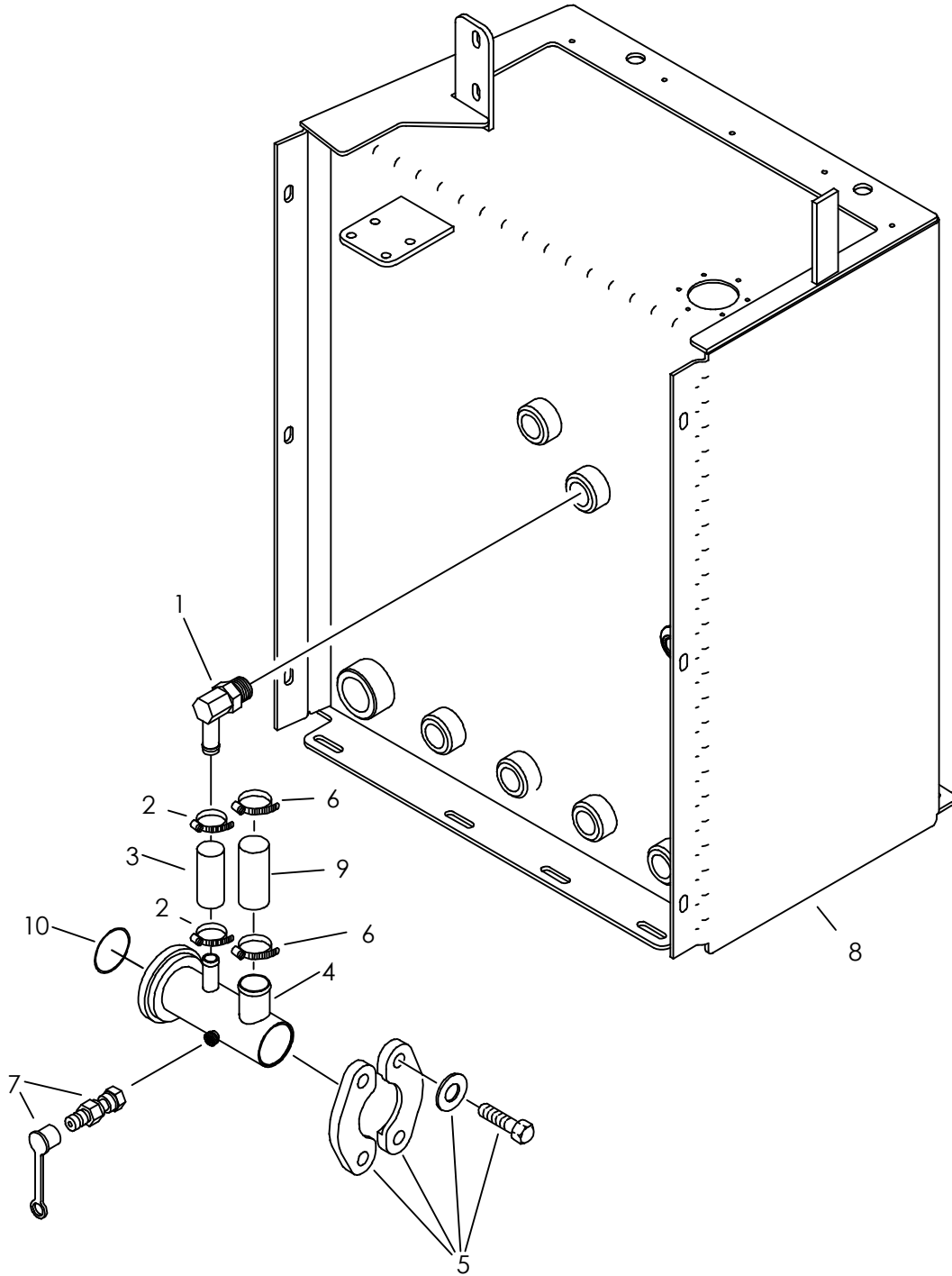
REF PART NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-362	1	S/O COUPLER (10S-12H90)	
2.	110-026	2	WORM CLAMP (1/2" TO 1-1/4")	
3.	116-636	1	BULK HOSE (3/4", SOLD PER 1')	USE 1 @ 12"
4.	155-196	1	S/O COUPLER (12S-12H45)	
5.	149-390	1	HYDRAULIC PUMP	
	499-063	-	SHAFT (SPLINED 14T)	
	190-803	-	SEAL REPAIR KIT	
	499-064	-	LOAD SENSE CONTROL	
	190-804	-	BEARING KIT	
6.	364-673	-	HYDRAULIC TANK	

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FOOTNOTES:

NOTE:

LOAD SENSE RETURN HYDRAULICS



LOAD SENSE RETURN HYDRAULICS

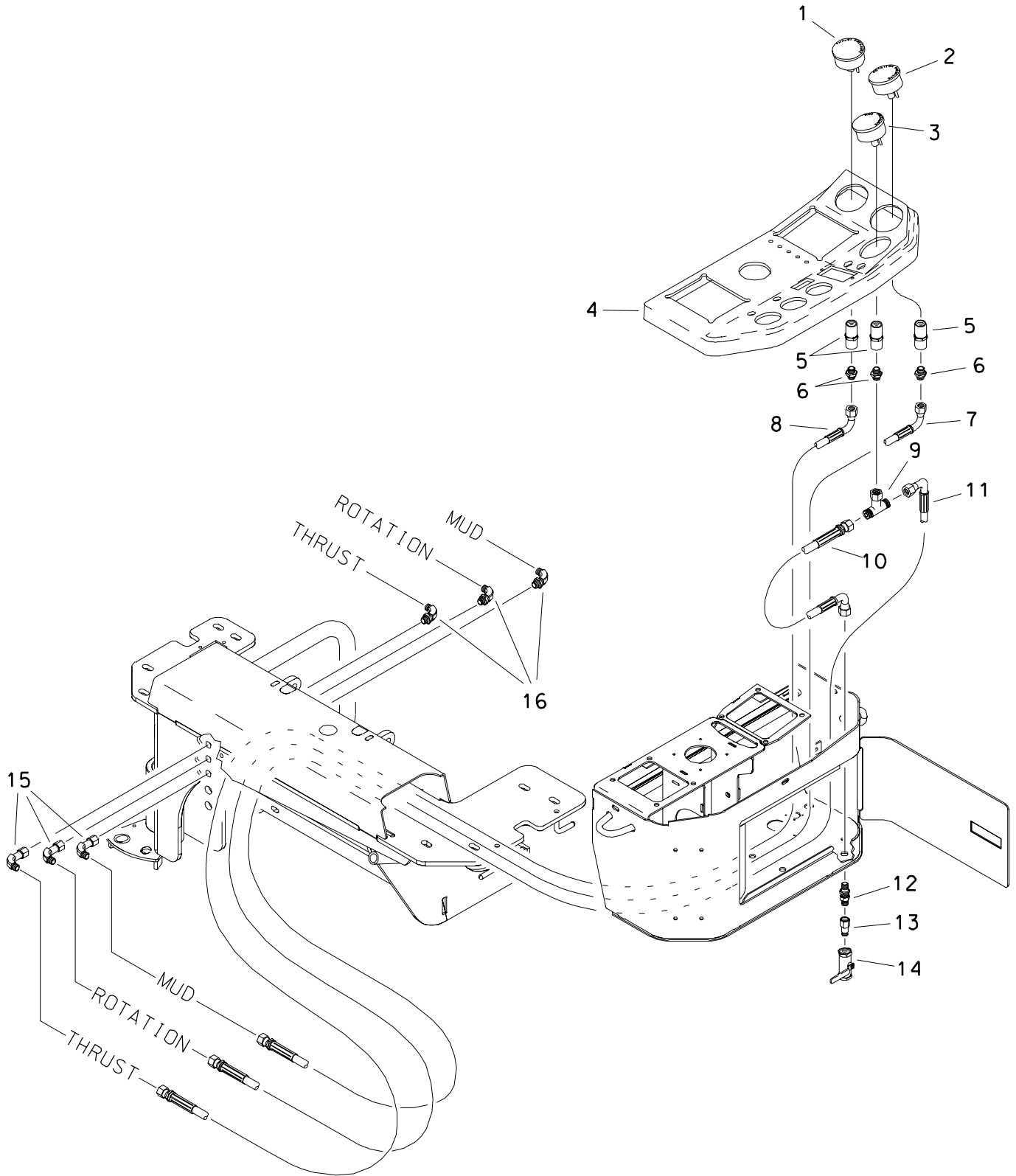
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	514-344	1	S/O COUPLER (12S-10H90)	
2.	110-217	2	WORM CLAMP (7/16" TO 1")	
3.	117-462	AR	BULK HOSE (5/8", SOLD PER 1")	USE 1 @ 9"
4.	514-448	1	S/O TEE COUPLER (40F-24H-16H)	
5.	514-447	1	SPLIT FLANGE KIT (-40)	
6.	111-028	2	T-BOLT CLAMP (1.75"-2.00")	
7.	159-156	1	QDC ADAPTER (02-040F)	
8.	364-673	-	HYDRAULIC TANK	
9.	116-588	1	BULK HOSE (1-1/2", SOLD PER 1')	USE 1 @ 14.75"
10.	157-015	1	O-RING (232 D70)	

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FOOTNOTES:

NOTE:

RIGHT CONSOLE HYDRAULICS

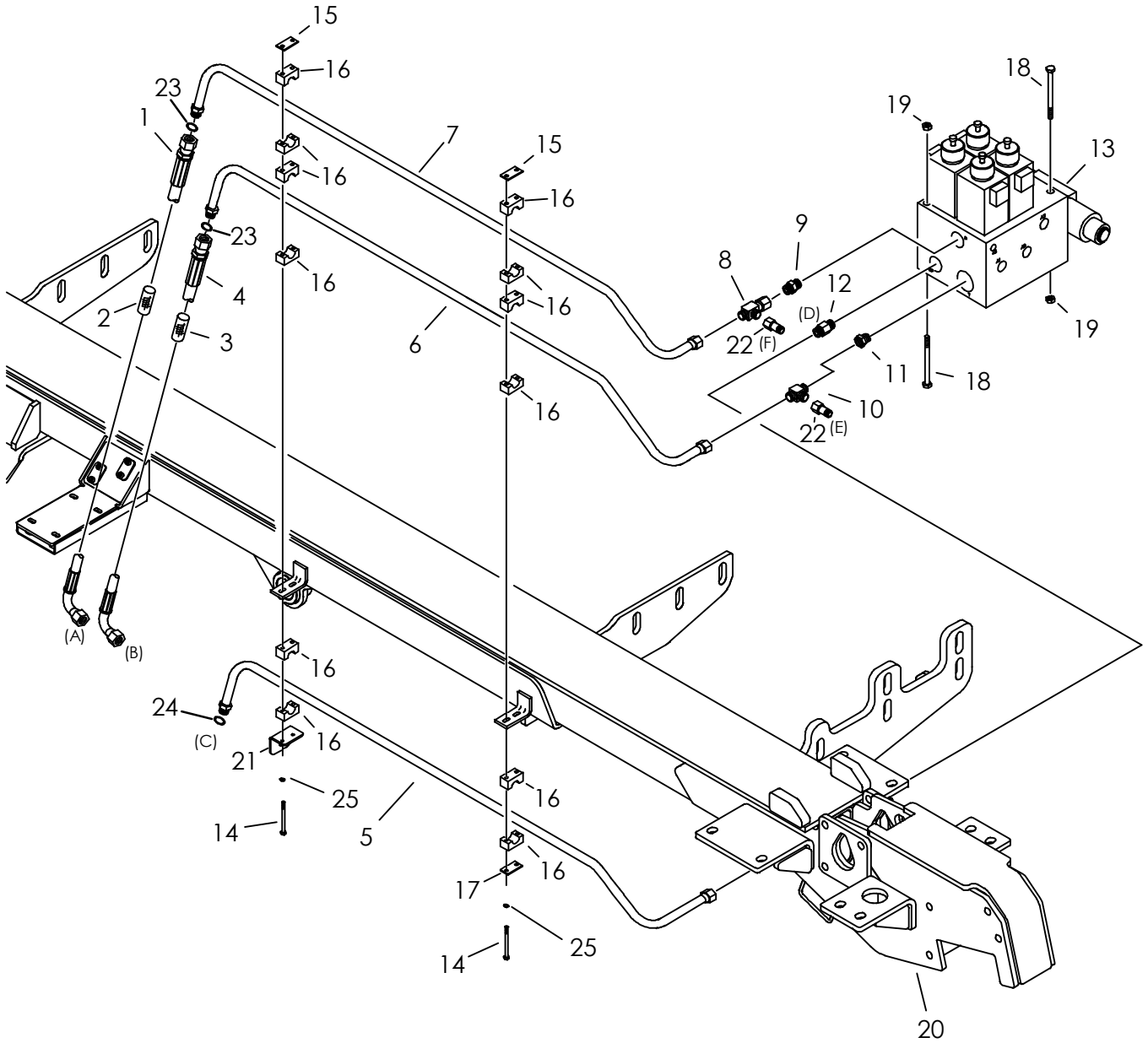


RIGHT CONSOLE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	258-045	1	GAUGE (4000 PSI)	(THRUST)
2.	258-036	1	HYD PRESSURE GAUGE (6000 PSI)	(ROTATION)
3.	258-046	1	PRESSURE GAUGE (1500PSI)	(MUD)
4.	211-014	-	RIGHT CONSOLE COVER	
5.	514-408	3	COLLAR (04NF)	
6.	154-339	3	CONNECTOR (04N-040)	
7.	515-667	1	HOSE (04DFX90-54"-5000)	(ROTATION)
8.	154-900	1	HOSE (04DFX90S-62"-3000)	(TRUST)
9.	154-379	1	UN BR TEE (04DFX-040-040)	
10.	515-065	1	HOSE (04DFX90S-14"-3000)	
11.	515-257	1	HOSE (04DFX90S-54"-3000)	(MUD)
12.	153-238	1	BK CONNECTOR (040-06S)	
13.	153-264	1	REDUCER (04N-06SF)	
14.	120-071	1	SHUT-OFF (04NF-04NF)	
15.	154-255	3	UNION (040-04DFX90)	
16.	154-355	3	BK CONNECTOR (040-04090BK)	

FOOTNOTES

FRONT WRENCH PRESSURE & RETURN HYDRAULICS



FRONT WRENCH PRESSURE & RETURN HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-527	1	HOSE (100FX90-54"-3000)	
2.	117-657	1	ABRASION SLEEVE (1.59" X 54")	
3.	115-813	1	ABRASION SLEEVE (1.59" X 36")	
4.	515-498	1	HOSE (100FX90S-36"-3000)	
5.	149-532	1	HYDRAULIC LINE (-12)	
6.	149-531	1	HYDRAULIC LINE (-12)	
7.	149-530	1	HYDRAULIC LINE (-12)	
8.	154-368	1	UN RUN TEE (120FX-120-120)	
9.	154-269	1	CONNECTOR (12S-120)	
10.	154-292	1	RUN TEE (12S-120-120)	
11.	155-222	1	REDUCER (16S-12SF)	
12.	149-815	1	TEE (12S-120-040, SPECIAL)	
13.	149-258	-	HYDRAULIC VALVE	
	191-103	-	SEAL REPAIR KIT	FOR USE ON 499-311
	191-104	-	SEAL REPAIR KIT	FOR USE ON 501-872
	499-309	-	SOLENOID	REPLACEMENT FOR WRENCH ROTATE SECTION
	499-310	-	SOLENOID COIL	REPLACEMENT FOR WRENCH ROTATE SECTION
	499-311	-	SOLENOID CARTRIDGE	REPLACEMENT FOR THE FRONT AND REAR WRENCH SECTIONS
	499-312	-	SOLENOID COIL	REPLACEMENT FOR THE FRONT AND REAR WRENCH SECTIONS
	499-313	-	CHECK VALVE	LABELED CV1 AND CV2 ON VALVE BODY
	500-703	-	SEAL REPAIR KIT	FOR USE ON 499-313
	501-872	-	SHUTTLE VALVE	LABELED SV1, SV2 AND SV3 ON VALVE BODY
14.	108-078	4	BOLT (1/4-NC X 4-3/4", GD. 5)	
15.	322-290	2	MOUNT (WELD-ON)	
16.	110-411	6	BOLT-ON CLAMP (3/4", SET)	
17.	322-289	1	BACKUP (BOLT-ON)	
18.	107-420	3	SCREW (M10-1.50 X 140MM)	
19.	105-894	3	LOCKNUT(M10-1.50,PRV TRQ,10.9)	
20.	303-648	-	DRILL FRAME WLDMN'T	
21.	309-891	1	BRACKET	
22.	154-441	2	REDUCER (100-120F)	
23.	157-040	2	O-RING (016 D90)	
24.	157-039	1	O-RING (014 D90)	
25.	106-076	16	WASHER (1/4")	

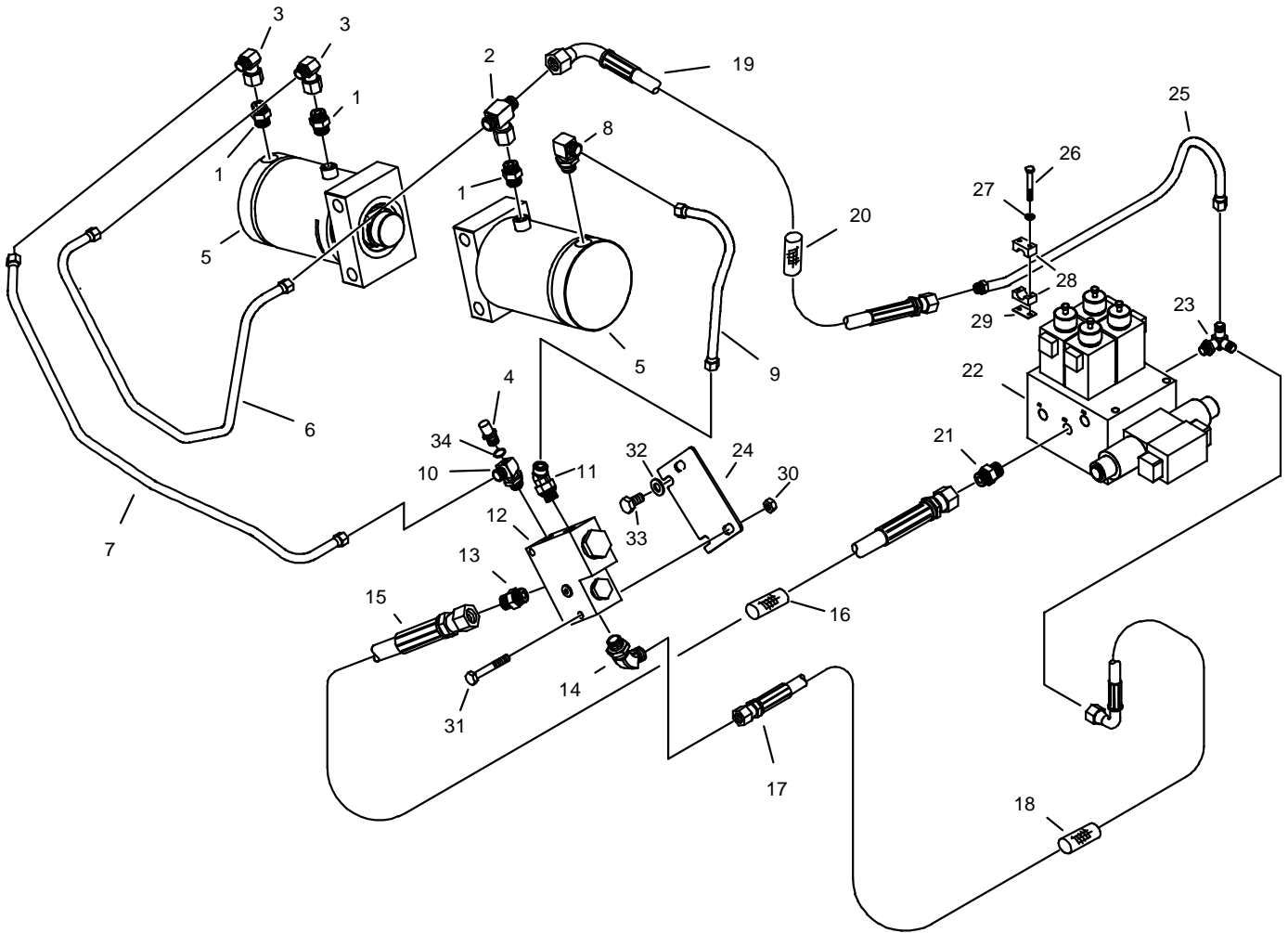
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FOOTNOTES:

- (A) CONNECTS TO TEE IN PARKER THRUST VALVE PRESSURE INLET PORT
- (B) CONNECTS TO BRANCH TEE ON COOLER INLET TUBE
- (C) CONNECTS TO BULKHEAD RUN TEE ON TOP OF SUNSTRAND ROTATION PUMP
- (D) CONNECTS TO SOLENOID VALVE ON DRILL FRAME FOR CHARGE PRESSURE ON "OUTER ROTATION BRAKE HYDRAULICS"
- (E) CONNECTS TO TANK PORT ON ANCHOR VALVE IN PIVOT FRAME
- (F) CONNECTS TO PRESSURE PORT ON ANCHOR VALVE IN PIVOT FRAME

NOTE:

FRONT WRENCH HYDRAULICS



FRONT WRENCH HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-246	3	CONNECTOR (06S-080)	
2.	154-257	1	UN BR TEE (080FX-080-080)	
3.	154-256	2	UNION (080-080FX90)	
4.	215-1227	1	PRESSURE SWITCH (500PSI)	
5.	151-206	2	CYL (4.50" X 2.25" X 2.75")	BEFORE S/N
	151-212	2	CYL (4.50" X 2.25" X 2.75")	AFTER S/N
6.	149-500	1	HYD LINE	
7.	149-650	1	HYDRAULIC LINE (-08)	
8.	154-253	1	CONNECTOR (06S-08090)	
9.	149-649	1	HYDRAULIC LINE (-08)	
10.	149-572	1	SPECIAL TEE (08S-06SF-080)	
11.	154-284	1	CONNECTOR (08S-08045)	
12.	149-791	1	HYDRAULIC VALVE	USE SERVICE PARTS: 500-2041 SEAL KIT & 500-2042 SEAL
13.	154-279	1	CONNECTOR (080-10S)	
14.	154-226	1	CONNECTOR (040-06S90)	
15.	154-721	1	HOSE (080FX-28"-3000)	
16.	117-396	1	ABRASION SLEEVE (1.25" X 28")	
17.	154-705	1	HOSE (040FX90-60"-3000)	
18.	117-693	1	ABRASION SLEEVE (1.00" X 60")	
19.	154-838	1	HOSE (080FX90-44"-3000)	
20.	117-189	1	ABRASION SLEEVE (1.25" X 44")	
21.	154-233	1	CONNECTOR (08S-080)	
22.	149-258	1	HYDRAULIC VALVE	
23.	514-160	1	BRANCH TEE (08S-080-040)	
24.	310-910	1	PLATE	
25.	149-529	1	HYDRAULIC LINE (-08)	
26.	105-106	2	BOLT (1/4-NC X 2")	
27.	106-076	2	WASHER (1/4")	
28.	110-866	1	CLAMP (1/2")	
29.	110-783	1	WELD PLATE	
30.	107-661	2	FLG LKNUT (M10-1.50 PRE TRQ)	
31.	106-142	2	SCREW (M10-1.50 X 65MM)	
32.	106-397	2	WASHER (M12, HARDENED)	
33.	107-521	2	SCREW (M12-1.75 X 20MM)	
34.	155-705	1	O-RING (906 D90)	

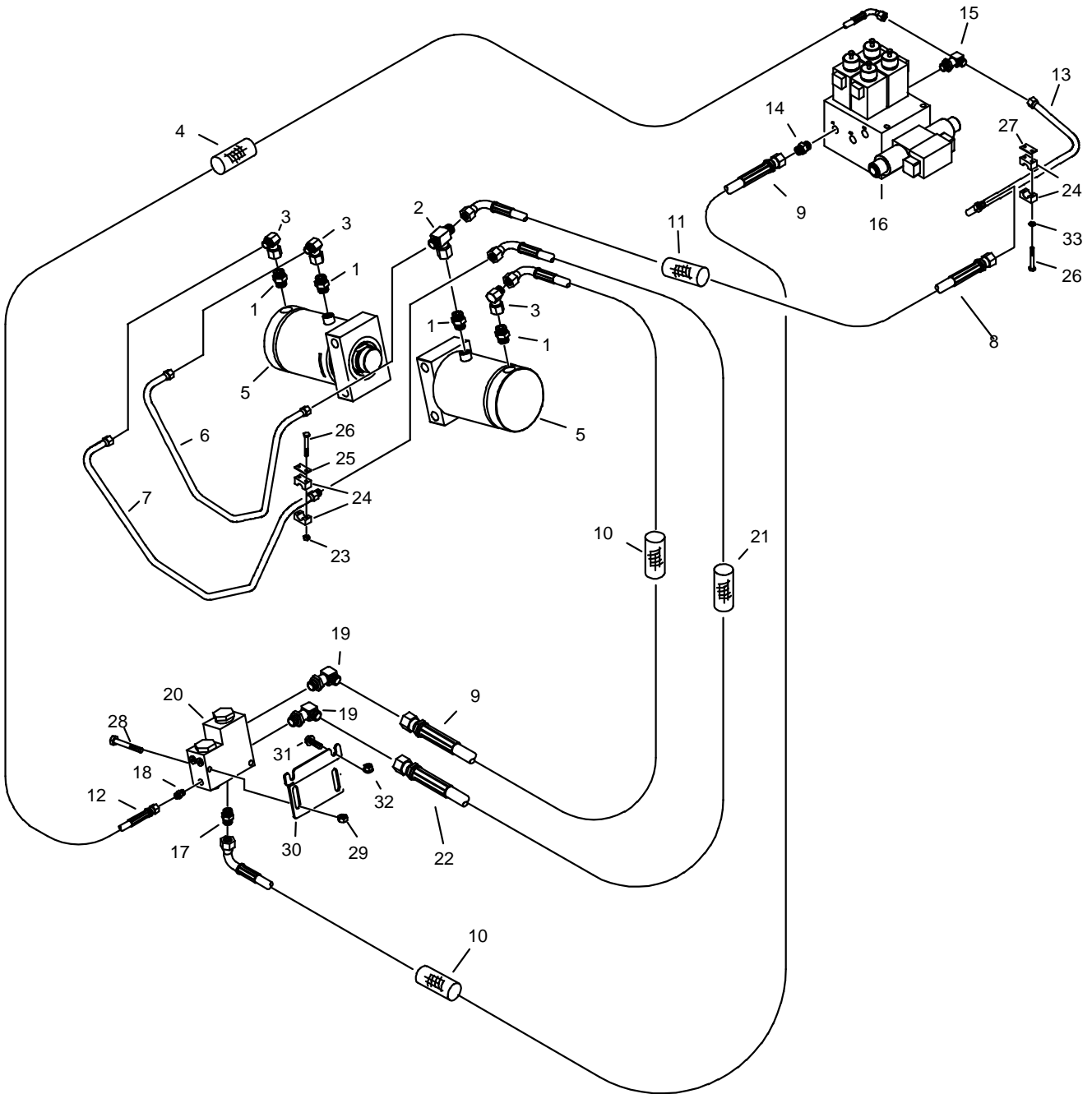
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FOOTNOTES:

NOTE:

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

REAR WRENCH



REAR WRENCH

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-246	1	CONNECTOR (06S-080)	
2.	154-257	1	UN BR TEE (080FX-080-080)	
3.	154-256	3	UNION (080-080FX90)	
4.	117-387	1	ABRASION SLEEVE (1.00" X 42")	
5.	151-206	2	CYL (4.50" X 2.25" X 2.75")	BEFORE S/N
	151-212	2	CYL (4.50" X 2.25" X 2.75")	AFTER S/N
6.	149-500	1	HYD LINE	
7.	149-498	1	HYDRAULIC LINE (-08)	
8.	153-300	1	HOSE (080FX90M-44"-3000)	
9.	154-837	2	HOSE (080FX90S-34"-3000)	
10.	117-397	2	ABRASION SLEEVE (1.25" X 35")	
11.	117-189	1	ABRASION SLEEVE (1.25" X 44")	
12.	153-298	1	HOSE (040FX90L-42"-3000)	
13.	149-528	1	HYDRAULIC LINE (-08)	
14.	154-233	1	CONNECTOR (08S-080)	
15.	153-262	1	SPECIAL TEE (040-080-08S)	
16.	149-258	1	HYDRAULIC VALVE	
17.	154-279	1	CONNECTOR (080-10S)	
18.	154-220	1	CONNECTOR (040-06S)	
19.	154-254	2	CONNECTOR (08S-08090, XL)	
20.	149-791	1	HYDRAULIC VALVE	USE SERVICE PARTS: 500-2041 SEAL KIT & 500-2042 SEAL
21.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
22.	515-025	1	HOSE (080FX90-40"-3000)	
23.	105-085	2	LOCKNUT (1/4-NC)	
24.	110-866	2	CLAMP (1/2")	
25.	110-958	1	BACKUP PLATE	
26.	105-198	4	BOLT (1/4-NC X 1-3/4")	
27.	110-783	1	WELD PLATE	
28.	106-142	2	SCREW (M10-1.50 X 65MM)	
29.	107-661	2	FLG LKNUT (M10-1.50 PRE TRQ)	
30.	307-723	1	MOUNTING PLATE	
31.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
32.	106-387	2	FLG LOCKNUT (M10-1.50)	
33.	106-076	2	WASHER (1/4")	

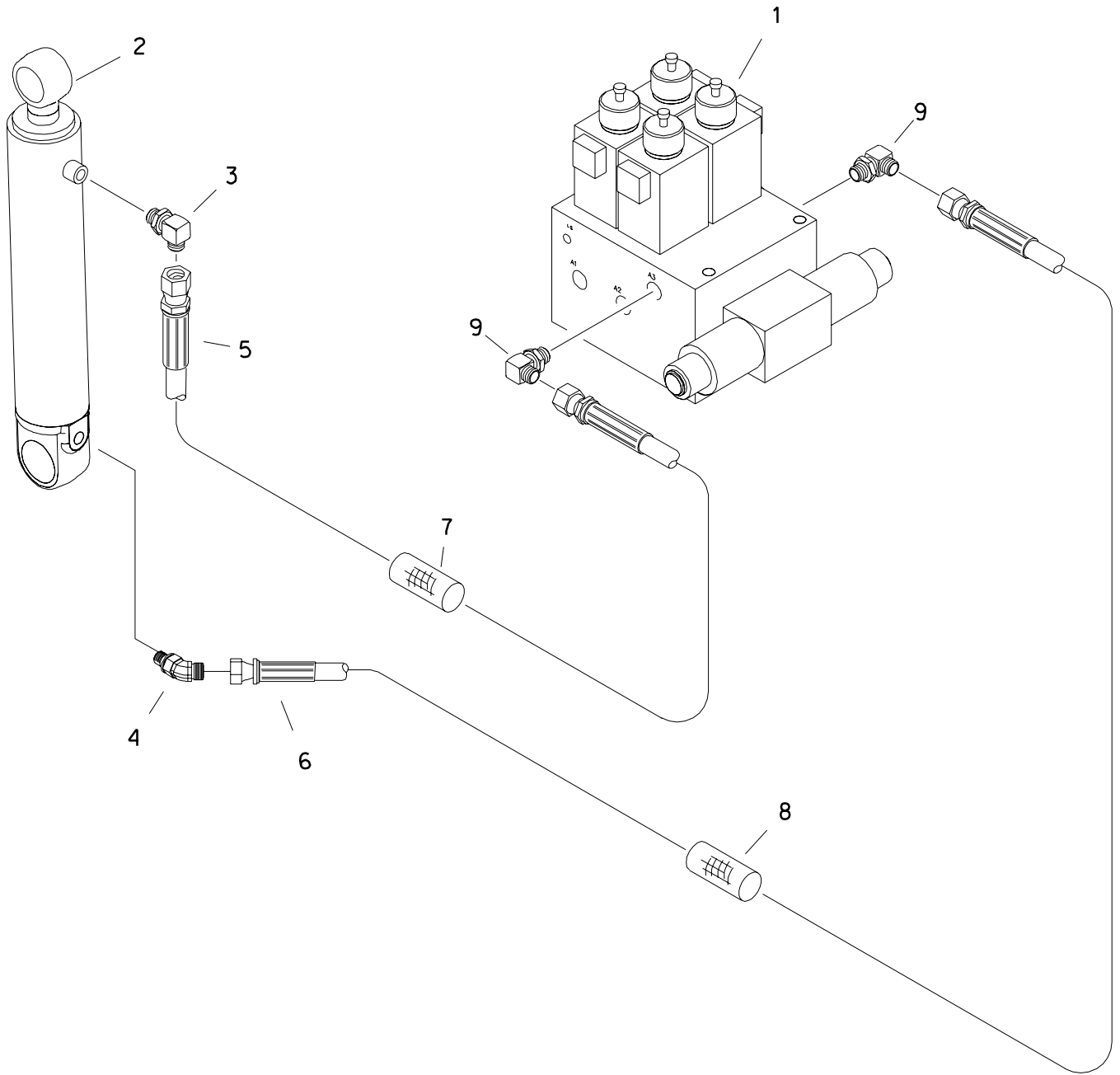
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FOOTNOTES:

NOTE:

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

WRENCH ROTATE HYDRAULICS

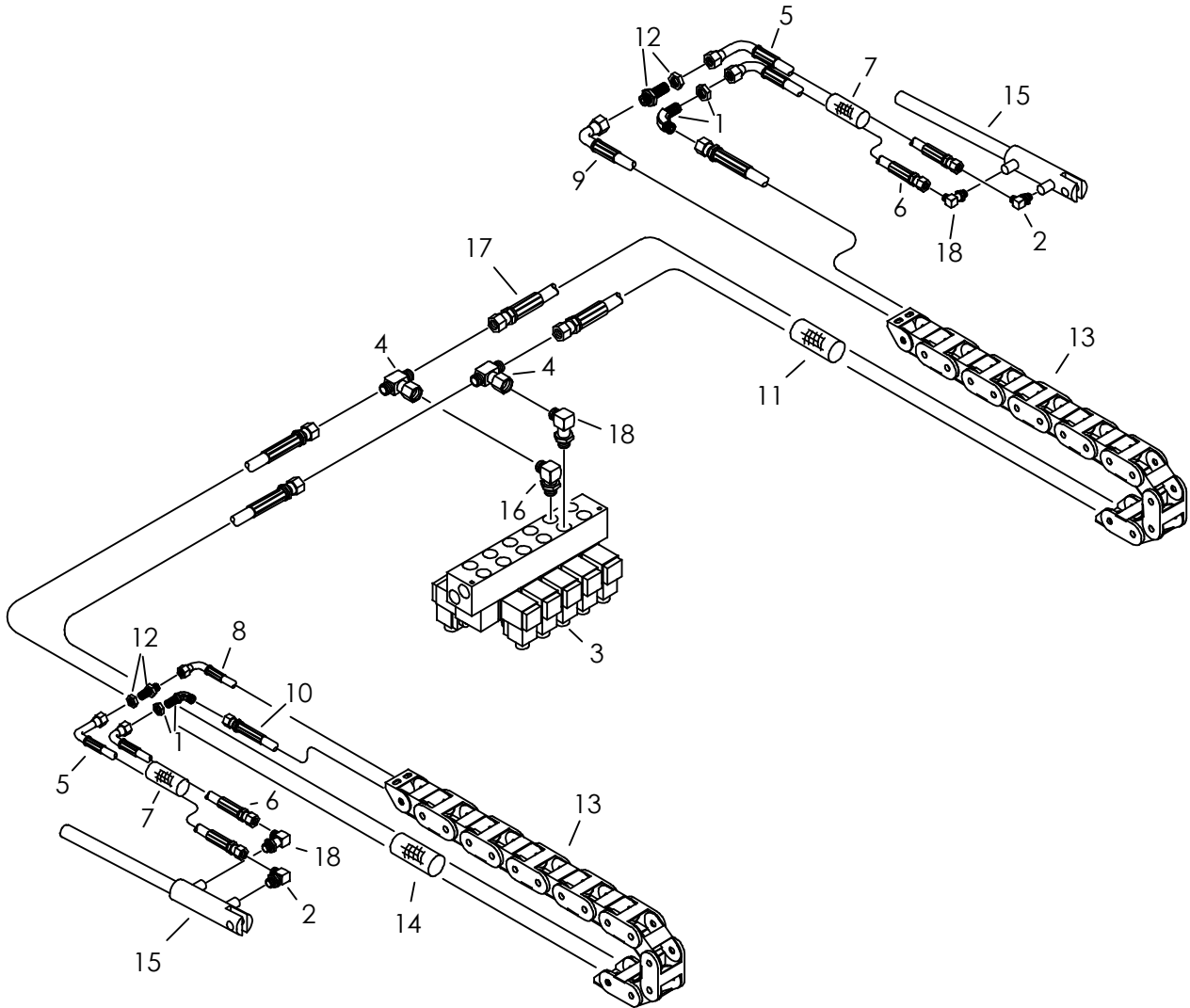


WRENCH ROTATE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-258	1	HYDRAULIC VALVE	
2.	151-031	-	CYL (2.0" X 1.0" X 8.0")	
3.	514-049	1	CONNECTOR (04S-06090)	
4.	514-414	1	CONNECTOR (04S-06045)	
5.	154-755	1	HOSE (060FX-34"-3000)	
6.	154-722	1	HOSE (060FX-32"-3000)	
7.	117-412	1	ABRASION SLEEVE (1.00" X 34")	
8.	117-411	1	ABRASION SLEEVE (1.00" X 32")	
9.	154-227	2	CONNECTOR (060-08S90)	

FOOTNOTES

PIPE GRIPPER HYDRAULICS



PIPE GRIPPER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-355	2	BK CONNECTOR (040-04090BK)	
2.	154-252	2	CONNECTOR (04S-04090)	
3.	153-095	-	HYD VALVE	
4.	154-379	2	UN BR TEE (040FX-040-040)	
5.	515-599	2	HOSE (040FX90-13"-3000)	
6.	515-148	2	HOSE (040FX90-10"-3000)	
7.	117-415	2	ABRASION SLEEVE (1.59" X 10")	
8.	515-030	1	HOSE (040FX90-64"-3000)	
9.	154-729	1	HOSE (040FX90-44"-3000)	
10.	515-440	1	HOSE (040FX-64"-3000)	
11.	117-214	1	ABRASION SLEEVE (1.25" X 40")	
12.	154-275	2	BK CONNECTOR (040-040BK)	
13.	306-746	-	HOSE TRACK	
14.	117-392	1	ABRASION SLEEVE (1.25" X 60")	
15.	191-161	2	GRIPPER CYLINDER	
16.	154-401	1	CONNECTOR (04S-04090, ORF)	
17.	154-693	1	HOSE (040FX-44"-3000)	
18.	154-474	3	CONNECTOR (04S-04090, XL)	

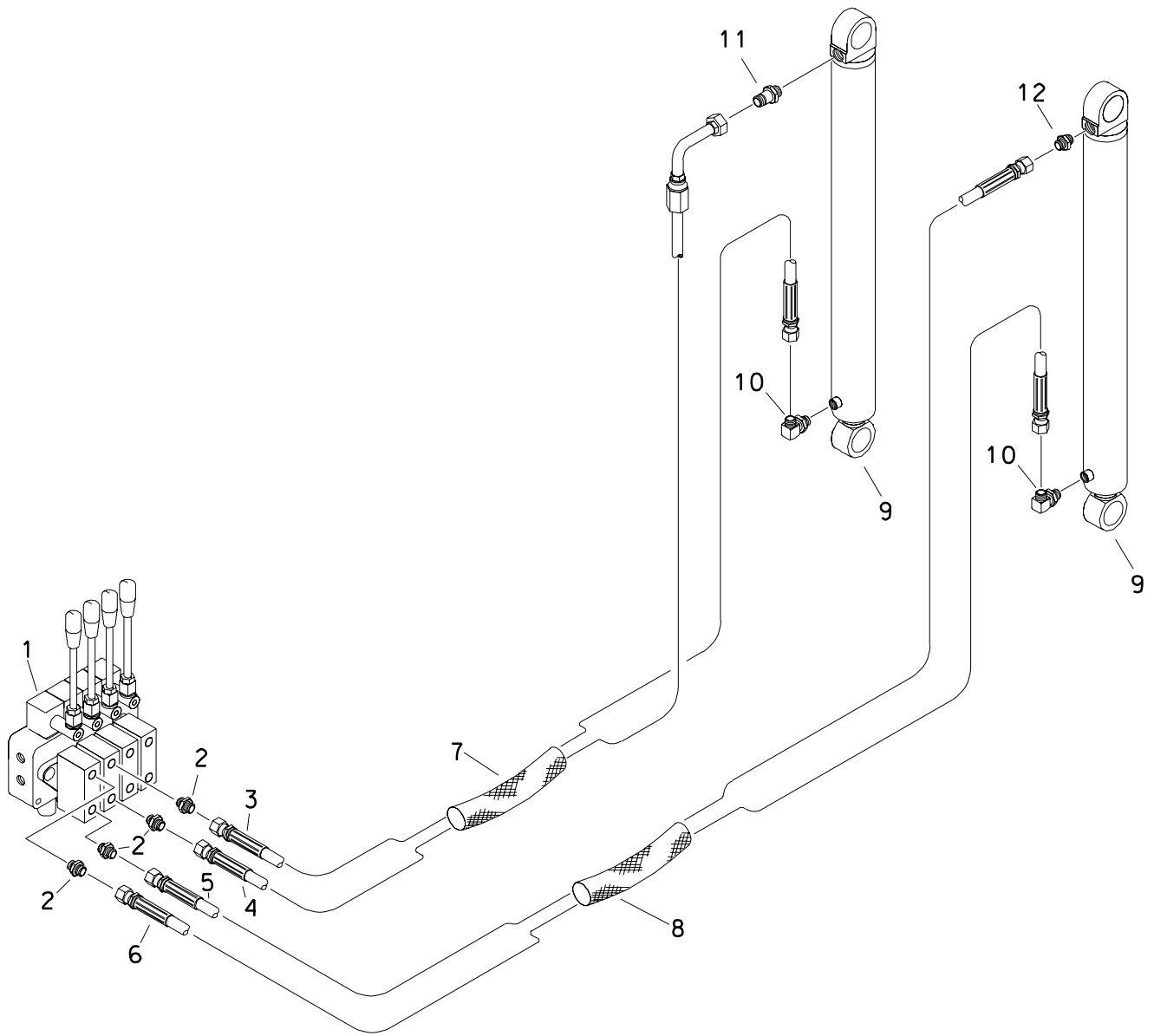
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FOOTNOTES:

NOTE:

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STABILIZER HYDRAULICS



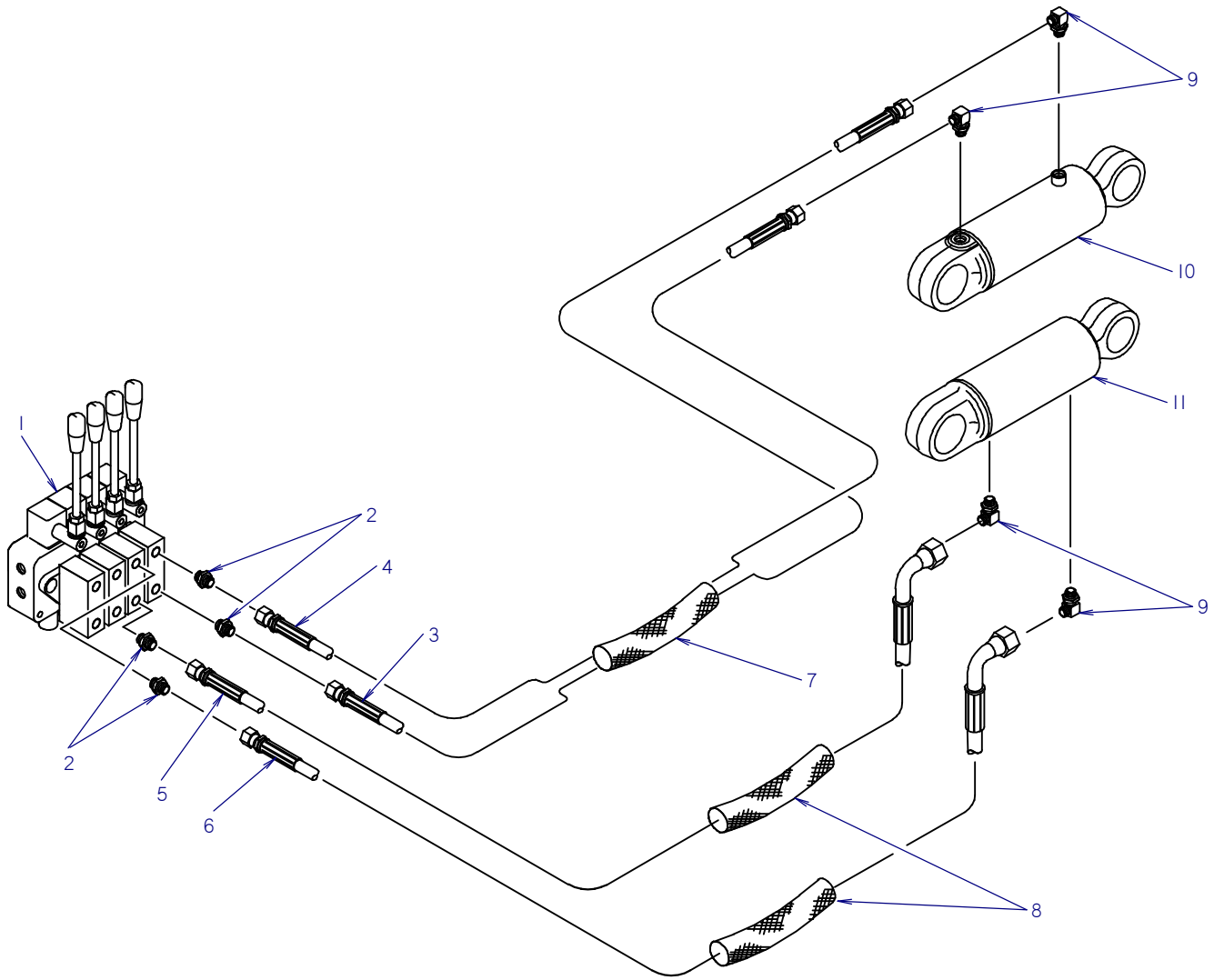
STABILIZER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-077	1	HYD CONTROL VALVE (4-SPOOL)	
	365-426	4	LEVER (M8-1.25 X 200mm)	
2.	154-385	4	CONNECTOR (O4D-06S, ORF)	
3.	154-651	1	HOSE (O4DFX-66"-3000)	
4.	515-753	1	HOSE (O4DFX90L-44"-3000)	
5.	154-966	1	HOSE (O4DFX-95"-3000)	
6.	154-811	1	HOSE (O4DFX-116"-3000)	
7.	115-737	1	ABRASION SLEEVE (1.59" X 40")	
8.	115-924	1	ABRASION SLEEVE (1.59" X 88")	
9.	151-065	2	CYL (2" X 1.25" X 20")	
10.	154-252	2	CONNECTOR (O4S-04090)	
11.	154-403	1	CONNECTOR (O4S-040, XL)	
12.	154-278	1	CONNECTOR (O4S-040)	

FOOTNOTES

NOTE:
REFER TO O-RING CHART (800-3001 IN THE PACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

DRILL FRAME PIVOT HYDRAULICS



DRILL FRAME PIVOT HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-077	1	HYD CONTROL VALVE (4-SPOOL)	
	365-426	-	LEVER (M8-1.25 X 200MM)	
2.	510-015	4	ADAPTER (06S-060, ORF)	
3.	154-758	1	HOSE (060FX-90"-3000)	
4.	154-757	1	HOSE (060FX-86"-3000)	
5.	515-714	1	HOSE (06FX90-82"-3000)	
6.	515-715	1	HOSE (06FX90-86"-3000)	
7.	115-817	1	ABRASION SLEEVE (1.59" X 66")	
8.	115-963	2	ABRASION SLEEVE (1.59" X 60")	
9.	154-227	4	CONNECTOR (060-08S90)	
10.	151-066	1	CYL (4.0" X 2.0" X 5.0")	
11.	149-698	1	CYLINDER ASSEMBLY	

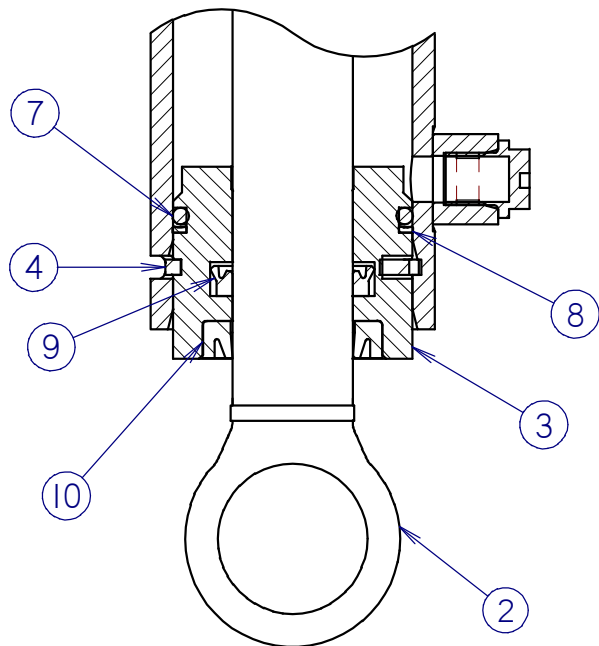
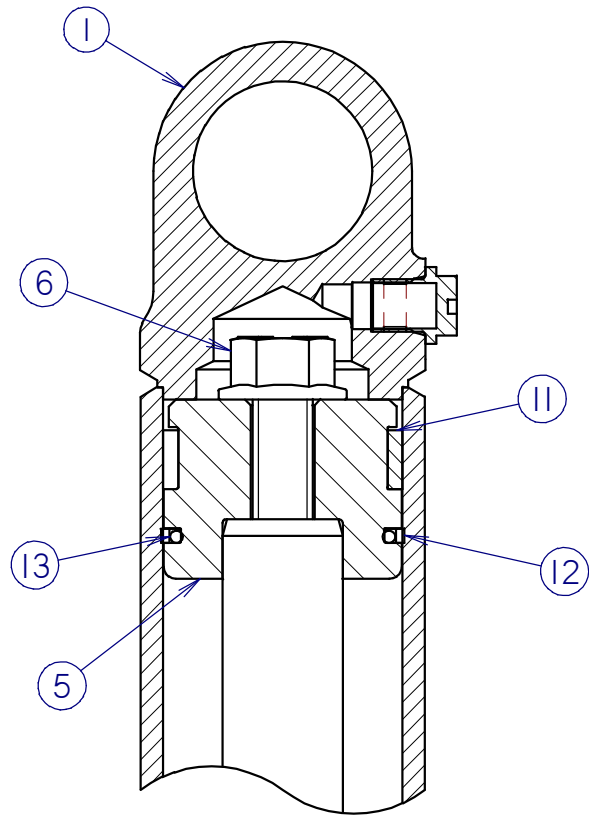
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FOOTNOTES:

NOTE:

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

HYDRAULIC CYLINDERS (2.0" X 1.0")



HYDRAULIC CYLINDERS (2.0" X 1.0")

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	151-094	-	CYL (2.0 X 1.0 X 2.0)	SEE FOOTNOTES 1 & 2
1	152-029	1	CYLINDER BARREL (2.0 X 2.0)	
2	153-007	1	CYLINDER ROD (1.00 X 2.0)	
	149-667	-	CYL (2.0 X 1.0 X 2.5)	SEE FOOTNOTES 1 & 2
1	149-761	1	CYLINDER BARREL (2.0 X 2.5)	
2	149-728	1	CYLINDER ROD (1.00 X 2.5)	
	151-027	-	CYL (2.0 X 1.0 X 3.0)	SEE FOOTNOTES 1 & 2
1	150-282	1	CYLINDER BARREL (2.0 X 3.0)	
2	150-414	1	CYLINDER ROD (1.00 X 3.0)	
	151-038	-	CYL (2.0 X 1.0 X 4.0)	SEE FOOTNOTES 1 & 2
1	150-290	1	CYLINDER BARREL (2.0 X 4.0)	
2	150-421	1	CYLINDER ROD (1.00 X 4.0)	
	151-039	-	CYL (2.0 X 1.0 X 5.0)	SEE FOOTNOTES 1 & 2
1	150-291	1	CYLINDER BARREL (2.0 X 5.0)	
2	150-422	1	CYLINDER ROD (1.00 X 5.0)	
	151-044	-	CYL (2.0 X 1.0 X 6.0)	SEE FOOTNOTES 1 & 2
1	150-294	1	CYLINDER BARREL (2.0 X 6.0)	
2	150-424	1	CYLINDER ROD (1.00 X 6.0)	
	151-031	-	CYL (2.0 X 1.0 X 8.0)	SEE FOOTNOTES 1 & 2
1	150-285	1	CYLINDER BARREL (2.0 X 8.0)	
2	150-417	1	CYLINDER ROD (1.00 X 8.0)	
	151-076	-	CYL (2.0 X 1.0 X 10.0)	SEE FOOTNOTES 1 & 2
1	152-017	1	CYLINDER BARREL (2.0 X 10.0)	
2	150-444	1	CYLINDER ROD (1.00 X 10.0)	
	149-668	-	CYL (2.0 X 1.0 X 12.0)	SEE FOOTNOTES 1 & 2
1	150-286	1	CYLINDER BARREL (2.0 X 12.0)	
2	149-729	1	CYLINDER ROD (1.00 X 12.0)	
3	150-772	1	CYLINDER HEAD (2.0 X 1.00)	
4	150-778	1	LOCK RING (2.0)	
5	150-775	1	CYLINDER PISTON (2.0 X 1.00)	
6	106-096	1	FLG BOLT (1/2-NC X 1-3/4"GD8)	SEE FOOTNOTE 3
7	157-022	1	O-RING (224 D90)	
8	155-732	1	BACKUP RING (224 D90)	
9	157-540	1	U-SEAL (1.000")	
10	157-537	1	WIPER SEAL (1.000")	
11	125-774	1	WEAR RING	
12	157-534	1	BACKUP RING (131 D90)	
13	157-018	1	O-RING (131 D90)	

NOT SHOWN:

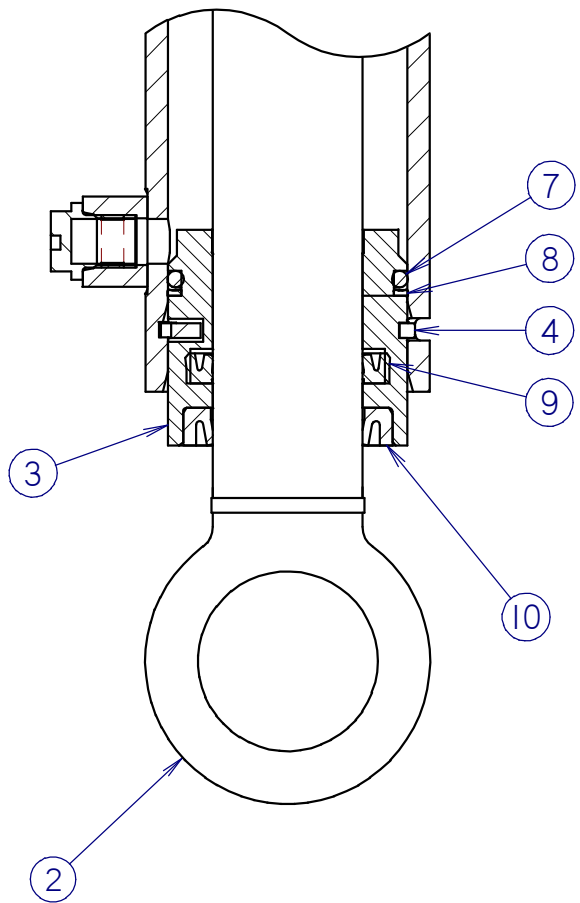
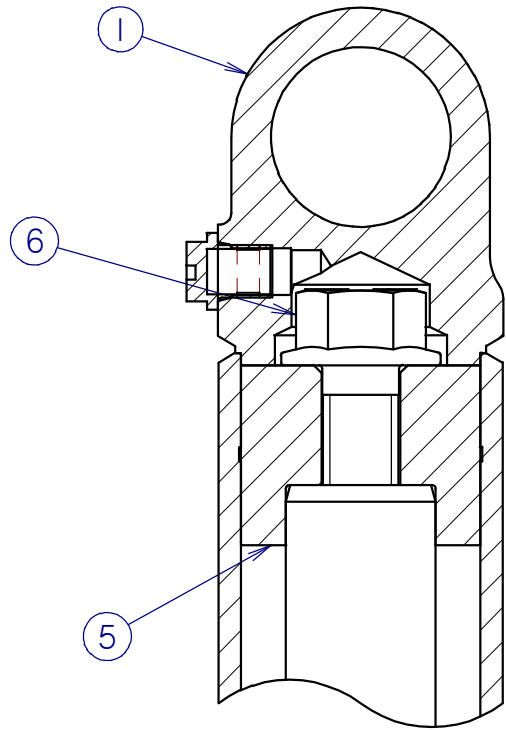
259-100	U-SEAL INSTALLER (1" - 1.499")
259-235	1.00 ROD WIPER TOOL
259-239	WIPER/SEAL INSTALLER (2")
259-241	PISTON INSTALLER (2")
259-188	CYL HEAD SPANNER - TWO PIN

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: 190-165
- APPLY LOCTITE 277 OR EQUIVALENT, TORQUE TO 90-100 FT-LBS

NOTE:

HYDRAULIC CYLINDERS (2.0" X 1.25")



HYDRAULIC CYLINDERS (2.0" X 1.25")

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	149-669	-	CYL (2.0 X 1.25 X 2.0)	SEE FOOTNOTES 1 & 2
1	152-029	1	CYLINDER BARREL (2.0 X 2.0)	
2	153-012	1	CYLINDER ROD (1.25 X 2.0)	
	149-670	-	CYL (2.0 X 1.25 X 2.5)	SEE FOOTNOTES 1 & 2
1	149-761	1	CYLINDER BARREL (2.0 X 2.5)	
2	153-005	1	CYLINDER ROD (1.25 X 2.5)	
	149-671	-	CYL (2.0 X 1.25 X 3.0)	SEE FOOTNOTES 1 & 2
1	150-282	1	CYLINDER BARREL (2.0 X 3.0)	
2	150-435	1	CYLINDER ROD (1.25 X 3.0)	
	149-672	-	CYL (2.0 X 1.25 X 4.0)	SEE FOOTNOTES 1 & 2
1	150-290	1	CYLINDER BARREL (2.0 X 4.0)	
2	150-415	1	CYLINDER ROD (1.25 X 4.0)	
	151-060	-	CYL (2.0 X 1.25 X 5.0)	SEE FOOTNOTES 1 & 2
1	150-291	1	CYLINDER BARREL (2.0 X 5.0)	
2	150-423	1	CYLINDER ROD (1.25 X 5.0)	
	149-673	-	CYL (2.0 X 1.25 X 6.0)	SEE FOOTNOTES 1 & 2
1	150-294	1	CYLINDER BARREL (2.0 X 6.0)	
2	150-438	1	CYLINDER ROD (1.25 X 6.0)	
	151-057	-	CYL (2.0 X 1.25 X 8.0)	SEE FOOTNOTES 1 & 2
1	150-285	1	CYLINDER BARREL (2.0 X 8.0)	
2	150-427	1	CYLINDER ROD (1.25 X 8.0)	
	149-674	-	CYL (2.0 X 1.25 X 10.0)	SEE FOOTNOTES 1 & 2
1	152-017	1	CYLINDER BARREL (2.0 X 10.0)	
2	149-730	1	CYLINDER ROD (1.25 X 10.0)	
	151-032	-	CYL (2.0 X 1.25 X 12.0)	SEE FOOTNOTES 1 & 2
1	150-286	1	CYLINDER BARREL (2.0 X 12.0)	
2	150-418	1	CYLINDER ROD (1.25 X 12.0)	
	151-091	-	CYL (2.0 X 1.25 X 16.0)	SEE FOOTNOTES 1 & 2
1	152-027	1	CYLINDER BARREL (2.0 X 16.0)	
2	150-448	1	CYLINDER ROD (1.25 X 16.0)	
	151-065	-	CYL (2.0 X 1.25 X 20.0)	SEE FOOTNOTES 1 & 2
1	152-011	1	CYLINDER BARREL (2.0 X 20.0)	
2	150-439	1	CYLINDER ROD (1.25 X 20.0)	
3	150-770	1	CYLINDER HEAD (2.0 X 1.25)	
4	150-778	1	LOCK RING (2.0)	
5	150-771	1	CYLINDER PISTON (2.0 X 1.25)	INCL MOLDED-ON WEAR RING
6	106-097	1	FLG BOLT (5/8-NC X 1-3/4",GD8)	SEE FOOTNOTE 3
7	157-022	1	O-RING (224 D90)	
8	155-732	1	BACKUP RING (224 D90)	
9	157-541	1	U-SEAL (1.250")	
10	157-538	1	WIPER SEAL (1.250")	

NOT SHOWN:

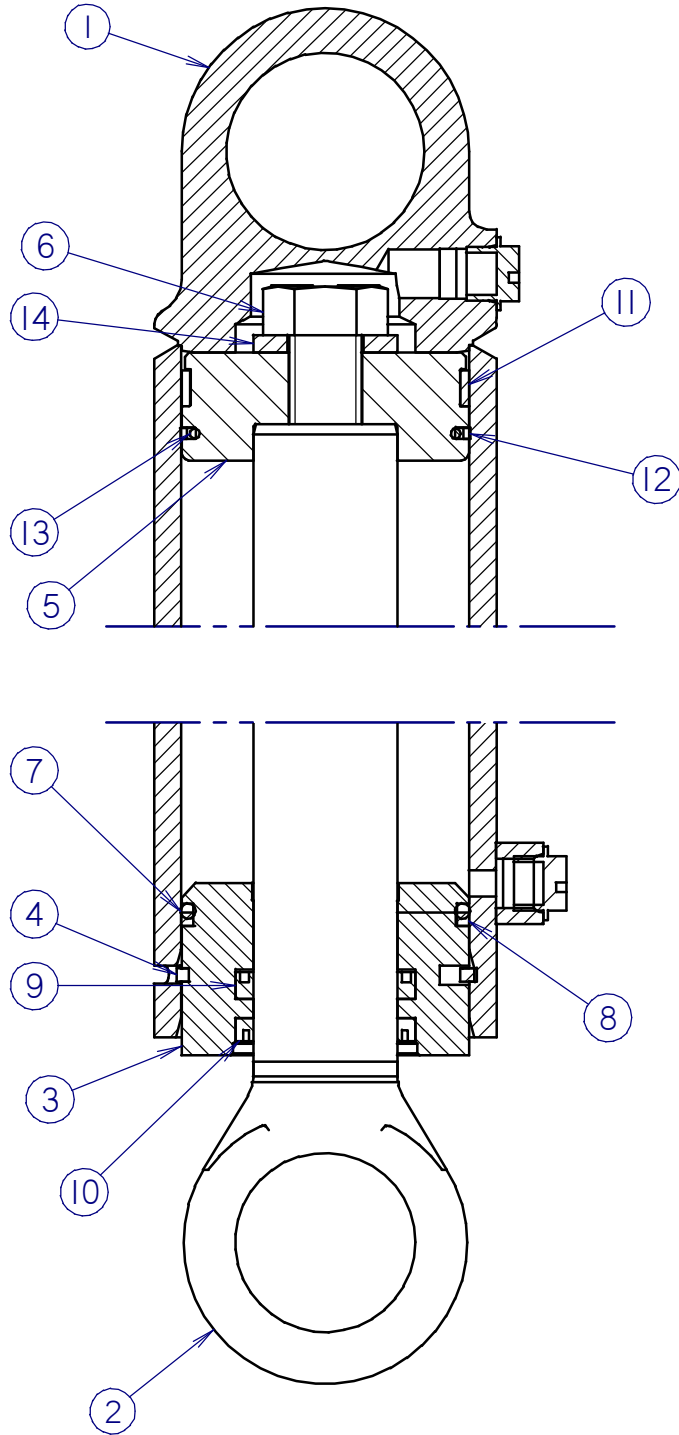
259-100	U-SEAL INSTALLER (1" - 1.499")
259-236	WIPER INSTALLER (1.25")
259-239	WIPER/SEAL INSTALLER (2")
259-241	PISTON INSTALLER (2")
259-188	CYL HEAD SPANNER - TWO PIN

FOOTNOTES:

- REF. #1 & #2 ARE SPECIFIC TO EACH CYLINDER, REF. #3 THRU #10 ARE COMMON FOR ALL THE ABOVE LISTED CYLINDERS.
- SEAL KIT P/N: 190-169
- APPLY LOCTITE 277 OR EQUIVALENT, TORQUE TO 180-200 FT-LBS

NOTE:

HYDRAULIC CYLINDERS (4.0" X 2.0")



HYDRAULIC CYLINDERS (4.0" X 2.0")

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	149-698	-	CYL (4.0 X 2.0 X 4.0)	SEE FOOTNOTES 1 & 2
1	149-768	1	CYLINDER BARREL (4.0 X 4.0)	
2	153-021	1	CYLINDER ROD (2.00 X 4.0)	
	151-066	-	CYL (4.0 X 2.0 X 5.0)	SEE FOOTNOTES 1 & 2
1	152-012	1	CYLINDER BARREL (4.0 X 5.0)	
2	150-440	1	CYLINDER ROD (2.00 X 5.0)	
	149-699	-	CYL (4.0 X 2.0 X 6.0)	SEE FOOTNOTES 1 & 2
1	152-062	1	CYLINDER BARREL (4.0 X 6.0)	
2	149-735	1	CYLINDER ROD (2.00 X 6.0)	
	149-700	-	CYL (4.0 X 2.0 X 8.0)	SEE FOOTNOTES 1 & 2
1	152-030	1	CYLINDER BARREL (4.0 X 8.0)	
2	149-736	1	CYLINDER ROD (2.00 X 8.0)	
	149-701	-	CYL (4.0 X 2.0 X 10.0)	SEE FOOTNOTES 1 & 2
1	149-769	1	CYLINDER BARREL (4.0 X 10.0)	
2	153-016	1	CYLINDER ROD (2.00 X 10.0)	
	151-088	-	CYL (4.0 X 2.0 X 12.0)	SEE FOOTNOTES 1 & 2
1	150-298	1	CYLINDER BARREL (4.0 X 12.0)	
2	150-429	1	CYLINDER ROD (2.00 X 12.0)	
	149-702	-	CYL (4.0 X 2.0 X 16.0)	SEE FOOTNOTES 1 & 2
1	152-007	1	CYLINDER BARREL (4.0 X 16.0)	
2	149-737	1	CYLINDER ROD (2.00 X 16.0)	
	149-703	-	CYL (4.0 X 2.0 X 20.0)	SEE FOOTNOTES 1 & 2
1	149-770	1	CYLINDER BARREL (4.0 X 20.0)	
2	149-738	1	CYLINDER ROD (2.00 X 20.0)	
	149-704	-	CYL (4.0 X 2.0 X 24.0)	SEE FOOTNOTES 1 & 2
1	152-063	1	CYLINDER BARREL (4.0 X 24.0)	
2	149-739	1	CYLINDER ROD (2.00 X 24.0)	
3	149-006	1	CYLINDER HEAD (4.0 X 2.00)	
4	149-303	1	LOCK RING (4.0)	
5	149-307	1	CYLINDER PISTON (4.0 X 2.00)	
6	106-145	1	BOLT (1-NC X 2-1/4", GD8)	SEE FOOTNOTE 3
7	157-035	1	O-RING (342 D90)	
8	157-036	1	BACKUP RING (342 D90)	
9	157-559	1	U-SEAL (2.000")	
10	157-558	1	WIPER SEAL (2.000")	
11	125-793	1	WEAR RING	
12	157-570	1	BACKUP RING (238 D90)	
13	157-044	1	O-RING (238 D90)	
14	106-144	1	WASHER (1")	

FOOTNOTES

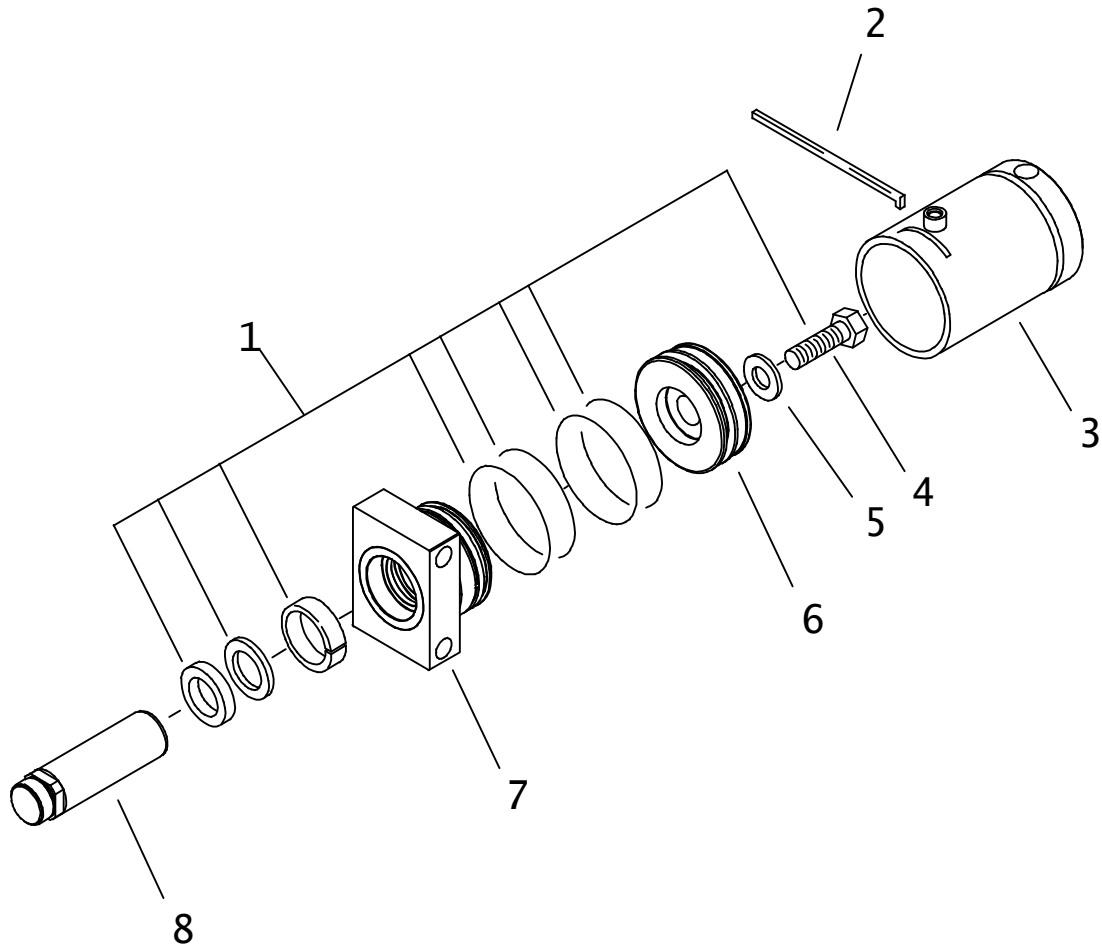
- REF. #1 & #2 ARE SPECIFIC TO EACH CYLINDER, REF. #3 THRU #14 ARE COMMON FOR ALL THE ABOVE LISTED CYLINDERS.
- SEAL REPAIR KIT P/N: 190-189
- APPLY LOCTITE 277 OR EQUIVALENT, TORQUE TO 630-700 FT-LBS

NOT SHOWN:

- 259-040 U-SEAL INSTALLER (1.5" - UPI)
- 259-239 WIPER/SEAL INSTALLER (2")
- 259-246 PISTON SEAL INSTALLER (4")
- 259-247 PISTON INSTALLER (4")
- 259-188 CYL HEAD SPANNER - TWO PIN

HYDRAULIC CYLINDER

CYLINDER (4.50" X 2.25" X 2.75")



HYDRAULIC CYLINDER CYLINDER (4.50" X 2.25' X 2.75")

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	156-2006		CYL 4.50" X 2.25" X 2.75"	INCLUDES REF NO:S 2 THRU 8 <u>OBSOLETE</u>
1.	190-900	1	SEAL REPAIR KIT	
2.	150-711	1	LOCK RING	
3.	152-073	1	4.5 X 2.75 BARREL	
4.	106-146	1	BOLT (1-1/8-NC X 2-1/2" GD8)	SEE FOOTNOTE 1
5.	106-147	1	WASHER (1-1/8")	
6.	149-168	1	4.5 X 2.25 PISTON	SEE FOOTNOTE 2
7.	151-207	1	GLAND	
8.	150-710	1	CYLINDER ROD	<u>OBSOLETE</u>
	153-753	1	CYLINDER ROD	SEE FOOTNOTE 3

NOT SHOWN:

259-040 U-SEAL INSTALLER (1.500"- UP

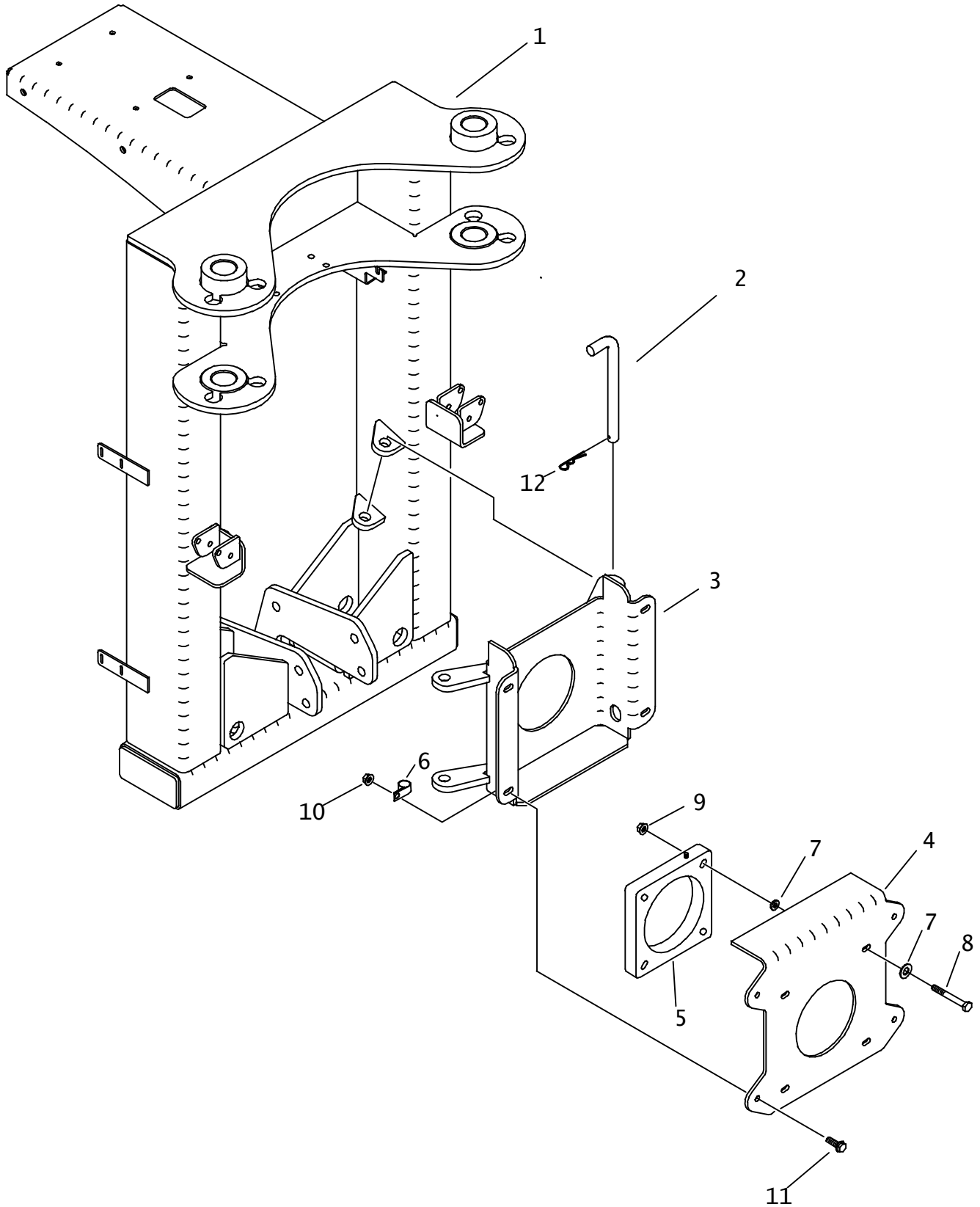
FOOTNOTES:

1. USE LOCTITE 271 OR 277. TORQUE TO 770-850 FT-LBS (1045-1150 NM).
2. UNITIZED PISTON INCLUDES WEAR RING, SQUARE LOADER RING & PISTON SEAL.
3. USES 329-179 JAW BLOCK AND 107-777 SPRING PIN.

NOTE:

ELECTRICAL

COIL MOUNT



COIL MOUNT

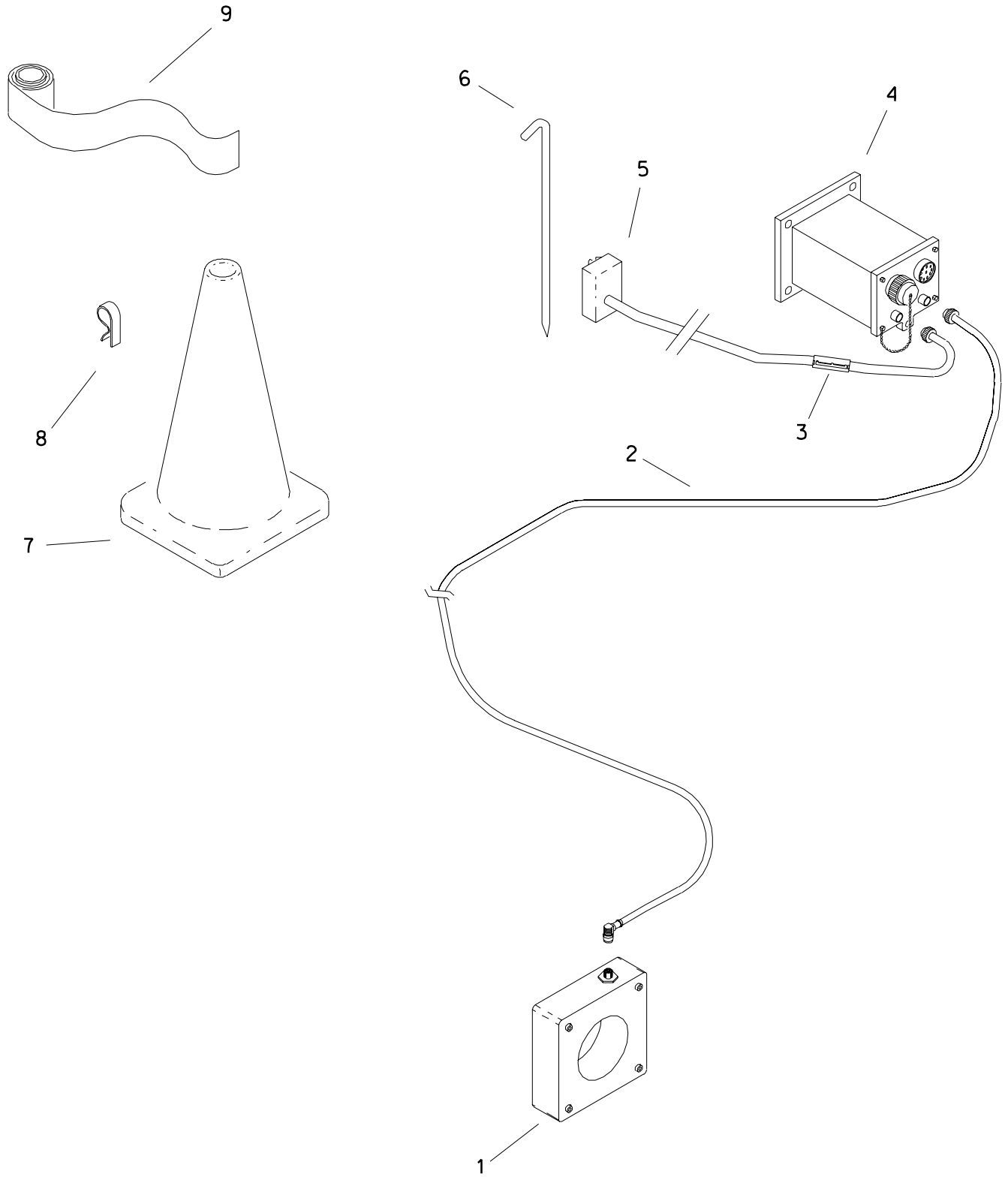
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	306-428	1	PIVOT FRAME	
2.	185-142	2	PIN	
3.	309-400	1	GUIDE PLATE	
4.	309-399	1	COVER PLATE	
5.	216-063	1	CURRENT TRANSFORMER	
	211-084	1	CURRENT TRANSFORMER	
6.	110-126	2	BOLT-ON CLAMP (1/2")	
7.	105-117	8	WASHER (5/16")	
8.	106-330	4	SCREW (M8-1.25 X 70MM)	
9.	106-561	4	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	
10.	106-387	4	FLG LOCKNUT (M10-1.50)	
11.	106-724	4	FLG SCREW (M10-1.50 X 25MM)	
12.	110-128	2	SPRING CLIP PIN (5/32" X 1")	

FOOTNOTES

NOT SHOWN
214-550 1 CURRENT COIL CABLE

NOTE:

ELECTRIC STRIKE SYSTEM

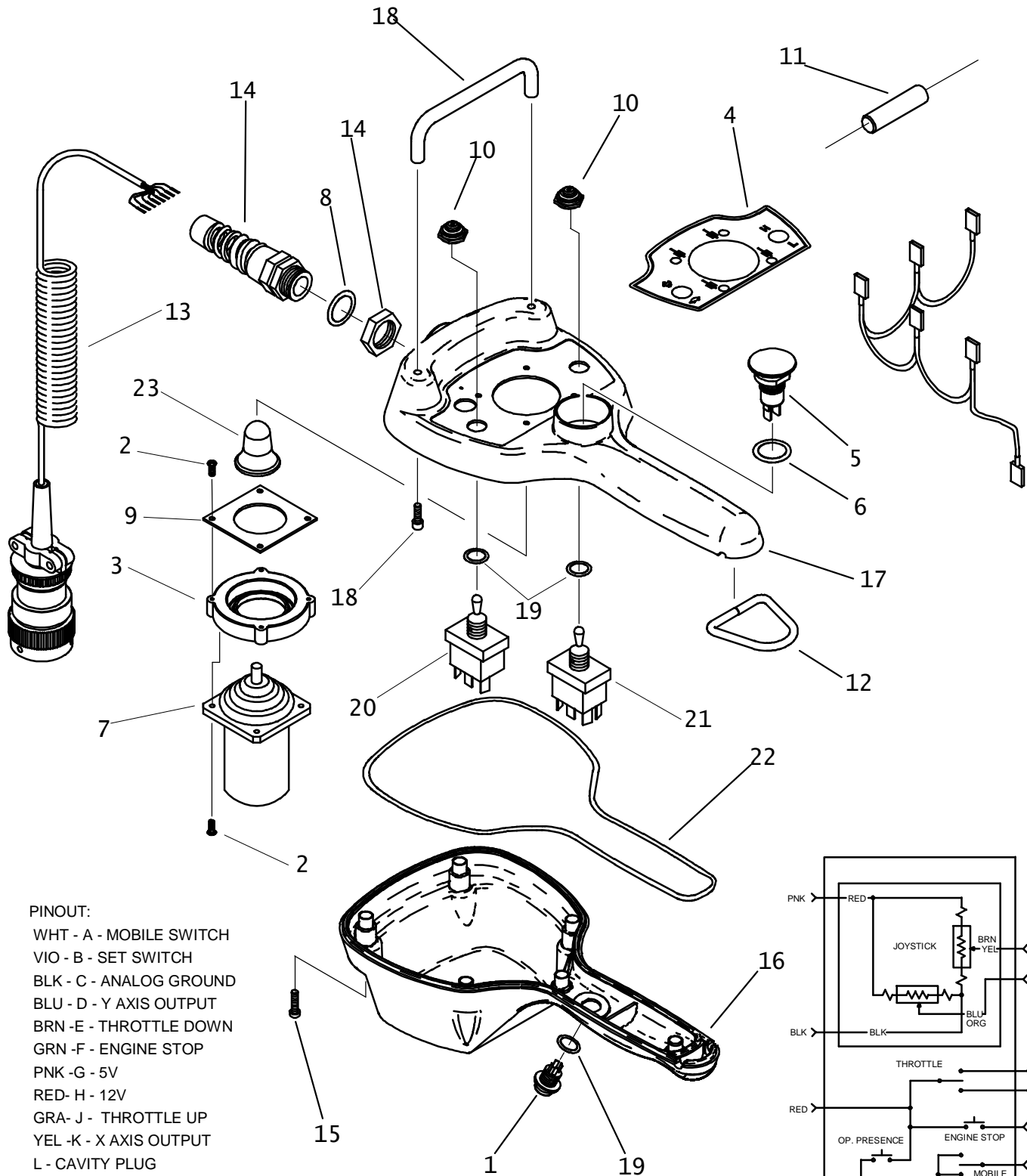


ELECTRIC STRIKE SYSTEM

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	216-063	-	CURRENT TRANSFORMER	
2.	214-550	1	CURRENT COIL CABLE	
3.	217-331	1	SMALL FERRITE CLAMP-ON	
4.	217-241	-	ESID MODULE NEW (T)	
5.	211-042	1	VOLTAGE LIMITER CABLE	
6.	215-799	1	VOLTAGE STAKE	
7.	259-210	8	TRAFFIC CONE - ORANGE	
8.	259-234	8	CONE CLIP	
9.	260-223	1	BARRIER TAPE (3" X 1000')	

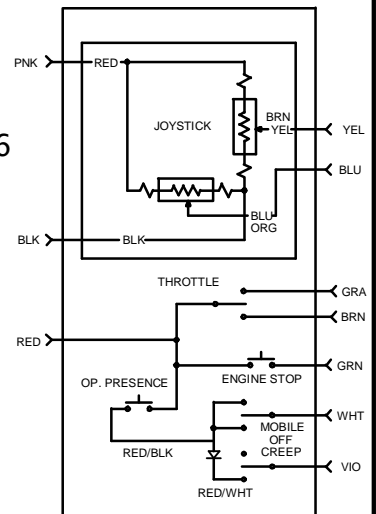
FOOTNOTES

GROUND DRIVE CONTROL



PINOUT:

- WHT - A - MOBILE SWITCH
- VIO - B - SET SWITCH
- BLK - C - ANALOG GROUND
- BLU - D - Y AXIS OUTPUT
- BRN - E - THROTTLE DOWN
- GRN - F - ENGINE STOP
- PNK - G - 5V
- RED- H - 12V
- GRA- J - THROTTLE UP
- YEL -K - X AXIS OUTPUT
- L - CAVITY PLUG
- M - CAVITY PLUG
- N - CAVITY PLUG
- P - CAVITY PLUG



GROUND DRIVE CONTROL

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	214-589		GROUND DRIVE CONTROL	
1.	214-614	1	PUSH BUTTON SWITCH (SPST) OFF-(ON)	
2.	106-820	8	SCREW, SELF TAPPING (3.0 X 12MM)	
3.	305-664	1	JOY STICK ADAPTER	
4.	274-998	1	DECAL	
5.	214-615	1	KILL SWITCH	
6.	157-040	1	O-RING (1-016 D90)	
7.	214-613	1	JOYSTICK ASSEMBLY	SEE FOOTNOTE 1
	215-1394	1	JOYSTICK ASSEMBLY	SEE FOOTNOTE 1
8.	157-017	1	O-RING (018 D90)	
9.	149-558	1	JOYSTICK GASKET	
10.	214-728	2	TOGGLE SWITCH HALF BOOT (SEAL)	
11.	215-1720	1	DIODE 1N5402	
12.	105-775	1	D-RING	
13.	211-020	1	COILED CORD-MALE	
14.	211-021	1	STRAIN RELIEF	
15.	106-876	6	SCREW	
16.	214-497	1	LOWER HOUSING	
17.	214-498	1	UPPER HOUSING	
18.	116-933	1	HANDLE	
	106-894	2	SCREW (#8-32 X 1" PLPS SS)	SEE FOOTNOTE 2
19.	157-039	2	O-RING (1-014 D90)	
20.	217-896	1	TOGGLE SWITCH	
21.	214-570	1	TOGGLE SWITCH (DPDT) ON-OFF-ON	
22.	116-549	AR	ROPE GASKET (USE 27")	
23.	116-932	1	JOYSTICK KNOB	

NOT SHOWN:

FOOTNOTES:

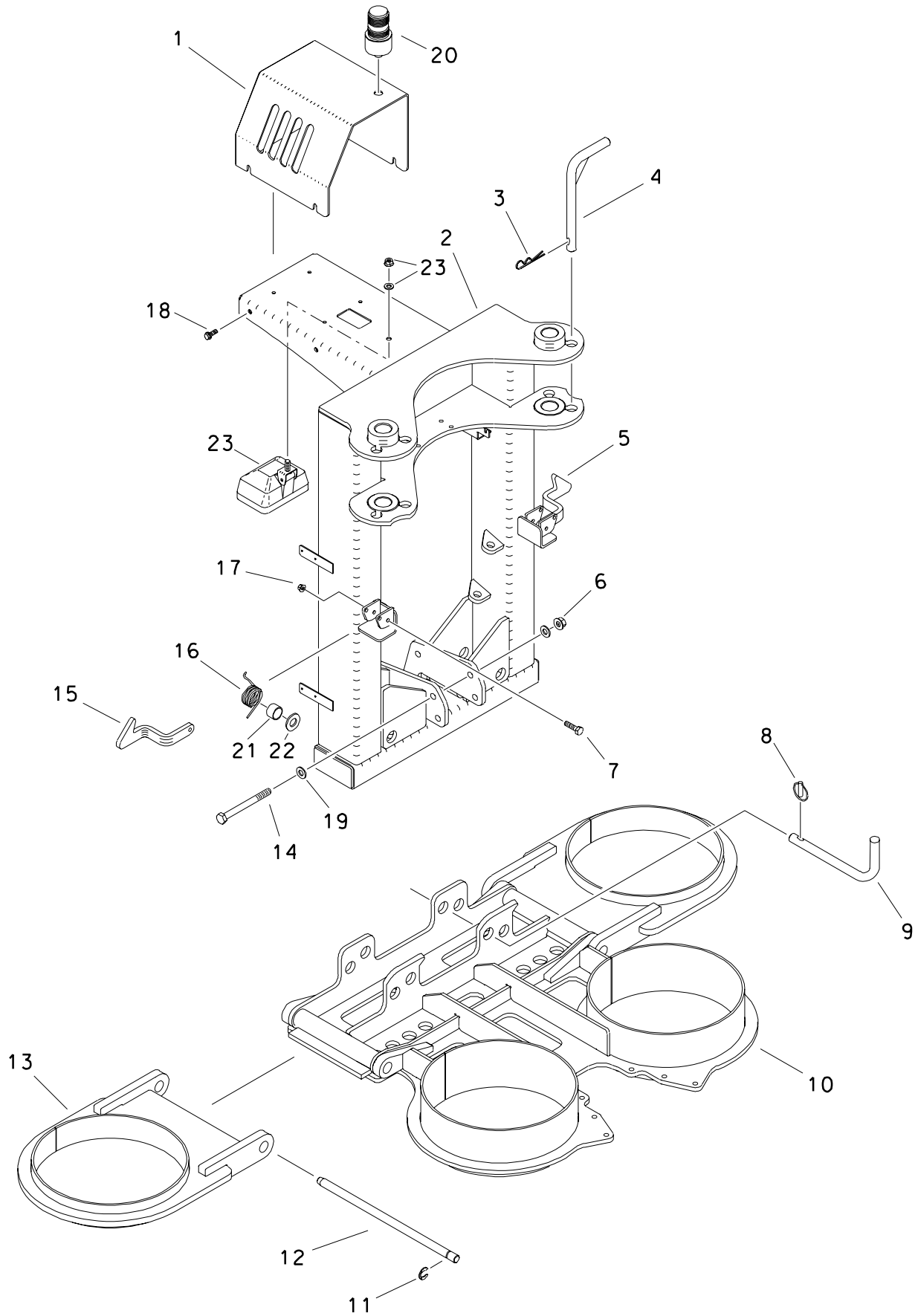
1. JOYSTICK SHOULD BE ORIENTED WITH LABEL POINTING TOWARDS CABLE END. (REV G)
1. JOYSTICK SHOULD BE ORIENTED WITH X+ ON LABEL POINTING TOWARDS CABLE END. (REV H)
Y-AXIS OUTPUT: 3.75V FORWARD 1.25V BACK
X-AXIS OUTPUT: 3.75V LEFT 1.25V RIGHT

2. APPLY THREAD LOCKING COMPOUND TO BOTH HANDLE SCREWS.

NOTE:

ANCHOR SYSTEMS

ANCHOR PIVOT FRAME

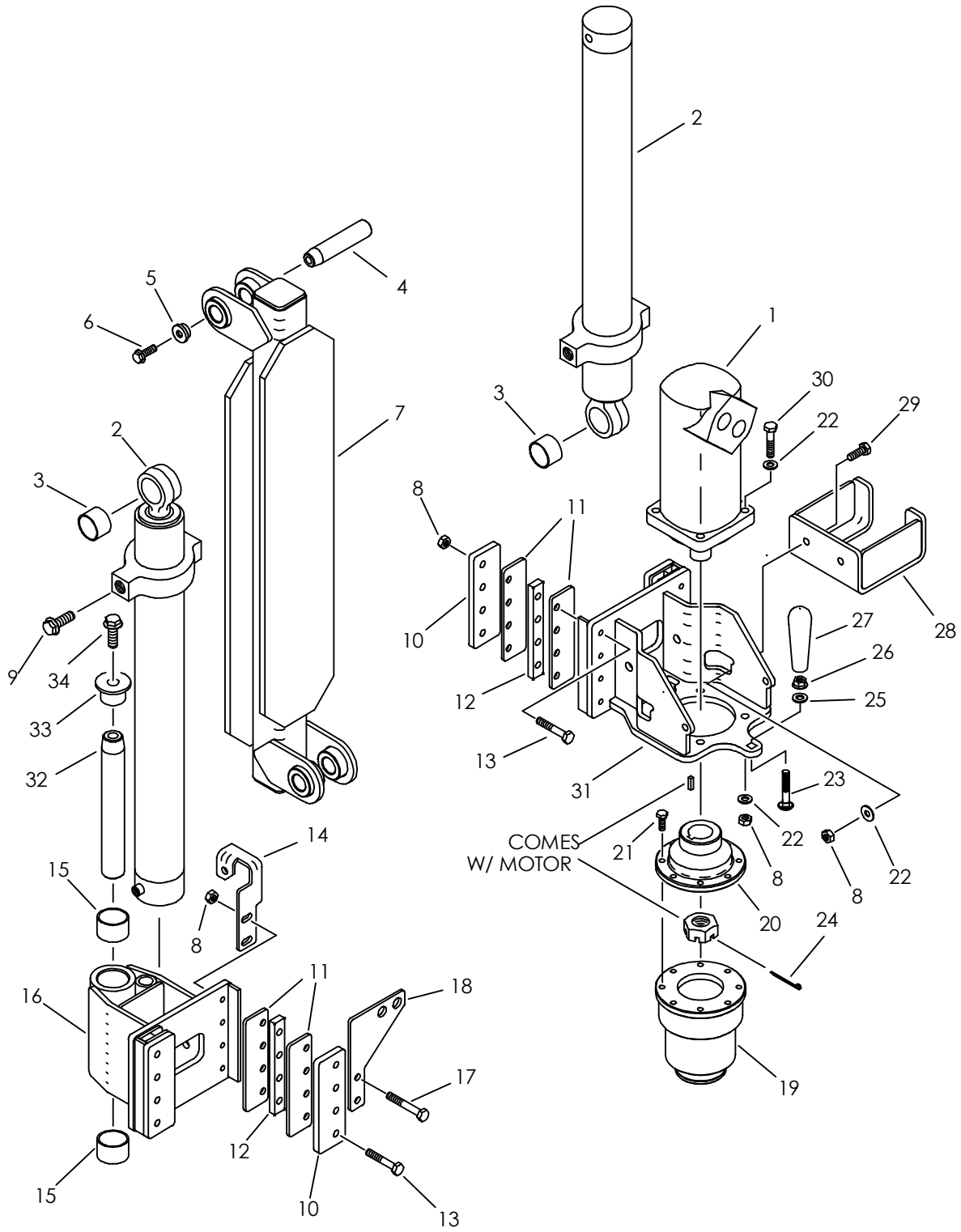


ANCHOR PIVOT FRAME

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	309-254	1	VALVE COVER	
2.	306-428	1	PIVOT FRAME	
3.	110-128	2	SPRING CLIP PIN (5/32" X 1")	
4.	350-516	2	PIN	
5.	343-311	1	ANCHOR PIVOT LATCH (RIGHT)	
6.	106-442	4	FLG LOCKNUT (M16-2.00, PRV TRQ)	
7.	106-332	4	SCREW (M10-1.50 X 70MM)	
8.	110-228	2	LYNCH PIN (7/16" X 2")	
9.	343-445	2	PIG (31.75MM X 262MM)	
10.	313-592	1	ANCHOR BASE	
11.	115-483	4	KLIP RING (1.250")	
12.	184-973	2	PIN	
13.	343-548	2	PIVOT	
14.	106-612	4	SCREW (M16-2.00 X 180MM, 10.9)	
15.	343-312	1	ANCHOR PIVOT LATCH (LEFT)	
16.	115-580	2	TORSION SPRING	
17.	105-894	4	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
18.	106-383	4	FLG LK SCREW (M10-1.50 X 30MM)	
19.	106-398	8	WASHER (M16, HARDENED)	
20.	217-297	1	STROBE LIGHT GREEN MED PROFILE	
-	214-103	1	2-WAY MALE CONNECTOR	
-	214-991	-	REPLACEMENT FLASH TUBE	
-	217-303	-	REPLACEMENT LENS (GREEN)	
-	157-645	2	WEATHER-PAC SEAL (2.80MM)	
-	214-104	2	PACKARD MALE TERMINAL	
-	217-301	-	BRUSH GUARD	
21.	343-270	1	SLEEVE	
22.	105-118	2	WASHER (3/8")	
23.	217-007	1	WORKING LIGHT (CLEAR, RECT)	

FOOTNOTES

LEFT AUGER ANCHOR DRIVE



LEFT AUGER ANCHOR DRIVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-895	1	HYD MOTOR	
	500-390		SEAL REPAIR KIT - REAR	
	500-391		SEAL REPAIR KIT - SHAFT	
	502-177		SHAFT AND BEARING ASS'Y	
	107-792		BOLT (5/16"X 1-5/8", DBL HEX)	
	165-900		KEY (7/16" SQ X 1.250")	
	105-917		CASTLE NUT (1-1/4-NF)	SEE FOOTNOTE 1
	500-2123		FRONT RETAINER (ANCHOR MOTOR)	
2.	150-747	2	CYLINDER ASSEMBLY	
3.	125-771	2	COMPOSITION BUSHING (1.25")	
4.	183-765	2	TAPERED PIN (31.7MM X 110MM)	
5.	181-982	2	TAPERED INSERT (1.25")	
6.	106-469	2	FLG SCREW (M12-1.75 X 30MM)	USE LOCTITE 242
7.	359-799	1	MAST	
8.	106-685	23	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
9.	106-471	4	FLG SCREW (M16-2.00 X 30MM)	USE LOCTITE 242
10.	309-194	4	CLAMP PLATE	
11.	309-195	8	GLIDE STRIP	
12.	309-203	4	CARRIAGE SPACER BAR	
13.	106-335	14	SCREW (M12-1.75 X 70MM)	
14.	309-206	1	BULKHEAD PLATE	
15.	125-773	2	COMPOSITION BUSHING (1.75")	
16.	309-209	1	ARM	
17.	106-700	2	SCREW (M12-1.75 X 80MM)	
18.	309-204	1	BULKHEAD PLATE	
19.	309-582	-	FLANGED HEX DRIVER	
20.	178-881	1	FLANGE	
21.	105-245	8	SCREW (M10-1.50 X 25MM)	USE LOCTITE 242
22.	106-397	9	WASHER (M12, HARDENED)	
23.	105-279	1	CARRIAGE BOLT (1/2-NC X 3")	
24.	105-501	1	COTTER PIN (1/8" X 2")	
25.	105-071	1	WASHER (1/2")	
26.	105-833	1	FLG LOCKNUT (1/2-NC)	
27.	110-531	1	HANDLE (1/2-NC, BLACK)	USE LOCTITE 242
28.	309-602	1	ANCHOR HANGER	
29.	106-333	2	SCREW (M12-1.75 X 40MM, 8.8)	
30.	106-594	4	SCREW (M12-1.75 X 60MM)	
31.	309-207	1	MOTOR MOUNT	
32.	179-239	1	TAPERED PIN (44.4MM X 288MM)	
33.	181-975	1	TAPERED INSERT (1.75")	
34.	106-470	1	FLG SCREW (M16-2.00 X 40MM)	USE LOCTITE 242

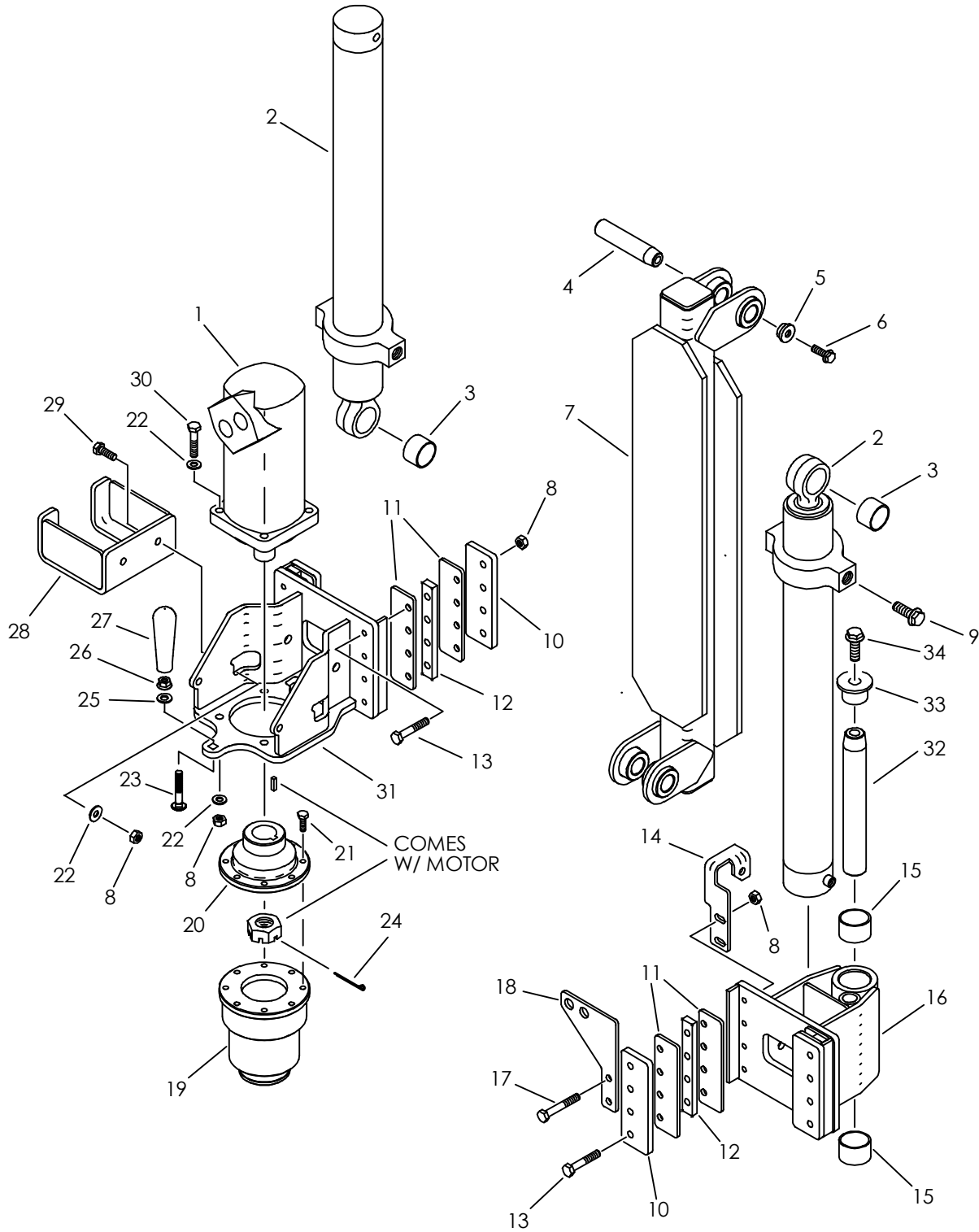
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FOOTNOTES:

1. TORQUE NUT TO 375 FT. LB. DRY OR 275 FT. LB. LUBED

NOTE:

RIGHT AUGER ANCHOR DRIVE



RIGHT AUGER ANCHOR DRIVE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	149-895	1	HYD MOTOR	
	500-390		SEAL REPAIR KIT - REAR	
	500-391		SEAL REPAIR KIT - SHAFT	
	502-177		SHAFT AND BEARING ASSY	
	107-792		BOLT (5/16"X 1-5/8", DBL HEX)	
	165-900		KEY (7/16" SQ X 1.250")	
	105-917		CASTLE NUT (1-1/4-NF)	SEE FOOTNOTE 1
	500-2123		FRONT RETAINER (ANCHOR MOTOR)	
2.	150-747	2	CYLINDER ASSEMBLY	
3.	125-771	2	COMPOSITION BUSHING (1.25")	
4.	183-765	2	TAPERED PIN (31.7MM X 110MM)	
5.	181-982	2	TAPERED INSERT (1.25")	
6.	106-469	2	FLG SCREW (M12-1.75 X 30MM)	USE LOCTITE 242
7.	359-799	1	MAST	
8.	106-685	23	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
9.	106-471	4	FLG SCREW (M16-2.00 X 30MM)	USE LOCTITE 242
10.	309-194	4	CLAMP PLATE	
11.	309-195	8	GLIDE STRIP	
12.	309-203	4	CARRIAGE SPACER BAR	
13.	106-335	14	SCREW (M12-1.75 X 70MM)	
14.	309-205	1	BULKHEAD PLATE	
15.	125-773	2	COMPOSITION BUSHING (1.75")	
16.	309-209	1	ARM	
17.	106-700	2	SCREW (M12-1.75 X 80MM)	
18.	309-204	1	BULKHEAD PLATE	
19.	309-582	-	FLANGED HEX DRIVER	
20.	178-881	1	FLANGE	
21.	105-245	8	SCREW (M10-1.50 X 25MM)	USE LOCTITE 242
22.	106-397	9	WASHER (M12, HARDENED)	
23.	105-279	1	CARRIAGE BOLT (1/2-NC X 3")	
24.	105-501	1	COTTER PIN (1/8" X 2")	
25.	105-071	1	WASHER (1/2")	
26.	105-833	1	FLG LOCKNUT (1/2-NC)	
27.	110-531	1	HANDLE (1/2-NC, BLACK)	USE LOCTITE 242
28.	309-602	1	ANCHOR HANGER	
29.	106-333	2	SCREW (M12-1.75 X 40MM, 8.8)	
30.	106-594	4	SCREW (M12-1.75 X 60MM)	
31.	309-207	1	MOTOR MOUNT	
32.	179-239	1	TAPERED PIN (44.4MM X 288MM)	
33.	181-975	1	TAPERED INSERT (1.75")	
34.	106-470	1	FLG SCREW (M16-2.00 X 40MM)	USE LOCTITE 242

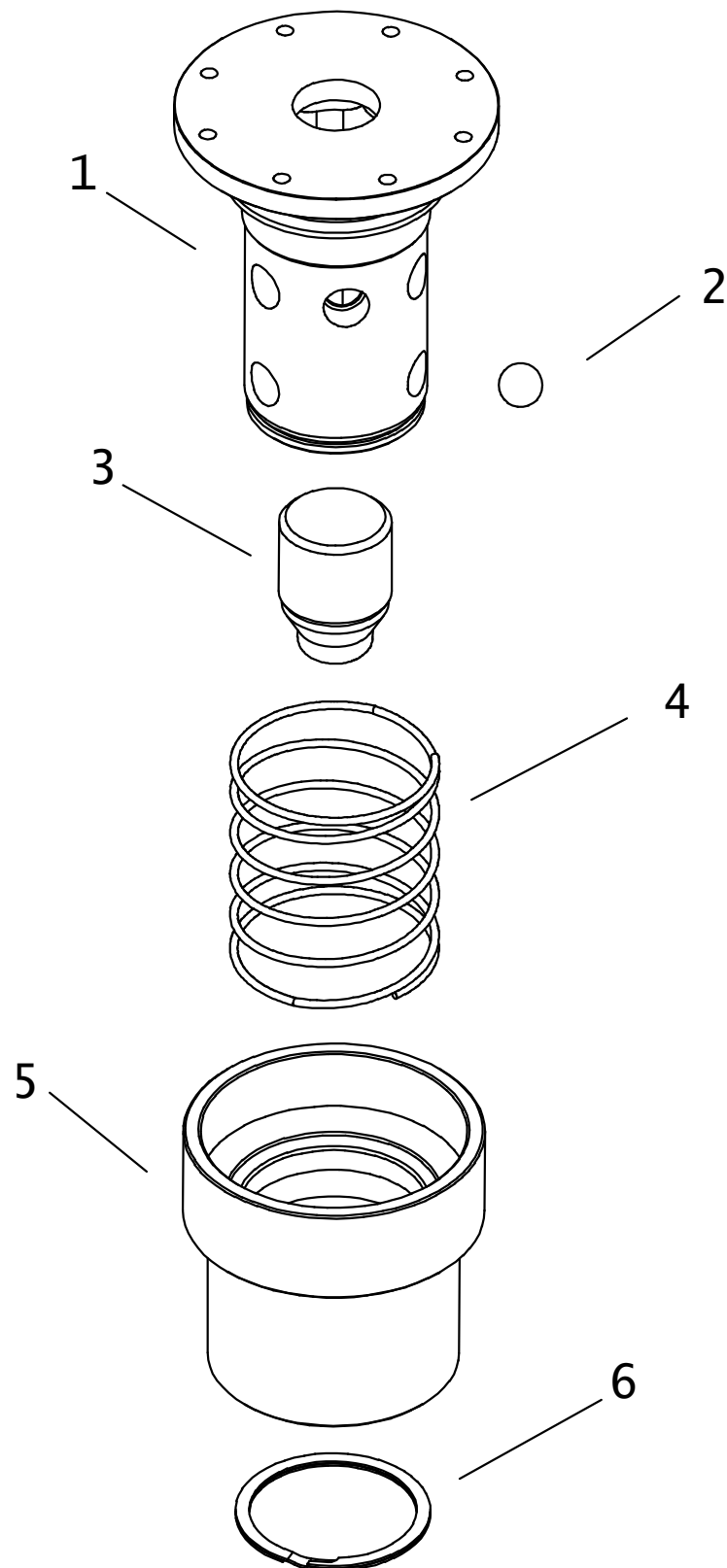
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FOOTNOTES:

- I. TORQUE NUT TO 375 FT. LB. DRY OR 275 FT. LB. LUBED

NOTE:

FLANGED HEX DRIVER ASS'Y



FLANGED HEX DRIVER ASS'Y

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	309-582		FLANGED HEX DRIVER	INCLUDEDS REF NO. 1-6
1.	309-093	1	ANCHOR DRIVER	FOOTNOTE 2
2.	125-150	9	DETENT BALL (.875")	
3.	309-095	1	WEIGHT STOP	
4.	117-160	1	COMPRESSION RING	
5.	178-591	1	LOCK COLLAR	
6.	118-054	1	EXTERNAL SNAP RING	
	116-761	1	SPIRAL RETAINING RING	FOOTNOTE 1

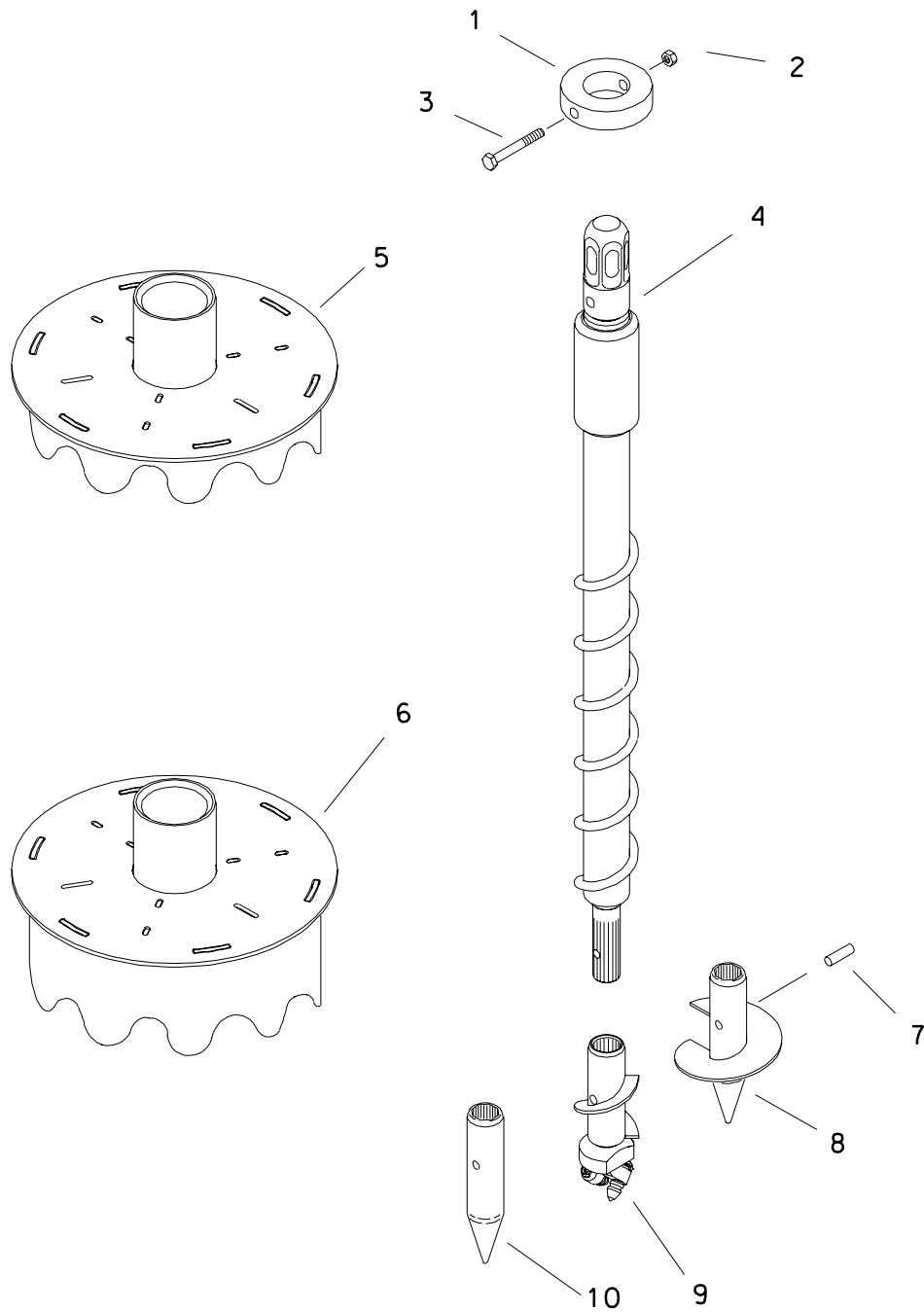
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FOOTNOTES:

1. USE WHEN INSTALLING UPDATED 309-093
2. UPDATED VERSION NECKED-DOWN FOR THICKER 116-761

NOTE:

ANCHOR

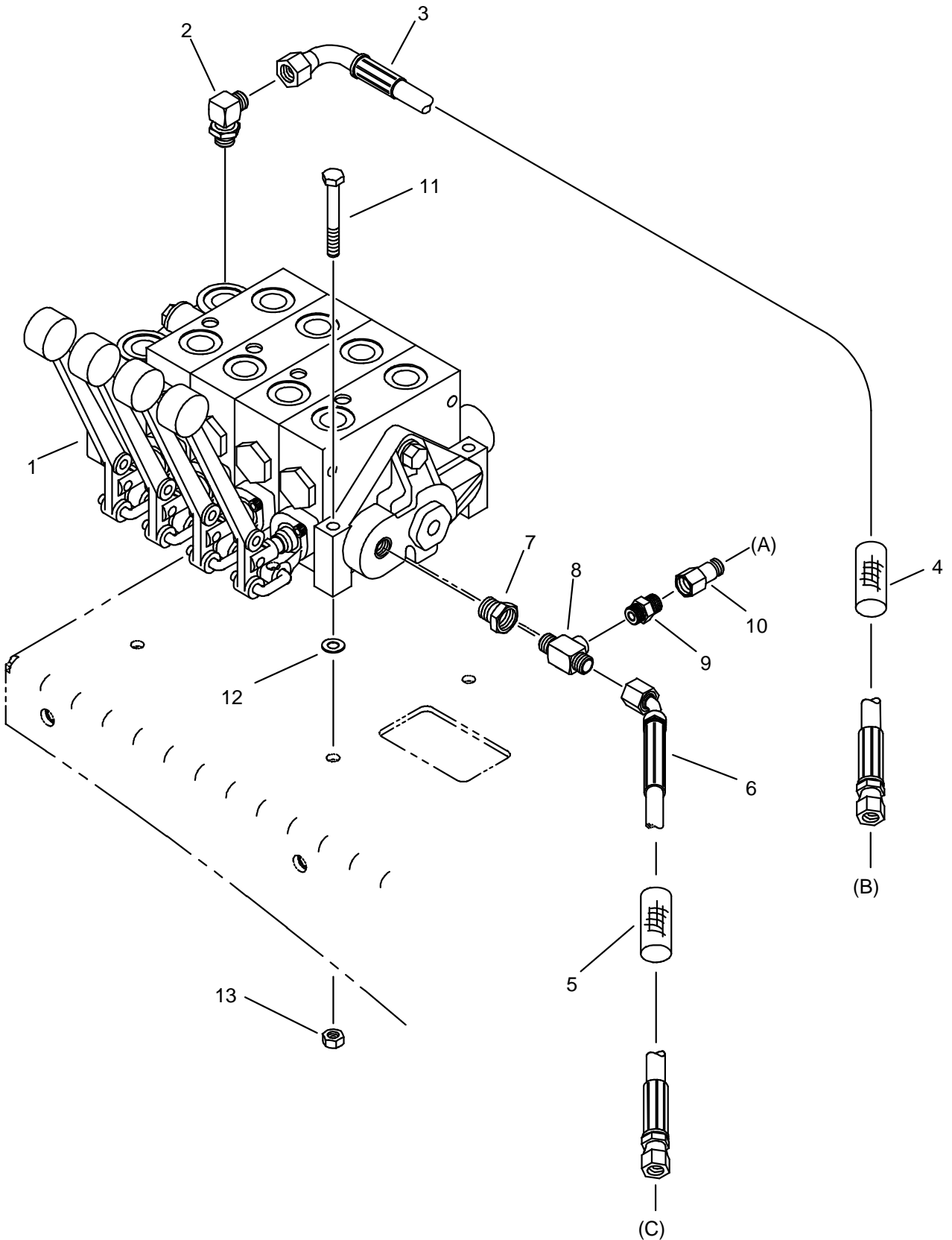


ANCHOR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	309-250	-	ANCHOR SHAFT	INCL REF NO'S 1-4
1.	178-513	1	COLLAR	
2.	106-685	1	LOCKNUT (M12-1.75, PRV TRQ, 10.9)	
3.	106-645	1	SCREW (M12-1.75 X 110MM, 10.9)	
4.	308-902	1	ANCHOR STAKE	
5.	309-750	1	CENTERING CAP	SHORT - USED IN SIDE POSITIONS
6.	308-903	1	CENTERING CAP	TALL - USED IN FRONT POSITIONS
7.	183-860	AR	ROLL PIN (1/2" X 1-7/8")	
8.	356-366	AR	AUGER (150MM)	
	356-365	AR	AUGER (225MM)	
	356-364	AR	AUGER (380MM)	
9.	369-438	AR	3.5" CAP ANCHOR BIT	ROCK BITS
	131-259	-	INSERT BIT- CARBIDE TIPPED	
10.	357-330	AR	STAKE POINT	DIRT BITS

FOOTNOTES

ANCHOR VALVE PRESSURE & RETURN HYDRAULICS



ANCHOR VALVE PRESSURE & RETURN HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	158-064	1	HYD CONTROL VALVE (4-SPOOL)	
2.	154-300	1	CONNECTOR (100-12S90)	
3.	515-579	1	HOSE (100FX90S-104"-3000)	
4.	117-204	1	ABRASION SLEEVE (1.59" X 108")	
5.	115-924	1	ABRASION SLEEVE (1.59" X 88")	
6.	153-070	1	HOSE (100FX45-85"-3000)	
7.	510-017	1	REDUCER (12S-10SF)	
8.	154-458	1	RUN TEE (10S-100-06SF)	
9.	159-381	1	CHECK VALVE (06S-060)	
10.	154-373	1	REDUCER (040-060F)	
11.	106-330	3	SCREW (M8-1.25 X 70MM)	
12.	106-389	3	WASHER (M8)	
13.	106-561	3	LOCKNUT (M8-1.25, PRV TRQ, 10.9)	

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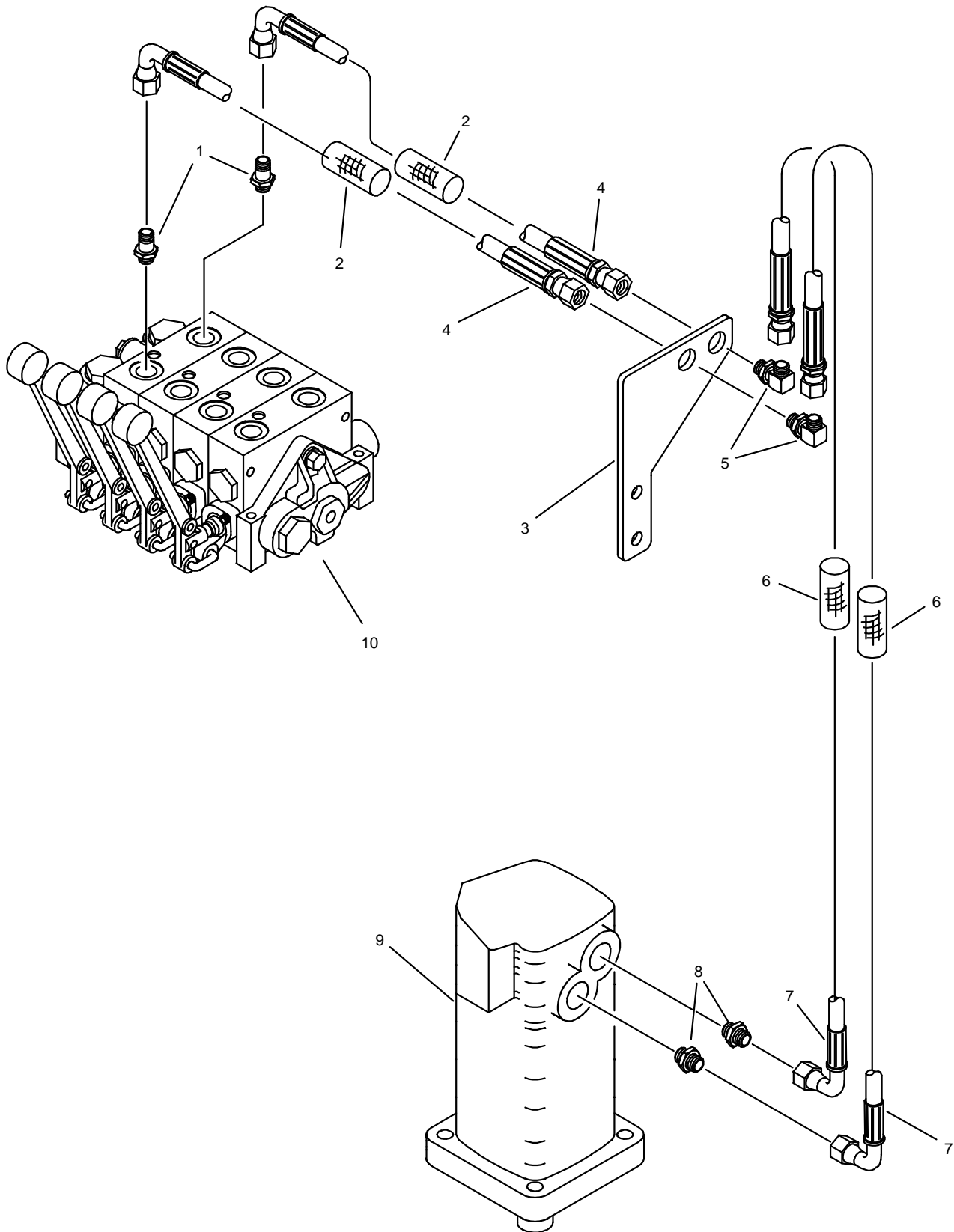
FOOTNOTES:

- (A) CONNECTS W/ RETURN OIL FROM GREASER PUMP
- (B) TEE'S W/ FRONT WRENCH PRESSURE VALVE
- (C) TEE'S W/ FRONT WRENCH RETURN VALVE

NOTE:

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

LEFT ANCHOR MOTOR HYDRAULICS



LEFT ANCHOR MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-438	2	CONNECTOR (08S-080, LG)	
2.	117-388	2	ABRASION SLEEVE (1.25" X 42")	
3.	309-204	1	BULKHEAD PLATE	
4.	515-718	2	HOSE (080FX90S-42"-3000)	
5.	154-396	2	BK CONNECTOR (080-08090BK)	
6.	117-324	2	ABRASION SLEEVE (1.25" X 48")	
7.	154-716	2	HOSE (080FX90-48"-3000)	
8.	154-307	2	CONNECTOR (16S-080)	
9.	149-895	-	HYD MOTOR	
	500-390		SEAL REPAIR KIT - REAR	
	500-391		SEAL REPAIR KIT - SHAFT	
	107-792		BOLT (5/16"X 1-5/8", DBL HEX)	
	165-900		KEY (7/16" SQ X 1.250")	
	105-917		CASTLE NUT (1-1/4-NF)	
10.	158-064	-	HYD CONTROL VALVE (4-SPOOL)	

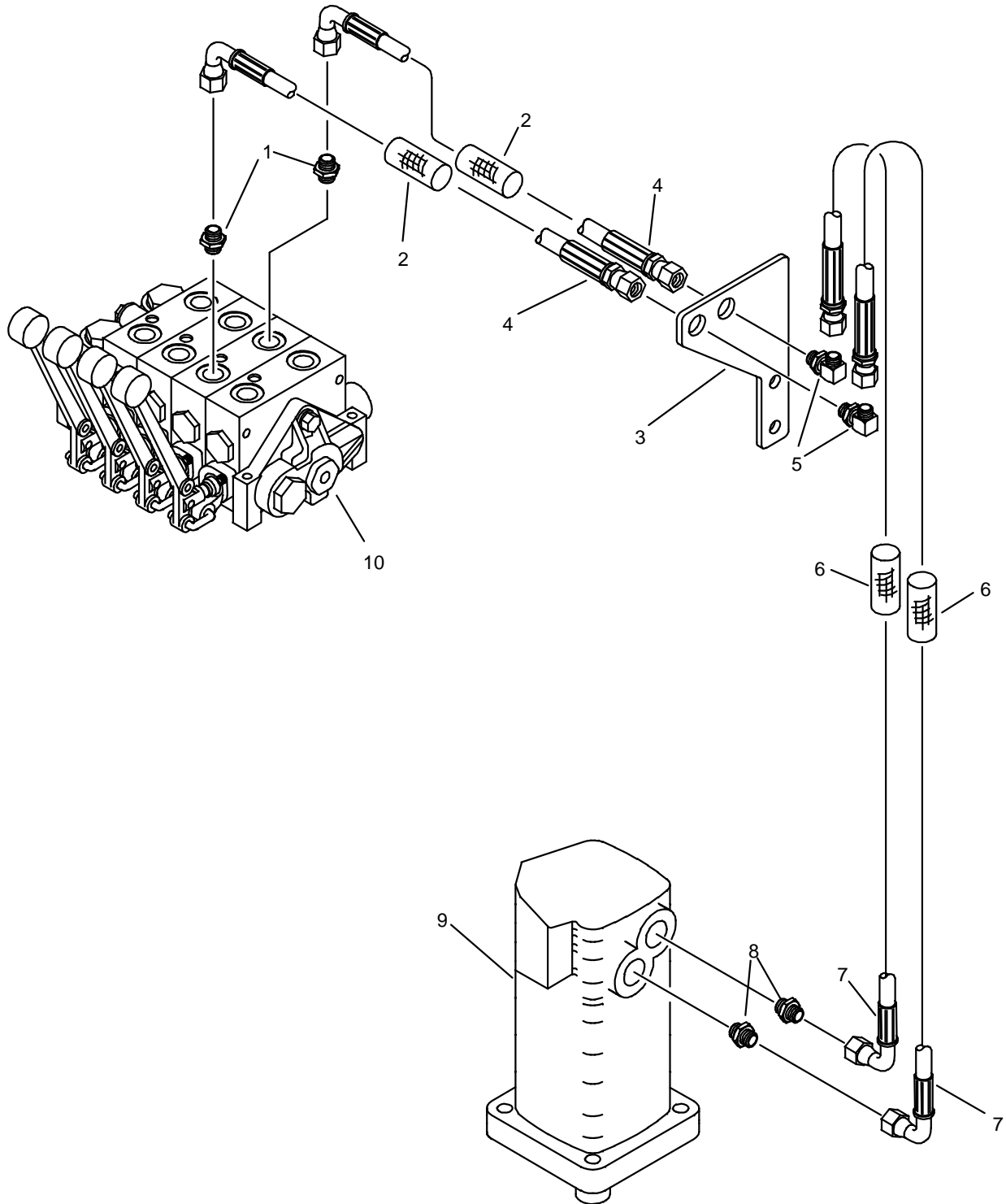
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FOOTNOTES:

NOTE:

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

RIGHT ANCHOR MOTOR HYDRAULICS



RIGHT ANCHOR MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-233	2	CONNECTOR (08S-080)	
2.	117-388	2	ABRASION SLEEVE (1.25" X 42")	
3.	309-204	1	BULKHEAD PLATE	
4.	515-718	2	HOSE (080FX90S-42"-3000)	
5.	154-396	2	BK CONNECTOR (080-08090BK)	
6.	117-324	2	ABRASION SLEEVE (1.25" X 48")	
7.	154-716	2	HOSE (080FX90-48"-3000)	
8.	154-307	2	CONNECTOR (16S-080)	
9.	149-895	-	HYD MOTOR	
	500-390	-	SEAL REPAIR KIT - REAR	
	500-391	-	SEAL REPAIR KIT - SHAFT	
	107-792	-	BOLT (5/16"X 1-5/8", DBL HEX)	
	165-900	-	KEY (7/16" SQ X 1.250")	
	105-917	-	CASTLE NUT (1-1/4-NF)	
10.	158-064	-	HYD CONTROL VALVE (4-SPOOL)	

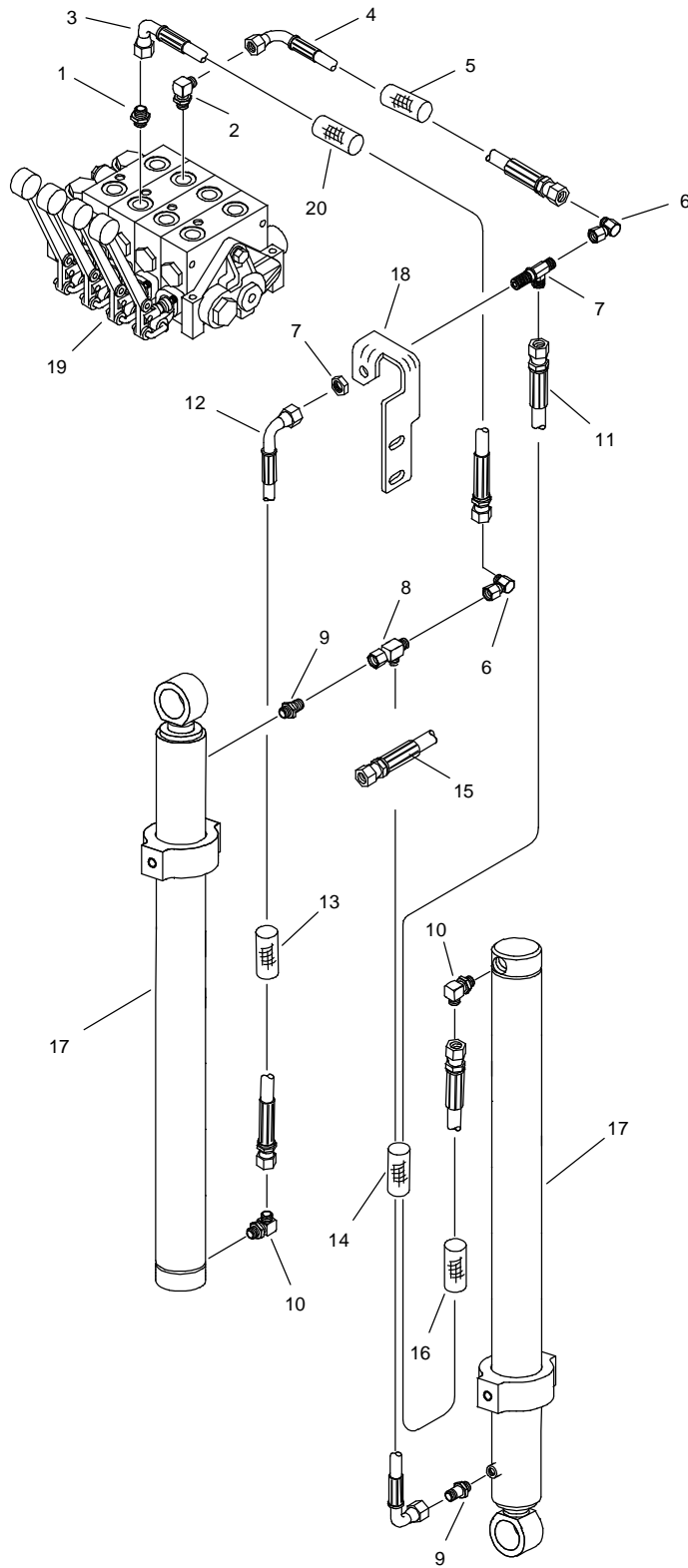
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FOOTNOTES:

NOTE:

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

LEFT ANCHOR THRUST CYLINDER



LEFT ANCHOR THRUST CYLINDER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-261	1	CONNECTOR (040-08S)	
2.	154-276	1	CONNECTOR (040-08S90)	
3.	515-713	1	HOSE (040FX90-38"-3000)	
4.	154-728	1	HOSE (040FX90-36"-3000)	
5.	117-718	1	ABRASION SLEEVE (1.00" X 36")	
6.	154-255	2	UNION (040-040FX90)	
7.	154-424	1	BK RUN TEE (040-040-040BK)	
8.	154-265	1	UNION RUN TEE (040FX-040-040)	
9.	154-403	2	CONNECTOR (04S-040, XL)	
10.	154-252	2	CONNECTOR (04S-04090)	
11.	515-054	1	HOSE (040FX-74"-3000)	
12.	515-683	1	HOSE (040FX90-28"-3000)	
13.	117-409	1	ABRASION SLEEVE (1.00" X 28")	
14.	117-657	1	ABRASION SLEEVE (1.59" X 54")	
15.	515-682	1	HOSE (040FX90-48"-3000)	
16.	117-676	1	ABRASION SLEEVE (1.00" X 30")	
17.	150-747	2	CYLINDER ASSEMBLY	
18.	309-206	1	BULKHEAD PLATE	
19.	158-064	-	HYD CONTROL VALVE	
20.	117-410	1	ABRASION SLEEVE (1.00" X 38")	

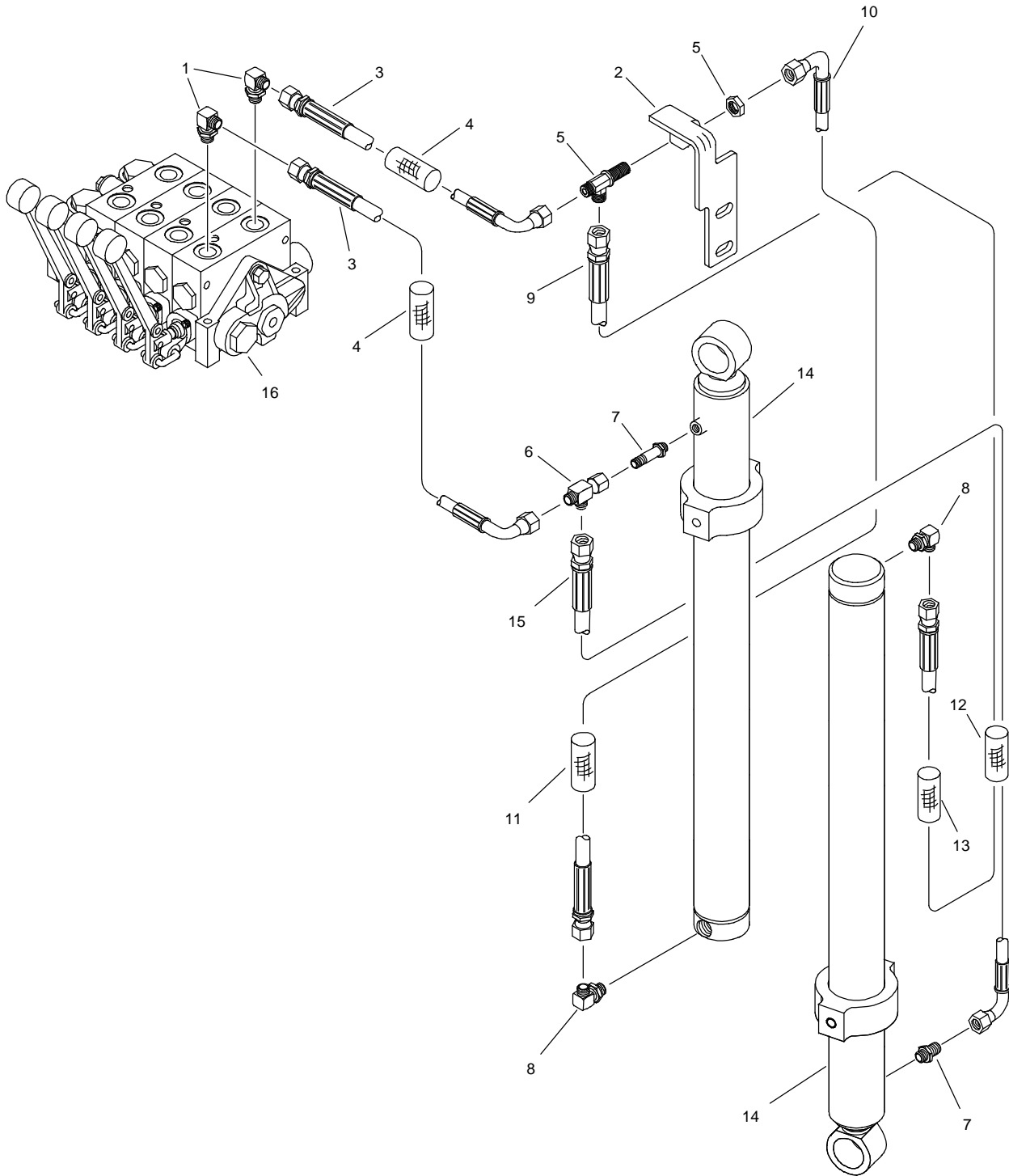
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FOOTNOTES:

NOTE:

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

RIGHT ANCHOR THRUST CYLINDER



RIGHT ANCHOR THRUST CYLINDER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-276	2	CONNECTOR (040-08S90)	
2.	309-205	1	BULKHEAD PLATE	
3.	154-728	2	HOSE (040FX90-36"-3000)	
4.	117-718	2	ABRASION SLEEVE (1.00" X 36")	
5.	154-424	1	BK RUN TEE (040-040-040BK)	
6.	154-265	1	UNION RUN TEE (040FX-040-040)	
7.	154-403	2	CONNECTOR (04S-040, XL)	
8.	154-252	2	CONNECTOR (04S-04090)	
9.	515-054	1	HOSE (040FX-74"-3000)	
10.	515-683	1	HOSE (040FX90-28"-3000)	
11.	117-409	1	ABRASION SLEEVE (1.00" X 28")	
12.	117-657	1	ABRASION SLEEVE (1.59" X 54")	
13.	117-676	1	ABRASION SLEEVE (1.00" X 30")	
14.	150-747	2	CYLINDER ASSEMBLY	
15.	515-682	1	HOSE (040FX90M-48"-3000)	
16.	158-064	-	HYD CONTROL VALVE	

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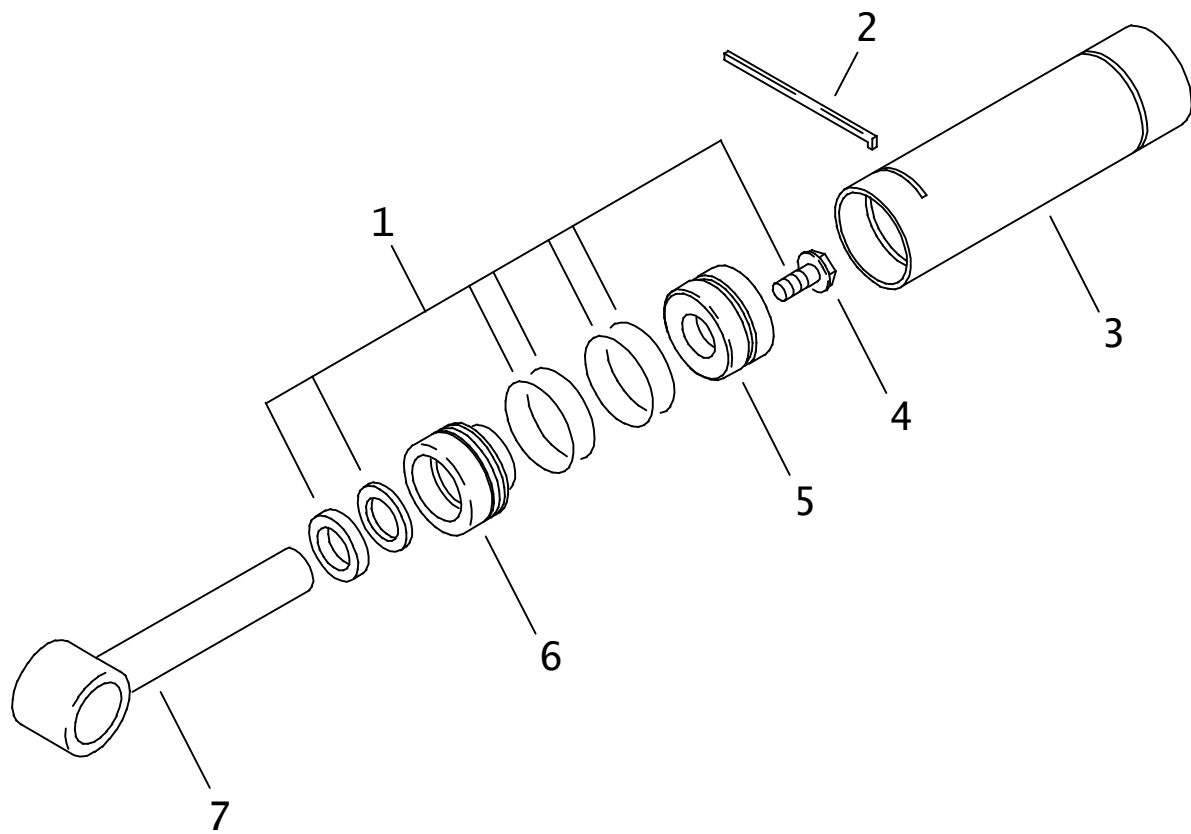
FOOTNOTES:

NOTE:

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

HYDRAULIC CYLINDER

2.0" X 1.25" X 24.0"



HYDRAULIC CYLINDER

2.0" X 1.25" X 24.0"

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	150-747		CYL (2" X 1.25" X 24")	INCLUDE REF NO:S 1 THRU 7
1.	190-169	1	SEAL REPAIR KIT (2.0" X 1.25")	INCLUDES REF NO:S 4 & 5
2.	150-778	1	LOCK RING (2")	
3.	151-170	1	CYLINDER BARREL	
4.	106-097	1	FLG BOLT (5/8-NC X 1-3/4", GD8)	SEE FOOTNOTE I
5.	150-771	1	CYLINDER PISTON (2.0" X 1.25")	INCLUDES MOLDED-ON WEAR RING
6.	150-770	1	CYLINDER HEAD (2.0" X 1.25")	
7.	150-679	1	CYLINDER ROD (1.25")	

NOT SHOWN:

259-100	U-SEAL INSTALLER (1"-1.499")
259-236	WIPER INSTALLER (1.250")
259-239	WIPER/SEAL INSTALLER (2")
259-241	PISTON INSTALLER (2")
259-188	CYL HEAD SPANNER - TWO PIN

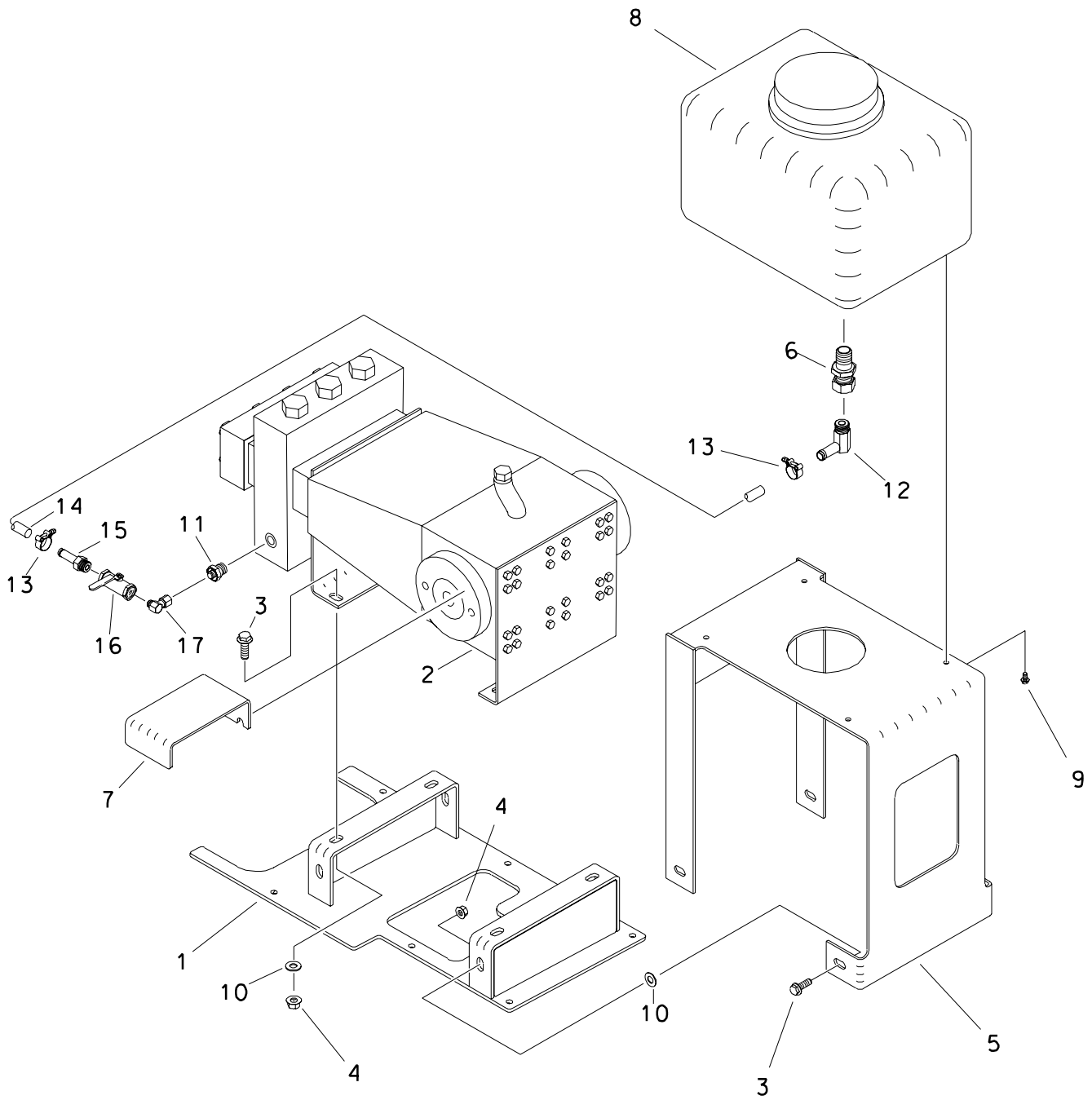
FOOTNOTES

I. APPLY LOCTITE 271 OR 277. TORQUE TO 180-200 FT-LBS (245-270 N.M)

NOTE:

FLUID SYSTEMS

MUD PUMP & ANTIFREEZE TANK



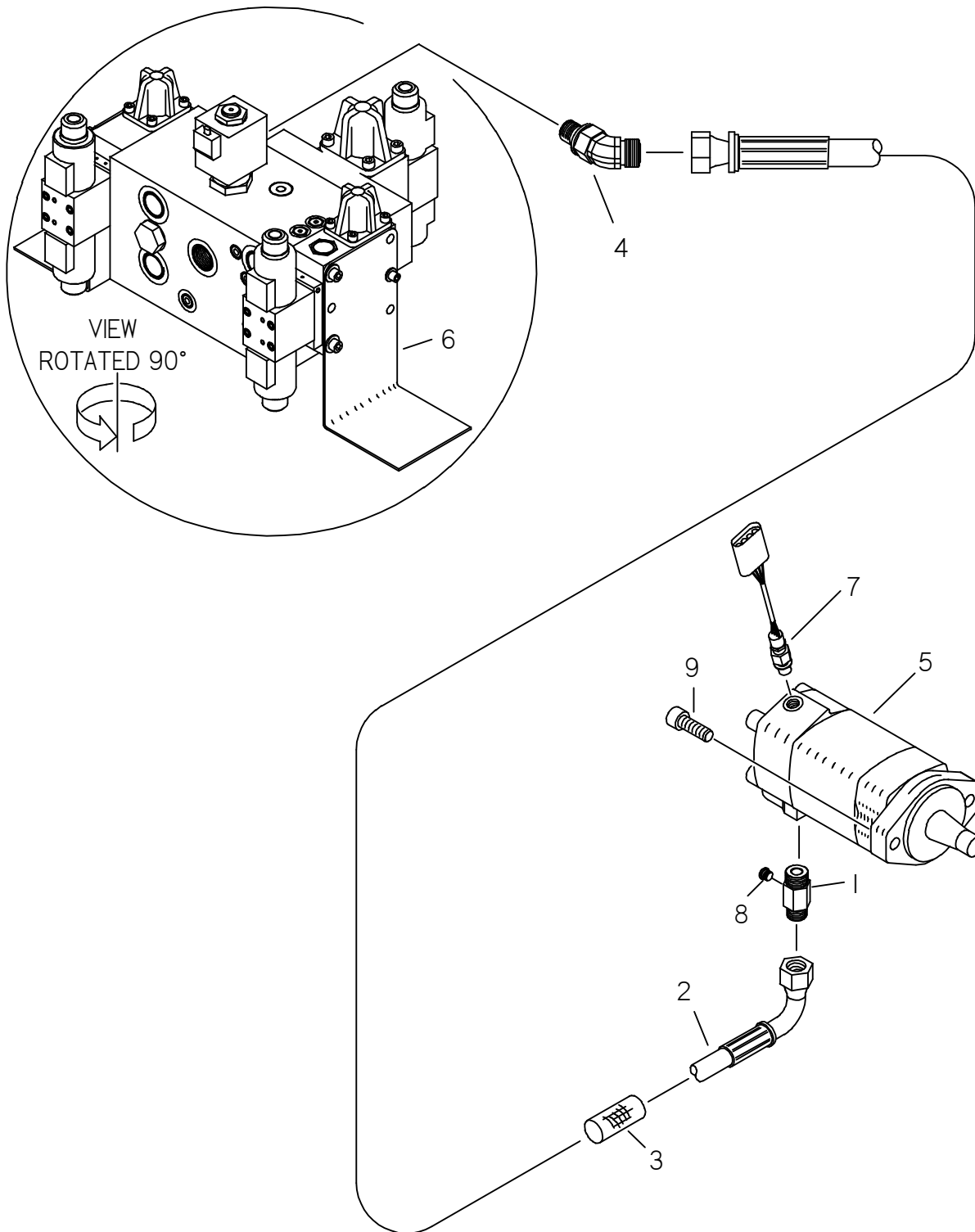
MUD PUMP & ANTIFREEZE TANK

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	190-838		ANTIFREEZE KIT	INCL REF NO.'S 5, 8, & 12 THRU 16, & 17
1.	343-563	-	COVER	
2.	153-544	-	MUD PUMP	
3.	106-383	8	FLG LK SCREW (M10-1.75 X 30mm)	
4.	105-894	8	LOCKNUT (M10-1.5, PRV TRQ, 10.9)	
5.	343-241	1	TANK SUPPORT	
6.	514-400	1	BK CONN (16NF-16NFBK, NYL)	
	157-490	1	BK CONNECTOR (16NF, POLY)	SEE FOOTNOTE 1
7.	309-751	1	PLATE, COVER	
8.	364-515	1	WATER TANK (8 GAL)	
	110-707		TANK CAP (96NF)	
	190-053		POLY-PATCH TANK REPAIR KIT	
9.	105-836	4	FLG LOCK BOLT (1/4-NC X 1/2")	
10.	106-397	8	WASHER (M12, HARDENED)	
11.	514-438	1	REDUCER (32N-16N)	LOCTITE 567
12.	155-137	1	S/O COUPLER (16N-16H90)	LOCTITE 567
13.	111-027	2	T-BOLT CLAMP (1.25"-1.50")	
14.	116-460	AR	BULK HOSE (1", SOLD PER 1')	USE 1 @ 16"
15.	155-136	1	S/O COUPLER (16N-16H)	LOCTITE 567
16.	514-318	1	SHUT-OFF (16NF-16NF)	
17.	155-113	1	UNION (16N-16NFX90)	LOCTITE 567

FOOTNOTES

1. HOLES MAY REQUIRE MODIFICATION FOR NEW FITTINGS.

MUD PRESSURE HYDRAULICS



MUD PRESSURE HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	153-263	1	SPECIAL TEE (10S-100-04SF)	
2.	155-466	1	HOSE (100FX90-74"-2750)	
3.	115-963	1	ABRASION SLEEVE (1.59" X 75")	
4.	154-470	1	CONNECTOR (100-12S45)	
5.	158-936	1	HYD MOTOR	
	500-658		SEAL REPAIR KIT	
6.	150-2251	-	HYDRAULIC CONTROL VALVE	
7.	214-010	-	SPEED SENSOR	
8.	154-383	1	PLUG (04S)	
9.	106-204	2	BOLT (1/2-NC X 1-1/2", SOC)	LOCTITE 242, TORQUE TO 100 FT-LBS.

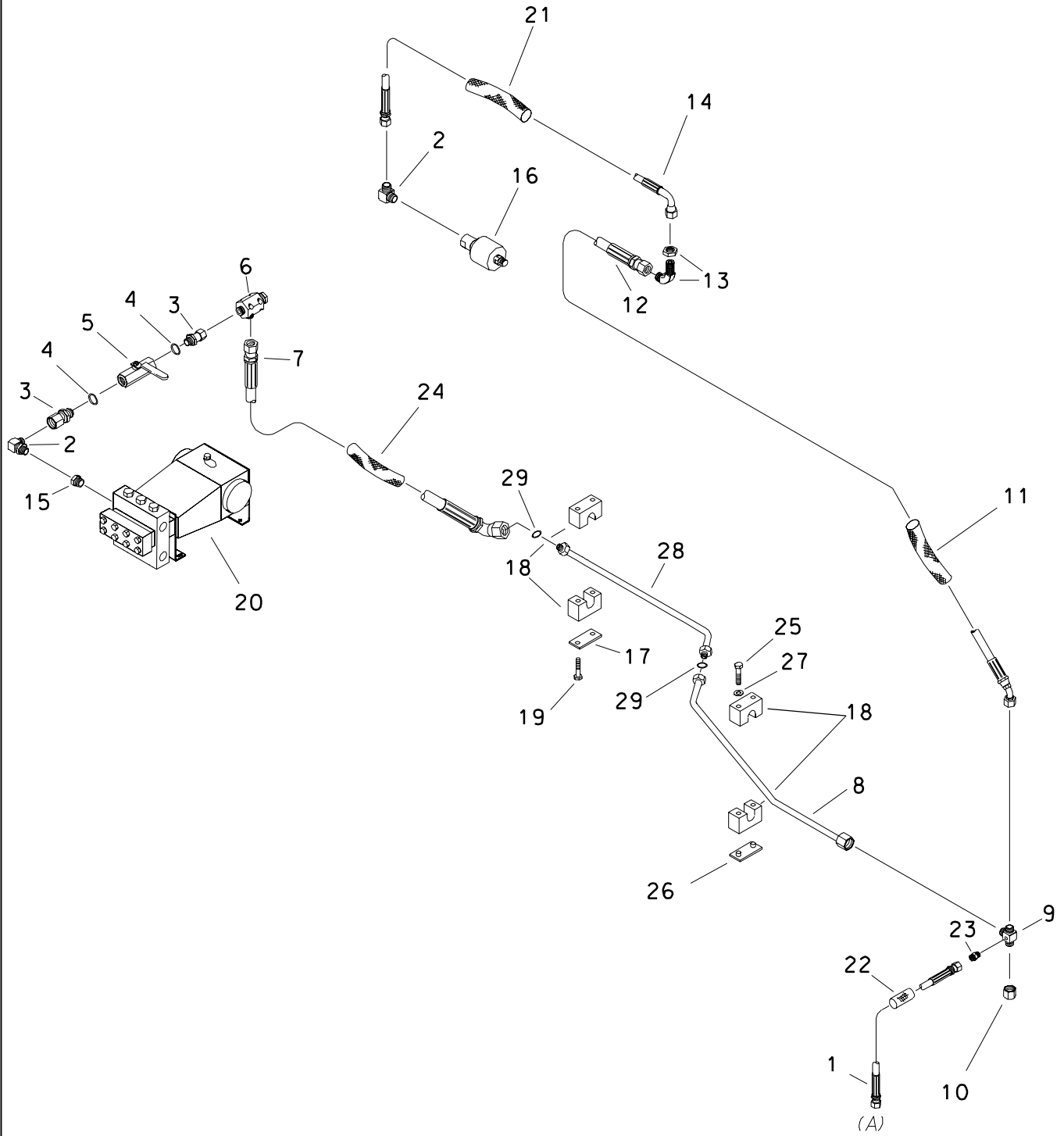
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FOOTNOTES:

NOTE:

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

MUD PUMP HYDRAULICS



MUD PUMP HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-013	1	HOSE (040FX-42"-3000)	
2.	510-011	2	CONNECTOR (16N-16090)	LOCTITE 567
3.	510-014	2	UNION (16J-160FX)	
4.	155-748	2	O-RING (916 D90)	
5.	120-074	1	SHUT-OFF VALVE (16S-16S)	
6.	159-451	1	CHECK VALVE	
7.	149-514	1	HOSE (160FX45S-50"-3000)	
8.	149-483	1	HYD LINE (160FX-160FX)	
9.	149-637	1	TEE (16J-160-160, SPECIAL)	
10.	510-016	1	CAP (16JF)	
11.	117-292	1	ABRASION SLEEVE (2.07" X 70")	
12.	149-603	1	HOSE (160FX45S-160"-3000)	
13.	154-419	1	BK CONNECTOR (160-16090BK)	
14.	153-293	1	HOSE (160FX90M-38"-3000)	
15.	115-261	1	REDUCER (24N-16NF)	LOCTITE 567
16.	159-382	1	WATER SWIVEL (16N-16NF)	SEE FOOTNOTE 1
	190-905	-	SWIVEL REPAIR KIT	
17.	322-289	1	BACKUP (BOLT-ON)	
18.	110-573	2	BOLT-ON CLAMP (1", SOLD PER SET)	
19.	105-818	2	BOLT (1/4-NC X 1-1/2")	
20.	153-544	1	MUD PUMP	
21.	117-455	1	ABRASION SLEEVE (2.07" X 38")	
22.	117-387	1	ABRASION SLEEVE (1.00" X 42")	
23.	154-339	1	CONNECTOR (04N-040)	
24.	117-454	1	ABRASION SLEEVE (2.07" X 50")	
25.	105-106	2	BOLT (1/4-NC X 2")	
26.	322-290	1	MOUNT (WELD-ON)	
27.	105-284	2	WASHER (3/16")	
28.	149-599	1	HYDRAULIC LINE (-16)	
29.	155-714	2	O-RING (021 D90)	

FOOTNOTES

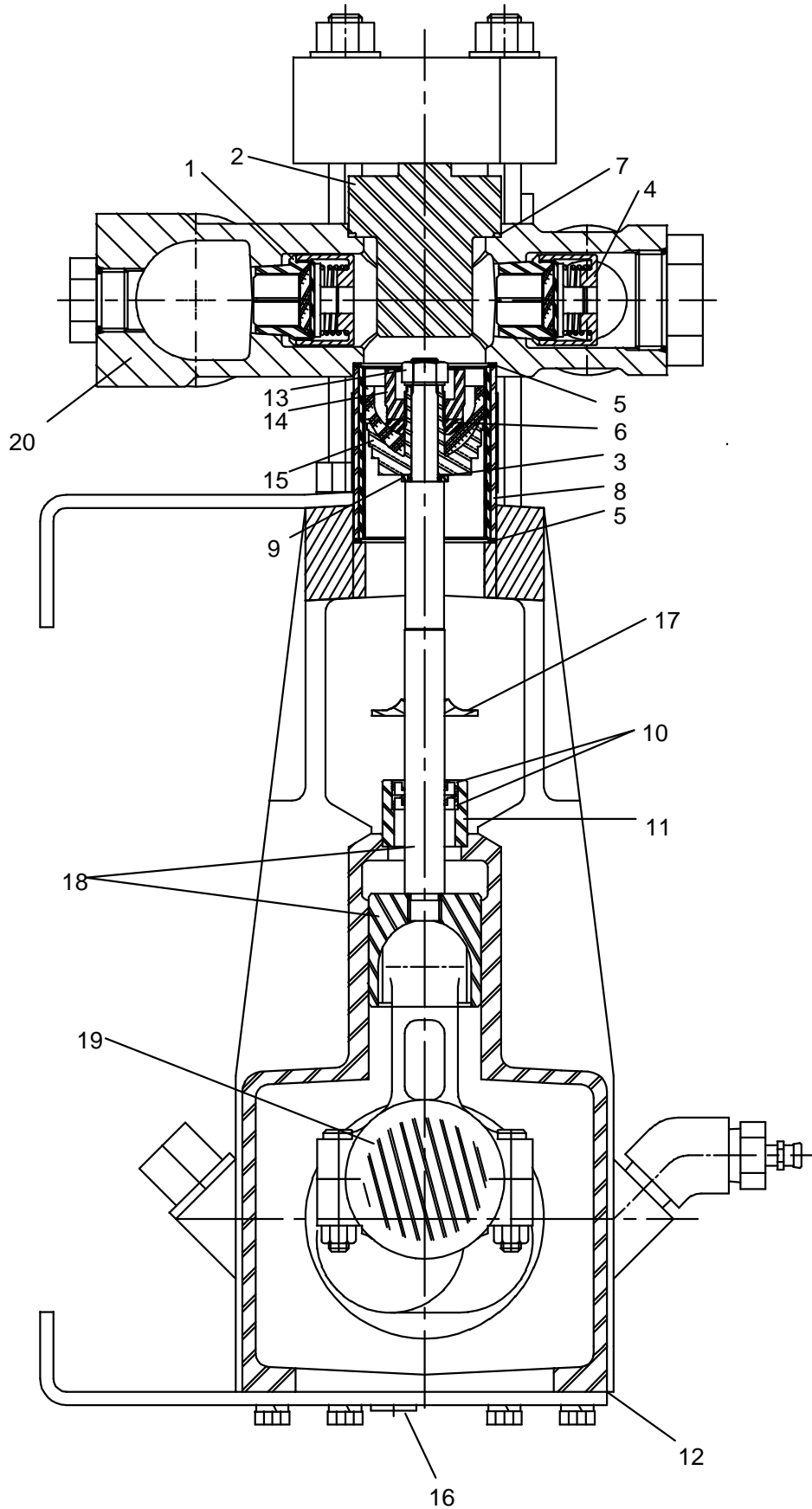
1. INSTALL USING NICKEL THREAD SEALING TAPE (117-555) ON MALE THREADS.

(A) CONNECTS TO LOWER BULKHEAD ON OPERATOR STATION

NOTE

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

MUD PUMP 49 GPM



MUD PUMP

49 GPM

REF PART NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	153-544	-	MUD PUMP (17.9 CU/IN, 46 GPM)	
	191-094		PACKING REPAIR KIT	INCLUDES 3,5,7 & PISTON CUPS
	197-083		REBUILT MUD PUMP	
	190-802		VALVE REPAIR KIT	INCLUDES 1,4
1.	499-110	3	VALVE - SUCTION AR	
2.	499-118	3	CYLINDER COVER	
3.	499-116	3	O-RING (014 D70)	
4.	499-111	3	VALVE - DISCHARGE AR	
5.	165-730	3	CYLINDER GASKET	
6.	499-119	3	WASHER	
7.	499-115	3	O-RING (146 D70)	
8.	499-302	3	CERAMIC CYLINDER	
9.	499-113	3	SEAL HOLDER	
10.	499-125	6	EXTERNAL SEAL	
11.	499-126	3	SEAL HOLDER	
12.	499-123	1	BASE GASKET	
13.	499-114	3	NUT (HEX, SPECIAL, BRASS)	
14.	499-039	3	PLUNGER NUT	
15.	310-962	3	PISTON HOLDER	
16.	499-394	1	SIGHT GAGE	
17.	153-438	1	WIPER SEAL	
18.	499-392	1	CROSSHEAD ROD ASSEMBLY	
19.	499-393	1	ROD BEARING (PAIR)	
20.	499-569	1	FLUID CYLINDER (L06)	

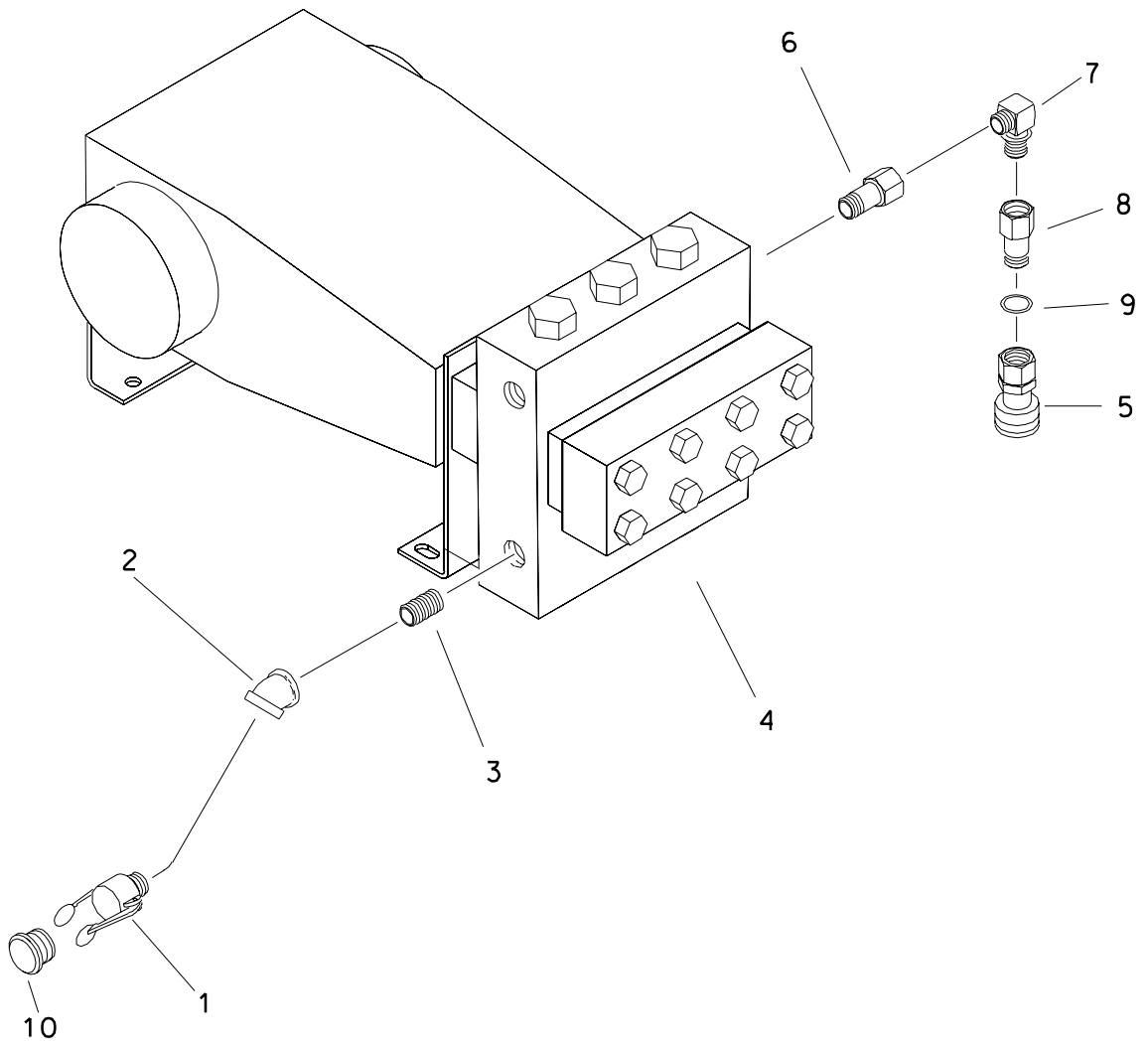
NOT SHOWN:

499-122	2	BEARING HOUSING GASKET
499-124	1	GREASE SEAL
259-352	-	FMC PISTON/PACKING TOOL
259-470	-	FMC VALVE TOOL

FOOTNOTES:

NOTE:

MUD PUMP INLET & WASH WAND CONNECTION



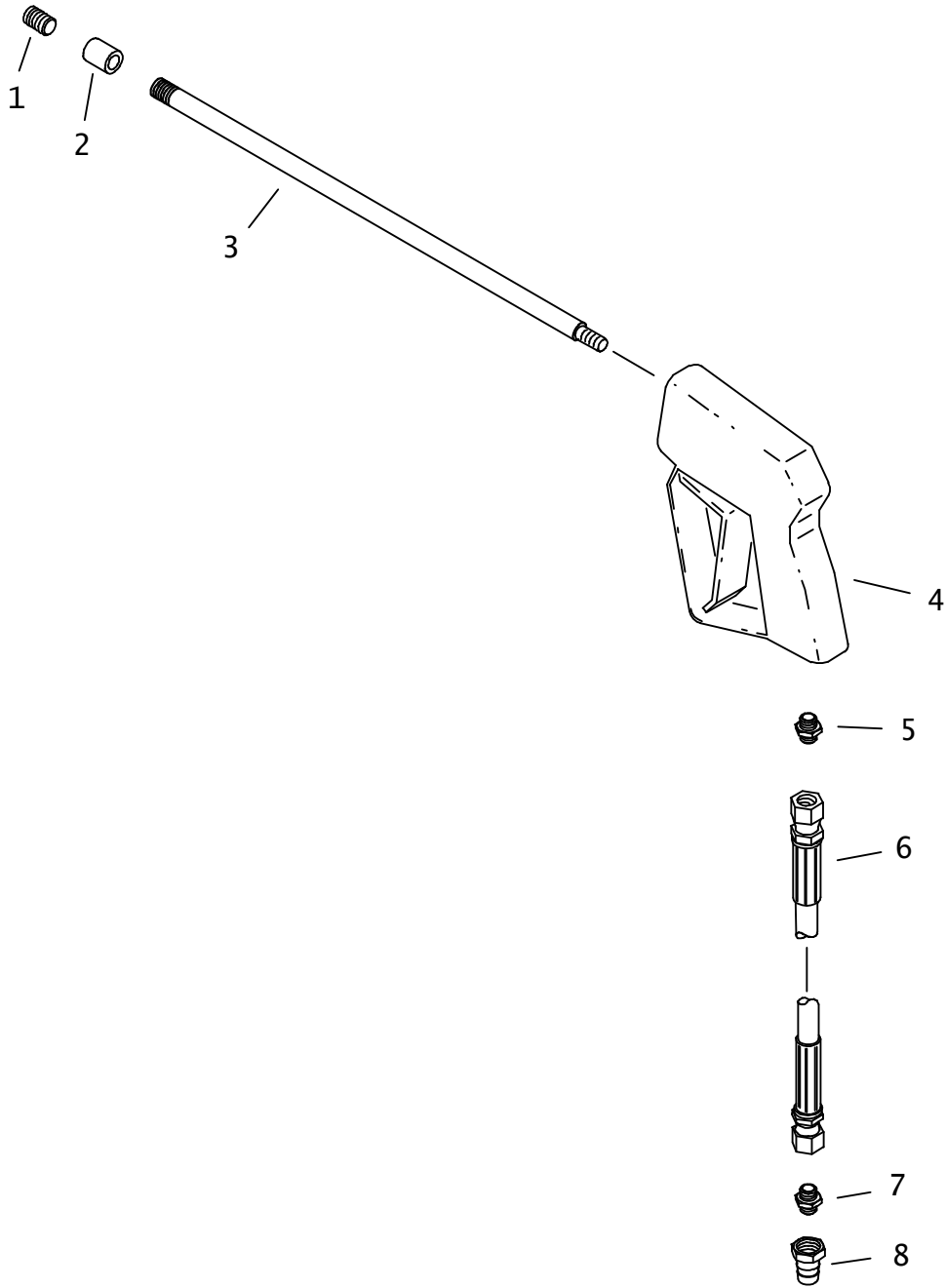
MUD PUMP INLET & WASH WAND CONNECTION

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	159-485	1	FHC ADAPTER (32-32N)	LOCTITE 567
2.	115-297	1	CONNECTOR (32NF-32NF45)	
3.	115-295	1	NIPPLE (32N-3")	LOCTITE 567
4.	153-544	-	MUD PUMP	
5.	159-088	1	QDC BODY (08-08SF)	
	190-186	1	SEAL REPAIR KIT	
6.	115-271	1	REDUCER (24N-12NF)	LOCTITE 567
7.	154-490	1	CONNECTOR (12N-08090)	
8.	156-732	1	CONNECTOR (08J-080)	
9.	155-706	1	O-RING (908 D90)	
10.	149-120	1	DUST PLUG (32 FHC)	

FOOTNOTES

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

WASH WAND



WASH WAND

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	259-374		WATER SPRAY GUN (PARTS ASS'Y)	INCL REF NO.'S 1 THRU 8
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	
	190-179	1	SEAL REPAIR KIT	
5.	514-141	1	CONNECTOR (06N-080)	
6.	154-804	1	HOSE (080FX-290"-3000)	
7.	154-233	1	CONNECTOR (08S-080)	
8.	159-089	1	QDC ADAPTER (08-08SF)	
	190-186	1	SEAL REPAIR KIT	

NOT SHOWN:

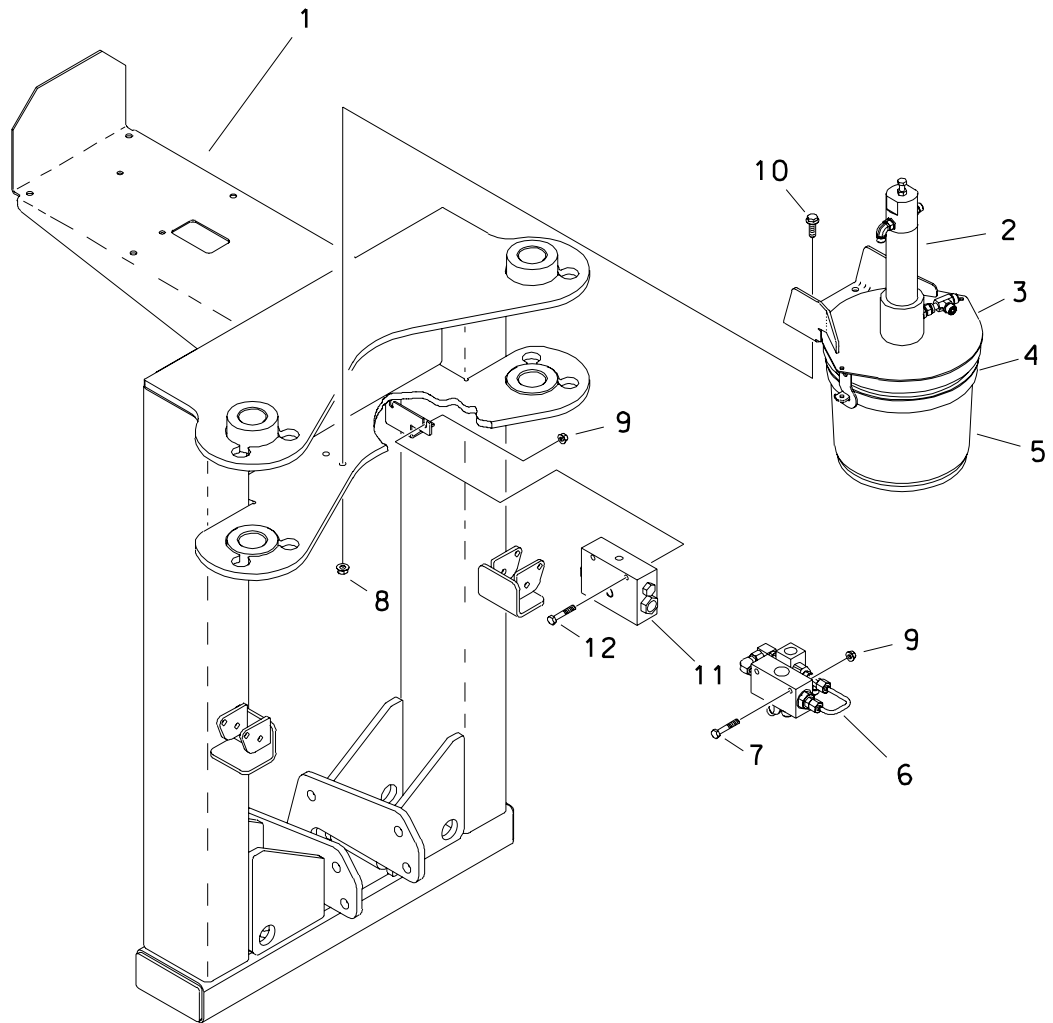
FOOTNOTES:

NOTE:

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

PIPE LOADER SYSTEMS

GREASE PUMP MOUNTING



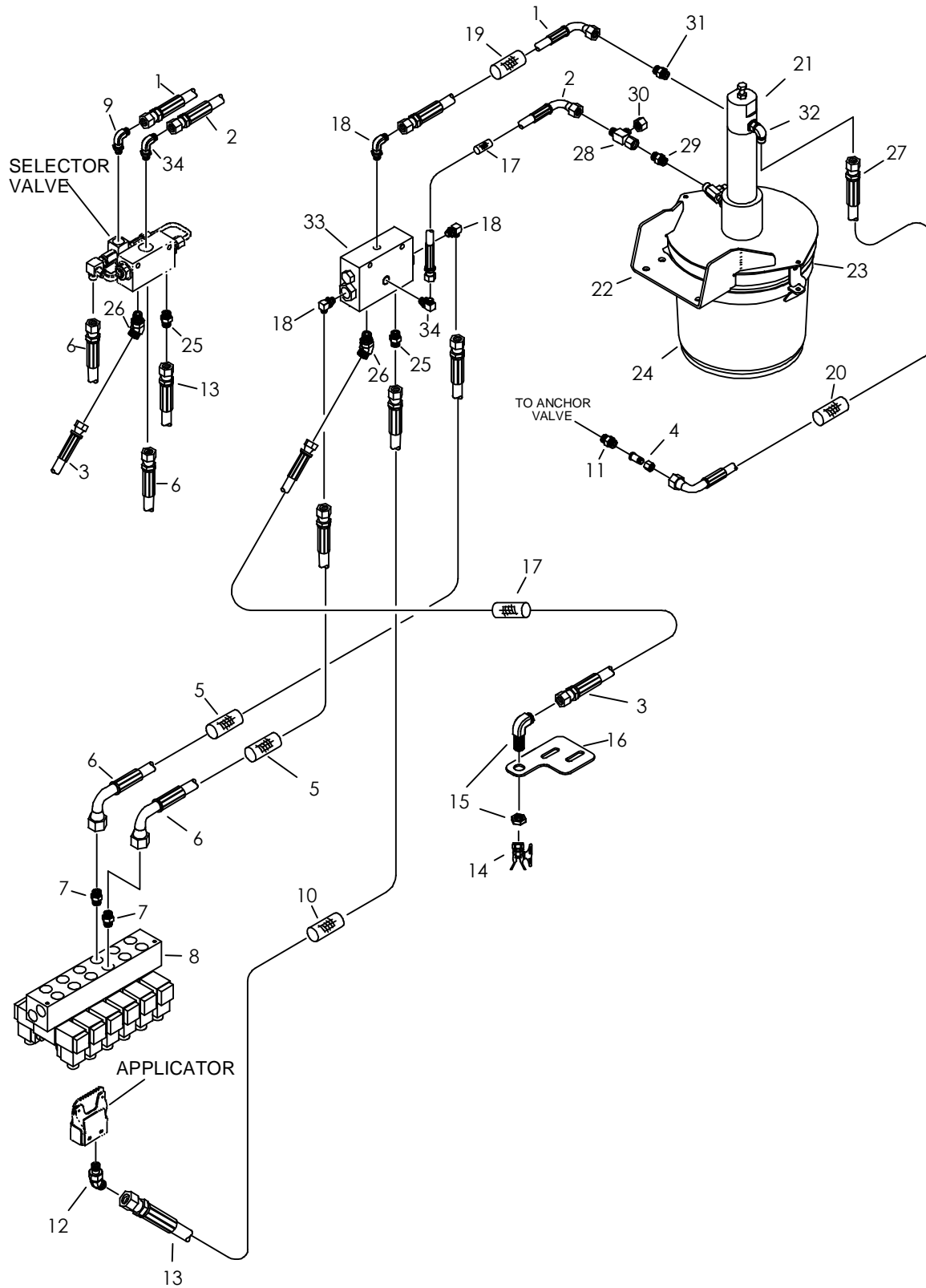
GREASE PUMP MOUNTING

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	306-428	-	PIVOT FRAME	
2.	350-398	-	GREASE PUMP	
3.	350-400	-	COVER	
4.	350-399	-	BASE	
5.	259-858	-	TOOL JNT LUBE, STD SPRY 2 GAL	
	256-031	-	TOOL JNT LUBE, SUMR SPRY 2 GAL	
6.	N/A	-	VALVE SUB-ASS'Y	ENDS WITH S/N 2V0732
7.	106-329	-	SCREW (M8-1.25 X 50MM)	ENDS WITH S/N 2V0732
8.	106-387	4	FLG LOCKNUT (M10-1.50)	
9.	106-386	-	FLG LOCKNUT (M8-1.25)	
10.	106-383	4	FLG LK SCREW (M10-1.50 X 30MM)	
11.	310-591	1	VALVE ASS'Y	BEGINS WITH S/N 2V0733
12.	106-570	2	SCREW (M8-1.25 X 60MM)	BEGINS WITH S/N 2V0733

FOOTNOTES

GREASER HYDRAULICS

ENDS WITH S/N



GREASER HYDRAULICS

ENDS WITH S/N

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-744	1	HOSE (040FX90S-28"-3000)	
2.	153-320	1	HOSE (060FX90L-17"-3000)	
3.	154-731	1	HOSE (060FX-17"-3000)	
4.	154-373	-	REDUCER (040-060F)	
5.	117-421	2	ABRASION SLEEVE (1.00" X 122")	
6.	153-318	2	HOSE (040FX90L-122"-3000)	
7.	154-278	2	CONNECTOR (04S-040)	
8.	153-095	1	HYD VALVE	
9.	154-226	1	CONNECTOR (040-06S90)	
10.	117-420	1	ABRASION SLEEVE (1.00" X 182")	
11.	159-381	-	CHECK VALVE (06S-060)	
12.	514-414	1	CONNECTOR (04S-06045)	
13.	153-319	1	HOSE (060FX-182"-3000)	
14.	149-399	1	SPRAY NOZZLE (65^)	USED ON JT27M1
	369-987	1	SPRAY NOZZLE	USED ON AT27M1
	400-137	1	SPRAY NOZZLE HANDLE KIT	
	153-096	1	CAP GASKET, NYLON	
15.	154-229	1	BK CONNECTOR (060-06090BK)	
16.	305-951	-	BRACKET, SPRAY	
17.	117-194	2	ABRASION SLEEVE (1.00 X 16")	
18.	154-252	3	CONNECTOR (04S-04090)	
19.	117-409	1	ABRASION SLEEVE (1.00" X 28")	
20.	117-280	1	ABRASION SLEEVE (1.00" X 25")	
21.	350-398	-	GREASE PUMP PARTS ASS'Y	
22.	350-400	-	COVER	
23.	350-399	-	BASE	
24.	259-858	-	TOOL JNT LUBE, STD SPRY 2 GAL	
	256-031	-	TOOL JNT LUBE, SUMR SPRY 2 GAL	
25.	514-165	1	CONNECTOR (06S-060, ORF .078")	
26.	154-224	1	CONNECTOR (06S-06045)	
27.	149-827	1	HOSE (040FX90S-24"-3000)	
28.	154-344	1	UN RUN TEE (060FX-060-060)	
29.	154-221	1	CONNECTOR (06S-060)	
30.	154-326	1	CAP (060F)	
31.	154-278	1	CONNECTOR (04S-040)	
32.	154-401	1	CONNECTOR (04S-04090, ORF)	
33.	310-591	1	VALVE ASS'Y	BEGINS WITH S/N
34.	154-342	1	CONNECTOR (06S-06090)	

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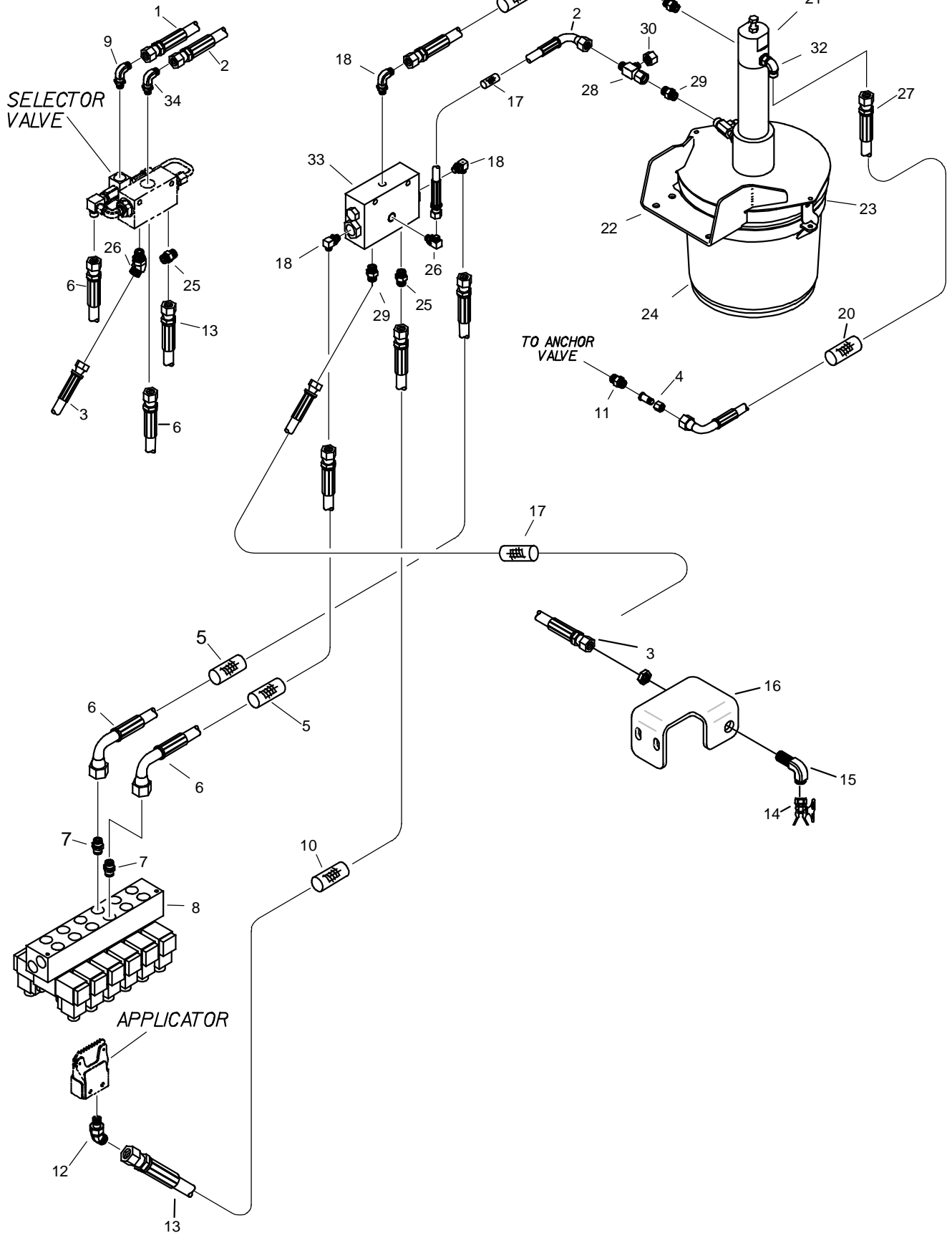
FOOTNOTES:

NOTE

NOTE:

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

GREASER HYDRAULICS BEGINS WITH S/N



GREASER HYDRAULICS BEGINS WITH S/N

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	515-744	1	HOSE (040FX90S-28"-3000)	
2.	153-320	1	HOSE (060FX90L-17"-3000)	
3.	154-731	1	HOSE (060FX-17"-3000)	
4.	154-373	-	REDUCER (040-060F)	
5.	117-421	2	ABRASION SLEEVE (1.00" X 122")	
6.	153-318	2	HOSE (040FX90L-122"-3000)	
7.	154-278	2	CONNECTOR (04S-040)	
8.	153-095	1	HYD VALVE	BEFORE S/N: CMWJ27T2K60000038
	153-741	1	HYD VALVE	AFTER S/N: CMWJ27T2K60000039
9.	154-226	1	CONNECTOR (040-06S90)	
10.	117-420	1	ABRASION SLEEVE (1.00" X 182")	
11.	159-381	-	CHECK VALVE (06S-060)	
12.	514-414	1	CONNECTOR (04S-06045)	
13.	153-319	1	HOSE (060FX-182"-3000)	
14.	149-399	1	SPRAY NOZZLE (65 DEG.)	USED ON JT27M1
	369-987	1	SPRAY NOZZLE	USED ON AT27M1
	400-137	1	SPRAY NOZZLE HANDLE KIT	
	153-096	1	CAP GASKET, NYLON	
15.	154-229	1	BK CONNECTOR (060-06090BK)	
16.	300-1183	-	BRACKET, SPRAY	
17.	117-194	2	ABRASION SLEEVE (1.00 X 16")	
18.	154-252	3	CONNECTOR (04S-04090)	
19.	117-409	1	ABRASION SLEEVE (1.00" X 28")	
20.	117-280	1	ABRASION SLEEVE (1.00" X 25")	
21.	350-398	-	GREASE PUMP PARTS ASS'Y	
22.	350-400	-	COVER	
23.	350-399	-	BASE	
24.	259-858	-	TOOL JNT LUBE, STD SPRY 2 GAL	
	256-031	-	TOOL JNT LUBE, SUMR SPRY 2 GAL	
25.	514-165	1	CONNECTOR (06S-060, ORF .078")	
26.	154-342	1	CONNECTOR (06S-06090)	
27.	149-827	1	HOSE (040FX90S-24"-3000)	
28.	154-344	1	UN RUN TEE (060FX-060-060)	
29.	154-221	2	CONNECTOR (06S-060)	
30.	154-326	1	CAP (060F)	
31.	154-278	1	CONNECTOR (04S-040)	
32.	154-401	1	CONNECTOR (04S-04090, ORF)	
33.	310-591	1	VALVE ASS'Y	BEGINS WITH S/N

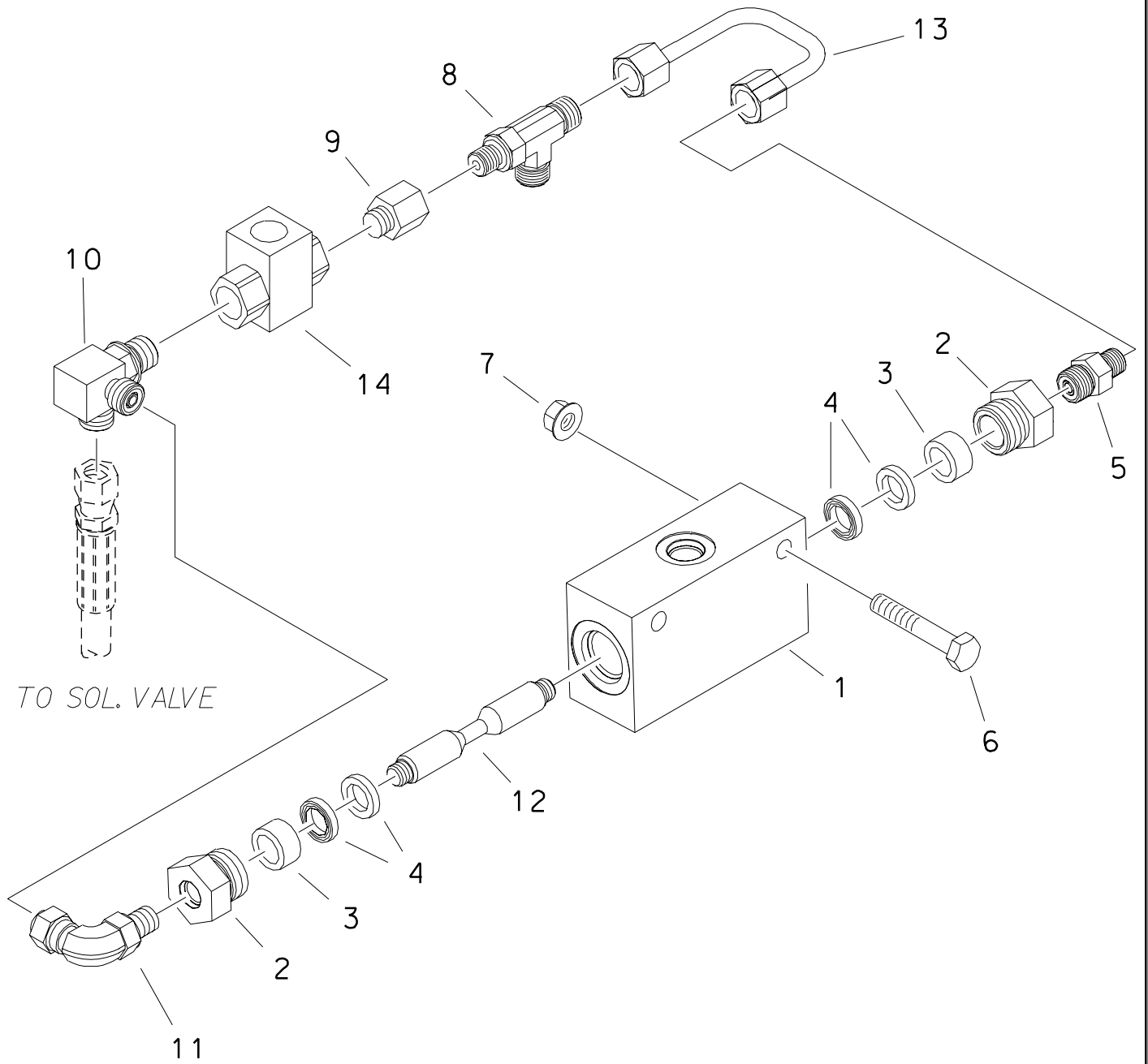
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FOOTNOTES:

NOTE:

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

SELECTOR VALVE



SELECTOR VALVE

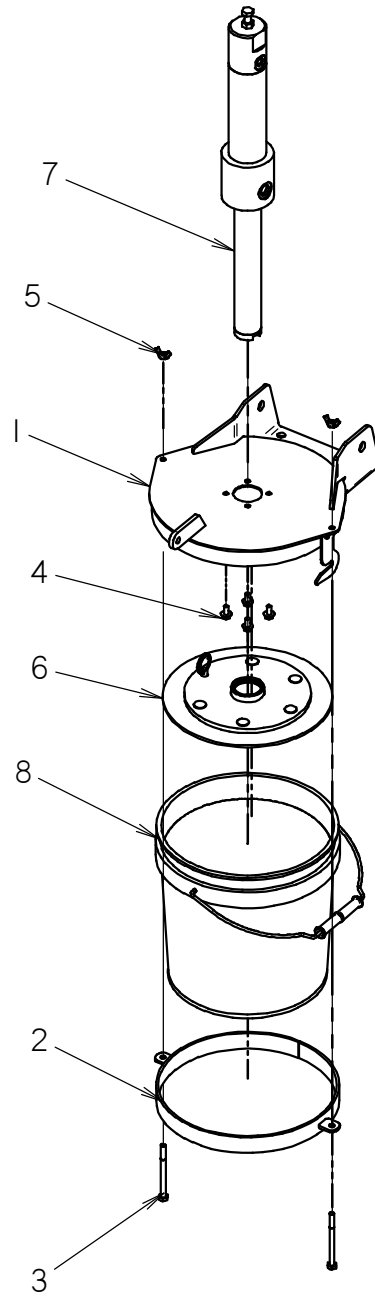
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	101-085		GREASER VALVE KIT	INCL. REF. 1-4 & 12
1.	343-291	1	VALVE BODY	
2.	149-152	2	REDUCER (10S-04SF)	
3.	343-292	2	SPACER	
4.	116-880	4	SEAL (POLY PAK)	
5.	154-278	1	CONNECTOR (04S-040)	
6.	106-329	2	SCREW (M8-1.25 X 50MM)	
7.	106-386	2	FLG LOCKNUT (M8-1.25)	
8.	154-316	1	RUN TEE (04S-040-040)	
9.	155-254	1	REDUCER (06S-04SF)	
10.	154-230	1	BRANCH TEE (06S-040-040)	
11.	514-257	1	UNION (04S-040F X90)	
12.	350-690	1	VALVE SPOOL	
13.	149-519	1	HYD LINE	
14.	158-600	1	HYD SHUTTLE VALVE	

FOOTNOTES

NOTE:

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

AUTO-LUBER ASSEMBLY



AUTO-LUBER ASSEMBLY

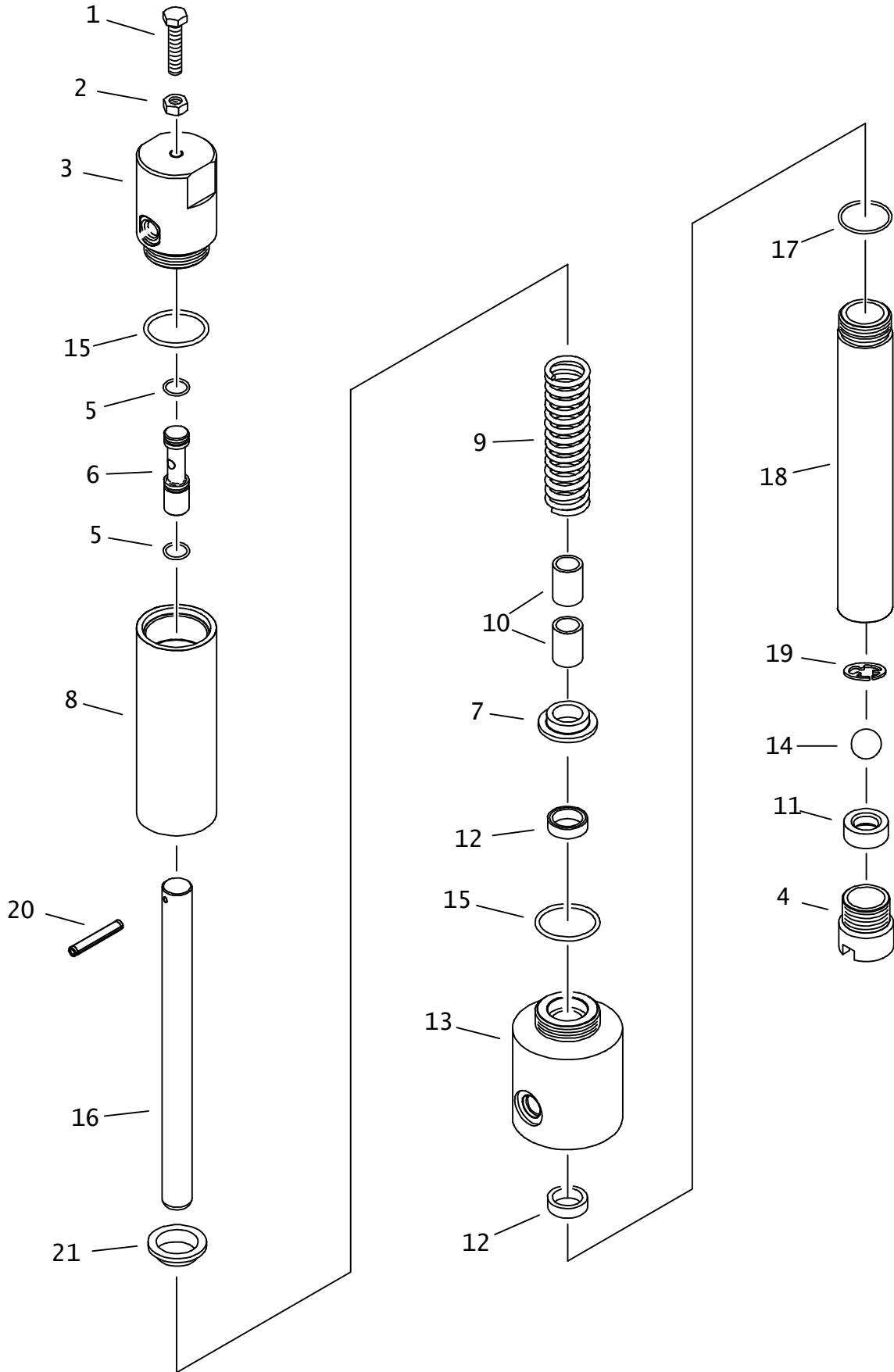
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	350-400	1	COVER WELDMENT	
2	350-399	1	BASE	
3	105-297	2	BOLT (1/4-NC X 3-1/4")	
4	106-378	4	FLG LK SCREW (M6-1.00 X 12MM)	
5	195-339	2	WING NUT (1/4-NC)	
6	350-1932	1	TOOL JOINT LUBE FOLLOWER	
7	350-398	1	GREASE PUMP PARTS	
8	259-858	1	TOOL JNT LUBE, STD SPRY 2 GAL	
	256-031	-	TOOL JNT LUBE, SUMR SPRY 2 GAL	

NOT SHOWN:

FOOTNOTES:

NOTE:

GREASE PUMP



GREASE PUMP

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	350-398		GREASE PUMP PARTS	INCL REF NO'S 1-20
1.	107-492	1	SCREW (M8-1.25 X 35MM,ALL THD)	
2.	106-078	1	NUT (M8-1.25)	
3.	350-686	1	CYLINDER CAP	
4.	350-692	1	INLET TUBE	
5.	157-049	2	O-RING (113 D70)	
6.	350-421	1	ADJUSTING SPOOL	
7.	350-671	1	ROD GUIDE	
8.	350-682	1	BARREL	
9.	117-228	1	COMPRESSION SPRING	
10.	125-424	2	BRONZE BUSHING (.750")	
11.	350-691	1	VALVE SEAT	SEE FOOTNOTE 1
12.	117-227	2	SEAL (POLY PAK)	
13.	350-687	1	PUMP BODY	
14.	125-125	1	DETENT BALL (.750")	
15.	155-702	2	O-RING (920 D90)	
16.	308-603	-	PLUNGER	SEE FOOTNOTE 2
	166-280	1	PLUNGER	
17.	155-748	1	O-RING (916 D90)	
18.	350-693	1	PUMP BARREL	
19.	301-0196	1	RETAINER CLIP	SEE FOOTNOTE 3
20.	105-525	1	ROLL PIN (3/16" X 1/4")	SEE FOOTNOTE 2
21.	178-467	1	ROD CAP	SEE FOOTNOTE 2

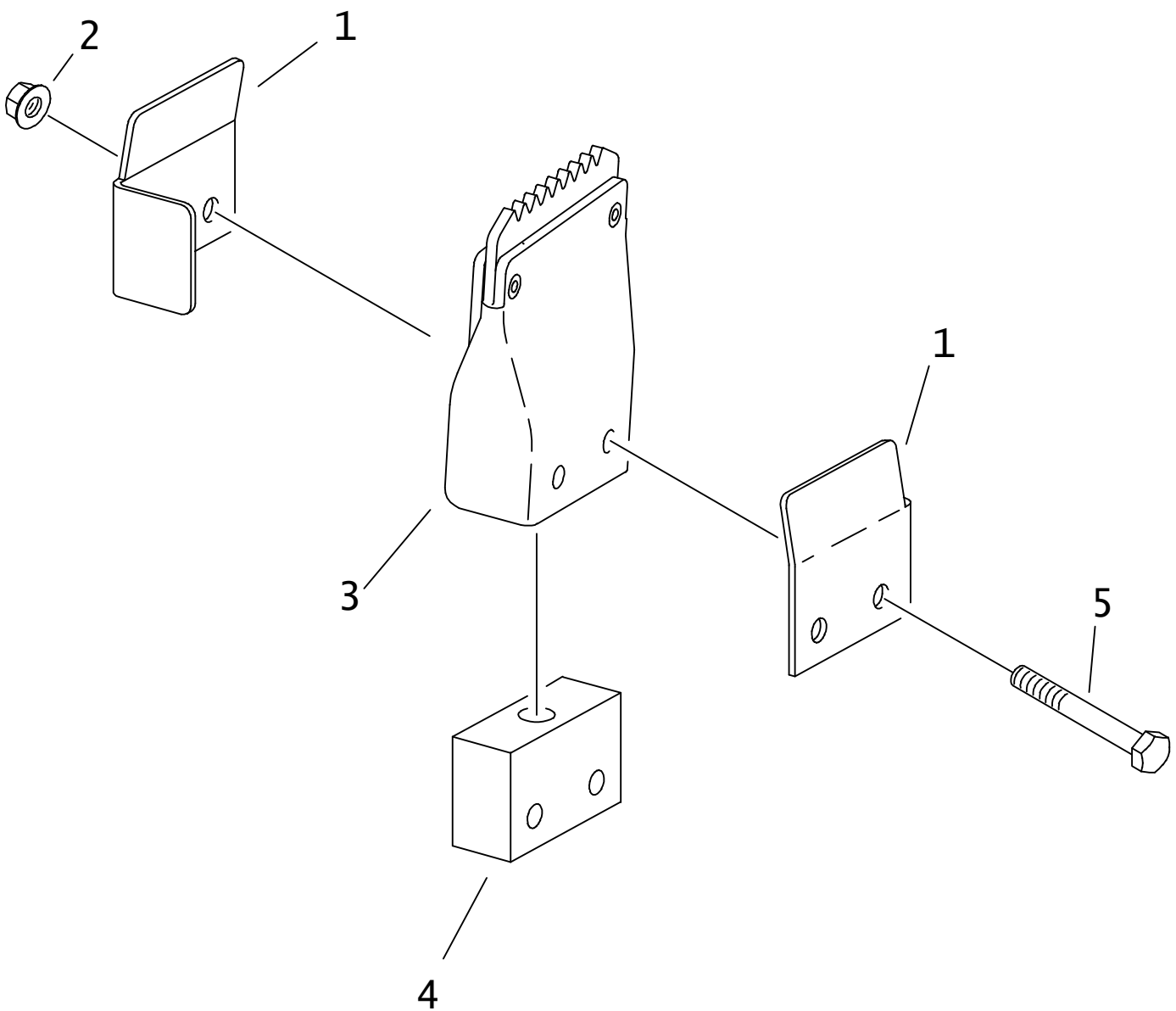
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FOOTNOTES:

1. INSTALL WITH SMALLER BEVEL TOWARD INSIDE OF PUMP
2. USE 166-280, 178-467 & 105-525 TO SUPERSEDE 308-603
3. RETAINER CLIP 301-0196 SUPERSEDES CLIP 105-653.

NOTE:

APPLICATOR



APPLICATOR

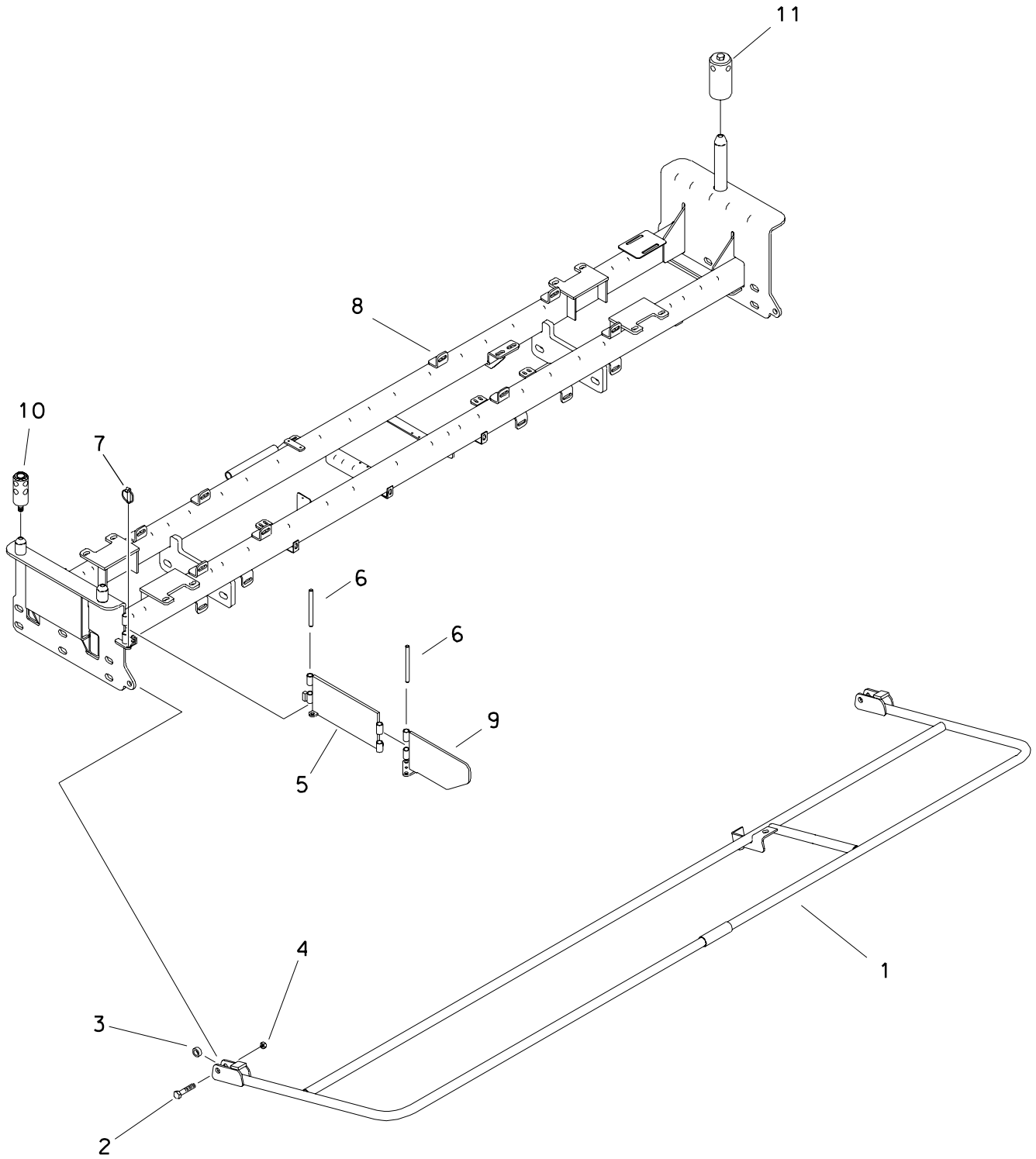
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	305-911	2	BRACKET, APPLICATOR	
2.	106-385	2	FLG LOCKNUT (M6-1.00)	
3.	306-423	1	WIPER PARTS ASS'Y	
	116-937	1	APPLICATOR	
	107-394	4	WASHER (.375", ALUMINUM)	
	107-395	2	RIVET (.156 X .500) SEMI-TUBUL	
4.	305-912	1	BASE, APPLICATOR	
5.	106-093	2	SCREW (M6-1.00 X 45MM)	

NOT SHOWN:

FOOTNOTES:

NOTE:

SHUTTLE GUARD MOUNT

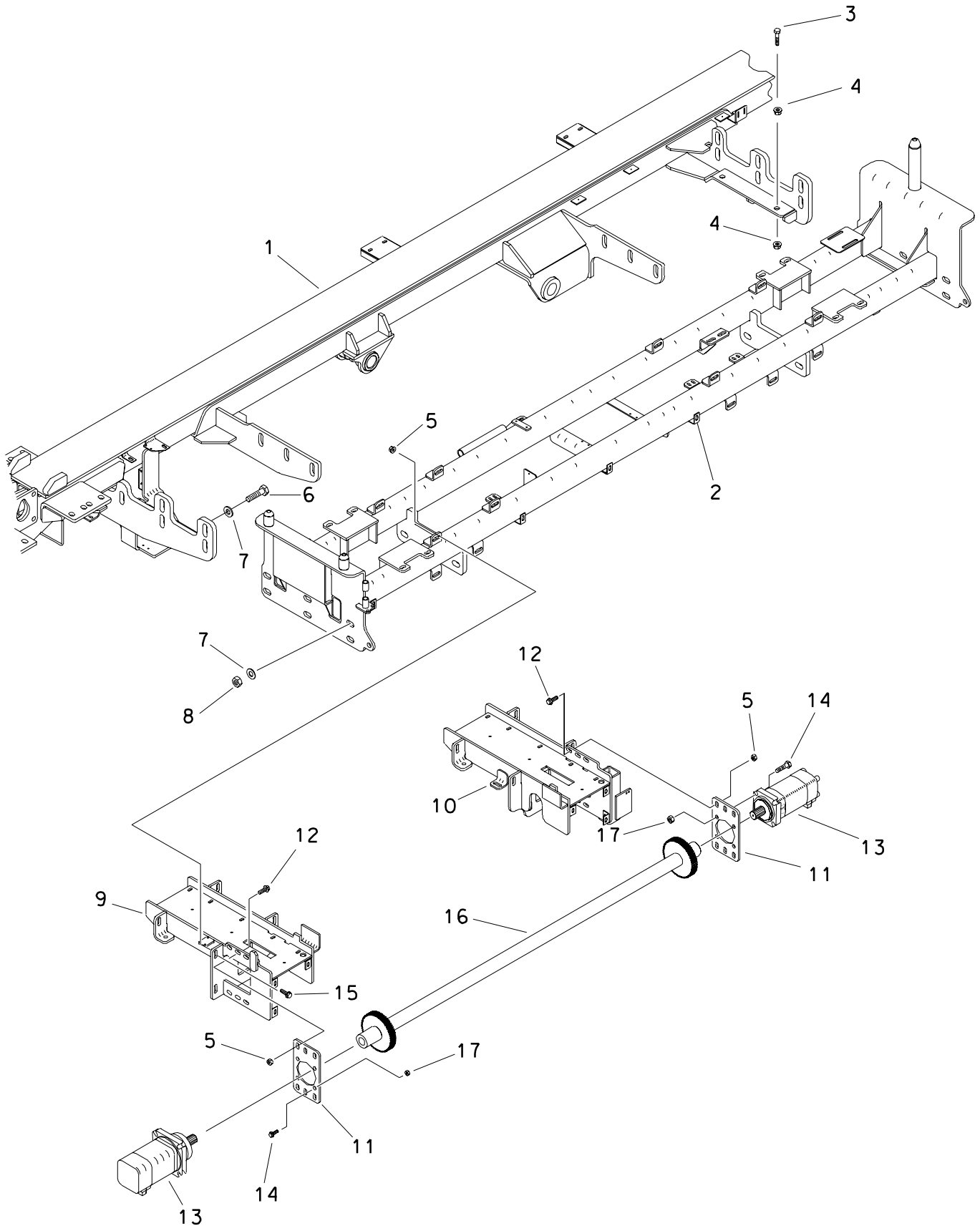


SHUTTLE GUARD MOUNT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	305-409	1	SHUTTLE GUARD	
2.	105-466	2	BOLT (3/4-NC X 2-1/2")	
3.	354-935	2	SPACER	
4.	105-953	2	LOCKNUT (3/4-NC)	
5.	305-405	1	AUXILARY GUIDE	
6.	178-269	2	PIN	
7.	110-228	2	LYNCH PIN (7/16" X 2")	
8.	303-783	-	PIPE LOADER	
9.	310-144	1	GUIDE EXTENSION	
10.	309-613	1	CAP LOCK	
11.	310-260	1	CAP LOCK	

FOOTNOTES

PIPE LOADER MOUNT

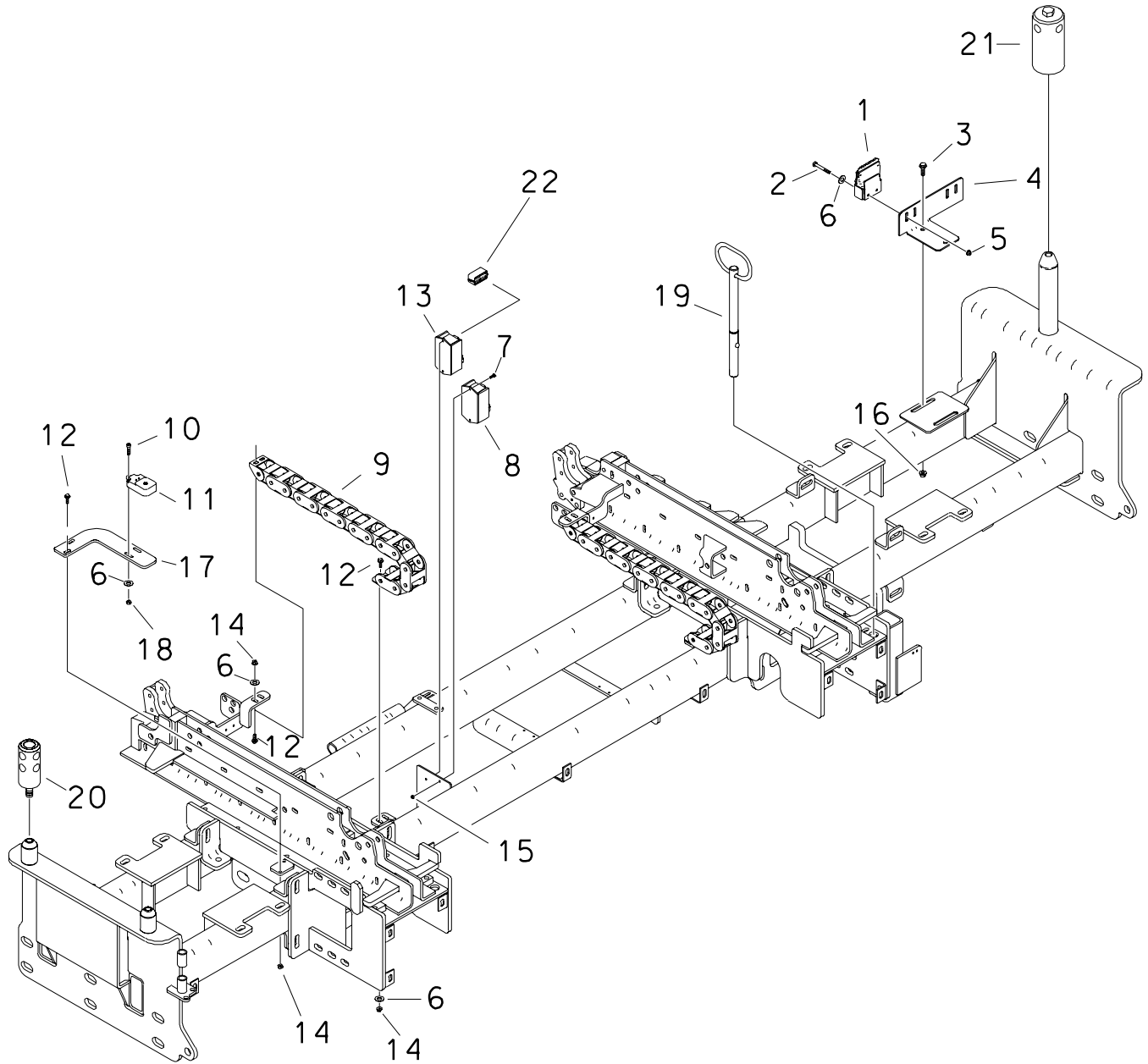


PIPE LOADER MOUNT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-648	-	DRILL FRAME WLDMN'T	
2.	303-783	1	PIPE LOADER WELDMENT	
3.	107-226	4	SCREW (M20-2.50 X 120MM, 10.9)	
4.	106-356	8	FLG NUT (M20-2.50, 10.9)	
5.	106-709	24	FLG LOCKNUT (M12-1.75)	
6.	106-474	17	SCREW (M20-2.50 X 60MM)	
7.	105-384	34	WASHER (3/4")	
8.	106-665	17	LOCKNUT (M20-2.50, 10.9)	
9.	350-633	1	SHUTTLE MOUNT, FRONT	
10.	350-632	1	SHUTTLE MOUNT, REAR	
11.	303-815	2	PLATE, MOTOR MOUNT	
12.	107-010	8	FLG LK SCREW (M12-1.75 X 30MM)	
13.	149-975	-	HYD MOTOR	
14.	107-611	8	BOLT (1/2-NC X 1-3/4", SOC)	
15.	107-003	12	FLG LK SCREW (M12-1.75 X 35MM)	
16.	318-579	1	PINION SHAFT	
17.	105-065	8	LOCKNUT (1/2-NC)	

FOOTNOTES

PIPE LOADER

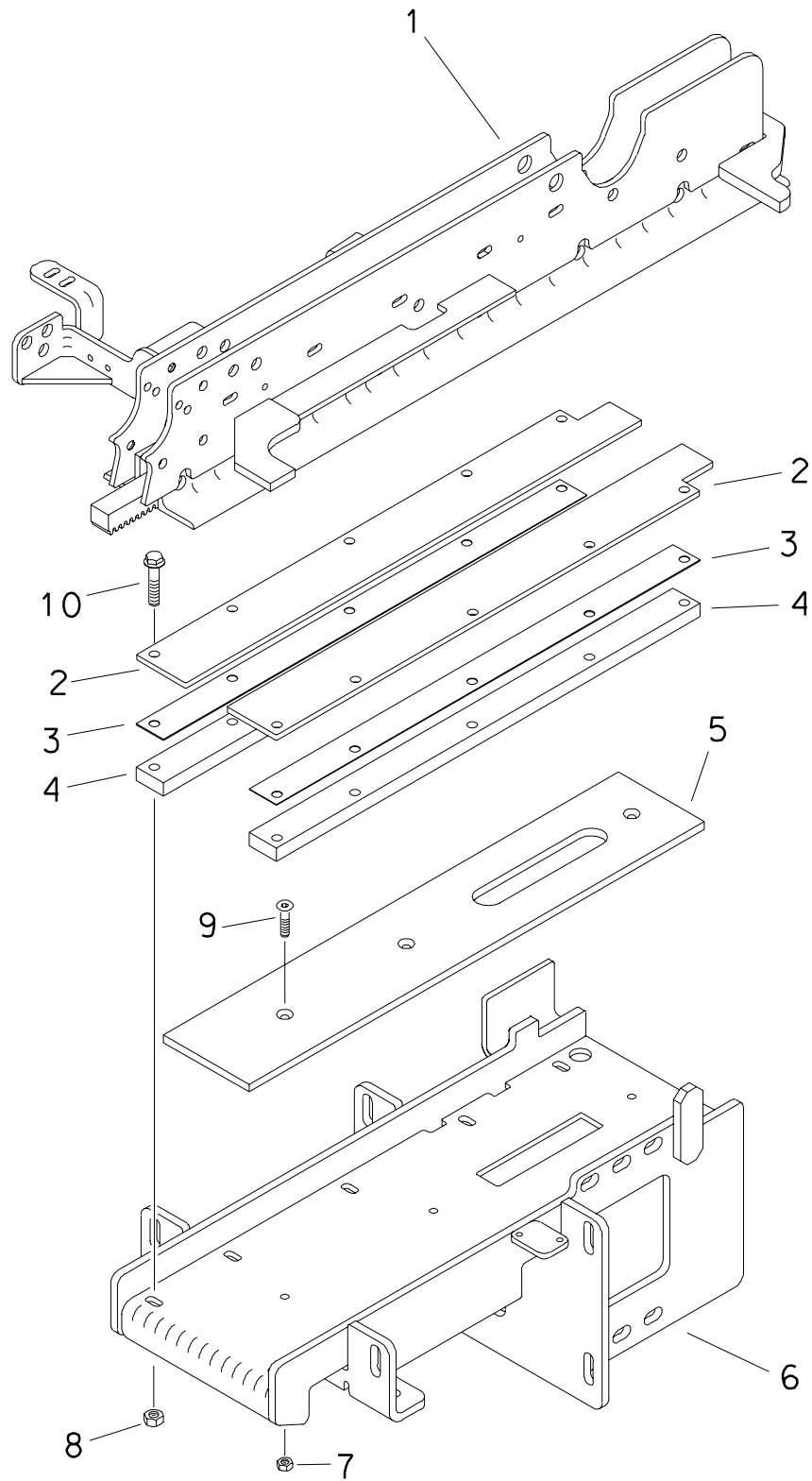


PIPE LOADER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	600-141	-	APPLICATOR SUB ASS'Y	
2.	106-385	2	FLG LOCKNUT (M6-1.00)	
3.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
4.	305-954	1	BRACKET, WIPER	
5.	106-093	2	SCREW (M6-1.00 X 45MM)	
6.	106-076	14	WASHER (1/4")	
7.	105-185	4	BOLT (#10-24 X 1 1/2", RD SLT)	
8.	211-025	1	IN-LINE DIODE PACK	
9.	306-746	2	HOSE TRACK	
10.	107-465	2	SCREW (M5-0.80 X 30MM, SOC)	
11.	214-692	1	PROXIMITY SWITCH	
12.	106-640	10	SCREW (M6-1.00 X 20MM, BUT SOC)	
13.	211-026	1	DIODE PACK (DEUTSCH)	
14.	106-237	10	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
15.	106-048	4	LOCKNUT (#10-24)	
16.	106-387	2	FLG LOCKNUT (M10-1.50)	
17.	305-734	1	PROXIMITY SWITCH MOUNT	
18.	106-850	2	LOCKNUT (M5-0.80)	
19.	107-449	1	PULL PIN (3/4" X 7-1/2")	
20.	309-613	2	CAP LOCK	
21.	310-260	1	CAP LOCK	
22.	214-781	1	12 WAY PLUG	

FOOTNOTES

SHUTTLE MOUNT, FRONT

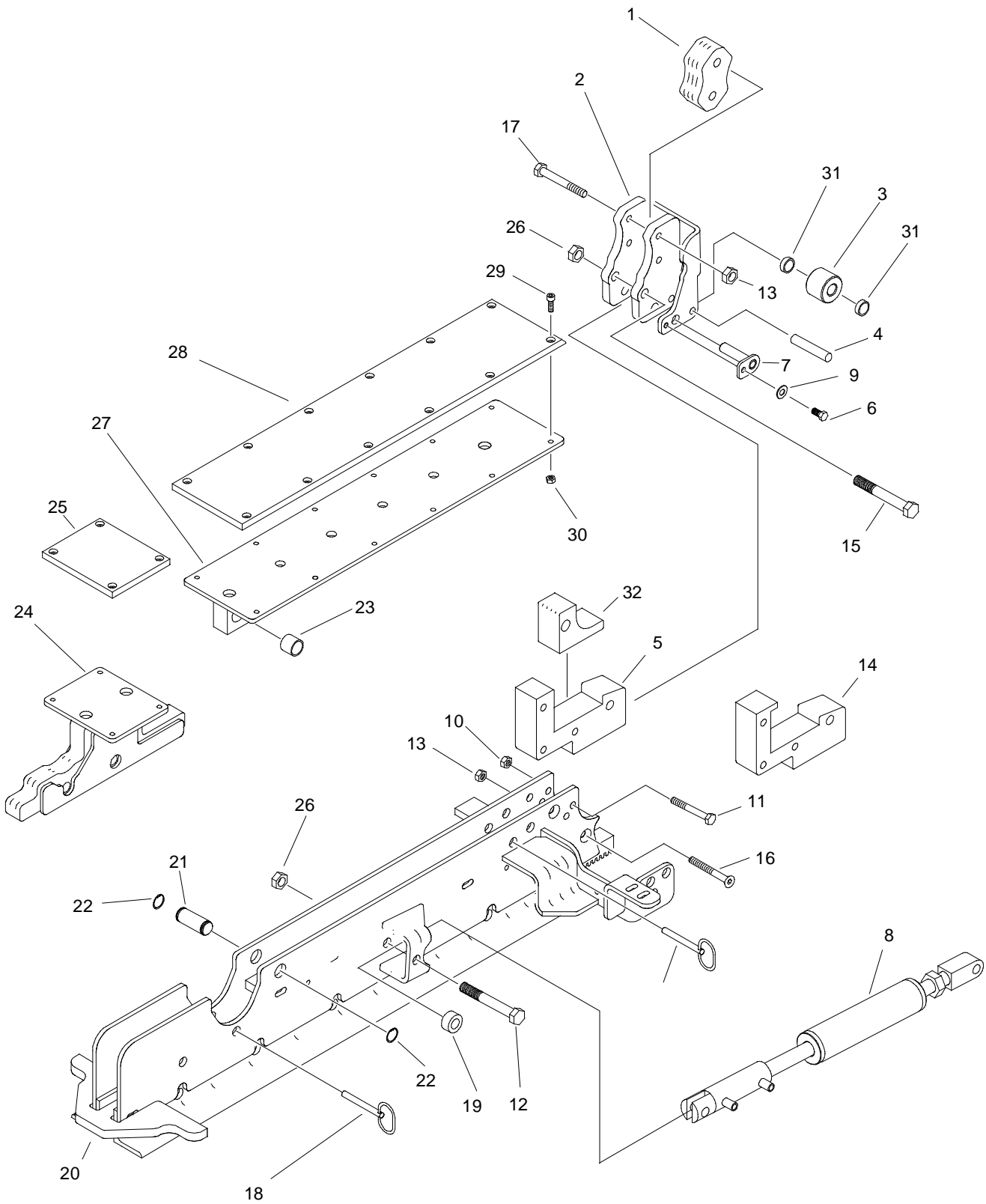


SHUTTLE MOUNT, FRONT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	313-416	-	FRONT SHUTTLE	
2.	305-528	2	BAR, RETAINER	
3.	305-530	4	SPACER BAR	
4.	305-529	2	SPACER BAR	
5.	350-653	1	BEARING PLATE	
6.	350-633	-	SHUTTLE MOUNT, FRONT	
7.	106-386	3	FLG LOCKNUT (M8-1.25)	
8.	105-894	10	LOCKNUT (M10-1.50,PRV TRQ,10.9)	
9.	106-916	3	BOLT (M8-1.25 X 25MM, SOC)	
10.	105-996	10	BOLT (M10-1.50 X 45MM)	

FOOTNOTES

PIPE SHUTTLE FRONT



PIPE SHUTTLE FRONT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	307-769	1	GRIPPER PLATE	
2.	313-433	1	FRONT GRIPPER	
3.	370-154	1	ROLLER	
4.	105-507	1	ROLL PIN (3/8" X 2")	
5.	313-444	1	STANDARD NOSE PIECE	
6.	106-378	1	FLG LK SCREW (M6-1.00 X 12MM)	
7.	354-376	1	PIN	
8.	191-161	1	GRIPPER CYLINDER	
9.	106-076	1	WASHER (1/4")	
10.	105-089	1	LOCKNUT (5/16-NC)	
11.	105-178	1	BOLT (5/16-NC X 2-1/2", GD8)	SEE FOOTNOTE 1
12.	105-110	1	BOLT (1/2-NC X 4-1/2")	
13.	105-047	5	LOCKNUT (3/8-NC)	
14.	313-443	1	COBBLE NOSE PIECE	
15.	105-300	1	BOLT (1/2-NC X 3-1/4")	
16.	107-691	3	SCRW (3/8-NC X 2-1/2", CSK SOC)	
17.	105-098	2	BOLT (3/8-NC X 3")	
18.	183-411	2	COTTERLESS HITCH PIN (.5" X 2")	
19.	354-354	1	SPACER	
20.	313-416	1	FRONT SHUTTLE	
21.	179-141	1	PIVOT PIN	
22.	115-503	2	KLIP RING (.750")	
23.	125-424	1	BRONZE BUSHING (.750")	
24.	313-445	1	AUXILIARY PIPE LOADER	
25.	313-466	1	AUXILIARY SLIDE PLATE	
26.	106-301	2	LOCK NUT (1/2-NC, NLK)	
27.	313-446	1	ADJUSTABLE SUPPORT BAR	
28.	313-467	1	AUXILIARY SLIDE PLATE	
29.	106-640	16	BOLT (M6-1.00 X 20MM, BUT SOC)	
30.	106-237	16	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
31.	125-137	2	BALL BEARING (.375")	
32.	313-487	1	WEAR PAD	

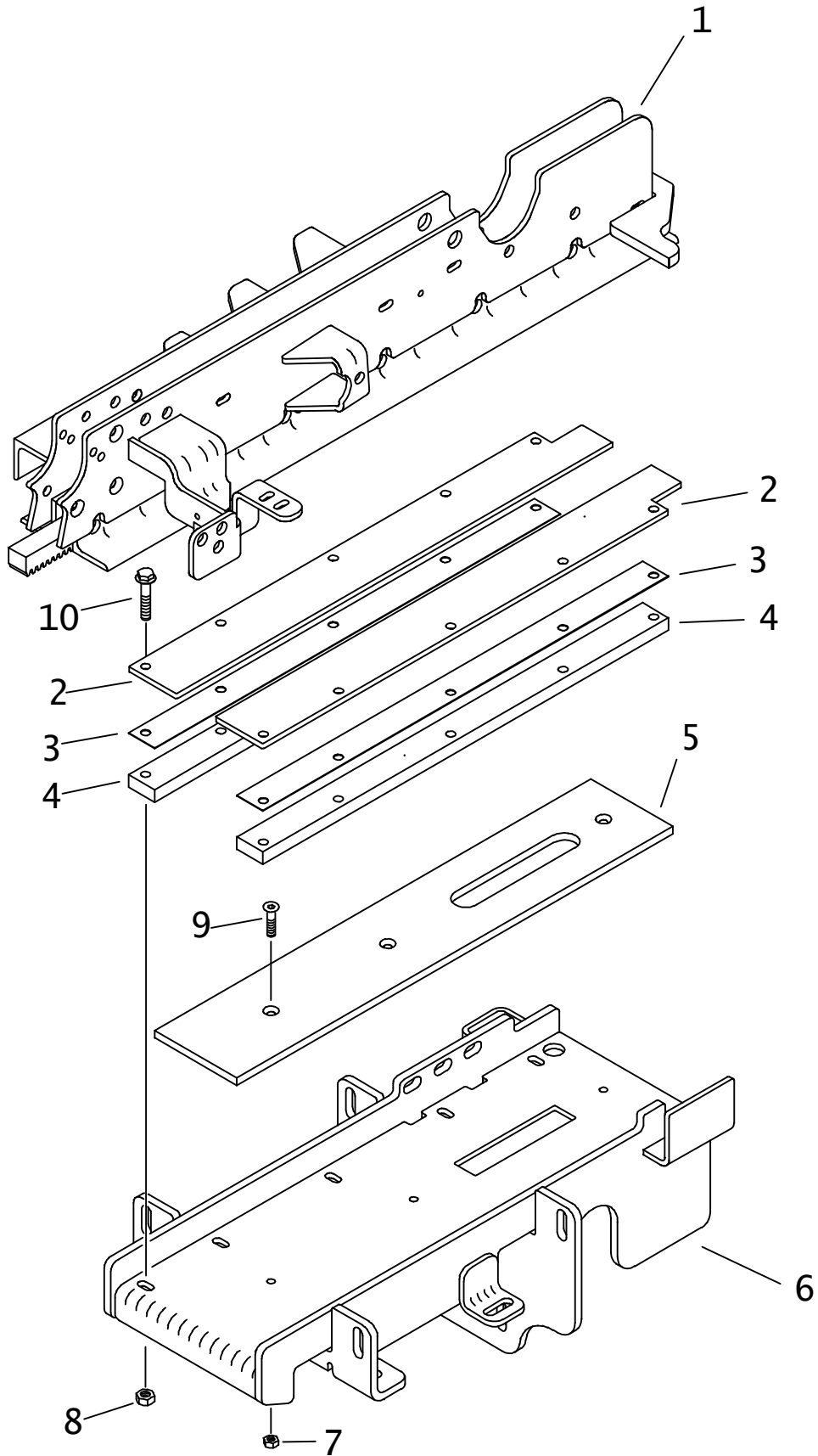
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FOOTNOTES:

I. BOLT WILL BE INSTALLED IN THE UPPER HOLE AS SHOWN WITH REF NO. 5 AND WILL BE INSTALLED IN THE LOWER HOLE WITH REF NO. 14.

NOTE:

SHUTTLE MOUNT, REAR



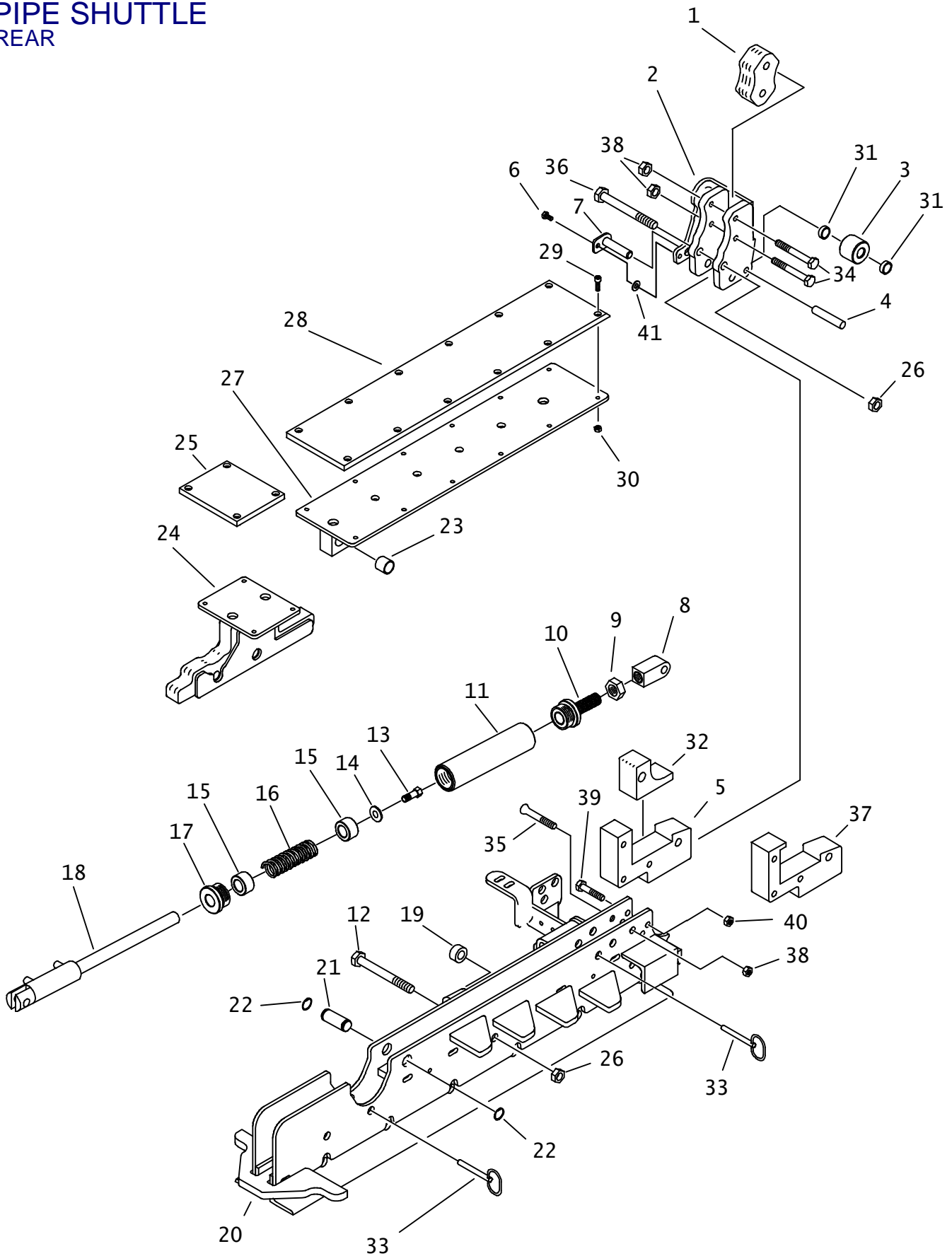
SHUTTLE MOUNT, REAR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	313-289	-	REAR SHUTTLE	
2.	305-528	2	BAR, RETAINER	
3.	305-530	8	SPACER BAR	
4.	305-529	2	SPACER BAR	
5.	350-653	1	BEARING PLATE	
6.	350-632	-	SHUTTLE MOUNT (REAR)	
7.	106-386	3	FLG LOCKNUT (M8-1.25)	
8.	105-894	10	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
9.	106-916	3	SCREW (M8-1.25 X 25MM, SOC)	
10.	105-996	10	SCREW (M10-1.50 X 45MM)	

FOOTNOTES

NOTE:

PIPE SHUTTLE
REAR



PIPE SHUTTLE REAR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	307-769	1	GRIPPER PLATE	
2.	313-434	1	REAR GRIPPER	
3.	370-154	1	ROLLER	
4.	105-507	1	ROLL PIN (3/8" X 2")	
5.	313-444	1	STANDARD NOSE PIECE	
6.	106-378	1	FLG LK SCREW (M6-1.00 X 12MM)	
7.	354-376	1	PIN	
8.	354-357	1	ROD END	
9.	105-310	1	JAM NUT (3/4-NC)	
10.	354-323	1	PLUNGER	
11.	354-355	1	TUBE	
12.	105-110	1	BOLT (1/2-NC X 4-1/2")	
13.	105-031	1	BOLT (3/8-NC X 1")	USE LOCTITE 242
14.	105-118	1	WASHER (3/8")	
15.	354-356	2	SPRING GUIDE	
16.	117-180	1	COMPRESSION SPRING	
17.	354-432	1	CAP	
18.	149-062	1	CYL (1.0" X .75" X 2.0")	
19.	354-354	1	SPACER	
20.	313-289	1	REAR SHUTTLE	
21.	179-141	1	PIVOT PIN	
22.	115-503	2	KLIP RING (.750")	
23.	125-424	1	BRONZE BUSHING (.750")	
24.	313-445	1	AUXILIARY PIPE LOADER	
25.	313-466	1	AUXILIARY SLIDE PLATE	
26.	106-301	2	LOCK NUT (1/2-NC, NLK)	
27.	313-446	1	ADJUSTABLE SUPPORT BAR	
28.	313-467	1	AUXILIARY SLIDE PLATE	
29.	106-640	16	BOLT (M6-1.00 X 20MM, BUT SOC)	
30.	106-237	16	LOCKNUT (M6-1.00, PRV TRQ, NLK)	
31.	125-137	2	BALL BEARING (.375")	
32.	313-487	1	WEAR PAD	
33.	183-411	2	COTTERLESS HITCH PIN (.5" X 2")	
34.	105-098	2	BOLT (3/8-NC X 3")	
35.	107-691	3	SCRW (3/8-NC X 2-1/2", CSK SOC)	
36.	105-300	1	BOLT (1/2-NC X 3-1/4")	
37.	313-443	1	COBBLE NOSE PIECE	
38.	105-047	5	LOCKNUT (3/8-NC)	
39.	105-178	1	BOLT (5/16-NC X 2-1/2", GD8)	SEE FOOTNOTE 1
40.	105-089	1	LOCKNUT (5/16-NC)	
41.	106-076	1	WASHER (1/4")	

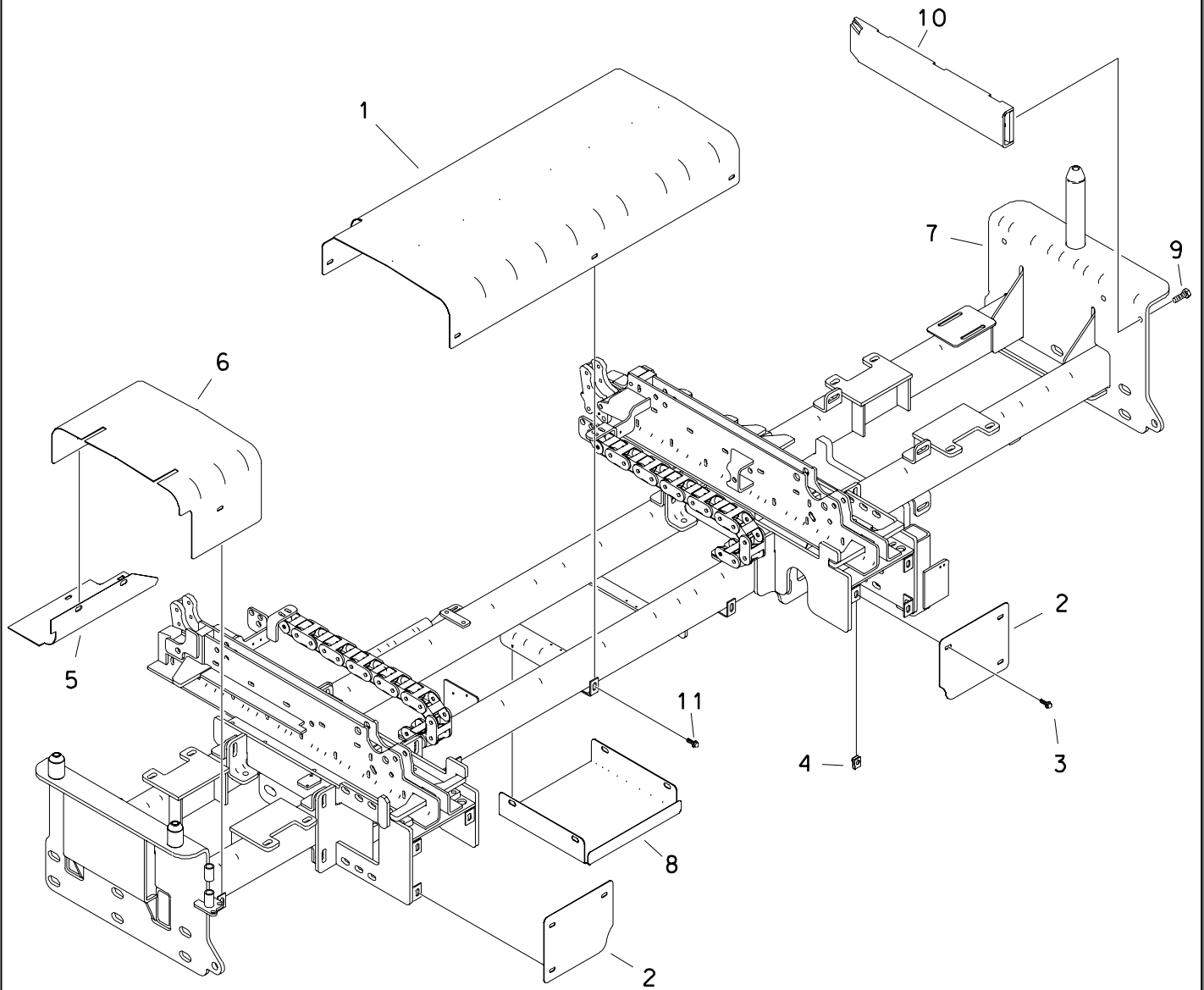
NOT SHOWN:

FOOTNOTES:

1. BOLT WILL BE INSTALLED IN THE UPPER HOLE AS SHOWN WITH REF NO. 5 AND WILL BE INSTALLED IN THE LOWER HOLE WITH REF NO. 37

NOTE:

PIPE LOADER COVERS

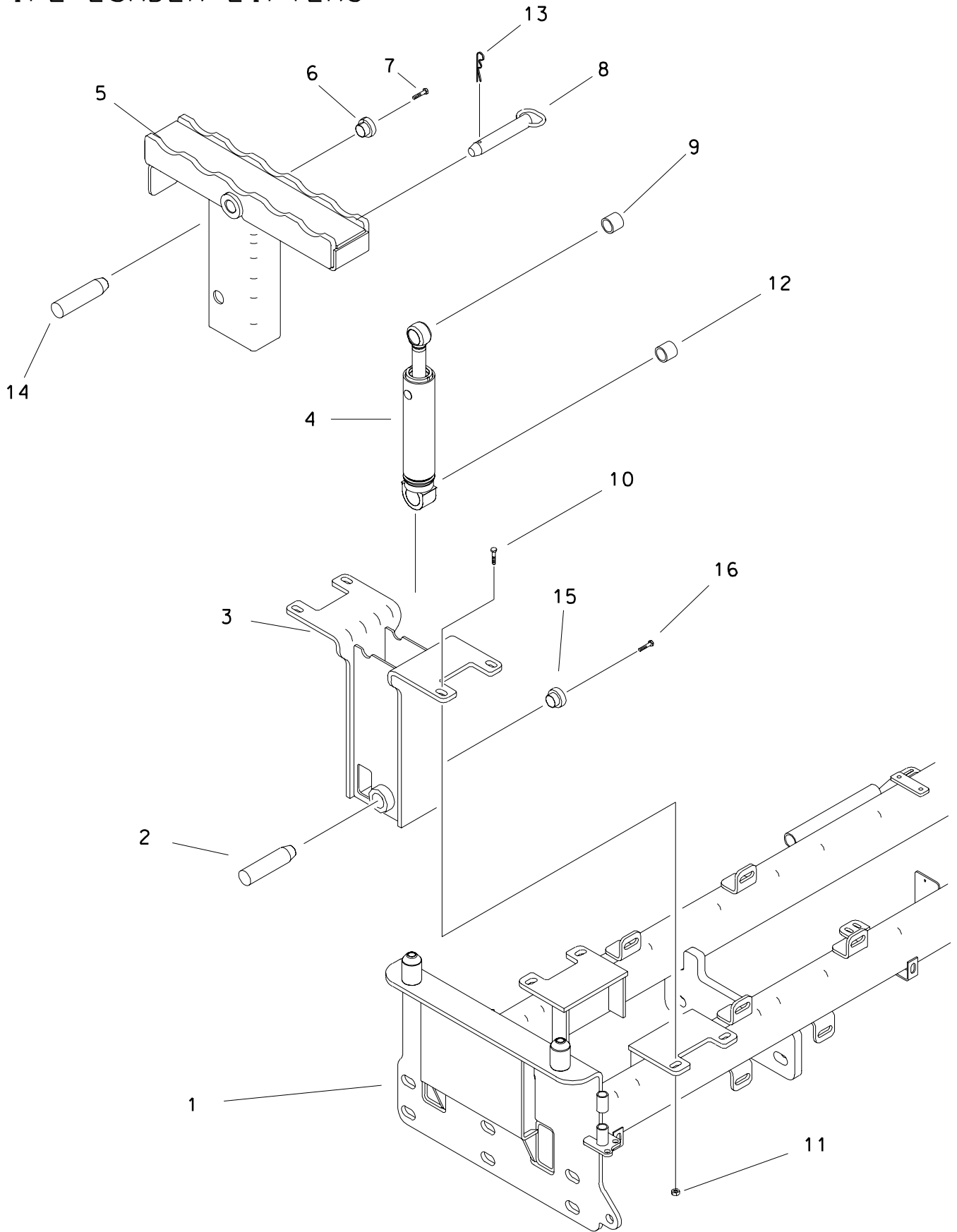


PIPE LOADER COVERS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	305-680	1	MIDDLE COVER, AT	
2.	307-380	2	PINION COVER	
3.	106-380	6	FLG LK SCREW (M8-1.25 X 20MM)	
4.	106-551	20	CLIP NUT (M8-1.25)	
5.	307-322	1	COVER	
6.	307-321	1	FRONT COVER	
7.	303-783	1	PIPE LOADER WELDMENT	
8.	310-905	1	VALVE COVER	
9.	106-469	3	FLG SCREW (M12-1.75 X 30MM)	USED ON JT2720 MACH 1 ALL TERRAIN ONLY
10.	310-690	1	GUIDE CHANNEL	USED ON JT2720 MACH 1 ALL TERRAIN ONLY
11.	106-162	15	FLG SCREW (M8-1.25 X 20MM)	

FOOTNOTES

PIPE LOADER LIFTERS

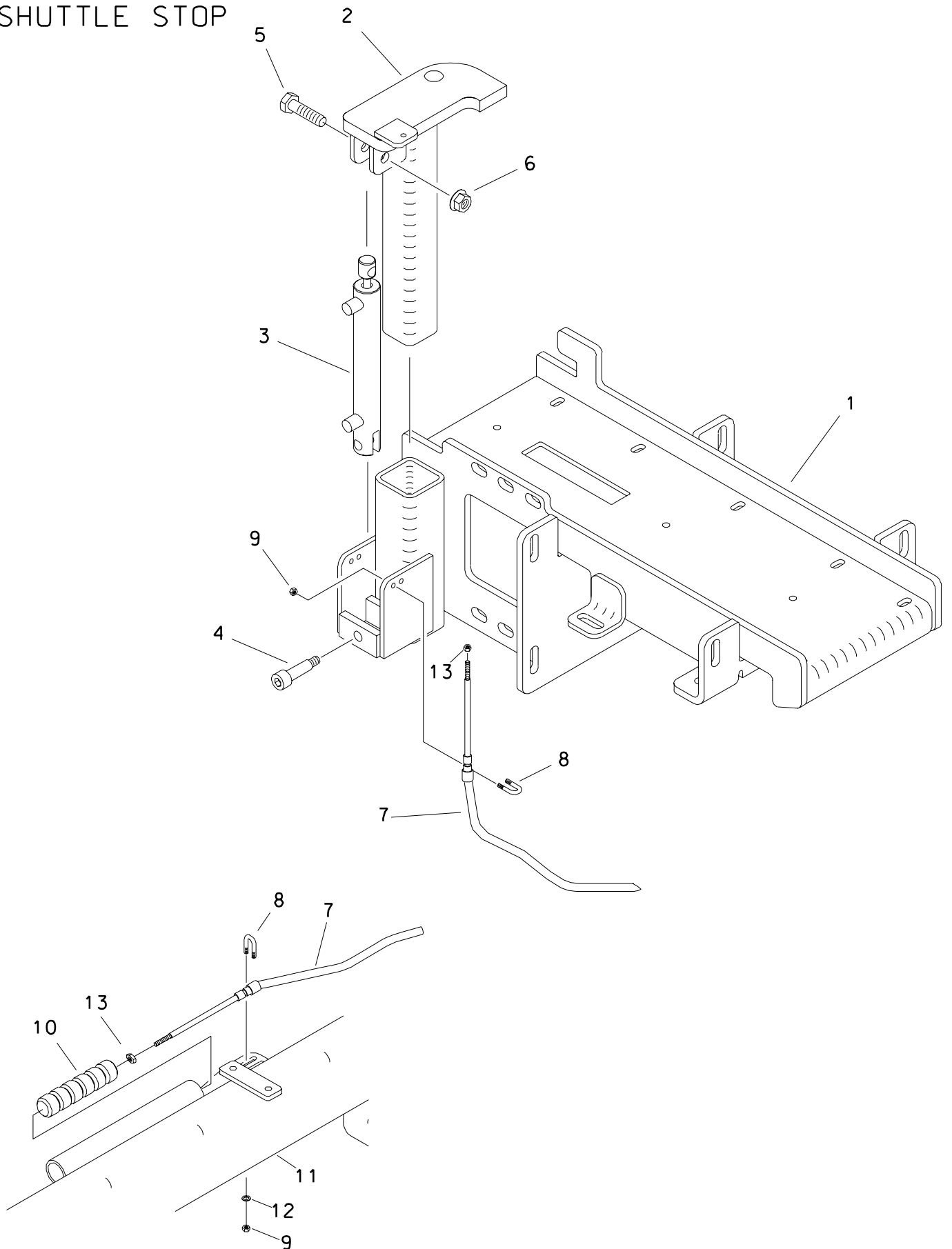


PIPE LOADER LIFTERS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	303-783	-	PIPE LOADER WELDMENT	
2.	183-863	2	TAPERED PIN (31.8MM X 128MM)	
3.	303-997	2	LIFTER OUTER TUBE	
4.	151-031	2	CYLINDER (2" X 1" X 8")	
5.	303-996	2	PIPE LIFTER	
6.	181-981	2	TAPERED INSERT (1")	
7.	106-724	2	FLG SCREW (M10-1.50 X 25MM)	
8.	183-110	2	PULL PIN (3/4" X 4-1/2")	
9.	125-770	2	COMPOSITION BUSHING (1")	
10.	107-003	8	FLG LK SCREW (M12-1.75 X 35MM)	
11.	106-709	8	FLANGE NUT (M12-1.75)	
12.	125-771	2	COMPOSITION BUSHING (1.25")	
13.	110-128	2	SPRING CLIP PIN (5/32" X 1")	
14.	179-024	2	TAPERED PIN (25.4MM X 117MM)	
15.	181-982	2	TAPERED INSERT (1.25")	
16.	106-469	2	FLG SCREW (M12-1.75 X 30MM)	

FOOTNOTES

SHUTTLE STOP

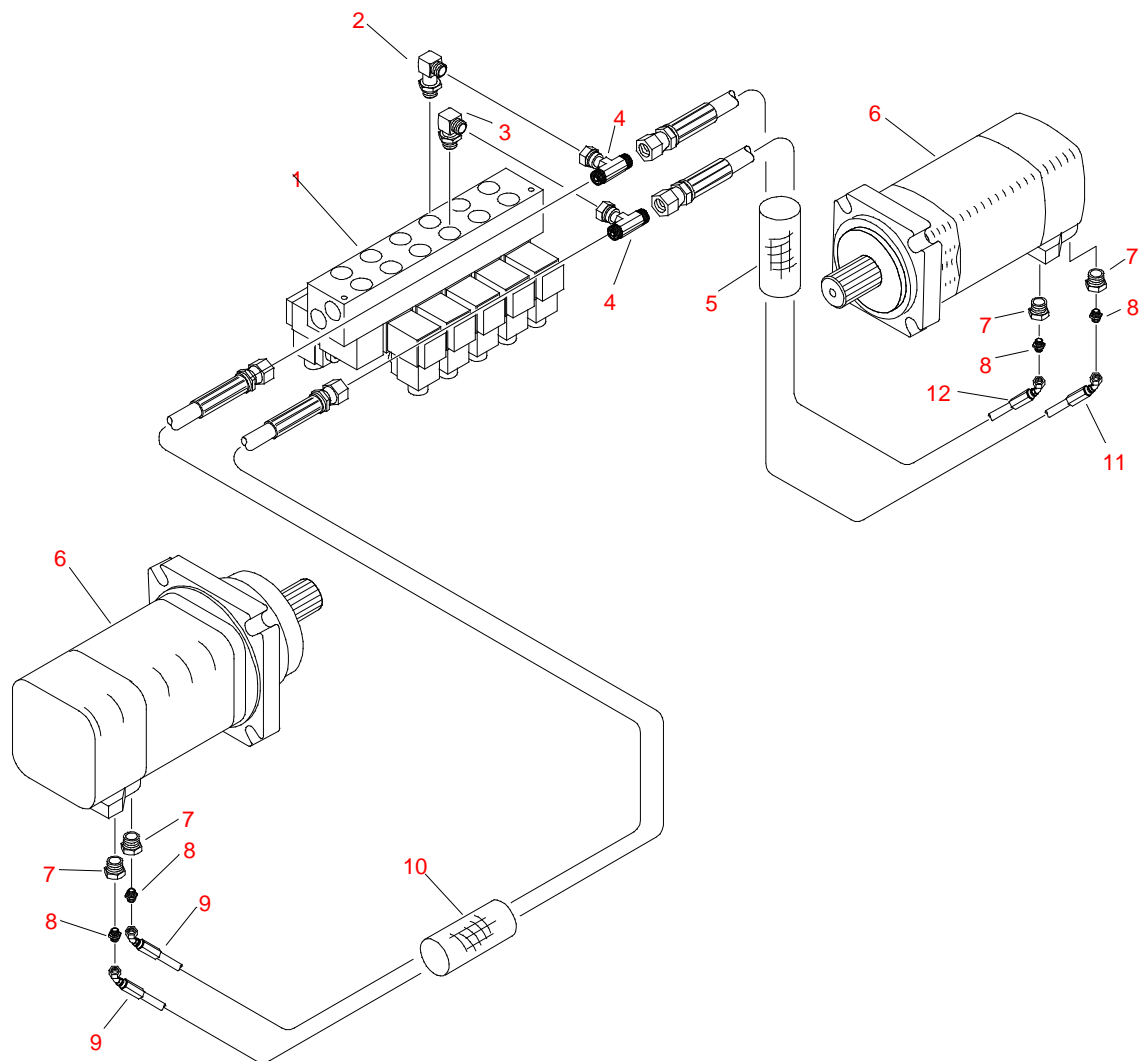


SHUTTLE STOP

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	350-632	-	SHUTTLE MOUNT, REAR	
2.	303-819	1	ROW SELECT STOP	
3.	150-727	1	CYL (1.0" X .500" X 4.0")	
4.	106-095	1	SHLD BLT (1/2" X 1-3/4", 3/8-NC)	
5.	106-196	1	BOLT (1/2-NC X 2")	
6.	105-065	1	LOCKNUT (1/2-NC)	
7.	194-198	1	CONTROL CABLE	
8.	106-630	2	U-BOLT (#10-24 X 5/16")	
9.	105-186	4	NUT (#10-24)	
10.	309-213	1	ROW SELECT INDICATOR	
11.	303-783	-	PIPE LOADER WELDMENT	
12.	106-076	2	WASHER (1/4")	
13.	106-138	2	NUT (M5-0.80)	

FOOTNOTES

SHUTTLE MOTOR HYDRAULICS



SHUTTLE MOTOR HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	153-095	-	HYD VALVE	BEFORE S/N: CMWJ27T2K60000038
	153-741	-	HYD VALVE	AFTER S/N: CMWJ27T2K60000039
2.	154-474	1	CONNECTOR (04S-04090, XL)	
3.	154-252	1	CONNECTOR (04S-04090)	
4.	154-379	2	UN BR TEE (040FX-040-040)	
5.	115-813	1	ABRASION SLEEVE (1.59" X 36")	
6.	149-975	2	HYD MOTOR	
7.	155-181	4	REDUCER (10S-04SF)	
8.	154-278	4	CONNECTOR (04S-040)	
9.	154-898	2	HOSE (040FX45-54"-3000)	
10.	117-657	1	ABRASION SLEEVE (1.59" X 54")	
11.	515-020	1	HOSE (040FX45-36"-3000)	
12.	153-317	1	HOSE (040FX45-35"-3000)	

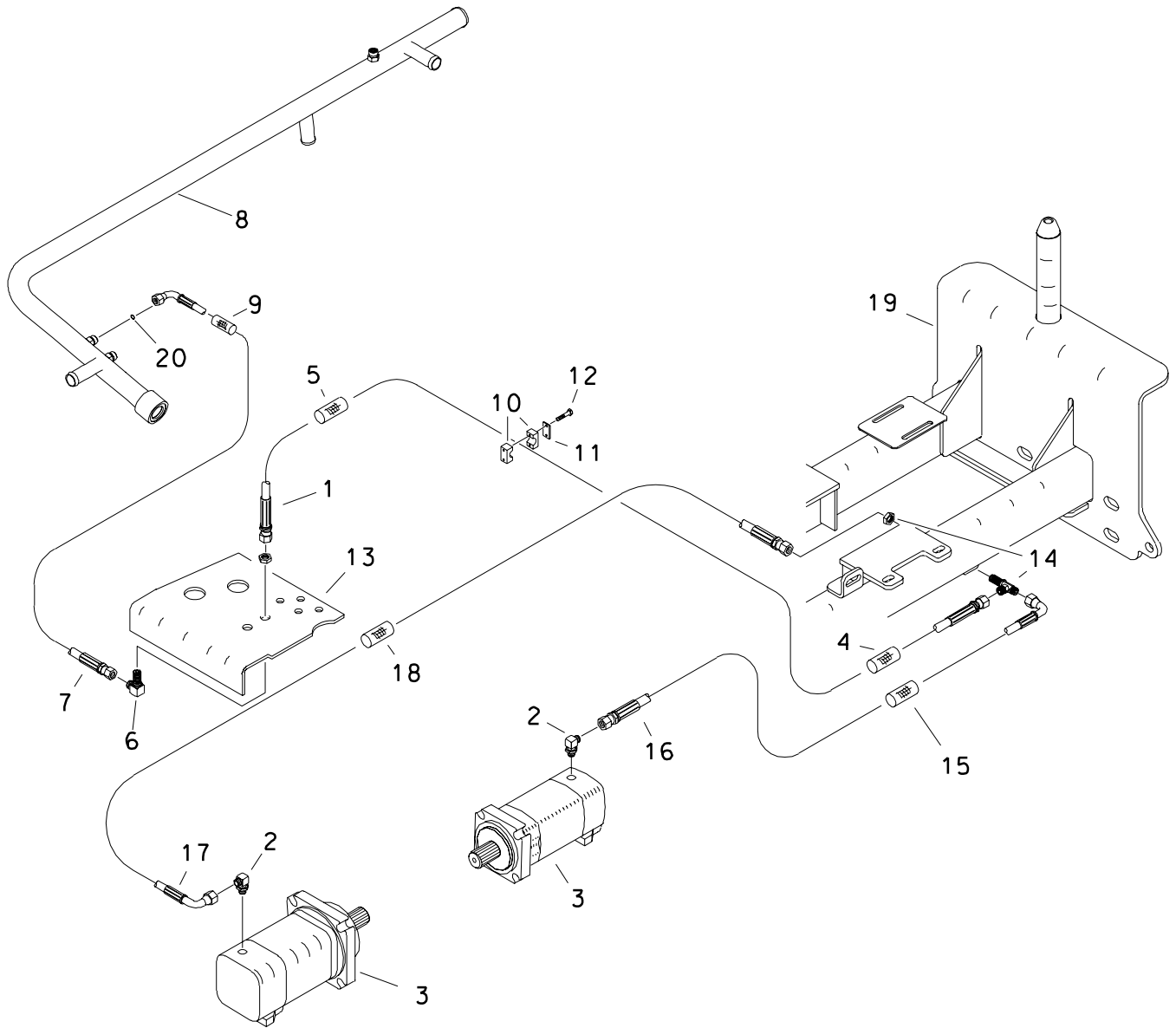
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FOOTNOTES:

NOTE:

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

SHUTTLE MOTOR CASE DRAIN



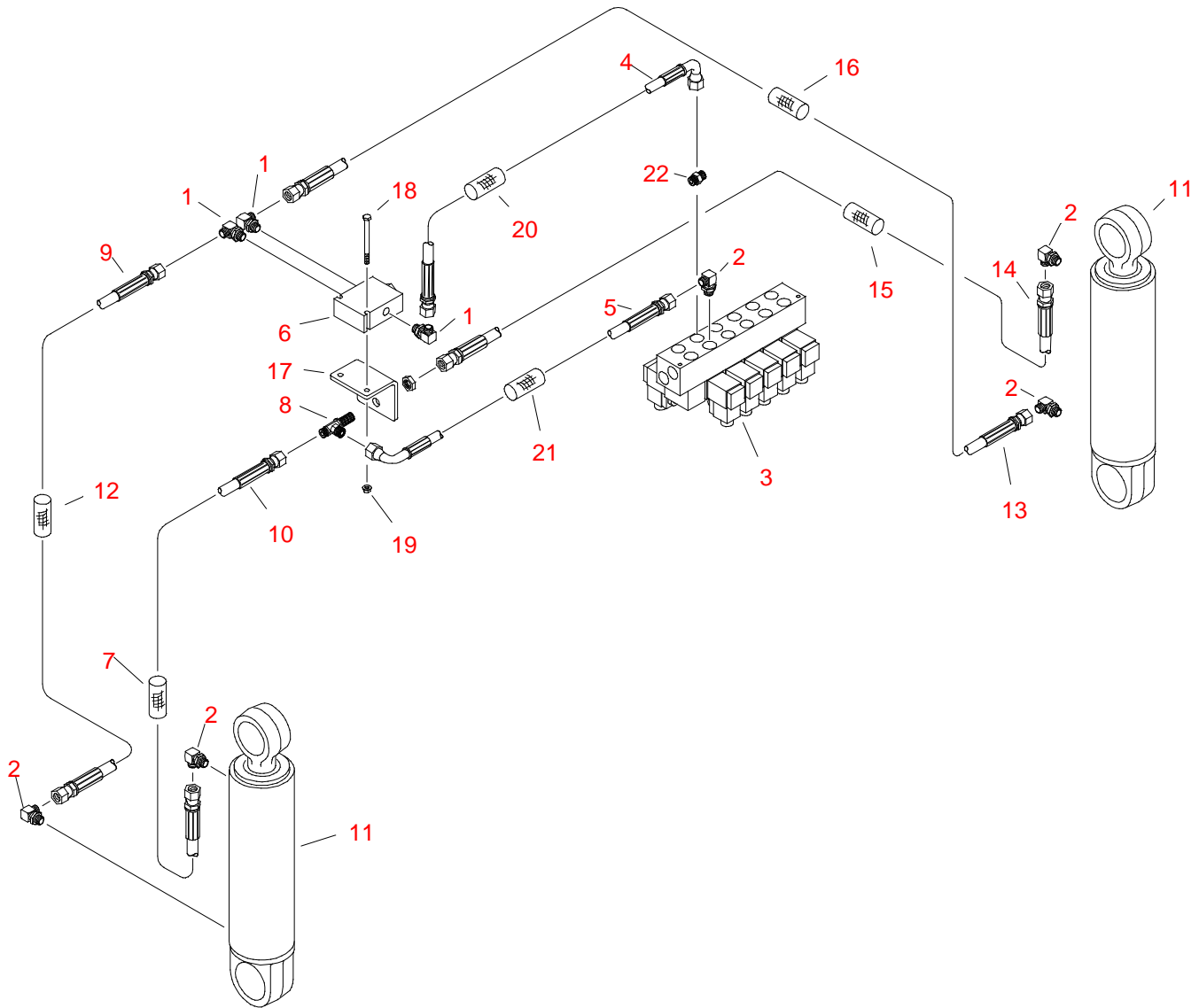
SHUTTLE MOTOR CASE DRAIN

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-777	1	HOSE (06DFX-98"-3000)	
2.	514-049	2	CONNECTOR (04S-06090)	
3.	149-975	2	HYD MOTOR	
4.	117-718	1	ABRASION SLEEVE (1.00" X 36")	
5.	117-326	1	ABRASION SLEEVE (1.00" X 58")	
6.	154-229	1	BK CONNECTOR (060-06090BK)	
7.	515-716	1	HOSE (06DFX90-42"-3000)	
8.	159-672	1	HYD COOLER LINE INLET	
9.	117-717	1	ABRASION SLEEVE (1.00" X 40")	
10.	110-879	1	BLT-ON CLP(5/8", SOLD PER SET)	
11.	110-958	1	BACKUP PLATE	
12.	105-818	2	BOLT (1/4-NC X 1-1/2")	
13.	305-710	-	MAIN FRAME	
14.	154-400	1	BK RUN TEE (060-060-060BK)	
15.	117-672	1	ABRASION SLEEVE (1.00" X 20")	
16.	149-559	1	HOSE (06DFX90M-20"-3000)	
17.	153-306	1	HOSE (06DFX90S-130"-3000)	
18.	117-399	1	ABRASION SLEEVE (1.00" X 130")	
19.	303-783	-	PIPE LOADER WELDMENT	
20.	157-038	1	O-RING (O12 D90)	

FOOTNOTES

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

AUX. VALVE/PIPE LIFTER HYDRAULICS



AUX. VALVE/PIPE LIFTER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	154-226	3	CONNECTOR (040-06S90)	
2.	154-252	5	CONNECTOR (04S-04090)	
3.	153-095	1	HYD VALVE	BEFORE S/N: CMWJT27T2K60000038
	153-741	1	HYD VALVE	AFTER S/N: CMWJT27T2K60000039
4.	154-802	1	HOSE (040FX90-26"-3000)	
5.	515-744	1	HOSE (040FX90S-28"-3000)	
6.	516-087	1	FLOW DIVIDER	
7.	117-218	1	ABRASION SLEEVE (1.00" X 52")	
8.	154-424	1	BK RUN TEE (040-040-040BK)	
9.	515-013	1	HOSE (040FX-42"-3000)	
10.	153-310	1	HOSE (040FX-52"-3000)	
11.	151-031	2	CYL (2.0" X 1.0" X 8.0")	
12.	117-387	1	ABRASION SLEEVE (1.00" X 42")	
13.	515-099	1	HOSE (040FX-72"-3000)	
14.	154-724	1	HOSE (040FX-82"-3000)	
15.	117-168	1	ABRASION SLEEVE (1.00" X 80")	
16.	117-400	1	ABRASION SLEEVE (1.00" X 72")	
17.	354-583	1	FLOW DIVIDER BULKHEAD	
18.	105-622	2	BOLT (1/4-NC X 6")	
19.	105-085	2	LOCKNUT (1/4-NC)	
20.	117-684	1	ABRASION SLEEVE (1.00" X 26")	
21.	117-409	1	ABRASION SLEEVE (1.00" X 28")	
22.	154-278	1	CONNECTOR (04S-040)	

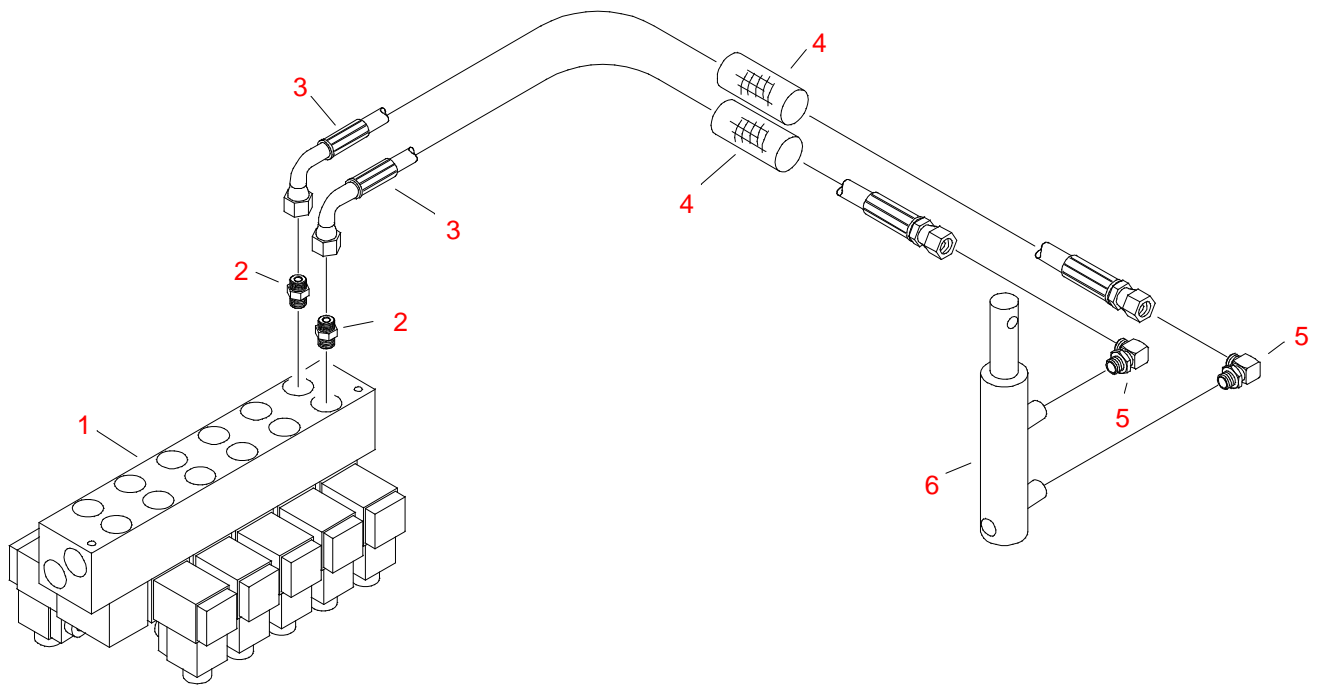
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FOOTNOTES:

NOTE:

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

SHUTTLE STOP HYDRAULICS



SHUTTLE STOP HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	153-095	-	HYD VALVE	BEFORE S/N: CMWJT27T260000038
	153-741	-	HYD VALVE	AFTER S/N: CMWJT27T260000039
2.	156-069	2	CONNECTOR (04S-040 ORF.040")	
3.	153-307	2	HOSE (040FX90S-38"-3000)	
4.	117-410	2	ABRASION SLEEVE (1.00" X 38")	
5.	154-401	2	CONNECTOR (04S-04090, ORF)	
6.	150-727	-	CYL (1.0" X .500" X 4.0")	

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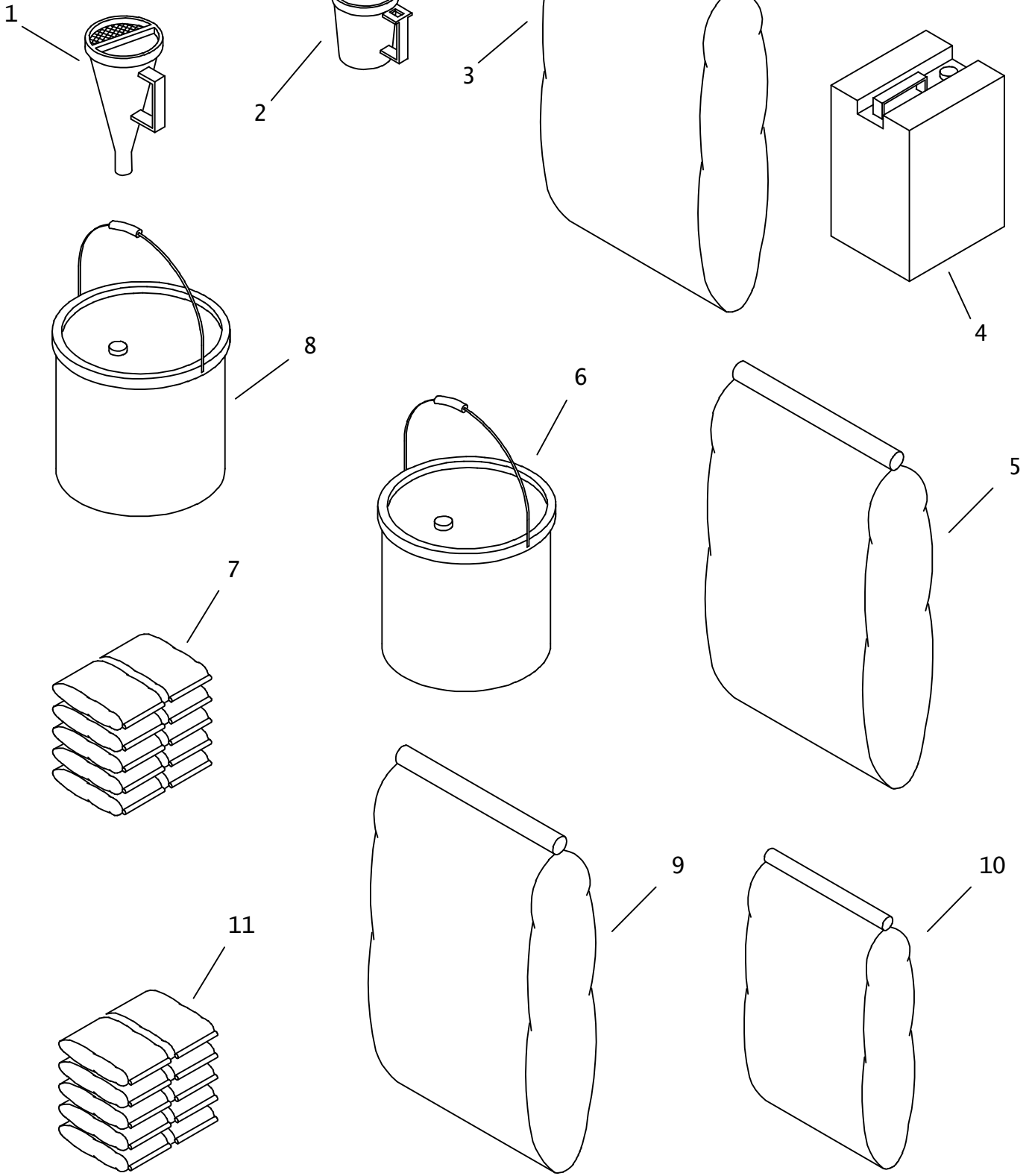
FOOTNOTES:

NOTE:

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

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)	

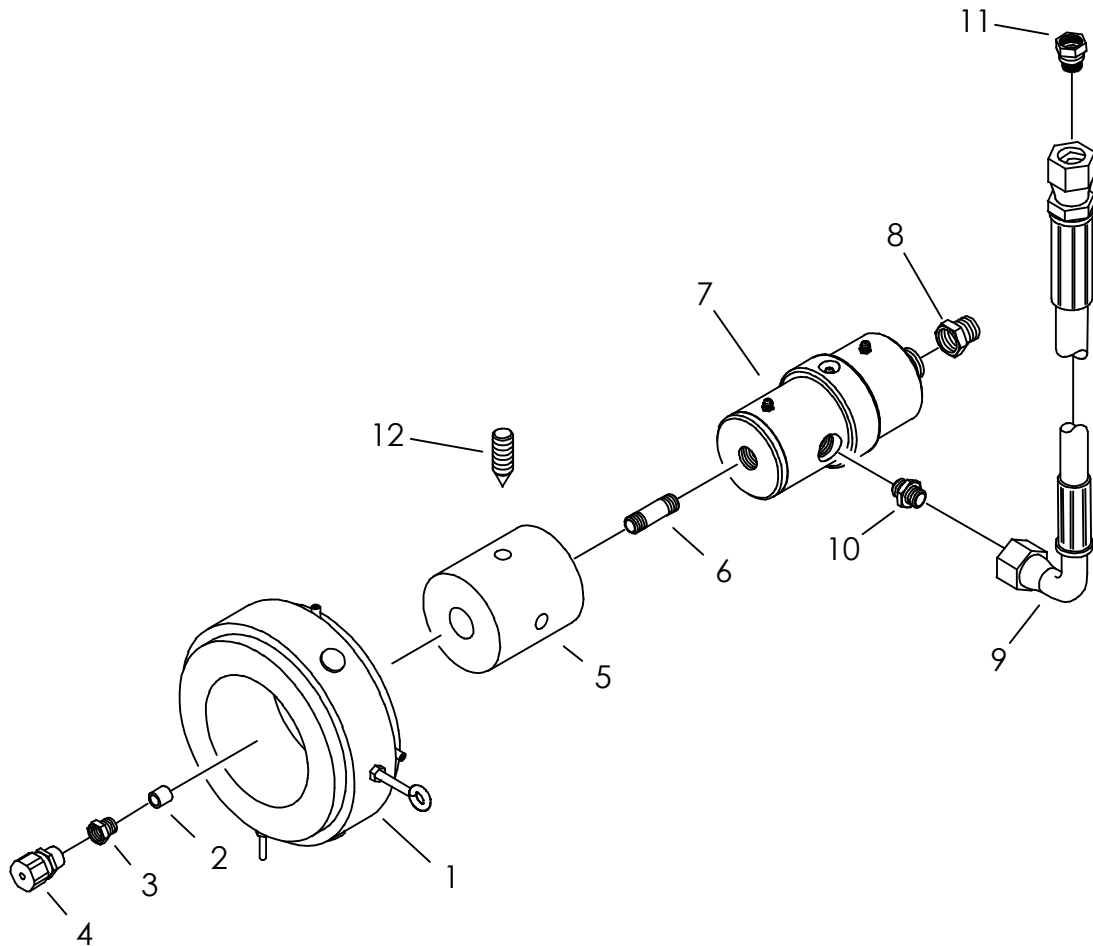
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191-158	1	DRILLING FLUID TEST KIT
259-487	1	SHEAROMETER

FOOTNOTES:

NOTE:

WIRE LINE ASSEMBLY



WIRE LINE ASSEMBLY

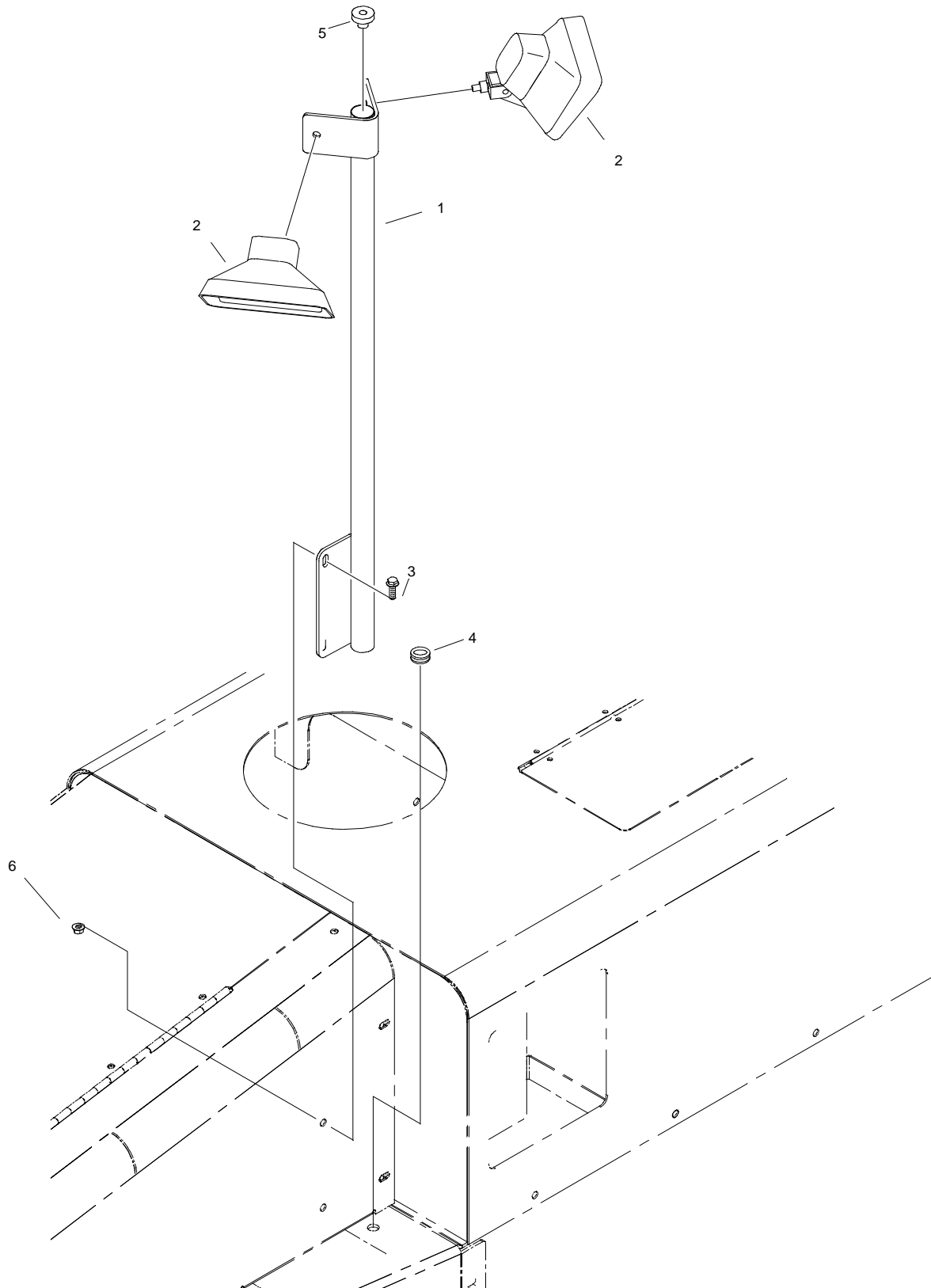
REF	PART			
NO.	NUMBER	QTY	DESCRIPTION	REMARKS
1.	358-860	1	COLLECTOR RING	
2.	115-155	1	COLLAR (08NF-08NF)	
3.	115-156	1	REDUCER (08N-06NF)	
4.	358-855	1	PACK-OFF FITTING (.125-.187)	
5.	306-980	1	ADAPTER, COLLECTOR RING	
6.	115-162	1	NIPPLE (08N-4")	
7.	159-288	1	WATER SWIVEL THRU SHAFT	
8.	115-151	1	REDUCER (16N-12NF)	
9.	154-867	1	HOSE (120FX90-36"-2250)	
10.	149-595	1	CONNECTOR (8N-120)	
11.	154-378	1	REDUCER STEM (120-160F)	
12.	105-707	4	SET SCREW (1/4-NF X3/8",CUP)	

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FOOTNOTES:

NOTE:

WORK LIGHTS



WORK LIGHTS

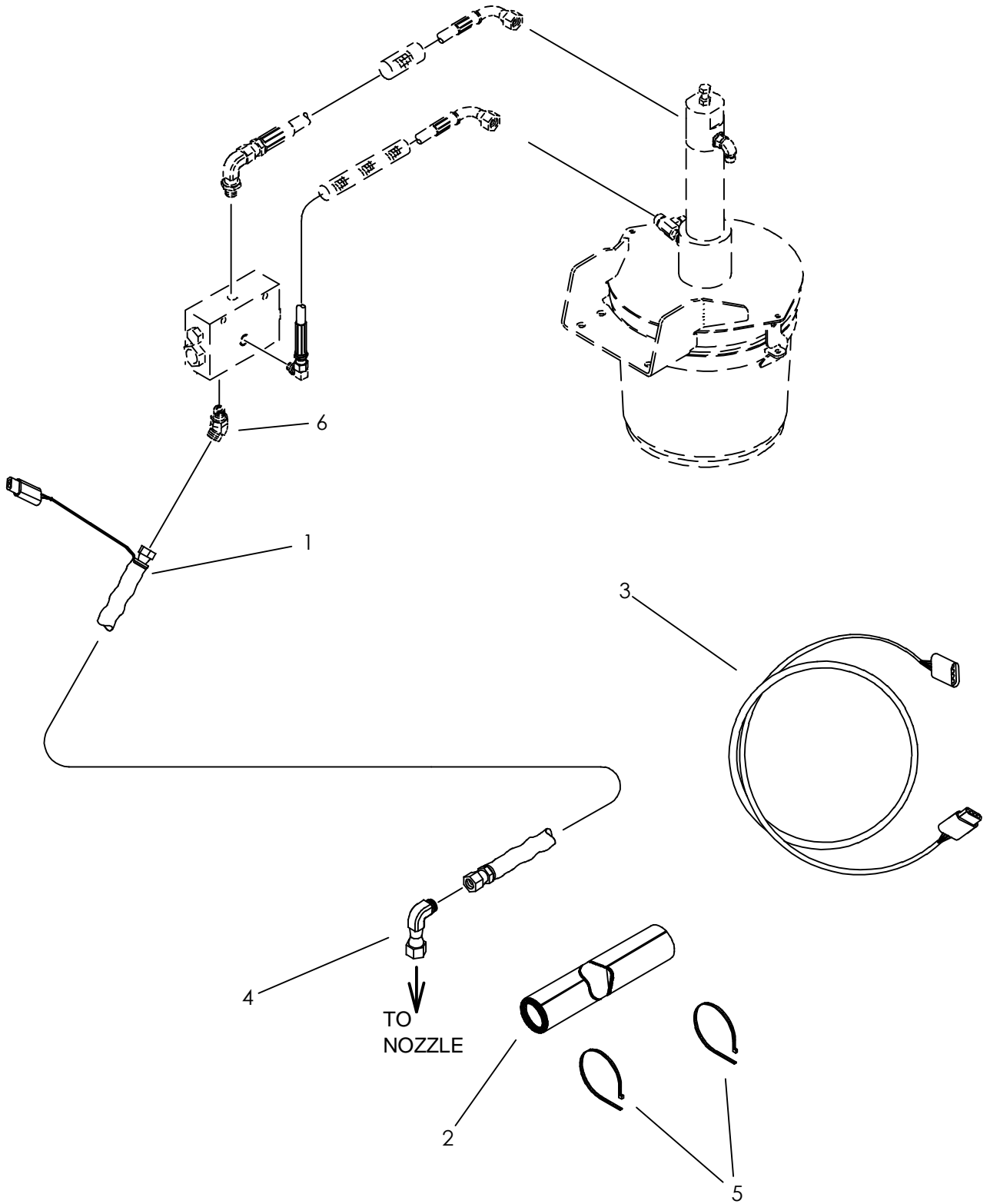
REF	PART			
NO.	NUMBER	QTY	DESCRIPTION	REMARKS
1.	305-924	1	SUPPORT, WORKING LIGHT	
2.	217-057	2	WORKING LIGHT - CLEAR	
3.	106-381	-	FLG LK SCREW (M8-1.25 X 25MM)	
4.	502-001	1	GROMMET (3/8")	
5.	116-325	1	GROMMET (.362")	
6.	106-386	2	FLG LOCKNUT (M8-1.25)	

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FOOTNOTES:

NOTE:

HEATED HOSE KIT



HEATED HOSE KIT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	101-088		JT27M1 HEATED HOSE KIT	USE REF.'S 1, 2, 3, & 5
	101-089		HEATED HOSE KIT	USE REF.'S 1, 2, 4, & 5
1.	153-585	1	HOSE (060FX-18"-3000,SPCL)	
2.	117-549	1	INSULATOR (1" ID X 5.00")	
3.	214-843	1	GREASER JUMPER HARNESS	USED ON JT2720 MACH 1 ONLY
4.	154-228	1	UNION (060-060FX90)	USED ON JT1720 MACH 1 & JT4020 MACH 1 ONLY
5.	110-030	4	CABLE TIE (1/16" TO 4")	
6.	154-224	1	CONNECTOR (06S-06045)	

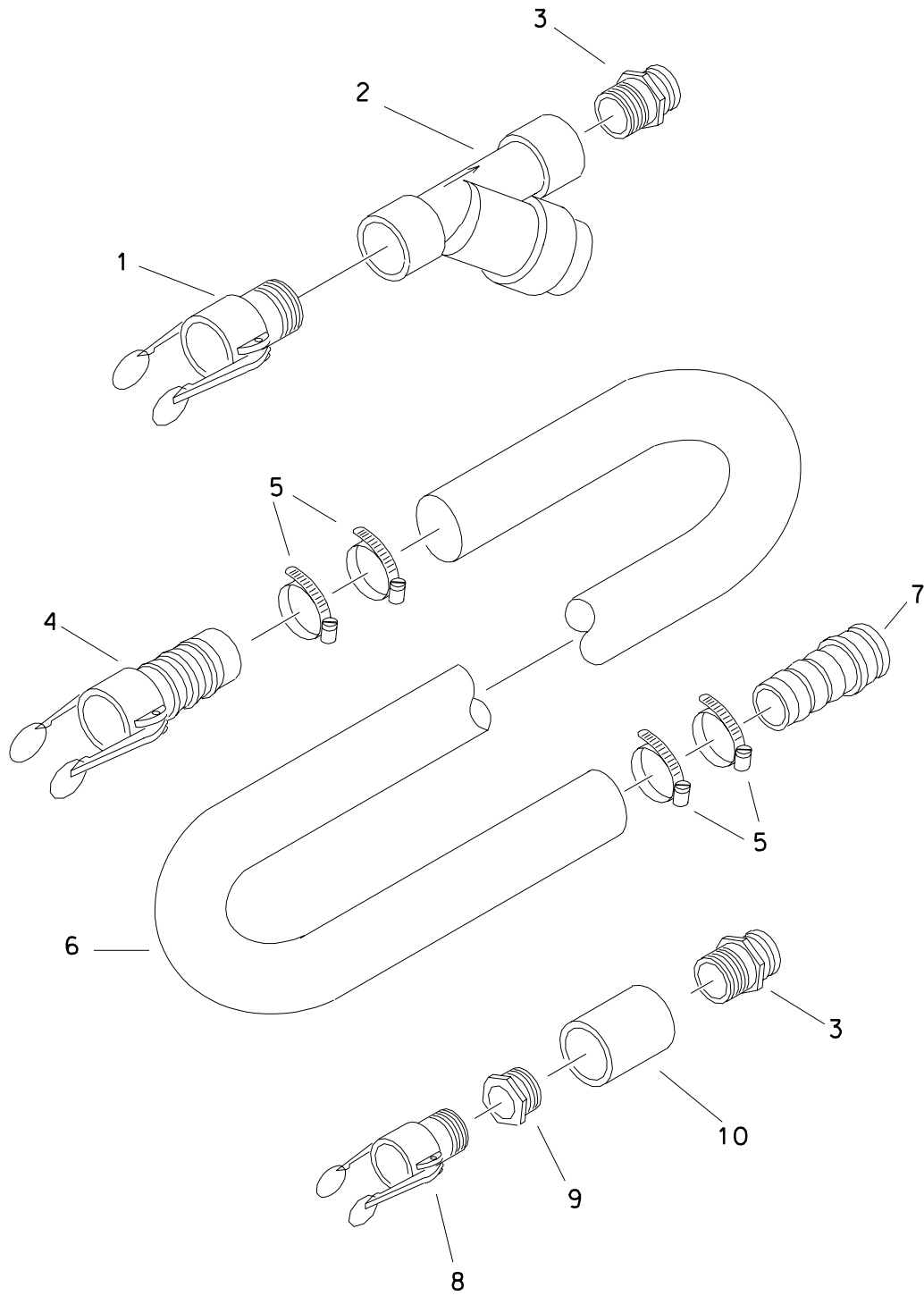
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FOOTNOTES:

NOTE:

REFERE TO INSTALLATION INSTRUCTION 051-291.

DRILLING FLUID TRANSFER

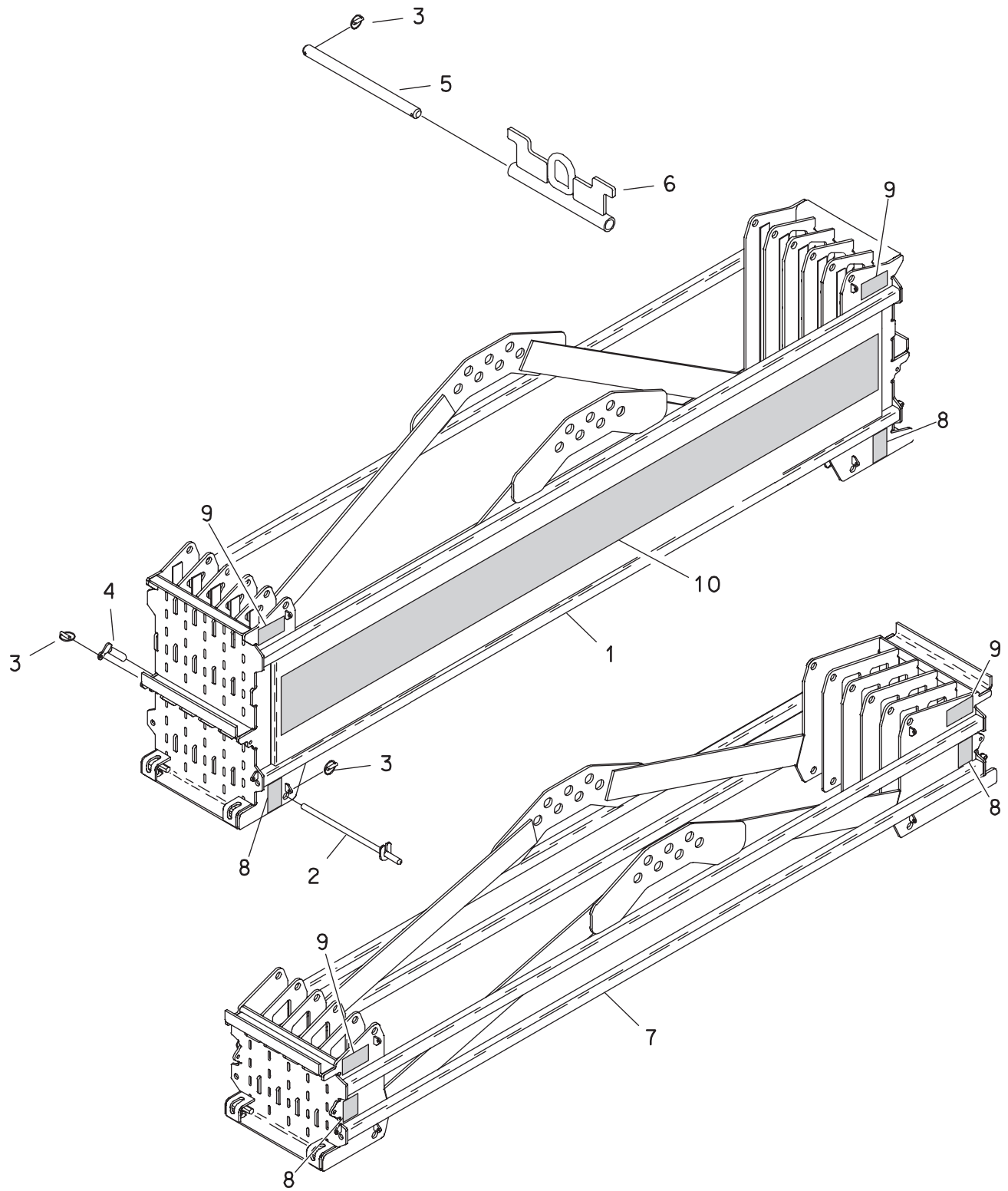


DRILLING FLUID TRANSFER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	343-273	-	Y-STRAINER PARTS ASS'Y	INCL REF NO'S 1 - 3
	149-919		TRANSFER HOSE ASSY HD 2" X 50'	INCL REF NO'S 4 - 7
	149-116		FHC PARTS (24-32N) ASS'Y	INCL REF NO'S 3, 8 - 10
1.	159-485	1	FHC BODY (32-32N)	
2.	159-176	1	Y-STRAINER (32NF)	
	159-239		STRAINER (2.2" X 7")	
3.	159-181	2	FHC ADAPTER (40-32N)	
4.	159-180	1	FHC BODY (40-32H)	
5.	110-134	4	WORM CLAMP (2-1/6" TO 2-3/4")	
6.	116-973	1	TRANSFER HOSE (50 FT)	
7.	149-119	1	FHC ADAPTER (32-32H)	
8.	159-500	1	FHC BODY (24-24N)	
9.	115-087	1	REDUCER (32N-24NF)	
10.	115-186	1	COLLAR (32NF)	

FOOTNOTES

PIPE BOX JT27T2



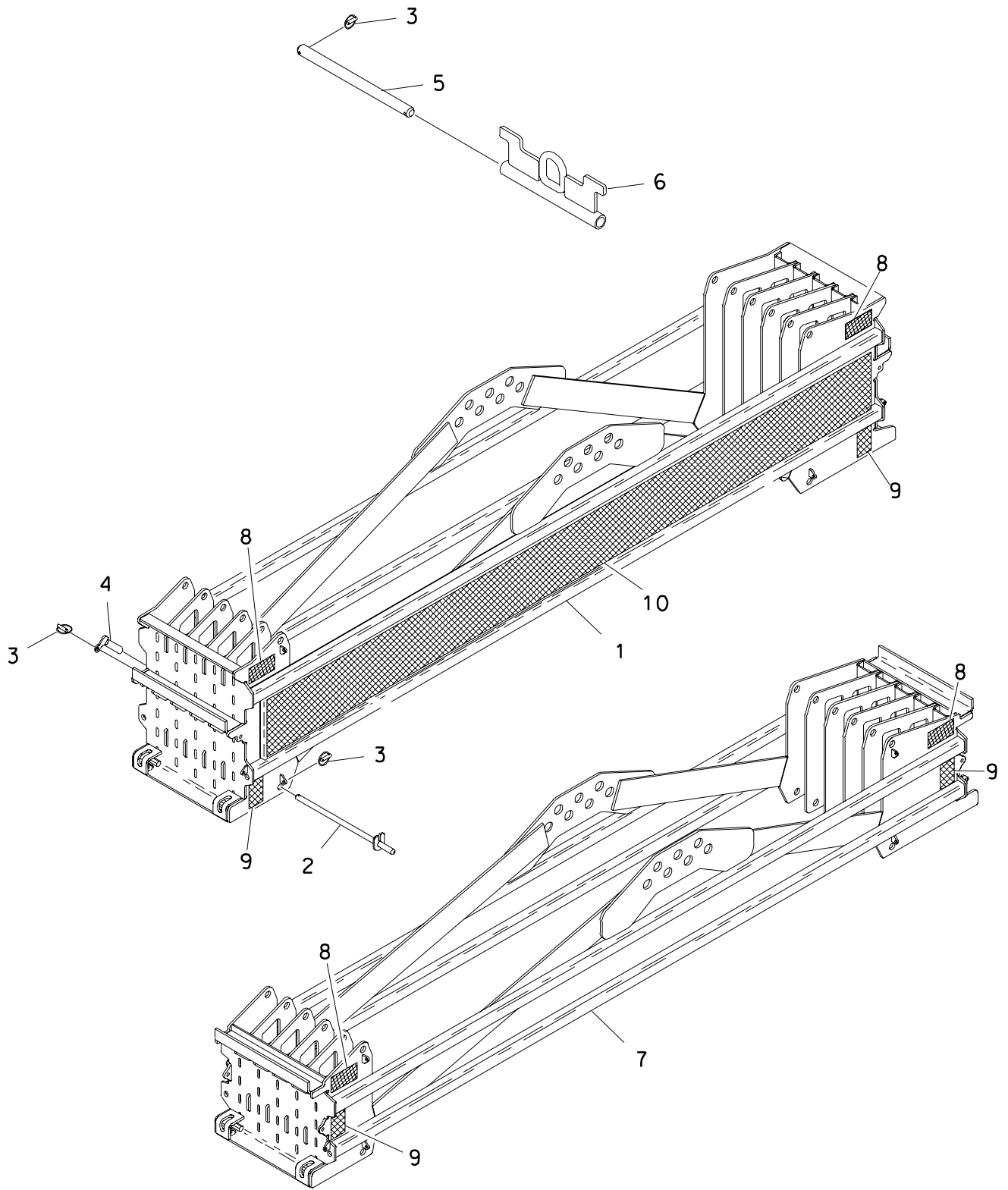
PIPE BOX

JT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	313-243	1	JT PIPE BOX	101-100 JT TALL PIPE BOX KIT
2.	303-876	4	PIPE BOX PIN WELDMENT	
3.	110-228	8	LYNCH PIN (7/16"x2")	
4.	178-522	2	ROTATION PIN	
5.	313-247	1	LIFT BAR	
6.	313-252	1	LIFT BLOCK	
7.	313-242	1	JT SHORT PIPE BOX	101-097 JT SHORT PIPE BOX KIT
8.	275-184	4	WARNING MOVING PARTS	
9.	275-326	4	WARNING CRUSHING WEIGHT	
10.	273-578	1	JT2720M1 MODEL ID / PIPE BOX	

FOOTNOTES

PIPE BOX AT27T2



PIPE BOX

AT27T2

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	313-240	1	AT PIPE BOX	
2.	303-876	4	PIPE BOX PIN WELDMENT	
3.	110-228	8	LYNCH PIN (7/16" X 2")	
4.	178-522	2	ROTATION PIN	
5.	313-247	1	LIFT BAR	
6.	313-252	1	LIFT BLOCK	
7.	313-241	1	AT SHORT PIPE BOX	
8.	275-326	4	WARNING CRUSHING WEIGHT	
9.	275-184	4	WARNING MOVING PARTS	
10.	273-577	1	JT2720AT MODEL ID / PIPE BOX	

FOOTNOTES

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

AT/JT2720 Mach 1

With Tier 2 Engine

Related Publications

Component	Ass'y	P/N
Model:		
All Terrain		
AT2720 Mach 1 Parts Manual		053-133
AT2720 Mach 1 Operators Manual		054-063
AT2720 Mach 1 Repair Guide (Service Manual)		N/A
AT2720 Mach 1 Technical Supplement		053-140
Mach 1		
JT2720 Mach 1 Parts Manual		053-133
JT2720 Mach 1 Operators Manual		054-063
JT2720 Mach 1 Repair Guide (Service Manual)		N/A
JT2720 Mach 1 Technical Supplement		053-140
Engine:		
John Deere Operators Manual – 4045HF275	194-286	054-087

Filters

Engine:

Air Filter Parts Ass'y.	194-121
Element (primary)	194-147
Element (secondary)	194-148
Oil Filter Element (spin-on) - John Deere (4045HF275)	194-478
Fuel Filter Element (primary) - John Deere (4045HF275)	194-492
Fuel Filter Element (secondary) - John Deere (4045HF275)	194-498
Fuel Strainer (06H)	194-457
Fuel Filter Element (water trap, clamp-on) - 3.75" x 5.00" x 3.12"	159-009

Hydraulic:

Oil Filter Element (1-1/2-UNF, spin-on, Replacement)	153-792
Element (1-1/2-UNF, spin-on, Break-In)	153-791
Charge Filter Element (spin-on)	149-939

Water {H2O}:

Water Strainer (2.250" x 7.0") - Y-Strainer	159-239
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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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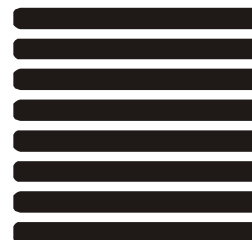
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