

Ditch Witch[®]

JT60

All Terrain

Tier 3 & Tier 4i

ISSUE NO. 20PL-10/22

For Replacement Copy Order **P/N 053-2629**

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This manual contains information concerning the following models:
JT60 T3 & T4i, JT60 All Terrain T3 & T4i
Equipped with the following engines:
QSB 6.7

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DECAL LOCATION

AT/JT60 T3, T4

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	270-2705		DECAL KIT - JT60	
	270-2694		DECAL KIT - JT60AT	
1	270-5360	1	OPERATORS CONSOLE	
2	270-5361	1	OPERATORS CONSOLE	
3	700-071	1	FRONT ANCHOR	
4	270-1228	1	THROTTLE/FAN	
5	273-198	1	TRACKER CONTROL	
6	270-7316	1	GRAY LOGO TYPE 33" X 5.5"	
7	274-318	6	TIE DOWN LOCATION	
8	270-6990	1	GRAY LOGO 6.3" X 5.4"	
9	270-5127	1	BATTERY	
10	700-204	1	WARNING CRUSHING FORCE ISO	
11	270-6857	2	DIESEL FUEL - ISO	
12	273-554	1	ANTIFREEZE	
13	270-5374	1	JT60AT MODEL ID	
	270-5583	1	JT60 MODEL ID	
14	700-245	1	RIGHT CONTROL	
15	270-5702	1	WASHWAND	
16	270-6773	1	PATENT	
17	270-5363	1	CONTROLLER	
18	270-5618	1	OVERHEAD CONTROL PANEL	
19	270-5376	1	LOGO TYPE W/LOGO	
20	270-6978	1	NOTICE COOLANT ISO	
21	270-5397	1	THROTTLE AT/JT FAN	
22	270-5131	1	BATTERY DISCONNECT SWITCH	
23	274-940	3	INDICATOR	
24	700-075	1	DANGER WRENCH ISO	
25	270-2414	2	DANGER LINE LOCATIONS	
26	270-6968	1	NOTICE HYDRAULIC OIL LEVEL ISO	
27	270-6964	1	NOTICE ELECTRICAL SYSTEM ISO	
28	701-184	5	WARNING MOVING PARTS ISO	
29	700-187	2	DANGER ROTATING SHAFT ISO	
30	700-355	1	CAUTION HOT PARTS ISO	
31	270-6260	1	SHUTTLE FUNCTION SHUTDOWN	
32	270-7374	1	NOTICE COMPLETE FILL ISO	
33	270-7021	1	NOTICE OIL LEVEL ISO	
34	700-143	2	WARNING READ MANUAL ISO	
35	270-6314	1	EMERGENCY EXIT	
36	270-6969	1	NOTICE DOOR ISO	
37	700-006	1	WARNING CYLINDER LOCK ISO	
38	270-5498	1	FUSE/RELAY BLOCK	LOCATE DECAL ON INSIDE COVER OF FUSE BOX.
39	270-5499	1	FUSE/RELAY BLOCK	LOCATE DECAL ON INSIDE COVER OF FUSE BOX.

FOOTNOTES

1. NOT PART OF KIT.

ENGINE SKID

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-5706	1	ENGINE SKID	
2	322-482	1	SKID LIFT	
3	300-5879	1	PANEL	
4	106-387	3	FLG LOCKNUT (M10-1.50)	
5	106-162	11	FLG SCREW (M8-1.25 X 20MM, GD8)	
6	106-386	9	FLG LOCKNUT (M8-1.25)	
7	106-632	13	FLG LK SCR (M12-1.75X35MM,SER)	
8	106-685	12	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
9	362-1476	1	AIR BARRIER	
10	105-1050	2	GROMMET (2-1/2")	
11	301-8075	1	BULKHEAD (TIER 4)	SEE FOOTNOTE 1
12	301-5705	1	FILTER MOUNT	
13	105-118	3	WASHER (3/8")	
14	106-724	3	FLG SCREW (M10-1.50 X 25MM)	
15	115-320	1	GROMMET (1-1/2")	
16	106-551	6	CLIP NUT (M8-1.25)	
17	106-991	6	FLG LK SCREW (M8-1.25 X 20MM)	
18	105-743	1	FLG LK SCREW (M12-2.00 X 45MM)	
19	115-686	28	BULK EDGE (5/32",SOLD PER 1")	USE 4 @ 7"
20	300-6353	1	BRACKET	

NOT SHOWN:

301-5813 1 BULKHEAD

SEE FOOTNOTE 1

FOOTNOTES:

1. USE 301-5813 FOR TIER 3

NOTE:

COVERS - SIDE PANELS, FRONT

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-5652	1	POST COVER	
2	300-5876	1	POST COVER	
3	300-6337	2	BRACKET	
4	106-551	16	CLIP NUT (M8-1.25)	
5	105-1795	12	FLG LK SCREW (M8-1.25 X 20mm) SERRATED	
6	301-5651	1	DOOR RIGHT FRONT	
7	301-5650	1	DOOR LEFT FRONT	
8	301-5648	1	DOOR RIGHT REAR	
9	301-5649	1	DOOR LEFT REAR	
10	106-428	32	SCREW (M5-0.80X14MM,SOC)	USE LOCTITE 242 OR EQUIVALENT
11	300-6274	1	FRONT PANEL	
12	300-6272	1	MID PANEL	
13	117-558	12	ADJUSTABLE LEVER LATCH (LOCKING)	
14	105-617	6	LIFT-OFF HINGE (OFF-SET)	
15	111-002	4	LIFT-OFF HINGE (OFF-SET)	
16	106-381	4	FLG LK SCREW (M8-1.25 X 25MM)	
17	106-056	8	EXT STAR WASHER (#10)	

NOT SHOWN:

FOOTNOTES:

NOTE:

SOUND INSULATION ENGINE SKID ASSEMBLY

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	354-939	1	SOUND INSUL-BATTERY PANEL	
2	362-1830	1	SOUND INSULATION	SEE FOOTNOTE I
3	362-1829	1	SOUND INSULATION	SEE FOOTNOTE I

NOT SHOWN:

107-950

INSULATION STUD 1"

SEE FOOTNOTE I

FOOTNOTES:

I. USE 107-950 INSULATION STUDS TO ATTACH INSULATION

NOTE:

COOLING SYSTEM - PLUMBING

TIER 3

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	195-1933	1	CAC/RAD/HOC	
2	514-138	1	-24 SAE -24H STREIGHT	
3	116-128	3	SHOCK MOUNT	
4	118-490	7	T-BOLT CLAMP (3.06" TO 3.30")	
5	195-1880	1	TUBE, CHARGE AIR, OUTLET	
6	111-027	2	T-BOLT CLAMP (1.25" - 1.50")	
7	116-703	4	CHARGE AIR COOLER HOSE	
8	105-059	6	WASHER (7/16")	
9	301-3589	1	SUPPORT	
10	106-628	3	SCREW (M10-1.50 X 60MM)	
11	105-894	3	LOCKNUT (M10-1.50, PRV TRQ, 10.9)	
12	110-134	2	WORM CLAMP (2.062" TO 2.750")	
13	106-724	1	FLG SCREW (M10-1.50 X 25MM)	
14	106-387	1	FLG LOCKNUT (M10-1.50)	
15	150-2431	1	CROSS (24S-240-16H-06SF)	
16	157-931	1	CONNECTOR (04N-06H)	
17	149-837	1	CONNECTOR (16S-16SF90)	
18	514-131	1	CONNECTOR (16S-16S)	
19	153-436	1	FLOW CHECK (16SF-16SF)	
20	514-088	1	S/O COUPLER (16S-16H)	
21	195-1621	1	LOWER RADIATOR HOSE	
22	195-2323	46	BULK HOSE (1-3/4 SOLD PER 1')	USE 1 @ 46"
23	195-1879	1	TUBE, CHARGE AIR, INLET	
24	154-345	1	RUN TEE (06S-060-060)	
25	116-460	16	BULK HOSE (1", SOLD PER FT)	USE 1 @ 16"
26	159-157	1	QDC ADAPTER (02-060F)	
27	105-1234	2	T-BOLT CLAMP (2.00" TO 2.31")	

NOT SHOWN:

FOOTNOTES:

NOTE:

COOLING SYSTEM - FAN TIER 4i

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	195-1508	1	COOLER	
2	300-5842	1	FAN SHROUD	
3	195-1528	1	FAN HUB	
4	195-1522	1	FAN (26")	
5	195-1527	1	FAN GUARD	
6	501-153	6	FLG LK BOLT (3/8-NC X 5/8")	
7	105-117	4	WASHER (5/16")	
8	106-162	6	FLG SCREW (M8-1.25 X 20MM, GD8)	
9	106-386	2	FLG LOCKNUT (M8-1.25)	
10	106-383	2	FLG LK SCREW (M10-1.50 X 30MM)	
11	106-551	2	CLIP NUT (M8-1.25)	
12	306-602	1	ALARM	SEE FOOTNOTE 1
13	106-991	2	FLG LK SCREW (M8-1.25 X 20MM)	
14	105-806	4	SCREW (M8-1.25 X 25MM)	TORQUE TO 20 FT-LBS
15	116-421	27	BULK EDGE (1/8", SOLD PER 1')	USE 1 @ 27"
16	105-1070	1	DOOR SEAL	
17	110-333	1	BOLT-ON CLAMP (1")	
18	150-3831	1	HYD GEAR MOTOR, 19CC	
19	364-487	1	FUEL FILL BRACKET	
20	364-659	1	FILLER NECK	INCLUDES REF NO'S 21 & 22
21	364-663	1	FILLER NECK SCREEN	
22	155-708	1	O-RING (218-D70)	
23	110-010	1	FUEL CAP (1-1/2")	
24	106-205	4	WASHER (1.91")	
25	110-253	4	3/16-1/2 Pop Rivet	
26	105-091	4	LOCK WASHER (5/16")	
27	105-206	1	NUT (1/2-NF)	USE LOCTITE 242 OR EQUIVALENT, TORQUE TO 80 FT-LBS
28	105-070	1	LOCK WASHER (1/2")	

NOT SHOWN:

214-103	1	PACKARD WP 2-WAY, Mpin-FEMALE	SEE FOOTNOTE 1
214-104	2	PACKARD MALE TERMINAL	SEE FOOTNOTE 1
157-645	2	WEATHER-PAC SEAL (2.80MM)	SEE FOOTNOTE 1
216-026	9	FLEX-GUARD (1.25")	USE 1 @ 9" SEE FOOTNOTE 1

FOOTNOTES:

1. USE 214-103, 214-104, 157-645 AND 216-026 WITH 306-602 ALARM

NOTE:

FRAME COMPONENTS

THRUST DRIVE GEARBOX

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	500-1662	1	BEARING-CONE-6B	
2.	500-1661	1	BEARING-CUP-6B	
3.	500-1666	1	THRUST WASHER-7"	
4.	500-1660	1	BEARING-CONE-7"	
5.	500-1659	1	BEARING-CUP-7"	
6.	500-1657	1	LOCK WASHER-7"	
7.	499-893	1	THRUST WASHER	
8.	500-1663	1	LOCK NUT-7"	
9.	157-521	1	OIL SEAL	SEE FOOTNOTE 1
	500-1674	1	OIL SEAL	SEE FOOTNOTE 2

NOT SHOWN:

500-1696	1	ASSY BRAKE-A2 SERIES; AUSCO
500-1690	1	SPINDLE/SHAFT DRIVE TOOL
500-1691	1	BEARING CONE DRIVER
500-1692	1	BEARING LOCKNUT TOOL
500-2009	1	O-RING/GASKET KIT
500-2115	1	DISC KIT-2 ROTOR

FOOTNOTES:

1. USED ON 160-1035
2. USED ON 160-1030 & 160-1074

NOTE:

ROTATION GEARBOX (JT)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
45	301-4536	1	SPEED SENSOR RING - 33T	
46	168-033	1	INPUT PINION	
47	168-032	1	INTERMEDIATE GEAR	
48	168-031	1	OUTPUT GEAR	
49	105-1517	21	BULK HOSE (1/4") LOW PERM	
50	110-249	1	WORM CLAMP (1/4" TO 5/8")	
51	155-770	1	O-RING (250 D70)	

NOT SHOWN:

FOOTNOTES:

NOTE:

HOSE TRACK (NESTED) TO CARRIAGE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-4012	1	CARRIAGE	
3	105-600	4	CARRIAGE BOLT (3/8-NC X 1")	
4	105-118	4	WASHER (3/8")	
5	105-047	4	LOCKNUT (3/8-NC)	
7	105-1741	1	NESTED HOSE TRACK	SEE NOT SHOWN FOR SERVICE PARTS

NOT SHOWN:

500-2436	-	OUTER TRACK REPAIR SECTION, 4-LINK	SEE FOOTNOTE 1
500-2437	-	ALUMINUM FLAT BAR KIT	SEE FOOTNOTE 2
499-605	-	HARDWARE KIT	SEE FOOTNOTE 3
499-567	-	MOUNTING BRACKET KIT	SEE FOOTNOTE 4
500-1216	-	INNER TRACK MOUNT BRACKET KIT	SEE FOOTNOTE 5
500-1217	-	INNER TRACK BAR KIT	SEE FOOTNOTE 6
500-1218	-	INNER TRACK REPAIR SECTION, 4 LINK	SEE FOOTNOTE 1
500-2777	-	HOSE SLEEVE	

FOOTNOTES:

- 4-LINK REPAIR SECTION SUPPLIED ASSEMBLED WITH 8X LINK PINS & SNAP RINGS SHIPPED LOOSE
- KIT CONTENTS: 8X ALUMINUM FLAT BARS, 32 X 10-24 X 7/8 PAN HD SCREWS
- KIT CONTENTS: 8X LINK PINS, 8X LINK PIN SNAP RINGS
- KIT CONTENTS: 2X RIGHT AND LEFT MOUNTING BRACKETS, 8X LINK PINS, & 8X LINK PIN SNAP RINGS
- KIT CONTENTS: RIGHT & LEFT MOUNTING BRACKETS, 4X LINK PINS & SCREWS, 4X SNAP RINGS 2X INNER BARS & SCREWS, 2X OUTER BARS & SCREWS, AND 4X MOUNT BOLTS
- KIT CONTENTS: 8 FLAT BARS, & 32 SCREWS,

NOTE:

WRENCH PIPE GUIDE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
2	301-5716	1	WRENCH GUIDE FRAME	
3	106-806	4	FLG LK SCREW (M12-1.75 X 25MM)	
4	313-761	1	BLOCK RETAINER	
5	316-742	1	BRACKET, SPRAY	
6	301-5718	1	BRACKET, SPRAY	
7	106-724	4	FLG SCREW (M10-1.50 X 25MM)	
8	106-387	4	FLG LOCKNUT (M10-1.50)	
9	346-061	1	PIN	
10	110-410	1	SAFETY CLIP & LANYARD	
11	301-3548	1	GUIDE BEARING MOUNT	
12	314-387	1	BLOCK RETAINER	
13	362-0002	4	GUIDE BLOCK (4.13)	SEE FOOTNOTE 1

NOT SHOWN:

362-0001 4 GUIDE BLOCK (3.50)

SEE FOOTNOTE 1

FOOTNOTES:

1. FOR JT USE 362-0001 - GUIDE BLOCK (3.50)

NOTE:

GREASE CYLINDER

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	354-531		RIGHT GREASE CYLINDER	INCLUDES REF No's 1 THRU 7
	354-530		LEFT GREASE CYLINDER	INCLUDES REF No's 2 THRU 7 SEE FOOTNOTE 1
1	151-184	1	RIGHT GREASE CYL	
2	150-682	1	GREASE CYLINDER ROD	
3	157-560	1	PISTON SEAL (1.975")	
4	157-561	1	ROD WIPER (2.492")	
5	157-562	1	RETAINER RING (2.625")	
6	159-093	1	RELIEF VALVE (5/8-NF, 02N)	
7	115-019	1	ZERK (02N)	

NOT SHOWN:

151-183 1 LEFT BARREL

SEE FOOTNOTE 1

FOOTNOTES:

1. 151-183 LEFT BARREL TO BE USED WITH LEFT GREASE CYLINDER, 151-184 RIGHT BARREL TO BE USED WITH RIGHT GREASE CYLINDER

NOTE:

CAB

HEATER HOSE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	514-285	1	S/O COUPLER (08N-10H90)	SEE FOOTNOTE 1
2	149-487	1	S/O COUPLER (08N-10H)	
3	110-217	4	WORM CLAMP (7/16" TO 1")	
4	116-750	570	BULK HOSE (5/8", SOLD PER 1')	USE 1 @ 287" AND 1 @ 283"
5	105-1588	2	ABRASION SLEEVE (1.59" X 270")	

NOT SHOWN:

FOOTNOTES:

1. TIER 4 UNITS REPLACE 514-285 S/O COUPLER (08N-10H90) WITH 115-126 REDUCER (12N-08NF) AND 149-487 S/O COUPLER (08N-10H45) AND 18" OF 105-2199 ALUMINIZED SLEEVE.

NOTE:

LEFT CONSOLE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	220-2704	1	PV485 DISPLAY	
2	214-566	3	POTENTIOMETER	
3	215-1724	2	ROCKER SWITCH ON-ON	
4	215-1790	1	ROCKER SWITCH (ON)-OFF-(ON)	
5	215-1856	1	ROCKER SWITCH (ON)-OFF-ON	
6	215-1727	2	ROCKER SWITCH ON-ON-ON	SEE FOOTNOTE 1
7	106-574	12	CLIP NUT (M6-1.00)	
8	106-640	12	SCREW (M6-1.00 X 20MM,BUT SOC)	
9	116-789	105	RUBBER EDGE TRIM 1/8" (FT)	USE 1 @ 105"
10	301-4405	1	FRONT LEFT SIDE PANEL	
11	220-2561	1	ESID 2 Module w/ CAN	SEE FOOTNOTE 4
12	106-848	4	FLG SCREW (M6-1.00 X 25MM)	
13	116-918	1	GROMMET (3/4", RUBBER)	
14	107-580	10	SCREW (M4-0.70 X 16MM,BUT SOC)	
15	105-680	10	NUT (M4, W/LK WSHR)	
16	301-4117	1	UPPER LEFT GAUGE PANEL	
17	215-1985	1	WRENCH JOYSTICK	500-10195 BOOT
18	105-630	4	NUTSERT(M6X1.01.70-4.20THK	
19	107-312	4	SCREW (M6-1.00 X 25MM, BUT SOC)	
20	215-1016	1	ROTATION DITHER SWITCH	
21	362-823	2	COVER	SEE FOOTNOTE 2
22	215-1725	1	ROCKER SWITCH (ON)-OFF-(ON)	SEE FOOTNOTE 3
23	220-2350	1	ESID HORN-RESET CONTROLLER	
24	214-301	1	ACCESSORY SOCKET	
25	106-385	4	FLG LOCKNUT (M6-1.00)	
26	215-1977	3	GROUND PLATE	

NOT SHOWN:

FOOTNOTES:

1. USE 1 215-1727 ROCKER SWITCH FOR JT AND 2 FOR AT
2. USE 215-1016 ROTATION DITHER SWITCH FOR AT ONLY
3. USE 2 362-823 COVERS FOR JT ONLY
4. REQUIRES JUMPER HARNESS 215-2640 BEGINS WITH S/N.

NOTE:

DUAL AXIS JOYSTICK

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1.	215-1224	-	DUAL AXIS JOYSTICK	OBSOLETE, ENDS WITH S/N _____, SEE FOOTNOTE I
	215-1714	-	DUAL AXIS JOYSTICK	BEGINS WITH S/N _____, SEE FOOTNOTE I
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:

215-1787 1 JOYSTICK JUMPER

SEE FOOTNOTE I

FOOTNOTES:

I. EARLIER MACHINES BEFORE S/N BREAK WILL NEED TO USE JOYSTICK JUMPER 215-1787 TO CONNECT OLDER HARNESS TO 215-1714 JOYSTICK.

NOTE:

OIL RETURN HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	300-2429	1	HARDLINE BRACKET	
2	111-008	2	BOLT-ON CLAMP (1-1/2", SET)	
3	154-265	1	UNION RUN TEE (040FX-040-040)	
4	117-897	12	BULK HOSE (1-1/2",SOLD PER 1')	USE 1 @ 11"
5	318-890	2	T-BOLT CLAMP (1.75"-2.00")	
6	322-362	2	BACKUP SPACER	
7	107-283	4	BOLT (1/4-NC X 3")	
8	105-832	4	FLG LOCKNUT (1/4-NC)	
9	106-724	1	FLG SCREW (M10-1.50 X 25MM)	
10	106-396	1	WASHER (M10, HARDENED)	
11	105-894	1	LOCKNUT(M10-1.50,PRV TRQ,10.9)	
12	117-211	1	ABRASION SLEEVE (1.25" X 90")	
13	157-129	2	O-RING (025 D90)	
14	155-714	2	O-RING (021 D90)	
15	157-017	1	O-RING (018 D90)	
16	157-039	1	O-RING (014 D90)	
17	157-037	1	O-RING (011 D90)	
18	156-482	1	BK CONNECTOR (120-12090BK)	
19	514-096	1	BK CONNECTOR (200-200BK)	
20	115-894	1	ABRASION SLEEVE(2.38" X 60")	
21	150-3176	1	HYD LINE	
22	150-3194	1	HOSE (160FX45-28"-300MIN)	
23	154-877	1	HOSE (080FX90L-90"-3000)	
24	150-3886	1	HOSE (120FX45-50"-3000)	
25	150-3887	1	HOSE (200FX90M-68"-200)	
26	150-5229	1	HOSE (160FX-120FX-82"-3000)	
27	150-3253	1	HOSE (200FX90S-44"-300)	
28	515-437	1	HOSE (040FX90-21"-3000)	
29	515-682	1	HOSE (040FX90M-48"-3000)	
30	154-388	1	CONNECTOR (16S-16045)	
31	117-612	1	ABRASION SLEEVE (1.0" X 46")	
32	117-672	1	ABRASION SLEEVE (1.00" X 20")	

NOT SHOWN:

FOOTNOTES:

NOTE:

ROTATION HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	150-3885	1	PISTON PUMP, 90 SERIES, 130CC	
2	150-3917	2	SWEEP ELBOW, -20090°-20FLH	
3	150-2462	1	HOSE (200FX90S-48"-6000)	
4	150-2461	1	HOSE (200FX90S-51"-6000)	
5	514-096	2	BK CONNECTOR (200-200BK)	
6	155-168	1	S/O COUPLER (20S-20H90)	
7	149-342	2	T-BOLT CLAMP (1,687")	
8	116-587	32	BULK HOSE (1-1/4",SOLD PER FT)	USE 1 @ 32"
9	159-436	2	SPLIT FLANGE (20SFL, SET)	SEE FOOTNOTE 1

NOT SHOWN:

105-070	8	LOCK WASHER (1/2")	SEE FOOTNOTE 1
105-1508	8	BOLT (1/2-NC X 1-3/4", GD 8)	SEE FOOTNOTE 1
157-078	2	O-RING (222 D90)	SEE FOOTNOTE 1

FOOTNOTES:

1. 105-070, 105-1508, AND 157-078 ARE INCLUDED WITH REF No. 9 (159-436 SPLIT FLANGE)

NOTE:

LOAD SENSE PRESSURE HYDRAULICS

ENDS WITH CMW S/N: CMWJT60XTF0000089

ENDS WITH CMW S/N: CMWAT60XKG0000078

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	150-4681	1	ADAPTER (20FLH-20SF-12SF-04SF)	
2	514-097	1	CONNECTOR (20S-200)	
3	154-270	1	CONNECTOR (12S-12090)	
4	150-2668	1	QDC ADAPTER -04S90-02	
5	105-2162	4	LOCK WASHER (1/2") HIGH COLLAR	
6	105-1746	4	BOLT (1/2-NC X 3", SOC)	
7	157-078	1	O-RING (222 D90)	
8	514-142	1	UN RUN TEE (200FX-200-200)	
9	514-144	1	REDUCER (160-200F)	
10	514-422	1	CONNECTOR (200-200FX90)	
11	154-290	1	UNION (160-160FX90)	
12	515-590	1	HOSE (120FX90L-21"-3000)	
13	159-759	1	HOSE (160FX45-24.5"-3000)	
14	150-4704	1	HOSE (200FX-26"-3000)	
15	150-4494	1	BK CONNECTOR (200-20090BK)	
16*	150-4456	1	OPEN LOOP PISTON PUMP, 147CC	

NOT SHOWN:

FOOTNOTES:

NOTE:

HOSE TRACK MOUNT HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	154-229	1	BK CONNECTOR (060-06090BK)	
2	154-396	1	BK CONNECTOR (080-08090BK)	
3	514-096	1	BK CONNECTOR (200-200BK)	
4	150-4494	1	BK CONNECTOR (200-20090BK)	
5	150-3751	1	BK CONNECTOR (240-24090BK)	
6	154-275	2	BK CONNECTOR (040-040BK)	SEE FOOTNOTE 1
7	153-395	1	BK CONNECTOR (200-20045)	
8	154-400	1	BK RUN TEE (060-060-060BK)	
9	514-163	1	BK CONNECTOR (060-060BK)	

NOT SHOWN:

FOOTNOTES:

1. 6A USED ON AT ONLY

NOTE:

ROTATION MOTOR HYDRAULICS (AT)
BEGINS WITH CMW S/N: CMWAT60XEF0000039
ENDS WITH CMW S/N: CMWAT60XCG0000092

REF PART

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	153-395	1	BK CONNECTOR (200-20045)	
2	150-2642	1	HYDRAULIC MOTOR, 160CC	SEE FOOTNOTE 1 AND "NOT SHOWN"
3	159-436	2	SPLIT FLANGE (20SFL, SET)	
4	150-2457	1	HOSE (200FX-20FLH90S-29"-6000)	
5	150-2456	1	HOSE (200FX-20FLH90S-18"-6000)	
6	154-497	1	CONNECTOR (160-20S)	
7	105-1981	4	SCREW (1/2-NC X 5.5" GD8)	
8	150-2509	1	BK RUN TEE (200BK-200-16SF)	
9	154-287	1	CONNECTOR (16S-16090)	
10	150-4207	1	RELIEF VALVE ASSY, 100 GPM, 3800 PSI	
11	150-4238	1	HOSE (160FX45-13"-6000)	
12	155-144	1	PLUG (20S)	
13	115-153	1	PLUG (04N, SQ)	
14	117-564	1	ABRASION SLEEVE(1.75" X 15")	
15	117-716	1	ABRASION SLEEVE(2.38" X 28")	
16	115-766	1	ABRASION SLEEVE (2.38" X 17")	
17*	301-4012	1	CARRIAGE	

NOT SHOWN:

159-392 1 PLUG (12S, SOC)

FOOTNOTES:

1. SERVICE PARTS FOR 150-3295

500-2125 1 CONTROL SOLENOID

191-212 1 SEAL REPAIR KIT

NOTE:

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

TRACK BRAKE

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	166-417	2	PLANETARY GEARBOX	
2	154-411	2	CONNECTOR (04S-060)	
3	154-326	1	CAP (060F)	
4	154-221	1	CONNECTOR (06S-060)	
5	154-344	1	UN RUN TEE (060FX-060-060)	
6	154-348	1	UN BR TEE (060FX-060-060)	
7	150-1815	1	HYDRAULIC CONTROL VALVE	SEE FOOTNOTE 1
8	154-738	1	HOSE (060FX90-34"-3000)	
9	515-188	1	HOSE (060FX90S-23"-3000)	

NOT SHOWN:

FOOTNOTES:

1. USE KIT 190-10063 WHEN REPLACING 150-1815. THIS KIT CONTAINS NEW VERION OF VALVE WITH DIN CONNECTOR AND JUMPER HARNESS 215-3522.

NOTE:

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

THRUST HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	149-343	1	HYDRAULIC CONTROL VALVE	SEE FOOTNOTE 1
2	301-3527	1	VALVE MOUNT BRACKET	
3	154-281	3	CONNECTOR (16S-160)	
4	106-387	2	FLG LOCKNUT (M10-1.50)	
5	163-101	1	BLEEDER VALVE	
6	106-725	2	SCREW (M10-1.50 X 65MM, SOC)	
7	150-2712	1	THRUST VALVE	SEE FOOTNOTE 2 AND 3
8	154-388	1	CONNECTOR (16S-16045)	
9	153-249	1	CONNECTOR (160-160FX45)	
10	150-1791	1	HOSE(160FX-160FX90L-33-3000)	
11	150-1792	1	HOSE(160FX-160FX90L-31-3000)	
12	115-731	2	ABRASION SLEEVE (2.38" X 34")	

NOT SHOWN:

FOOTNOTES:

1. SERVICE PARTS FOR 149-343
190-863 SEAL REPAIR KIT
2. SERVICE PARTS FOR 150-2712
500-2312 SEAL KIT
500-2313 SEAL KIT
500-2314 SEAL KIT
214-434 SOLENOID COIL (SMALL)
499-631 COIL RETAINER CAP
3. USE KIT 190-3231 WHEN REPLACING 150-2712. THIS KIT CONTAINS NEW VERSION OF VALVE WITH DIN CONNECTOR AND JUMPER HARNESS 215-3522.

NOTE:

TRACK CASE DRAIN HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	153-593	1	HYDRAULIC MOTOR	
2	154-252	2	CONNECTOR (04S-04090)	
3	154-265	2	UNION RUN TEE (040FX-040-040)	
4	157-037	1	O-RING (011 D90)	
5	153-592	1	HYDRAULIC MOTOR	USE SEAL KIT 500-752
6	117-672	1	ABRASION SLEEVE (1.00" X 20")	
7	153-767	2	COUNTERBALANCE MANIFOLD	
8	150-3176	1	HYD LINE	
9	515-437	1	HOSE (040FX90-21"-3000)	
10	154-728	1	HOSE (040FX90S-36"-3000)	

NOT SHOWN:

FOOTNOTES:

NOTE:

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

ANCHOR CYLINDER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	154-252	4	CONNECTOR (04S-04090)	
2	154-265	2	UNION RUN TEE (040FX-040-040)	
3	159-156	2	QDC ADAPTER (02-040F)	
4	150-1193	1	HYDRAULIC RELIEF VALVE	
5	154-220	4	CONNECTOR (040-06S)	
6	154-345	1	RUN TEE (06S-060-060)	
7	154-269	1	CONNECTOR (12S-120)	
8	154-368	1	UN RUN TEE (120FX-120-120)	
9	154-271	1	REDUCER NUT (120F)	
10	154-459	1	REDUCER STEM (060)	
11	117-702	1	ABRASION SLEEVE (1.00" X 68")	
12	117-613	1	ABRASION SLEEVE (1.00" X 64")	
13	117-213	1	ABRASION SLEEVE (1.00" X 96")	
14	117-413	1	ABRASION SLEEVE (1.00" X 84")	
15	150-1083	2	CYL (2.0 X 1.25 X 40.25)	
16	150-1493	1	HYDRAULIC LINE (-06)	
17	157-911	1	HOSE (040FX90S-85"-3000)	
18	150-1496	1	HOSE (040FX90M-67"-4000)	
19	159-837	1	HOSE (040FX90M-64"-3000)	
20	515-612	1	HOSE (040FX90-98"-3000)	
21	158-064	1	HYD CONTROL VALVE (4-SPOOL)	
22	154-276	2	CONNECTOR (040-08S90)	
23	117-608	2	ABRASION SLEEVE (1.00" X 15")	
24	154-261	2	CONNECTOR (040-08S)	
25	154-672	1	HOSE (040FX-15"-3000)	
26	154-672	1	HOSE (040FX-15"-3000)	
27	125-771	4	COMPOSITION BUSHING (1.25")	

NOT SHOWN:

FOOTNOTES:

NOTE:

STABILIZER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	354-466	1	BULKHEAD PLATE	
2	154-276	2	CONNECTOR (040-08S90)	
3	154-261	4	CONNECTOR (040-08S)	
4	154-255	2	UNION (040-040FX90)	
5	150-3769	1	5 SPOOL BANKABLE VALVE, DNCE50	
6	154-355	4	BK CONNECTOR (040-04090BK)	
7	154-374	2	CONN (040-08S, .062 ORF)	
8	116-633	1	ABRASION SLEEVE (1.59" X 115")	
9	116-632	1	ABRASION SLEEVE (1.59" X 130")	
10	515-439	1	HOSE (040FX90S-50"-3000)	
11	515-439	1	HOSE (040FX90S-50"-3000)	
12	515-439	1	HOSE (040FX90S-50"-3000)	
13	515-439	1	HOSE (040FX90S-50"-3000)	
14	151-187	2	CYL (4.0 X 2.0 X 10.0)	
15	515-239	1	HOSE (040FX90S-116"-3000)	
16	515-277	1	HOSE (040FX90S-128"-3000)	
17	515-277	1	HOSE (040FX90S-128"-3000)	
18	515-146	1	HOSE (040FX90S-140"-3000)	

NOT SHOWN:

FOOTNOTES:

NOTE:

PIPE LIFTER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	105-117	6	WASHER (5/16")	
2	105-297	6	BOLT (1/4-NC X 3-1/4")	
3	154-252	2	CONNECTOR (04S-04090)	
4	154-403	2	CONNECTOR (04S-040, XL)	
5	154-275	2	BK CONNECTOR (040-040BK)	
6	110-998	24	CLAMP HALVES (3/8") PAIR	
7	151-031	2	CYL (2.0 X 1.0 X 8.0)	
8	515-179	2	HOSE (040FX90-11"-3000)	
9	515-072	2	HOSE (040FX45-16"-3000)	
10	154-963	1	HOSE (040FX45-24"-3000)	
11	515-041	1	HOSE (040FX90S-20"-3000)	
12	157-764	1	HYDRAULIC VALVE	
13	154-342	3	CONNECTOR (06S-06090)	
14	154-348	1	UN BR TEE (060FX-060-060)	
15	154-221	2	CONNECTOR (06S-060)	
16	153-669	1	HYD LINE	
17	149-439	1	HYD LINE	
18	150-5630	1	FLOW DIVIDER	USE SEAL REPAIR KIT 190-3052, SEE FOOTNOTE 1
19	150-2420	1	HYD LINE	
20	150-2422	1	HYD LINE	
21	154-228	1	UNION (060-060FX90)	
22	157-037	4	O-RING (O11 D90)	
23	106-385	6	FLG LOCKNUT (M6-1.00)	
24	106-379	4	FLG LK SCREW (M6-1.00 X 20MM)	
25	301-3551	1	TIE-DOWN PLATE	
26	107-025	2	SCREW (M6-1.00 X 50MM)	
27	150-2421	1	HYD LINE	

NOT SHOWN:

FOOTNOTES:

1. FOR OLD STYLE FLOW DIVIDER, 516-087, USE SEAL REPAIR KIT 190-861.

NOTE:

HYDRAULIC CYLINDER

REF PART NO. NUMBER	QTY	DESCRIPTION	REMARKS
151-031		CYL (2.0" X 1.0" X 8.0")	INCL. REF. NO.'S 1 THRU 7
1. 190-165	1	SEAL REPAIR KIT (2" X 1")	
2. 150-778	1	LOCK RING (2")	
3. 150-285	1	CYLINDER BARREL (2")	
4. 106-096	1	FLG BOLT (1/2-NC X 1-3/4", GD8)	SEE FOOTNOTE 1
5. 150-775	1	CYLINDER PISTON (2.0" X 1.0")	
6. 150-772	1	CYLINDER HEAD (2" X 1")	
7. 150-417	1	CYLINDER ROD	

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:

1 -TORQUE TO 90-100 FT-LBS (120-135 N.M).

NOTE:

ELECTRICAL

ELECTRICAL SCHEMATIC

JT60 T3 & T4i

REF. #	PART #	COMPONENT	NOTES
L22	217-948	Pipe gripper close solenoid	
L23	217-948	Saver sub lubricator solenoid	
L24	500-1311	CCW rotation limit solenoid	
L25	500-2392	Rear wrench cw solenoid	
L26	500-2392	Rear wrench ccw solenoid	
L27	217-948	Shuttle extend solenoid	
L28	217-948	Shuttle retract solenoid	
L29	500-1092	Dump valve solenoid	
L30	500-1311	Carriage high speed solenoid	
L31	217-770	Ground drive high speed solenoid	
L32	500-1290	Inner rotation cw solenoid	
L33	500-1290	Inner rotation ccw solenoid	
L34	500-1311	Thrust brake solenoid	
L35	211-270	Rotation gauge selector solenoid	
L36	500-1311	Load sense cutout solenoid	
L37	500-1311	Spindle brake solenoid	
L38	500-2176	Left stabilizer up solenoid	
L39	500-2176	Left stabilizer down solenoid	
L40	500-2176	Right stabilizer up solenoid	
L41	500-2176	Right stabilizer down solenoid	
L42	500-2176	Rear drill frame tilt up solenoid	
L43	500-2176	Rear drill frame tilt down solenoid	
L44	500-2176	Front drill frame tilt up solenoid	
L45	500-2176	Front drill frame tilt down solenoid	
L46	500-2175	Setup valve dump solenoid	
L47	217-948	Row select up solenoid	
L48	217-948	Row select down solenoid	
L49	500-1311	Drill load sense coutout solenoid	
LS1	306-603	Warning light alarm	
LS2	192-006	Horn	
LS3	214-416	Strike alarm	
LS4	306-602	Reverse alarm	
M2	215-2594	Inner rotation hour meter	
MT1	215-2204	Fluid flow speed sensor	
MT2	215-2029	Outer rotation speed sensor	
MT3	215-1472	Inner rotation speed sensor	
Q1	215-1175	Front home switch	
Q2	215-1175	Rear home switch	
Q3	215-1175	Shuttle home switch	
Q4	215-1175	Drive position switch	
Q5	215-1175	Drill position switch	
Q6	215-1175	Rear stop switch	
R1-R2	215-1711	CAN Terminating resistor	
R3	217-568	Fuel sender	
R4	213-366	Coolant level sensor	T3
R4	215-1691	Coolant level sensor	T4i
R5	215-1701	Charge air temp sensor	T4i only

RELAY PANEL

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	350-1616		MAIN FUSE HOLDER (3 BK/AMI FUSES)	INCLUDES REF NO'S: 7-11; SEE FOOTNOTE 1
1	300-2029	1	HARNESS BRACKET	
2	106-551	1	CLIP NUT (M8-1.25)	
3	110-332	1	BOLT-ON CLAMP (1-5/8")	
4	107-095	1	FLG SCREW (M8-1.25 X 16MM)	
5	106-989	4	FLG LK SCREW (M8-1.25 X 35MM)	
6	301-5835	1	RELAY PANEL	
7	215-1009	1	MAIN FUSE HOLDER BASE	
8	215-1010	1	MAIN FUSE HOLDER COVER	
9	215-1011	1	BUSSBAR (MAIN FUSE HOLDER)	
10	106-048	6	LOCKNUT (#10-24)	
11	105-047	1	LOCKNUT (3/8-NC)	
12	215-1093	2	POWER RELAY	
13	106-574	9	CLIP NUT (M6-1.00)	
14	106-640	8	SCREW (M6-1.00 X 20MM,BUT SOC)	
15	106-161	1	FLG SCREW (M6-1.00 X 20MM)	
16	211-305	1	BK/AMI 125 AMP FUSE	
17	211-1000	2	BK/AMI 80 AMP FUSE	
19	220-2547	1	0.5 SEC PRESS DUMP DELAY TIMER w/ SW	
20	107-516	2	CLIP NUT (M4-.7)	
21	107-268	2	SCREW (M4-0.70 X 20MM, SOC)	

NOT SHOWN:

215-2033 1 ENGINE / FRAME HARNESS
 215-2032 1 RELAY PANEL HARNESS
 215-2675 1 PRESSURE DUMP TIMER HARNESS

FOOTNOTES:

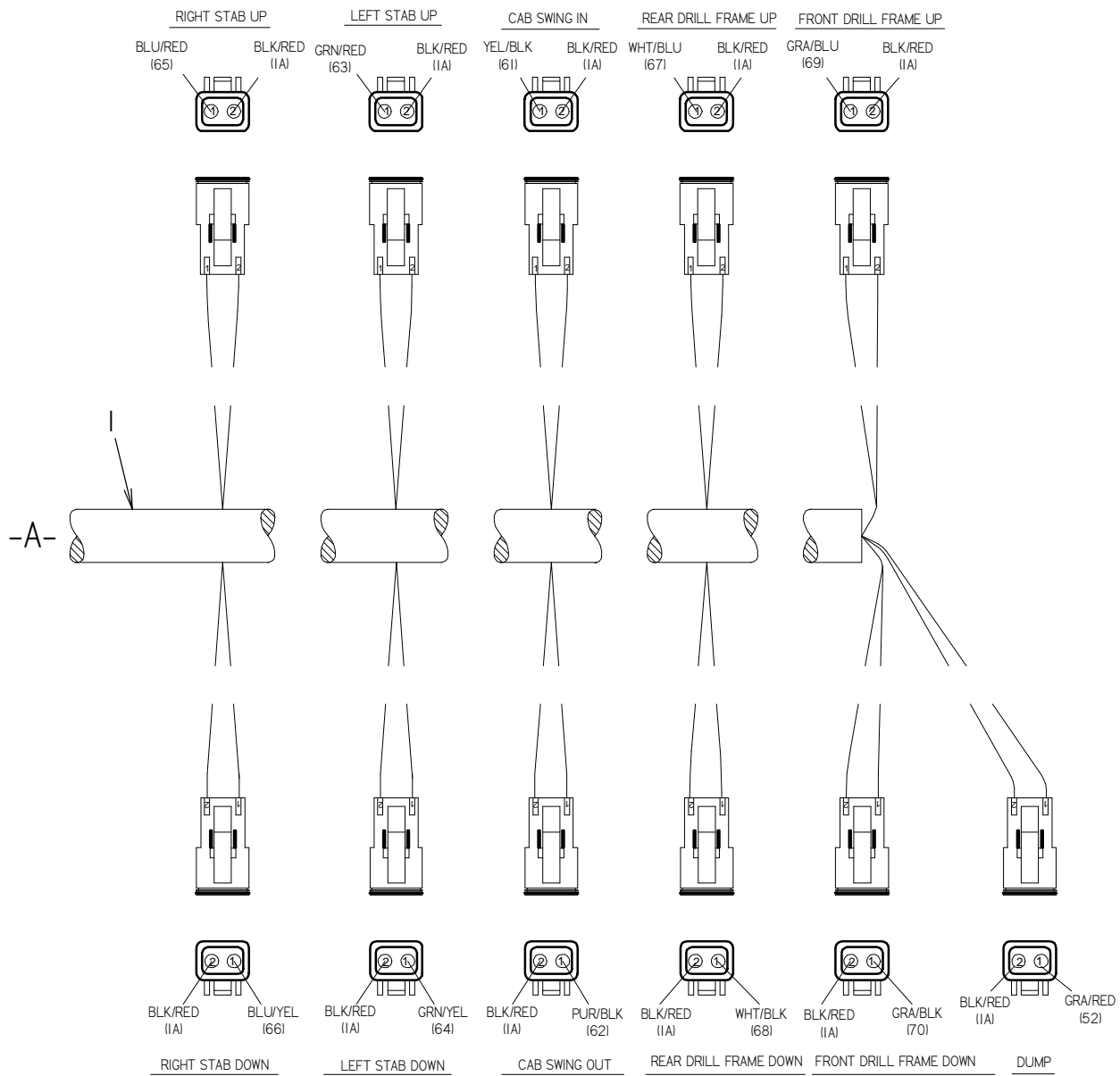
1. SERVICE KIT FOR #350-1616, USE KIT #190-2375

NOTE:

ELECTRICAL DIAGRAM

JT/AT60

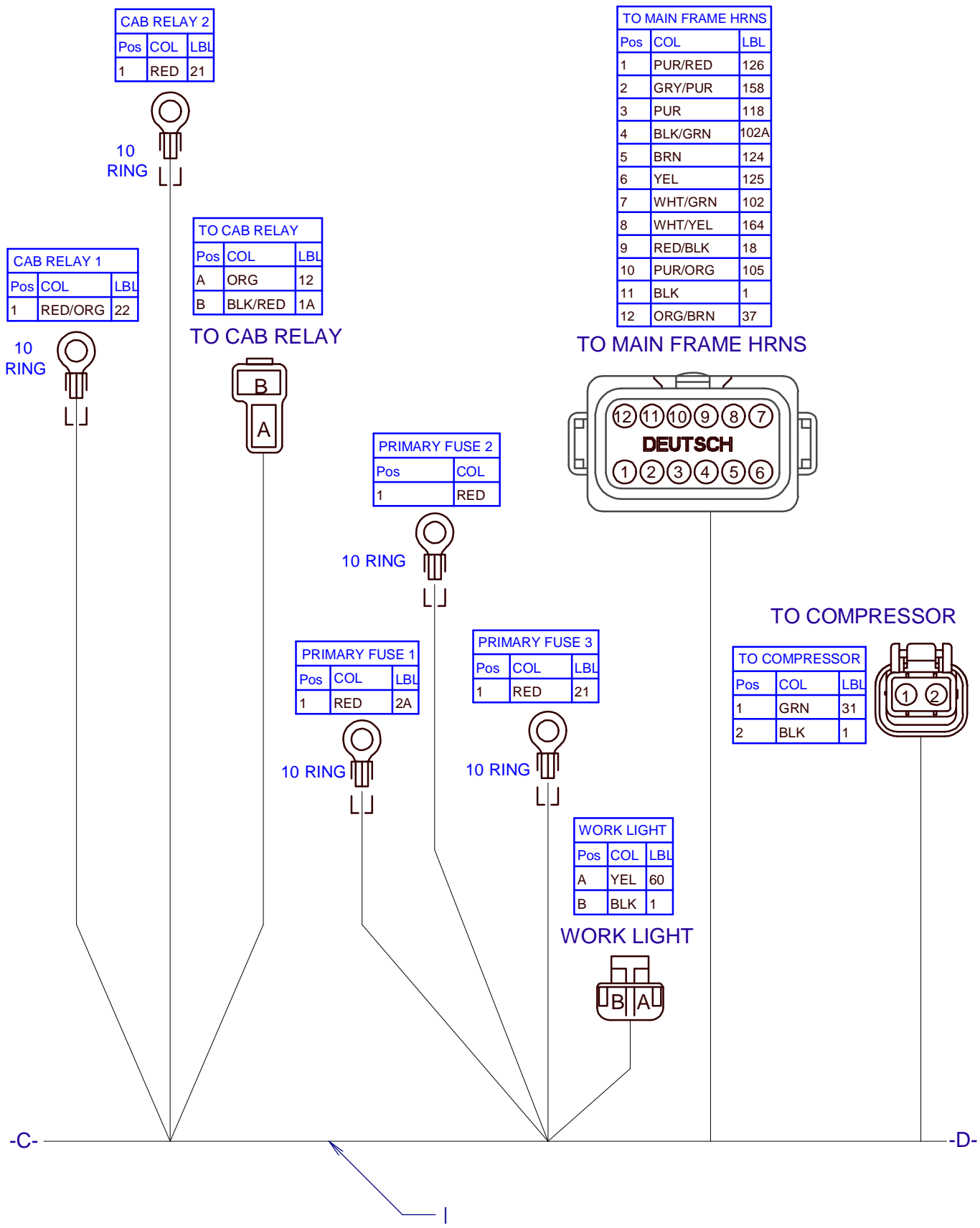
SETUP VALVE HARNESS



ELECTRICAL DIAGRAM

RELAY PANEL HARNESS

BEGINS W/ SN: CMWAT60XEF0000039 & CMWJT60XVF0000049



CAB RELAY 2		
Pos	COL	LBL
1	RED	21

TO MAIN FRAME HRNS		
Pos	COL	LBL
1	PUR/RED	126
2	GRY/PUR	158
3	PUR	118
4	BLK/GRN	102A
5	BRN	124
6	YEL	125
7	WHT/GRN	102
8	WHT/YEL	164
9	RED/BLK	18
10	PUR/ORG	105
11	BLK	1
12	ORG/BRN	37

CAB RELAY 1		
Pos	COL	LBL
1	RED/ORG	22

TO CAB RELAY		
Pos	COL	LBL
A	ORG	12
B	BLK/RED	1A

PRIMARY FUSE 2		
Pos	COL	LBL
1	RED	

PRIMARY FUSE 1		
Pos	COL	LBL
1	RED	2A

PRIMARY FUSE 3		
Pos	COL	LBL
1	RED	21

WORK LIGHT		
Pos	COL	LBL
A	YEL	60
B	BLK	1

TO COMPRESSOR		
Pos	COL	LBL
1	GRN	31
2	BLK	1

ELECTRICAL DIAGRAM

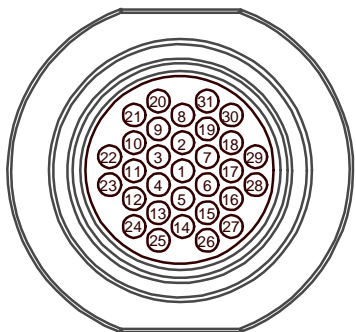
REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	214-763	1	WORKLIGHTS HARNESS	

FOOTNOTES

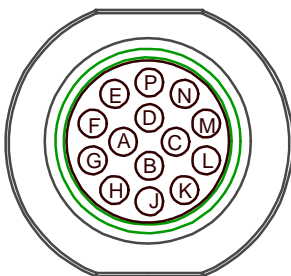
NOTE:

ELECTRICAL DIAGRAM OPERATOR STATION HARNESS BEGINS W/ SN: CMWAT60XEF0000039 & CMWJT60XVF0000049

MAIN FRAME 31		
Pos	COL	LBL
1	BLK/BLU	1B
2	WHT/BLK	55
3	YEL/WHT	198
4	TAN/ORG	160
5	BLU/WHT	101
6	GRN/PUR	146
7	GRN/RED	147
8	GRN/ORG	149
9	GRN/YEL	148
10	WHT/YEL	156
11	GRY/WHT	78
12	BLK/RED	1A
13	WHT/BLU	157
14	WHT/RED	79
15	TAN/RED	140
16	PUR/ORG	105
17	CAVITY	
18	TAN/YEL	161
19	TAN	117
20	CAVITY	
21	CAVITY	
22	WHT/BRN	75
23	CAVITY	
24	PUR/GRN	85
25	ORG	12
26	PUR/WHT	100
27	GRY	119
28	GRN/BLK	92
29	BLU	121
30	BLU/BLK	93
31	GRN	120



MAIN FRAME 14



MAIN FRAME 14		
Pos	COL	LBL
A	TAN/BLU	30
B	CAVITY	
C	YEL	60
D	BRN/WHT	173
E	BRN/BLU	184
F	BRN/RED	185
G	GRY/RED	195
H	PUR/BLK	77
J	BRN/ORG	202
K	GRY	108
L	GRN/YEL	99
M	YEL/PUR	109
N	PUR/BLK	193
P	YEL/WHT	198

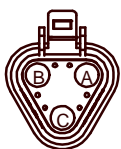
DIODE BLOCK 2		
Pos	COL	LBL
1	BLU/ORG	81
2	BLU/ORG	81
3	BLU/YEL	82
4	BLU/YEL	82
5	GRY/ORG	83
6	GRY/ORG	83
7	ORG/GRY	162
8	GRN/YEL	148
9	GRN/RED	147
10	TAN/YEL	161
11	GRN/PUR	146
12	TAN/ORG	160

DIODE BLOCK 2



CAN	
Pos	COL
A	YEL
B	GRN
C	CAVITY

CAN



DIODE BLOCK 1		
Pos	COL	LBL
1	YEL/BLU	112
2	BLU/GRN	116
3	GRY/WHT	170
4	GRN/WHT	170
5	GRY/YEL	84
6	GRY/YEL	84
7	YEL/GRY	163
8	GRN/ORG	149
9	GRN/GRY	174
10	GRN/GRY	174
11	BLU/GRY	116A
12	GRN/BLU	112A

DIODE BLOCK 1



RESISTOR BLOCK		
Pos	COL	LBL
1	CAVITY	
2	YEL/GRN	107
3	YEL/GRN	107
4	YEL/WHT	198
5	YEL/WHT	198
6	YEL/WHT	198
7	WHT/RED	95
8	WHT/BLU	96
9	WHT/ORG	94
10	BLU/WHT	167
11	GRN/WHT	168
12	CAVITY	

RESISTOR BLOCK



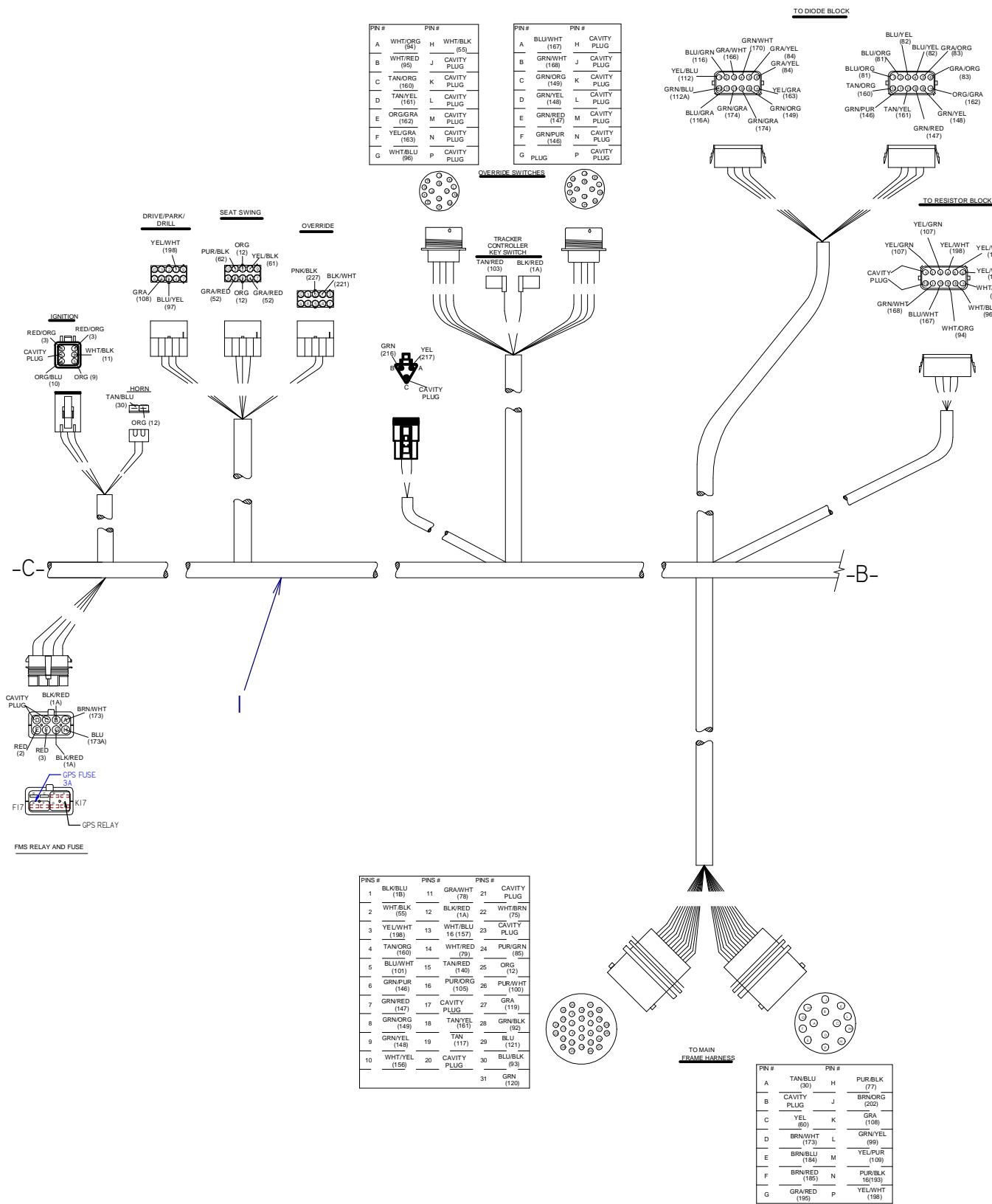
-C-

-D-

ELECTRICAL DIAGRAM

JT/AT60 - OPERATOR STATION HARNESS

ENDS W/ SN: CMWAT60XEF000038 & CMWJT60XVF000048



PIN #	PIN #
A	H
B	J
C	K
D	L
E	M
F	N
G	P

PIN #	CAVITY PLUG
A	BLU/WHT (167)
B	GRN/WHT (168)
C	GRN/ORG (149)
D	GRN/YEL (148)
E	GRN/RED (147)
F	GRN/PUR (146)
G	WHT/BLU (96)

PIN #	PIN #	CAVITY PLUG
A	H	WHT/BLK (50)
B	J	WHT/RED (95)
C	K	TAN/ORG (160)
D	L	TAN/YEL (161)
E	M	ORG/GRA (162)
F	N	YEL/GRA (163)
G	P	WHT/BLU (96)

PIN #	PIN #	CAVITY PLUG
A	H	BLU/WHT (167)
B	J	GRN/WHT (168)
C	K	GRN/ORG (149)
D	L	GRN/YEL (148)
E	M	GRN/RED (147)
F	N	GRN/PUR (146)
G	P	WHT/BLU (96)

PINS #	PINS #	PINS #	CAVITY PLUG
1	11	21	WHT/BLK (76)
2	12	22	WHT/BLK (75)
3	13	23	CAVITY PLUG
4	14	24	PUR/GRN (85)
5	15	25	ORG (12)
6	16	26	PUR/WHT (100)
7	17	27	GRA (119)
8	18	28	GRN/BLK (90)
9	19	29	BLU (121)
10	20	30	BLU/BLK (93)
		31	GRN (120)

PIN #	PIN #	CAVITY PLUG
A	H	PUR/BLK (77)
B	J	BRN/ORG (202)
C	K	GRA (158)
D	L	GRN/YEL (99)
E	M	YEL/PUR (109)
F	N	PUR/BLK (160)
G	P	YEL/WHT (198)

ANCHOR SYSTEMS

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	SEE FOOTNOTE 2
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.	<u>117-226</u>	-	EXTERNAL SNAP RING (.750")	SEE FOOTNOTE 2
	115-545	-	EXTERNAL SNAP RING (.75")	
17.	<u>350-689</u>	-	PLUNGER	SEE FOOTNOTE 2
	<u>308-603</u>	-	PLUNGER	SEE FOOTNOTE 3
	166-280	1	PLUNGER	
18.	155-748	1	O-RING (916 D90)	
19.	350-693	1	PUMP BARREL	
20.	301-0196	1	RETAINER CLIP	SEE FOOTNOTE 4
21.	105-525	1	ROLL PIN (3/16" X 1/4")	SEE FOOTNOTE 3
22.	178-467	1	ROD CAP	SEE FOOTNOTE 3

NOT SHOWN:

FOOTNOTES:

1. INSTALL WITH SMALLER BEVEL TOWARD INSIDE OF PUMP
2. 308-603 PLUNGER IS A DIRECT REPLACEMENT OF 350-689 PLUNGER, 117-226 RETAINER RING, AND AN ADDITIONAL 350-671 ROD GUIDE.
3. USE 166-280, 178-467 & 105-525 TO SUPERSEDE 308-603
4. RETAINER CLIP 301-0196 SUPERSEDES CLIP 105-653

NOTE:

LINER WASH TANK

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-3546	1	WASH TANK	
2	107-003	6	FLG LK SCREW (M12-1.75 X 35MM)	
3	106-709	6	FLG LK NUT (M12-1.75)	
4	106-380	4	FLG LK SCREW (M8-1.25 X 16MM)	
5	153-738	1	LINER WASH PUMP	
6	106-205	4	WASHER (1.91")	
7	105-1431	4	BOLT (#10-24 X 1-1/4",SOC,GD8, ZP)	
8	106-048	4	LOCKNUT (#10-24)	
9	153-871	3	S/O COUPLER (06N-06H90, BRS)	
10	115-219	1	REDUCER (12N-06NF)	
11	155-125	1	PLUG (04S)	
12	116-881	59	BULK HOSE (3/8", SOLD PER FT)	USE 1 @ 12" AND 1 @ 47"
13	110-249	4	WORM CLAMP (1/4" TO 5/8")	
14	110-141	1	DRAIN VALVE (04N)	
15	150-1839	1	TANK FLANGE	
16	153-133	1	STRAINER (12NF)	

NOT SHOWN:

FOOTNOTES:

NOTE:

FLUID PUMP

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	150-1831		FLUID PUMP	INCLUDES ITEMS 1 - 16
1.	107-794	3	LOCKNUT (1" NC)	SEE FOOTNOTE 1,2
2.	500-1232	3	PISTON RETAINER	
3.	500-1231	3	PISTON HOLDER	
4.	157-069	3	O-RING (215 D90)	SEE FOOTNOTE 1,2
5.	500-1233	3	CERAMIC CYLINDER	SEE FOOTNOTE 1
6.	500-1237	3	DEFLECTOR SHIELD	
7.	105-1829	3	OIL SEAL GASKET HOLDER	
8.	500-1230	6	PLUNGER ROD SEAL (U-CUP)	
9.	500-1234	3	PLUNGER ROD SEAL HOUSING	
10.	500-1236	3	PISTON ROD	
11.	105-1826	3	O-RING (243 D90)	SEE FOOTNOTE 1,2
12.	115-152	3	PLUG (12N, SQ FM)	
13.	105-1827	3	O-RING (245 D90)	SEE FOOTNOTE 3

NOT SHOWN:

500-1235	1	OIL SEAL	
105-1828	2	O-RING (264 D90)	
499-394	1	SIGHT GAGE	
499-451		VALVE PULLER (M14)	
499-450		VALVE KIT (M14)	SEE FOOTNOTE 3
190-1910		PISTON REPLACEMENT KIT	SEE FOOTNOTE 2
190-1912		PISTON / CYLINDER REPLACEMENT KIT	SEE FOOTNOTE 1
500-2656		HEMISPHERICAL CUP CONVERSION KIT	SEE FOOTNOTE 4

FOOTNOTES:

- PISTON / CYLINDER REPLACEMENT KIT: 190-1912. KIT INCLUDES: 3X LOCKNUT 107-794, 3X PISTON, 3X O-RING (215 D90) 157-069, 3X CERAMIC CYLINDER 500-1233, AND 3X O-RING (243 D90) 105-1826.
- PISTON REPLACEMENT KIT: 190-1910. KIT INCLUDES: 3X LOCKNUT 107-694, 3X PISTON, 3X O-RING (215 D90) 157-069, AND 3X O-RING (243 D90) 105-1826.
- VALVE KIT (M14): 499-450. KIT INCLUDES: 3X SUCTION VALVE, 3X DISCHARGE VALVE, AND 3X O-RING (245 D90) 105-1827.
IF JUST REPLACING A SINGLE VALVE, USE 500-3083 - SUCTION VALVE ASSY OR 500-3084 - DISCHARGE VALVE ASSY
- 500-2656 (HEMISPHERICAL CUP CONVERSION KIT) INCLUDES ALL PARTS TO CONVERT 150-1831 FLUID PUMP TO 150-2589

NOTE:

PIPE LOADER LIFTERS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-3509	1	AT REAR BOX SUPPORT	SEE FOOTNOTE I
2	362-1742	2	PIPE LIFTER INSERT	
3	181-981	2	TAPERED INSERT (1")	
4	181-982	2	TAPERED INSERT (1.25")	
5	106-341	6	SCREW (M16-2.00 X 70MM)	
6	106-545	6	LOCKNUT (M16-2.0,PRV TRQ,10.9)	
7	354-338	4	MOUNT PLATE	
8	106-397	18	WASHER (M12, HARDENED)	
9	106-620	8	SCREW (M12-1.75 X 150MM)	
10	106-685	8	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
11	154-403	2	CONNECTOR (04S-040, XL)	
12	154-275	2	BK CONNECTOR (040-040BK)	
13	106-396	2	WASHER (M10, HARDENED)	
14	105-245	2	SCREW (M10-1.50 X 25MM)	
15	105-273	2	SCREW (M12-1.75 X 30MM)	
16	180-559	2	PULL PIN (1" X 4.625")	
17	110-128	2	CLIP, PIN	
18	301-6839	1	FRONT LIFTER OUTER TUBE	
19	106-398	7	WASHER (M16, HARDENED)	8X FOR JT
20	106-340	7	SCREW (M16-2.00 X 50MM)	8X FOR JT
21	106-442	7	FLG LKNUT (M16-2.0,PRVTRQ10.9)	8X FOR JT
22	125-770	2	COMPOSITION BUSHING (1.000")	
23	179-024	1	TAPERED PIN (1.000" X 4.606")	
24	154-252	1	CONNECTOR (04S-04090)	
25	183-863	2	TAPERED PIN (31.7MM X 128MM)	
26	301-2953	2	CAP PLATE	
27	106-477	4	SCREW (M12-1.75 X 45MM, 10.9)	
28	515-179	2	HOSE (040FX90-11"-3000)	
29	151-031	2	CYL (2.0 X 1.0 X 8.0)	
30	313-805	2	PIPE LIFTER	
31	125-771	2	COMPOSITION BUSHING (1.25")	
32	106-551	2	CLIP NUT (M8-1.25)	
33	106-991	2	FLG LK SCREW (M8-1.25 X 20MM)	

NOT SHOWN:

301-3512 1 JT REAR BOX SUPPORT

SEE FOOTNOTE I

FOOTNOTES:

I. FOR JT PIPE BOX USE 301-3512 REAR BOX SUPPORT, FOR AT PIPE BOX USE 301-3509 REAR BOX SUPPORT

NOTE:

SHUTTLE GUARD

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	307-591	1	FRONT SHUTTLE SUPPORT	
2	106-992	2	FLG LK SCREW (M8-1.25 X 25MM)	
3	106-561	4	LOCKNUT (M8-1.25,PRV TRQ,10.9)	
4	307-592	1	REAR SHUTTLE SUPPORT	
5	313-968	1	SHUTTLE GUARD	
6	307-619	2	PIN RETAINER	
7	106-632	4	FLG LK SCR (M12-1.75X35MM,SER)	
8	106-685	4	LOCKNUT(M12-1.75,PRV TRQ,10.9)	
9	178-415	2	PIN	
10	354-571	1	GUARD LOCK PIN	
11	301-7340	1	LIFTER COVER	SEE FOOTNOTE 1
12	105-1639	2	FLG BOLT (M8 - 1.25 X 25MM)	
13	105-1850	2	SPRING PLUNGER PIN (1/2" - NC X 2")	
14	105-044	2	JAM NUT (1/2-NC)	

NOT SHOWN:

301-7578 1 LIFTER COVER

SEE FOOTNOTE 1

FOOTNOTES:

1. 301-7340 LIFTER COVER IS USED ON "AT", 301-7578 LIFTER COVER IS USED ON "JT"

NOTE:

MIRRORS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	106-987	4	FLG LK SCREW IM6-1.00 X 16MM	
2	116-874	2	MIRROR ARM	
3	214-426	2	CONVEX MIRROR	

NOT SHOWN:

FOOTNOTES:

NOTE:

AT PIPE BOX (TALL)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	190-2235		AT PIPE BOX (TALL)	INCLUDES REF No's I - II
1	313-939	1	AT PIPE BOX	SEE FOOTNOTE I
2	110-228	5	LYNCH PIN (7/16" X 2")	
3	308-084	1	LIFT PIN	
4	308-086	4	SUPPORT PIN	
5	178-445	2	REAR PIN	
6	308-091	1	FRONT PIN	
7	314-574	1	LIFT PIN BLOCK	

NOT SHOWN:

FOOTNOTES:

- I. FOR JT PIPE BOX_USE REAR BOX SUPPORT 301-3512
FOR AT PIPE BOX_USE REAR BOX SUPPORT 301-3509.

NOTE:

PPF #800 PIPE BOX (SHORT)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	190-2296		PPF #800 PIPE BOX (SHORT)	INCLUDES REF NO:S 1-7
1	301-6608	1	PPF #800 PIPE BOX (SHORT)	SEE FOOTNOTE 1
2	308-286	1	BAR	
3	301-6589	4	PIN	
4	301-6571	1	LIFT BLOCK	
5	301-6588	1	LIFT BLOCK PIN	
6	110-228	5	LYNCH PIN (7/16" X 2")	
7	178-445	2	REAR PIN	

NOT SHOWN:

FOOTNOTES:

1. FOR JT PIPE BOX'S USE REAR BOX SUPPORT 301-3512
FOR AT PIPE BOX'S USE REAR BOX SUPPORT 301-3509.

NOTE:

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Replacement O-Rings

Fitting		SAE (Port Seal)			ORFS (Face Seal)			Code 61, Code 62 4-Bolt Flange	
Size (Inch)	Dash Size	Thread Size	O-Ring		Thread Size	O-Ring		Dash Size	O-Ring P/N
			Dash Size	P/N		Dash Size	P/N		
1/16	1	NA	NA	NA	NA	NA	NA	NA	NA
1/8	2	5/16 - 24	-902	NA	NA	NA	NA	NA	NA
3/16	3	3/8 - 24	-903	NA	NA	NA	NA	NA	NA
1/4	4	7/16 - 20	-904	155-760	9/16 - 18	-011	157-037	NA	NA
5/16	5	1/2 - 20	-905	NA	5/8 - 18	NA	NA	NA	NA
3/8	6	9/16 - 18	-906	155-705	11/16 - 16	-012	157-038	NA	NA
1/2	8	3/4 - 16	-908	155-706	13/16 - 16	-014	157-039	-210	155-759 #
5/8	10	7/8 - 14	-910	155-707	1 - 14	-016	157-040	NA	NA
3/4	12	1-1/16 - 12	-912	155-709	1-3/16 - 12	-018	157-017	-214	155-723
7/8	14	1-3/16 - 12	-914	155-747	1-5/16 - 12	-020	157-042	NA	NA
1	16	1-5/16 - 12	-916	155-748	1-7/16 - 12	-021	155-714	-219	157-029
1-1/4	20	1-5/8 - 12	-920	155-702	1-11/16 - 12	-025	157-129	-222	157-078
1-1/2	24	1-7/8 - 12	-924	157-001	2 - 12	-029	157-130	-225	157-128
2	32	2-1/2 - 12	-932	NA	2-1/2 - 12	-135	NA	-228	500-031
2-1/2	40	3 - 12	NA	NA	NA	NA	NA	-232	157-015 #
3	48	3-1/2 - 12	NA	NA	NA	NA	NA	-237	157-006 #

All part numbers listed above are D90 except for # which are D70.

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

NA = not a current Ditch Witch® part numbered o-ring, or dash size does not occur in current Ditch Witch applications.

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

ORFS = o-ring seal; a 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.

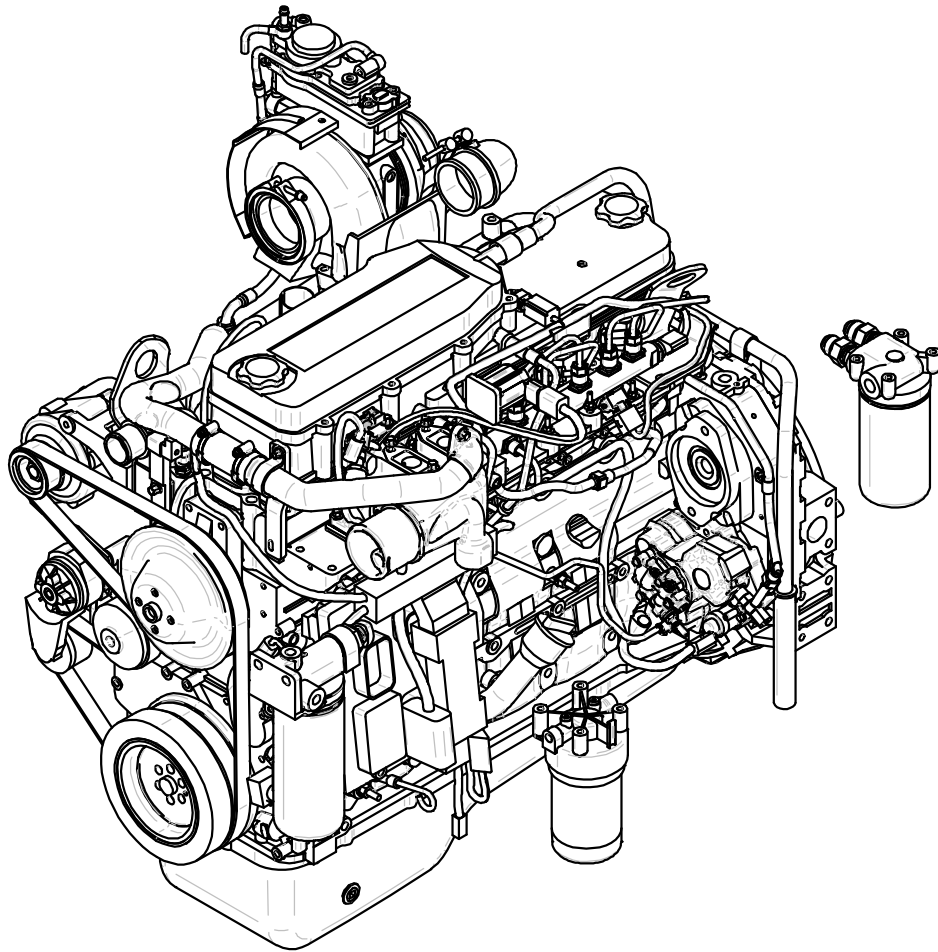
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Hydraulics

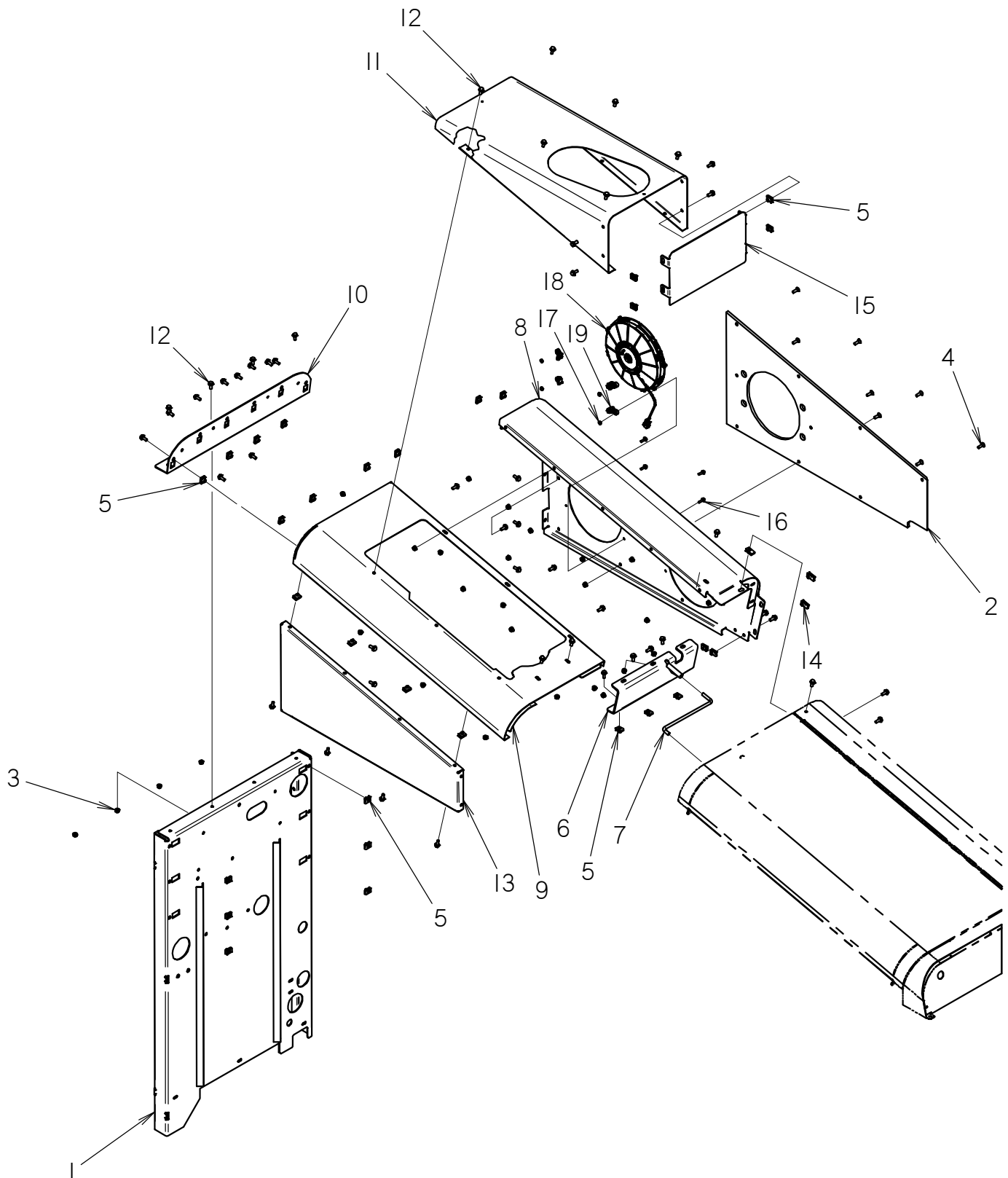
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ENGINE SERVICE PARTS

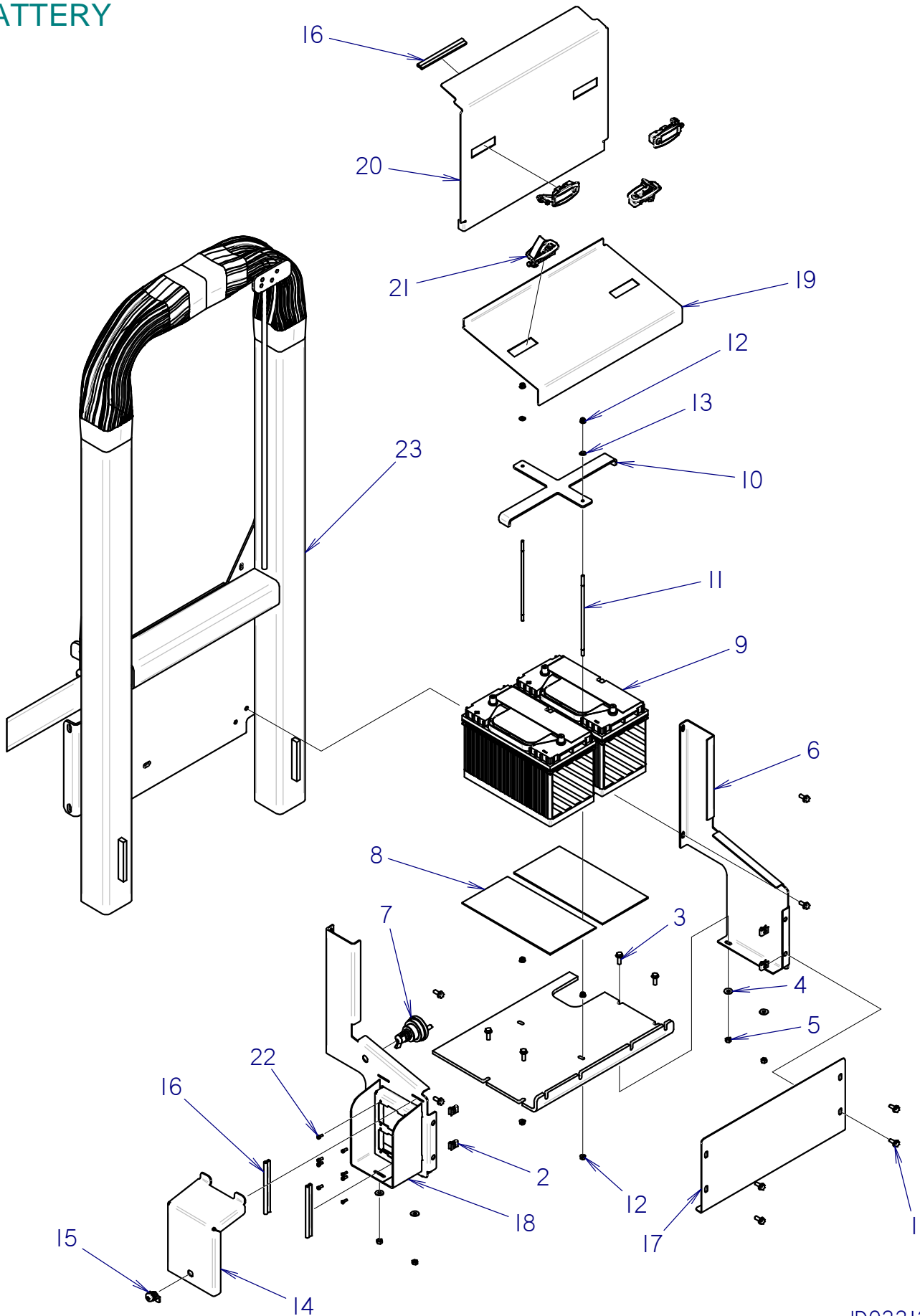


TIER 4i SHOWN

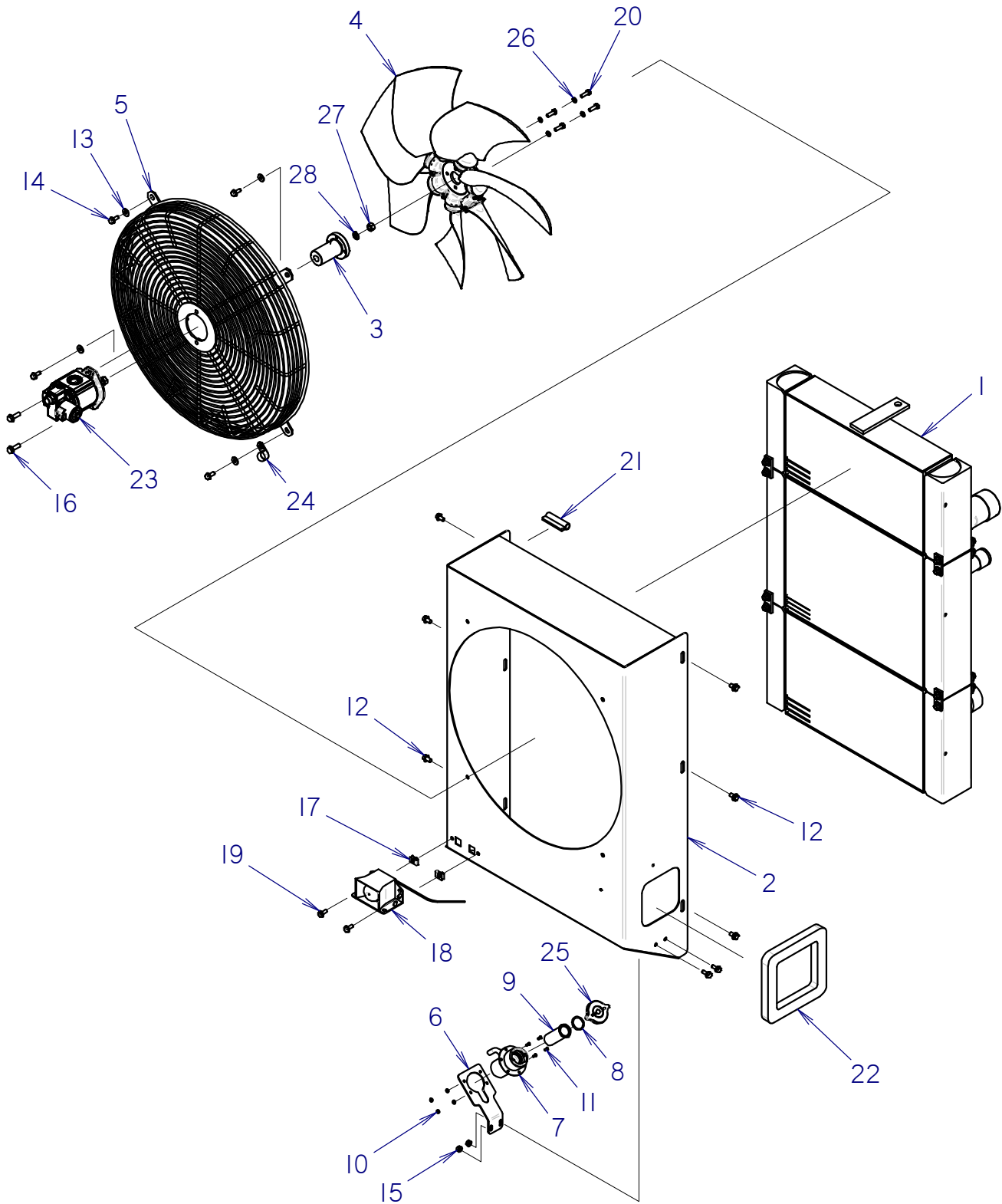
COVERS - TOP PANELS - MID HOOD



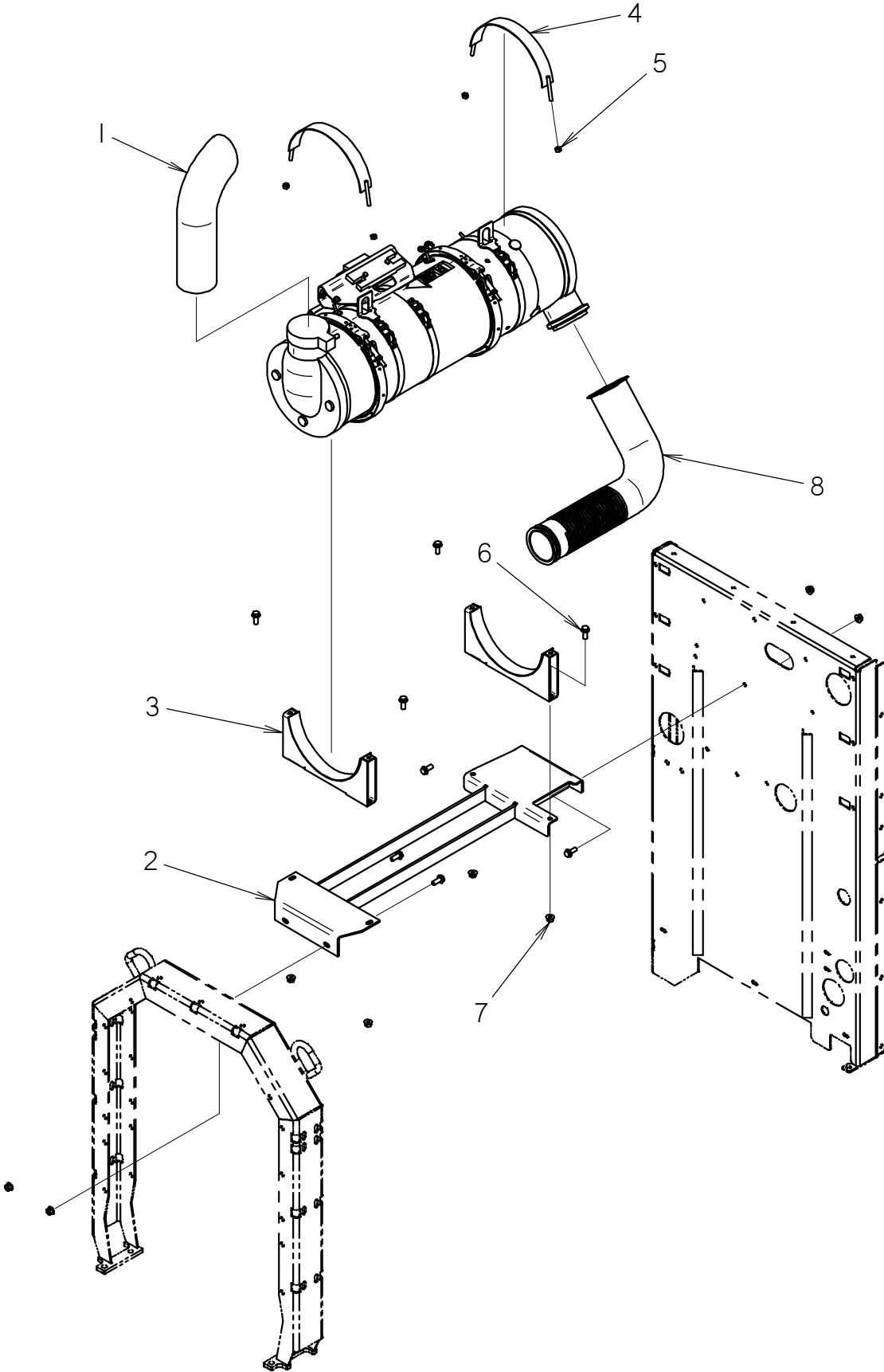
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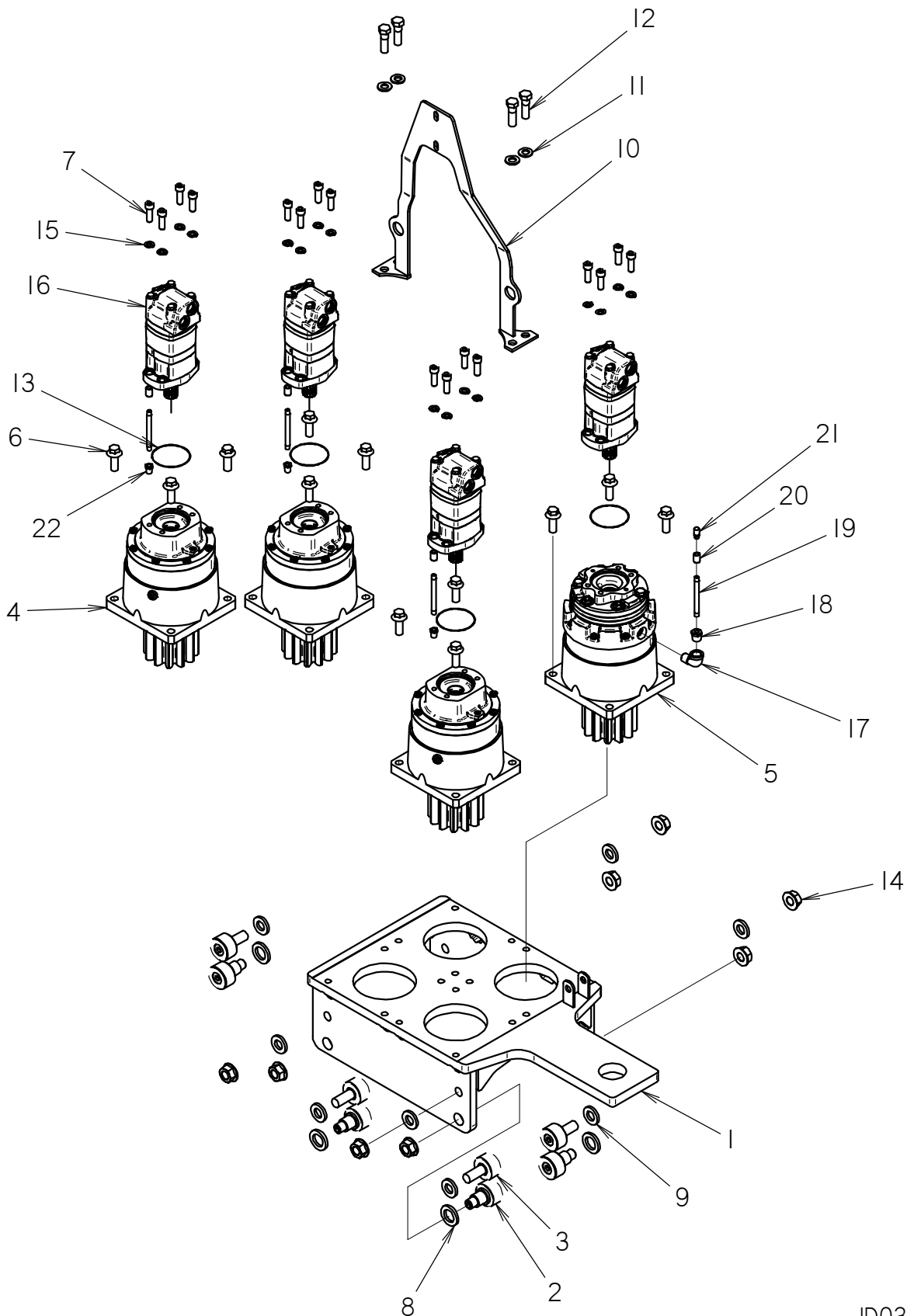
COOLING SYSTEM - FAN TIER 3



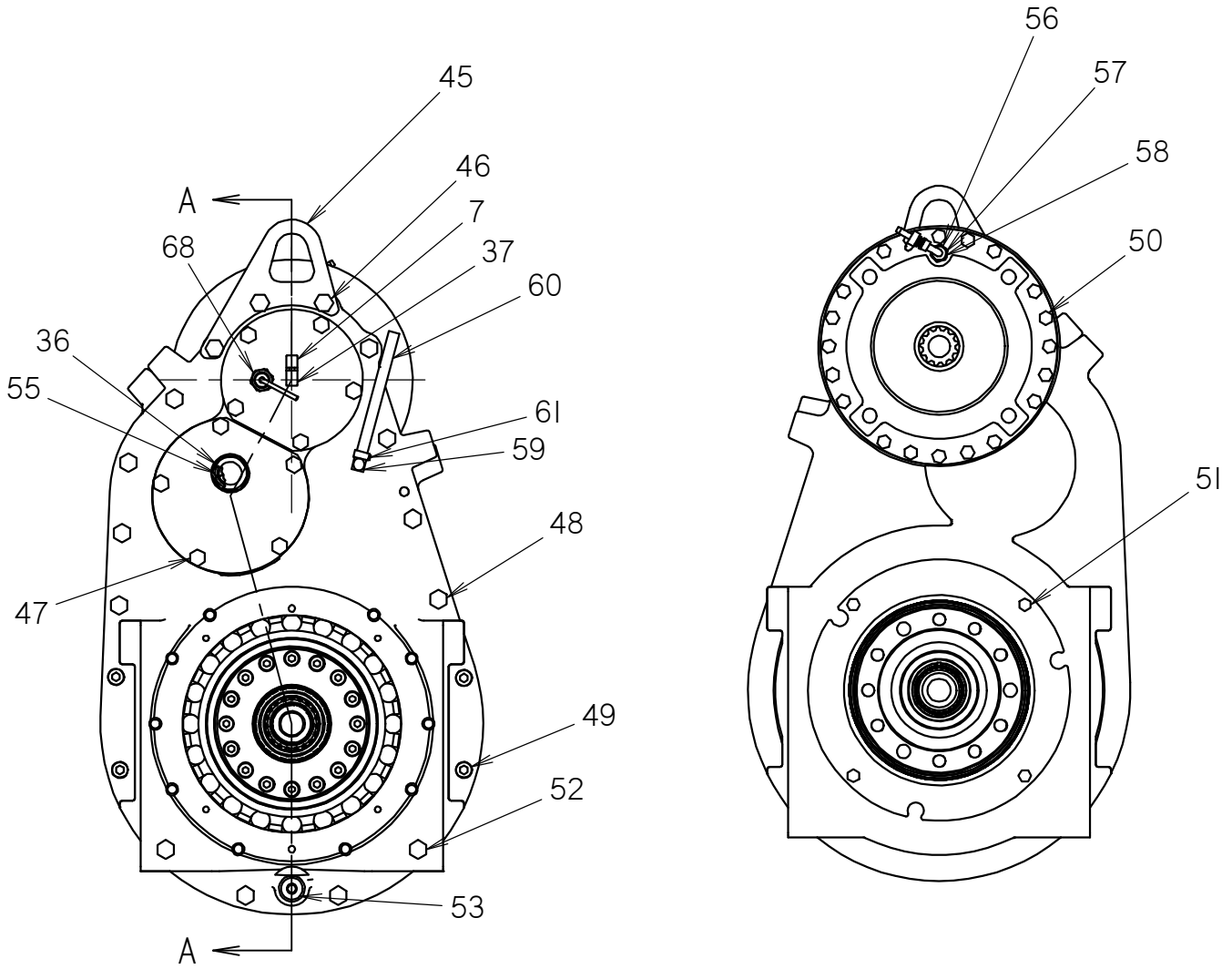
EXHAUST SYSTEM TIER 4i



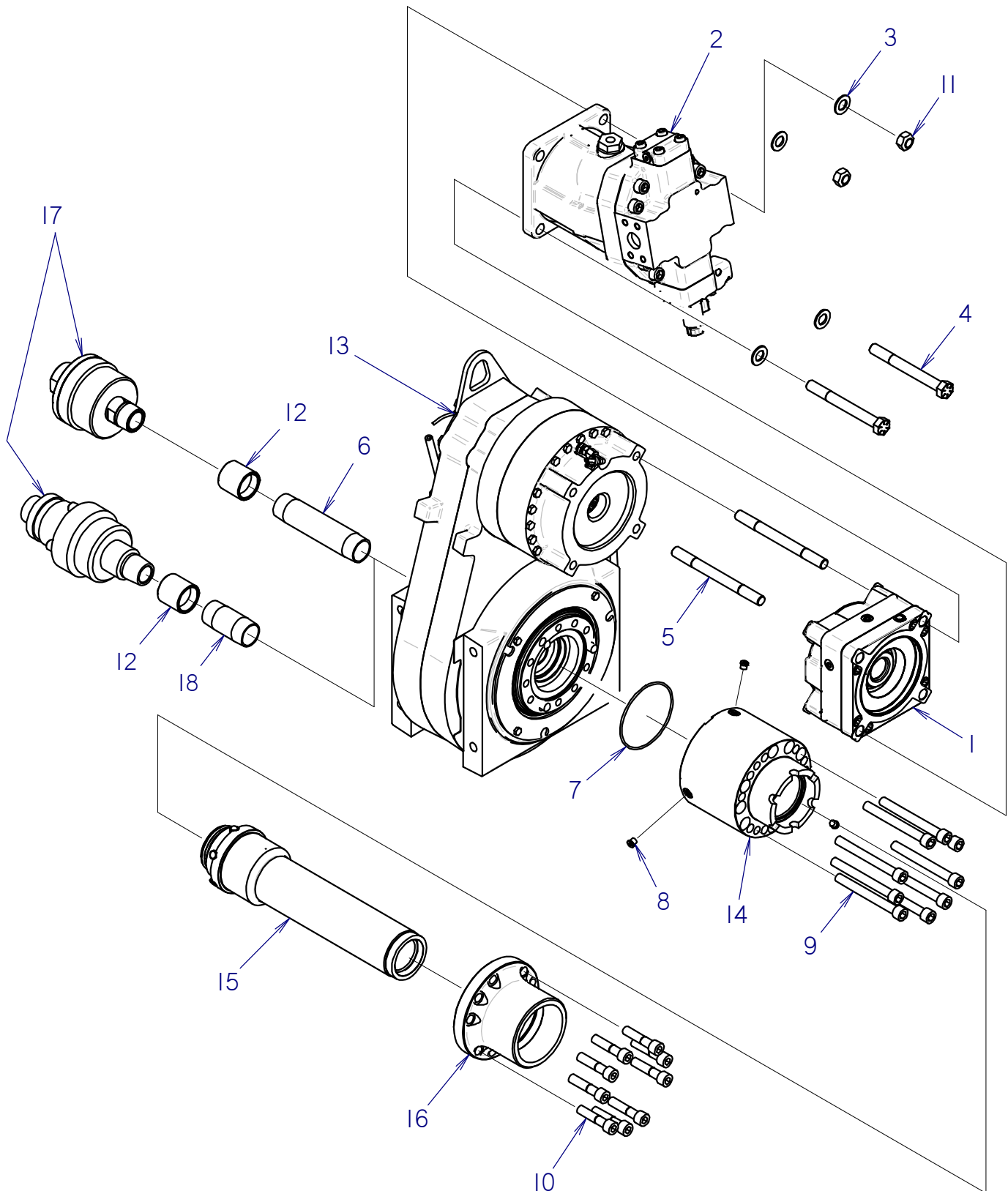
THRUST DRIVE RACK



ROTATION GEARBOX (AT)

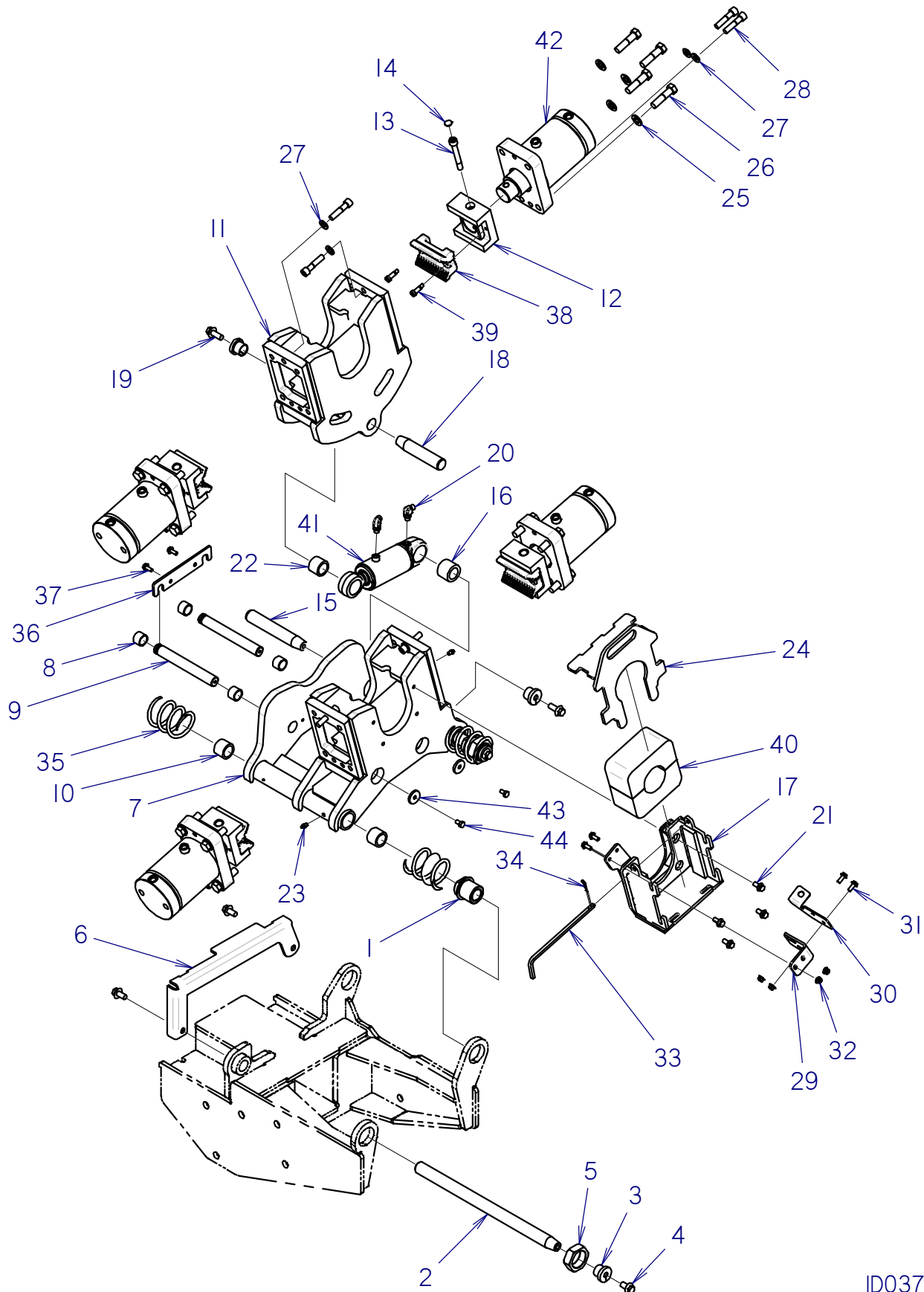


SPINDLE DRIVE (JT)

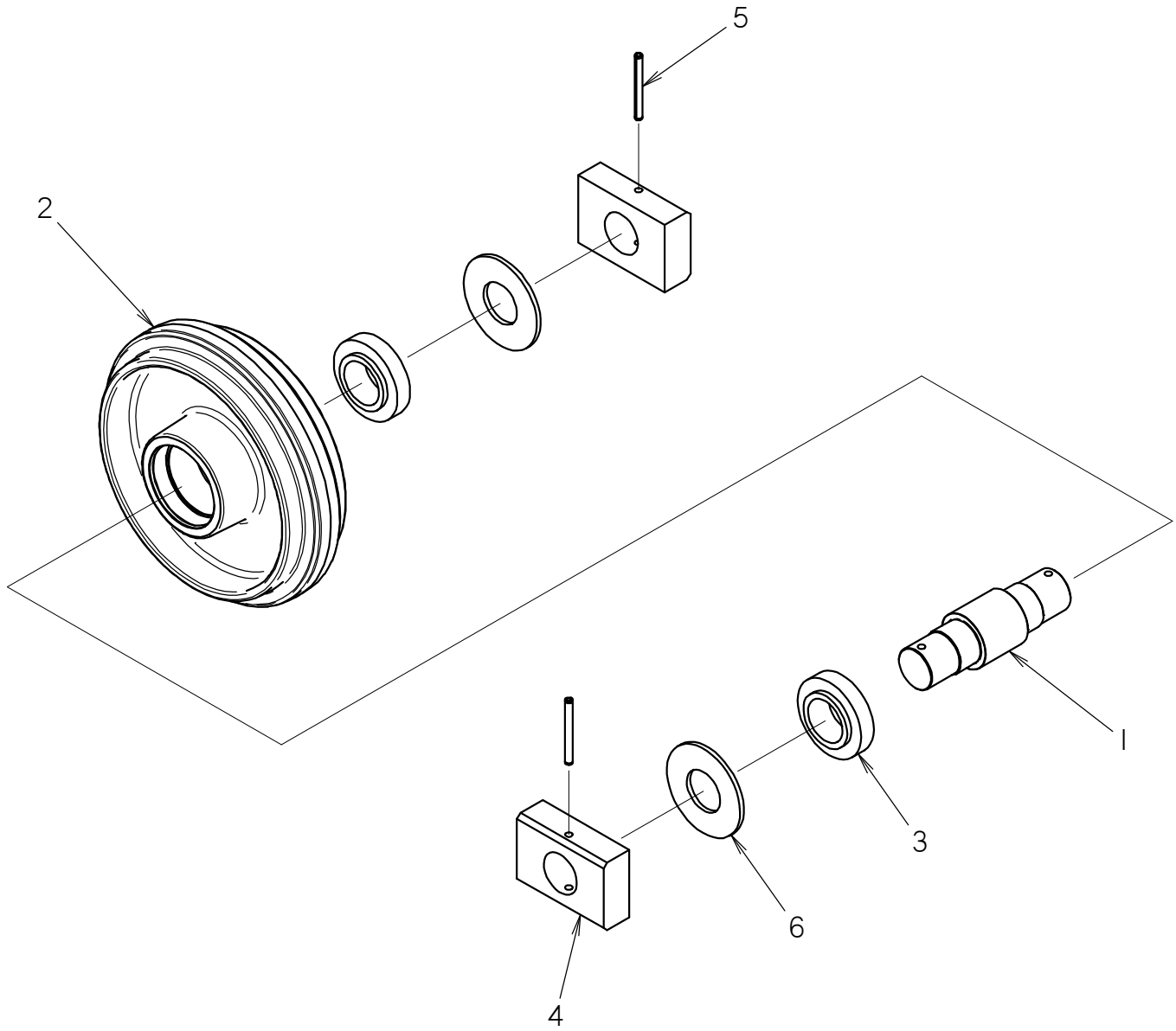


WRENCH ASSEMBLY

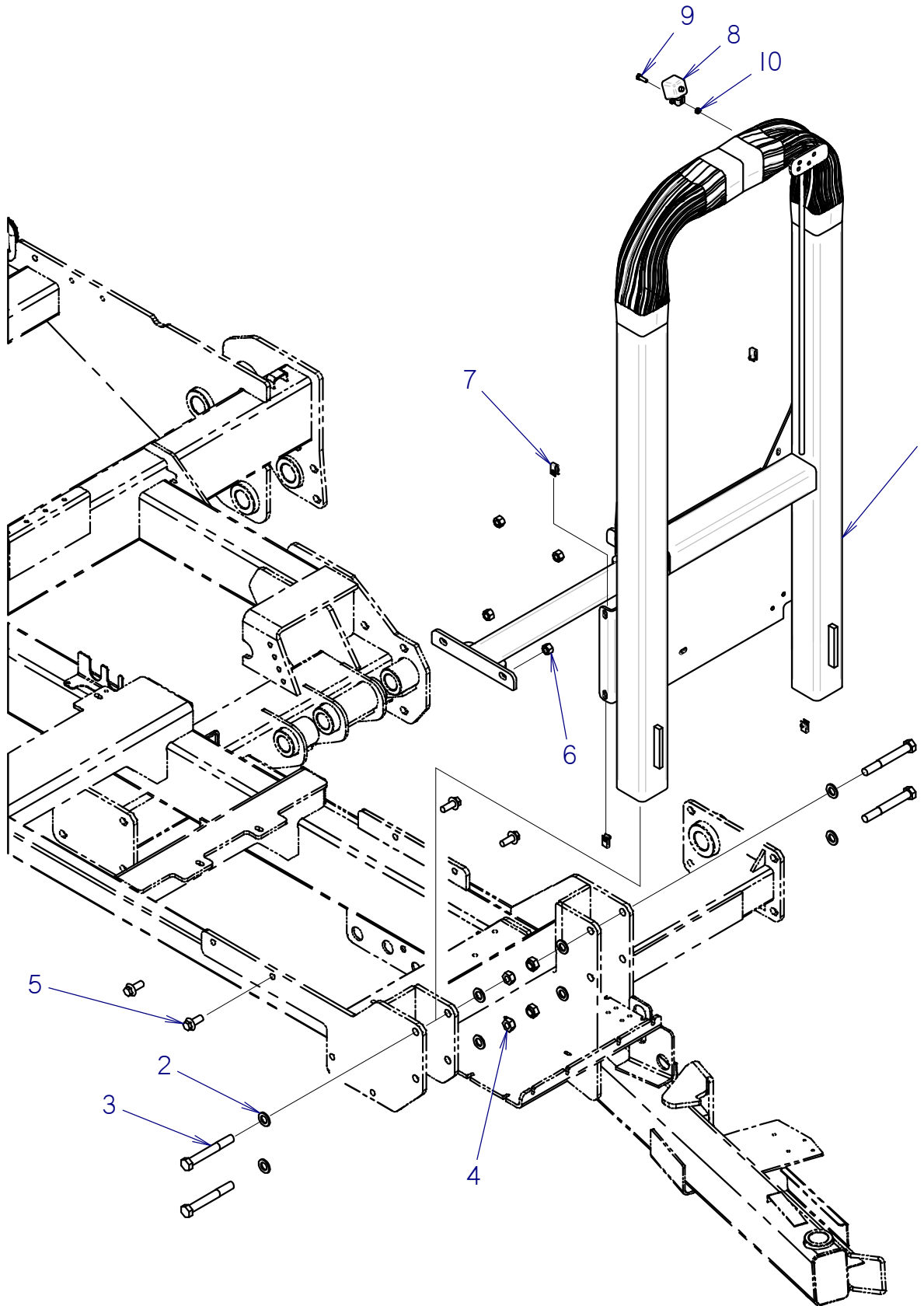
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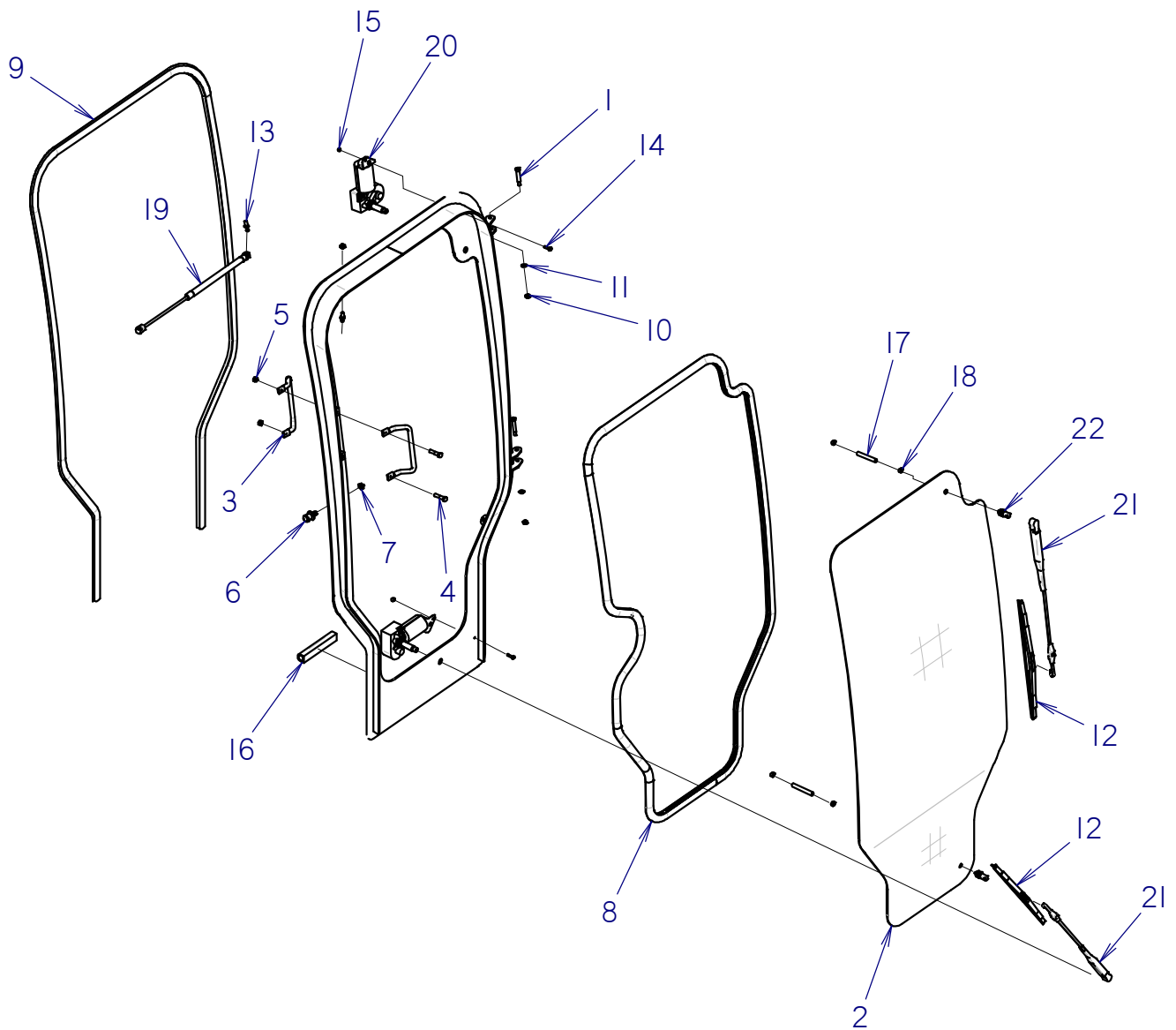
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2 POST ROPS

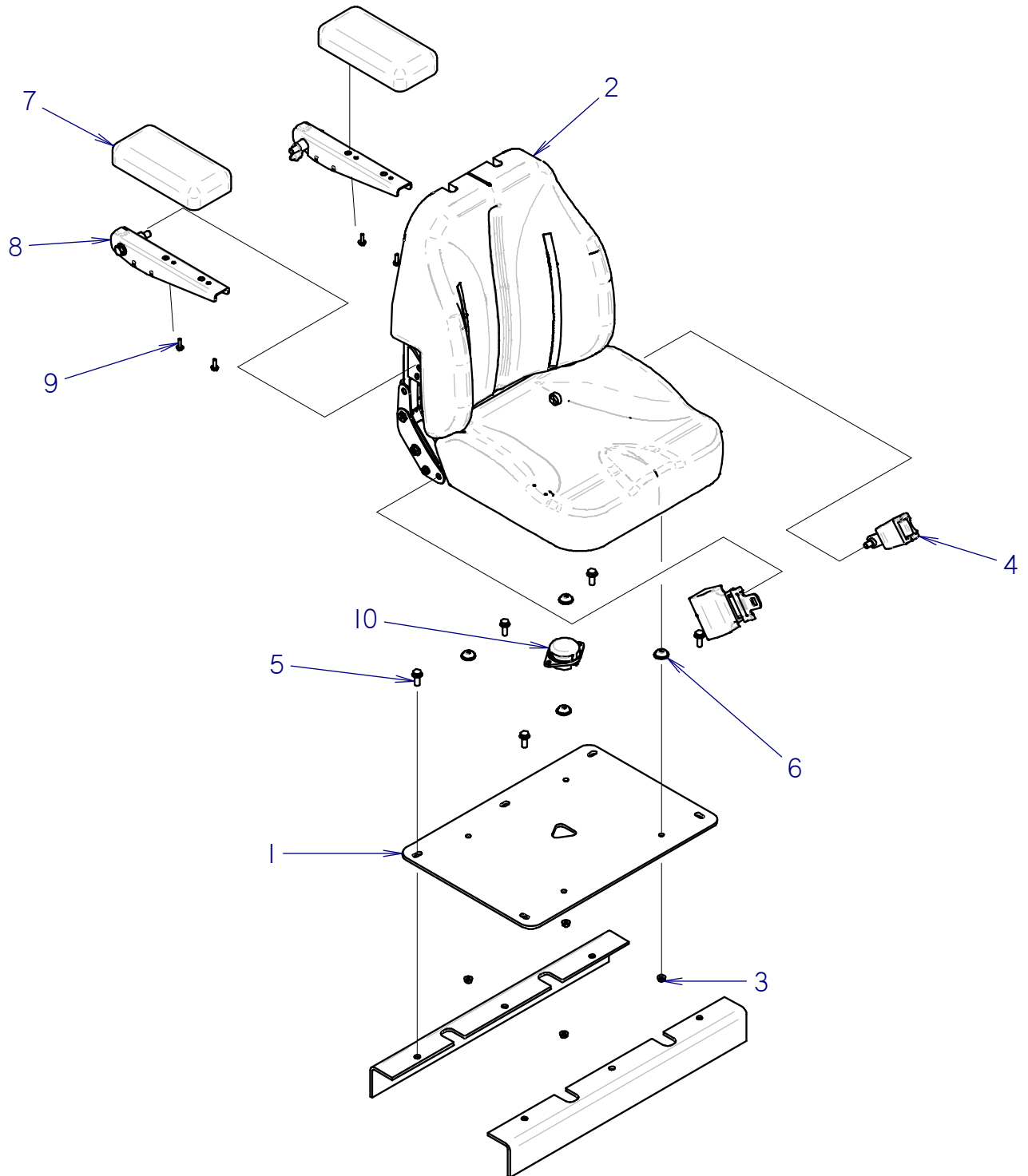


CAB DOOR

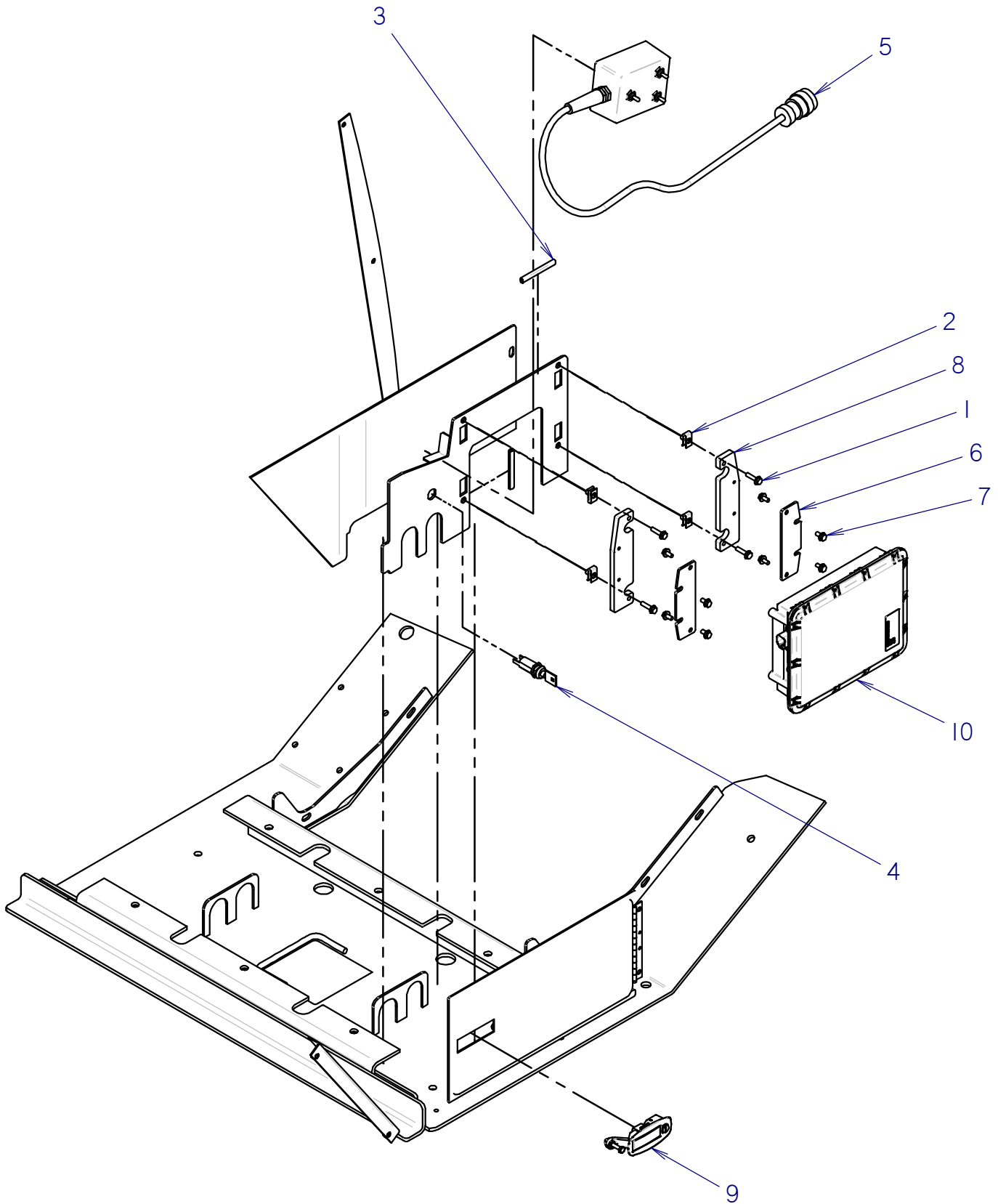


SEAT - BELT - COVER

BEGINS WITH S/N:



CONTROLLER
BEGINS WITH S/N



HYDRAULIC SCHEMATIC

JT/AT60

ITEM #	QTY	COMPONENT	NOTES
00		Engine Rated Speed	2200 rpm
01	1	Outer Rotation Pump	Outer Rotation 130 cc (7.93 cu.in./rev.), T5, T6, T8
02	1	Selector Valve	Rotation Gauge Selector Valve
03	1	Load Sense Pump	Thrust, Drill Fluid, Wrenches, Ground Drive & Anchor Hydraulic Pump, 150cc (9.15 cu.in./rev.), T1, T2, T3, T4
04	1	Auxiliary Pump	Fan & A/C Motor 25 cc (1.55 cu.in./rev.) Set Up, Pipe Loader Valves 13 cc (0.77 cu.in./rev.), T9
05	1	Anchor Valve	T1, T2, T3, T7
06	1	Wrench Valve Manifold	T1, T2, T3, T10
07	1	Setup Valve	T9
08	1	Pipe Loader Valve	T9
09	1	Charge Pressure Manifold	Carriage -- Thrust Brake, Thrust 2 Speed, Rotation Brake, T8
10	1	Charge Pressure Valve	Engine Compartment -- Track 2 Speed, T8
11	1	Series / Parallel Valve	Carriage -- Thrust 2 Speed
12	1	Drill Fluid Pump	
13	1	Drill Fluid Hydraulic Motor	400cc (24.4 cu.in./rev.) T1, T2, T3
14	1	Filter	Carriage
15	1	Outer Rotation Motor	160 / 63 cc (9.76 / 3.84 cu.in./rev.) T5, T6
16	1	Relief Valve	Outer Rotation Flushing
17	4	Thrust Motor	250 cc (15.4 cu.in./rev.) T1, T2, T3
18	1	Thrust Brake	
19	2	Track Drive Motor	195cc (11.89 cu.in./rev.) T1, T2, T3
20	1	Air Conditioner Compressor Motor	19cc (1.16 cu.in./rev.)
21	1	Load Sense Manifold	
22	1	Load Sense Suction Manifold	
23	1	Load Sense Pressure Manifold	
24	1	Reservoir	
25	1	Hydraulic Return Filter	Head & 2 Elements, -- 10 Micron
26	1	Hydraulic Fan Motor	19cc (1.16 cu.in./rev.)
27	1	Check Valve	Oil Cooler Bypass, 40 psi
28	1	Oil Cooler	
29	1	Seat Swing Cylinder	
30	2	Pipe Grip Cylinder	

HYDRAULIC RESERVOIR

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	301-4435	1	HYDRAULIC RESERVOIR	
2	354-466	1	BULKHEAD PLATE	
3	154-235	3	CONNECTOR (08S-08090)	
4	514-097	1	CONNECTOR (20S-200)	
5	155-211	1	S/O COUPLER (16S-12H)	
6	514-426	1	ELBOW (20S-20H45)	
7	214-819	1	TEMPERATURE SWITCH	
8	115-320	1	GROMMET (1-1/2")	
9	155-004	1	S/O COUPLER (20S-20H)	
10	106-162	2	FLG SCREW (M8-1.25 X 20MM, GD8)	
11	106-561	8	LOCKNUT (M8-1.25,PRV TRQ,10.9)	
12	106-061	1	BOLT (1/4"-NC X 6-1/2")	
13	105-085	1	LOCKNUT (1/4"-NC)	
14	106-381	6	FLG LK SCREW (M8-1.25 X 25MM)	
15	105-118	6	WASHER (3/8")	
16	301-5709	1	GAUGE PANEL	
17	106-986	2	FLG LK SCREW (M6-1.00 X 12MM)	
18	106-106	2	NUT (M6-1.00)	
19	149-829	1	1" SEAL WASHER	
20	149-398	1	DRAIN PLUG (1" W/.375 ORF)	
21	107-269	4	SCREW (#4-40 X 3/4", PAN)	
22	106-279	4	WASHER, FLAT, #4, BRS	
23	106-277	4	NUT, (#4-40 BRASS)	
24	213-035	1	DUST CAP W/ LANYARD	
25	154-221	2	CONNECTOR (06S-060)	
26	154-278	2	CONNECTOR (04S-040)	
27	155-130	2	PLUG (06S)	
28	154-381	1	PLUG (08S)	
29	159-392	1	PLUG (12S, SOC)	
30	155-184	1	PLUG (16S, SOC, FM)	
31	301-4434	1	COVER	
32	105-214	12	FLG SCREW (#10-24 X .5")	
33	116-218	1	SIGHT GLASS (2")	
34	110-008	1	FILLER BREATHER ASSY.	
35	215-1725	1	ROCKER SWITCH (ONI-OFF-(ONI)	
36	215-1789	1	ROCKER SWITCH (TC) ON-ON	

NOT SHOWN:

215-1727 1 ROCKER SWITCH
215-2594 1 HOUR METER

SEE FOOTNOTE I
SEE FOOTNOTE I

FOOTNOTES:

I. USE ON AT ONLY

NOTE:

AUXILIARY PUMP HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	154-300	3	CONNECTOR (100-12S90)	
2	154-307	1	CONNECTOR (16S-080)	
3	154-266	1	UNION RUN TEE (080FX-080-080)	
4	150-3769	1	5 SPOOL BANKABLE VALVE, DNCE50	
5	154-279	1	CONNECTOR (080-10S)	
6	159-158	1	QDC ADAPTER (02-080FX)	
7	150-3124	1	TANDEM GEAR PUMP, 25/13CC	SEE FOOTNOTE 2
8	154-236	1	CONNECTOR (080-12S90)	
9	117-210	1	ABRASION SLEEVE (1.25" X 100")	
10	117-211	1	ABRASION SLEEVE (1.25" X 90")	
11	157-039	1	O-RING (014 D90)	
12	150-3409	1	HYDRAULIC MOTOR	SEE FOOTNOTE 3
13	154-298	1	CONNECTOR (10S-10090)	
14	116-632	1	ABRASION SLEEVE (1.59" X 130")	
15	117-205	1	ABRASION SLEEVE (1.59" X 195")	
16	150-3831	1	HYD GEAR MOTOR, 19CC	SEE FOOTNOTE 1
17	150-3176	1	HYD LINE	
18	515-550	1	HOSE (080FX90L-98"-3000)	
19	154-877	1	HOSE (080FX90L-90"-3000)	
20	150-3816	1	HOSE (100FX90M-197"-3000)	
21	150-2443	1	HOSE (100FX90M-128"-3000)	
22	514-426	1	ELBOW (20S-20H45)	
23	116-587	56	BULK HOSE (1-1/4",SOLD PER FT)	USE 1 @ 56"
24	149-342	2	T-BOLT CLAMP (1.687")	
25	106-632	2	FLG LK SCR (M12-1.75X35MM,SER)	USE LOCTITE 242 OR EQUIVALENT
26	117-669	1	ABRASION SLEEVE (1.75" X 55")	

NOT SHOWN:

FOOTNOTES:

1. SERVICE PARTS FOR 150-3831
500-1316 - SEAL SERVICE KIT
500-1330 - SOLENOID
500-1318 - PROP, RELIEF VALVE
2. SERVICE PARTS FOR 150-3831
500-1410 - SEAL REPAIR KIT
3. SERVICE PARTS FOR 150-3409
150-2289 - RELIEFE VALVE CARTRIDGE
150-2290 - SOLENOID VALVE W/COIL
150-1330 - SOLENOID COIL
500-1316 - MOTOR SHAFT SEAL

NOTE:

CASE DRAIN (AT)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	105-665	2	FLG SCREW (M8-1.25 X 55MM)	
2	106-386	2	FLG LOCKNUT (M8-1.25)	
3	106-168	2	FLG LK BOLT (1/4-NC X 3/4")	
4	154-252	1	CONNECTOR (04S-04090)	
5	150-2005	1	CHARGE MANIFOLD	
6	154-396	1	BK CONNECTOR (080-08090BK)	
7	149-906	2	ELBOW (12S-08090, 06SF)	
8	156-174	1	CONNECTOR (06S-060 LG)	
9	154-234	1	CONNECTOR (080-12S)	SEE FOOTNOTE 1
10	154-342	1	CONNECTOR (06S-06090)	
11	154-226	1	CONNECTOR (040-06S90)	
12	117-218	1	ABRASION SLEEVE (1" X 52")	
13	515-509	1	HOSE (040FX-28"-3000)	
14	154-884	1	HOSE (080FX90S-60"-3000)	
15	157-324	1	HOSE (080FX90S-53"-3000)	
16	159-386	1	FILTER HEAD (12SF-12SF)	
17	155-910	1	FILTER ELEMENT (1-UNF)	
18	117-278	1	ABRASION SLEEVE (1.00" X 14")	
19	117-684	1	ABRASION SLEEVE (1.00" X 26")	
20	515-603	1	HOSE (060FX90S-14"-3000)	
21	117-693	1	ABRASION SLEEVE (1.00" X 60")	

NOT SHOWN:

FOOTNOTES:

- 1. 154-307 USED FOR ALL REPLACEMENT MOTORS
- 154-234 USED WITH 150-3295

NOTE:

ROTATION MOTOR HYDRAULICS (JT)

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	150-2642	1	HYDRAULIC MOTOR, 160CC	SEE FOOTNOTE 1 AND "NOT SHOWN"
2	150-4494	1	BK CONNECTOR (200-20090BK)	
3	153-395	1	BK CONNECTOR (200-20045)	
4	159-436	2	SPLIT FLANGE (20SFL, SET)	
5	150-2457	1	HOSE (200FX-20FLH90S-29"-6000)	
6	150-2456	1	HOSE (200FX-20FLH90S-18"-6000)	
7	115-766	1	ABRASION SLEEVE (2.38" X 17")	
8	117-716	1	ABRASION SLEEVE(2.38" X 28")	

NOT SHOWN:

159-392 1 PLUG (12S, SOCI)

FOOTNOTES:

1. SERVICE PARTS FOR 150-3295
 500-2125 1 CONTROL SOLENOID
 191-212 1 SEAL REPAIR KIT

NOTE:

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

TRACK 2 SPEED

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	153-767	1	COUNTERBALANCE MANIFOLD	
2	158-627	1	SOLENOID VALVE	
3	106-385	2	FLG LOCKNUT (M6-1.00)	
4	107-025	2	SCREW (M6-1.00 X 50MM)	
5	106-076	2	WASHER (1/4")	
6	154-342	1	CONNECTOR (06S-06090)	
7	154-221	2	CONNECTOR (06S-060)	
8	154-224	2	CONNECTOR (06S-06045)	
9	514-049	1	CONNECTOR (04S-06090)	
10	154-344	2	UN RUN TEE (060FX-060-060)	
11	117-395	1	ABRASION SLEEVE (1.25" X 50")	
12	117-412	1	ABRASION SLEEVE (1" X 34")	
13	154-733	1	HOSE (060FX-36"-3000)	
14	515-587	1	HOSE (060FX45-20"-3000)	
15	154-806	1	HOSE (060FX-54"-3000)	
16	154-797	1	HOSE (060FX-48"-3000)	
17	116-811	1	HOSE (060FX90M-40"-3000)	
18	117-328	1	ABRASION SLEEVE (1.00" X 18")	

NOT SHOWN:

FOOTNOTES:

NOTE:

INNER ROTATION HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	153-773	1	INNER ROTATION VALVE	SEE FOOTNOTE 2
2	154-388	1	CONNECTOR (16S-16045)	
3	154-289	1	CONNECTOR (16S-16090, XL)	
4	154-281	2	CONNECTOR (16S-160)	
5	154-290	1	UNION (160-160FX90)	
6	154-411	1	CONNECTOR (04S-060)	
7	154-278	1	CONNECTOR (04S-040)	
8	153-612	1	HYDRAULIC MOTOR	SEE FOOTNOTE 1
9	159-036	2	SPLIT FLANGE (20SF, SET)	
10	153-663	1	HOSE (160FX-20FL90S-36.5-3000)	
11	153-663	1	Hose (160FX-20FL90S-36.5-3000)	
12	115-731	2	ABRASION SLEEVE (2.38" X 34")	

NOT SHOWN:

FOOTNOTES:

1. SERVICE PARTS FOR 153-912

191-263 SEAL REPAIR KIT

2. SERVICE PARTS FOR 153-773

214-434 SOLENOID COIL (SMALL)

499-631 COIL RETAINER CAP (214-434)

500-2312 SEAL KIT 85302-54

500-2313 SEAL KIT 85648-45-9AAA9WR

500-2314 SEAL KIT 75121-41

USE KIT 190-3233 WHEN REPLACING 153-773. THIS KIT CONTAINS NEW VERSION OF VALVE WITH DIN CONNECTOR AND JUMPER HARNESS 215-3522.

NOTE:

FLUID PUMP HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	154-270	1	CONNECTOR (I2S-I2090)	
2	154-269	1	CONNECTOR (I2S-I20)	
3	154-401	1	CONNECTOR (O4S-O4090, ORF)	
4	154-252	1	CONNECTOR (O4S-O4090)	
5	310-637	1	VALVE BRACKET	
6	149-550	1	SOLENOID CONTROL VALVE	SEE FOOTNOTE 1
7	154-220	3	CONNECTOR (O40-O6S)	
8	105-095	2	WASHER (1/4")	
9	107-025	2	SCREW (M6-1.00 X 50MM)	
10	106-538	2	LOCKNUT (M6-1.00,PRV TRQ,10.9)	
11	154-287	1	CONNECTOR (I6S-I6090)	
12	154-290	1	UNION (I60-I60FX90)	
13	106-079	4	SCREW (M10-1.50 X 30MM)	
14	106-396	4	WASHER (M10, HARDENED)	
15	105-894	4	LOCKNUT (M10-1.50,PRV TRQ,10.9)	
16	115-963	1	ABRASION SLEEVE (1.59" X 75")	
17	150-3176	1	HYD LINE	
18	150-2452	1	HOSE (I60FX-I20FX90S-71"-3000)	
19	150-5229	1	HOSE (I60FX-I20FX-82"-3000)	
20	515-612	1	HOSE (O40FX90S-98"-3000)	
21	515-258	1	HOSE (O40FX90S-94"-3000)	
22	150-3735	1	GEROLER MOTOR, HT, 25CIR	SEE FOOTNOTE 2, SEE NOT SHOWN
23	154-265	1	UNION RUN TEE (O40FX-O40-O40)	
24	155-714	1	O-RING (O2I D90)	
25	157-037	1	O-RING (O1I D90)	
26	106-096	4	FLG BOLT (1/2-NC X 1-3/4",GD8)	
27	154-342	1	CONNECTOR (O6S-O6090)	
28	156-174	1	CONNECTOR (O6S-O60 LG)	
29	154-348	1	UN BR TEE (O60FX-O60-O60)	SEE FOOTNOTES 3 & 4
30	117-612	1	ABRASION SLEEVE (1.0" X 46")	
31	150-1871	1	HOSE (O60FX-10"-3000)	SEE FOOTNOTES 3 & 4
32	515-682	1	HOSE (O40FX90M-48"-3000)	

NOT SHOWN:

215-2204 1 SPEED SENSOR
500-2079 1 SEAL WASHER

FOOTNOTES:

- SERVICE PARTS FOR 149-550
214-491 COIL (12V)
- SERVICE PARTS FOR 150-3735
500-2435 FLUID MOTOR SEAL KIT
- USE OF 154-344 UN RUN TEE (O60FX-O60-O60) & 515-583 HOSE (O60FX90-12"-3000) ENDS WITH CMW-S/N CMWAT60XCF0000056; ENDS WITH CMW-S/N CMWJT60XKF0000076
- USE OF 154-348 UN BR TEE (O60FX-O60-O60) & 150-1871 HOSE (O40FX-10"-3000) BEGINS WITH CMW-S/N CMWAT60XCF0000057; BEGINS WITH CMW-S/N CMWJT60XKF0000077

NOTE:

WRENCH VALVE SERVICE PARTS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	150-1835		WRENCH VALVE	INCLUDES REF NO.'S 1-13. SEE FOOTNOTE 1 FOR SERVICE PART INFO.
1	500-2963	2	FLOW DIVIDER CARTRIDGE VALVE	
2	500-2882	2	SOLENOID CARTRIDGE VALVE, 2W2P,NC	
3	500-2881	4	SOLENOID COIL, D36	
4	500-2962	1	SOLENOID CARTRIDGE VALVE, 4W3P, FC	
5	500-2392	2	SOLENOID COIL	
6	500-2389	1	RELIEF VALVE CARTRIDGE	
7	500-2883	1	SOLENOID CARTRIDGE VALVE, 2W2P,NO	
8	500-2390	4	CHECK VALVE CARTRIDGE, 15 PSI	
9	500-2388	4	COUNTERBALANCE VALVE CARTRIDGE, 3500 PSI	
10	500-2884	1	SOLENOID CARTRIDGE VALVE, 2W2P,NC	
11	500-2966	2	CHECK VALVE CARTRIDGE	
12	500-2964	2	PO CHECK VALVE CARTRIDGE	
13	500-2965	1	SHUTTLE VALVE	

NOT SHOWN:

FOOTNOTES:

1. SERVICE PARTS FOR VALVE 150-1835 HAVE CHANGED. THE 500-2391 COIL AND THE 500-2960, 500-2961 AND 500-2478 CARTRIDGES HAVE BEEN MADE OBSOLETE AND HAVE BEEN SUPERSEDED. 500-2881 SUPERSEDES 500-2391, 500-2882 SUPERSEDES 500-2960, 500-2883 SUPERSEDES 500-2961, AND 500-2884 SUPERSEDES 500-2478. IF REPLACING EITHER THE OLD COIL OR ANY OF THE OLD CARTRIDGES, REPLACE BOTH THE COIL AND CARTRIDGE ON THAT PORT WITH THE CORRESPONDING NEW PART NUMBERS.

NOTE:

1. REFERE TO O-RING CHART IN THE BACK OF THE BOOK FOR REPLACEMENT OF O-RINGS.

REAR WRENCH HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	150-1835	1	WRENCH VALVE	SEE FOOTNOTE 1
2	154-235	6	CONNECTOR (08S-08090)	
3	154-337	1	BRANCH TEE (08S-080-080)	
4	154-390	1	BK CONNECTOR (080)	
5	115-899	1	ABRASION SLEEVE (2.54" X 54")	
6	155-130	1	PLUG (06S)	
7	150-2412	1	HYD LINE (-08)	
8	150-2413	1	HYD LINE (-08)	
9	154-971	1	HOSE (080FX90S-78"-3000)	
10	515-068	1	HOSE (080FX45-76"-3000)	
11	150-2448	1	HOSE (080FX90S-90"-3000)	

NOT SHOWN:

FOOTNOTES:

1. SEE WRENCH VALVE PP "ID0581033" FOR SERVICE PARTS.

NOTE:

FRAME TILT HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	354-466	1	BULKHEAD PLATE	
2	154-355	4	BK CONNECTOR (040-04090BK)	
3	154-261	1	CONNECTOR (040-08S)	
4	154-255	2	UNION (040-040FX90)	
5	154-276	4	CONNECTOR (040-08S90)	
6	150-3769	1	5 SPOOL BANKABLE VALVE, DNCE50	
7	117-789	1	HOSE BAG (4" X 36")	SEE FOOTNOTE I
8	154-226	2	CONNECTOR (040-06S90)	
9	154-220	2	CONNECTOR (040-06S)	
10	154-424	4	BK RUN TEE (040-040-040BK)	
11	117-708	1	ABRASION SLEEVE (1.59" X 28")	
12	117-679	1	ABRASION SLEEVE (1.59" X 32")	
13	115-777	1	ABRASION SLEEVE (1.59" X 15")	
14	115-776	1	ABRASION SLEEVE (1.59" X 7")	
15	117-603	1	ABRASION SLEEVE (1.59" X 62")	
16	117-656	1	ABRASION SLEEVE (1.59" X 45")	
17	151-066	2	CYL (4.0 X 2.00 X 5.0)	
18	151-070	2	CYL (3.0 X 1.75 X 8.0)	
19	515-447	1	HOSE (040FX90S-48"-3000)	SEE FOOTNOTE I
20	515-447	1	HOSE (040FX90S-48"-3000)	SEE FOOTNOTE I
21	515-447	1	HOSE (040FX90S-48"-3000)	SEE FOOTNOTE I
22	515-447	1	HOSE (040FX90S-48"-3000)	SEE FOOTNOTE I
23	154-911	1	HOSE (040FX-36"-3000-AR)	
24	154-672	1	HOSE (040FX-15"-3000)	
25	154-719	1	HOSE (040FX10"-3000)	
26	155-484	1	HOSE (040FX-16"-3000)	
27	515-509	1	HOSE(040FX-28"-3000)	
28	154-653	1	HOSE (040FX-40"-3000)	
29	515-735	1	HOSE (040FX-22"-3000)	
30	154-668	1	HOSE (060FX-32"-3000)	
31	515-424	1	HOSE (040FX-56"-3000)	
32	515-424	1	HOSE (040FX-56"-3000)	
33	154-681	1	HOSE (040FX-62"-3000)	
34	154-681	1	HOSE (040FX-62"-3000)	
35	154-374	1	CONN (040-08S, .062 ORF)	
36	510-019	2	CONNECTOR (040-08S90, ORF)	

NOT SHOWN:

FOOTNOTES:

I. REF No's 19, 20, 21, AND 22 ARE TO BE ROUTED THRU THE HOSE BAG (117-789)

NOTE:

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

REAR GRIPPER HYDRAULICS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	156-067	1	CONNECTOR (06S-060, ORF .031")	
2	154-344	1	UN RUN TEE (060FX-060-060)	
3	153-667	1	SPECIAL TEE (06S,ORF-060-060)	
4	157-037	2	O-RING (O11 D90)	
5	105-117	5	WASHER (5/16")	
6	105-297	4	BOLT (1/4-NC X 3-1/4")	
7	313-684	1	REAR SHUTTLE	
8	154-252	1	CONNECTOR (04S-04090)	
9	154-474	1	CONNECTOR (04S-04090, XL)	
10	154-355	1	BK CONNECTOR (040-04090BK)	
11	154-275	1	BK CONNECTOR (040-040BK)	
12	154-255	1	UNION (040-040FX90)	
13	106-598	2	WASHER (9/16" HARDENED)	
14	105-197	1	BOLT (1/4-NC X 1")	
15	117-322	1	ABRASION SLEEVE (1.59" X 34")	
16	157-764	1	HYDRAULIC VALVE	
17	153-671	1	HYD LINE	
18	150-3773	1	HYD LINE	
19	110-998	17	CLAMP HALVES (3/8") PAIR	
20	191-161	1	GRIPPER CYLINDER	
21	306-746	1	HOSE TRACK	
22	515-598	1	HOSE (040FX90-12"-3000)	
23	157-362	1	HOSE (040FX90L-11"-3000)	
24	153-365	1	HOSE (040FX90S-34"-3000)	
25	153-365	1	HOSE (040FX90S-34"-3000)	

NOT SHOWN:

FOOTNOTES:

NOTE:

HYDRAULIC CYLINDER

3" X 1.75" X 8"

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
	151-070		CYL (3.0" X 1.75" X 8.0")	INCL REF NO.'S 1 THRU 7
1.	190-172	1	SEAL REPAIR KIT (3.0" X 1.75")	INCL REF NO.'S 4 THRU 5
2.	150-911	1	LOCK RING (3")	
3.	152-014	1	CYLINDER BARREL (3")	
4.	106-122	1	BOLT (7/8-NC X 2-1/4", GD8)	SEE FOOTNOTE 1
5.	105-363	1	WASHER (7/8")	
6.	150-765	1	CYLINDER PISTON (3" X 1.75")	INCL MOLDED-ON WEAR RING
7.	150-763	1	CYLINDER HEAD (3" X 1.75")	
8.	150-436	1	CYLINDER ROD (1.75")	

NOT SHOWN:

259-040	U-SEAL INSTALLER (1.5" - UP)
259-238	WIPER INSTALLER (1.75")
259-065	PISTON SEAL INSTALLER (3")
259-066	PISTON INSTALLER (3")
259-188	CYL HEAD SPANNER - TWO PIN

FOOTNOTES:

1. CLEAN & DRY THREADS. APPLY RED LOCTITE (RC 271 OR RC 272). TORQUE TO 410-460 FT-LBS (560-625 N.M.)

NOTE:

ELECTRICAL SCHEMATIC

JT60 T3 & T4i

CIRCUIT #	WIRE COLOR	FUNCTION
37	org/brn	Liner washer pump relay to liner washer pump
38	gra/yel	Hyd filter switch to engine display
39	gra/blk	Hyd oil temp switch to engine display
40	grn	ESID horn/reset switch to ESID horn/reset controller
41	wht	ESID horn/reset switch to ESID horn/reset controller
42		Not used
43	tan/blu	Horn button to horn
44	brn	Fuel sender to engine display
45	org/blu	Alternator exciter circuit
46	blk/org	Machine controller to inner rotation hourmeter & rotation gauge selector solenoid
47		Not used
48	pur/org	Throttle switch to engine ECU
49		Not used
50	blu/org	Throttle switch to engine ECU
51		Not used
52	gra/red	Setup switches to dump valve
53	blk/yel	Fluid flow adjust pot to fluid switch "on"
54	blk/wht	On-off fluid switch & quick-fill switch to machine controller
55	wht/blk	Machine controller to drill fluid solenoid
56	tan/wht	Set/resume switch to machine controller
57	pnk/blu	Machine controller to diagnostics connection "5"
58	pnk/wht	Machine controller to diagnostics connection "2"
59	tan/red	Work light switch to work light relay & gauge lights
60	yel	Work light relay to work lights & aux light connection
61	yel/blk	Cab swing in/out switch to in solenoid
62	pur/blk	Cab swing in/out switch to out solenoid
63	grn/red	Left stabilizer up switch to up solenoid
64	grn/yel	Left stabilizer down switch to down solenoid
65	blu/red	Right stabilizer up switch to up solenoid
66	blu/yel	Right stabilizer down switch to down solenoid
67	wht/blu	Rear drill frame up switch to up solenoid
68	wht/blk	Rear drill frame down switch to down solenoid
69	gra/blu	Front drill frame up switch to up solenoid
70	gra/blk	Front drill frame down switch to down solenoid
71	brn	E.S.I.D. to local E.S.I.D. alarm
72	wht/pur	E.S.I.D. to strobe & machine controller
73	pnk/blk	Diagnostic indicator relay to diagnostic indicator
74	wht/yel	ESID horn/reset controller to ESID module
75	wht/brn	Fluid motor speed sensor to machine controller
76	tan/org	Carve mode switch to machine controller
77	pur/blk	Inner rotation speed sensor to machine controller
78	gra/wht	Rear home position switch to machine controller
79	wht/red	Shuttle prox switch to machine controller
80	pur	Jumper from seat switch relay to starter lockout relay
81	blu/org	Machine controller to thrust forward/right track forward diodes
82	blu/yel	Machine controller to thrust reverse/right track reverse diodes

ELECTRICAL SCHEMATIC

JT60 T3 & T4i

Ref. Number	Part Number	Qty	Description
1	215-2031	1	Operator Station Harness
2	215-2032	1	Relay Panel Harness
3	215-2033	1	Engine/Frame Harness
4	215-2034	1	Engine harness T3
5	215-2035	1	Engine harness T4i
6	215-2036	1	Overhead switch panel harness
7	215-2040	1	Setup valve harness
8	215-1540	1	Preheater Relay
9	215-1956	1	Preheater solenoid cable
10	215-2037	1	Drill Frame Harness
11	215-1358	1	Hosetrack Harness
12	215-2038	1	Main Frame Harness
13	214-763	1	Work light Harness
14	215-2189	1	ESID Switch Harness
15	215-2039	1	Carriage Harness
16	215-1095	1	Battery Cable (Red 4/0 X 105")
17	215-1096	1	Batter Cable (Blk 4/0 X 102")
18	213-160	1	Ground Cable (Blk 2/0 X 24")
19	215-1098	1	Primary Cable (Red 2GA. X 36")
20	215-1099	1	Primary Cable (Red 2GA. X 28")
21	215-1100	1	Alternator Harness (Red 6Ga. X 52")
22	215-1101	1	Alternator Ground Cable (Blk 6GA. X 25")
23	215-1105	1	Braided Ground Strap (18")
24	215-1106	1	Battery Cable (Red 2/0 X 17")

ELECTRICAL DIAGRAM

JT/AT60

ENGINE/FRAME HARNESS

REF	PART			
NO.	NUMBER	QTY	DESCRIPTION	REMARKS
1	215-2033	1	ENGINE/FRAME HARNESS	
2	214-449	1	DIODE PACK	

NOT SHOWN:

FOOTNOTES:

NOTE:

ELECTRICAL DIAGRAM MAIN FRAME HARNESS

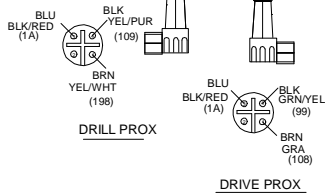
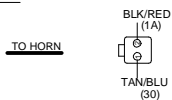
PIN#	BLK/BLU (1B)	PIN#	GRA/WHT (78)	PIN#	CAVITY PLUG
1	BLK/BLU (1B)	11	GRA/WHT (78)	21	CAVITY PLUG
2	WHT/BLK (55)	12	BLK/RED (1A)	22	WHT/BRN (75)
3	YEL/WHT (198)	13	WHT/BLU (157)	23	CAVITY PLUG
4	TAN/ORG (160)	14	WHT/RED (79)	24	PUR/GRN (85)
5	BLU/WHT (101)	15	TAN/RED (140)	25	ORG (12)
6	GRN/PUR (146)	16	PUR/ORG (105)	26	PUR/WHT (100)
7	GRN/RED (147)	17	CAVITY PLUG	27	GRA (119)
8	GRN/ORG (149)	18	TAN/YEL (161)	28	GRN/BLK (92)
9	GRN/YEL (148)	19	TAN (117)	29	BLU (121)
10	WHT/YEL (156)	20	CAVITY PLUG	30	BLU/BLK (93)
				31	GRN (120)

PIN #	PIN #
A	TAN/BLU (30)
B	CAVITY PLUG
C	YEL (60)
D	BRN/WHT (173)
E	BRN/BLU (184)
F	BRN/RED (185)
G	GRA/RED (195)
H	PUR/BLK (77)
J	BRN/ORG (202)
K	GRA (108)
L	GRN/YEL (16(99))
M	YEL/PUR (109)
N	PUR/BLK (193)
P	YEL/WHT (198)

TO RELAY PANEL

PIN #	PIN #
1	PUR/RED (126)
2	GRA/PUR (158)
3	PUR (118)
4	BLK/GRN (102A)
5	BRN (124)
6	YEL (125)
7	WHT/GRN (102)
8	WHT/YEL (164)
9	RED/BLK (18)
10	PUR/ORG (105)
11	BLK (1)
12	ORG/BRN (37)

TO OPERATOR STATION HARNESS



ROTATION HARNESS

TO DRILL FRAME HARNESS

PIN#	PIN#	PIN#
A	PUR/GRN (85)	J TAN/ORG 16(160)
B	BLK/RED (1A)	K TAN/YEL (161)
C	BRN/BLU (184)	L BLK/GRN (102A)
D	PUR/BLK (77)	M PUR/ORG (105)
E	WHT/GRN (102)	N PUR/BLK (163)
F	BRN/RED (185)	O YEL/WHT (198)
G	WHT/YEL (156)	P BLK/BLU (1B)
H	RED/BLK (18)	Q WHT/BLU (157)

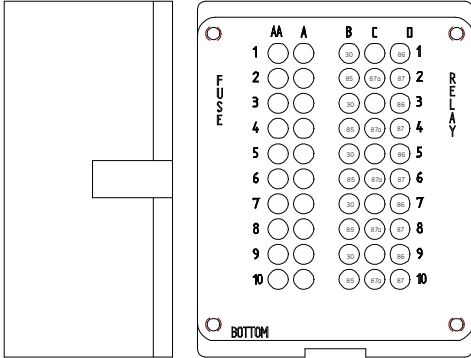
PIN#	PIN#	PIN#
1	BLK/BLU (1B)	11 TAN (117)
2	GRA/PUR (158)	12 YEL (60)
3	GRA/WHT (78)	13 GRA/RED (195)
4	BLK (1)	14 ORG (12)
5	BRN (124)	15 PUR/RED (126)
6	WHT/RED (79)	16 GRN/BLK (92)
7	TAN/RED (140)	17 GRA (119)
8	GRN (120)	18 BLU/BLK (93)
9	CAVITY PLUG	19 RED/BLK (18)
10	BLU (121)	20 PUR (118)
		21 BRN/ORG (202)
		22 BLK/RED (1A)
		23 YEL (125)
		24 PUR/WHT (100)
		25 BLU/WHT (101)
		26 CAVITY PLUG
		27 CAVITY PLUG
		28 CAVITY PLUG
		29 CAVITY PLUG
		30 CAVITY PLUG
		31 CAVITY PLUG

ELECTRICAL DIAGRAM

RELAY PANEL HARNESS

ENDS W/ SN: CMWAT60XEF0000038 & CMWJT60XVF0000048

FUSE / RELAY CAP



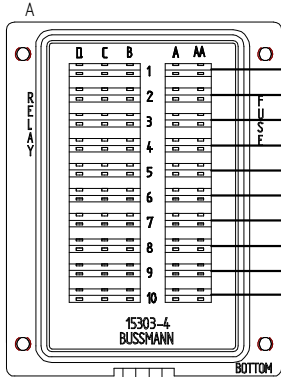
FUSE

A		A	
PIN #		PIN #	
A1	RED (2A)	AA1	RED/ORG (3)
A2	RED (2A)	AA2	ORG/RED (3A)
A3	RED (2A)	AA3	RED/WHT (14)
A4	RED (2A)	AA4	RED/GRN (5)
A5	RED (2A)	AA5	RED/ORG (7)
A6	ORG/WHT (33)	AA6	ORG/GRN (13)
A7	ORG/WHT (33)	AA7	ORG/BRN (19)
A8	ORG/WHT (33)	AA8	RED/YEL (20)
A9	ORG/BLK (32)	AA9	ORG (12)
A10	ORG/BLK (32)	AA10	RED/BLK (18)

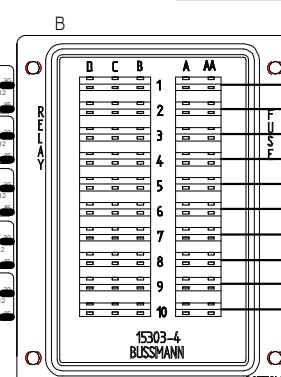
RELAY

A		A		A	
PIN #		PIN #		PIN #	
B1	RED (2A)	C1	CAVITY PLUG	D1	BLK/RED (1A)
B2	ORG (9)	C2	CAVITY PLUG	D2	ORG/BLK (32)
B3	RED (2A)	C3	CAVITY PLUG	D3	BLK/RED (1A)
B4	ORG/BLU (10)	C4	CAVITY PLUG	D4	ORG/WHT (33)
B5	ORG/GRN (13)	C5	CAVITY PLUG	D5	BLK/RED (1A)
B6	WHT/GRA (86)	C6	WHT/ORG (87)	D6	CAVITY PLUG
B7	RED/ORG (7)	C7	CAVITY PLUG	D7	BLK/RED (1A)
B8	ORG (12)	C8	CAVITY PLUG	D8	ORG/RED (8)
B9	BLK/RED (1A)	C9	CAVITY PLUG	D9	TAN/RED (103)
B10	ORG (12)	C10	GRA/PUR (158)	D10	CAVITY PLUG

FUSE / RELAY MODULE



FUSE / RELAY MODULE

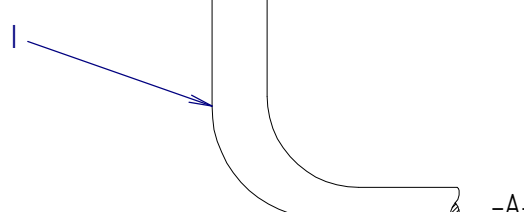


- K1 ACC
- K2 IGNITION
- CCW ROTATION LIMIT K3
- ELECTRIC FAN K4
- TRACKER CONTROL STROBE K5

- MAIN 10A F3
- ESID BATT 5AF4
- ACC SOCKET 15A F5
- ENGINE ECU 30A F6
- ELECTRIC FAN 15AF7
- IGNITION 15A F8
- DISPLAY/GAUGES 5A F9
- ESID SWITCHED 5A F10
- ACC 20A F11
- SENSORS 10AF12

- DRILL/DRIVE 1 K6
- DRILL/DRIVE 2 K7
- FRONT WRENCH K8
- SEAT SWITCH K9
- STARTER LOCKOUT K10

- ECM CONTROL 3A F13
- ECM OUTPUT 20A F14
- DRIVE POSITION K11
- REAR WRENCH K12
- WRENCH ROTATE K13 CW
- WRENCH ROTATE K14 CCW



ELECTRICAL DIAGRAM

DRILL FRAME HARNESS

BEGINS W/ SN: CMWAT60XEF0000039 & CMWJT60XVF0000049

DIODE BLOCK 2		
Pos	COL	LBL
1	GRN/BLK	92
2	BLU/BLK	93

DIODE BLOCK 12		
Pos	COL	LBL
1	BLU/GRN	128
2	GRN/BLU	130
3	CAVITY	
4	CAVITY	
5	TAN/GRN	136
6	CAVITY	
7	BLU/YEL	129
8	GRN/ORG	131
9	CAVITY	
10	CAVITY	
11	TAN/WHT	137
12	CAVITY	

DUMP VALVE DIODE BLOCK		
Pos	COL	LBL
1	TAN	117
2	BLU	121
3	GRN	120
4	GRY	119
5	BLU/WHT	101
6	PUR/WHT	100
7	GRY/RED	152
8	GRY/RED	152
9	GRY/RED	152
10	GRY/RED	152
11	GRY/RED	152
12	GRY/RED	152

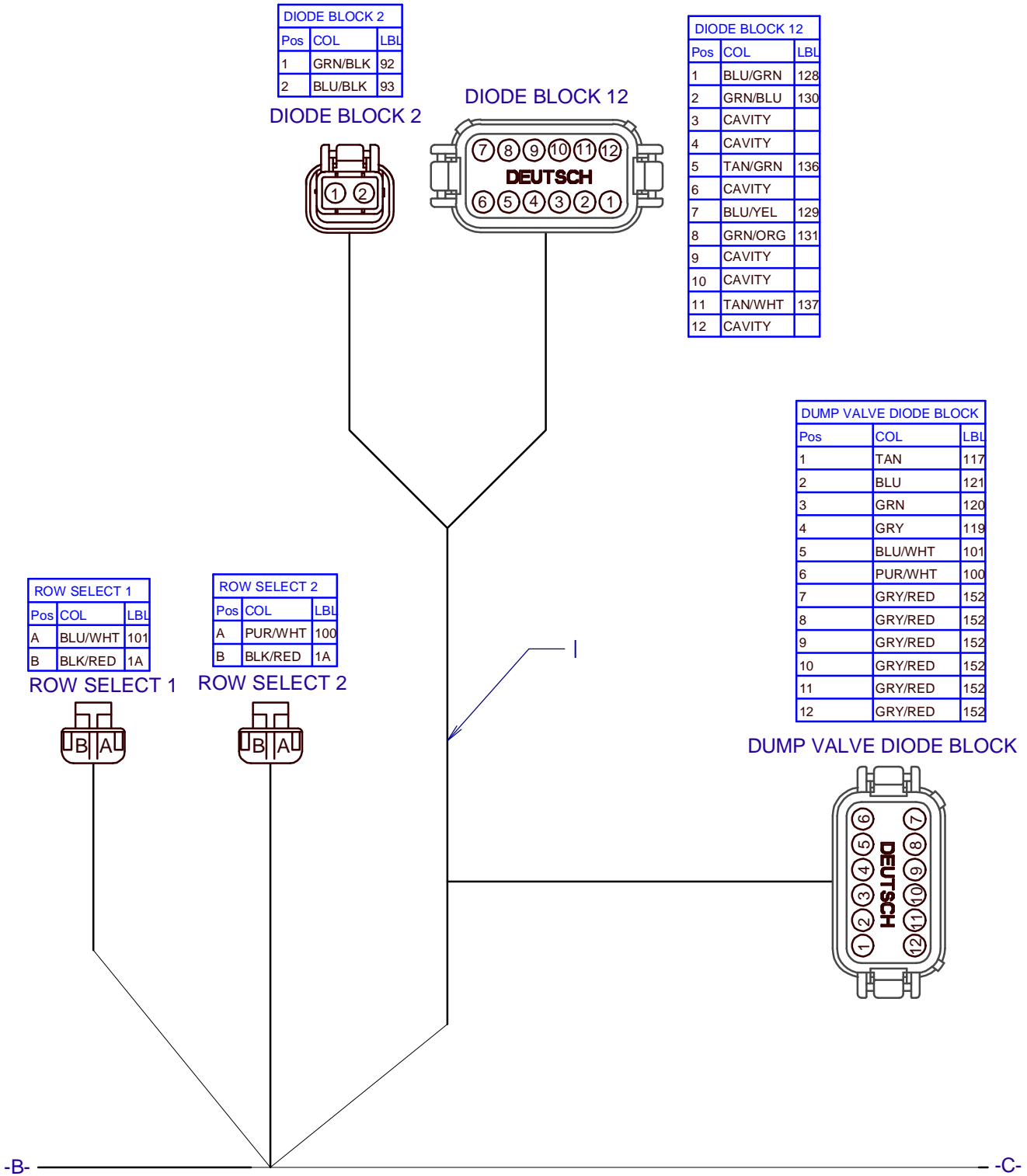
ROW SELECT 1		
Pos	COL	LBL
A	BLU/WHT	101
B	BLK/RED	1A

ROW SELECT 2		
Pos	COL	LBL
A	PUR/WHT	100
B	BLK/RED	1A

ROW SELECT 1

ROW SELECT 2

DUMP VALVE DIODE BLOCK



ELECTRICAL DIAGRAM

CARRIAGE HARNESS

REF NO.	PART NUMBER	QTY	DESCRIPTION	REMARKS
1	215-2039	1	CARRIAGE HARNESS	
2	214-449	1	DIODE PACK	
3	215-1196	1	RESISTOR PACK	

NOT SHOWN:

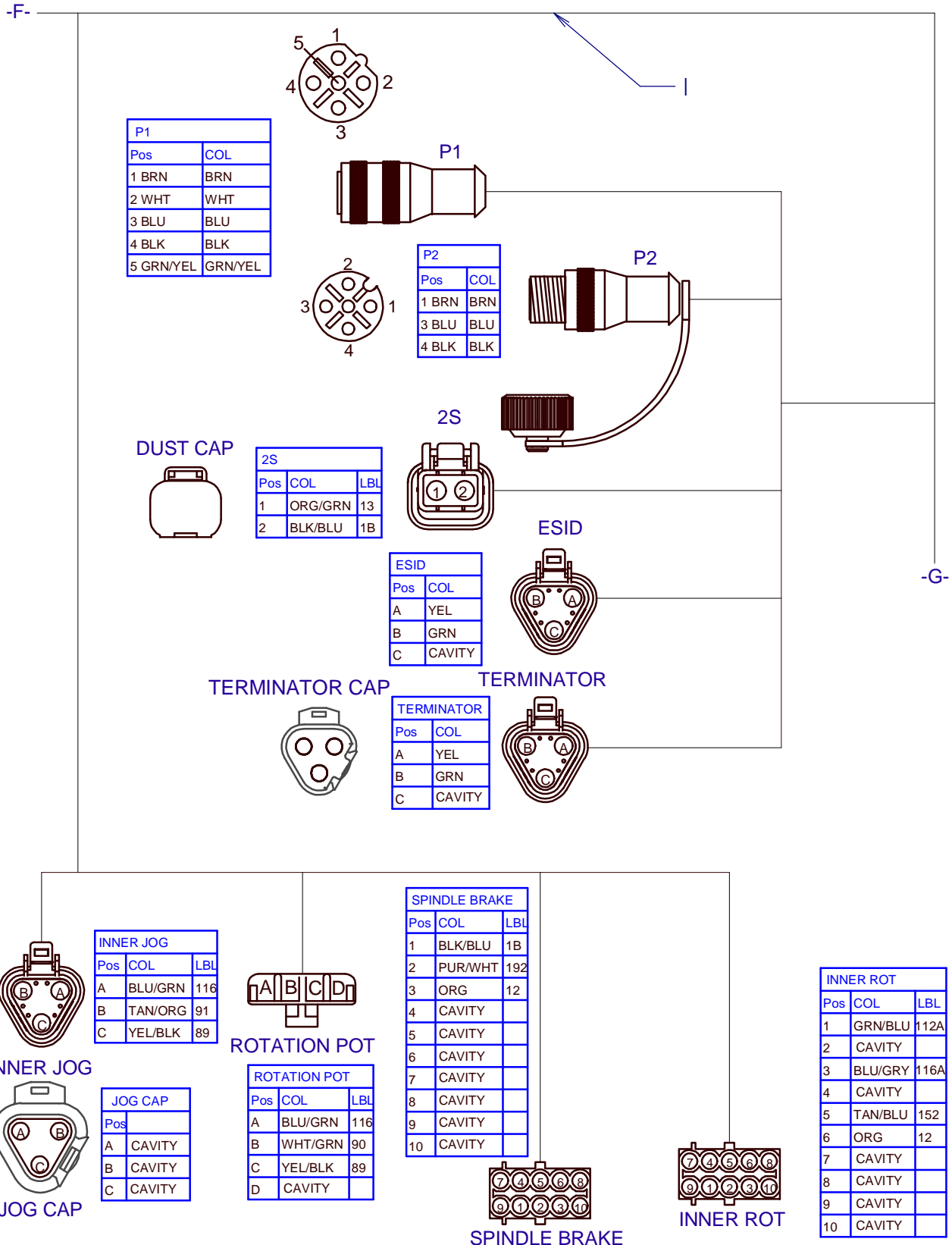
FOOTNOTES:

NOTE:

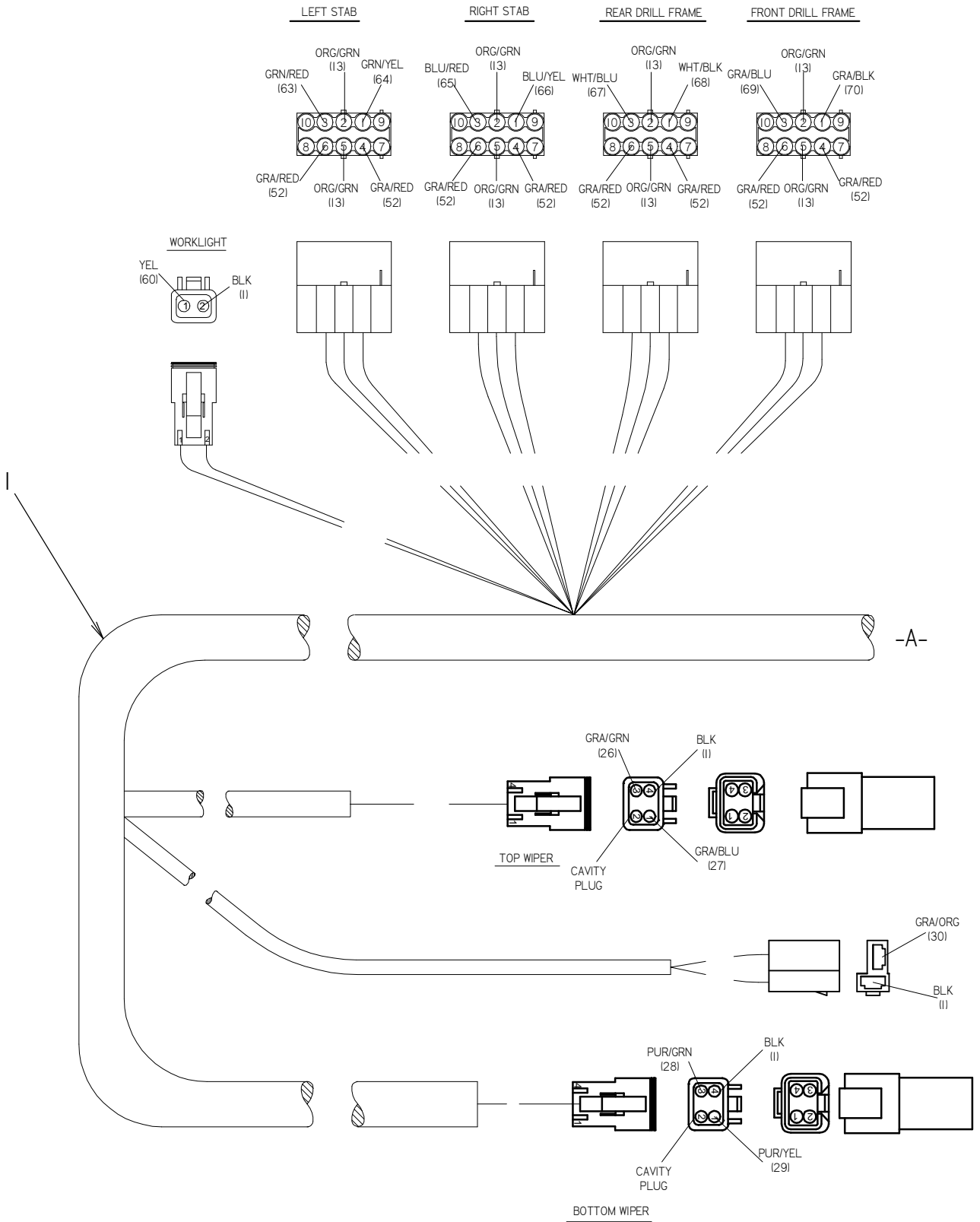
ELECTRICAL DIAGRAM

OPERATOR STATION HARNESS

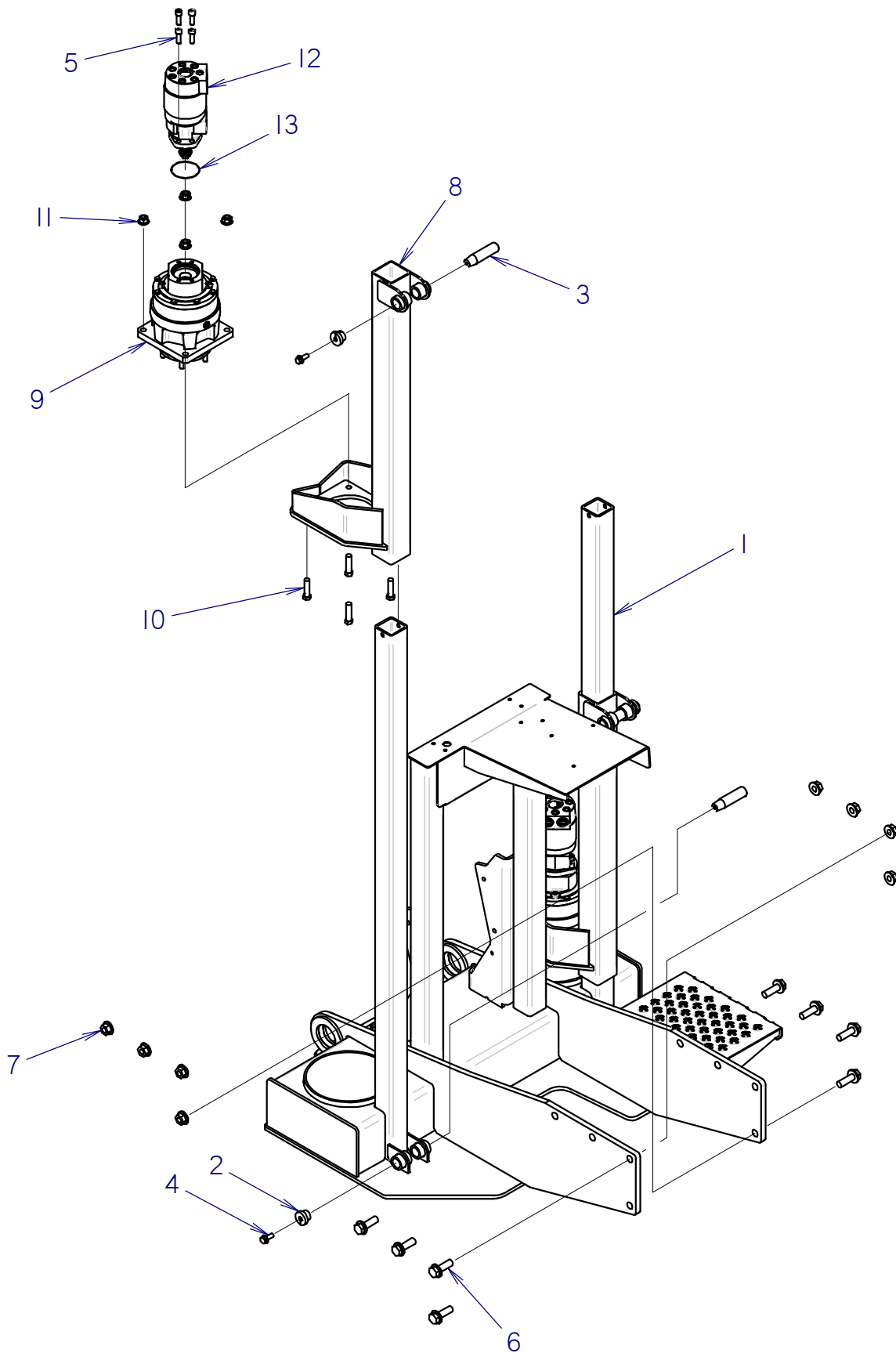
BEGINS W/ SN: CMWAT60XEF0000039 & CMWJT60XVF0000049



ELECTRICAL DIAGRAM OVERHEAD SWITCH PANEL HARNESS

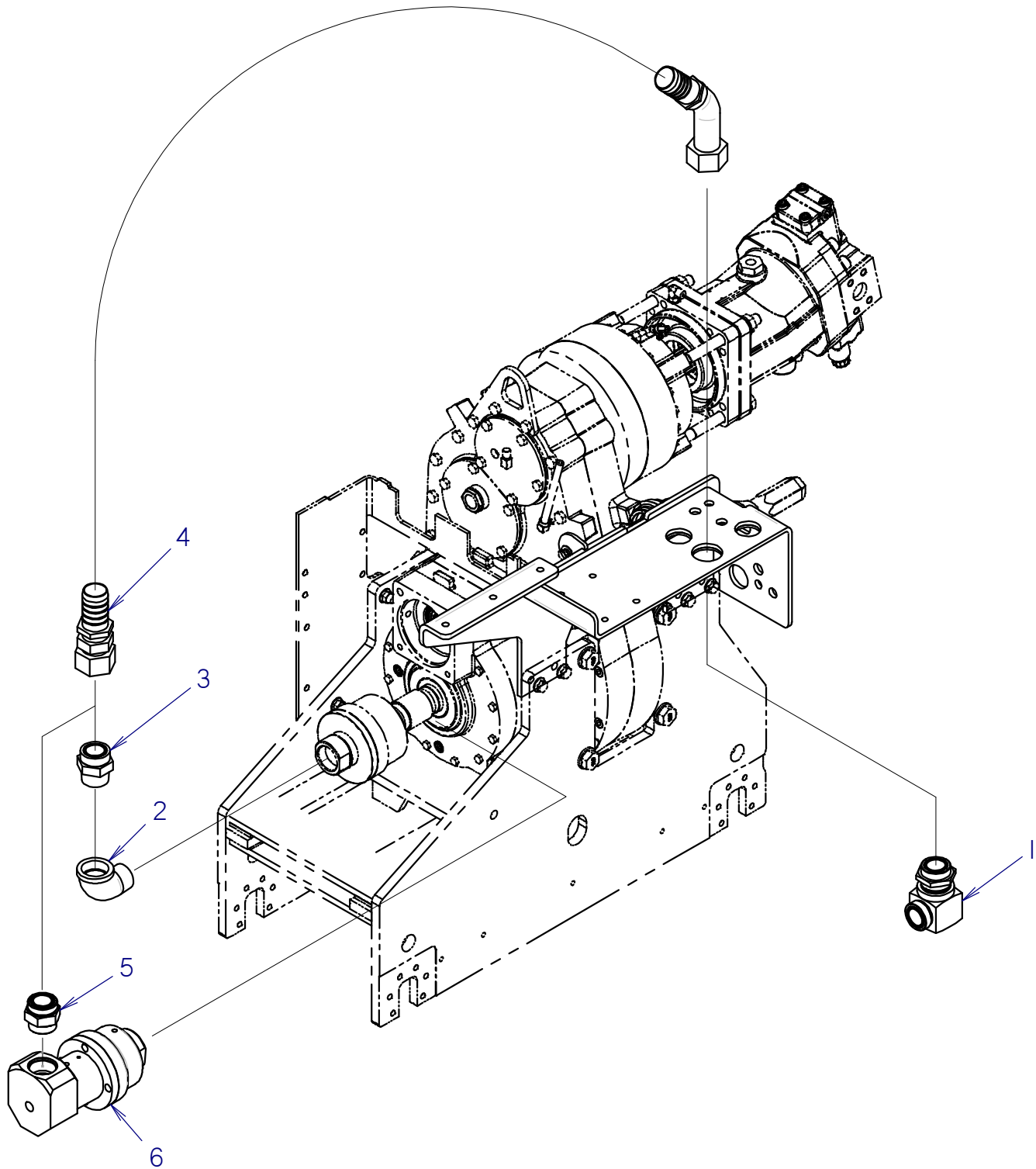


ANCHOR SYSTEM

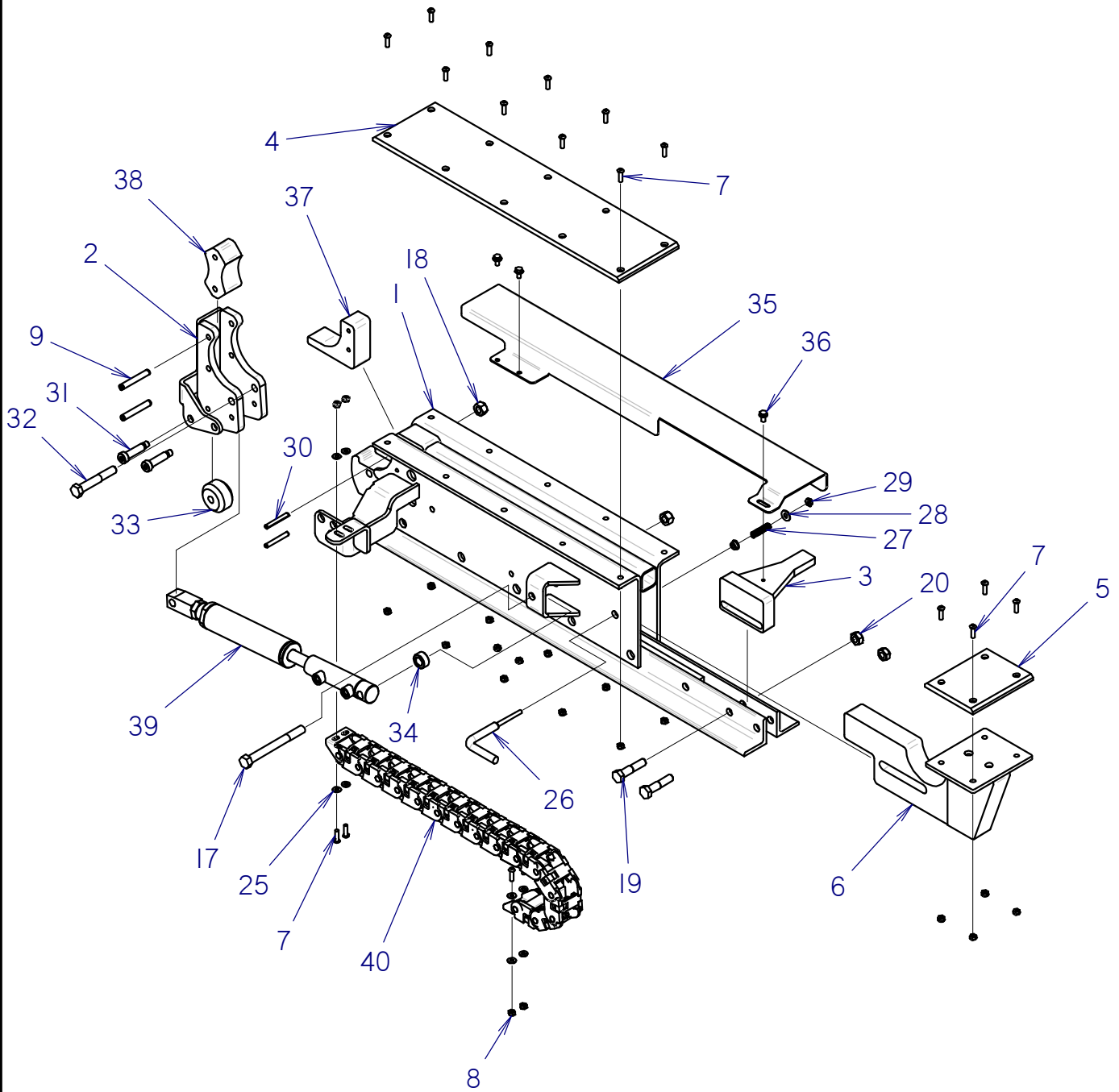


FLUID SYSTEM - CARRIAGE

AT60

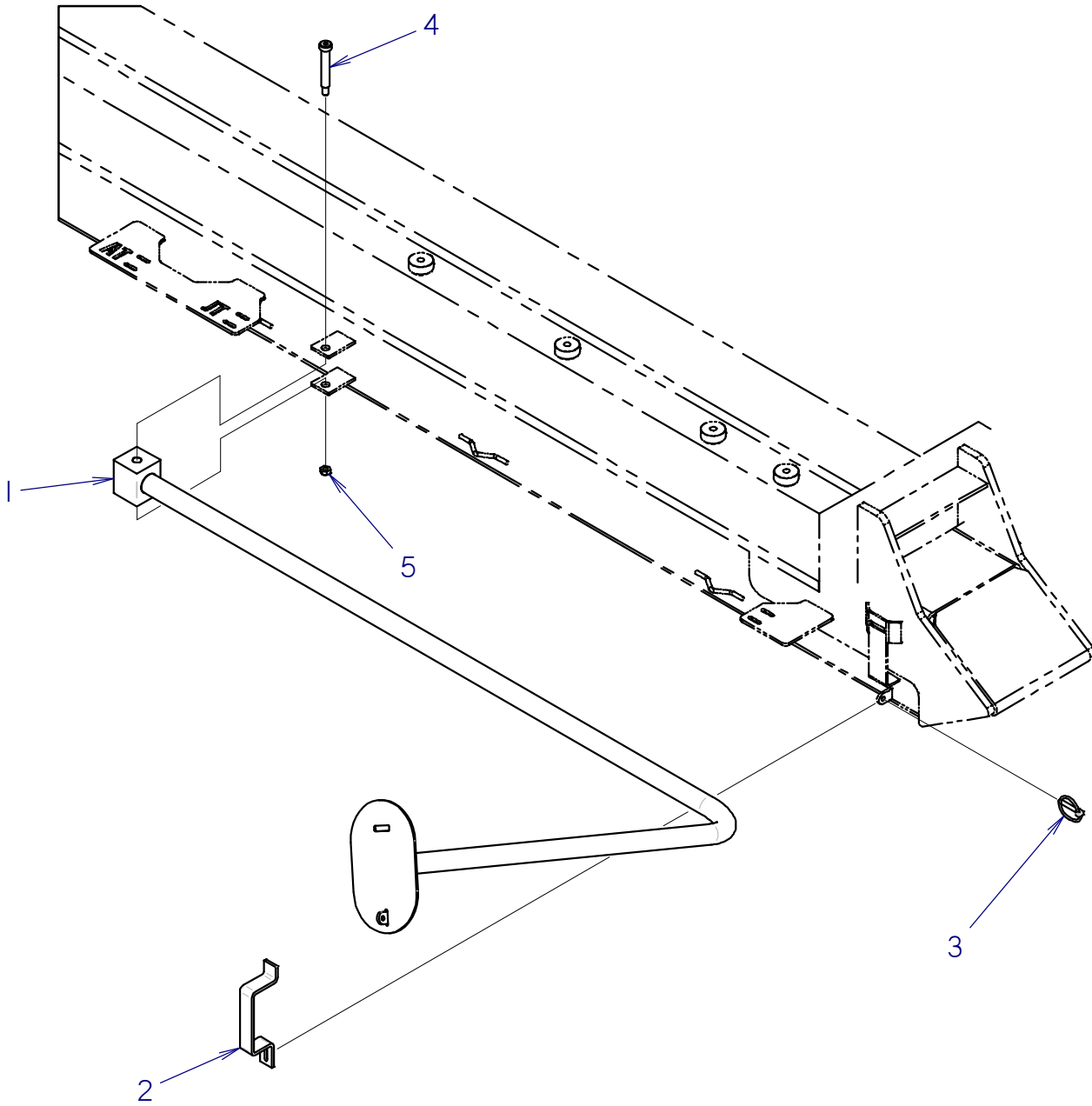


PIPE SHUTTLE, REAR

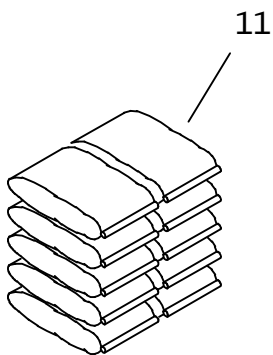
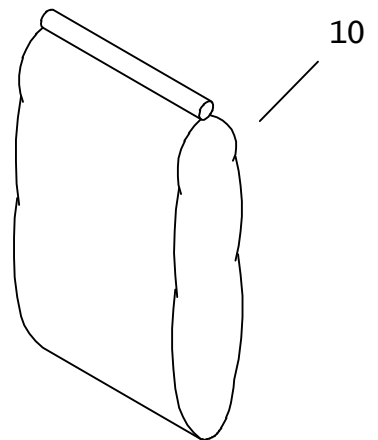
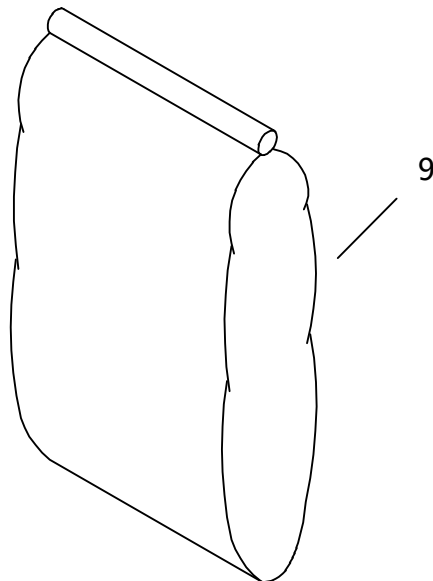
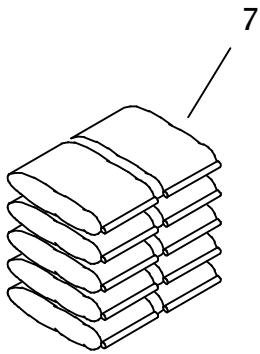
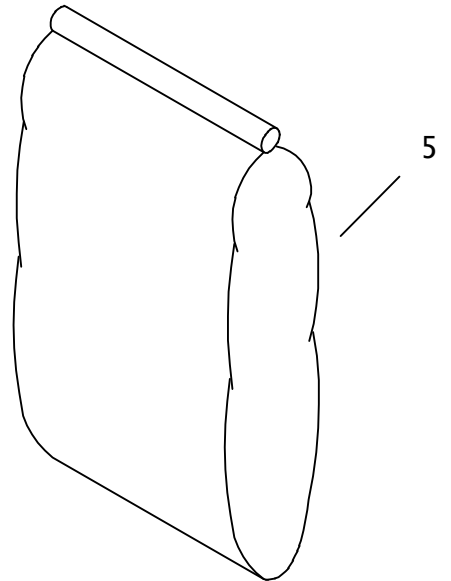
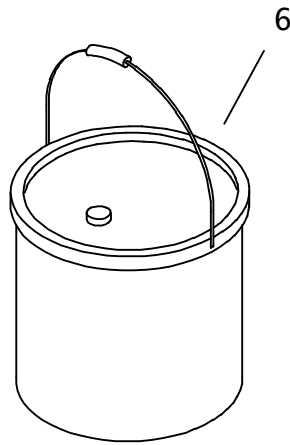
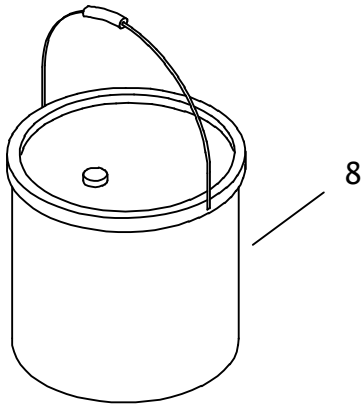
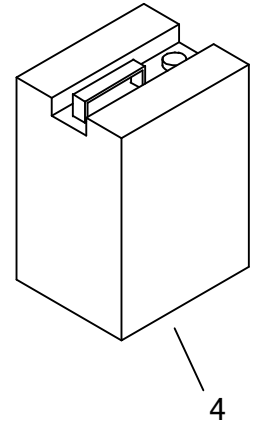
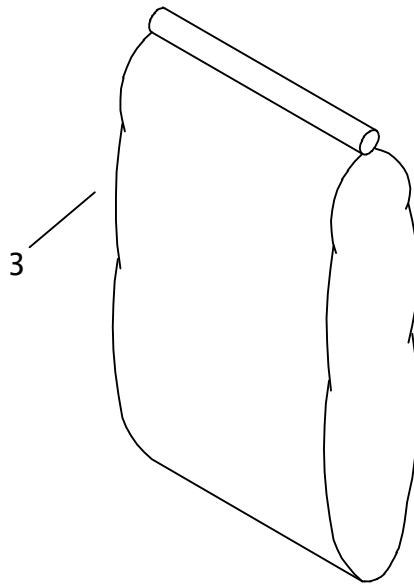
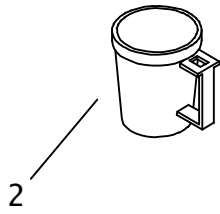
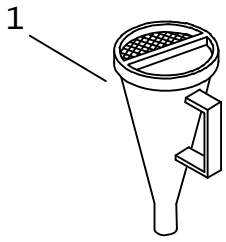


REAR GUARD

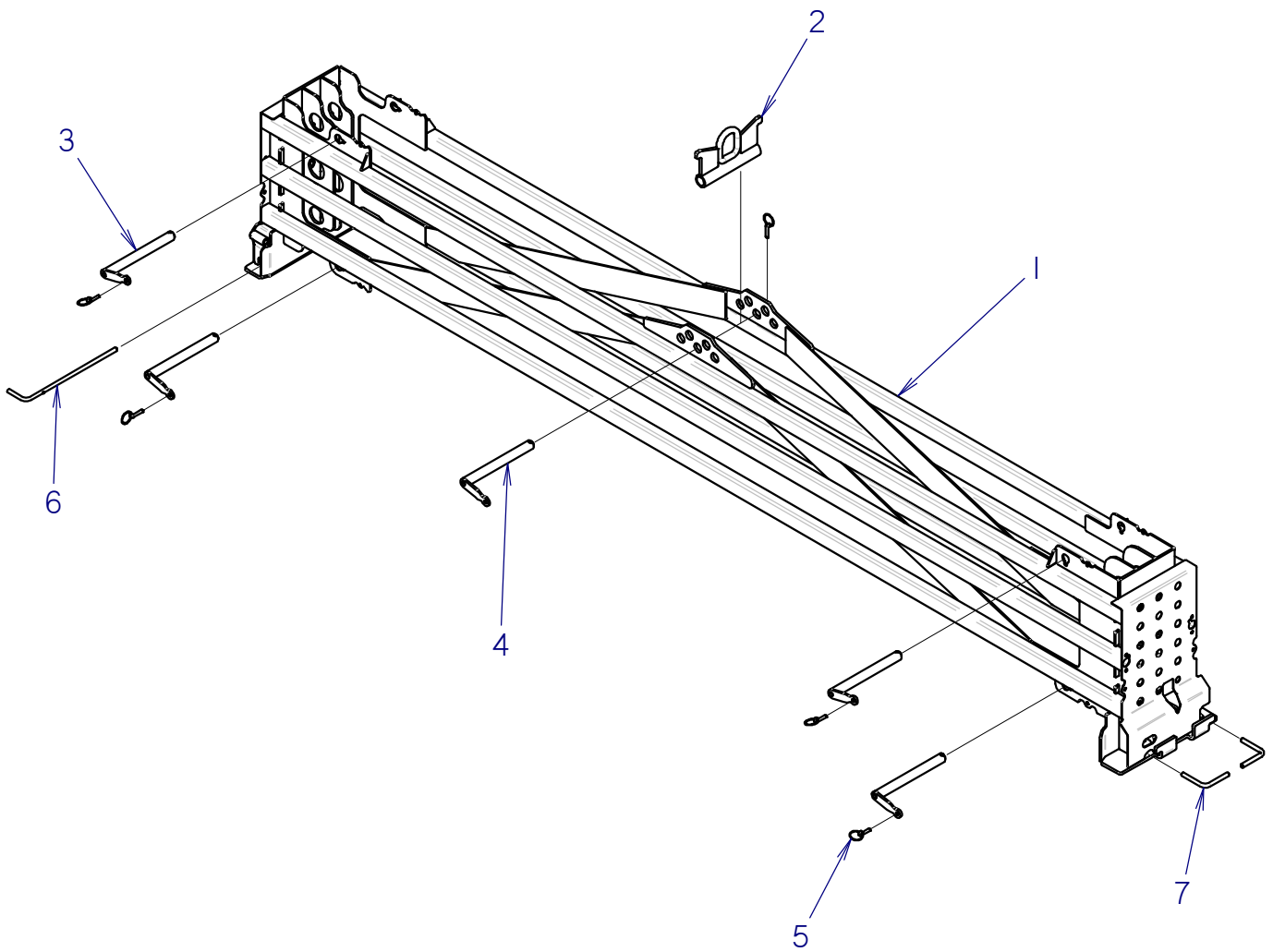
ENDS WITH S/N: CMWAT60XEG0000088



FLUID MIXING ACCESSORIES



PPF #800 PIPE BOX (TALL)



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