



**McLAUGHLIN®**

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## **Parts Manual**

### **Vermeer/ McLaughlin**

**VX70-500 Vacuum Machine**

**VX70-800 Vacuum Machine**

**VX70-1200 Vacuum Machine**

**VX80-500 Vacuum Machine**

**VX80-800 Vacuum Machine**

**VX80-1200 Vacuum Machine**

**VX100-500 Vacuum Machine**

**VX100-800 Vacuum Machine**

**VX100-1200 Vacuum Machine**

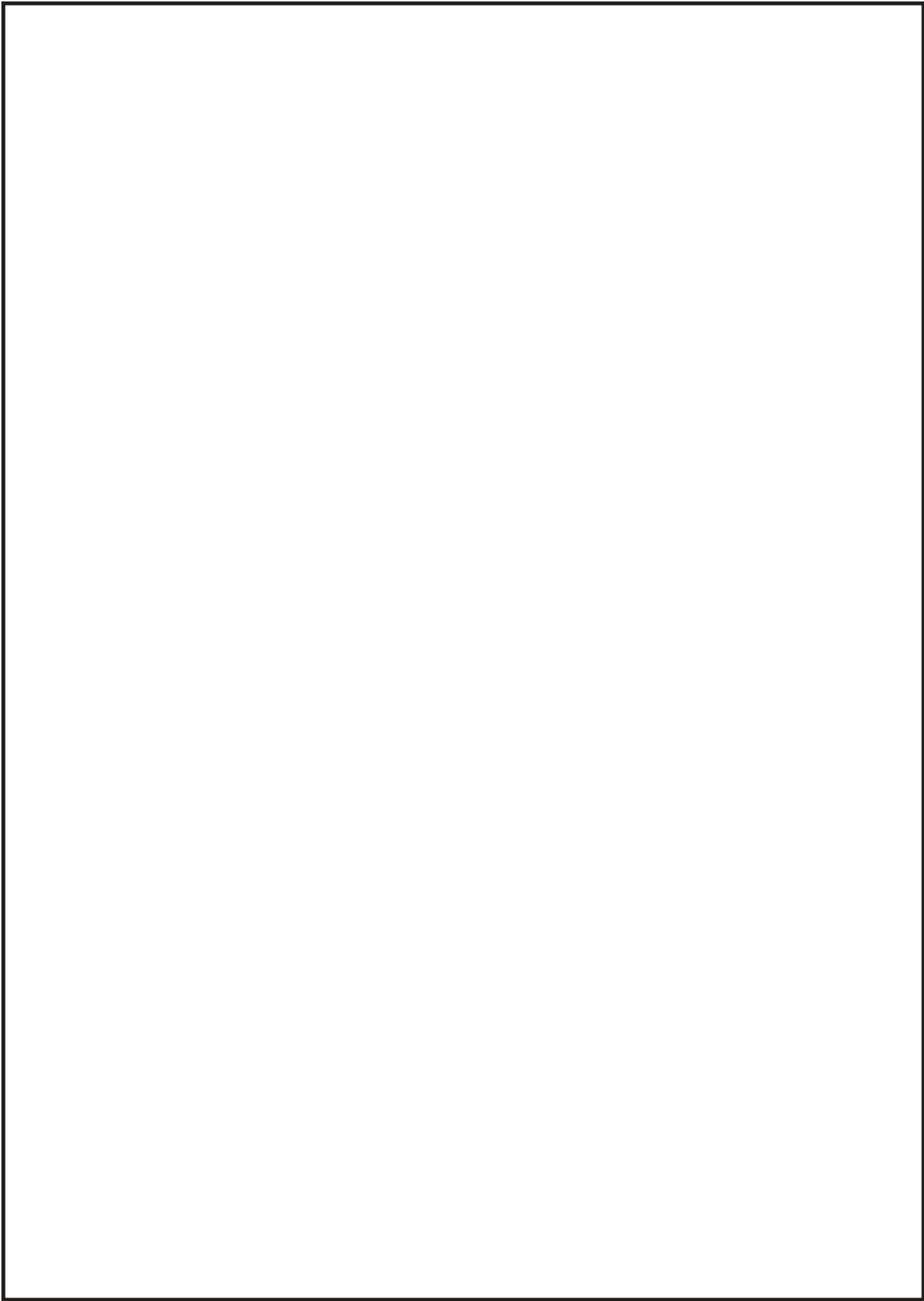
**Part #E850501**

**Serial Number Ending 0418172499 - PRESENT**

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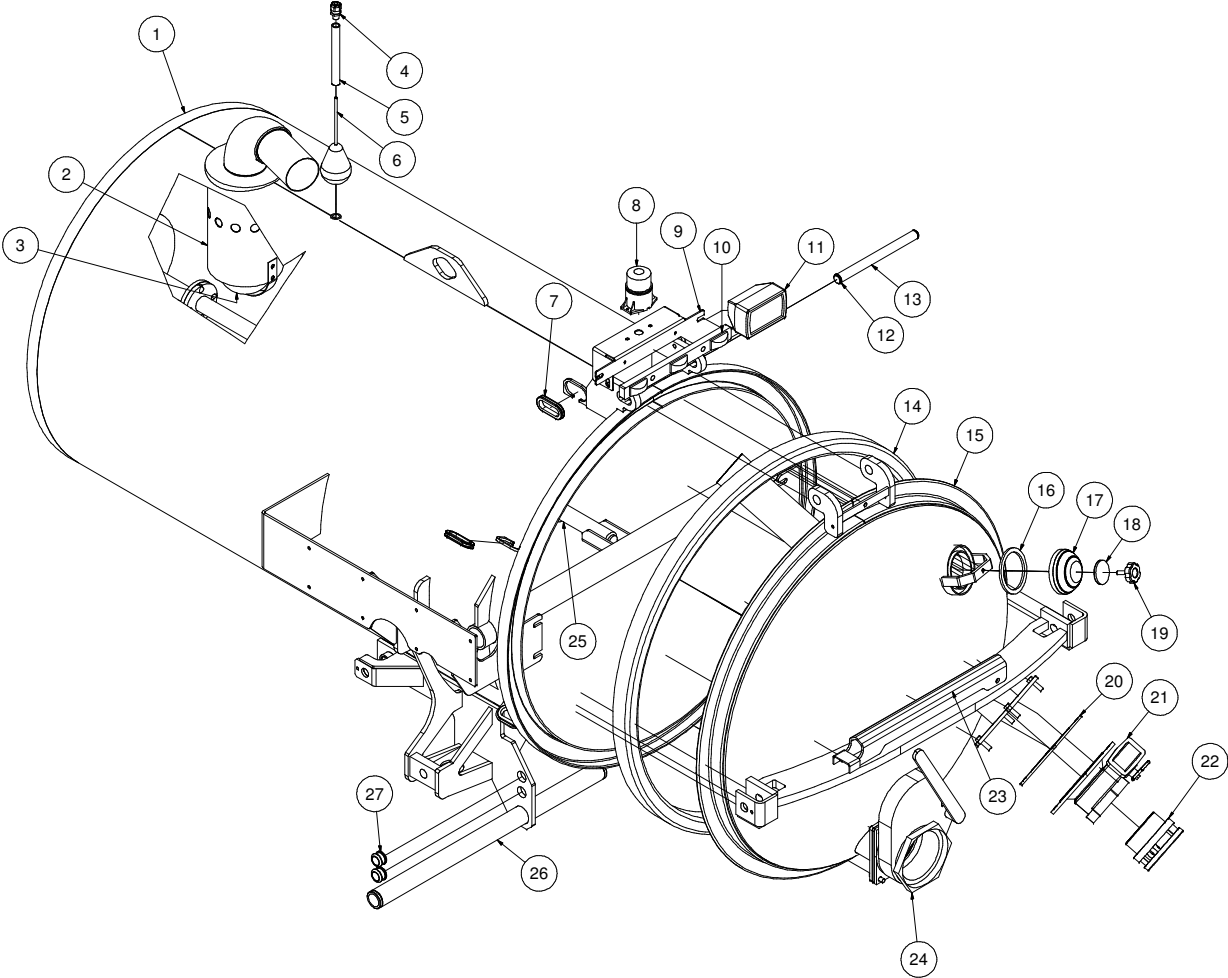
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### WARRANTY

# Tank and Door Assembly

# V500



041315-E

VACASSY002

# Tank and Door Assembly

# V500

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8045737	TANK WELDMENT - 500LE (42"DIA)
	1	T400310	REDUCER, 1"MB - 3/8"MJ
2	1	8043700	BALLFLOAT SHUTOFF WELDMENT
	2	U000420	SCREW, HC 3/8"-16 X 1.00"
	2	U210060	WASHER, LOCK 3/8"
	2	U200600	WASHER, FLAT 3/8"
	1	8043571	SEAT 4" RUBBER
	1	8043572	SEAT CLAMP 4"
3	1	8043570	BALL STRAINLESS FLOAT 6"
4	1	X000113	STRAIN RELIEF, 1/2"
5	1	8040769	HIGH LEVEL FLOAT SWITCH TUBE
	1	8041291	BUSHING, RUBBER
6	1	8030531	HIGH LEVEL FLOAT SWITCH
7	4	8042812	GROMMET 2"ID 3"OD 1/4"WOG TRAILER SLOT MODEL
8	1	8043139	STROBE LIGHT
	3	U010006	SCREW, PHILLIPS #10 - 24 X 1"
	3	U210005	WASHER, LOCK #10
	3	U100010	NUT, HEX #10 - 24
9	1	8046507	STROBE LIGHT BRACKET
	4	X000343	DT MOUNTING CLIP
	4	U000880	SCREW, HC 1/2" - 13 X 2.00"
	4	U200100	WASHER, FLAT 1/2"
	4	U210111	WASHER, LOCK 1/2"
	4	U100200	NUT, HEX 1/2" - 13
10	1	8041509	LIGHT CLEARANCE 3 BAR
11	1	8043138	WORK LIGHT
12	2	U500080	RING,RET E-RING .375 SHAFT
13	1	8040058	DOOR HINGE ROD
14	1	8041765	DOOR SEAL 42" DIA TANK
15	1	8047764	DOOR WELDMENT - 500 (42" DIA)
16	1	8031049	GASKET, 4" COUPLER
17	1	8031048	SIGHT GLASS
18	1	8031047	SIGHT GLASS PLATE
19	1	8031046	SIGHT GLASS HAND WHEEL
20	2	8046191	GASKET DOOR LE INLET/OUTLET
21	1	8046215	VALVE, 4" GATE BRASS LEVER FLANGE (500LEHD/800LEHD)
*	1	8046231	O-RING, GATE VALVE FLANGE
22	1	8046445	CAMLOCK, 4" AL FCAM X MNPT
23	1	8041212	TANK SAFETY BRACE
24	1	8046214	VALVE, 6" GATE BRASS LEVER FLANGE
*	1	8030849-50	HANDLE,6"GATE VALVE(RIV MODEL)
25	1	8043166	500 TANK ROD WELDMENT
*	3	8030369	NOZZLE, TANK CLEAN OUT
*	1	W200120	O-RING 1 7/8" X 2 1/8" X 1/8" (225)
26	1	8042648	TANK PIVOT ROD
	2	U200180	WASHER, FLAT 2"
	2	U120120	LOCK NUT
	2	U000900	SCREW, HC 1/2"-13 X 2 1/2"LG
27	4	8041686	GROMMET 1"ID - 1 1/4"DOG - 1/4"WOG

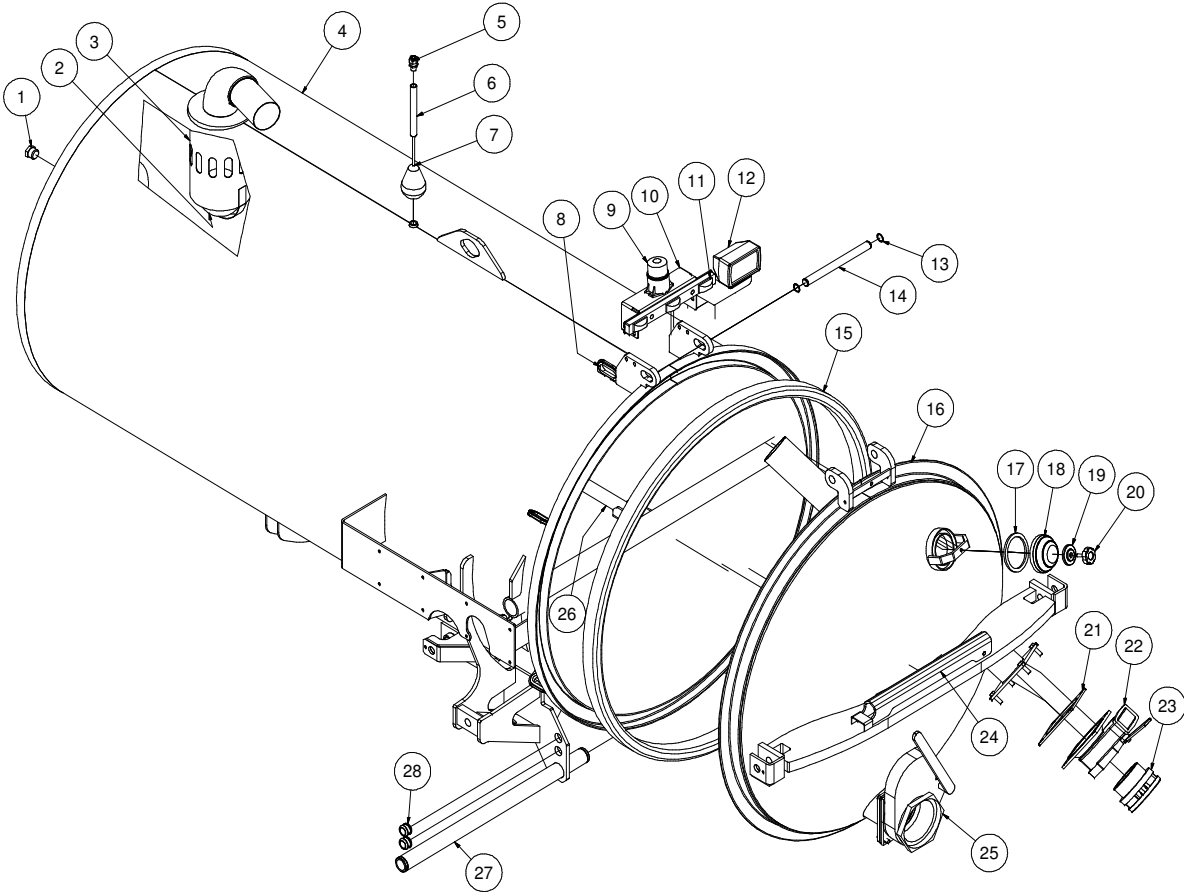
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041315-E

VACASSY002

# Tank and Door Assembly

800



041015-E

VACASSY035

# Tank and Door Assembly

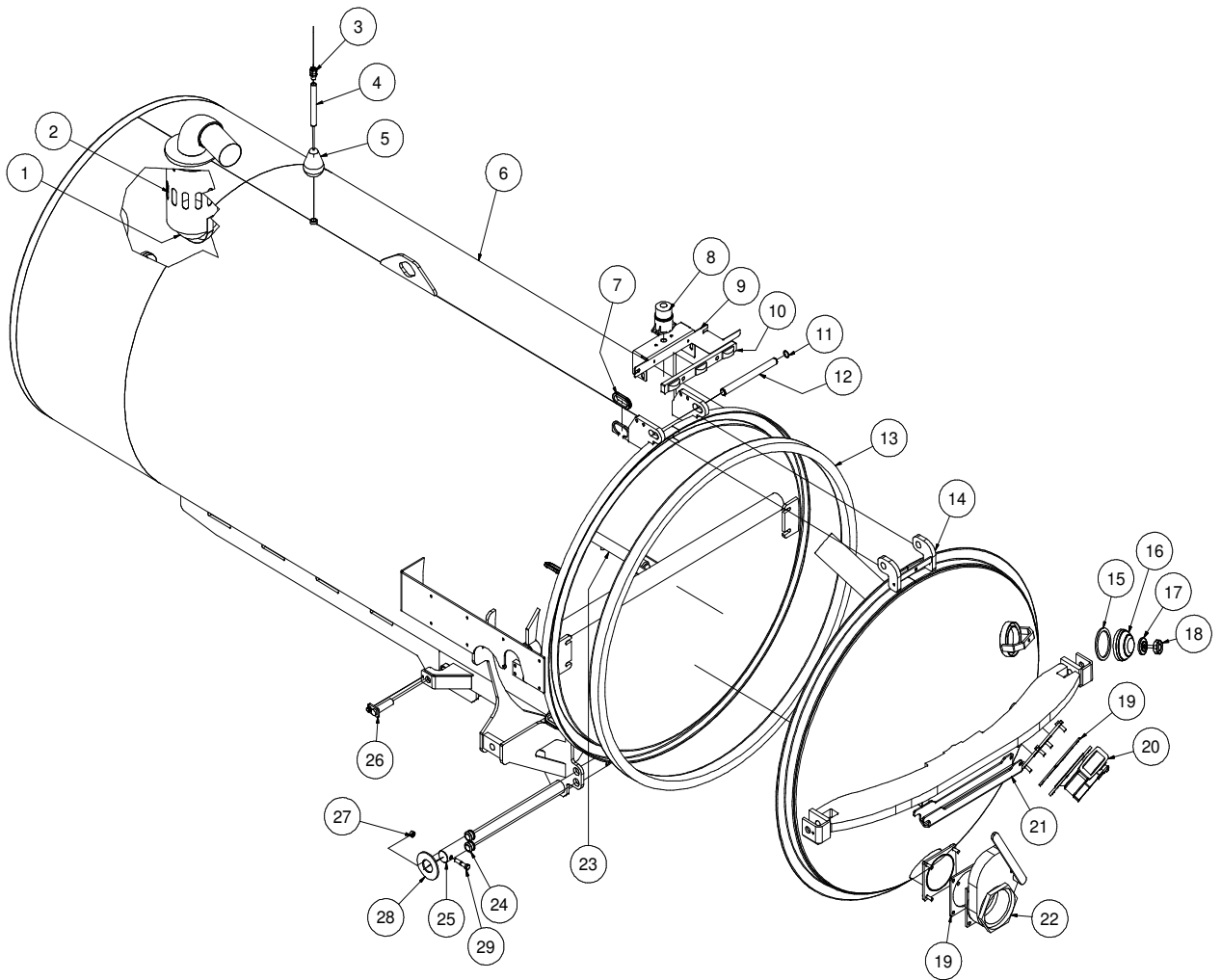
# 800

ITEM	QTY	PART NO.	DESCRIPTION
1	1	T405120	1" PLUG MB
2	1	8043570	BALL STRAINLESS FLOAT 6"
3	1	8043700	BALL FLOAT SHUTOFF WELDMENT
	2	U000420	SCREW,HC 3/8"-16 X 1.00"
	2	U210060	WASHER, LOCK 3/8"
	2	U200600	WASHER, FLAT 3/8"
	1	8043571	SEAT, 4" RUBBER
	1	8043572	SEAT CLAMP 4"
4	1	8046150	TANK WELDMENT 800
5	1	X000113	STRAIN RELIEF, 1/2"
6	1	8040769	HIGH LEVEL FLOAT SWITCH TUBE
	1	8041291	BUSHING, RUBBER
7	1	8030531	HIGH LEVEL FLOAT SWITCH
8	4	8042812	GROMMET, 2"ID 3"OD 1/4"WOG TRAILER SLOT MODEL
9	1	8043139	STROBE LIGHT
	3	U010006	SCREW, PHILLIP #10-24 X 1.00"
	3	U210005	WASHER, LOCK #10
	3	U100010	NUT, HEX #10-24
10	1	8046507	STROBE LIGHT BRACKET
	4	X000343	DT MOUNTING CLIP
	4	U000880	SCREW, HC 1/2"-13 X 2.00"
	4	U200100	WASHER, FLAT 1/2"
	4	U210111	WASHER, LOCK 1/2"
	4	U100200	NUT, HEX 1/2"-13
11	1	8041509	LIGHT CLEARANCE 3 BAR
12	1	8043138	WORK LIGHT
13	2	8030362	1" SNAP RING
14	1	8040058	DOOR HINGE ROD
15	1	8041766	SEAL, DOOR SQ 750/800LE
16	1	8047771	DOOR, HYD 800 SKID WELDMENT
17	1	8031049	GASKET, 4" COUPLER
18	1	8031048	SIGHT GLASS
19	1	8031047	SIGHT GLASS PLATE
20	1	8031046	SIGHT GLASS HAND WHEEL
21	2	8046191	GASKET, DOOR INLET/OUTLET
22	1	8046215	VALVE, 4" GATE BRASS LEVER FLANGE
	1	8046231	O-RING, GATE VALVE
23	1	8046445	CAMLOCK, 4"FCAM X MNPT
24	1	8041212	TANK SAFETY BRACE
25	1	8046214	VALVE, 6" GATE BRASS LEVER
26	1	8046172	TANK ROD 800LE WELDMENT
27	1	8042648	TANK PIVOT ROD
28	4	8041686	GROMMET, 1"ID - 1 1/4"WOG - 1/4"WO

\* NOT SHOWN

# Tank and Door Assembly

1200



021017-E

VACASSY036



# Tank and Door Assembly

# 1200

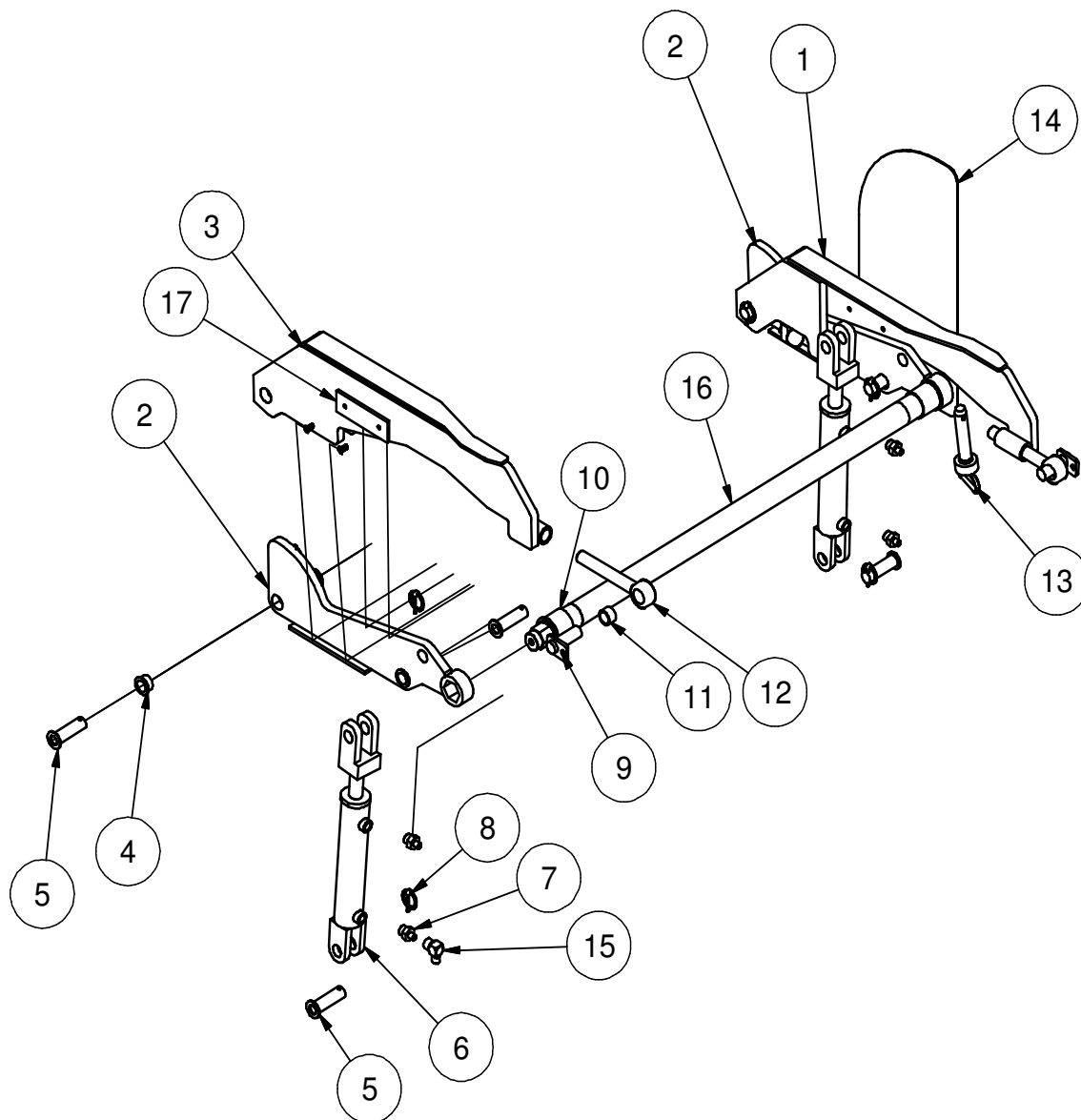
ITEM	QTY	PART NO.	DESCRIPTION
1	1	8043570	BALL STRAINLESS FLOAT 6"
2	1	8043700	BALL FLOAT SHUTOFF WELDMENT
	2	U000420	SCREW, HC 3/8" - 16 X 1.00"
	2	U210060	WASHER, LOCK 3/8"
	1	8043571	SEAT 4" RUBBER
	1	8043572	SEAT CLAMP 4"
3	1	X000113	STRAIN RELIEF, 1/2"
4	1	8040769	HIGH LEVEL FLOAT SWITCH TUBE
5	1	8030531	HIGH LEVEL FLOAT SWITCH
6	1	8048450	TANK 1200 - WELDMENT
7	4	8042812	GROMMET 2"ID 3"OD 1/4"WOG TSM
8	1	8043139	LIGHT, STROBE LED DEUTSCH
	3	U010006	SCREW, PHILLIPS #10 - 24 X 1.00"
	3	U210005	WASHER, LOCK #10
	3	U100010	NUT, HEX #10 - 24
9	1	8046507	STROBE LIGHT BRACKET
	4	U000880	SCREW, HC 1/2" - 13 X 2.00"
	4	U200100	WASHER, FLAT 1/2"
	4	U210111	WASHER, LOCK 1/2"
	4	U100120	NUT, HEX 1/2"-13
	1	X000343	DT MOUNTING CLIP
10	1	8041509	LIGHT CLEARANCE BAR
11	2	8030362	1" SNAP RING
12	1	8040058	DOOR HINGE ROD
13	1	8041767	DOOR SEAL 54"DIA. TANK
14	1	8048453	DOOR 1200 WITH INLET (US)
	1	8048454	DOOR 1200 WITH INLET (AUS)
15	1	8032007	GASKET, 4" COUPLER
16	1	8031048	SIGHT GLASS
17	1	8031047	SIGHT GLASS PLATE
18	1	8031046	SIGHT GLASS HAND WHEEL
19	2	8046191	GASKET, INLET/OUTLET DOOR LE
20	1	8046215	VALVE, 4" GATE BRASS LEVER FLANGE (HD)
*	1	8046231	O-RING, GATE VALVE FLANGE
*	1	8046445	CAMLOCK, 4" AL FCAM X MNPT
*	1	8042408	VALVE, 3" GATE BRASS LEVEL TYPE (STANDARD)
*	1	8046197	GATE VALVE TANK FLANGE 3"
*	1	8046191	GASKET DOOR LE INLET/OUTLET
*	1	8041585	COUPLING, PP 3" FCAM X 3" MNPT
21	1	8041212	TANK SAFETY BRACE
22	1	8046214	VALVE, 6" GATE BRASS LEVER
	1	8030849-50	HANDLE, 6" GATE VALVE (RIV MODEL)
23	1	8043567	TANK ROD 1200 (54" DIA TANK)
	3	8030369	NOZZLE, TANK CLEANOUT
24	4	8041686	GROMMET 1"ID 1 1/4"DOG 1/4"W
25	1	8047752	TANK PIVOT ROD
26	2	8040753	CYLINDER PIN WELDMENT
	2	U000400	SCREW, HC 3/8" - 16 X 1.00"
	2	U200600	WASHER, FLAT 3/8"
	2	U210060	WASHER, LOCK 3/8"
27	2	U160018	NUT, LOCK .500-13 NY ZP
28	2	U200180	WASHER FLAT 2.125ID X 4.5OD
29	2	U000900	SCREW, HC .500-13X2.50 ZP G5

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VACASSY036

# Hyd. Door Cylinder Assembly



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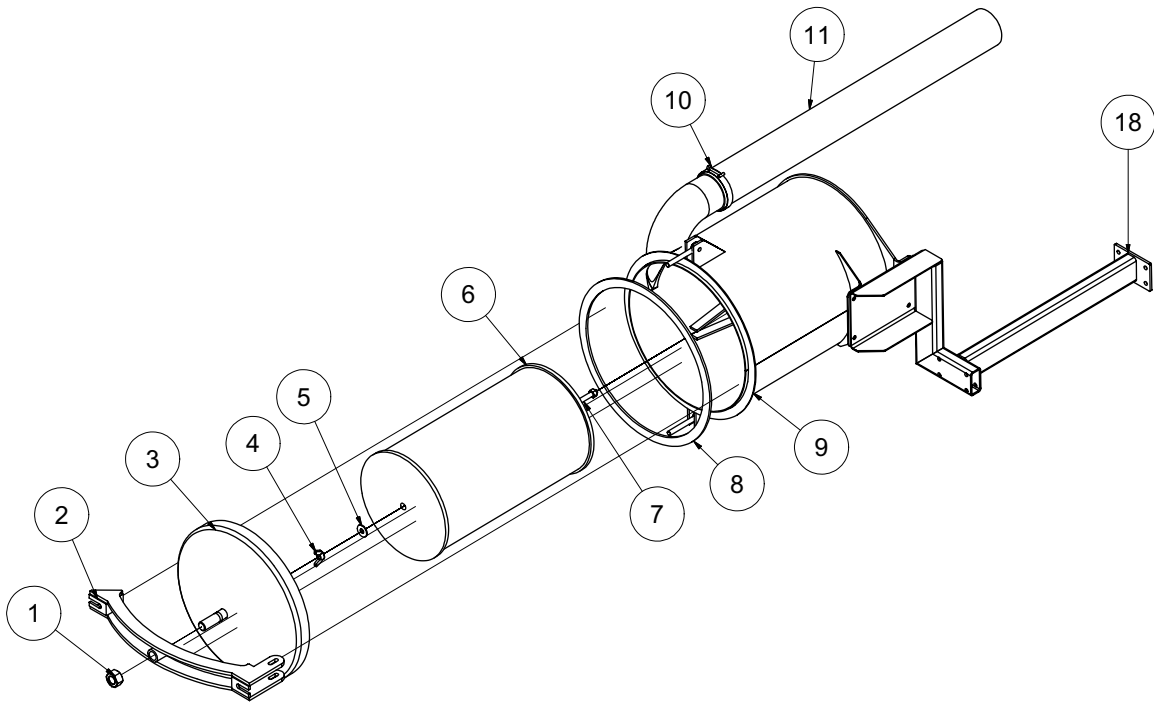
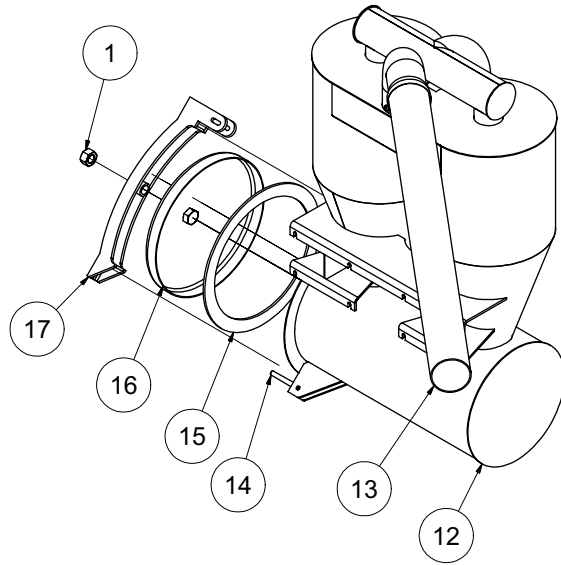
VACASSY942

# Hyd. Door Cylinder Assembly

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8041369	DOOR HYD LONG LINKAGE WELDMENT
2	2	8049766	SHORT LINKAGE WELDMENT
3	1	8041375	DOOR HYD LONG LINKAGE SS WELDMENT
4	6	8041883	BUSHING BRONZE FLANGED 1"
5	6	8042489	HYD DOOR - PIN WELDMENT 1"DIA X 3"
6	2	8041327	HYD CYLINDER - 8" STROKE
7	4	T400611	UNION 8MB - 4MJ
8	6	U340050	PIN LINCH 3/16 X 1 9/16
9	2	8043844	DOOR CAPTURE PIN
10	2	8041602	BUSHING BRONZE FLANGED 2"
11	2	8041524	BUSHING BRONZE 1 1/4" X 1.00 X 3/4"LG
12	2	8043131	ROD END 1" X 7 1/2"
	2	U160025	NUT, JAM 1.00"
	2	U120060	NUT, NY LOCK 1"
	4	U200170	WASHER, FLAT 1.00"
13	1	8041626	1" X 4 1/2" HITCH PIN
14	1	8041635	HYD ARM GUARD
15	1	T401225	ELBOW, 90 1/4MJ - 1/4FJ
16	1	8049718	LINKAGE CROSS TUBE V500
	1	8090905	LINKAGE CROSS TUBE V800
	1	8095157	LINKAGE CROSS TUBE V1200
17	2	8049376	PLASTIC STRIP, 1/4" X 2" X 6"LG
	4	U030017	SCREW,SFH .250-20X1.00 ZP
	4	U120000	NUT,LOCK, NY, .250-20 ZP G2
	4	U200020	WASHER FLAT .250 ZP

# Filtration

# HD



102315-E

VACASSY347

# Filtration

# HD

ITEM	QTY	PART #	DESCRIPTION
1	2	U120060	NUT, LOCK NY 1" - 8
2	1	8041554	DOOR LATCH (HDAIR FILTER WELDMENT)
3	1	8041387	HDAIR FILTER DOME ASSY
4	1	U130080	NUT, WING 1/2" - 13
5	1	U200100	WASHER, FLAT 1/2"
6	1	8031293	WASHABLE AIR FILTER ELEMENT
7	1	8040302	THREADED ROD - 4"LG
8	1	8041613	SEAL 3/8" EPDM 17.
9	1	8046338	HDAIR FILTER HOUSING
*	10	U200060	WASHER, FLAT .375
*	1	U000500	SCREW, HC 3/8" - 16 X 2.00"
*	1	U000580	SCREW, HC 3/8" - 16 X 3.50"
*	4	U000420	SCREW, HC 3/8"-16 X 1.00"
*	8	U000440	WASHER, FLAT 3/8"
*	4	U120110	NYLON LOCKNUT 3/8"-16
*	2	8041594	HANDLE, WING
10	4	8042606	CLAMP T-BOLT (450)
11	1	8030657-189.00	HOSE VAC KANAFLEX 4-189" (V500)
	1	8030657-206.00	HOSE VAC KANAFLEX 4-206" (V800)
	1	8030657-156.00	HOSE VAC KANAFLEX 4-156" (VSK300)
12	1	8046458	HD SEPARATOR - HOUSING ONLY
*	10	U000440	WASHER, FLAT 3/8"
*	1	U000520	SCREW, HC 3/8" - 16 X 2.25"
*	1	U000580	SCREW, HC 3/8" - 16 X 3.50"
*	2	U120110	NYLON LOCKOUT 3/8 - 16
*	2	8041594	HANDLE, WING
*	8	U000420	SCREW, HC 3/8"-16 X 1.00"
*	16	U200060	WASHER, FLAT 3/8"
*	8	U210061	NYLON LOCKNUT 3/8"-16
13	1	8041781	HOSE VAC AG SUCTION 4-48"
14	4	8041593	BOLT, EYE 1/2" - 13 X 6"
15	1	8041612	SEAL 3/8" EPDM 14"ID, 17.25"OD
16	1	8041402	HD CYCLONE DOME DOOR ASSY
17	1	8041552	DOOR LATCH (CYCLONE) - WELDMENT
18	1	8046243	AIR FILTER BRACKET LE
*	4	U210060	WASHER, LOCK 3/8" ZP
*	4	U000441	SCREW, HC 3/8-16 X 1.25"
*	4	U000440	WASHER, FLAT 3/8"
*	4	U100060	NUT, HEX 3/8"-16

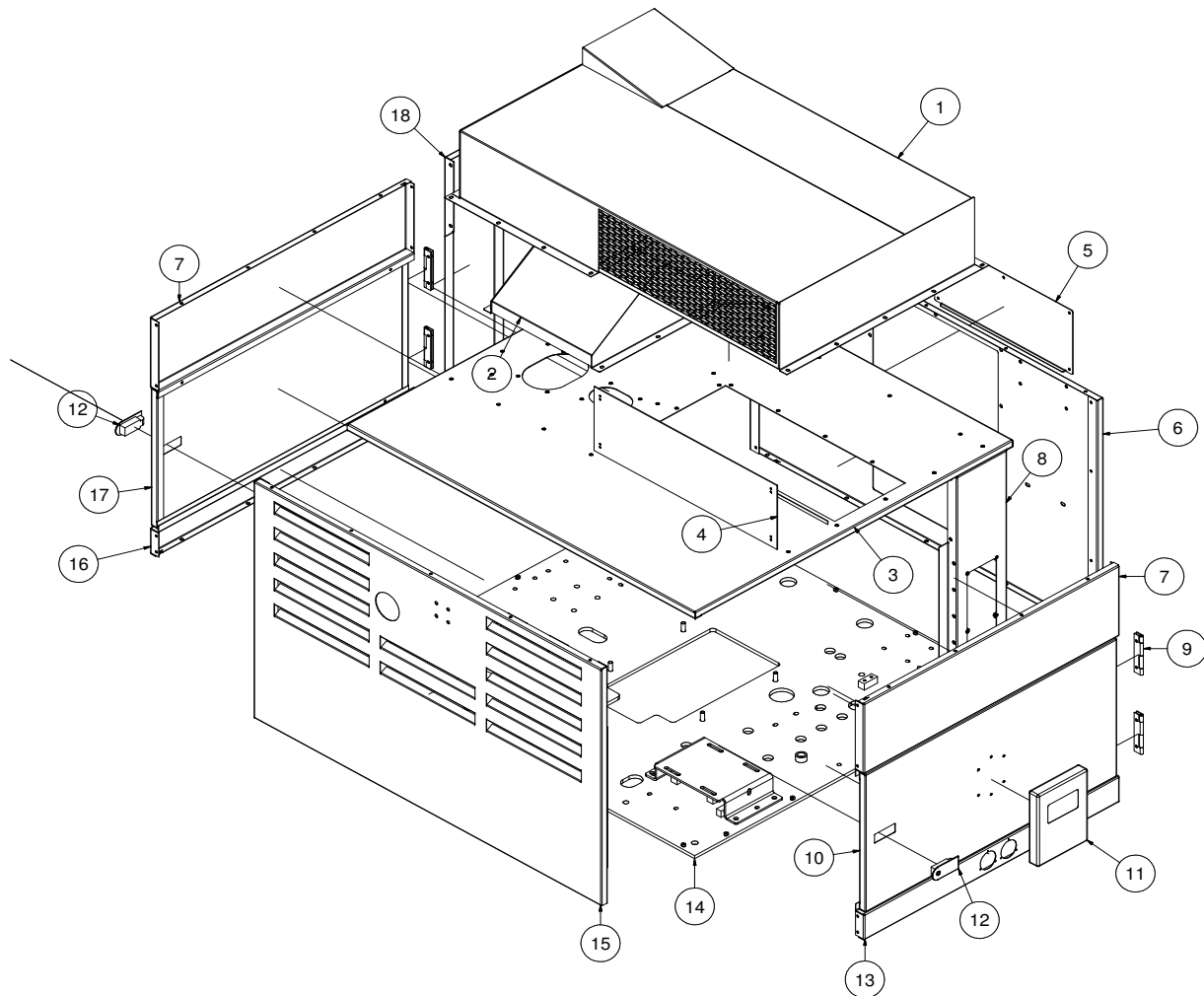
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102315-E

VACASSY347

# Enclosure Assembly

# 67/85 HP



012816-E

VACASSY406

# Enclosure Assembly

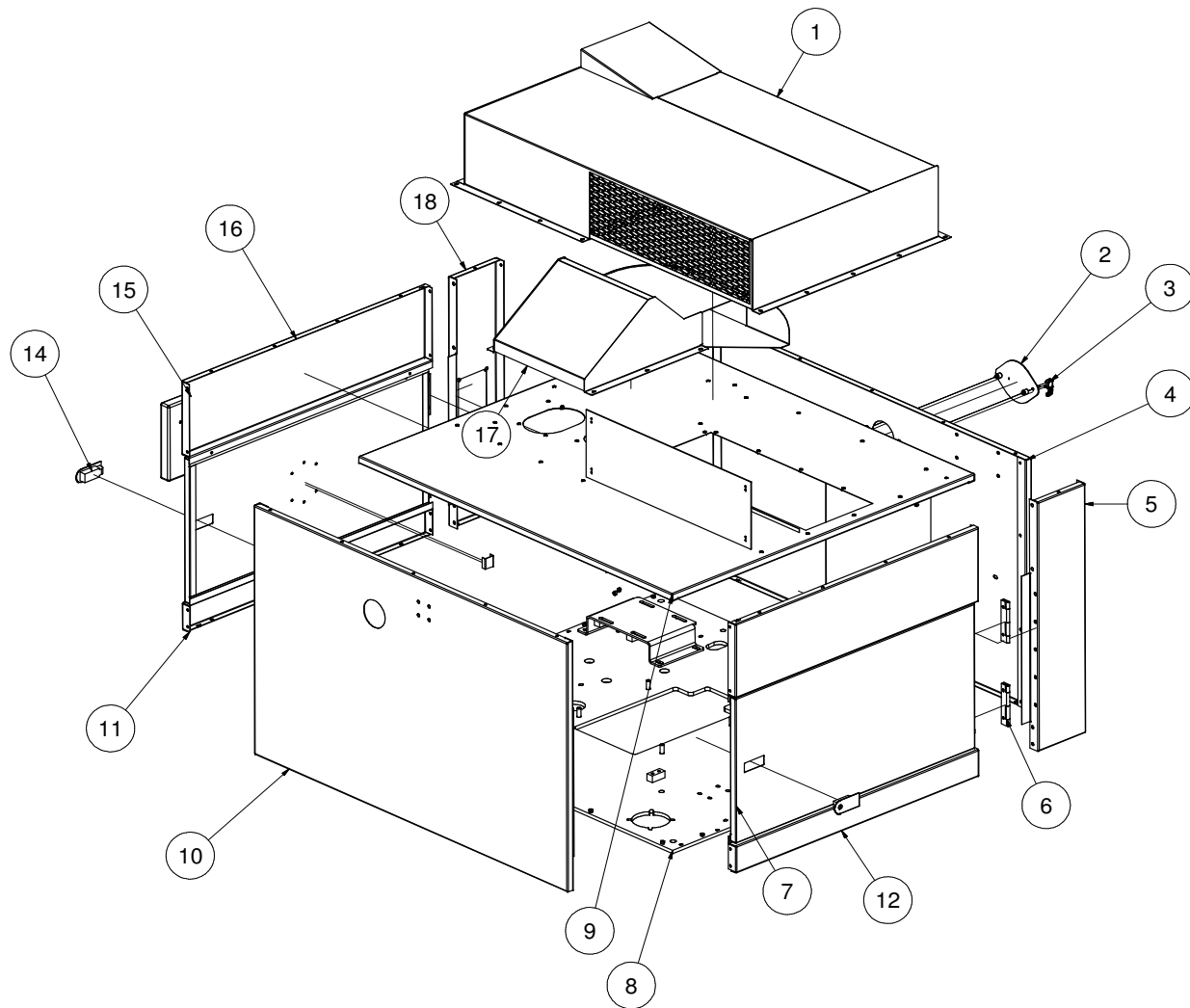
## 67/85 HP

ITEM	QTY	PART #	DESCRIPTION
1	1	8048983	INTAKE BOX
2	1	8044283	EXHAUST SHEILD
3	1	8044250	PANEL TOP
4	1	8090879	INTAKE BOX COVER
5	1	8048431	PANEL FRONT 99 ACCESS PANEL
6	1	8048429	PANEL FRONT
*	1	8044301	LS FRONT SOUND INSULATION
*	1	8044302	RS FRONT SOUND INSULATION
*	1	8044930	BELOW RADIATOR SOUND INSULATION
*	1	8044931	ABOVE RADIATOR SOUND INSULATION
7	2	8044257	PANEL SIDE UPPER
*	2	8044308	SIDE UPPER SOUND INSULATION
8	1	8049018	PANEL SIDE VERTICAL CONTROL
*	1	8044303	SIDE VERTICAL CONTOL PANEL SOUND INSULATION
9	4	8093873	HINGE, DOOR, ENCLOSURE
10	1	8093874	PANEL DOOR FOR MANUAL
*	1	8044310	DOOR SOUND INSULATION
11	1	E250211	BOX, PLASTIC for SAFETY MANUAL
12	2	8040586	SEALED LEVER LATCH
	1	8041816	KEY DOOR SOUTHCO LATCH
13	1	8044262	PANEL SIDE LOWER GAUGES
*	1	8044307	SIDE LOWER SOUND INSULATION
14	1	8047102	MAIN PLATE
15	1	8092838	PANEL REAR
*	1	8044306	LS REAR SOUND INSULATION
*	1	8044947	RS REAR SOUND INSULATION
16	1	8044254	PANEL SIDE LOWER
*	1	8044307	SIDE LOWER SOUND INSULATION
17	1	8047595	PANEL DOOR
*	1	8044309	DOOR SOUND INSULATION
18	1	8049016	PANEL, BLANK (STD) WELDMENT
*	1	8044304	SIDE VERTICAL SOUND INSULATION
19	2	8040589	OFFSET HINGE TYPE "B"
*	20	U000060	SCREW, HC 1/4-20 X 1
*	36	U000020	SCREW, HC 1/4-20 X 1/2
*	112	U200020	WASHER, FLAT 1/4"
*	36	U120100	NUT, HEX LOCK 1/4"
*	1	8041171	HANDLE
	2	U001017	SCREW, HSH 1/4-20 X 1.25
	2	U200020	WASHER, FLAT 1/4"
	2	U120100	NUT, HEX LOCK 1/4-20
*	2	8041504	DOOR SEAL VERTICAL
*	1	8044223	EXHAUST FLANGE
*	1	8048909	EXHAUST INSULATION

\* NOT SHOWN

# Enclosure Assembly

# 67/85 HP RC



022516-E

VACASSY415



# Enclosure Assembly

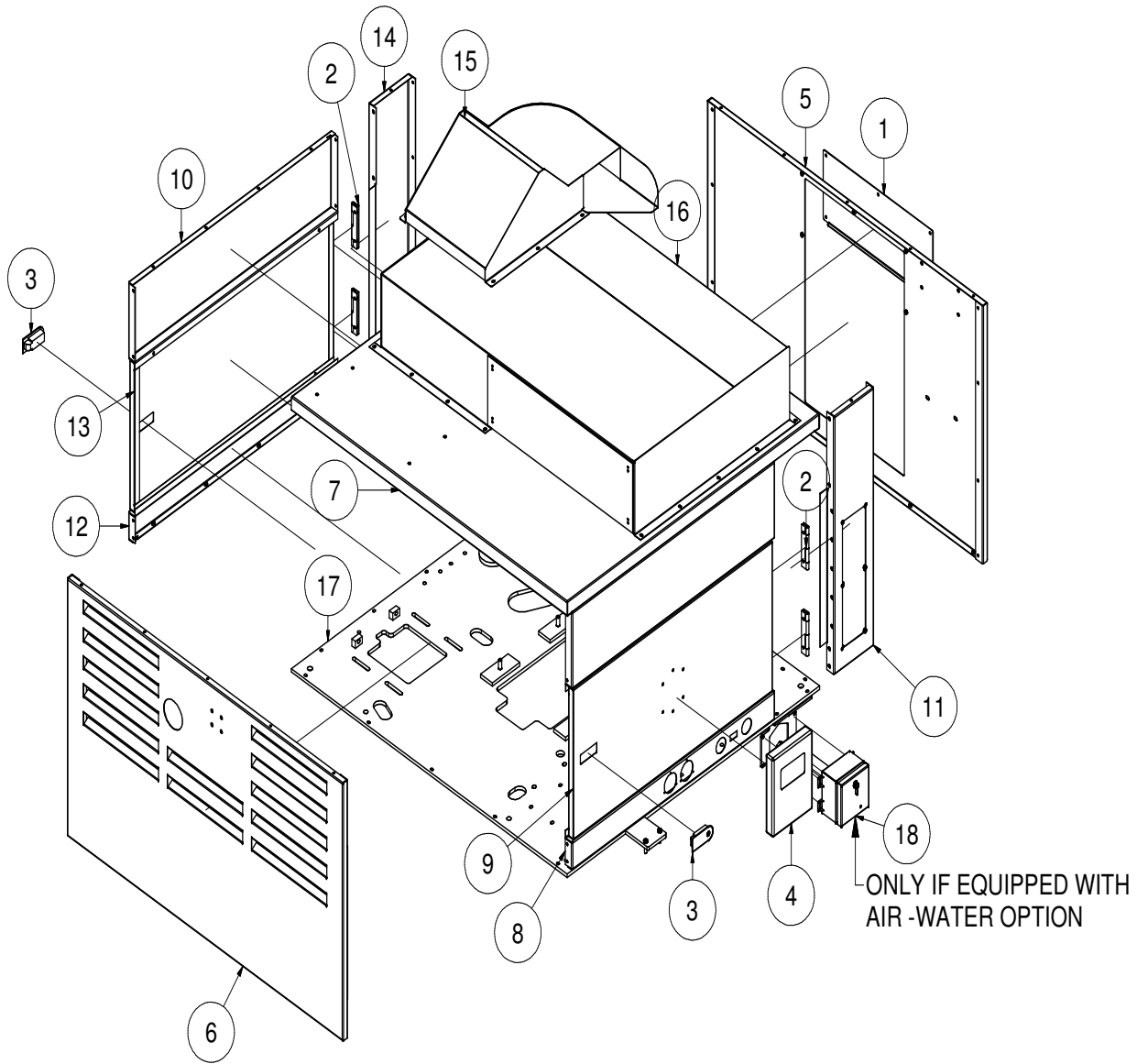
## 67/85 HP RC

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8048983	INLET OUTLET BOX
2	1	8040592	ENCLOSURE RADIATOR COVER
3	2	8040334	SWELL LATCH
4	1	8044248	PANEL FRONT
*	1	8044301	LS FRONT SOUND INSULATION
*	1	8044302	RS FRONT SOUND INSULATION
*	1	8044930	BELOW RADIATOR SOUND INSULATION
*	1	8044931	ABOVE RADIATOR SOUND INSULATION
5	1	8049016	PANEL SIDE VERTICAL
*	1	8044304	SIDE VERTICAL SOUND INSULATION
6	4	8093873	HINGE, DOOR ENCLOSURE
7	1	8047595	PANEL DOOR
*	1	8044309	DOOR SOUND INSULATION
8	1	8047102	73HS MAIN PLATE WELDMENT
9	1	8044250	PANEL TOP WELDMENT
10	1	8044252	PANEL REAR
*	1	8044306	LS REAR SOUND INSULATION
*	1	8044947	RS REAR SOUND INSULATION
11	1	8044262	PANEL SIDE LOWER GAUGES
*	1	8044307	SIDE LOWER INSULATION
12	1	8044254	PANEL SIDE LOWER
*	1	8044307	SIDE LOWER INSULATION
13	1	8093874	PANEL DOOR W/TRANS. BOX
*	1	8044310	DOOR SOUND INSULATION
14	2	8040586	SEALED LEVER LATCH
	1	8041816	KEY DOOR SOUTHCO LATCH
15	1	E250210	BOX, PLASTIC FOR SAFETY MANUAL
16	2	8044257	PANEL SIDE UPPER 73HS
*	2	8044308	SIDE UPPER SOUND INSULATION
17	1	8044283	EXHAUST SHIELD
18	1	8049018	PANEL SIDE VERTICAL CTRL
*	1	8044303	SIDE VERTICAL CONTROL PANEL SOUND INSULATION
*	1	8044223	EXHAUST FLANGE
*	1	8048909	EXHAUST INSULATION

\* NOT SHOWN

# Enclosure Assembly

# 99HP



021417-E

VACASSY420

# Enclosure Assembly

# 99HP

ITEM	QTY	PART #	DESCRIPTION
1	1	8048431	ENCLOSURE ACCESS COVER PANEL
2	4	8093873	HINGE, DOOR ENCLOSURE
3	2	8040586	SEALED LEVER LATCH
	1	8041816	KEY DOOR SOUTHCO LATCH
4	1	E250210	MANUAL BOX
5	1	8048429	99HP - PANEL FRONT
	1	8044301	73HP SOUND INSULATION FRONT LEFT HAND
	1	8044302	73HP SOUND INSULATION FRONT RIGHT HAND
	1	8044930	73HP SOUND INSULATION BELOW RADIATOR
	1	8044931	73HP SOUND INSULATION ABOVE RADIATOR
6	1	8092838	PANEL REAR WELDMENT 99HP
	1	8044306	73HP SOUND INSULATION BACK RS
	1	8044947	73HP SOUND INSULATION BACK LS
7	1	8046893	PANEL TOP 99AW WELDMENT
8	1	8044256	87HS PANEL SIDE LWR GAUAGES WELDMENT (AIR WATER)
	1	8044307	73HP SOUND INSULATION UNDER DOOR
9	1	8093874	PANEL, DOOR W/ TRANSMITTER MOUNT WELDMENT
	1	8044310	73HP SOUND INSULATION RH DOOR
10	2	8044257	73HS PANEL SIDE UPPER
	2	8044308	73HP SOUND INSULATION ABOVE DOOR
11	1	8049018	VERTICAL CONTROL WELDMENT
	1	8044303	73HP SOUND INSULATION CONTROL PANEL
12	1	8044254	PANEL SIDE LOWER WELDMENT
	1	8044307	73HP SOUND INSULATION UNDER DOOR
13	1	8047595	PANEL SIDE DOOR
	1	8044309	73HP SOUND INSULATION LH DOOR
14	1	8049016	PANEL SIDE VERTICAL BLANK WELDMENT
	1	8044304	73HP SOUND INSULATION OPP. CONTROL PANEL
15	1	8044283	EXHAUST SHIELD
16	1	8048983	INLET OUTLET BOX
17	1	8049079	MAIN PLATE 99HP HD LE - WELDMENT
	1	8049081	MAIN PLATE 99HP HD XT (1025) - WELDMENT
	1	8047282	MAIN PLATE 99HP HD AW - WELDMENT
	1	8047398	MAIN PLATE 99HP HD XT (1200) - WELDMENT
18	1	8049096	ENCLOSURE GAUGE BOX AW
	1	8045133	GAUGE, AIR PRESSURE
	1	8045132	GAUGE, OIL TEMP
*	20	U000060	SCREW,HC 1/4-20X1
*	36	U000020	SCREW,HC 1/4-20X1/2
*	112	U200020	WASHER,FLAT 1/4
*	36	U120100	NUT,HEX LOCK 1/4
*	1	8041171	HANDLE
	2	U001017	SCREW,HSH 1/4-20X1.25
	2	U200020	WASHER,FLAT 1/4
	2	U120100	NUT,HEX LOCK 1/4-20
*	2	8041483	DOOR SEAL VERTICAL
*	1	8044223	ENCLOSURE EXHAUST FLANGE
*	1	8048909	EXHAUST INSULATION
*	2	8093348	BOOM HOSE SUPPORT (800 & 1200 UNITS)

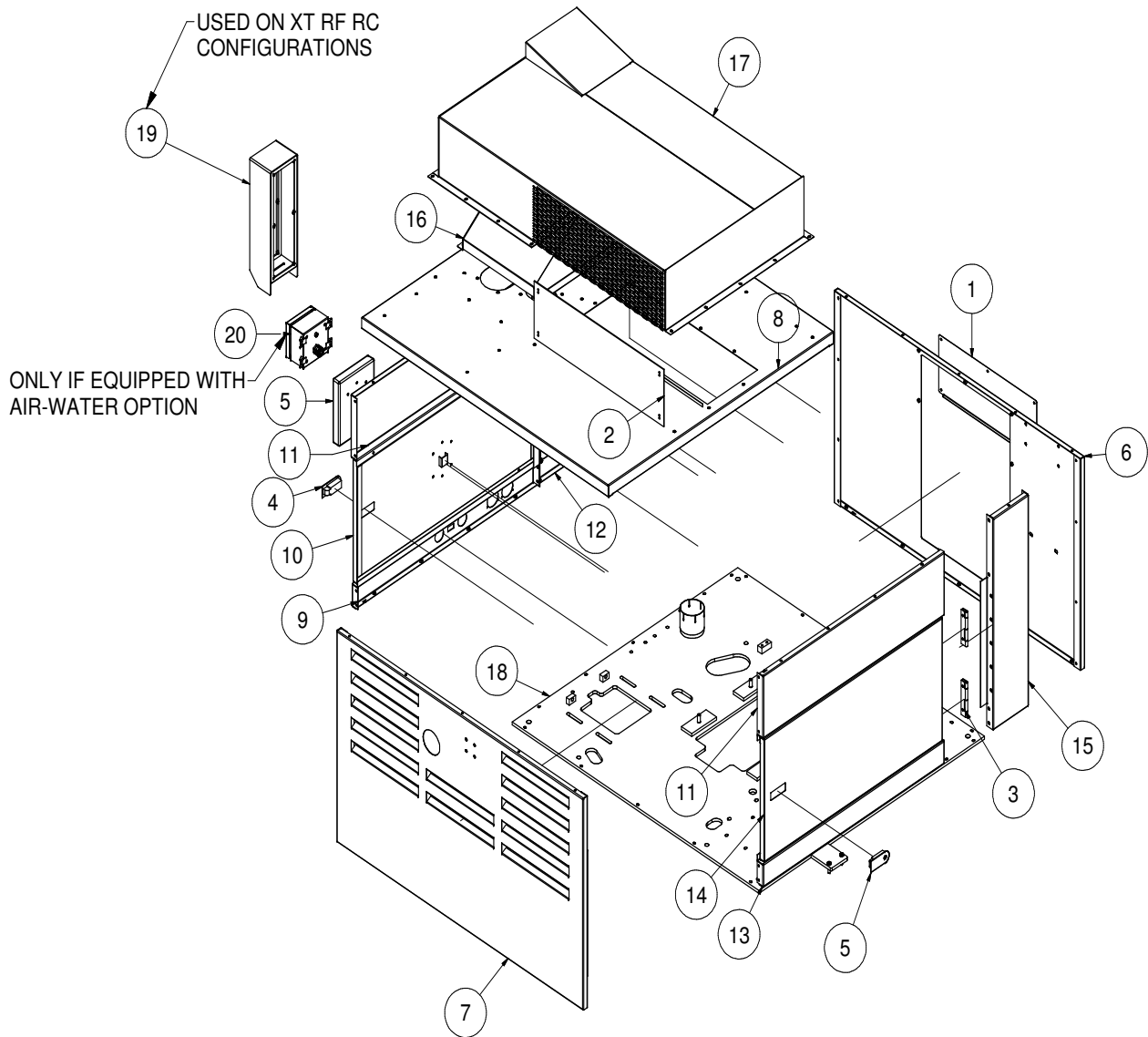
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021417-E

VACASSY420

# Enclosure Assembly

# 99HP RC



021417-E

VACASSY421

# Enclosure Assembly

## 99HP RC

ITEM	QTY	PART #	DESCRIPTION
1	1	8048431	ENCLOSURE ACCESS COVER PANEL
2	1	8090879	INTAKE BOX COVER
3	4	8093873	HINGE, DOOR ENCLOSURE
4	2	8040586	SEALED LEVER LATCH
	1	8041816	KEY DOOR SOUTHCO LATCH
5	1	E250210	MANUAL BOX
6	1	8048429	99HP - PANEL FRONT
	1	8044301	73HP SOUND INSULATION FRONT LEFT HAND
	1	8044302	73HP SOUND INSULATION FRONT RIGHT HAND
	1	8044930	73HP SOUND INSULATION BELOW RADIATOR
	1	8044931	73HP SOUND INSULATION ABOVE RADIATOR
7	1	8092838	99HP PANEL REAR WELDMENT
	1	8044306	73HP SOUND INSULATION BACK RS
	1	8044947	73HP SOUND INSULATION BACK LS
8	1	8046893	PANEL TOP 99AW WELDMENT
9	1	8044256	87HS PANEL SIDE LWR GAUGES WELDMENT (AIR WATER)
	1	8044307	73HP SOUND INSULATION UNDER DOOR
10	1	8093874	PANEL, DOOR W/ TRANSMITTER MOUNT WELDMENT
	1	8044310	73HP SOUND INSULATION RH DOOR
11	2	8044257	73HS PANEL SIDE UPPER
	2	8044308	73HP SOUND INSULATION ABOVE DOOR
12	1	8047603	VERTICAL CONTROL WELDMENT
	1	8044303	73HP SOUND INSULATION CONTROL PANEL
13	1	8044254	73HS PANEL SIDE LOWER WELDMENT
	1	8044307	73HP SOUND INSULATION UNDER DOOR
14	1	8047595	PANEL SIDE DOOR
	1	8044309	73HP SOUND INSULATION LH DOOR
15	1	8047599	PANEL SIDE VERTICAL BLANK WELDMENT
	1	8044304	73HP SOUND INSULATION OPP. CONTROL PANEL
16	1	8044283	EXHAUST SHIELD
17	1	8048983	INLET OUTLET BOX
18	1	8049079	MAIN PLATE 99HP HD LE - WELDMENT
	1	8049081	MAIN PLATE 99HP HD XT (1025) - WELDMENT
	1	8047282	MAIN PLATE 99HP HD AW - WELDMENT
	1	8047398	MAIN PLATE 99HP HD XT (1200) - WELDMENT
19	1	8048170	PANEL U-EXTENSION
20	1	8049096	ENCLOSURE GAUGE BOX AW
	1	8045133	GAUGE, AIR PRESSURE
	1	8045132	GAUGE, OIL TEMP
*	20	U000060	SCREW,HC 1/4-20X1
*	36	U000020	SCREW,HC 1/4-20X1/2
*	112	U200020	WASHER,FLAT 1/4
*	36	U120100	NUT,HEX LOCK 1/4
*	1	8041171	HANDLE
	2	U001017	SCREW,HSH 1/4-20X1.25
	2	U200020	WASHER,FLAT 1/4
	2	U120100	NUT,HEX LOCK 1/4-20
*	2	8041483	DOOR SEAL VERTICAL
*	1	8048909	EXHAUST INSULATION
*	1	8044223	EXHAUST INSULATION FLANGE

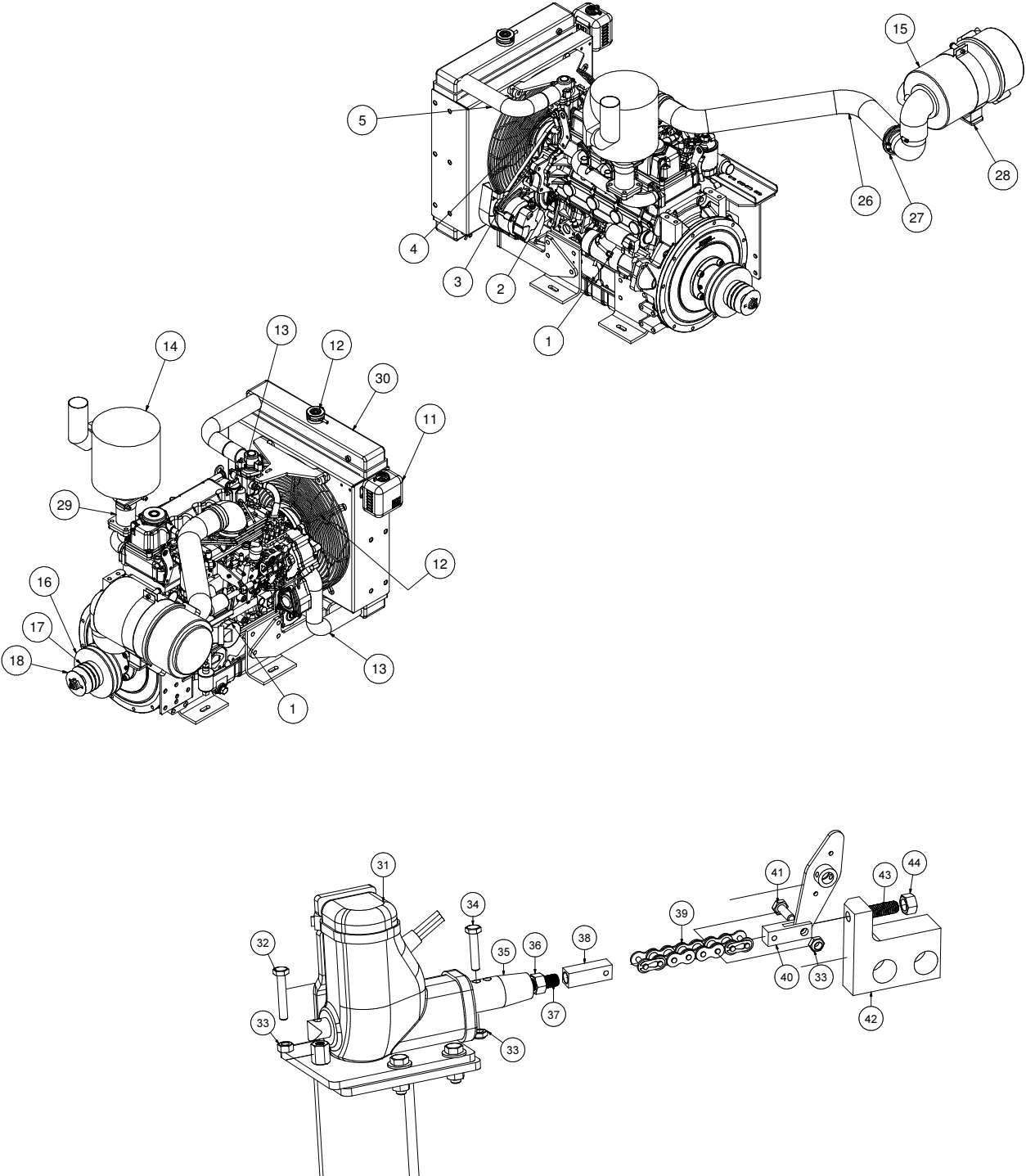
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021417-E

VACASSY421

# Engine Kubota V3600

# 70HP



050916-E

VACASSY01806

# Engine Kubota V3600

# 70HP

ITEM	QTY	NUMBER	DESCRIPTION
	1	8048503	ENGINE
1	1	8045583	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8045584	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8045587	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8045593	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8040482	SHEAVE, BLOWER 8.35" OD 2517 TL
	1	8040483	BUSHING, TL2517 1 7/16"
17	1	8041799	KEYWAY RETAINER
18	1	8040480	SHEAVE, WATERPUMP 4.15" OD SH 2-GROOVE
	1	8040481	BUSHING, 1 7/16" SH
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047108	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
19	1	8046364-33	THROTTLE SOLENOID
20	1	8046364-24	NUT, HEX 5/16"-24
21	1	8046364-25	CHAIN, NICKEL PLATED
22	1	8046364-32	NUT, HEX NYLOCK 1/4"-20
23	1	8046364-31	BOLT, HEX 1/4" X .75"LG
24	1	8046364-30	CLEVIS, THROTTLE SOLENOID
25	1	8046364-29	ROD END, THROTTLE SOLENOID
26	1	8048485	AIR CLEANER RELOCATION HOSE
27	1	8048266	EDGE GUARD
28	1	8048024	MOUNTING PLATE
	4	U000420	SCREW,HC 3/8"-16 X 1.00" ZP G5
	4	U120110	NUT, LOCK 3/8-16 NY
	4	U200060	WASHER, FLAT 3/8" ZP
	4	U210060	WASHER, LOCK 3/8" ZP
29	1	8047103-15	EXHAUST PIPE FLANGE
30	1	8047103-05	RADIATOR
31	1	8093317-01	ACTUATOR, 12VDC 2" STROKE
32	1	8093317-02	HEX HEAD BOLT 1/4-20 X 1 1/2"
33	3	8093317-03	HEX NUT 1/4-20
34	1	8093317-04	HEX HEAD BOLT 1/4-20 X 1 1/4"
35	1	8093317-05	THROTTLE MOUNT TOP
36	1	8093317-06	HEX NUT 3/8-24 UNF
37	1	8093317-07	STUD, 3/8-24 X 1.00LG
38	1	8093317-08	ROD END, V3 LTD
39	1	8093317-09	PULL CHAIN 03M H-D
40	1	8093317-10	CLEVIS 03M H-D TS
41	1	8093317-11	HEX HEAD BOLT 1/4-20 X 3/4"LG
42	1	8093317-V36	THROTTLE STOP
43	1	8093317-12	SPRING PLUNGER
44	1	8093317-13	HEX NUT 3/8-16 UNC
*	1	X300299	CABLE BATTERY KIT 67-99HP WITH ELECT. HYD. PUMP
*	1	8090994	KIT, FUEL PUMP

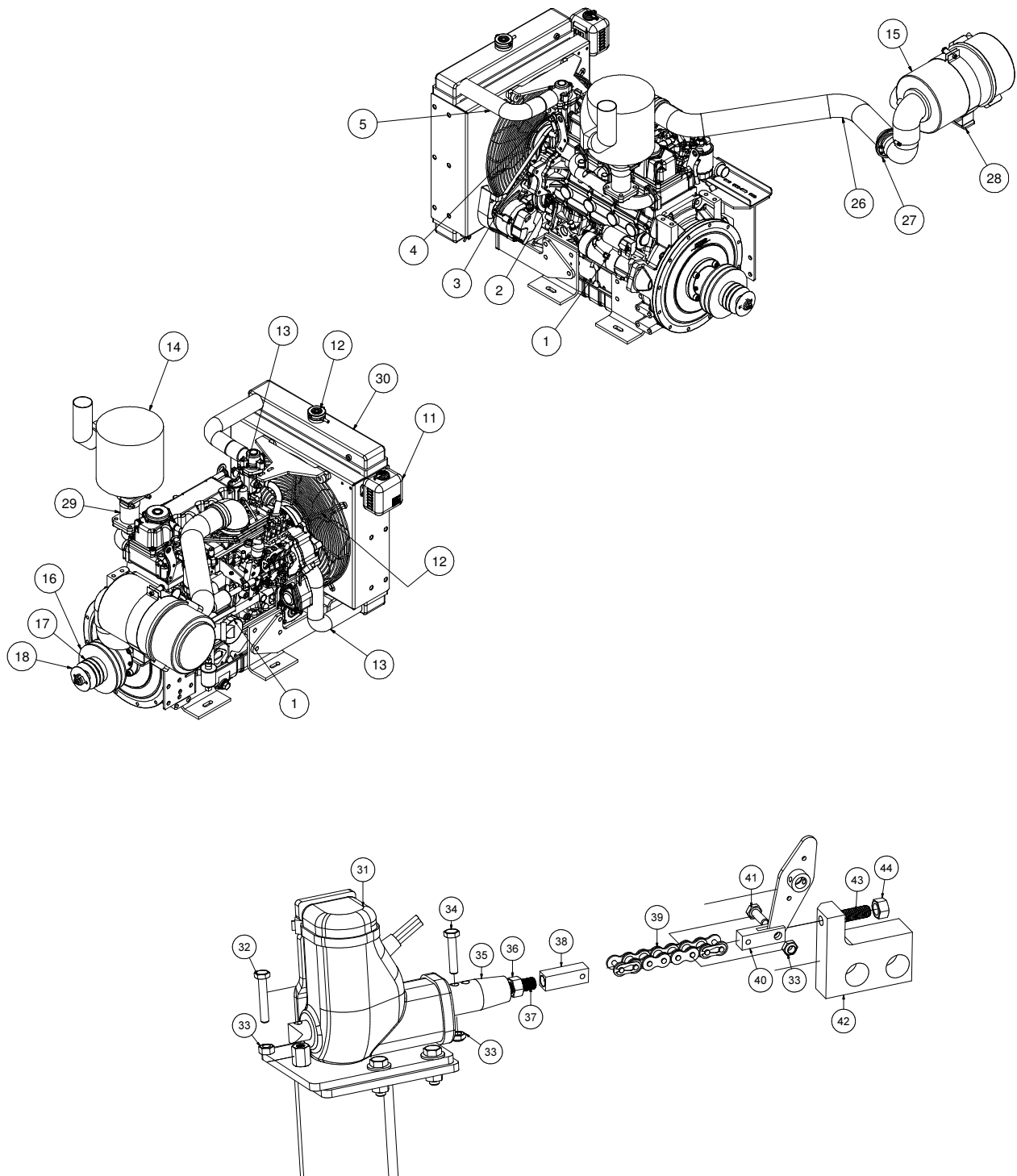
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050916-E

VACASSY01806

# Engine Kubota V3600

# Boom/ Aux. Hyd. 70HP



050616-E

VACASSY01802



# Engine Kubota V3600

# Boom/ Aux. Hyd. 70HP

ITEM	QTY	NUMBER	DESCRIPTION
	1	8048503	ENGINE
1	1	8045583	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8045584	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8045587	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8030908-1	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8040482	SHEAVE, BLOWER 8.35" OD 2517 TL
	1	8040483	BUSHING, TL2517 1 7/16"
17	1	8041799	KEYWAY RETAINER
18	1	8040480	SHEAVE, WATERPUMP 4.15" OD SH 2-GROOVE
	1	8040481	BUSHING, 1 7/16" SH
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047108	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
26	1	8048485	AIR CLEANER RELOCATION HOSE
27	1	8048266	EDGE GUARD
28	1	8048024	MOUNTING PLATE
	4	U000420	SCREW, HC 3/8"-16 X 1.00" ZP G5
	4	U120110	NUT, LOCK 3/8-16 NY
	4	U200060	WASHER, FLAT 3/8" ZP
	4	U210060	WASHER, LOCK 3/8" ZP
29	1	8047103-15	EXHAUST PIPE FLANGE
30	1	8047103-05	RADIATOR
31	1	8093317-01	ACTUATOR, 12VDC 2" STROKE
32	1	8093317-02	HEX HEAD BOLT 1/4-20 X 1 1/2"
33	3	8093317-03	HEX NUT 1/4-20
34	1	8093317-04	HEX HEAD BOLT 1/4-20 X 1 1/4"
35	1	8093317-05	THROTTLE MOUNT TOP
36	1	8093317-06	HEX NUT 3/8-24 UNF
37	1	8093317-07	STUD, 3/8-24 X 1.00LG
38	1	8093317-08	ROD END, V3 LTD
39	1	8093317-09	PULL CHAIN 03M H-D
40	1	8093317-10	CLEVIS 03M H-D TS
41	1	8093317-11	HEX HEAD BOLT 1/4-20 X 3/4"LG
42	1	8093317-V36	THROTTLE STOP
43	1	8093317-12	SPRING PLUNGER
44	1	8093317-13	HEX NUT 3/8-16 UNC
*	1	X300296	CABLE BATTERY KIT 67-99HP WITH NO ELECT. HYD. PUMP
*	1	8090994	KIT, FUEL PUMP

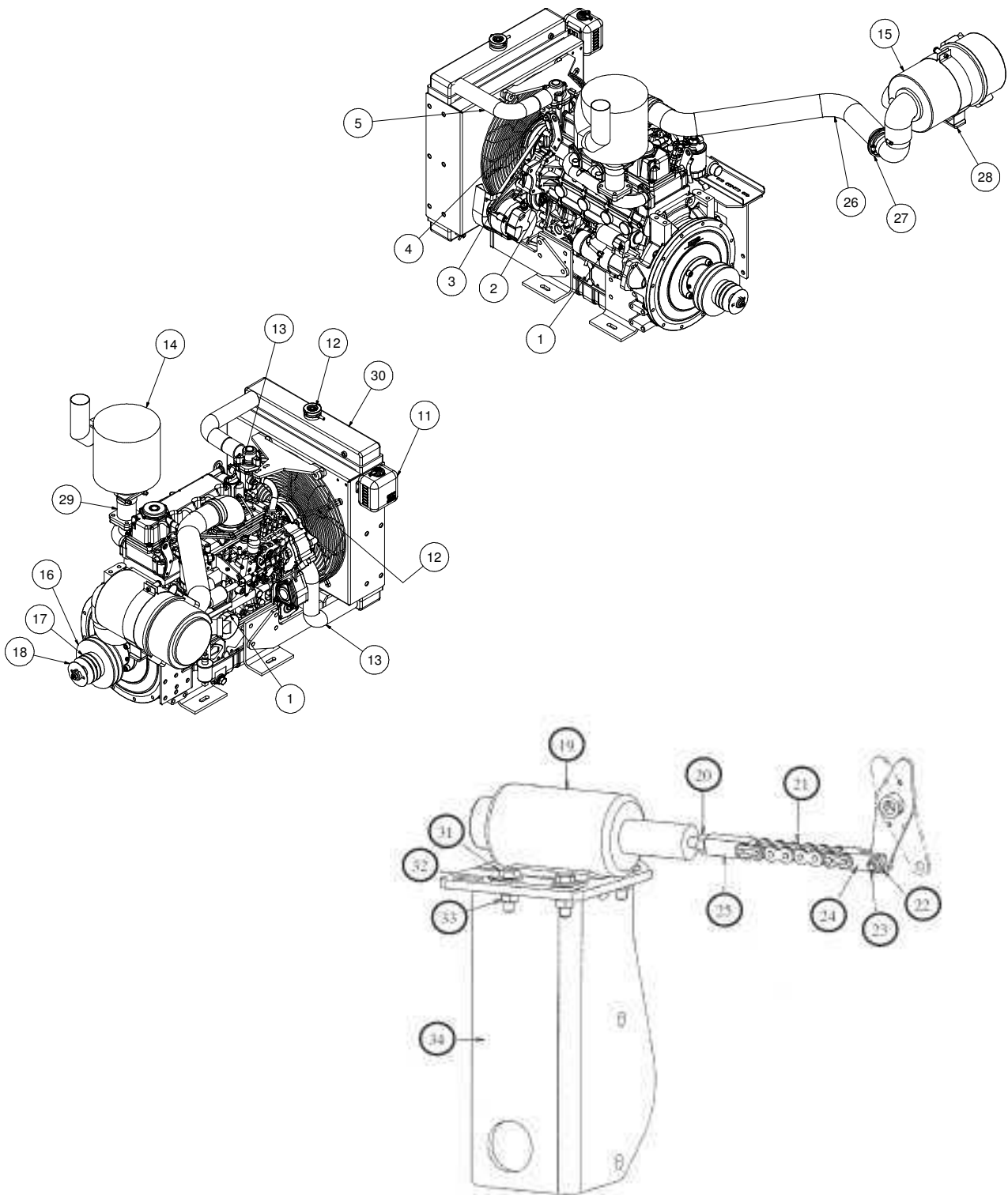
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050616-E

VACASSY01802

# Engine Kubota V3600T

# 85HP



061014-E

VACASSY01805

# Engine Kubota V3600T

# 85HP

ITEM	QTY	NUMBER	DESCRIPTION
	1	8091184	ENGINE
1	1	8045583	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8045584	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8045587	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8045593	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8090642	SHEAVE, BLOWER 8.95" OD SK 2 GROOVE
	1	8049383	BUSHING, 1 1/2"SK
17	1	8041799	KEYWAY RETAINER
18	1	8043309	SHEAVE, WATERPUMP 4.35"OD SH 2-GROOVE
	1	8049387	BUSHING, 1 1/2" SH
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047108	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
19	1	8046364-33	THROTTLE SOLENOID
20	1	8046364-24	NUT, HEX 5/16"-24
21	1	8046364-25	CHAIN, NICKEL PLATED
22	1	8046364-32	NUT, HEX NYLOCK 1/4"-20
23	1	8046364-31	BOLT, HEX 1/4" X .75"LG
24	1	8046364-30	CLEVIS, THROTTLE SOLENOID
25	1	8046364-29	ROD END, THROTTLE SOLENOID
26	1	8048485	AIR CLEANER RELOCATION HOSE
27	1	8048266	EDGE GUARD
28	1	8048024	MOUNTING PLATE
	4	U000420	SCREW,HC 3/8"-16 X 1.00" ZP G5
	4	U120110	NUT, LOCK 3/8-16 NY
	4	U200060	WASHER, FLAT 3/8" ZP
	4	U210060	WASHER, LOCK 3/8" ZP
29	1	8047103-15	EXHAUST PIPE FLANGE
30	1	8047103-05	RADIATOR
31	4	8046364-26	BOLT, HEX 5/16 X 1.00"LG
32	4	8046364-27	WASHER, FLAT 5/16"
33	4	8046364-28	NUT, HEX FLANGE SERRATED 5/16 - 18
34	1	8046364-34	THROTTLE SOLENOID BRACKET

\* 1 X300299 CABLE BATTERY KIT 67-99HP WITH ELECT. HYD. PUMP  
 \* 1 8090999 KIT, FUEL PUMP

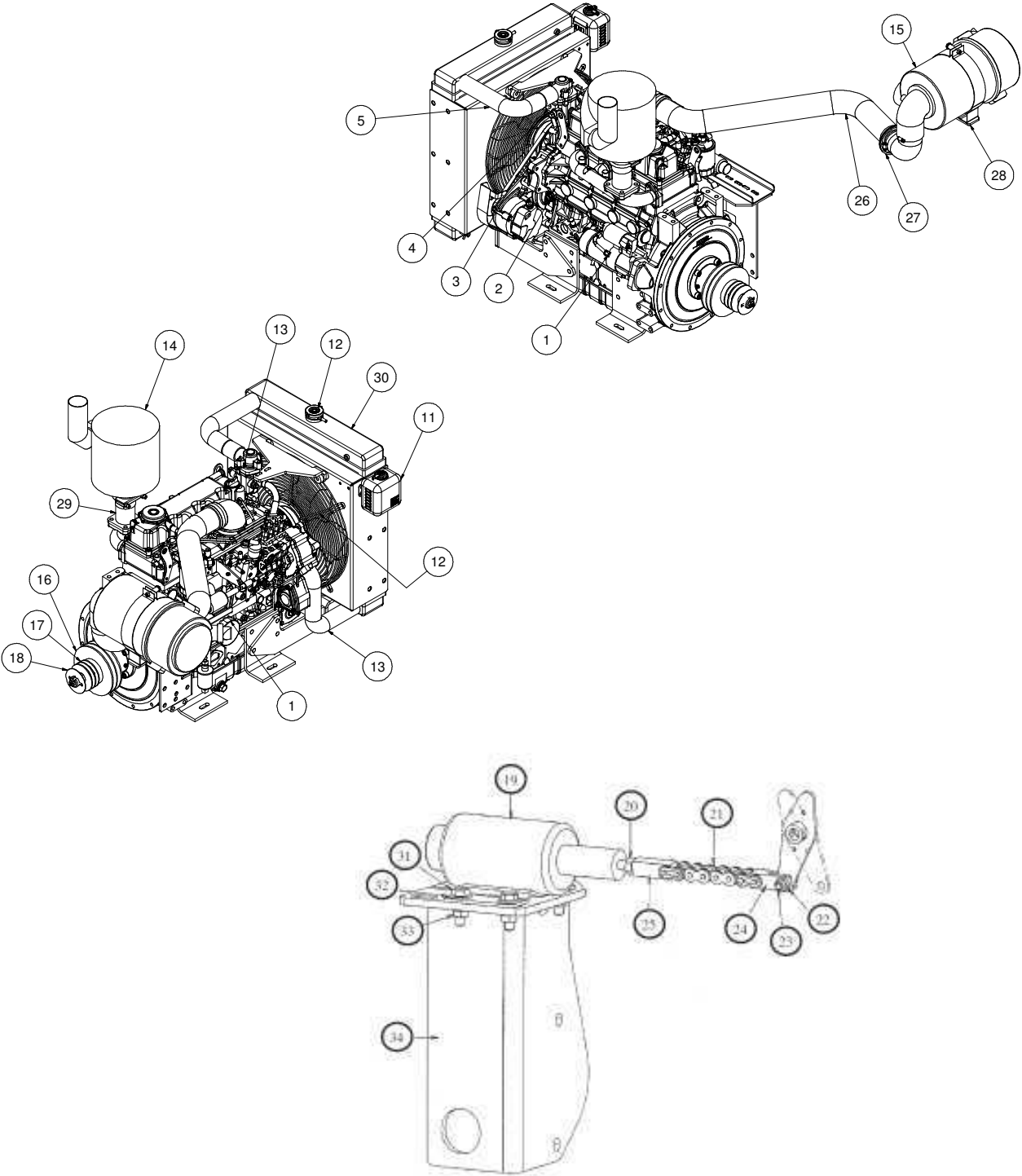
\* Not Shown

061014-E

VACASSY01805

# Engine Kubota V3600T

# 85HP Boom/ Aux. Hyd.



# Engine Kubota V3600T

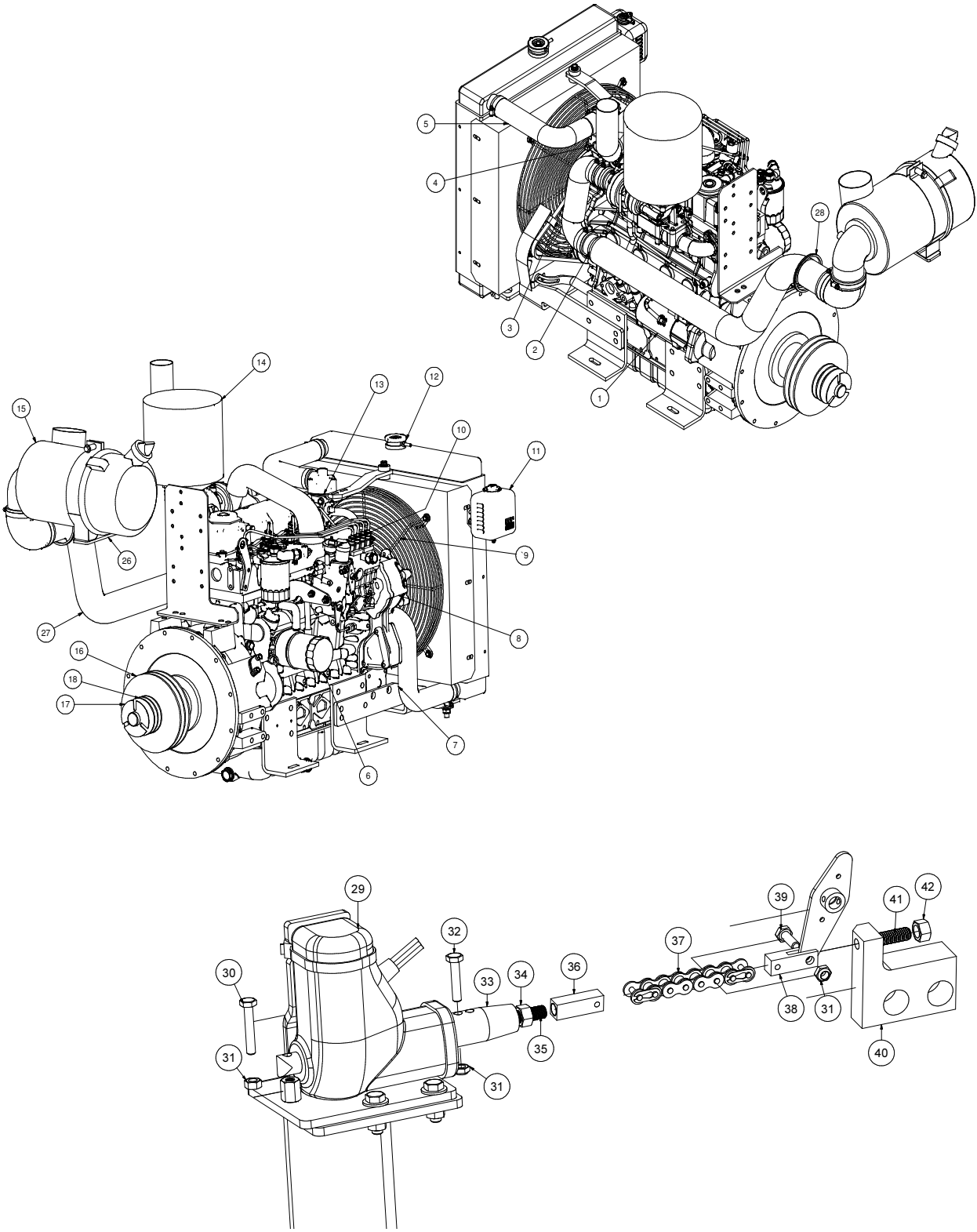
**Boom/  
Aux. Hyd.  
85HP**

ITEM	QTY	NUMBER	DESCRIPTION
	1	8091184	ENGINE
1	1	8045583	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8045584	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8045587	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8045593	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8090642	SHEAVE, BLOWER 8.95" OD 2517 TL
	1	8049383	BUSHING, 1 1/2" SK
17	1	8041799	KEYWAY RETAINER
18	1	8043309	SHEAVE, WATERPUMP 4.35" OD SH 2-GROOVE
	1	8049387	BUSHING, 1 1/2" SH
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047108	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
19	1	8046364-33	THROTTLE SOLENOID
20	1	8046364-24	NUT, HEX 5/16"-24
21	1	8046364-25	CHAIN, NICKEL PLATED
22	1	8046364-32	NUT, HEX NYLOCK 1/4"-20
23	1	8046364-31	BOLT, HEX 1/4" X .75"LG
24	1	8046364-30	CLEVIS, THROTTLE SOLENOID
25	1	8046364-29	ROD END, THROTTLE SOLENOID
26	1	8048485	AIR CLEANER RELOCATION HOSE
27	1	8048266	EDGE GUARD
28	1	8048024	MOUNTING PLATE
	4	U000420	SCREW,HC 3/8"-16 X 1.00" ZP G5
	4	U120110	NUT, LOCK 3/8-16 NY
	4	U200060	WASHER, FLAT 3/8" ZP
	4	U210060	WASHER, LOCK 3/8" ZP
29	1	8047103-15	EXHAUST PIPE FLANGE
30	1	8047103-05	RADIATOR
31	4	8046364-26	BOLT, HEX 5/16 X 1.00"LG
32	4	8046364-27	WASHER, FLAT 5/16"
33	4	8046364-28	NUT, HEX FLANGE SERRATED 5/16 - 18
34	1	8046364-34	THROTTLE SOLENOID BRACKET
*	1	X300296	CABLE BATTERY KIT 67-99HP WITH NO ELECT. HYD. PUMP
*	1	8090994	KIT, FUEL PUMP

\* Not Shown

# Engine Kubota V3800T

# 99HP-XT



050616-E

VACASSY861

# Engine Kubota V3800T

# 99HP-XT

ITEM	QTY	NUMBER	DESCRIPTION
	1	8045154	ENG, KUBOTA 99HP (Short SAE4 HSG)
1	1	8046034	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8046035	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8046036	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8044485	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8040482	SHEAVE, BLOWER 8.35"OD SK 2 GROOVE
	1	8040483	BUSHING, 1 7/16"
17	1	8041799	KEYWAY RETAINER
18	1	8044244	SHEAVE, WATERPUMP 3.95" OD QT 2-GROOVE
	1	8044245	BUSHING, 1 7/16" QT
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047370	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
26	1	8048024	AIR CLEANER RELOCATION MOUNTING PLATE
	4	U000420	SCREW, HC .375-16 X 1.00 ZP G5
	4	U120110	NUT, LOCK 3/8-16NY
	4	U200060	WASHER, FLAT .375 ZP
	4	U210060	WASHER, LOCK .375 ZP
27	1	8048486	AIR CLEANER INTAKE 99HP
28	1	8048266	EDGE GUARD, 67/99HP RELOCATION
29	1	8093317-01	ACTUATOR, 12VDC 2" STROKE
30	1	8093317-02	HEX HEAD BOLT 1/4-20 X 1 1/2"
31	3	8093317-03	HEX NUT 1/4-20
32	1	8093317-04	HEX HEAD BOLT 1/4-20 X 1 1/4"
33	1	8093317-05	THROTTLE MOUNT TOP
34	1	8093317-06	HEX NUT 3/8-24 UNF
35	1	8093317-07	STUD, 3/8-24 X 1.00LG
36	1	8093317-08	ROD END, V3 LTD
37	1	8093317-09	PULL CHAIN 03M H-D
38	1	8093317-10	CLEVIS 03M H-D TS
39	1	8093317-11	HEX HEAD BOLT 1/4-20 X 3/4"LG
40	1	8093317-V38	THROTTLE STOP
41	1	8093317-12	SPRING PLUNGER
42	1	8093317-13	HEX NUT 3/8-16 UNC
*	1	X300299	CABLE BATTERY KIT 67-99HP WITH ELECT. HYD. PUMP
*	1	8090994	KIT, FUEL PUMP
<b>OPTION FOR JETTER</b>			
*	1	8046698	GREASE BOLT SPACER
*	1	8046699	GREASE BOLT

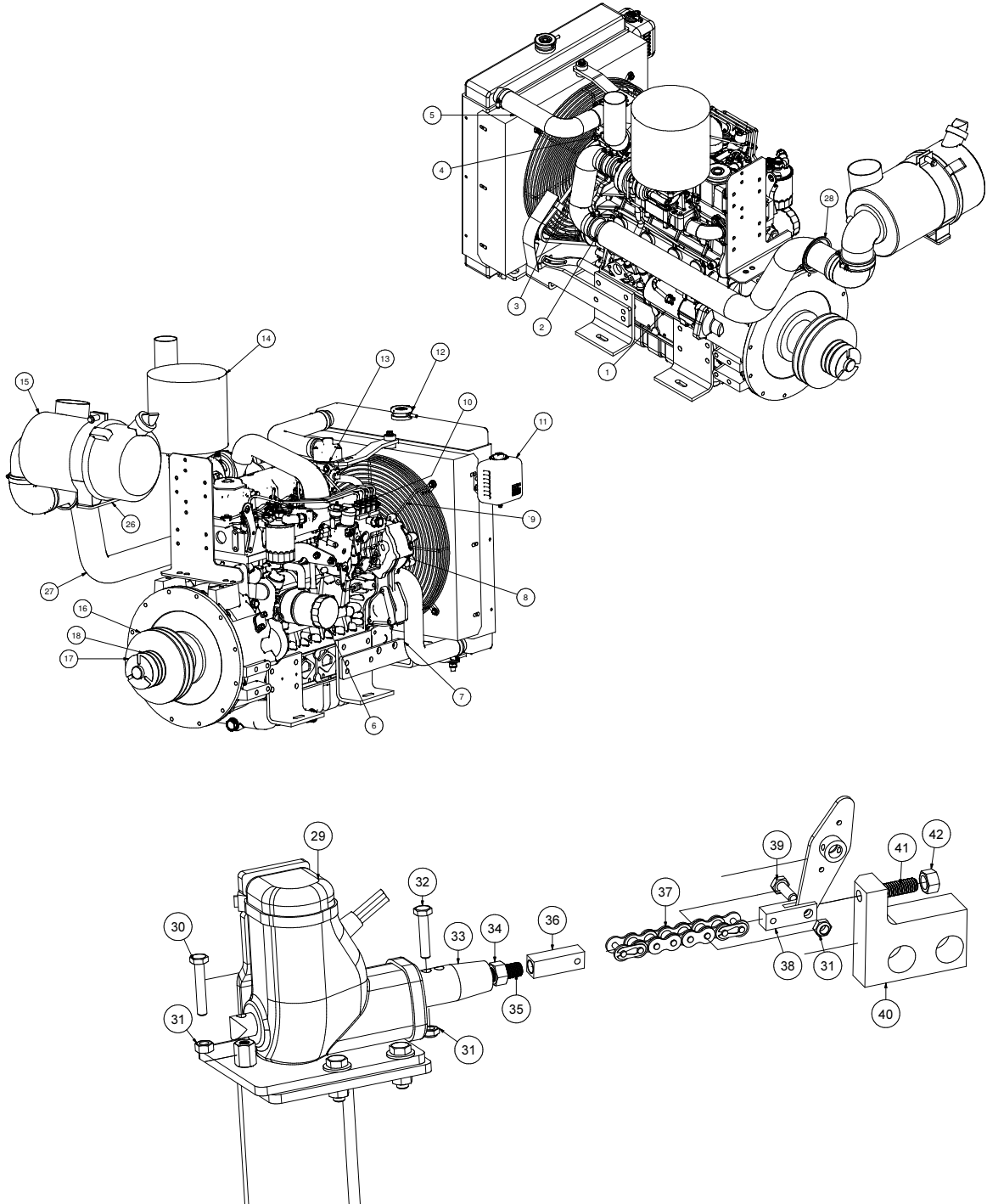
\* Not Shown

050616E

VACASSY861

# Engine Kubota V3800T

# 99HP-XT Boom/ Aux. Hyd.



050616-E

VACASSY01803



# Engine Kubota V3800T

# 99HP-XT Boom/ Aux. Hyd.

ITEM	QTY	NUMBER	DESCRIPTION
	1	8045154	ENG, KUBOTA 99HP (Short SAE4 HSG)
1	1	8046034	STARTER
2	1	8030960	OIL PRESSURE SWITCH
3	1	8046035	FAN BELT
4	1	8043952	WATER TEMPERTURE SWITCH
5	1	8045585	UPPER RADIATOR HOSE
6	1	8032002	OIL FILTER
7	1	8045586	LOWER RADIATOR HOSE
8	1	8046036	ALTERNATOR
9	1	8045588	FAN
10	1	8045589	FUEL SHUTOFF SOLENOID
11	1	8045590	OVERFLOW TANK
			OVERFLOW TANK CAP (Sold With Tank)
12	1	8045591	RADIATOR CAP
13	1	8045592	THERMOSTAT
14	1	8044485	MUFFLER
15	1	8045594	AIR FILTER HOUSING
*	1	8041055	AIR FILTER ELEMENT (INNER)
*	1	8041054	AIR FILTER ELEMENT (OUTER)
16	1	8040482	SHEAVE, BLOWER 8.35"OD 2517 TL
	1	8040483	BUSHING, TL2517 1 7/16"
17	1	8041799	KEYWAY RETAINER
18	1	8044244	SHEAVE, WATERPUMP 3.95" OD QT 2-GROOVE
	1	8044245	BUSHING, 1 7/16" QT
*	1	8041053	FUEL FILTER
*	1	8090999	FUEL PUMP
*	1	T400106	RADIATOR DRAIN FITTING
*	1	8047370	BRACKET, WATER SEPARATOR
*	1	8047266	FUEL / WATER SEPARATOR
	1	8047266-01	FILTER, FUEL / WATER SEPARATOR
26	1	8048024	AIR CLEANER RELOCATION MOUNTING PLATE
	4	U000420	SCREW, HC .375-16 X 1.00 ZP G5
	4	U120110	NUT, LOCK 3/8-16NY
	4	U200060	WASHER, FLAT .375 ZP
	4	U210060	WASHER, LOCK .375 ZP
27	1	8048486	AIR CLEANER INTAKE 99HP
28	1	8048266	EDGE GUARD, 67/99HP RELOCATION
29	1	8093317-01	ACTUATOR, 12VDC 2" STROKE
30	1	8093317-02	HEX HEAD BOLT 1/4-20 X 1 1/2"
31	3	8093317-03	HEX NUT 1/4-20
32	1	8093317-04	HEX HEAD BOLT 1/4-20 X 1 1/4"
33	1	8093317-05	THROTTLE MOUNT TOP
34	1	8093317-06	HEX NUT 3/8-24 UNF
35	1	8093317-07	STUD, 3/8-24 X 1.00LG
36	1	8093317-08	ROD END, V3 LTD
37	1	8093317-09	PULL CHAIN 03M H-D
38	1	8093317-10	CLEVIS 03M H-D TS
39	1	8093317-11	HEX HEAD BOLT 1/4-20 X 3/4"LG
40	1	8093317-V38	THROTTLE STOP
41	1	8093317-12	SPRING PLUNGER
42	1	8093317-13	HEX NUT 3/8-16 UNC
*	1	X300296	CABLE BATTERY KIT 67-99HP WITH NO ELECT. HYD. PUMP
*	1	8090994	KIT, FUEL PUMP
<b>OPTION FOR JETTER</b>			
*	1	8046698	GREASE BOLT SPACER
*	1	8046699	GREASE BOLT

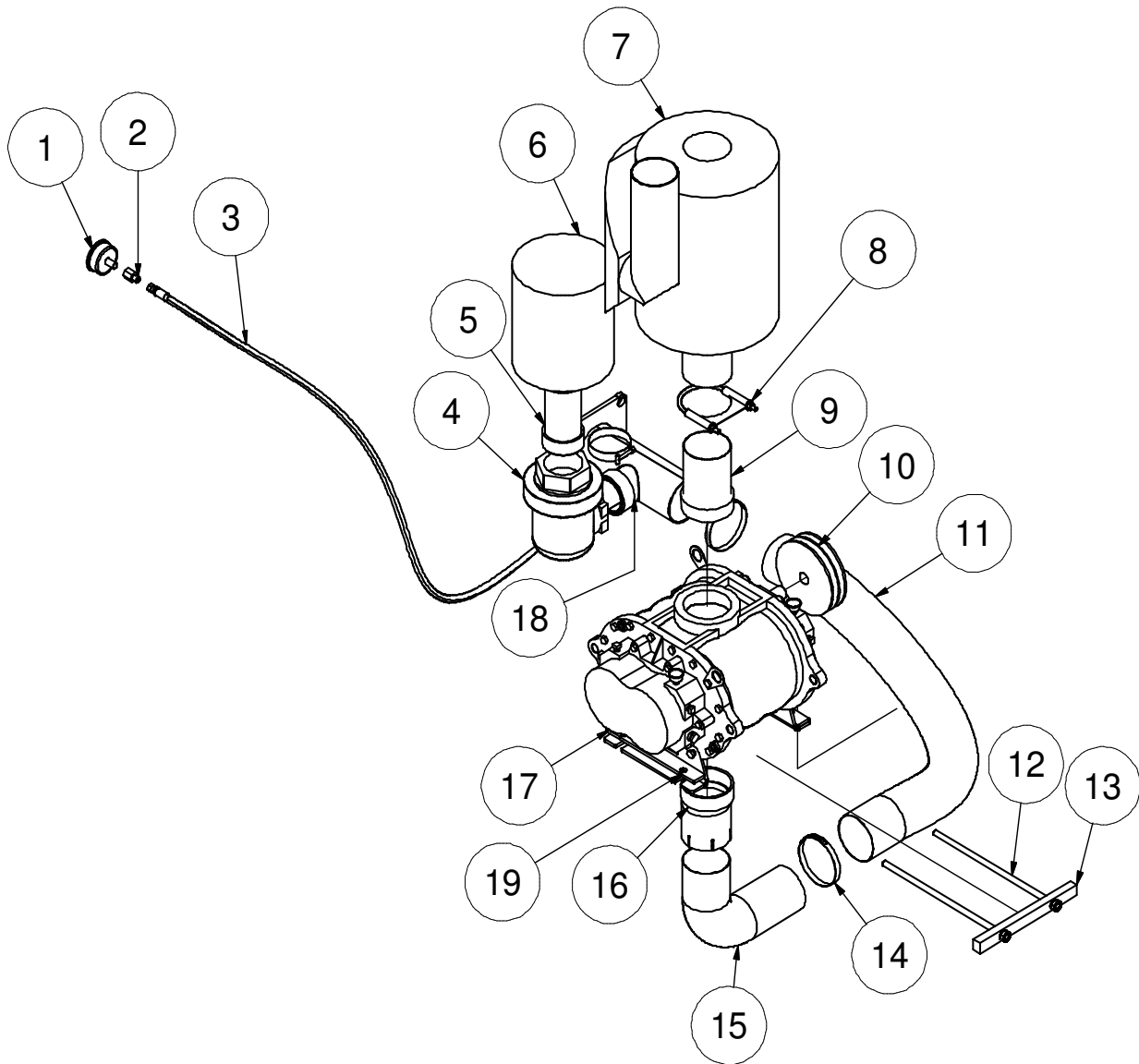
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050616-E

VACASSY01803

# Blower Assembly

67HD



041214-E

VACASSY01204

# Blower Assembly

# 67HD

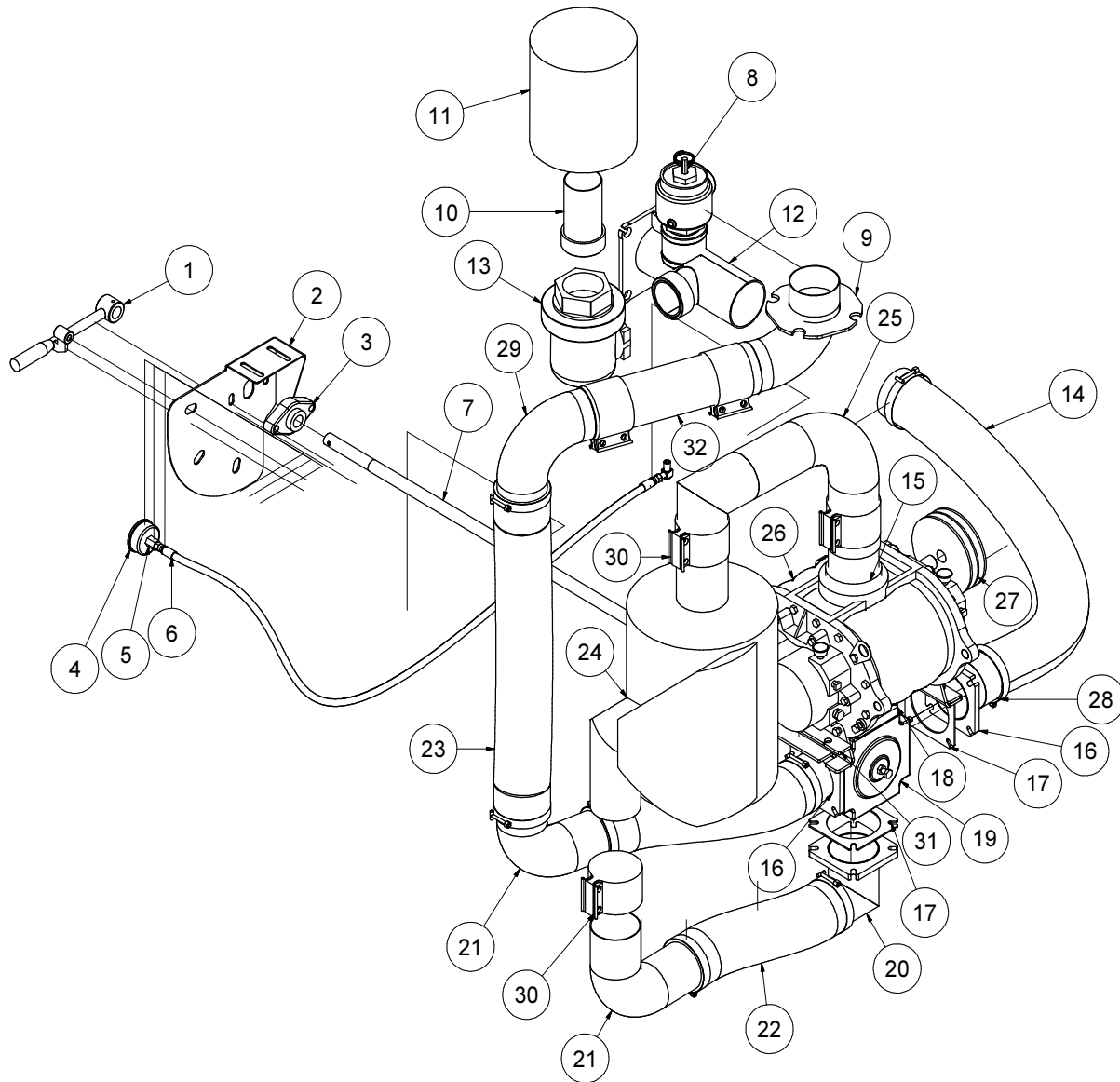
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8041074	GAUGE COMPOUND PRESSURE/VACUUM
2	1	T400110	UNION, 4FP - 4MJ
3	1	8042355	HOSE ASSY VAC 4-60" ST-ST
4	1	8030866	VALVE,3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE,3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
5	1	8045238	UNION EXHAUST 3" OD-MNPT
6	1	8043553	AIR FILTER 3" 245CFM
7	1	8030917	SILENCER, 1025CFM, COWL
8	1	8031193	CLAMP, 4in U-BOLT EXHAUST
9	1	8045239	UNION EXHAUST 4" OD - MNPT
10	1	8040697	SHEAVE, 6.55DIA 2 - GROOVE
	1	8040485	BUSHING, 1 1/8" SDS
	1	U410090	KEY, 1/4" X 1/4" X 2 3/4"
	2	8049162	BELT, BP57
11	1	8046575	HOSE VAC AG SUCTION 4-51"
12	2	8041507	ROD TIGHTENER WELDMENT
13	1	8040904	TENSION BLOCK 1025 CFM
14	2	8042606	CLAMP T-BOLT 4" (450)
15	1	8041814	ELBOW, 4" (4.5" RAD, OD-OD)
16	1	8046820	ADAPTER 4"MNPT - 4"ID
17	1	8040001	BLOWER (MODEL 59)
	4	U000817	SCREW, HC 1/2" - 13 X 1"
	4	U210100	WASHER, LOCK 1/2"
	4	U200100	WASHER, FLAT 1/2"
18	1	8046415	HEADER, AIR FILTER 1025
	1	8046191	GASKET, HEADER AIR FILTER
19	2	8045252	BLOWER BOLT PLATE

041214-E

VACASSY01204

# Blower Assembly

# 67/99HP 1025CFM



102615-E

VACASSY240

# Blower Assembly

# 67/99HP 1025CFM

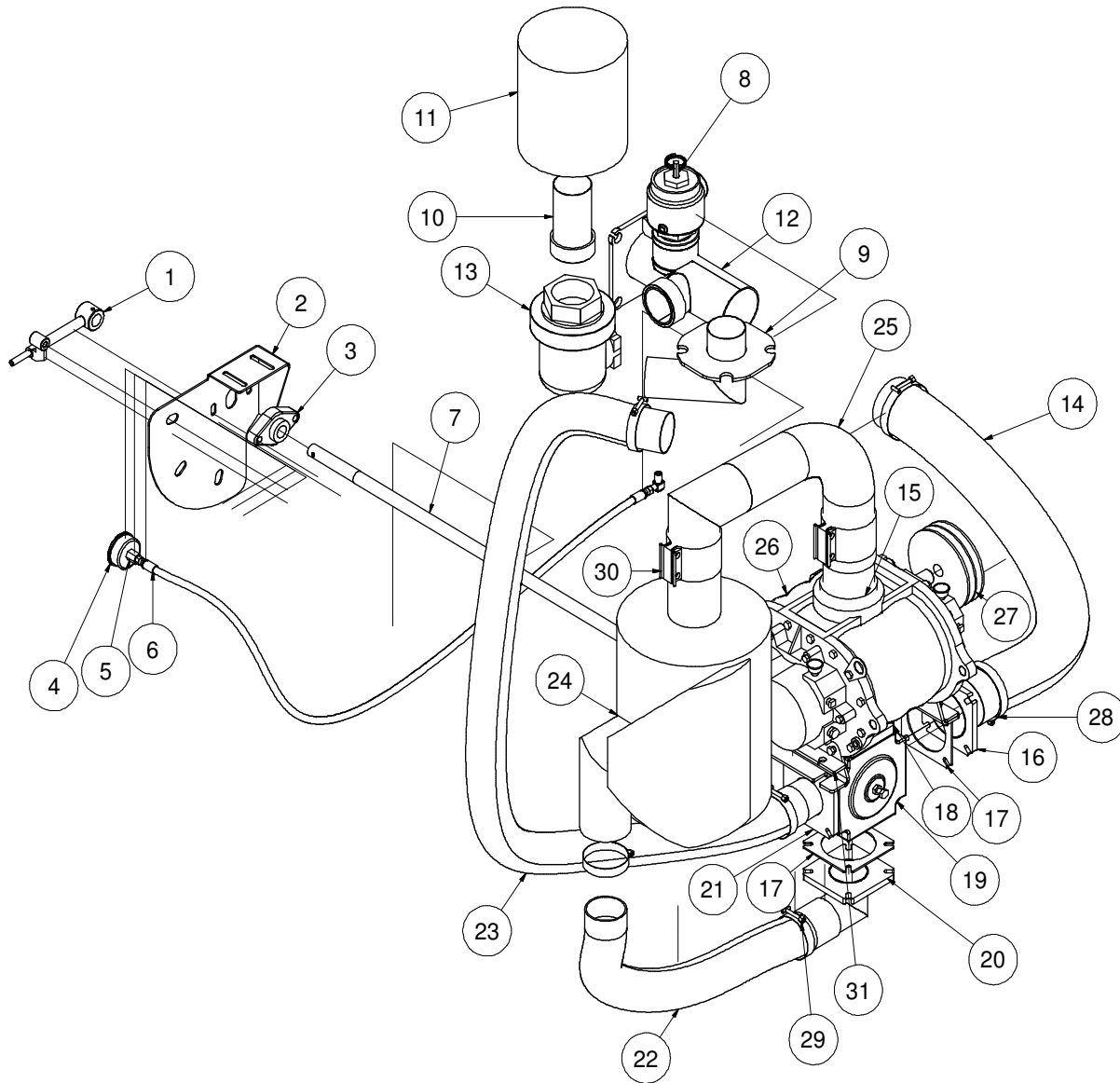
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8041617	REVERSE FLOW HANDLE, TRAILER UNIT
	1	8041177-10	HANDLE GRIP
	1	8041595	PIN, SPRING REV FLOW HANDLE
2	1	8046202	BRACKET REV FLOW CONTROL LE
	3	8048585	GROMMET, .884/.878 X .266 X .234
3	1	W030080	FLANGE BEARING - 2 BOLT (1" BORE)
4	1	8041074	GAUGE COMPOUND PRESSURE/VACUUM
5	1	T400110	UNION 4FP-4MJ
6	1	8045869	HOSE ASSY VAC 4-34" ST-ST
7	1	8048342	REV FLOW UNIVERSAL JOINT RD SHAFT 49LE
8	1	8041035	PRESSURE RELIEF 1025
9	1	8092707	WELDMENT, REV FLOW EXHAUST 4"
10	1	8045238	UNION EXHAUST 3" OD-MNPT
11	1	8043553	AIR FILTER 3" 245 CFM
12	1	8048126	4" HEADER AIR FILTER HDRF
	1	8048127	HEADER, 4" AIR FILTER V2000/V2200
	1	8048128	HEADER, 4" AIR FILTER V2600/V3000
	1	8046191	GASKET, HEADER
13	1	8030866	VALVE, 3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE, 3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
14	1	8046575	HOSE VAC AG SUCTION 4 - 51"
15	1	8030560	4" HOSE COUPLING WELDMENT
16	2	8046484	EXHAUST REV FLOW 4" X 4" FLANGE WELDMENT
17	4	8043554	ADAPTER VALVE FLANGE
18	1	8044330	REV FLOW 4" HEADER NIP ASSY
19	1	8041177	4" 4-WAY VALVE
20	1	8093396	ELBOW EXHAUST 4" W/ 4" FLANGE
21	1	8046222	EXHAUST REV FLOW 3" X 4" FLANGE WELDMENT
22	1	8092929-016.25	HOSE VAC AG SUCTION 4 - 16 1/4"
23	1	8092929-023.25	HOSE VAC AG SUCTION 4 - 23 1/4"
24	1	8030917	SILENCER, 1025 CFM, COWL
25	1	8046505	EXHAUST 4" ID-OD W/COUPLING WELDMENT
26	1	8040001	BLOWER (MODEL 59)
27	1	8044515	SHEAVE 7.75" OD SDS 2-GROOVE
	1	8044516	BUSHING 1 1/8" SD
	2	8049162	BELTS, BP57
	1	8041798	RETAINER
28	8	8042606	CLAMP HOSE T-BOLT 450
29	4	8042605	CLAMP HOSE T-BOLT 350
30	2	8030400	4" BAND CLAMP
31	2	8045252	BLOWER BOLT PLATE 59
32	1	8092338	PIPE, INLET
33	1	8092929-024.00	HOSE VAC AG SUCTION 4 - 24 "

102615-E

VACASSY240

# Blower Assembly

# 67/99HP 1025CFM JETTER



090815-E

VACASSY01203

# Blower Assembly

# 67/99HP 1025CFM JETTER

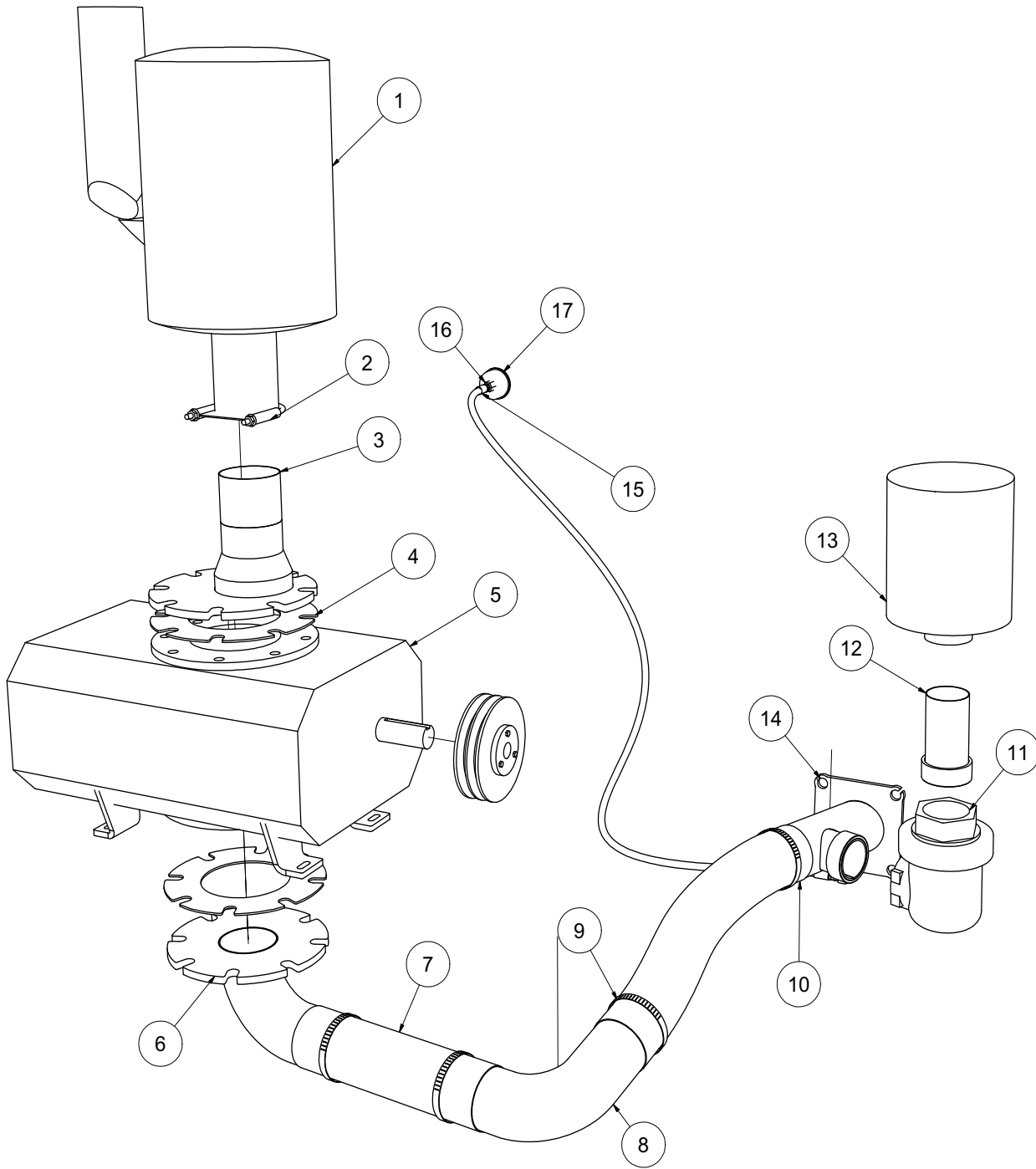
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8041617	REVERSE FLOW HANDLE, TRAILER UNIT
	1	8041177-10	HANDLE GRIP
	1	8041595	PIN, SPRING REV FLOW HANDLE
2	1	8046202	BRACKET REV FLOW CONTROL LE
	3	8048585	GROMMET, .884/.878 X .266 X .234
3	1	W030080	FLANGE BEARING - 2 BOLT (1" BORE)
4	1	8041074	GAUGE COMPOUND PRESSURE/VACUUM
5	1	T400110	UNION 4FP-4MJ
6	1	8045869	HOSE ASSY VAC 4-34" ST-ST
7	1	8048342	REV FLOW UNIVERSAL JOINT RD SHAFT 49LE
8	1	8041035	PRESSURE RELIEF 1025
9	1	8046218	EXHAUST REV FLOW PIPE WELDMENT
10	1	8045238	UNION EXHAUST 3" OD-MNPT
11	1	8043553	AIR FILTER 3" 245 CFM
12	1	8048126	4" HEADER AIR FILTER HDRF
	1	8048127	HEADER, 4" AIR FILTER V2000/V2200
	1	8048128	HEADER, 4" AIR FILTER V2600/V3000
	1	8046191	GASKET, HEADER
13	1	8030866	VALVE, 3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE, 3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
14	1	8046575	HOSE VAC AG SUCTION 4 - 51"
15	1	8030560	4" HOSE COUPLING WELDMENT
16	1	8046484	EXHAUST REV FLOW 4" X 4" FLANGE WELDMENT
17	4	8043554	ADAPTER VALVE FLANGE
18	1	8044330	REV FLOW 4" HEADER NIP ASSY
19	1	8041177	4" 4-WAY VALVE
20	1	8046201	ELBOW EXHAUST 3" W/ 4" FLANGE
21	1	8046222	EXHAUST REV FLOW 3" X 4" FLANGE WELDMENT
22	1	8092928-029.00	HOSE VAC AG SUCTION 3 - 29"
23	1	8092928-065.00	HOSE VAC AG SUCTION 3 - 65"
24	1	8030917	SILENCER, 1025 CFM, COWL
25	1	8046505	EXHAUST 4" ID-OD W/COUPLING WELDMENT
26	1	8040001	BLOWER (MODEL 59)
27	1	8040703	SHEAVE 6.15" OD SDS 2-GROOVE
	1	8040485	BUSHING 1 1/8" SDS
	2	8049160	BELTS, BP52
	1	8041798	RETAINER
28	2	8042606	CLAMP HOSE T-BOLT 450
29	4	8042605	CLAMP HOSE T-BOLT 350
30	2	8030400	4" BAND CLAMP

090815-E

VACASSY01203

# Blower Assembly

# XT



101217-E

VACASSY239



# Blower Assembly

# XT

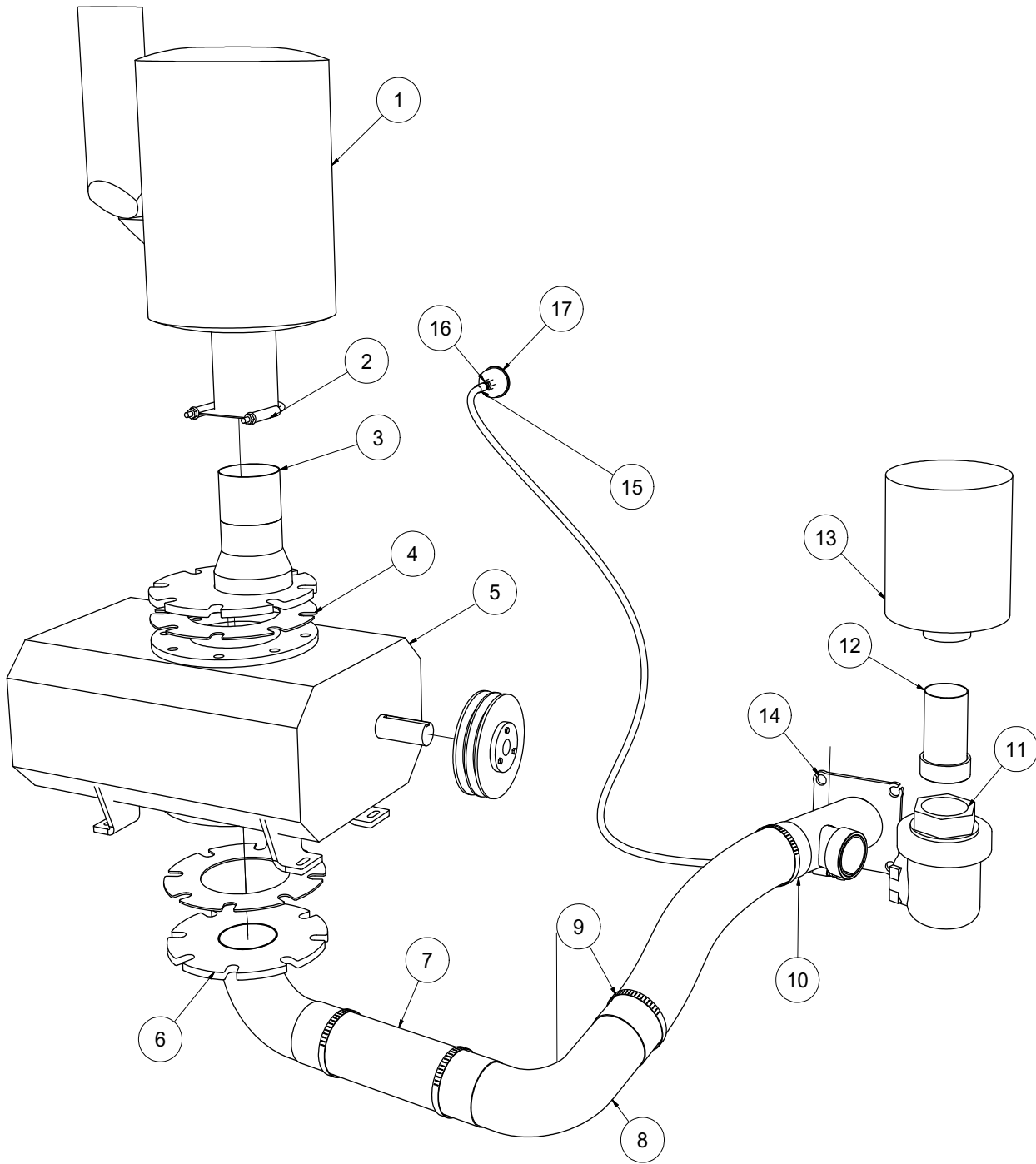
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8030917	SILENCER, 1025CFM, COWL
2	1	8031193	CLAMP, 4" U-BOLT EXHAUST
3	1	8047063	EXHAUST 1200CFM BLOWER TOP
4	2	8046996	GASKET, BLOWER FLANGE ROOTS 412
5	1	8045164	412 BLOWER
	1	8047969	SHEAVE, 6.35"OD SD 2-GROOVE
	1	8045305	BUSHING, 1 1/2" SD
	2	8049066	BELT, BP55 GP
	2	8041507	TENSION ROD
	1	8047006	TENSION BLOCK
6	1	8047059	BLOWER FLANGE / ELBOW WELDMENT
7	1	8047065	HOSE VAC AG SUCTION 4-10"
8	1	8041814	ELBOW, 90 4" (4" RAD, OD-OD)
9	4	8042606	CLAMP, T-BOLT 4" (350)
10	1	8044511	HOSE VAC AG SUCTION 4-36"
11	1	8030866	VALVE,3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE,3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
12	1	8045238	UNION EXHAUST 3" OD - MNPT
13	1	8043553	AIR FILTER, 3" 245CFM
14	1	8046415	HEADER AIR FILTER HDRF
	1	8046191	HEADER GASKET
15	1	8045869	HOSE ASSY VAC 4 - 34" ST-ST
16	1	T400110	UNION, 4FP - 4MJ
17	1	8041074	GAUGE COMPOUND PRESSURE / VACUUM

101217-E

VACASSY239

# Blower Assembly

# XT (JETTER)



100917-E

VACASSY01201

# Blower Assembly

**XT  
(JETTER)**

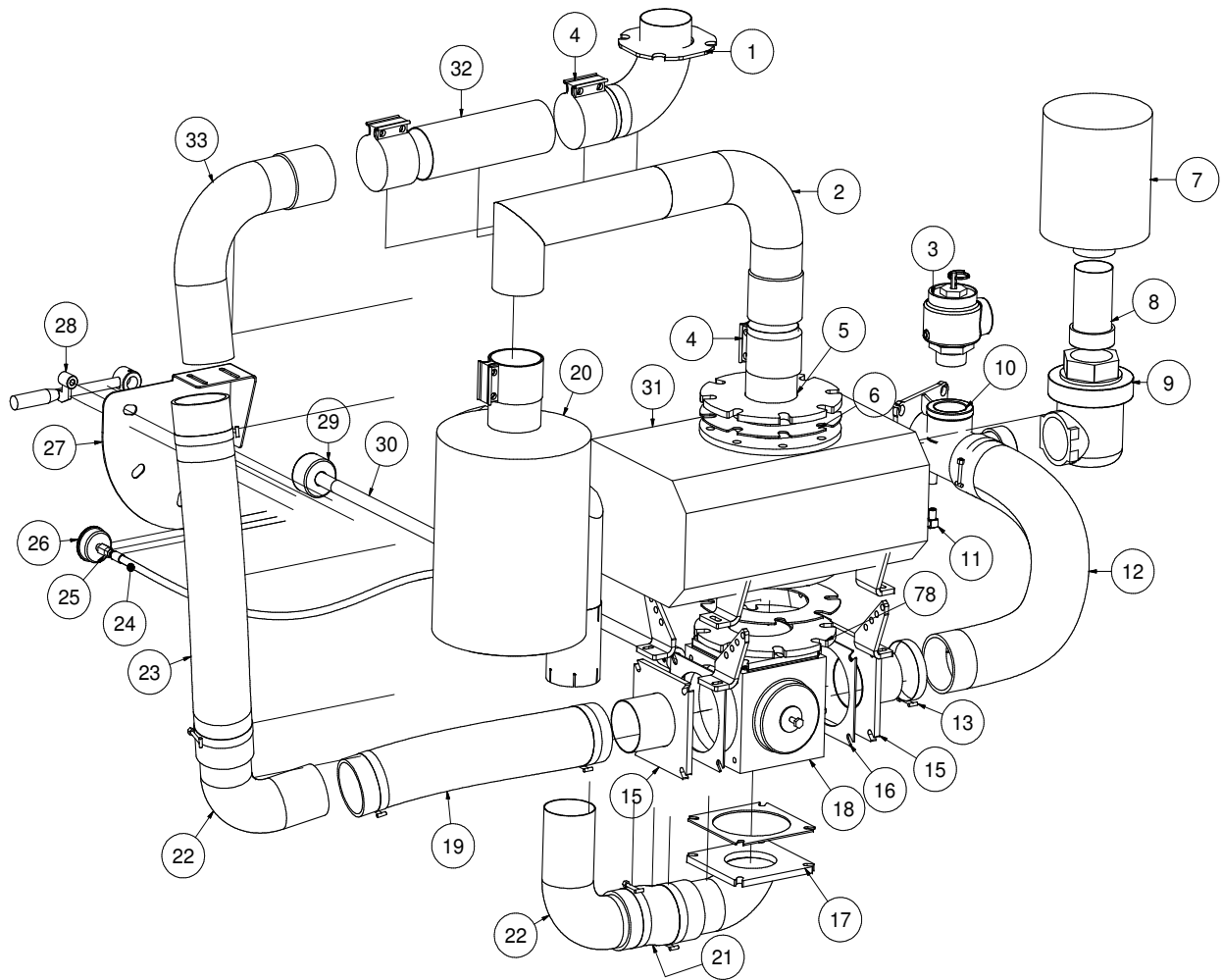
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8030917	SILENCER, 1025CFM, COWL
2	1	8031193	CLAMP, 4" U-BOLT EXHAUST
3	1	8047063	EXHAUST 1200CFM BLOWER TOP
4	2	8046996	GASKET, BLOWER FLANGE ROOTS 412
5	1	8045164	412 BLOWER
	1	8045310	SHEAVE, 4.6"OD SD 2-GROOVE
	1	8045305	BUSHING, 1 1/2" SD
	2	8049070	BELT, BP51 GP (JETTER UNIT ONLY)
	2	8041507	TENSION ROD
	1	8047006	TENSION BLOCK
6	1	8047059	BLOWER FLANGE / ELBOW WELDMENT
7	1	8047065	HOSE VAC AG SUCTION 4-10"
8	1	8041814	ELBOW, 90 4" (4" RAD, OD-OD)
9	4	8042606	CLAMP, T-BOLT 4" (350)
10	1	8044511	HOSE VAC AG SUCTION 4-36"
11	1	8030866	VALVE,3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE,3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
12	1	8045238	UNION EXHAUST 3" OD - MNPT
13	1	8043553	AIR FILTER, 3" 245CFM
14	1	8046415	HEADER AIR FILTER HDRF
	1	8046191	HEADER GASKET
15	1	8045869	HOSE ASSY VAC 4 - 34" ST-ST
16	1	T400110	UNION, 4FP - 4MJ
17	1	8041074	GAUGE COMPOUND PRESSURE / VACUUM

100917-E

**VACASSY01201**

# Blower Assembly

# XTRF



081617-E

VACASSY236

# Blower Assembly

# XTRF

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8092707	WELDMENT, RF EXHAUST 4"
2	1	8046986	EXHAUST 4" ID-OD W/ COUPLING WELDMENT
3	1	8041035	PRESSURE RELIEF 1025
4	2	8030400	4" BAND CLAMP
5	1	8046988	BLOWER OUTLET ROOTS 412
6	2	8046996	GASKET, BLOWER FLANGE ROOTS 412
7	1	8043553	AIR FILTER, 3" 245CFM
8	1	8045238	UNION EXHAUST 3" OD-MNPT
9	1	8030866	VALVE, 3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE, 3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
10	1	8048126	4" HEADER AIR FILTER HDRF
	1	8048127	HEADER, 4" AIR FILTER V2000/V2200
	1	8048128	HEADER, 4" AIR FILTER V2600/3000
	1	8046191	GASKET, HEADER
11	1	T401100	ELBOW, 4MP - 4MJ 90
12	1	8046575	HOSE VAC AG SUCTION 4-51"
13	8	8042606	CLAMP, T-BOLT 4" (350)
14	1	8048089	BRACKET REV FLOW BLOWER TO 4-WAY VALVE
15	2	8046984	FLANGE EXHAUST 4-WAY 6" X 4" TUBE
16	4	8046995	GASKET, FLANGE 4-WAY VALVE 6"
17	1	8091913	ELBOW WELDMENT 6" VALE FLANGE X ELBOW 4" SHORT
18	1	8045829	VALVE, 4-WAY 6"
19	1	8092929-020.50	HOSE AG HOT AIR 4-20.5"
20	1	8030917	SILENCER, 1025CFM, COWL
21	1	8092929-010.50	HOSE AG HOT AIR 4-10.5"
22	2	8041814	ELBOW 90 4" EXHAUST
23	1	8092929-032.00	HOSE AG HOT AIR 4-32"
24	1	8045869	HOSE ASSY VAC 4-34" ST-ST
25	1	8030483	UNION, 4FP - 4MJ
26	1	8041074	GAUGE, VACUUM COMPOUND PRESSURE
27	1	8046202	BRACKET, REV FLOW CONTROL LE
	3	8048585	GROMMET, .884/.878 X .266 X .234
28	1	8041617	REV. FLOW HANDLE, TRAILER UNIT
	1	8041595	PIN, SPRING REV FLOW HANDLE
29	1	W030080	FLANGE BEARING - 2 BOLT (1" BORE)
30	1	8048342	REV FLOW UNIVERSAL JOINT RD SHAFT 49LE
31	1	8045164	412 BLOWER ASSY
	1	8047969	SHEAVE, 2B60 6.35"OD SD 2 GRVE
	1	8045305	BUSHING, 1 1/2" SD
	2	8049066	BELT, BP55 GP
32	1	8045451	EXHAUST TUBE 4"OD X 11 1/2"LG
33	1	8030398	ELBOW 4" (6" RAD, ID-OD)
*	2	8041507	TENSION ROD
*	1	8047006	TENSION BLOCK

\* NOT SHOWN

081617-E

VACASSY236



# Blower Assembly

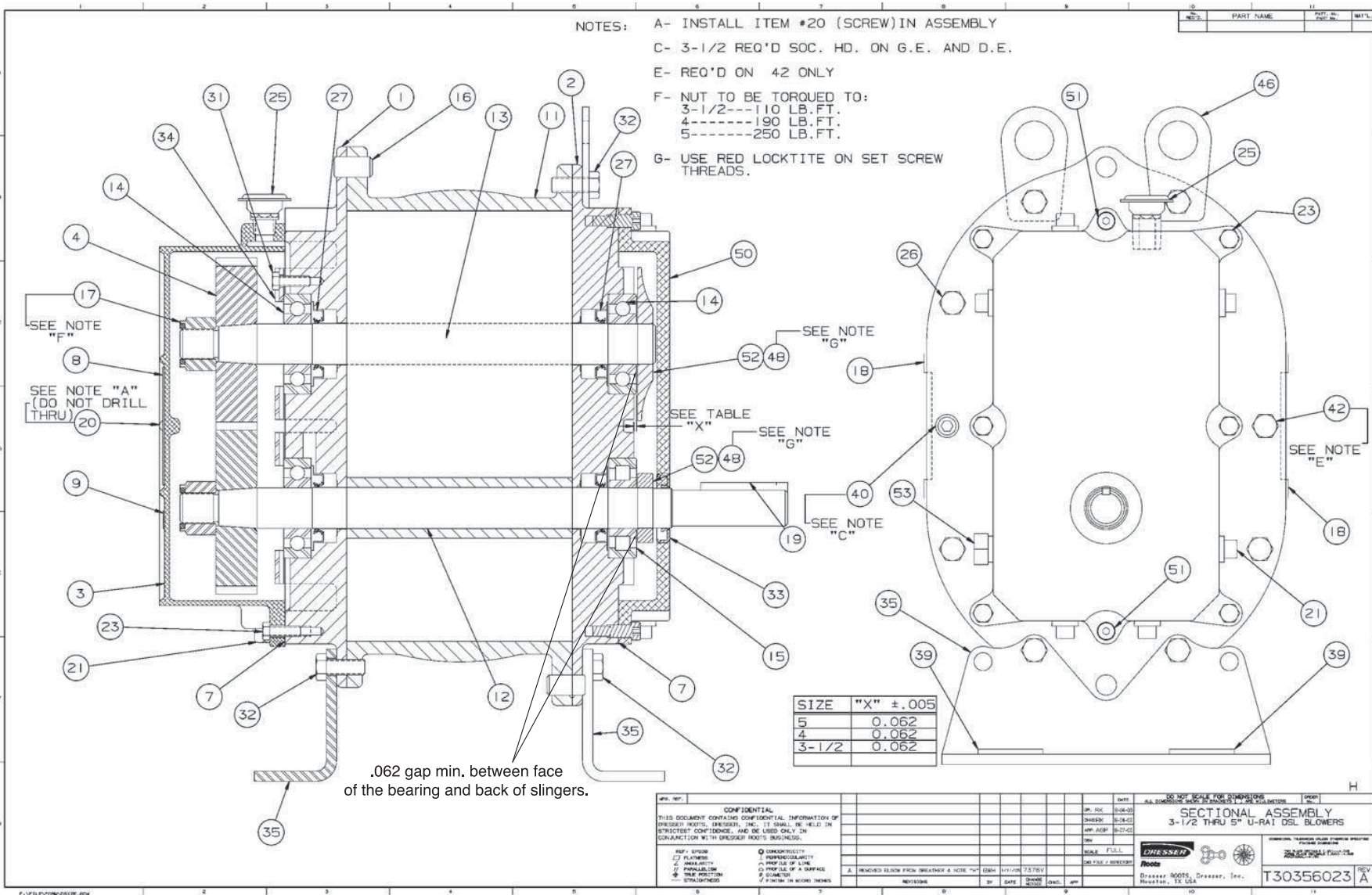
# XTRF JETTER

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8046218	EXHAUST REV FLOW PIPE WELDMENT
2	1	8046986	EXHAUST 4" ID-OD W/ COUPLING WELDMENT
3	1	8041035	PRESSURE RELIEF 1025
4	2	8030400	4" BAND CLAMP
5	1	8046988	BLOWER OUTLET ROOTS 412
6	2	8046996	GASKET, BLOWER FLANGE ROOTS 412
7	1	8043553	AIR FILTER, 3" 245CFM
8	1	8045238	UNION EXHAUST 3" OD-MNPT
9	1	8030866	VALVE, 3" AIR RELIEF SET 15"HG (STANDARD)
	1	8090438	VALVE, 3" AIR RELIEF SET 13"HG (HIGH ALTITUDE)
10	1	8048126	4" HEADER AIR FILTER HDRF
	1	8048127	HEADER, 4" AIR FILTER V2000/V2200
	1	8048128	HEADER, 4" AIR FILTER V2600/3000
	1	8046191	GASKET, HEADER
11	1	T401100	ELBOW, 4MP - 4MJ 90
12	1	8046575	HOSE VAC AG SUCTION 4-51"
13	2	8042606	CLAMP, T-BOLT 4" (350)
14	1	8048089	BRACKET REV FLOW BLOWER TO 4-WAY VALVE
15	1	8046984	FLANGE EXHAUST 4-WAY 6" X 4" TUBE
16	4	8046995	GASKET, FLANGE 4-WAY VALVE 6"
17	1	8046981	ELBOW EXHAUST 90 3" W/ FLANGE
18	1	8045829	VALVE, 4-WAY 6"
19	1	8046985	FLANGE EXHAUST 4-WAY 6" X 3" TUBE
20	1	8030917	SILENCER, 1025CFM, COWL
21	1	8092928-065.00	HOSE AG HOT AIR 3-65"
22	2	8042605	CLAMP T-BOLT 3" (350)
23	1	8092928-034.00	HOSE AG HOT AIR 4-34"
24	1	8045869	HOSE ASSY VAC 4-34" ST-ST
25	1	8030483	UNION, 4FP - 4MJ
26	1	8041074	GAUGE, VACUUM COMPOUND PRESSURE
27	1	8046202	BRACKET, REV FLOW CONTROL LE
	3	8048585	GROMMET, .884/.878 X .266 X .234
28	1	8041617	REV. FLOW HANDLE, TRAILER UNIT
	1	8041595	PIN, SPRING REV FLOW HANDLE
29	1	W030080	FLANGE BEARING - 2 BOLT (1" BORE)
30	1	8048342	REV FLOW UNIVERSAL JOINT RD SHAFT 49LE
31	1	8045164	412 BLOWER ASSY
	1	8045310	SHEAVE, 4.6"OD SD 2-GROOVE
	1	8045305	BUSHING, 1 1/2" SD
	2	8049070	BELT, BP51 GP (JETTER UNIT ONLY)
*	2	8041507	TENSION ROD
*	1	8047006	TENSION BLOCK

\* NOT SHOWN

100917-E

VACASSY01202



Assembly of URAI DSL Blowers with Splash Lubricated Drive End 3-5" Gear Diameter



**URAI-DSL Splash Lubricated Blowers  
5" Gear Diameter**

<b>Item #</b>	<b>Qty</b>	<b>Part #</b>	<b>Description</b>
1	1	8040001-1	Headplate Gear End
2	1	8040001-2	Headplate Drive End
3	1	8040001-3	Gearbox
4	2	8040001-4	Timing Gears
7	1	8040001-7	Gasket, Gear Box, DE Cover
11	1	8040001-11	Cylinder
12	1	8040001-12	Impeller & Shaft Drive
13	1	8040001-13	Impeller & shaft Driven
14	3	8040001-14	Bearing, Ball
15	1	8040001-15	Bearing, Roller
16	4	8040001-16	Pin, Dowel
17	2	8040001-17	Gear Nut
19	1	8040001-19	Key
21	3	8040001-21	Plug, Pipe
23	6	8040001-23	Screw Hex
25	1	8040001-25	Breather (Plug Vent)
26	*	8040001-26	Screw, Hex
27	4	8040001-27	Seal, Lip Bearing
31	4	8040001-31	Screw, Hex, Nylock
32	6	8040001-32	Screw, Hex
33	1	8040001-33	Seal Lip-Drive
34	2	8040001-34	Clamp Plate
35	2	8040001-35	Foot
39	4	8040001-39	Washer Mounting
40	2	8040001-40	Screw Socket
42	2	8040001-42	Screw Hex
48	4	8040001-48	DE Oil Slinger Set Screw
50	1	8040001-50	Drive End Cover
52	2	8040001-52	Drive End Oil Slinger
53	2	8040001-53	Oil Sight Glass

\*Quantities vary by blower.



## RAM™ SERIES PARTS LIST 4" & 6" GEAR DIAMETER

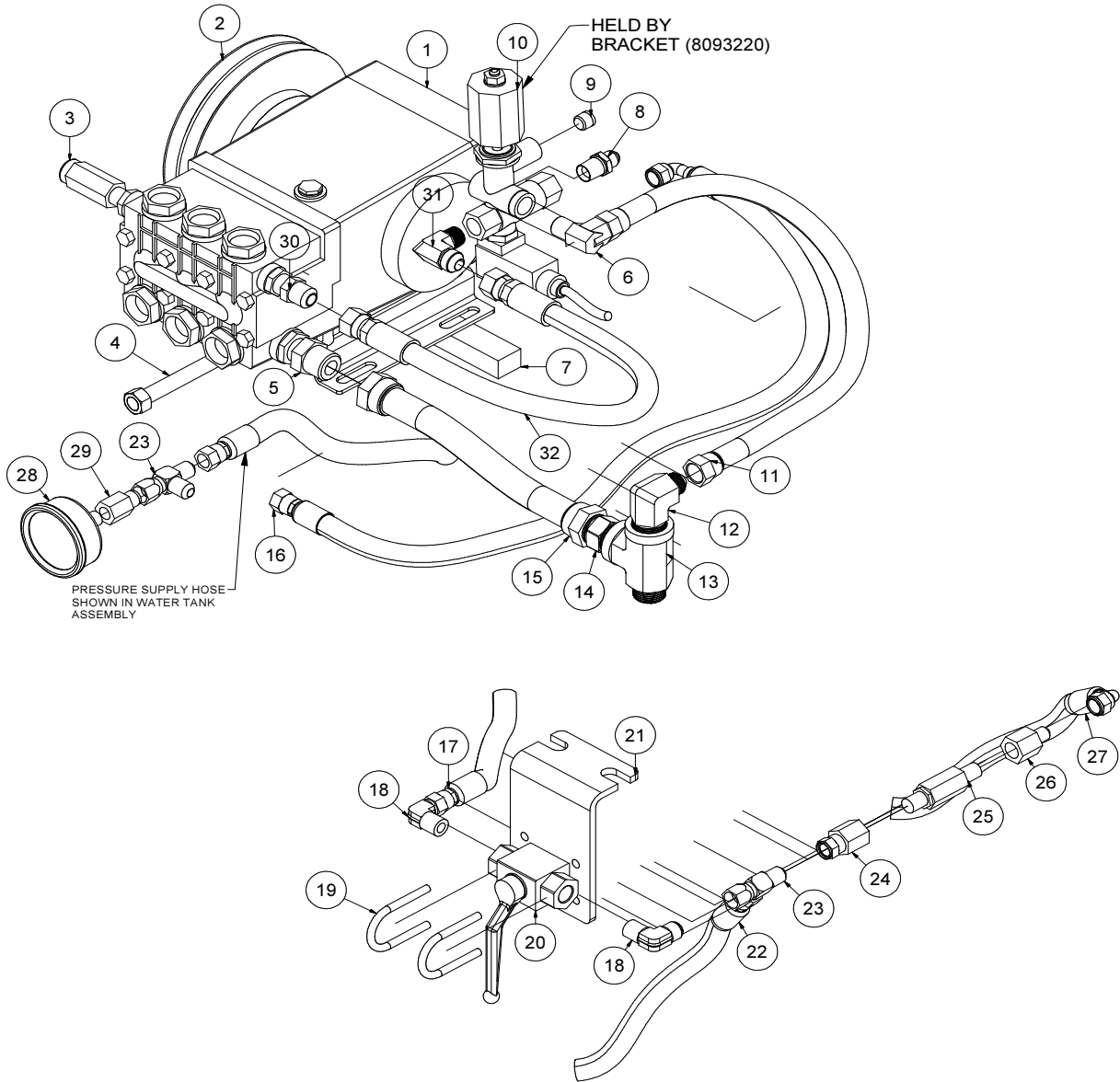
(Refer to drawing #81881023)

Item #	Part Name	Qty.
1	Headplate	2
3	Gearbox	1
4	Timing Gears	2
5	End Cover	1
7	Gasket – Gearbox/Cover	2
10	Shims	Lot
11	Cylinder	1
12	Impeller & Shaft Drive	1
13	Impeller & Shaft Driven	1
14	Bearing Roller	4
16	Pin, Dowel (Pull Out)	4
17	Pin, Dowel	2
19	Key Square	1
21	Breather	2
22	Plug, Pipe	12
23	Screw, Cap Hex Hd.	*
27	Seal, Ben Binh.	4
28	Piston, Ring-Seal	4
29	Washer, Wavy Spring	2
31	Gear Nut	2
32	Scr, Cap Hex Hd.	16
33	Seal, Lip Drive	1
34	Brg. Clamp Plate - D. E.	2
35	Lock Washer - Spring	16
37	Sight Plug - Oil Level	2
38	Sleeve, Shaft	4
40	Slinger - D.E. (Top Drive)	1
46	Slinger - G.E. (Optional)	1
49	Oil Leader L/S	1
50	Oil, Leader-R/S	1
54	Brg Clamp Plate - G. E.	2
60	Screw, Cap Butt. HD.	1
64	Pin, Spring	1
66	Screw, Cap Hex HD.	*
66.1	Whispair, Spring Lock 3/8M	*
70	Shims D.E. Brg.	1
75	Screw, Cap - Hex HD.	*
76	Blower Foot - RH	2
77	Blower Foot - LH	2
85	Elb, Pipe-Black	2
85.1	Plug, Pipe	2
87	Scr, Cap BH	2
88	Anti Rotation Ball	4
90	BSHG-RDCG	2
91	Washer, Plain Flat	2
92	Washer, Plain Flat	2
93	Washer	2

\*Quantity varies by blower.

# Water Pump Assembly

## TS2021 (67/85HP)



080916-E

VACASSY01301

# Water Pump Assembly

## TS2021 (67/85HP)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8031279	WATER PUMP
	4	U000420	SCREW, HC 3/8"-16 X 1"
	4	U210060	WASHER, LOCK 3/8"
	4	U200600	WASHER, FLAT 3/8"
2	1	8030961	WATER PUMP CLUTCH
	1	U410094	KEY 5/16" X 5/16" X 1 3/8"
3	1	8030340	SAFETY RELIEF VALVE 6GPM
4	1	8040751	ROD TIGHTENER WELD'T
5	1	T400080	REDUCER, 12MP - 8MJ
6	1	T401120	ELBOW,90 3/8"MP-1/2"MJ
7	1	8040893	TENSIONER BLOCK, ADJUSTING
8	1	T400028	ADAPTER,STR 6MP - 6MJ, STEEL
9	1	T405035	PLUG, 1/4"MP SOCKET HEAD
10	1	8048979	VALVE, UNLOADER BLUE W/SWITCH
11	1	8049687	HOSE VAC PUSH 8 - 19"LG (49HP & 67HP)
12	1	T401160	ELBOW,90 3/4"MJ - 1/2"MJ
13	1	T402080	TEE, 12FP - 12FP - 12MP
14	1	T400100	UNION, 12MP - 12MJ
15	1	8040972	HOSE VAC PUSH 12 - 8 1/2"LG
	2	8030525	FITTING, HOSE #12FJ PUSHLOCK
16	1	8043848	HOSE ASSY VAC 6 - 34" ST-90
17	1	8049021	HOSE ASSY VAC 6 - 100" ST-90
18	2	8030498	ELBOW, 90 6MP - 6MJ
19	2	U010017	CLAMP HOOK, 1 1/2" 1/4-20 THD
	4	U100020	NUT, HEX 1/4"-20
20	1	8030351	STEEL BALL VALVE, 3/8"NPT
21	1	8040670	BALL VALVE BRACKET
22	1	8049022	HOSE ASSY VAC 6-173" ST-ST
23	2	T402153	TEE, 6MJ - 6MJ - 6FJ
24	1	T400083	UNION, 6FP - 6FJ
25	1	8030923	FILTER, WATER HIGH PRESSURE
26	1	T400031	UNION, 6MJ - 6FP
27	1	8049023	HOSE ASSY VAC 6-370" ST-90
28	1	8030372	WATER PRESSURE GAUGE 1/4"NPT
29	1	8031126	REDUCER, 1/4"FP - 3/8"MJ
30	1	T400030	REDUCER, 3/8"MP - 1/2"MJ
31	1	T401120	ELBOW, 90 3/8"MP - 1/2"MJ
32	1	8094549	HOSE ASSY VAC 8-15" ST-ST
*	2	8047315	BELT, AX 49 (67HP) (DOMESTIC)
*	2	8041803	BELT, AX 47 (67HP) (INTERNATIONAL)

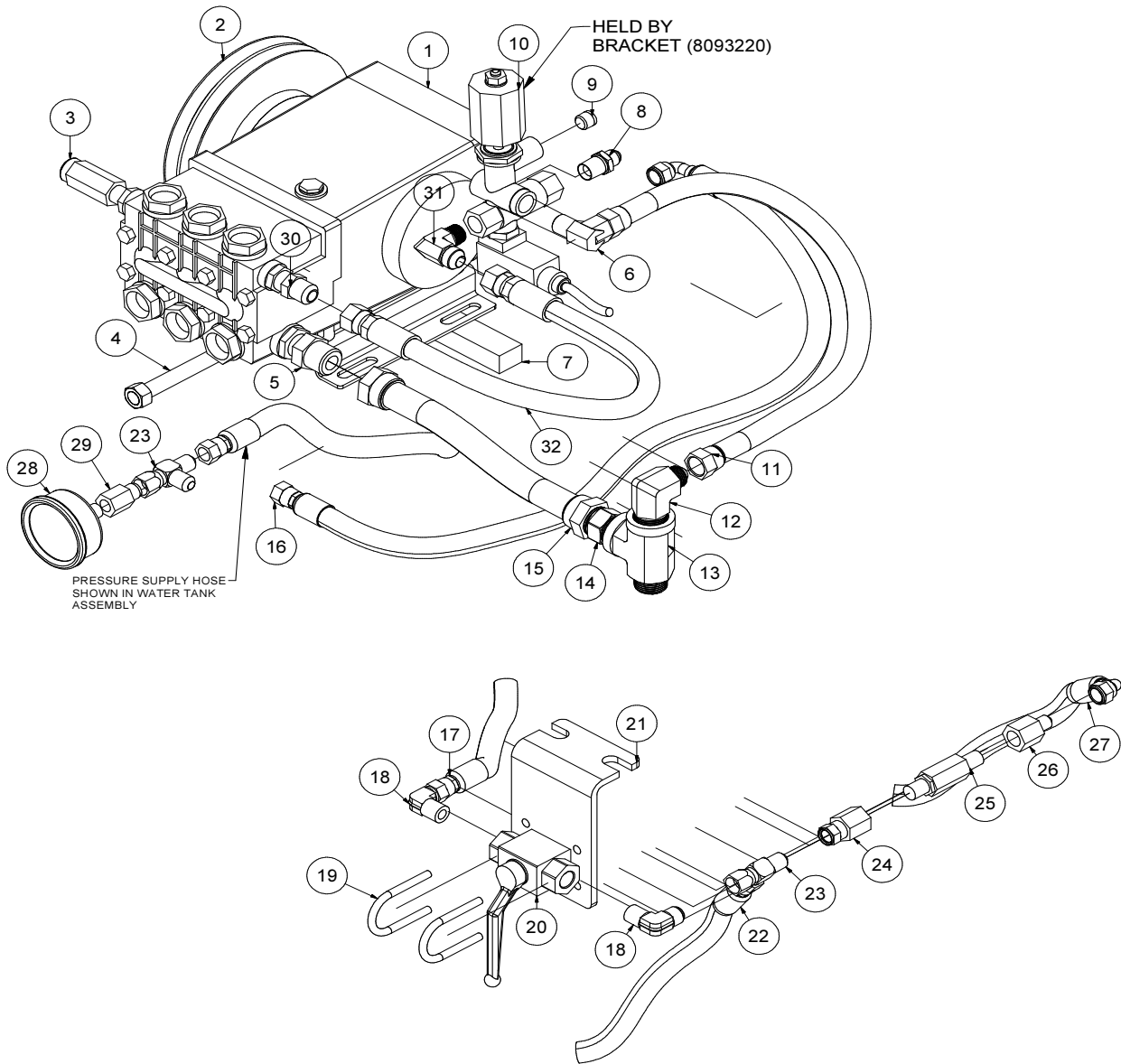
\* NOT SHOWN

080916-E

VACASSY01301

# Water Pump Assembly

# TS2021 (99HP)



080916-E

VACASSY01307

# Water Pump Assembly

## TS2021 (99HP)

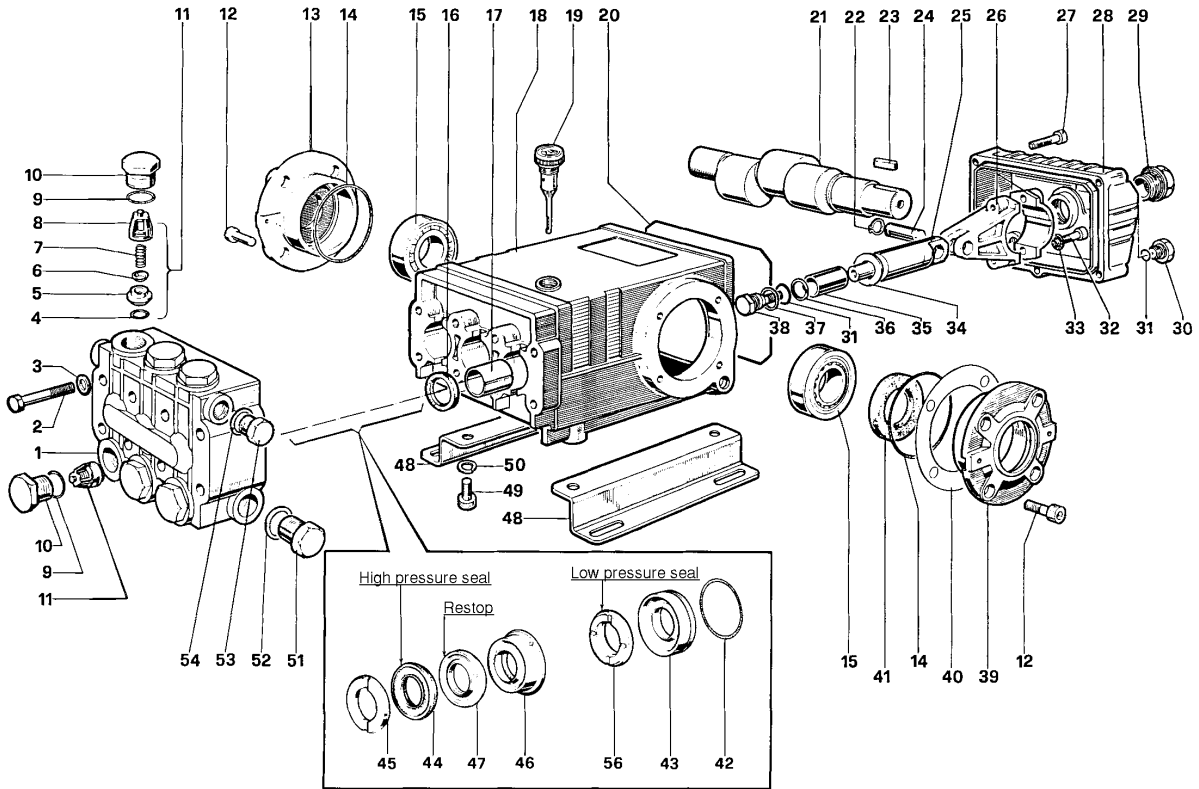
ITEM	QTY	PART NO.	DESCRIPTION
1	1	8031279	WATER PUMP
	4	U000420	SCREW, HC 3/8"-16 X 1"
	4	U210060	WASHER, LOCK 3/8"
	4	U200600	WASHER, FLAT 3/8"
2	1	8030961	WATER PUMP CLUTCH
	1	U410094	KEY 5/16" X 5/16" X 1 3/8"
3	1	8030340	SAFETY RELIEF VALVE 6GPM
4	1	8040751	ROD TIGHTENER WELD'T
5	1	T400080	REDUCER, 12MP - 8MJ
6	1	T401120	ELBOW,90 3/8"MP-1/2"MJ
7	1	8040893	TENSIONER BLOCK, ADJUSTING
8	1	T400028	ADAPTER,STR 6MP - 6MJ, STEEL
9	1	T405035	PLUG, 1/4"MP SOCKET HEAD
10	1	8048979	VALVE, UNLOADER BLUE W/SWITCH
11	1	8049687	HOSE VAC PUSH 8 - 19"LG (49HP & 67HP)
12	1	T401160	ELBOW,90 3/4"MJ - 1/2"MJ
13	1	T402080	TEE, 12FP - 12FP - 12MP
14	1	T400100	UNION, 12MP - 12MJ
15	1	8040972	HOSE VAC PUSH 12 - 8 1/2"LG
	2	8030525	FITTING, HOSE #12FJ PUSHLOCK
16	1	8043848	HOSE ASSY VAC 6 - 34" ST-90
17	1	8049021	HOSE ASSY VAC 6 - 100" ST-90
18	2	8030498	ELBOW, 90 6MP - 6MJ
19	2	U010017	CLAMP HOOK, 1 1/2" 1/4-20 THD
	4	U100020	NUT, HEX 1/4"-20
20	1	8030351	STEEL BALL VALVE, 3/8"NPT
21	1	8040670	BALL VALVE BRACKET
22	1	8049022	HOSE ASSY VAC 6-173" ST-ST
23	2	T402153	TEE, 6MJ - 6MJ - 6FJ
24	1	T400083	UNION, 6FP - 6FJ
25	1	8030923	FILTER, WATER HIGH PRESSURE
26	1	T400031	UNION, 6MJ - 6FP
27	1	8049023	HOSE ASSY VAC 6-370" ST-90
28	1	8030372	WATER PRESSURE GAUGE 1/4"NPT
29	1	8031126	REDUCER, 1/4"FP - 3/8"MJ
30	1	T400030	REDUCER, 3/8"MP - 1/2"MJ
31	1	T401120	ELBOW, 90 6MP-8MJ
32	1	8094549	HOSE ASSY VAC 8-15" ST-ST
*	2	8041082	BELT, AX 48 (99HP)

\* NOT SHOWN

080916-E

VACASSY01307

# Water Pump TS2021



## TORQUE SPECS\*

\*Decrease torque by 20%  
if threads are lubricated

Position	Ft. Lbs.	N-M
2	22.1	29.9
10	73.7	99.9
12	14.7	19.2
27	7.3	9.9
29	13.2	17.9
30	14.7	19.2
32	14.7	19.2
38	14.7	19.2
49	29.4	39.8
51	29.4	39.8
53	29.4	39.8



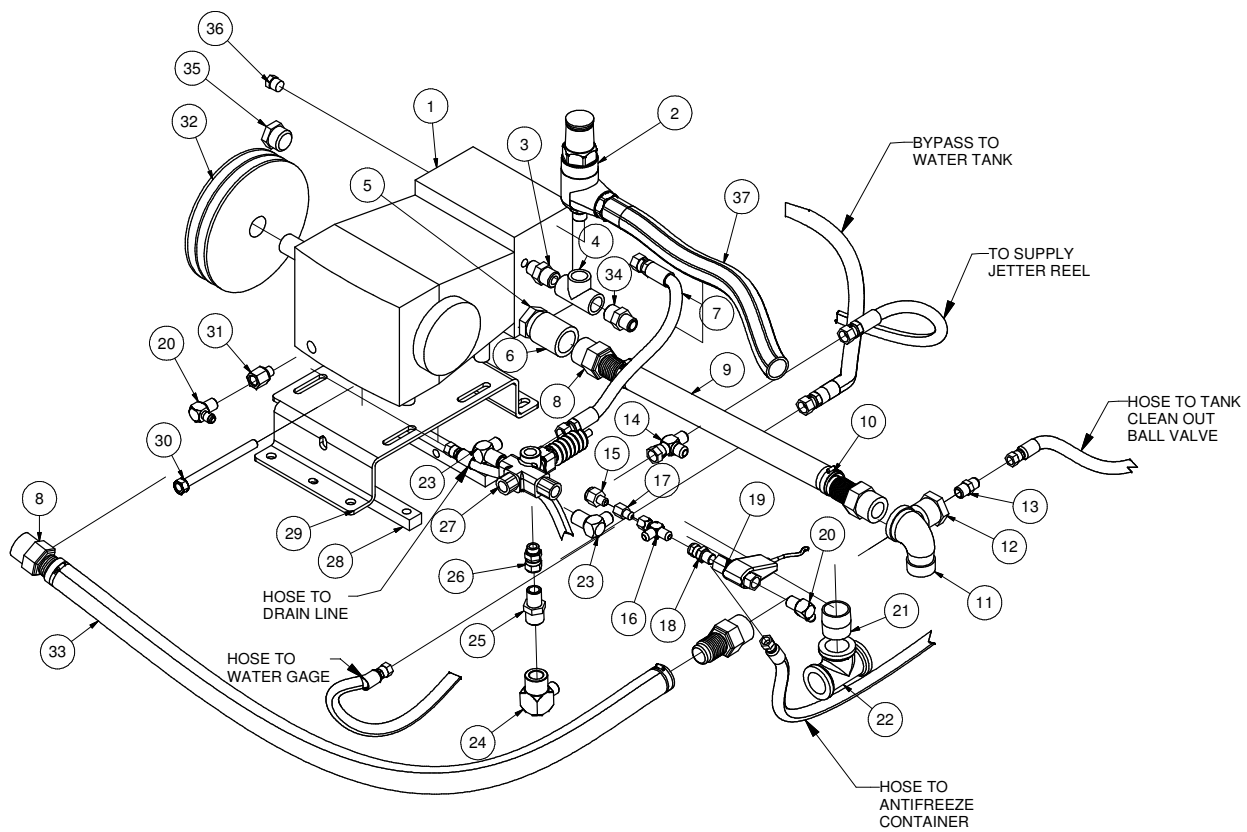
# Water Pump TS2021

ITEM	QTY.	PART #	DESCRIPTION	ITEM #'S	NO. OF ASSY	NO. OF CYL KIT
				KIT #	INCL'D IN KIT	WILL SERVICE
1	1	8031280-1	Manifold			
2	8	8031280-2	Screw, M8 x 70			
3	8	8031280-3	Washer, M8 x 4	8031280-KIT1	4, 5, 6, 7, 8 (11)	3
4	8	8031280-4	O-ring, .674 x .103			
5	6	8031280-5	Seat, Valve	8031280-KIT2	16	3
6	6	8031280-6	Plate, Valve			
7	6	8031280-7	Spring	8031280-KIT3	41	0
8	6	8031280-8	Guide, Valve			
9	6	8031280-9	O-ring,.797x.103	8031280-KIT4	9, 10	3
10	6	8031280-10	Cap			
11	6	8031280-11	Valve Assembly	8031280-KIT5	9, 10	3
12	8	8031280-12	Screw, M8 x 16			
13	1	8031280-13	Cover, Crankcase	8031280-KIT6	31, 34	3
14	2	8031280-14	O-ring, 2.675 x .103			
15	2	8031280-15	Bearing, Roller			
16	3	8031280-16	Seal, Oil		36, 37, 38	
17	3	8031280-17	Bushing	8031280-KIT7	45	3
18	1	8031280-18	Crankcase			
19	1	8031280-19	Oil Dip Stick	8031280-KIT10	42, 43	3
20	1	8031280-20	O-ring, Cover			
21	1	8031280-21	Crankshaft	8031280-KIT28	42, 43, 44,	1
22	6	8031280-22	Ring, Snap			
23	1	8031280-23	Key		45, 45, 47, 56	
24	3	8031280-24	Pin, Wrist			
25	3	8031280-25	Guide, Plunger	8031280-KIT69	44, 47, 56	3
26	3	8031280-26	Rod, Connecting			
27	5	8031280-27	Screw, M6 x 30	8031280-KIT71	46, 47	3
28	1	8031280-28	Cover, Crankcase			
29	6	8031280-29	Oil Indicator			
30	1	8031280-30	Cap			
31	4	8031280-31	O-ring,.426x.070			
32	6	8031280-32	Screw, M8 x 35			
33	6	8031280-33	Washer, M8.4			
34	3	8031280-34	Washer, M14			
35	3	8031280-35	Plunger (20 mm)			
37	3	8031280-37	Washer			
38	3	8031280-38	Screw, Plunger			
39	1	8031280-39	Cover, Crankcase			
40	2	8031280-40	Shim			
41	1	8031280-41	Seal, Oil			
42	3	8031280-42	O-ring, 1.364x.070			
43	3	8031280-43	Retainer, Packing			
44	3	8031280-44	Packing			
45	3	8031280-45	Ring, Head, M20			
46	3	8031280-46	Intermed. Ring			
47	3	8031280-47	Testop Ring			
48	2	8031280-48	Pump Feet			
49	4	8031280-49	Screw, M10 x 18			
50	4	8031280-50	Washer, M10.2			
51	1	8031280-51	Cap			
52	1	8031280-52	Washer, M21.5			
53	1	8031280-53	Cap			
54	1	8031280-54	Washer, M17.5			
56	3	8031280-56	Seal,Low Press,20mm			

**VACASSY325**

# Water Pump Assembly KE24

# 67HP



012014-E

VACASSY305

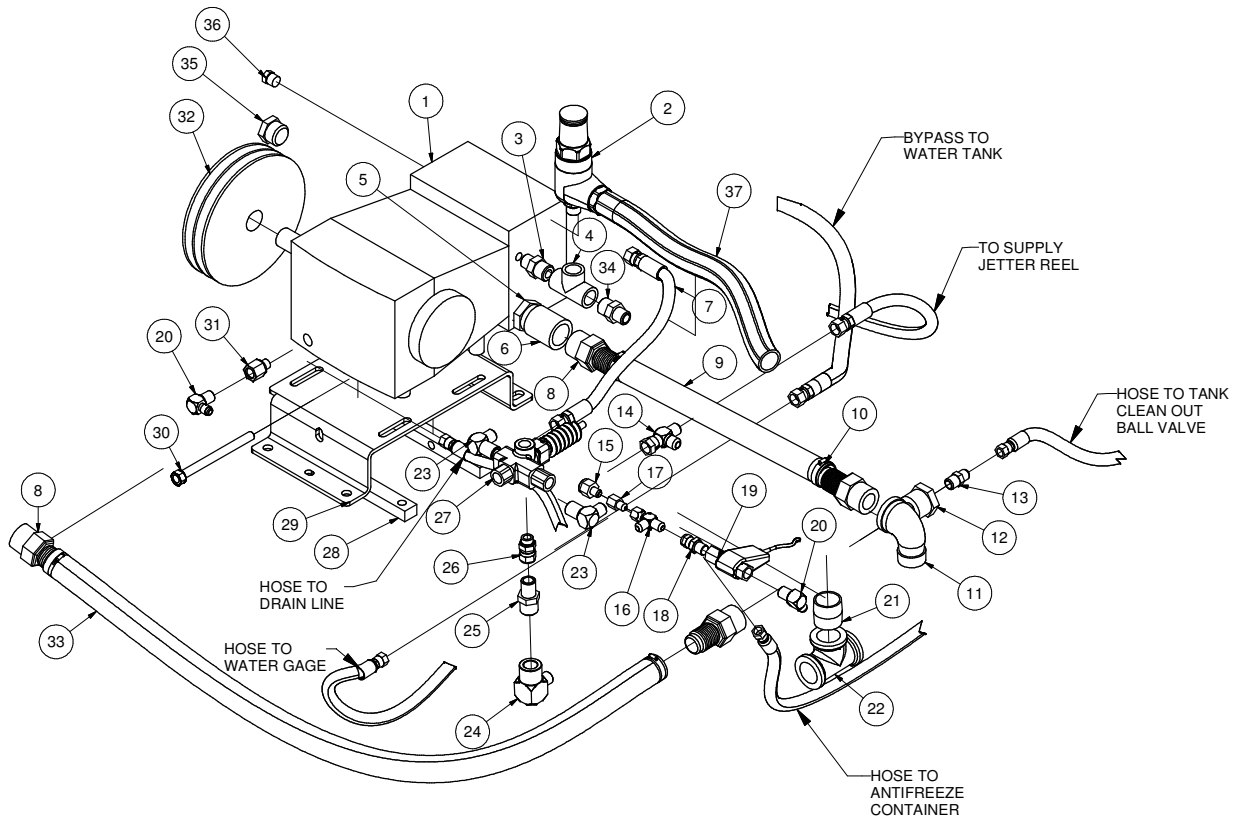
# Water Pump Assembly KE24

# 67HP

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8042352	WATER PUMP KE24
2	1	8040556	SV2-300 SAFETY RELIEF VALVE
	2	8090615	CLAMP, HOSE
*	1	T400139	UNION, 1/2 MP-1/2 FBSPP
*	1	T403085	REDUCER, 3/4MP-1/2FP
3	1	T404030	REDUCER, 1/2MP-3/4MP
4	1	T402160	TEE, 3/4FP-3/4FP-3/4FP
5	1	T400618	REDUCER, 1"MP X 1 1/4"MP
6	1	T422080	COUPLING, 1 1/4"
7	1	8044647	HOSE ASSY VAC 8-14 ST-ST
8	4	8041312	FITTING, HOSE BARB 20HB-20MP
9	1	8042940	HOSE VAC CLEAR VINYL 1 1/4-18"
10	4	8040677	CLAMP, HOSE 1 1/2
11	1	T420120	STREET ELBOW 90 - 1 1/4"
12	1	T403110	REDUCER, 1 1/4"MP-1/2"FP GALV
13	1	8031291	UNION, 1/2MP-3/8MJ
14	1	T402155	TEE, 1/2"FJ-1/2"MJ-1/2"MJ
15	1	T403130	UNION, 8FJ-6MJ
16	1	T402153	TEE, 6MJ-6MJ-6FJ
17	1	8042267	ORIFICE 6MJ-6FJ .094"
18	1	T400813	UNION, 6FJ-6MP
19	1	8031267	FLOW SWITCH
20	2	T401102	ELBOW, 6MJ-6MP
21	1	T421040	NIPPLE, PIPE 1 1/4"MNPT
22	1	8041049	TEE, 1 1/4" PIPE
23	2	T401140	ELBOW, 8MP-8MJ
24	1	T401160	ELBOW, 12MP-12MJ
25	1	T400070	UNION, 1/2MP-3/4MJIC
26	1	T400814	UNION, 8MP-8FJ
27	1	8030341	VALVE, UNLOADER, GREENSPRING
28	2	8043317	TENSIONER BLOCK, ADJUSTING
29	1	8044167	PUMP BRACKET KE24A
30	1	8030020	ROD, TENSIONER
31	1	T400119	UNION, 3/8MBSPP X 3/8FP
32	1	8043248	SHEAVE, 9.75" OD SK 2-GROOVE
*	1	8040644	BUSHING, SK
*	2	8049164	BELT, BP61
33	1	8043076	HOSE VAC CLEAR VINYL 1 1/4-37"
34	1	T400080	REDUCER, 3/4"MP X 1/2"MJ
35	1	T405120	PLUG, 1" MB
36	1	T405062	PLUG, 1/2"NPT
37	1	8090617	HOSE, 1/2" - 36"LG

# Water Pump Assembly KE24

# 99HP



012014-E

VACASSY01302

# Water Pump Assembly KE24

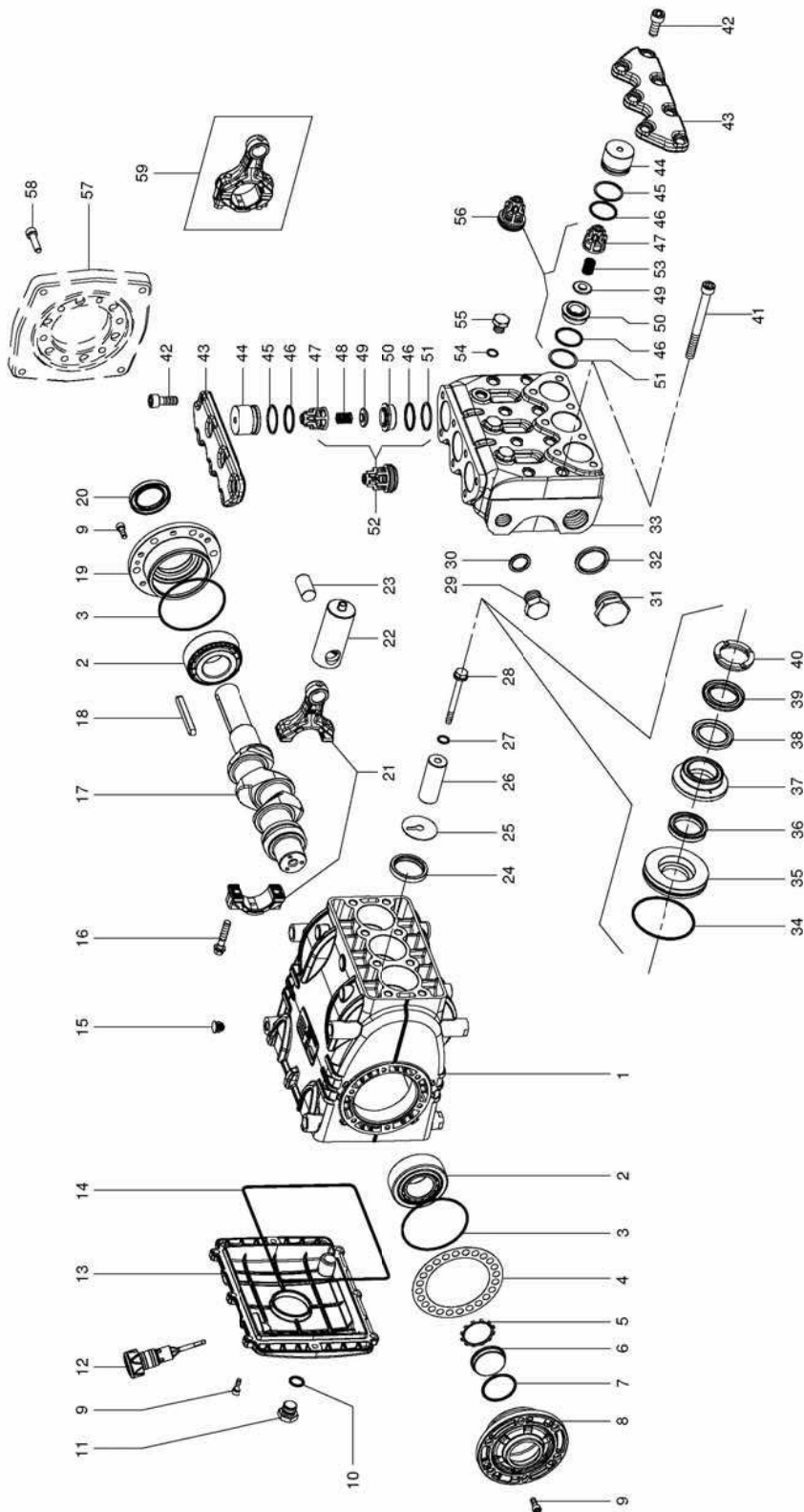
# 99HP

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8042352	WATER PUMP KE24
2	1	8040556	SV2-300 SAFETY RELIEF VALVE
*	2	8090615	CLAMP, HOSE
*	1	T400139	UNION, 1/2 MP-1/2 FBSPP
*	1	T403085	REDUCER, 3/4MP-1/2FP
3	1	T404030	REDUCER, 1/2MP-3/4MP
4	1	T402160	TEE, 3/4FP-3/4FP-3/4FP
5	1	T400618	REDUCER, 1"MP X 1 1/4"MP
6	1	T422080	COUPLING, 1 1/4"
7	1	8044647	HOSE ASSY VAC 8-14 ST-ST
8	4	8041312	FITTING, HOSE BARB 20HB-20MP
9	1	8042940	HOSE VAC CLEAR VINYL 1 1/4-18"
10	4	8040677	CLAMP, HOSE 1 1/2
11	1	T420120	STREET ELBOW 90 - 1 1/4"
12	1	T403110	REDUCER, 1 1/4"MP-1/2"FP GALV
13	1	8031291	UNION, 1/2MP-3/8MJ
14	1	T402155	TEE, 1/2"FJ-1/2"MJ-1/2"MJ
15	1	T403130	UNION, 8FJ-6MJ
16	1	T402153	TEE, 6MJ-6MJ-6FJ
17	1	8042267	ORIFICE 6MJ-6FJ .094"
18	1	T400813	UNION, 6FJ-6MP
19	1	8031267	FLOW SWITCH
20	2	T401102	ELBOW, 6MJ-6MP
21	1	T421040	NIPPLE, PIPE 1 1/4"MNPT
22	1	8041049	TEE, 1 1/4" PIPE
23	2	T401140	ELBOW, 8MP-8MJ
24	1	T401160	ELBOW, 12MP-12MJ
25	1	T400070	UNION, 1/2MP-3/4MJIC
26	1	T400814	UNION, 8MP-8FJ
27	1	8030341	VALVE, UNLOADER, GREENSPRING
28	2	8043317	TENSIONER BLOCK, ADJUSTING
29	1	8044167	PUMP BRACKET KE24A
30	1	8030020	ROD, TENSIONER
31	1	T400119	UNION, 3/8MBSPP X 3/8FP
32	1	8043248	SHEAVE, 9.75" OD SK 2-GROOVE
*	1	8040644	BUSHING, SK
*	2	8049165	BELT, BP62
33	1	8043076	HOSE VAC CLEAR VINYL 1 1/4-37"
34	1	T400080	REDUCER, 3/4"MP X 1/2"MJ
35	1	T405120	PLUG, 1" MB
36	1	T405062	PLUG, 1/2"NPT
37	1	8090617	HOSE, 1/2" - 36"LG

#### OPTION FOR COMPRESSOR SET UP

*	1	8046682	PUMP, MOUNT
*	2	8046731	TENSION BLOCK

# Water Pump Assembly KE24



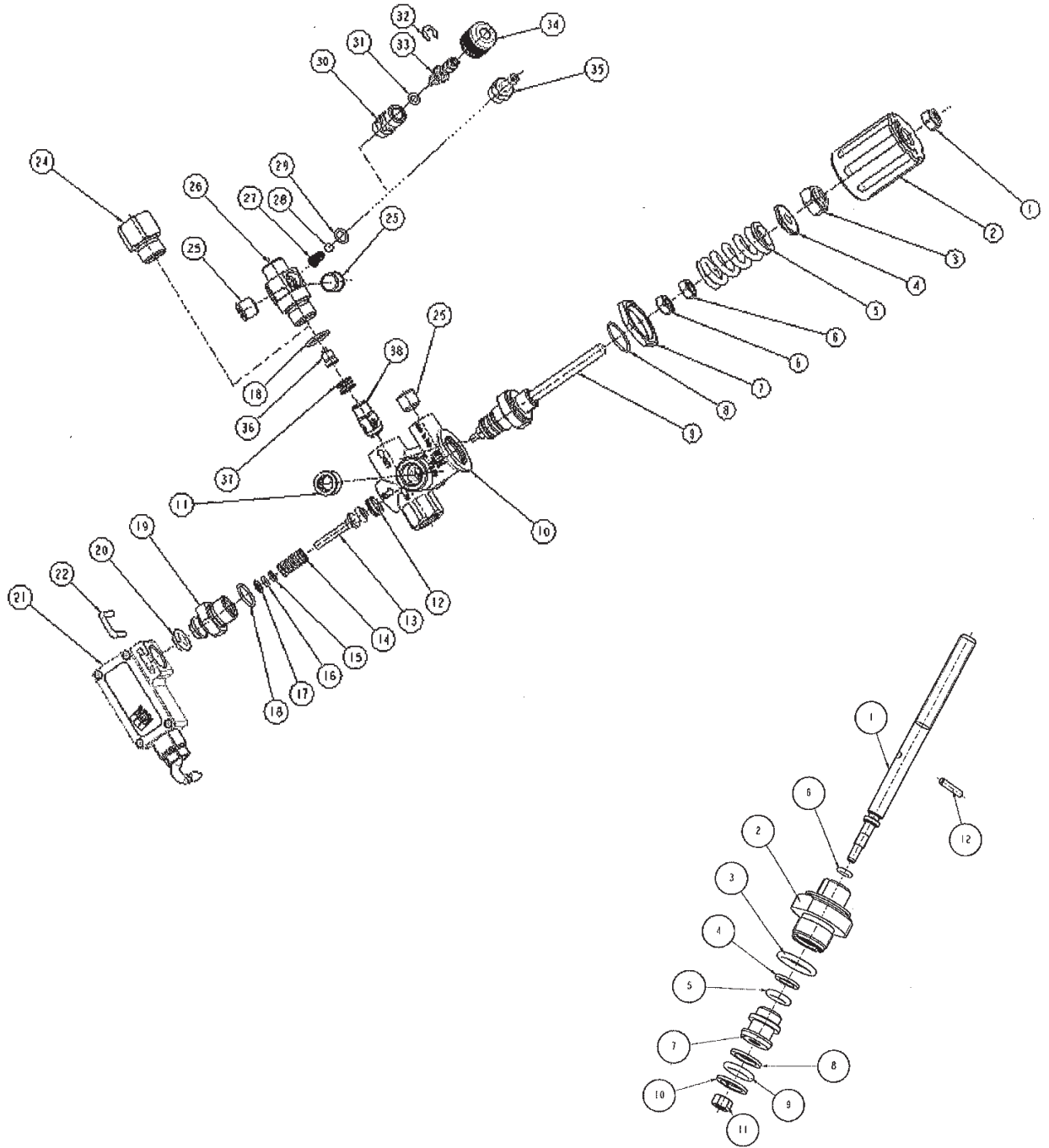
071509-E

VACASSY329

# Water Pump Assembly KE24

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8042352-1	PUMP CRANKCASE
2	2	8042352-2	ROLLER BEARING 33207/Q
3	2	8042352-3	O-RING D. 80,6X2,62
4		8042352-4	SHIM 0,1
		*	SHIM, 25
		*	SHIM, 0,35
5	1	8042352-5	RING ZJ45
6	1	8042352-6	OIL LEVEL INDICATOR
7	1	8042352-7	O-RING D. 39,34X2,62
8	1	8042352-8	OIL LEVEL INDICATOR SIDE BEARING COVER
9	20	8042352-9	SCREW TCEI M6X16 UNI 5931
10	1	8042352-10	O-RING D. 13,95X2,62
11	1	8042352-11	PLUG G3/8"
12	1	8042352-12	DIPSTICK
13	1	8042352-13	CRANKCASE COVER
14	1	8042352-14	O-RING D. 196,52X2,62
15	7	8042352-15	PLUG FOR D. 15 PORT
16	6	8042352-16	CONNECTING ROD SCREW
17	1	8042352-17	CRANKSHAFT
18	1	8042352-18	CRANKSHAFT KEY
19	1	8042352-19	MOTOR SIDE BEARING COVER
20	1	8042352-20	OIL SEAL 35X52X7 SPEC
21	3	8042352-21	CONNECTING ROD
22	3	8042352-22	PISTON
23	3	8042352-23	PIN D. 18X36
24	3	8042352-24	SEAL 36X47X7
25	3	8042352-25	WIPER
26	3	8042352-26	PLUNGER KE24
27	3	8042352-27	O-RING D. 11X2 SPEC
28	3	8042352-28	PLUNGER BOLT
29	1	8042352-29	PLUG G1/2"X18
30	1	8042352-30	WASHER D.1/2"
31	1	8042352-31	PLUG G1"X17
32	1	8042352-32	WASHER D.1"
33	1	8042352-33	MANIFOLD D22-24
34	3	8042352-34	OR D.50C52X1.78 KIT 2002-3-4-5-6-7-8-9-10-11
35	3	8042352-35	PACKING RETAINER D.24
36	3	8042352-36	PACKING D.24 L.P. KIT 2006-2007
37	3	8042352-37	MIDDLE RING D.24 KIT 2007
38	3	8042352-38	RESTOP RING D.24 KIT 2006-2007
39	3	8042352-39	PACKING D.24 H.P. KIT 2006-2007
40	3	8042352-40	FRONT RING D.24 KIT 2007
41	8	8042352-41	SCREW TCEI M10X110 UNI 5931
42	14	8042352-42	SCREW TCEI M10X25 UNI 5931 SPEC.
43	2	8042352-43	VALVE COVER
44	6	8042352-44	VALVE PLUG
45	6	8042352-45	BACK UP RING D.32,4X36,5X1,5
46	12	8042352-46	O-RING D.29.82X2,62 KIT 2000-2001
47	6	8042352-47	SUCTION/DELIVERY VALVE GUIDE PLATE KIT 2000-2001
48	3	8042352-48	DELIVERY VALVE SPRING KIT 2001
49	6	8042352-49	SUCTION/DELIVERY VALVE PLATE KIT 2000-2001
50	6	8042352-50	SUCTION/DELIVERY VALVE SEAT KIT 2000-2001
51	6	8042352-51	BACK UP RING D.31X35,5X1,5
52	3	8042352-52	DELIVERY VALVE ASSEMBLY KIT 2001
53	3	8042352-53	SUCTION VALVE SPRING KIT 2000
54	3	8042352-54	O-RING D.10,82X1,78
55	3	8042352-55	PLUG G1/4"X13
56	3	8042352-56	SUCTION VALVE ASSEMBLY KIT 2000
57	1	8042352-57	HYDRAULIC MOTOR FLANGE
58	6	8042352-58	SCREW TCEI M8X30 UNI 5931
59	3	8042352-59	CONNECTING ROD (COMPLETE)

# Unloader Valve PULSAR4KHPMS



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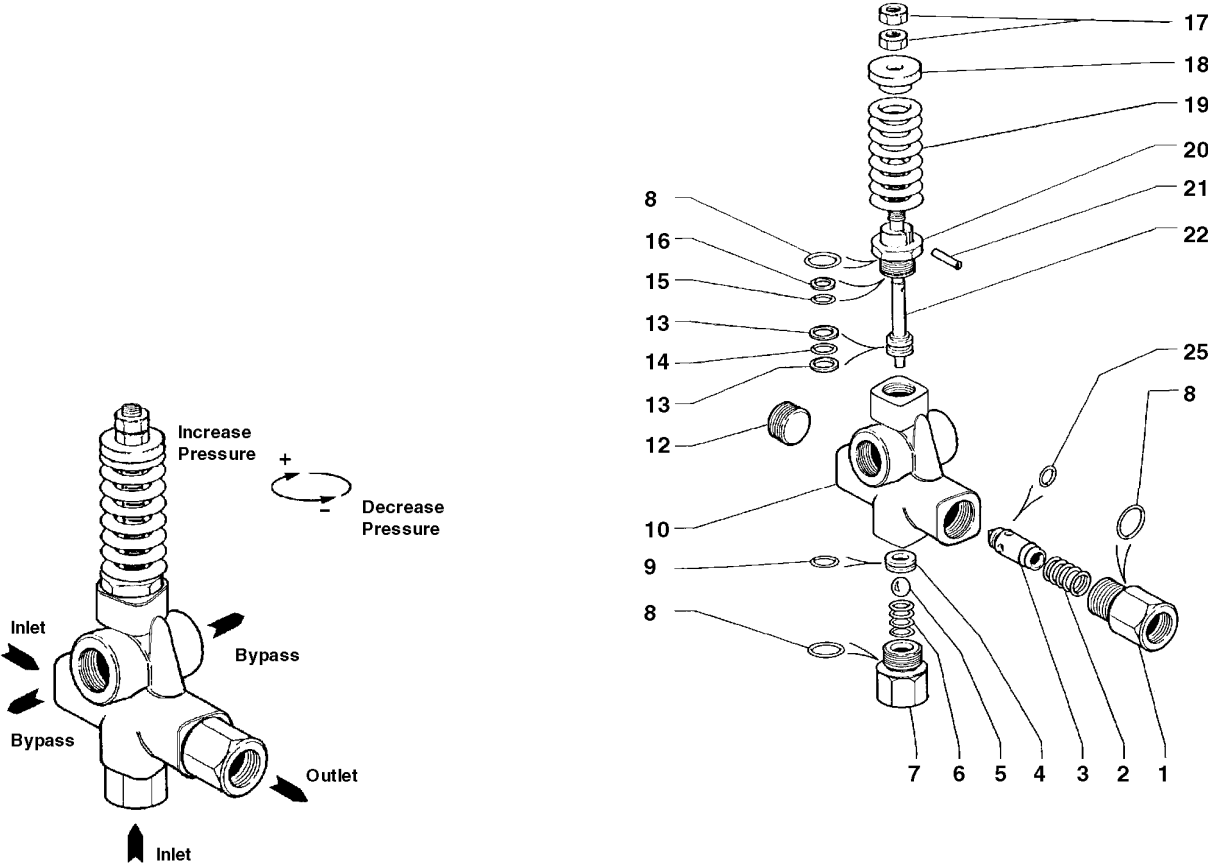
VACASSY01306



# Unloader Valve PULSAR4KHPMS

ITEM	QTY	PART #	DESCRIPTION
1	1	8048979-1	NUT
2	1	8048979-2	KNOB
3	1	8048979-3	NUT for KNOB
4	1	8048979-4	SPRING RETAINER DISK
5	1	8048979-5	HIGH PRESSURE SPRING 275 BAR
6	2	8048979-6	NUT
7	1	8048979-7	NUT
8	1	8048979-8	O-RING 12,42X1,78 MM BLU / BLUE O-RING
9	1	8048979-9	STEM ASSEMBLY
	1	8048979-9.1	STEM (ONLY)
	1	8048979-9.2	NIPPLE
	1	8048979-9.3	O-RING 15,54X2,62
	1	8048979-9.4	BACK-UP RING
	1	8048979-9.5	O-RING 7,6X2,62
	1	8048979-9.6	O-RING 4,48X1,78 MM
	1	8048979-9.7	RETAINING FERRULE
	1	8048979-9.8	BACK-UP RING
	1	8048979-9.9	O-RING 10,78X2,62 MM
	1	8048979-9.10	BACK-UP RING
	1	8048979-9.11	NUT M6
	1	8048979-9.12	PLUG
10	1	8048979-10	BODY, 3/8"
11	1	8048979-11	NUT, 3/8"
12	1	8048979-12	STAINLESS STEEL SEAT
13	1	8048979-13	PISTON
14	1	8048979-14	SPRING
15	1	8048979-15	BACK-UP RING
16	1	8048979-16	O-RING, 4,48X1,78 MM
17	1	8048979-17	WASHER
18	2	8048979-18	O-RING, 15,6X1,78 MM
19	1	8048979-19	NIPPLE
20	1	8048979-20	MEMBRANE SEAL
21	1	8048979-21	ELECTRIC PART
22	1	8048979-22	FORK
24	1	8048979-24	INJECTOR NIPPLE
25	3	8048979-25	NUT, 1/4"
26	1	8048979-26	INJECTOR BODY
27	1	8048979-27	SPRING
28	1	8048979-28	BALL
29	1	8048979-29	O-RING, 5,28X1,78 MM
30	1	8048979-30	NIPPLE, HOSE BARB
31	1	8048979-31	O-RING 4,48X1,78 MM
32	1	8048979-32	SEEGER RING
33	1	8048979-33	INJECTOR PISTON
34	1	8048979-34	HOSE BARB FERRULE
35	1	8048979-35	HOSE BARB NIPPLE
36	1	8048979-36	NOZZLE
37	1	8048979-37	NO-RETURN PISTON SPRING
38	1	8048979-38	NO-RETURN PISTON W/ O-RING

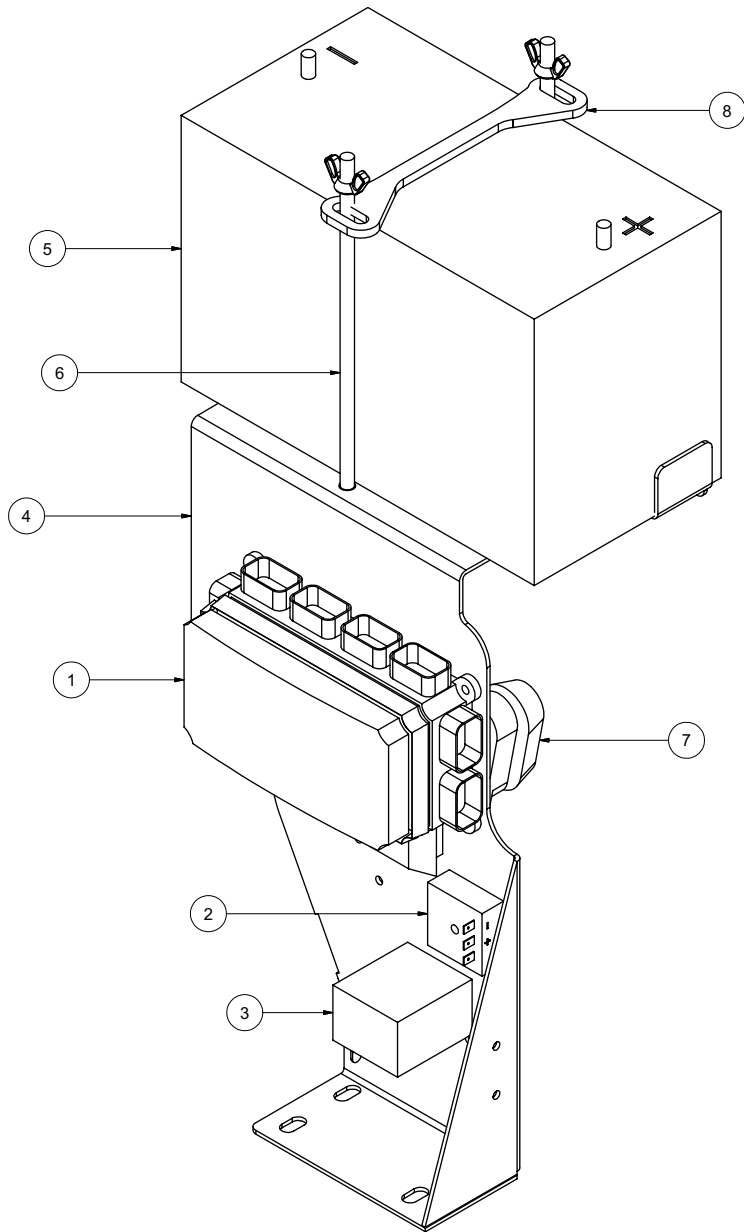
# Unloader Valve YU2140



# Unloader Valve YU2140

ITEM	QTY	PART #	DESCRIPTION
1	1	8030341-1	OUTLET CONNECTION
2	1	8030341-2	SPRING
3	1	8030341-3	CHECK VALVE
4	1	8030341-4	SEAT
5	1	8030341-5	SS BALL
6	1	8030341-6	SPRING
7	1	8030341-7	INLET CONNECTION
8	2	8030341-8	O-RING
9	1	8030341-9	O-RING
10	1	8030341-10	VALVE HOUSING
12	1	8030341-12	PLUG
13	2	8030341-13	BACK RING
14	1	8030341-14	O-RING
15	1	8030341-15	O-RING
16	1	8030341-16	BACK RING
17	1	8030341-17	NUT
18	1	8030341-18	SPRING GUIDE
19	1	8030341-19	SPRING-GREEN (YU2140)
20	1	8030341-20	PISTON HOUSING
21	1	8030341-21	PIN
22	1	8030341-22	PISTON
25	1	8030341-25	O-RING

# Electrical Control Bracket



012813-E

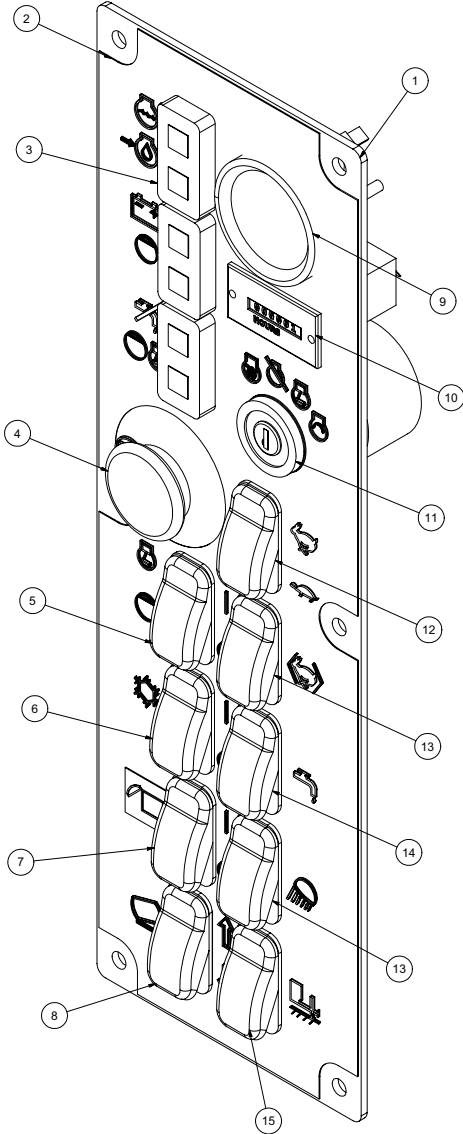
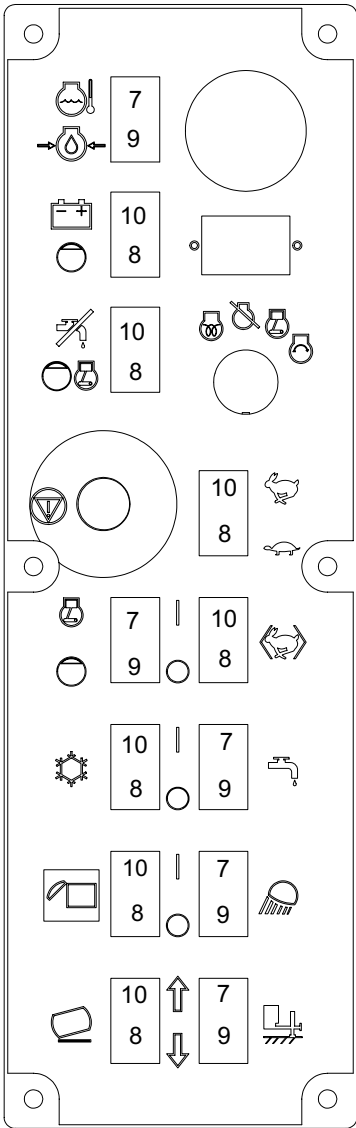
VACASSY550

# Electrical Control Bracket

ITEM	QTY	PART NO.	DESCRIPTION
1	1	X000239	BUSSMAN VEC
	7	X000205	FUSE 5A
	2	X000206	FUSE 10A
	2	X000207	FUSE 20A
	3	X000237	FUSE 30A
	1	X000236	CIRCUIT BREAKER 20A
	1	X000210	CIRCUIT BREAKER 30A
	6	X000209	RELAY 35A/25A
	5	X000208	DIODE 6A
*	4	U000040	SCREW, HC 1/4" - 20 X .750
*	4	U200020	WASHER, FLAT 1/4"
*	4	U210020	WASHER, LOCK 1/4"
*	4	U100020	NUT, HEX 1/4"-20
2	1	8042282	SWITCH, DELAY RELAY
*	1	U100020	NUT, HEX 1/4"-20
	1	U200020	WASHER, FLAT 1/4"
	1	U210020	WASHER, LOCK 1/4"
	1	U000080	SCREW, HC 1/4"-20 X 1.25 ZP G5
3	1	X000241	RELAY TIMER 15 SEC SHUTDOWN
*	1	U100020	NUT, HEX 1/4"-20
	1	U200020	WASHER, FLAT 1/4"
	1	U210020	WASHER, LOCK 1/4"
	1	U000080	SCREW, HC 1/4"-20 X 1.25 ZP G5
4	1	8043127	CONTROL PANEL - HARNESS MTG PLATE
5	1	X400050	BATTERY, 31-MHD WORKAHOLIC
6	2	8043742	BATTERY HOLD DOWN ROD ASSY
7	1	8043800	FUSE HOLDERAMG
	1	8043801	FUSE 250A AMG
*	2	U000060	SCREW, HC 1/4"-20 X 1.00
*	2	U200020	WASHER, FLAT 1/4"
*	2	U210020	WASHER, LOCK 1/4"
*	2	U100020	NUT, HEX 1/4"-20
8	1	8050016	BATTERY HOLD DOWN
*	1	X200005	HARNESS VAC CONTROL

\* NOT SHOWN

# Control Panel

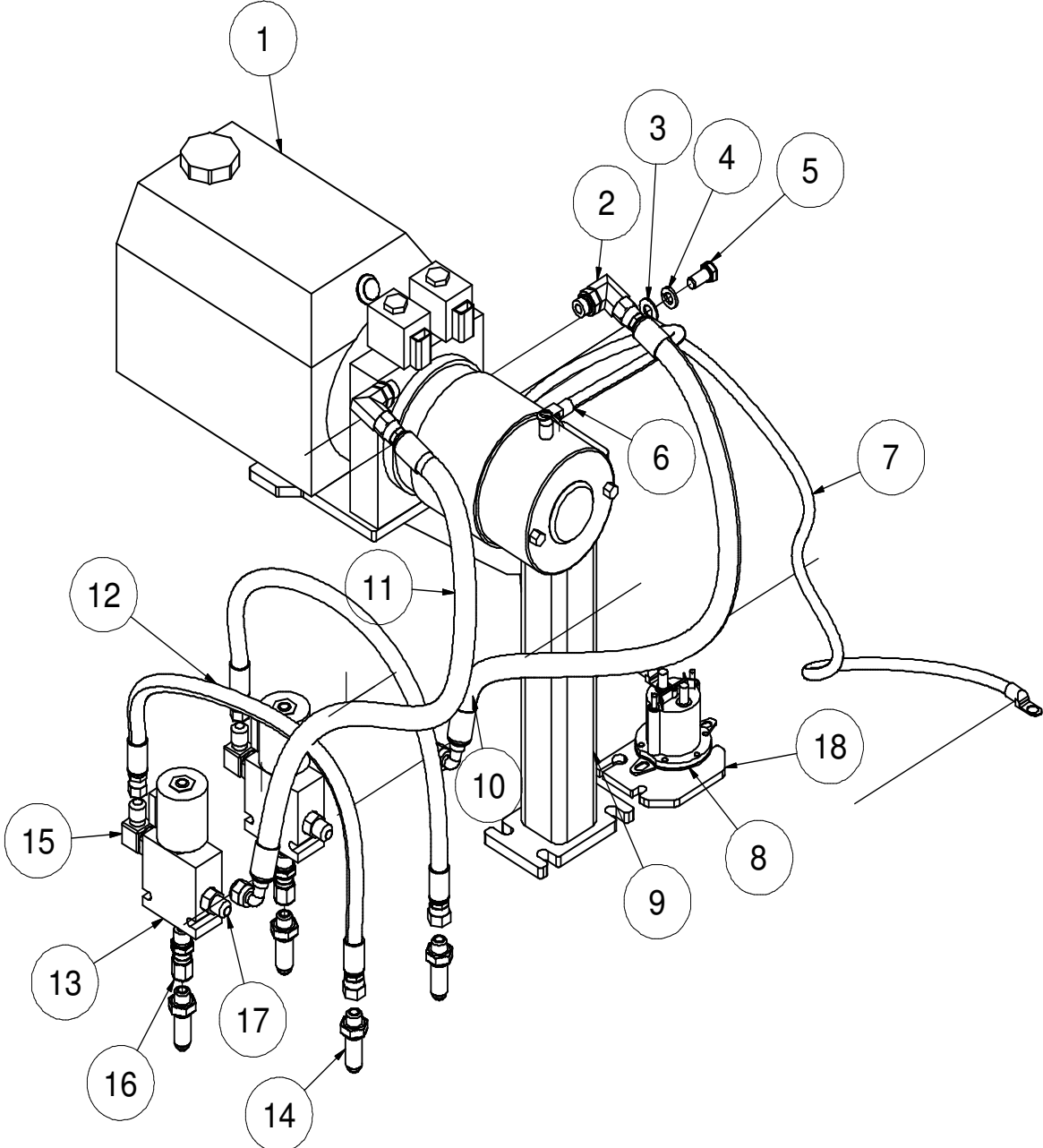


# Control Panel

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8043128	CONTROL PANEL - MAIN PLATE
2	1	J200031	DECAL - CONTROL PANEL
3	3	X000260	LIGHT LED DUAL PANEL
4	1	X000280	E-STOP
5	1	X000273	ROCKER SWITCH SPST (ON) NONE -OFF
6	1	X000272	ROCKER SWITCH DPST (ON) NONE -ON
7	1	X000274	ROCKER SWITCH DPST (ON) OFF (ON)
8	1	X000274	ROCKER SWITCH DPDT (ON) OFF (ON)
9	1	X100001	FUEL GAUGE
10	1	X000300	HOUR METER
11	1	8030458	IGNITION SWITCH
12	1	X000271	ROCKER SWITCH DPST ON - ON
13	2	X000270	ROCKER SWITCH SPST ON -OFF
14	1	X000270	ROCKER SWITCH SPST ON -OFF
	1	X000271	ROCKER SWITCH DPST ON -ON (AIR-WATER UNITS)
15	1	X000290	ROCKER SWITCH PLUG
	1	X000274	ROCKER SWITCH DPDT (HYD. JACK OPTION)
*	1	8030829	KEY, IGNITION - KUBOTA

\* NOT SHOWN

# Hydraulic Pump Assembly



101512-E

VACASSY251

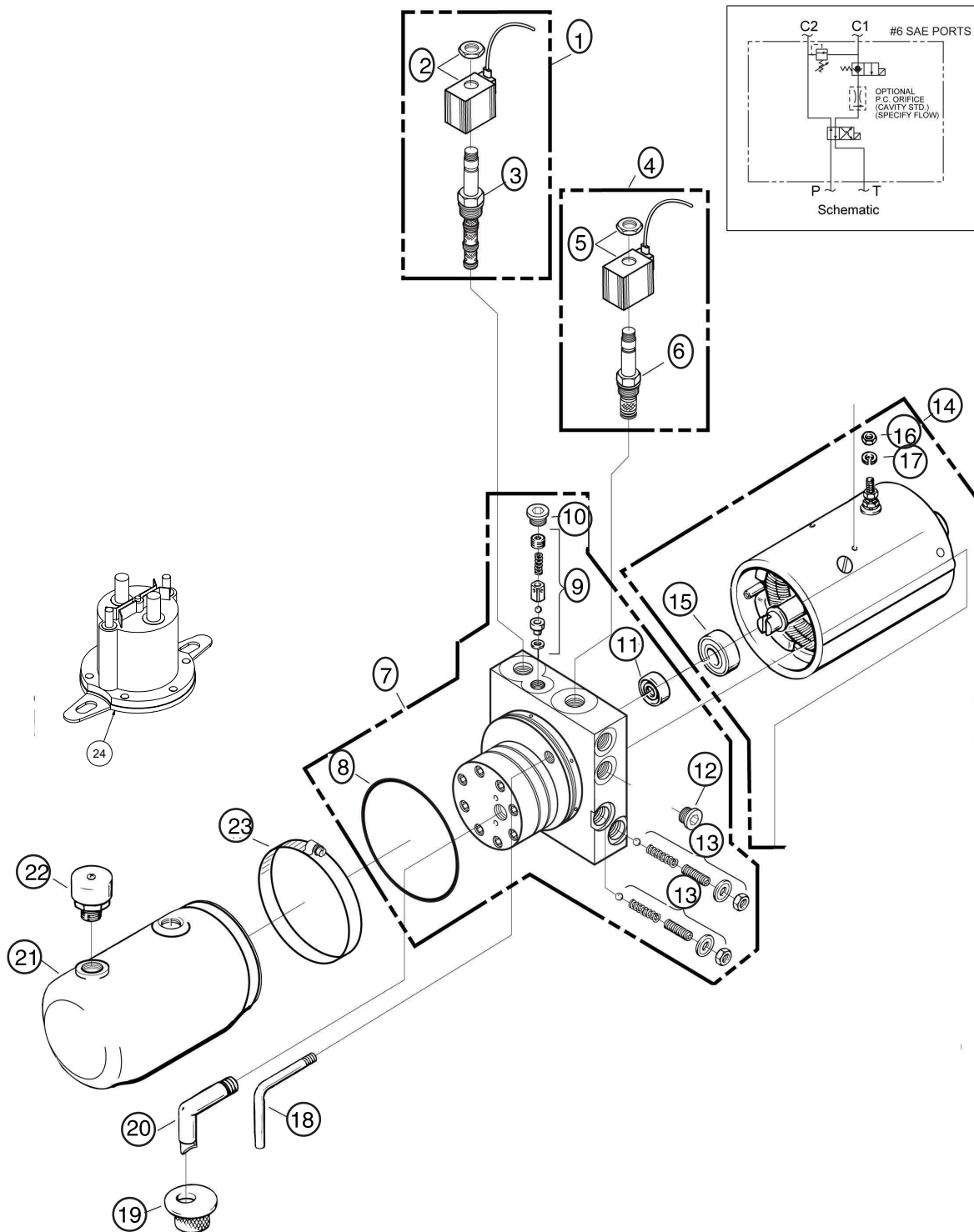


# Hydraulic Pump Assembly

ITEM	QTY	PART	DESCRIPTION
1	1	8046300	PUMP, HYD 12V 4.5QT
2	2	T401250	ELBOW, 90 3/8" MB-MJ
3	1	U200600	WASHER, FLAT 3/8"
4	1	U210060	WASHER, LOCK 3/8"
5	1	U200400	SCREW, HC 3/8"-16 X .750
6	1	X300233	CABLE, BATTERY HOT 1GA 26"
	2	X300251	LUG, CABLE 1GA 3/8" HOLE
7	1	X300224	CABLE, BATTERY GROUND 1GA 21"
	2	X300251	LUG, CABLE 1GA 3/8" HOLE
8	1	8046258	SWITCH HYD PUMP 12V RELOCATE
	2	U000040	SCREW, HC 1/4"-20 X .75 ZP G5
	2	U200020	WASHER, FLAT 1/4" ZP
	2	U210020	WASHER, LOCK 1/4" ZP
	2	U100020	NUT, HEX 1/4"-20
9	1	8043499	BRACKET 36/49 12V HYD PUMP
	1	8047283	BRACKET 99AW HYD PUMP
*	2	U000460	SCREW, HC 3/8"-16 X 1.50 ZP G5
*	2	U000480	SCREW, HC 3/8"-16 X 1.75 ZP G5
*	5	U200060	WASHER, FLAT 3/8"
*	5	U210060	WASHER, LOCK 3/8"
*	4	U100060	NUT, HEX 3/8"-16
*	1	U000441	SCREW, HC 3/8"-16 X 1.25 ZP G8
10	1	8046685	HOSE ASSY VAC 6-25" ST-90 (500LE/LEHD)
	1	8046686	HOSE ASSY VAC 6-22" ST-90 (800LE/LEHD)
	1	8040973	HOSE ASSY VAC 6-20" ST-90 (73/99)
11	1	8046687	HOSE ASSY VAC 6-23" ST-90 (500LE/LEHD)
	1	8040973	HOSE ASSY VAC 6-20" ST-90 (800LE/LEHD)
	1	8040973	HOSE ASSY VAC 6-20" ST-90 (73/99)
12	2	8040971	HOSE ASSY VAC 4-19" ST-ST6FJ (LE/LEHD)
13	2	8041788	VALVE, SOLENOID 3-WAY W/ INT C4K
14	4	T400391	BULKHEAD 3/8" MJ - 3/8" MJ
15	2	T401250	ELBOW, 90 3/8" MB - 3/8" MJ
16	2	T400036	UNION, 3/8" MB - 3/8" FJ
17	2	T400037	UNION, 3/8" MB - 3/8" MJ
18	1	8046127	BRACKET PUMP SOLENOID

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# Hydraulic Pump w/ Bracket



051016-E

VACASSY250

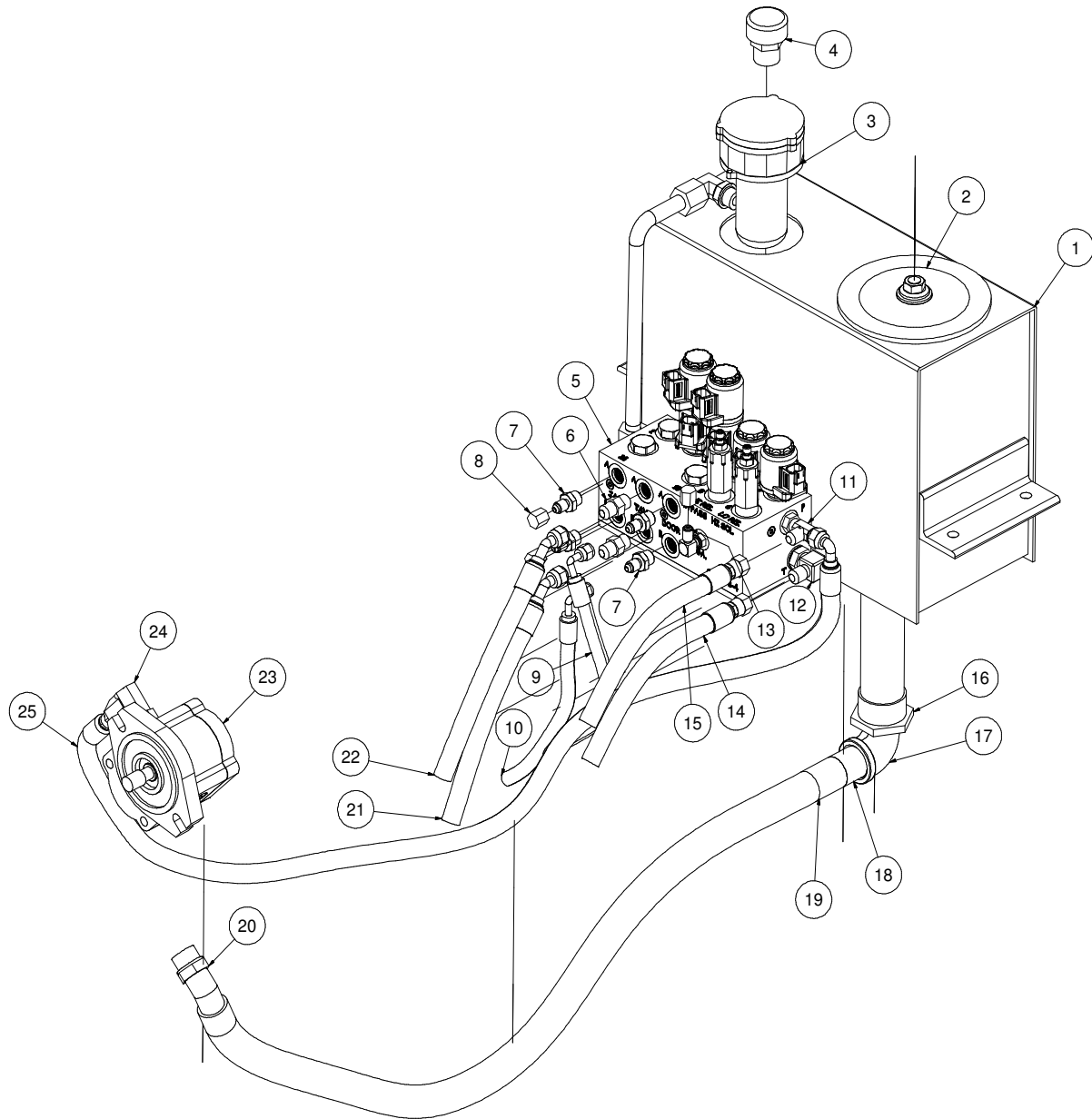
# Hydraulic Pump w/ Bracket

ITEM	QTY	NUMBER	DESCRIPTION
	1	8046300	PUMP, HYD 12V VAC 4.5QT
	2	U000420	SCREW, HC 3/8"-16 X 1"
	2	U210060	WASHER, LOCK 3/8"
	2	U200600	WASHER, FLAT 3/8"
	2	T400037	UNION 6MB - 6MJR
	2	8040973	HOSE ASSY VAC 6-20 ST-90
	2	T400391	BULKHEAD 6MP - 6MP
1	1	8046300-14	VALVE, 4-WAY - 2 POSITION
2	1	8046300-15	COIL, 10 VDC GROUNDED W/ DEUTSCH CONN
3	1	8046300-16	CARTRIDGE, 4-WAY 2 POSITION
4	1	8046300-17	VALVE, 2-WAY 2 POSITION (12V) GROUNDED
5	1	8046300-18	COIL, 10VDC 2-WAY 2 POS GRND W/DEUTSCH CONN
6	1	8046300-19	VALVE, 12V HYD 2-WAY 2 POSITION
7	1	8046300-23	PUMP ASSEMBLY
8	1	8046300-24	O-RING INDUST 3 5/8" X 3 7/8" X 1/8"
9	1	8046300-25	PARTS KIT - VALVE ASSY, POPPET/BALL CHECK
10	1	8046300-26	PLUG
11	1	8046300-27	SEAL
12	1	8046300-28	PLUG, #8 SAE
13	2	8046300-30	PARTS KIT, RELIEF VALVE
14	1	8046300-31	MOTOR, ELECTRIC 12VDC
15	1	8046300-32	BEARING, BASE MOTOR
16	1	8046300-33	NUT, HEX 5/16 -24
17	1	8046300-34	WASHER, LOCK 5/16"
	2	8046300-38	SCREW, HEX HEAD 1/4"-20 X 1 3/8"
	1	8046300-41	PLUG, 3/8"NPTF
18	1	8046300-42	TUBE, RETURN (1/8")
19	1	8046300-43	SCREEN, FILTER (SUCTION)
20	1	8046300-44	TUBE, FILTER SUCTION 3/8"NPT 90 DEG
21	1	8046300-45	6QT RESEVOIR POLY
	*	8040486-45	3QT RESEVOIR POLY
	*	8046300-48	4.5QT RESEVOIR POLY
22	1	8046300-46	PLUG, VENT 3/8"NPT
23	1	8046300-47	CLAMP, HOSE WORM GEAR (IN SERIES)
24	1	8046258	SWITCH HYD PUMP 12V
*	1	X200002	HYDRAULIC PUMP WIRE HARNESS
*	1	8043499	HYDRAULIC PUMP MOUNT
		8044297	HYDRAULIC PUMP MOUNT (REVERSE FLOW)
		8045336	HYDRAULIC PUMP MOUNT (412 BLOWER)

\* NOT SHOWN

# Boom Hydraulics Assembly

67/99HP



070616-E

VACASSY01908

# Boom Hydraulics Assembly

**67/99HP**

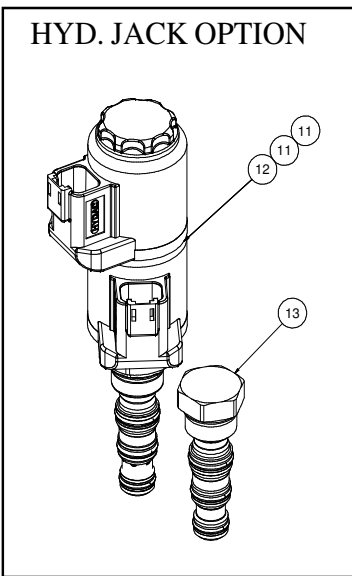
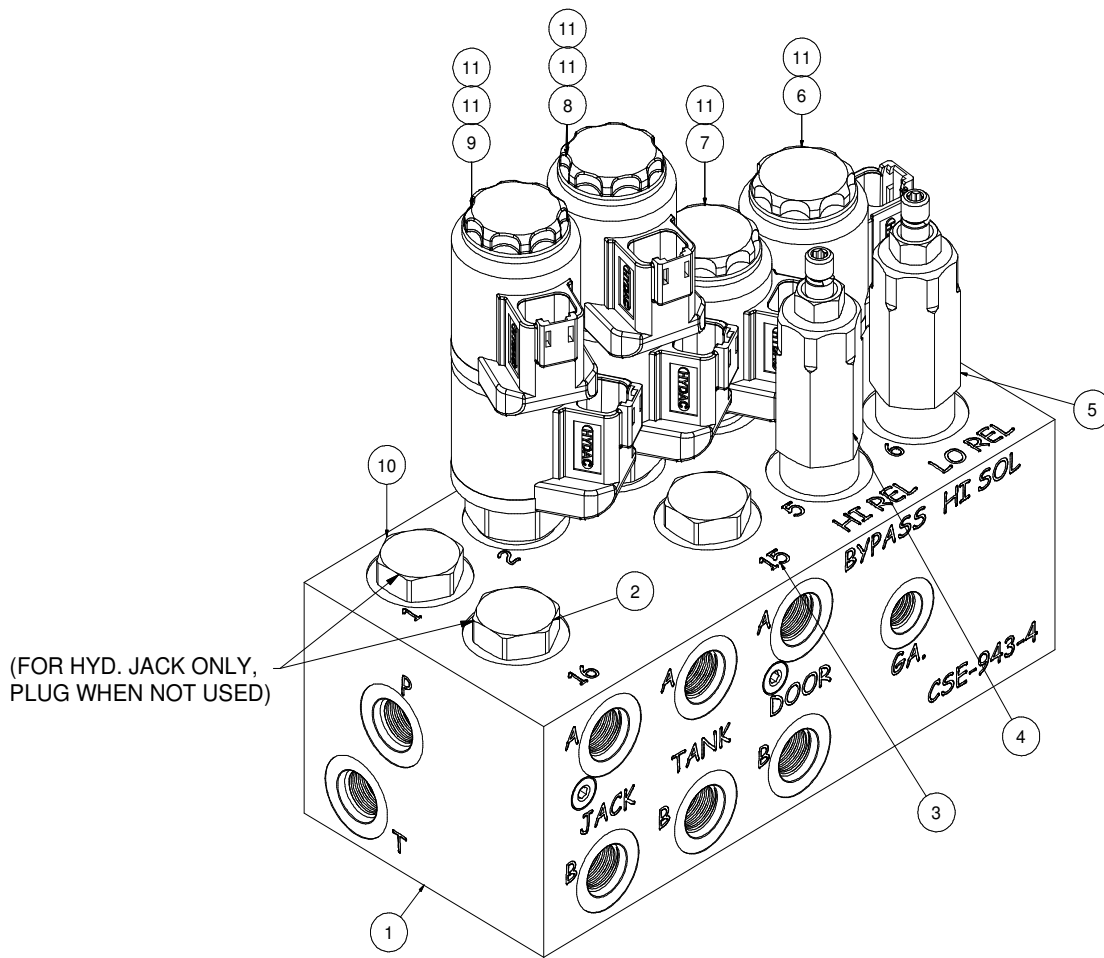
ITEM	QTY	PART	DESCRIPTION
1	1	8048690-01	TANK, HYD.
2	1	8047330-15	CLEAN-OUT COVER
3	1	8047330-04	FILTER, COMPLETE (CROSS 2)
4	1	8047330-14	CAP, PLASTIC GRAY
5	1	8048690-02	MANIFOLD ASSY BOOM LWR (CROSS 3)
6	2	T400037	UNION, 6MB - 6MJ
7	4	T400550	REDUCER, 3/8"MB - 1/4"MJ
8	3	T405200	CAP, 1/4" FEM. JIC, HEX HEAD
9	1	8049286	HOSE ASSY VAC 4-132" ST-90 (V1200HD)
10	1	8049286	HOSE ASSY VAC 4-132" ST-90 (V1200HD)
11	1	T402148	TEE, 6MB-6MJ-6MJ
12	1	T401250	ELBOW 90, 3/8"MB - 3/8"MJ
13	1	T401230	ELBOW 90, 1/4"MB - 1/4"MJ
14	1	8049283	HOSE ASSY VAC 6-204 ST-90 (V1200HD)
15	1	8049283	HOSE ASSY VAC 6-204 ST-90 (V1200HD)
16	1	8047330-06	STRAINER, SUCTION
17	1	T420080	ELBOW 90, 1"MP-1"FP BLACK GALV.
18	1	8043963	UNION, 1"MP-1"MBARB
19	1	8049285	HOSE VAC PUSH 1"-45"LG (V1200HD)
20	1	8043964	ELBOW 45, 16HB-12MB
21	1	8049287	HOSE ASSY VAC 6-50" ST-90 (V1200HD)
22	1	8049287	HOSE ASSY VAC 6-50" ST-90 (V1200HD)
23	1	8047333	PUMP, HYD BOOM 67/99HP (CROSS2)
*	1	8047333-10	SEAL KIT, PUMP HYD. 67/99HP (CROSS2)
24	1	T401290	ELBOW, 90 5/8"MB - 3/8"MJ
25	1	8049284	HOSE ASSY VAC 6-65" ST-90 (V1200HD)
*	1	8047330-16	GAUGE, SIGHT HYD. OIL

\* NOT SHOWN

070616-E

**VACASSY01908**

# Base Manifold Assembly



043013-E

VACASSY01907

# Base Manifold Assembly

ITEM	QTY	PART NO.	DESCRIPTION	PORT #
1	1	8048690-03	MANIFOLD BLOCK (ONLY)	-
2	1	8048690-10	PLUG, SAE	16
3	1	8048690-08	VALVE, CARTRIDGE DBL PO CHECK	15
4	1	8047330-12	VALVE, CARTRIDGE RELIEF HI-PRESSURE	5
5	1	8047330-13	VALVE, CARTRIDGE RELIEF LO-PRESSURE	6
6	1	8047330-08	VALVE, CARTRIDGE 2 POS - N.O.	4
7	1	8047330-08	VALVE, CARTRIDGE 2 POS - N.O.	7
8	1	8048690-09	VALVE, CARTRIDGE 3 POS - OPEN CTR	3
9	1	8047330-09	VALVE, CARTRIDGE 3 POS - BLOCKED CTR	2
10	1	8047330-10	PLUG, CAVITY	1
11	6	8047330-11	COIL, 12V	2,3,4,7

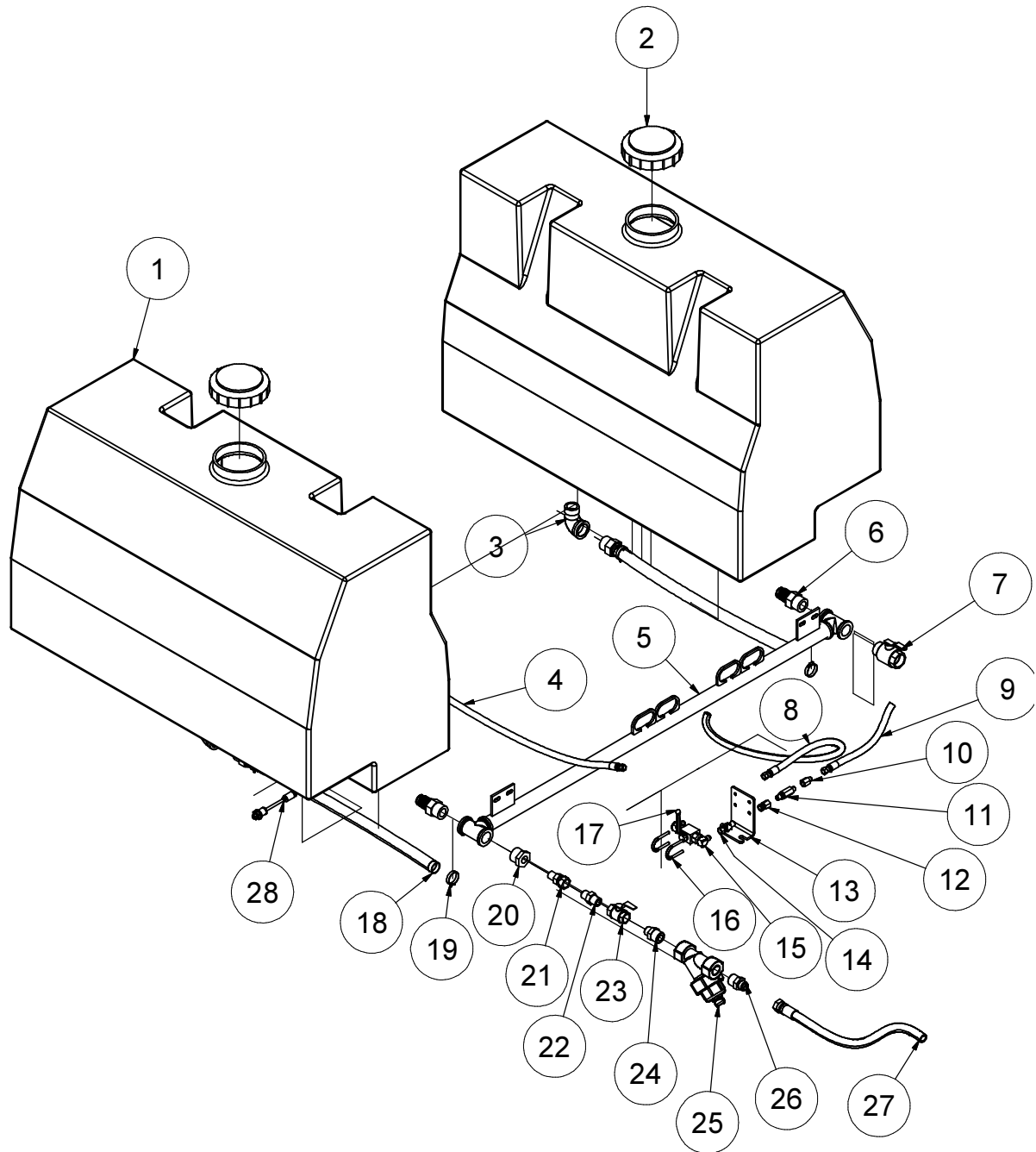
## HYDRAULIC JACK OPTION

**Note: Remove plugs from port #s 1 and 16. Replace with valves listed below:**

11	2	8047330-11	COIL, 12V	1
12	1	8048690-09	VALVE, CARTRIDGE 3 POS - OPEN CTR	1
13	1	8048690-08	VALVE, CARTRIDGE DBL PO CHECK	16

# Water Tank Assembly

# 125 Gallon Saddle Tanks



091814-E

VACASSY603



# Water Tank Assembly

# 125 Gallon Saddle Tanks

ITEM	QTY	PART NO.	DESCRIPTION
1	1	8046162	TANK, WATER 125 GAL (CURB SIDE)
	1	8045093	BULKHEAD 1 1/4" BOTTOM FEED
	1	8046162	TANK, WATER 125 GAL (STREET SIDE)
	1	8045093	BULKHEAD 1 1/4" BOTTOM FEED
2	2	8041119	WATER TANK LED
3	2	8041311	ELBOW, STREET 1 1/4"
4	1	8041477	HOSE REEL TO BALL VALVE HOSE 6-140" ST-ST
5	1	8045810	BRACKET WATER TANK LE HEADER
6	4	8041312	FITTING, HOSE BARB 1 1/4"
7	1	8045813	VALVE, BALL 1 1/4" M X F BRASS
8	1	8043949	BALL VALVE TO TANK CLEANOUT 6 - 215" ST-ST
9	1	8043664	BALL VALVE TO WATER PUMP 6 - 36" ST-90
10	1	8031126	UNION, 4FP - 6MJ
11	1	8030923	FILTER, WATER HIGH PRESSURE
12	1	8031125	REDUCER, 1/4FP - 3/8FJ
13	1	8040670	BALL VALVE BRACKET
14	1	T402153	TEE, 6MJ - 6MJ - 6FJ
15	2	T401102	ELBOW, 6MJ - 6MP
16	2	U010017	U-BOLT .250 - 20
	4	U200020	WASHER, FLAT 1/4"
	4	U120100	NUT, LOCK 1/4"-20
17	1	8030351	BALL VALVE 3/8"
18	2	8041523	HOSE, VAC CLEAR VINYL 1 1/4" - 24
19	4	8040677	CLAMP, HOSE 1 1/4" - 2 1/8" HD
20	1	T403100	REDUCER, 20MP - 12FP
21	1	T400101	UNION, 12FJ - 12MP
22	1	T400100	UNION, 12MJ - 12MP
23	1	T000185	BALL VALVE, BRASS 3/4"FP
24	1	T404060	REDUCER, 16MP - 12MP
25	1	8040186	STRAINER
	1	8040186-1	END CAP
	1	8040186-2	GASKET
	1	8040186-3	STRAINER PLUG
	1	8040186-4	FKM O-RING
	1	8040186-5	STRAINER MESH SCREEN 80
	1	8040186-6	Y-BODY
	1	8040186-7	EPDM O-RING
26	1	T400450	REDUCER, 12MJ - 16MP
27	1	8041058	HOSE VAC PUSH 12-36"
	2	8030525	FITTING HOSE 12FJ PUSHLOCK
28	1	8090896	SWITCH, WATER TANK (HORIZ)
*	1	8045799	WATER TANK FRAMES 125 STREETSIDE
*	1	8045809	WATER TANK FRAMES 125 CURB SIDE
*	1	8049400	HOSE VAC PUSH 8-38 1/2"LG (ANTIFREEZE HOSE)
*	2	8030524	FITTING, PUSH LOCK #8
*	1	8030518	ELBOW, 45 1/2" MJ BULKHEAD

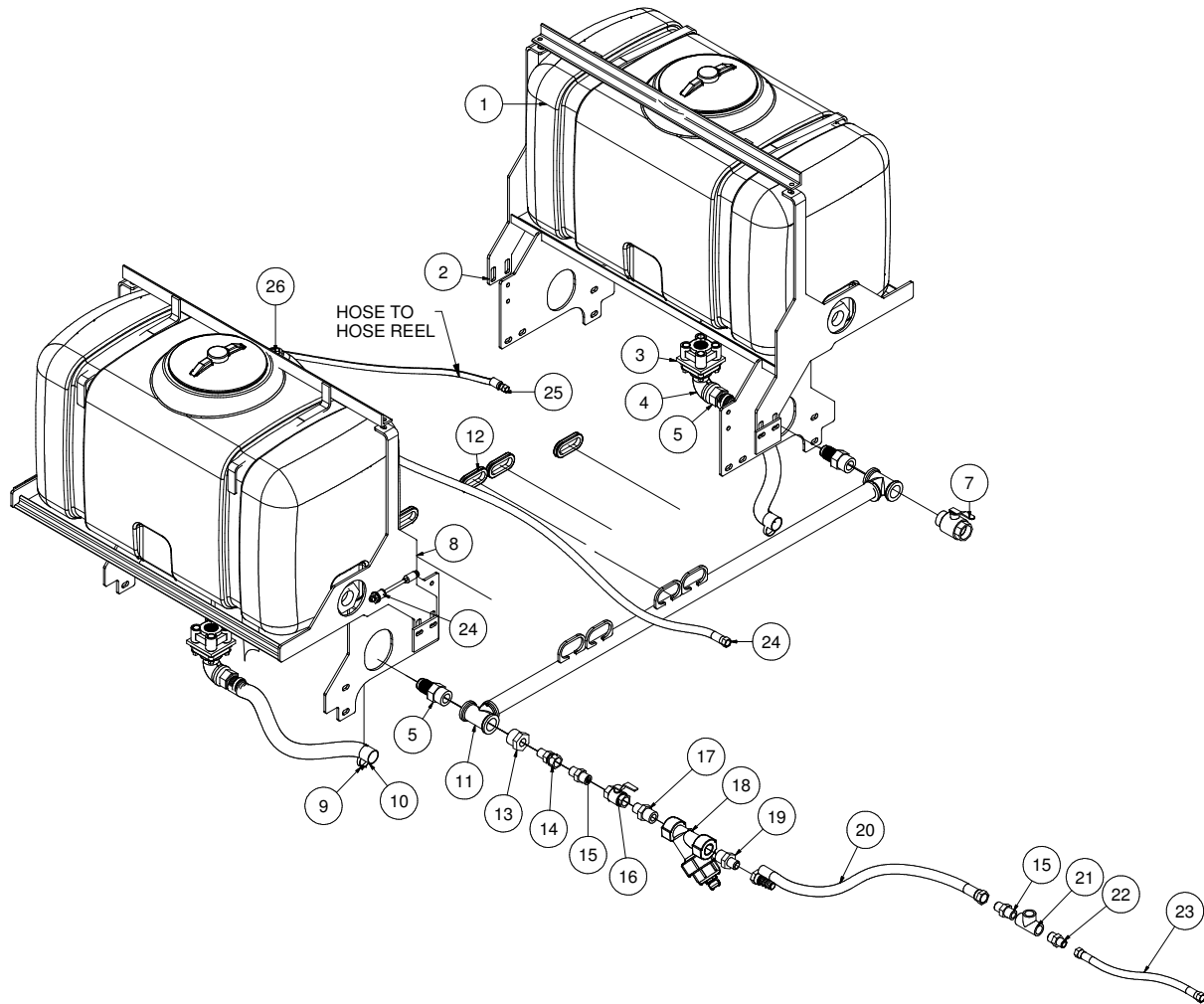
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091814-E

VACASSY603

# Water Tank Assembly

# 50Gallon Saddle Tanks LE



021317-E

VACASSY610

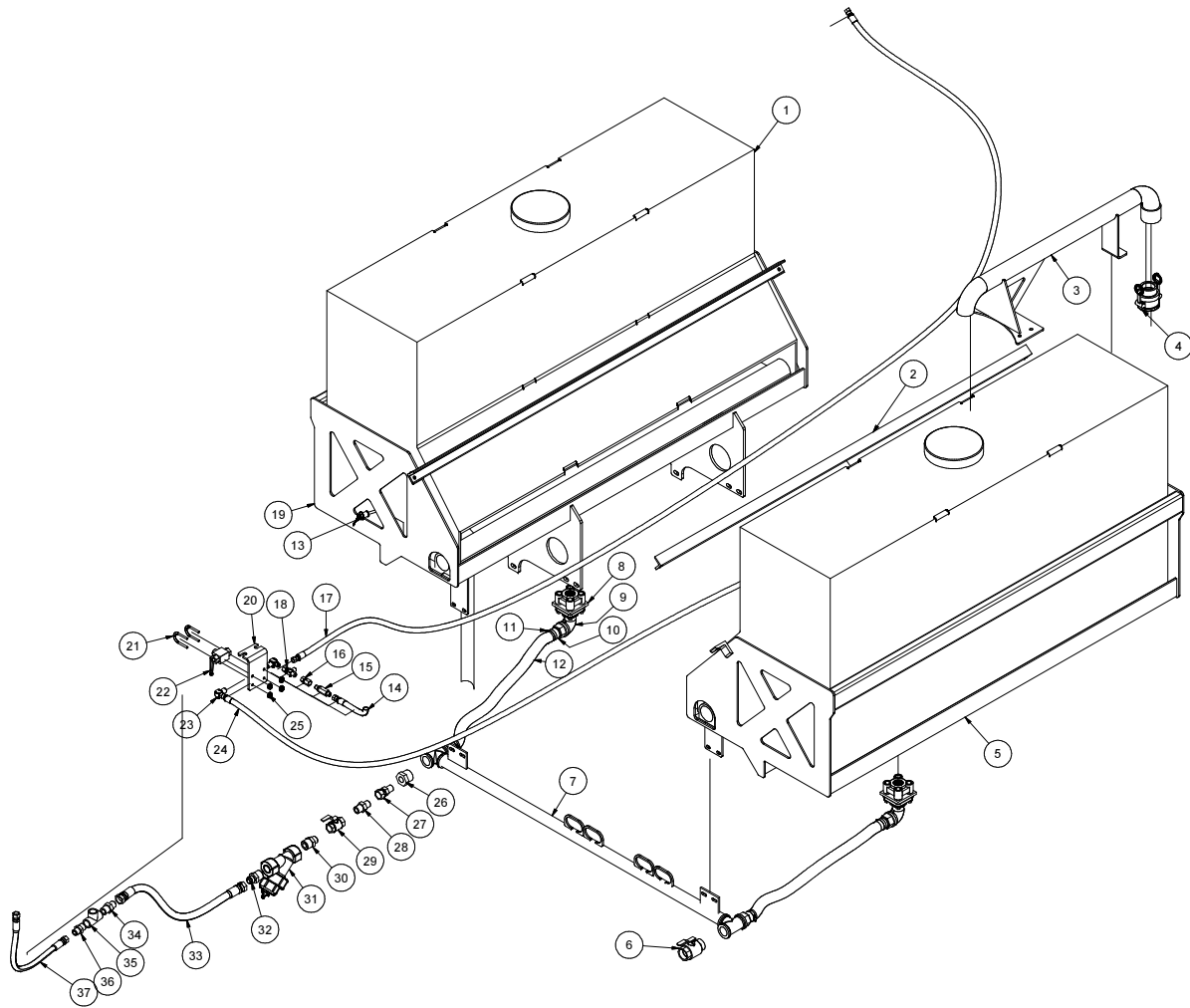
# Water Tank Assembly

# 50Gallon Saddle Tanks 31LE

ITEM	QTY	PART NO.	DESCRIPTION
1	2	8034151	50 GALLON WATER TANK
	2	8034151-1	LID, 50 GALLON WATER TANK
2	1	8045815	WATER TANK FRAME (STREET)
	1	8046631	WATER TANK HOLD DOWN
3	2	8045093	BULKHEAD, 1 1/4" BOTTOM DRAIN BANJO
4	2	8041311	ELBOW, 90 1 1/4" STREET GALVAN
5	4	8041312	FITTING, 1 1/4"MP - 1 1/4"HB
6	2	T405065	PLUG #12MP
7	1	8045813	VALVE, BALL 1 1/4" M x F BRASS
8	1	8045816	WATER TANK FRAME (CURB)
	1	8046631	WATER TANK HOLD DOWN
9	4	8040677	CLAMP, HOSE 1 1/4" - 2 1/8" HD
10	2	8041523	HOSE VAC CLEAR VINYL 1 1/4" - 24"
11	1	8045810	WATER HEADER LE
12	5	8042812	GROMMET 2" ID X 3" OD X 1 1/4"WOG
13	1	T403100	REDUCER, 1 1/4"MP - 3/4"FP
14	1	T400101	UNION, 3/4"FJ - 3/4"MP
15	2	T400100	UNION, 3/4"MP - 3/4"MJ
16	1	T000185	VALVE, BALL 3/4" FNPT BRASS
17	1	T404060	REDUCER, 1"MP - 3/4"MP
18	1	8040186	STRAINER, Y 1" BANJO
	1	8040186-1	END CAP
	1	8040186-2	GASKET
	1	8040186-3	STRAINER PLUG
	1	8040186-4	FKM-O-RING
	1	8040186-5	STRAINER MESH SCREEN 80
	1	8040186-6	Y-BODY
	1	8040186-7	EPMD O-RING
19	1	T400450	REDUCER 1"MP - 3/4"MJ
20	1	8044638	HOSE VAC PUSH 12 - 40"
21	1	T402160	TEE, 3/4"FP - 3/4"FP - 3/4"FP
22	1	T400080	REDUCER, 12MP - 8MJ
23	1	8041322	HOSE VAC PUSH 8 - 20"
24	1	8041059	HOSE VAC PUSH 8 - 66"
25	1	8041476	HOSE ASSY VAC 6 - 150" ST-90
26	1	8030518	ELBOW, 45 1/2" MJ BULKHEAD
27	1	8090896	SWITCH, WATER TANK HORIZ

# Water Tank Assembly

# 205 Gallon Saddle Tanks



091814-E

VACASSY612

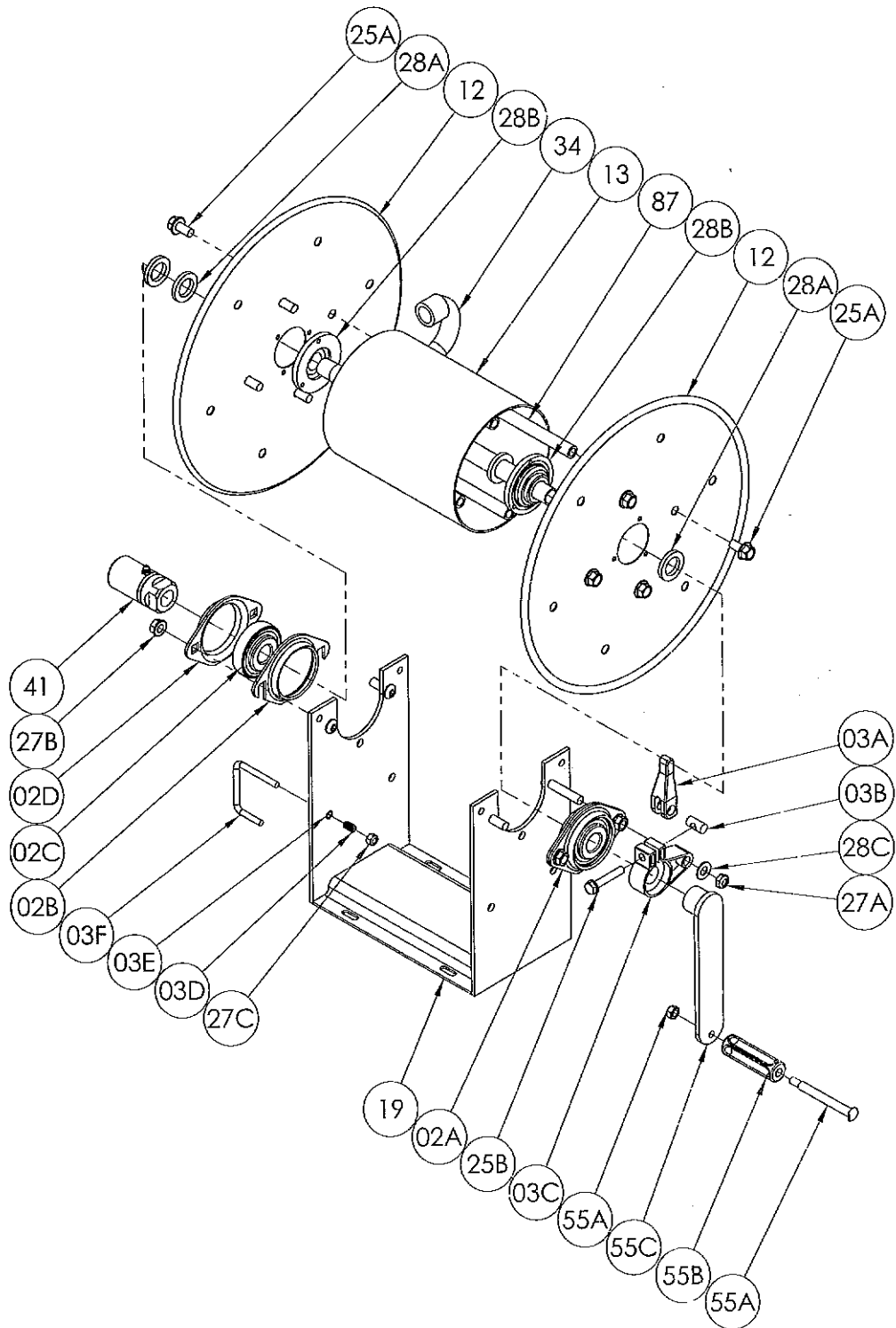
# Water Tank Assembly

# 205 Gallon Saddle Tanks

ITEM	QTY	NUMBER	DESCRIPTION
1	2	8043805	TANK, WATER 205 GAL. POLY.
	1	8030518	1/2" BULKHEAD 45DEG
	2	8043805-3	TANK WATER 205, LID ONLY
2	2	8044390	WATER TANK ANGLE HOLDER
3	1	8046528	QUICKFILL 205GAL SADDLE
4	1	8031219	COUPLING, 2" ALUM MP X FCAMLOCK
5	1	8046177	WATER TANK BRACKET 205 (STREETSIDE)
6	1	8045813	VALVE, BALL 1 1/4" MxF BRASS
7	1	8045810	WATER HEADER LE
8	2	8045093	BULKHEAD 1 1/4" BOTTOM DRAIN BANJO
9	2	T420120	STREET ELBOW 90, 1 1/4"
10	4	8044266	FITTING, HOSE BARB 20HB - 20MP
11	4	8040677	CLAMP, HOSE 1 1/4" - 2 1/8" HD
12	2	8041523	HOSE VAC CLEAR VINYL 1 1/4" - 24"
13	1	8090896	SWITCH, WATER TANK HORIZ
14	1	8043664	BALL VALVE TO WATER PUMP #6 - 36" ST-90
15	1	8030923	FILTER, WATER HIGH PRESSURE
16	1	8031125	UNION, 4FP - 6FJ
17	1	8041477	HOSE REEL TO BALL VALVE #6 - 140" ST-ST
18	1	T402153	TEE, 6MJ - 6MJ - 6FJ
19	1	8046178	WATER TANK BRACKET 205 (CURB SIDE)
20	1	8040670	BALL VALVE BRACKET
21	2	U010017	1 1/2" CLAMP HOOK 1/4-20 THD
22	1	8030351	STEEL BALL VALVE, 3/8NPT
23	2	T401102	ELBOW, 6MJ - 6MP
24	1	8043949	BALL VALVE TO TANK CLEANOUT HOSE #6-215" ST-90
25	4	U120142	NUT, LOCK FLANGED .250 - 20 G2
	4	U200020	WASHER, FLAT 1/4"
26	1	T403100	REDUCER, 20MP - 12FP
27	1	T400101	UNION, 12FJ - 12MP
28	1	T400100	UNION, 12MJ - 12MP
29	1	T000185	BALL VALVE, BRASS 3/4" FP
30	1	T404060	REDUCER, 16MP - 12MP
31	1	8040186	STRAINER
	1	8040186-1	END CAP
	1	8040186-2	GASKET
	1	8040186-3	STRAINER PLUG
	1	8040186-4	FKM O-RING
	1	8040186-5	STRAINER MESH SCREEN 80
	1	8040186-6	Y-BODY
32	1	8040186-7	EPMD O-RING
32	1	T400450	REDUCER, 12MJ - 16MP
33	1	8041058	HOSE VAC PUSH 12 - 36"
34	1	T400100	UNION, 12MP - 12MJ
35	1	T402160	TEE, 3/4FP - 3/4FP - 3/4FP
36	1	T400080	UNION, 12MP - 8MJ
37	1	8041322	HOSE VAC PUSH 8 - 20"

\* NOT SHOWN

# Hose Reel (Components)



072210-E

VACASSY761

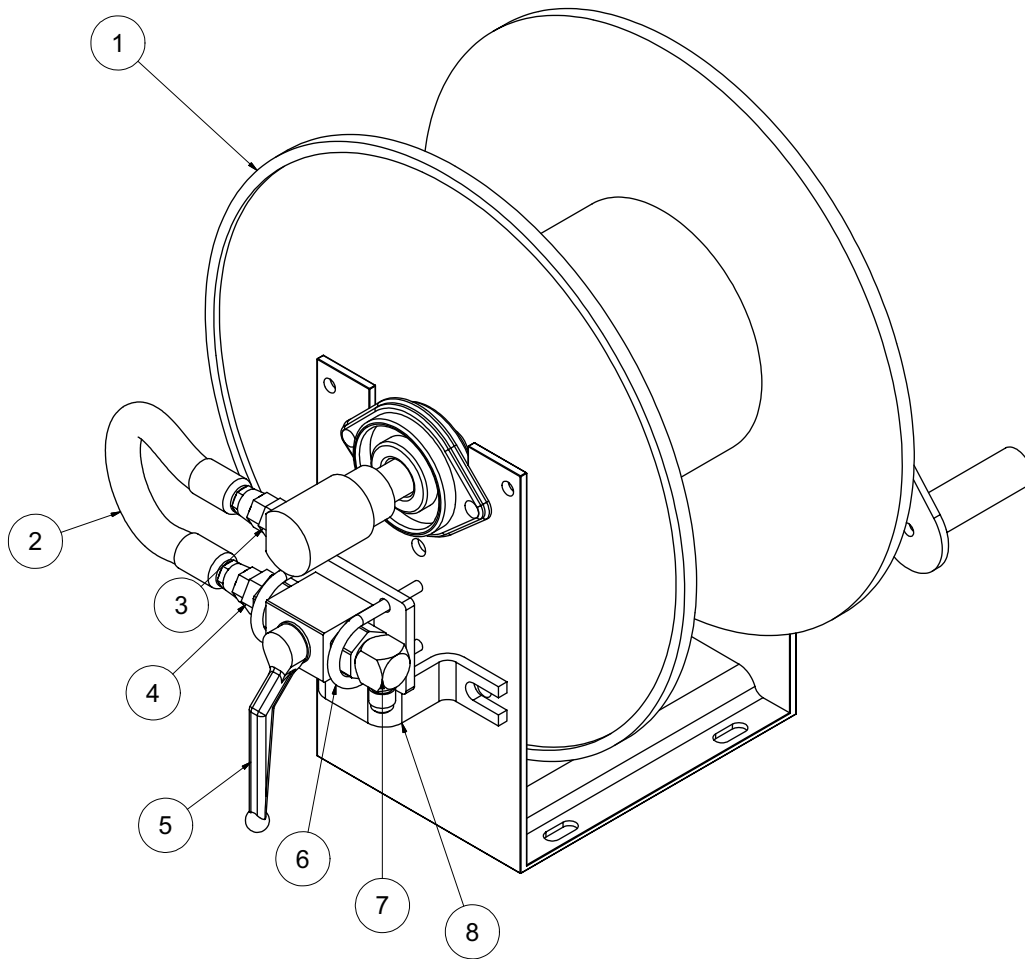
# Hose Reel Assembly

ITEM	QTY	NUMBER	DESCRIPTION
	1	8030879	HOSE REEL, WATER 3/8" X 100
1	2	8030879-02A	1/2" SELF ALIGNING BEARING for 1000 SERIES (INCLUDES 02B, 02C and 02D)
2	2	8030879-02B	SELF ALIGNING BEARING HOLDER SLOTTED
3	2	8030879-02C	1/2" SELF ALIGNING BEARING INSERT
4	2	8030879-02D	SELF ALIGNING BEARING HOLDER
5	1	8030879-03A	CAM LOCK LEVER
6	1	8030879-03B	BRASS BARREL NUT for CAM LOCK BRAKE
7	1	8030879-03C	CAM LOCK DRAG BRAKE BODY for 1/2" HUBS
8	1	8030879-03D	SPRING for PL-3 PINLOCK (1" LONG X 0.32"OD X 0.26"ID)
9	1	8030879-03E	PINLOCK MOUNTING SLEEVE (NOT FIELD INSTALLABLE)
10	1	8030879-03F	PL-3 PINLOCK
11	1	8030879-03G	CAM LOCK KIT (INCLUDES 03A, 03B, 03C and 25B)
12	1	8030879-03H	PL-3 PINLOCK KIT (INCLUDES 03D, 03E, 03F and 27C)
13	2	8030879-12	(14-16) 14.25" DIAMETER DISC 18GA STEEL - SPECIFY MODEL
14	1	8030879-13	DRUM, 6" DIAMETER ALUMINUM - SPECIFY MODEL
15	1	8030879-19	STEEL FRAME ASSY. FOR 1000 SERIES REEL - SPECIFY MODEL
16	8	8030879-25A	3/8" -16 X 3/4" SPINLOCK BOLT
17	1	8030879-25B	5/16" -18 X 1 3/4" HEX HEAD BOLT w/ NYLOCK PATCH
18	1	8030879-27A	3/8" - 16 HEX HEAD NUT (ESNA)
19	4	8030879-27B	3/8"- 16 SPINLOCK NUT
20	1	8030879-27C	1/4"-20 HEX HEAD HUT (ESNA)
21	3	8030879-28A	1 3/8"OD X 7/8"ID X 3/16" HUB SPACER WASHER
22	2	8030879-28B	1/2" HUB DISC WASHER, per P28A-00050
23	1	8030879-28C	3/8" SAE FLAT WASHER (13/16"OD)
24	1	8030879-34	1/2" WELDED STEEL HUB - SPECIFY MODEL and OUTLET FITTING
25	1	8030879-41	1/2" 90 DEGREE F x F SUPER SWIVEL (AFLAS PACKING)
26	1	8030879-55A	3/8" SHOULDER BOLT and NUT for plastic crank handle
27	1	8030879-55B	BLACK PLASTIC CRANK HANDLE
28	1	8030879-55C	HAND CRANK (INCLUDES 55A and 55B)
29	4	8030879-87	ANODIZED ALUMINUM THREADED SPACER TUBE

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VACASSY761

# Hose Reel Assembly



101112-E

VACASSY762



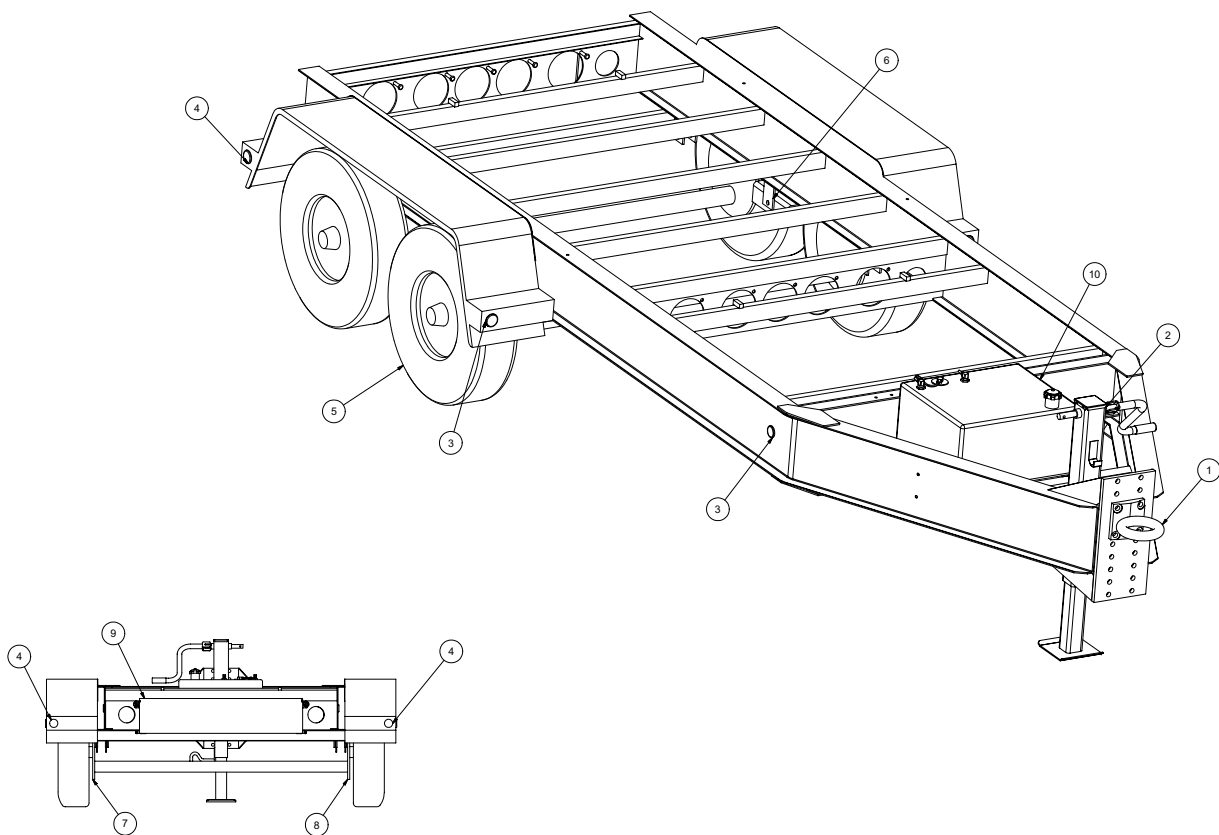
# Hose Reel Assembly

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8030879	HOSE REEL, WATER 3/8" X 100
2	1	8044147	HOSE ASSY VAC 6-10 ST-ST
	2	T320040	FITTING, HOSE 6HO-6FJ
3	1	8031291	UNION, 1/2"MP - 3/8"MJ
4	1	T400028	UNION, 3/8"MP - 3/8"MJ
5	1	8030351	STEEL BALL VALVE - 3/8"NPT
6	2	U010017	1 1/2" CLAMP HOOK 1/4 - 20 THD
7	1	T401102	ELBOW 6MJ - 6MP
8	1	8046740	BALL VALVE BRACKET
*	1	8041830	HOSE ASSY 3/8" X 50' 4000PSI
*	1	8030504	REDUCER, 3/8" FP - 1/4"MP
*	1	8030526	FITTING, QD WATER 1/4"FJ - 1/4"FP SS

101112-E

VACASSY762

# Trailer Assy 514



030314-E

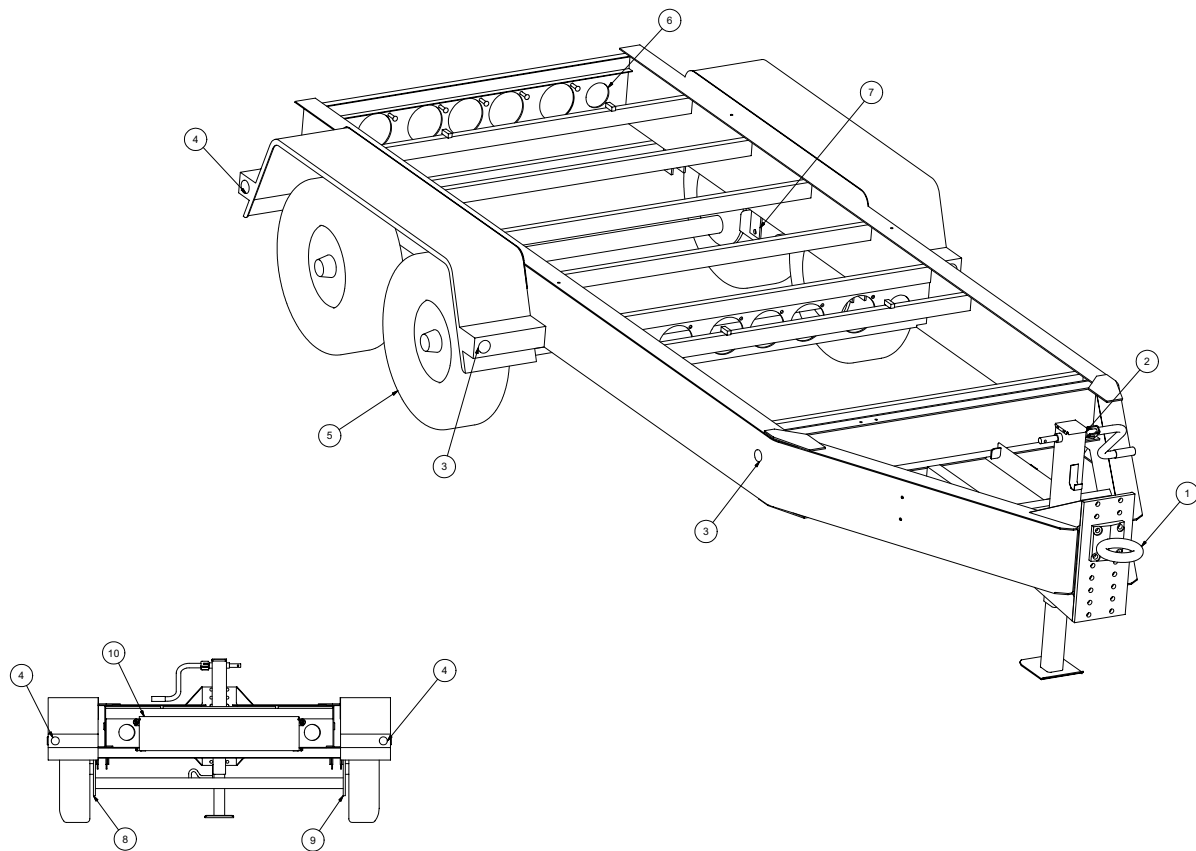
VACASSY903

# Trailer Assy 514

ITEM	QTY	PART #	DESCRIPTION
1	1	8045366	4 BOLT PINTLE EYE
2	1	8043548	JACK - MANUAL
	1	8043984	JACK - HANDLE
		8043653	JACK - HYDRAULIC (OPTIONAL)
3	4	8044000	2" YELLOW MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
4	4	8043999	2" RED MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
5	4	8045708	TIRE, ST235 X 80 R16E
	4	8045709	WHEEL
	2	8045710	AXLE
	4	8045711	HUB
	32	8043987	LUG NUT
	4	8047429	GREASE CAP
6	4	8045712	SPRING
	8	8045713	U-BOLT NUT
	8	8045714	U-BOLT
	4	8045715	TIE PLATE
7	1	8045716	LH BRAKE ASSEMBLY
	2	8045717	MAGNET KIT
	2	8045718	SHOE KIT
	1	8045719	ADJUSTER KIT
8	1	8045720	RH BRAKE ASSEMBLY
	2	8045717	MAGNET KIT
	2	8045718	SHOE KIT
	1	8045719	ADJUSTER KIT
9	1	8044809	TAILGATE WELDMENT
	2	U340050	PIN LINCH 3/16" X 1 9/16
	2	U000420	SCREW, HEX 3/8"- 16 X 1.25
	4	U200600	WASHER, FLAT 3/8"
10	1	8040763	FUEL TANK (22 GAL)
	1	8043359	STRAP W/EYEBOLT
	1	36201441	FUEL CAP
	1	8030697	FUEL SENDING UNIT
	1	8030656	FUEL FILTER
*	1	8043981	SAFETY CHAIN
*	1	8043982	BREAKAWAY SWITCH
*	1	8043983	BREAKAWAY BATTERY
*	1	8044008	BREAKAWAY BOX
*	1	8044007	6-WAY PLUG

\* NOT SHOWN

# Trailer Assy 518



022814-E

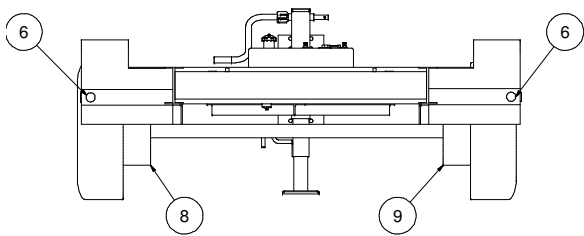
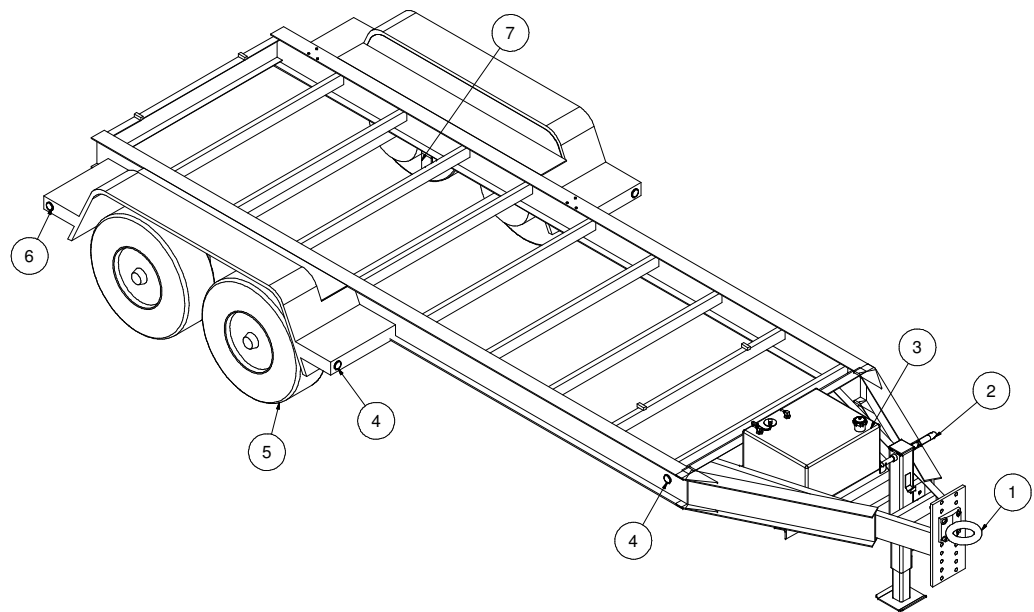
VACASSY909

# Trailer Assy 518

ITEM	QTY	PART #	DESCRIPTION
1	1	8045366	4 BOLT PINTLE EYE
2	1	8043548	JACK - MANUAL
	1	8043984	JACK - HANDLE
		8043653	JACK - HYDRAULIC (OPTIONAL)
3	4	8044000	2" YELLOW MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
4	4	8043999	2" RED MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
5	4	8045370	TIRE, ST215 X 75 R 17.5
	4	8045369	WHEEL
	2	8045371	AXLE
	4	8045372	HUB
	32	8043987	LUG NUT
	4	8047429	GREASE CAP W/ O-RING & PLUG
6	2	8044327	TAILGATE 514/518
7	4	8045373	SPRING
	8	8045374	U-BOLT NUT
	8	8045375	U-BOLT
	4	8045376	TIE PLATE
8	1	8045377	LH BRAKE ASSEMBLY
	2	8045379	MAGNET KIT
	2	8045380	SHOE KIT
	1	8045381	ADJUSTER KIT
9	1	8045378	RH BRAKE ASSEMBLY
	2	8045379	MAGNET KIT
	2	8045380	SHOE KIT
	1	8045381	ADJUSTER KIT
10	1	8044809	TAILGATE WELDMENT
	2	U340050	PIN LINCH 3/16" X 1 9/16
	2	U000420	SCREW, HEX 3/8"-16 X 1.25
	4	U200600	WASHER, FLAT 3/8"
*	1	8043981	SAFETY CHAIN
*	1	8043982	BREAKAWAY SWITCH
*	1	8043983	BREAKAWAY BATTERY
*	1	8044008	BREAKAWAY BOX
*	1	8044007	6-WAY PLUG
*	1	8046994	SPARE TIRE

\* NOT SHOWN

# Trailer Assy 818



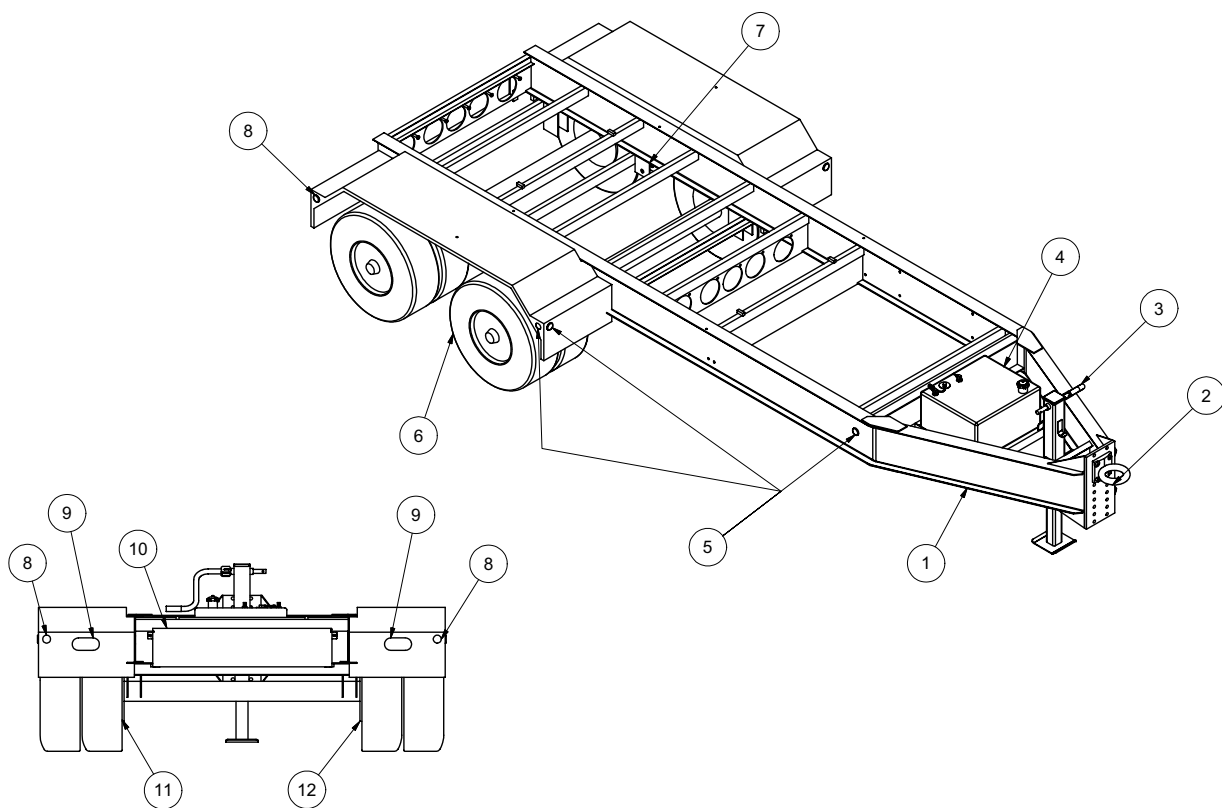
022814-E

VACASSY893

# Trailer Assy 818

ITEM	QTY	PART #	DESCRIPTION
*	1	8030328	TRAILER, 818 I-BEAM
1	1	8045366	4 BOLT PINTLE EYE
2	1	8043548	JACK - MANUAL
	1	8043984	JACK - HANDLE
		8043653	JACK - HYDRAULIC (OPTIONAL)
3	4	8044000	2" YELLOW MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
4	4	8043999	2" RED MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
5	4	8045370	TIRE, ST215 X 75 R 17.5
	4	8045369	WHEEL
	2	8045371	AXLE
	4	8045372	HUB
	32	8043987	LUG NUT
	4	8047406	GREASE CAP W/ O-RING & PLUG
6	2	8044327	TAILGATE 514/518
7	4	8045373	SPRING
	8	8045374	U-BOLT NUT
	8	8045375	U-BOLT
	4	8045376	TIE PLATE
8	1	8045377	LH BRAKE ASSEMBLY
	2	8045379	MAGNET KIT
	2	8045380	SHOE KIT
	1	8045381	ADJUSTER KIT
9	1	8045378	RH BRAKE ASSEMBLY
	2	8045379	MAGNET KIT
	2	8045380	SHOE KIT
	1	8045381	ADJUSTER KIT
*	1	8043981	SAFETY CHAIN
*	1	8043982	BREAKAWAY SWITCH
*	1	8043983	BREAKAWAY BATTERY
*	1	8044008	BREAKAWAY BOX
*	1	8044007	6-WAY PLUG
*	1	8046994	SPARE TIRE
*	NOT SHOWN		

# Trailer Assy 1224



022814-E

VACASSY906

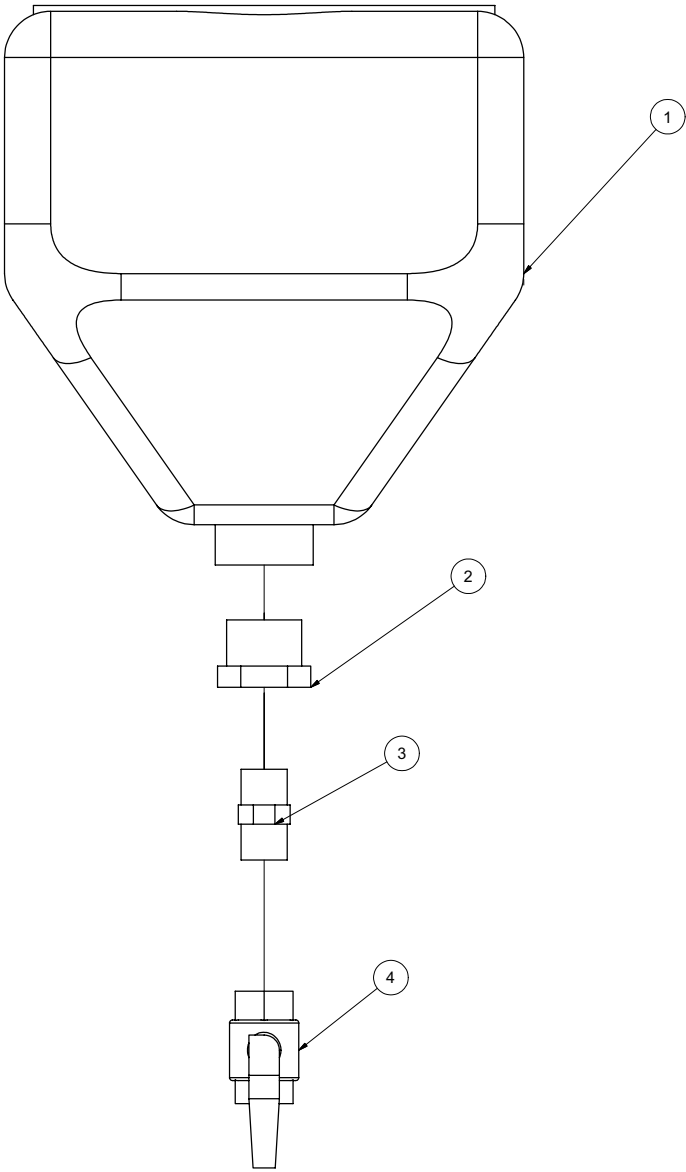


# Trailer Assy 1224

ITEM	QTY	PART #	DESCRIPTION
1	1	8043190	TRAILER 824
	1	8030871	TRAILER 1224
2	1	8045366	4 BOLT PINTLE EYE
3	1	8043548	JACK-MANUAL
	1	8043984	JACK-HANDLE
		8043653	JACK-HYDRAULIC (OPTIONAL)
4	1	8040763	FUEL TANK (22 GAL)
	1	8043359	STRAP W/EYEBOLT
	1	36201441	FUEL CAP
	1	8030697	FUEL SENDING UNIT
	1	8030656	FUEL FILTER
5	6	8044000	2" YELLOW MARKER LIGHT
	6	8044002	2" RUBBER GROMMET
6	8	8045620	TIRE, ST235X80 R16E
	8	8045621	WHEEL
	2	8045622	AXLE
	4	8045623	HUB
	32	8043987	LUG NUT
	4	8047405	GREASE CAP W/ O-RING & PLUG
7	4	8045624	SPRING
	8	8045625	U-BOLT NUT
	8	8045626	U-BOLT
	4	8045627	TIE PLATE
8	4	8043999	2" RED MARKER LIGHT
	4	8044002	2" RUBBER GROMMET
9	2	8045633	STOP/TURN TAIL LIGHTS (OVAL)
10	1	8044809	TAILGATE WELDMENT
	2	U340050	PIN LINCH 3/16" X 1 9/16"
	2	U000420	SCREW, HEX 3/8"-16 X 1/25
	4	U200600	WASHER, FLAT 3/8"
11	1	8045628	LH BRAKE ASSEMBLY
	2	8045629	MAGNET KIT
	2	8045630	SHOE KIT
	1	8045631	ADJUSTER KIT
12	1	8045632	RH BRAKE ASSEMBLY
	2	8045629	MAGNET KIT
	2	8045630	SHOE KIT
	1	8045631	ADJUSTER KIT
*	1	8043981	SAFETY CHAIN
*	1	8043982	BREAKAWAY SWITCH
*	1	8043983	BREAKAWAY BATTERY
*	1	8044008	BREAKAWAY BOX
*	1	8044007	6-WAY PLUG

\* NOT SHOWN

# Antifreeze Assembly



060309

VACASSY943

# Antifreeze Assembly

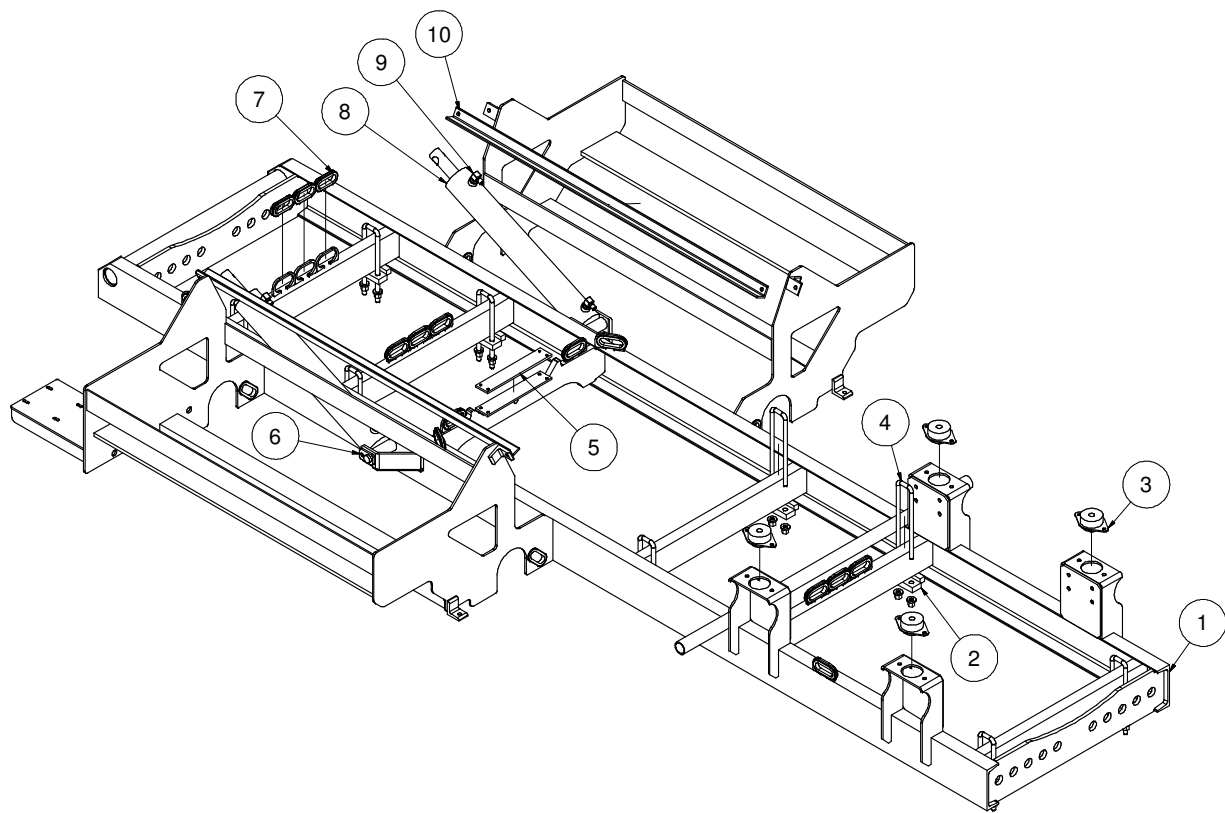
ITEM	QTY	PART NO.	DESCRIPTION
1	1	8030394	ANTI-FREEZE TANK 4 GAL.
	4	U000180	SCREW, HC .312 -18 X .750
	4	U200040	WASHER, FLAT 5/16"
	4	U210040	WASHER, LOCK 5/16"
2	1	T400585	REDUCER, 20MP-12FP
3	1	T400800	UNION, 12MP-12MP
4	1	T000185	BALL VALVE, BRASS 3/4" FP

060309

VACASSY943

# Skid Assembly

# V500HD



031612-E

VACASSY884

# Skid Assembly

# V500HD

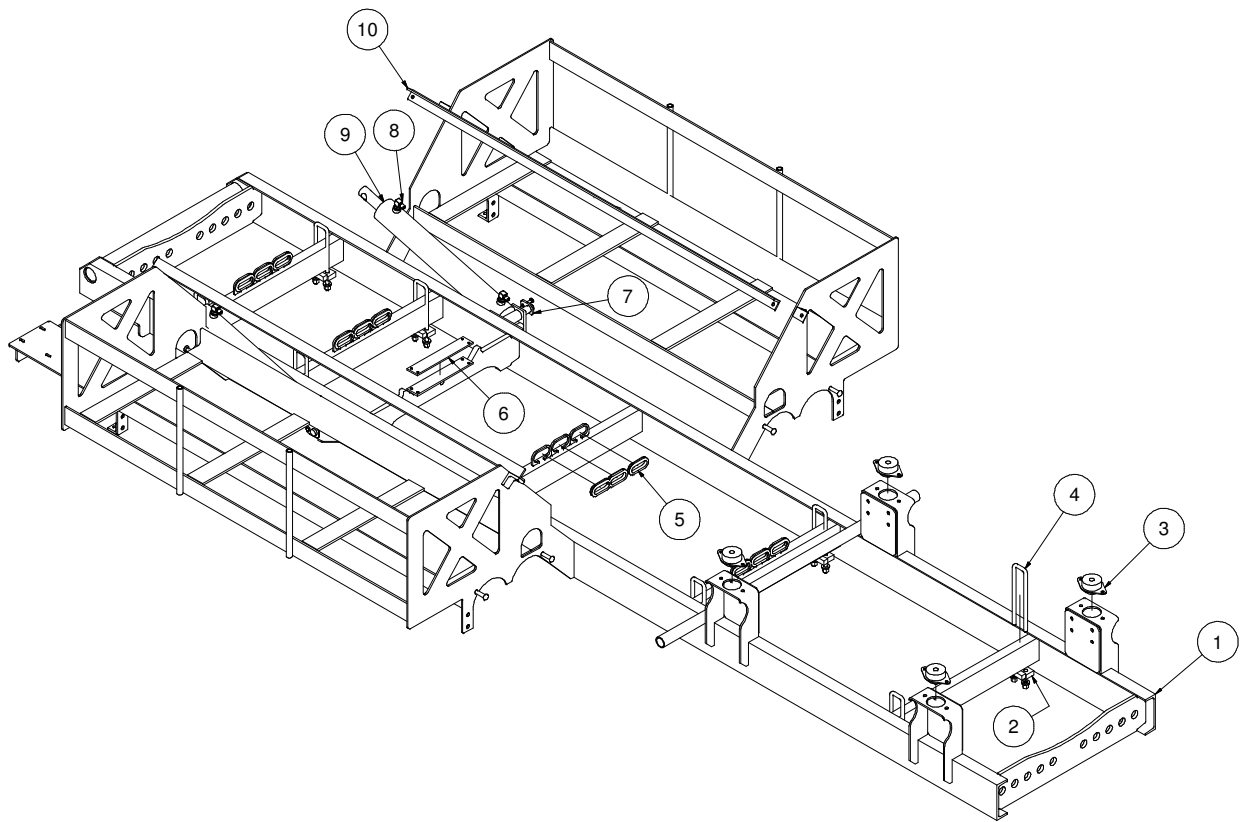
ITEM	QTY	PART #	DESCRIPTION
1	1	8047007	TRAILER SKID, V800HD 205'S WT
2	8	8040240	U-BOLT MOUNTING BLOCK
3	4	8030904	ISOLATOR 840LB.
	4	U000560	SCREW, HC 3/8"-16 X 3"
	4	8030389	WASHER, SNUBBLING
	4	U120110	NUT, LOCK 3/8"-16
	8	U000420	SCREW, HC 3/8"-16 X 1"
	24	U200060	WASHER, FLAT 3/8"
	8	U210060	WASHER, LOCK 3/8"
	8	U100060	NUT, HEX 3/8"-16
4	8	8040038	U-BOLT, 1/2"-13 X 10"LG - 1 5/8"GAP GR.8
5	1	8045787	STRIP, PLASTIC 1/4" X 2" X 11"
6	2	8030128	CYLINDER PIN WELDMENT
	2	U000400	SCREW, HC 3/8"-16 X .750
7	12	8042812	GROMMET 2"ID 3"OD 1/4"WOG TRAILER SLOT MODEL
8	2	8030359	SPOIL TANK CYLINDER
9	4	T401270	ELBOW, 90 1/2"MB - 3/8"MJ
10	2	8044390	WATER TANK ANGLE 205GAL
	4	U000460	SCREW, HC 3/8"-16 X 1.50"
	8	U000440	WASHER, FLAT 3/8"
	4	U120110	NUT, LOCK 3/8"

031612-E

VACASSY884

# Skid Assembly

# V800HD



031312-E

VACASSY883

# Skid Assembly

# V800HD

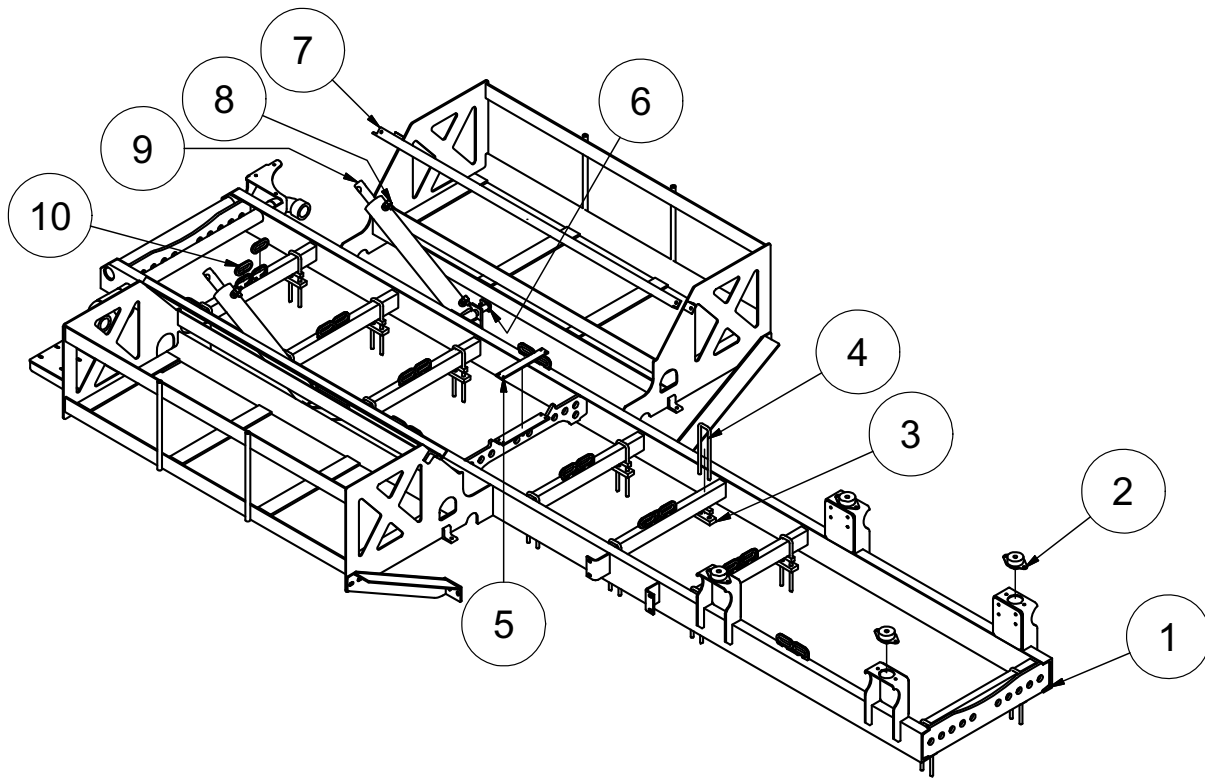
ITEM	QTY	PART #	DESCRIPTION
1	1	8047007	TRAILER SKID, V800HD 205'S WT
2	8	8040240	U-BOLT MOUNTING BLOCK
3	4	8030904	ISOLATOR 840LB.
	4	U000560	SCREW, HC 3/8"-16 X 3"
	4	8030389	WASHER, SNUBBLING
	4	U120110	NUT, LOCK 3/8"-16
	8	U000420	SCREW, HC 3/8"-16 X 1"
	24	U200060	WASHER, FLAT 3/8"
	8	U210060	WASHER, LOCK 3/8"
	8	U100060	NUT, HEX 3/8"-16
4	8	8040038	U-BOLT, 1/2"-13 X 10"LG - 1 5/8"GAP GR.8
5	12	8042812	GROMMET 2"ID 3"OD 1/4"WOG TRAILER SLOT MODEL
6	1	8045787	STRIP, PLASTIC 1/4" X 2" X 11"
7	2	8030128	CYLINDER PIN WELDMENT
	2	U000400	SCREW, HC 3/8"-16 X .750
8	4	T401270	ELBOW, 90 1/2"MB - 3/8"MJ
9	2	8030359	SPOIL TANK CYLINDER
10	2	8044390	WATER TANK ANGLE 205GAL
	4	U000460	SCREW, HC 3/8"-16 X 1.50"
	8	U000440	WASHER, FLAT 3/8"
	4	U120110	NUT, LOCK 3/8"

031312-E

VACASSY883

# Skid Assembly

# V1200HD



060311-E

VACASSY880

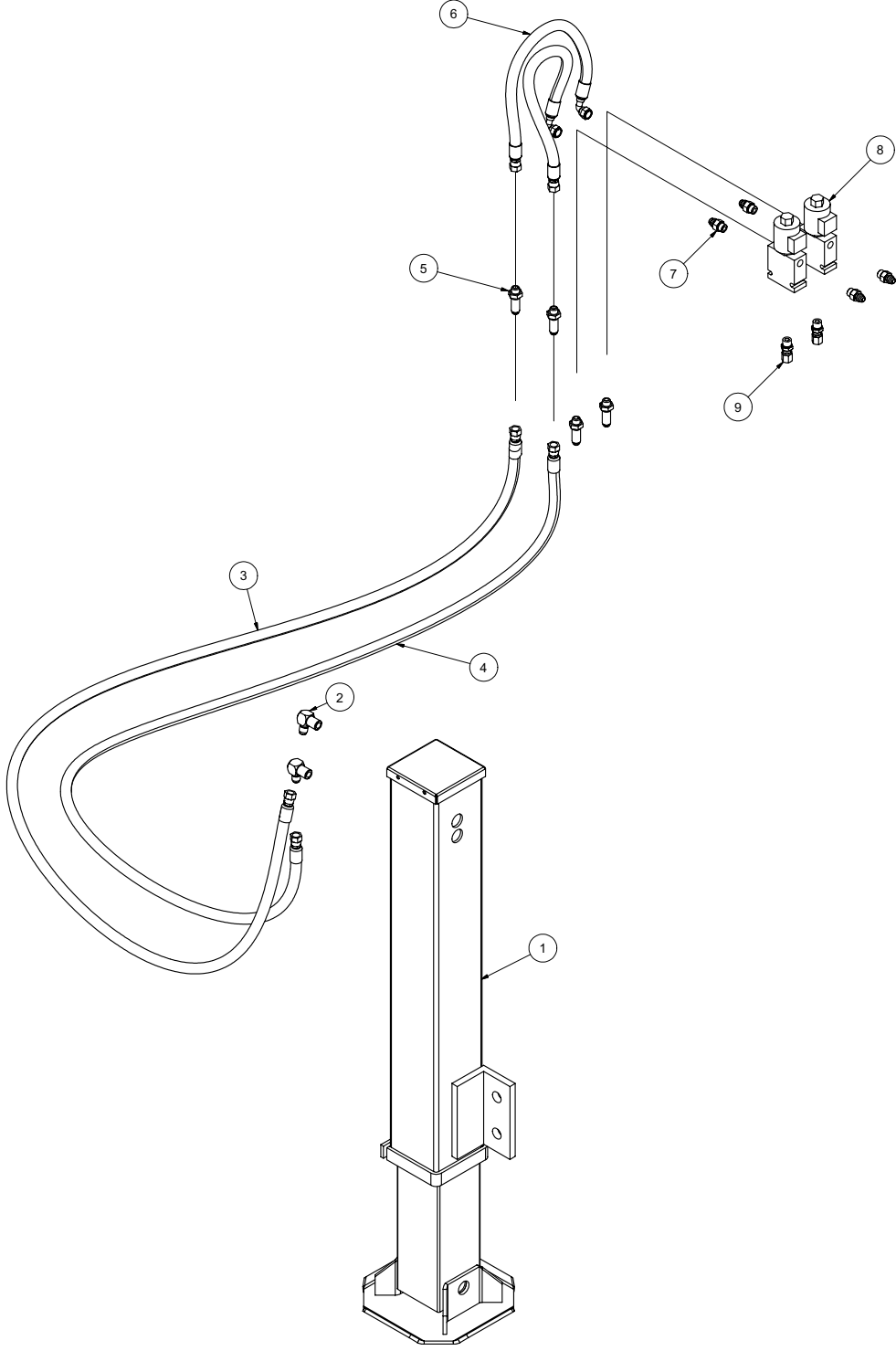


# Skid Assembly

## V1200HD

ITEM	QTY	PART #	DESCRIPTION
1	1	8047211	1200 SKID HD SADDLE TANK
2	4	8030904	ISOLATOR 840LB
	4	U000560	SCREW, HC 3/8"-16 X 3"
	4	8030851	WASHER SNUBBLING
	4	U120110	NUT, LOCK 3/8"
	8	U000420	SCREW, HC 3/8"-16 X 1"
	24	U200060	WASHER FLAT 3/8"
	8	U210060	WASHER LOCK 3/8"
	8	U100060	NUT, HEX 3/8-16
3	14	8040240	U-BOLT MOUNTING BLOCK
4	14	8040038	U-BOLT 1/2"-13 X 10"LG 1 5/8"GAP GR.8
5	1	8045787	STRIP, PLASTIC 1/4" X 1 1/2" X 11"
6	2	8030128	CYLINDER PIN WELDMENT
	2	U000400	SCREW, HC 3/8"-16 X .75"
7	2	8044390	WATER TANK ANGLE HOLDER
8	4	T401270	ELBOW, 90 1/2"MB X 1/2"MJ
9	2	8043642	CYLINDER, HYD 3.5" X 20" V1200
10	18	8042812	GROMMET 2"ID 3"OD 1/4"WOG TRAILER SLOT MODEL

# Hydraulic Jack Option



072808

VACASSY956

# Hydraulic Jack Option

ITEM	QTY	PART #	DESCRIPTION
1	1	8043653	HYDRAULIC JACK CYLINDER
2	2	T401103	ELBOW 90 DEG 3/8"MJ - 1/4"FJ
3	1	8042661	HOSE ASSY VAC 6-66 ST-90
4	1	8041442	HOSE ASSY VAC 6-60 ST-90
5	2	T400391	BULKHEAD, 3/8"MJ - 3/8"MJ
6	2	8040973	HOSE ASSY VAC 6-20 ST-90
7	4	T400037	UNION, 3/8"MB - 3/8"MJ
8	2	8041788	SOLENOID VALVE
9	2	8030512	UNION, 3/8"MB - 3/8"FJ
*	1	X000274	SWITCH ROCKER DPDT

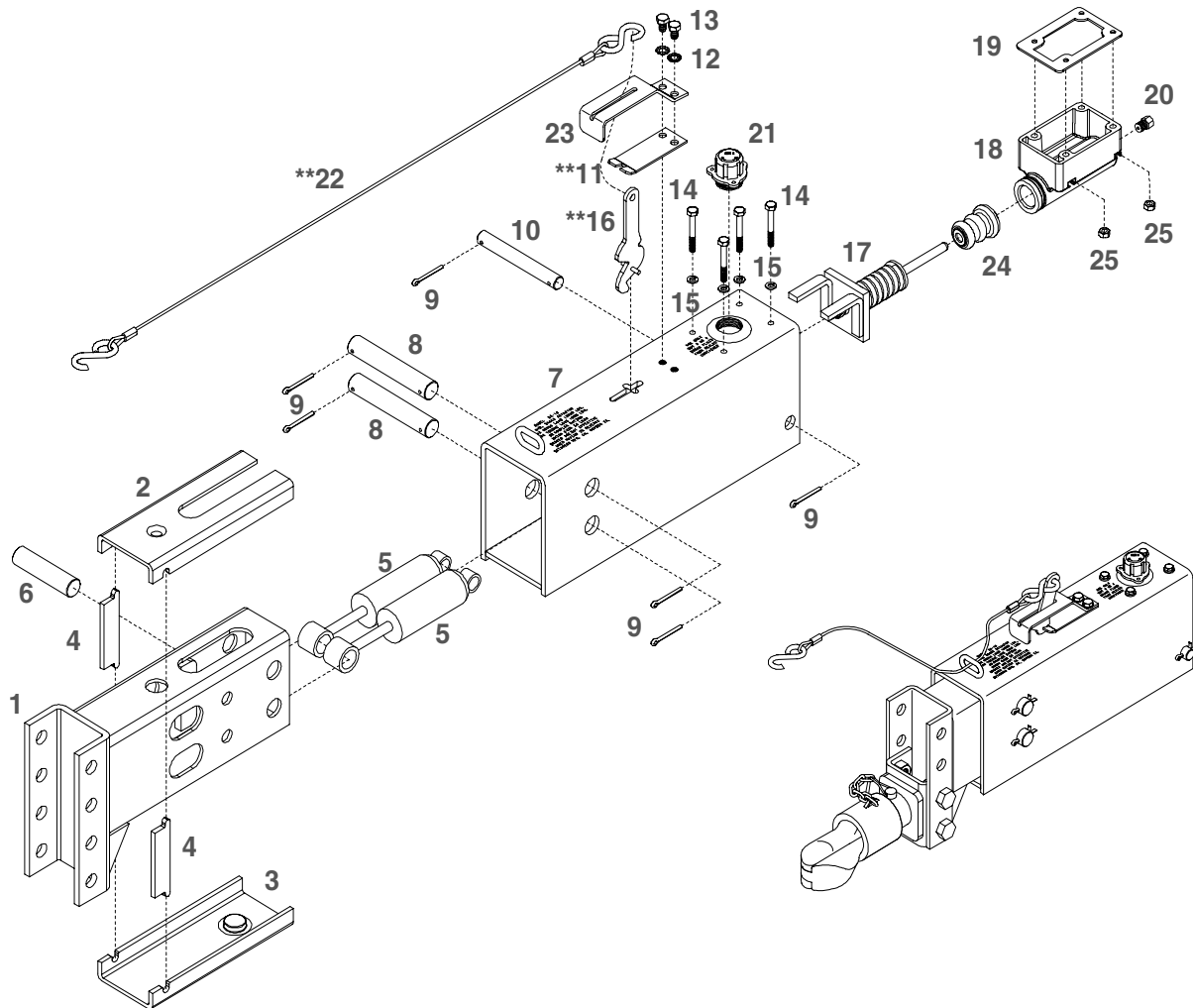
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072808

VACASSY956

# Surge Brake Option

# V500



051408

VACASSY948

# Surge Brake Option

# V500

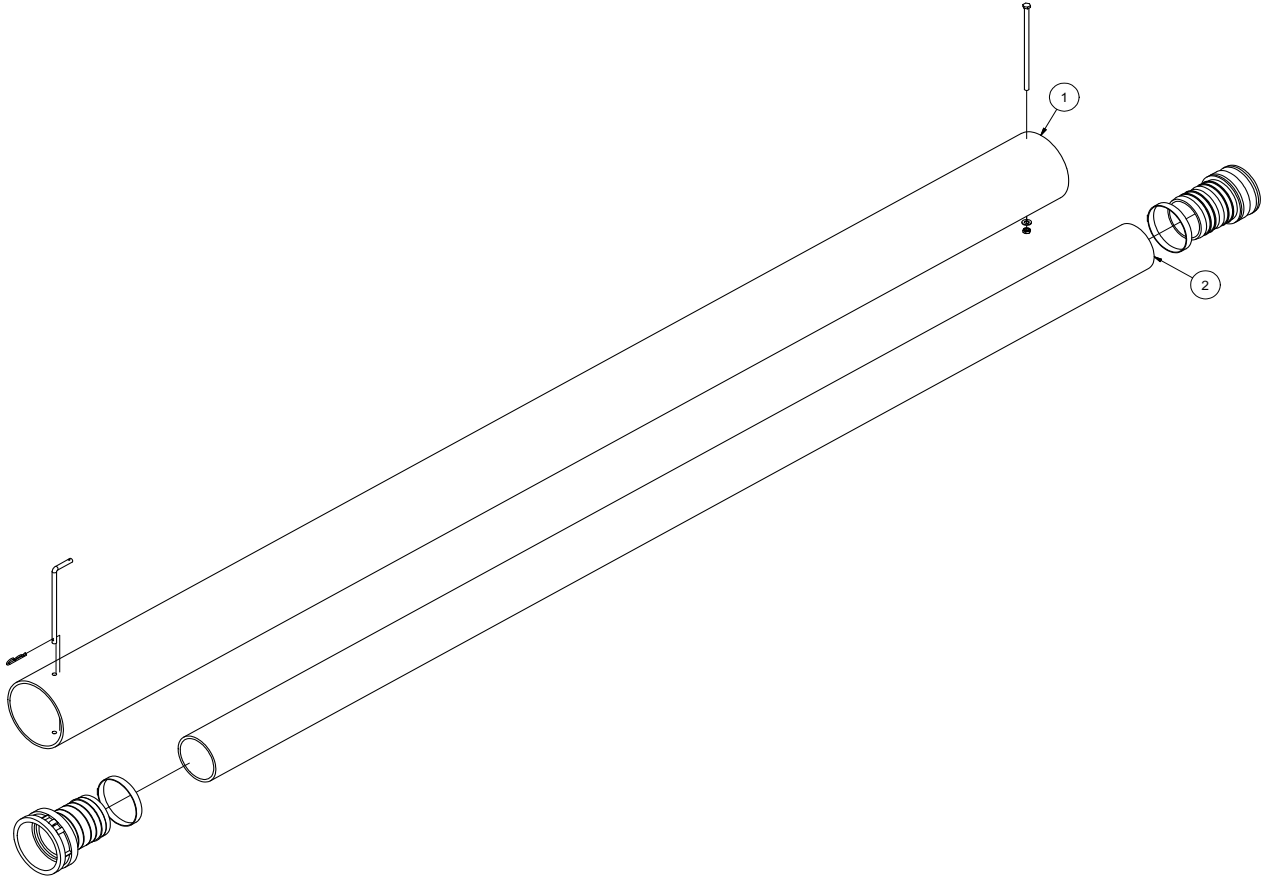
ITEM	QTY	NUMBER	DESCRIPTION
1	1	8040790-1	INNER SLIDER TUBE CHAN. DOWN
2	1	8040790-2	TOP WEAR PAD
3	1	8040790-3	BOTTOM WEAR PAD
4	2	8040790-4	SPACER BLOCK
5	2	8040790-5	DAMPER SHOCK
6	1	8040790-6	FRONT SHOCK PIN (ZINC PLATED)
7	1	8040790-7	OUTER CASE
8	2	8040790-8	CONNECTING PIN (ZINC PLATED)
9	6	8040790-9	5/32" X 1-1/4" COTTER PIN
10	1	8040790-10	REAR SHOCK PIN (ZINC PLATED)
11	1	8040790-11	EMERGENCY LEVER SPRING (ZINC PLATED)
12	2	8040790-12	5/16" EXTERNAL TOOTH LOCK WASHER
13	2	8040790-13	5/16"-18 UNC X 5/8" HEX HEAD BOLT GR.5
14	4	8040790-14	1/4"-20 UNC X 2" HEX HEAD BOLT GR.5
15	4	8040790-15	1/4" LOCK WASHER
16	1	8040790-16	EMERGENCY LEVER (ZINC PLATED)
17	1	8040790-17	PUSH ROD ASSEMBLY
18	1	8040790-18	COMPOSITE MASTER CYLINDER (DRUM BRAKES)
19	1	8040790-19	REPLACEMENT MASTER CYL. GASKET ONLY
20	1	8040790-20	1/8" PIPE-3/16" FITTING W/ORIFICE (DRUM)
21	1	8040790-21	MASTER CYLINDER CAP W/DIAPHRAGM AND O-RING
22	1	8040790-22	3/32" CABLE WITH HOOKS (BOTH ENDS)
23	1	8040790-23	LEVER GUIDE (ZINC PLATED)
24	1	8040790-24	MASTER CYL. PROTECTIVE BOOT
25	4	8040790-25	1/4"-20 UNC HEX NUTS

051408

VACASSY948

# HOSES

4"



# HOSES

4''

ITEM	QTY	PART NO.	DESCRIPTION	
1	1	8041102	6" PVC STORAGE TUBE 10' LG	
	1	U000626	SCREW, HC .375-16 X 7.50"	
	1	8041485	LANYARD CABLE	
	1	8043198	HOSE STORAGE CLAMP	
	2	U200060	WASHER, FLAT 3/8"	
	2	U100060	NUT, HEX 3/8"	
	1	8041101	HOSE STORAGE RETAINING ROD	
	1	R700170	R-CLIP, 1/2 - 5/8 SHANK	
	2	1	8042310	HOSE VAC KANAFLEX 4-112
		1	8046444	CAMLOCK, 4" AL FCAM X M BARB
1		8046443	CAMLOCK, 4" AL MCAM X M BARB	
2		8030912	CLAMP, 4.5" PUNCHLOKP18-S	





## Tools (Option)

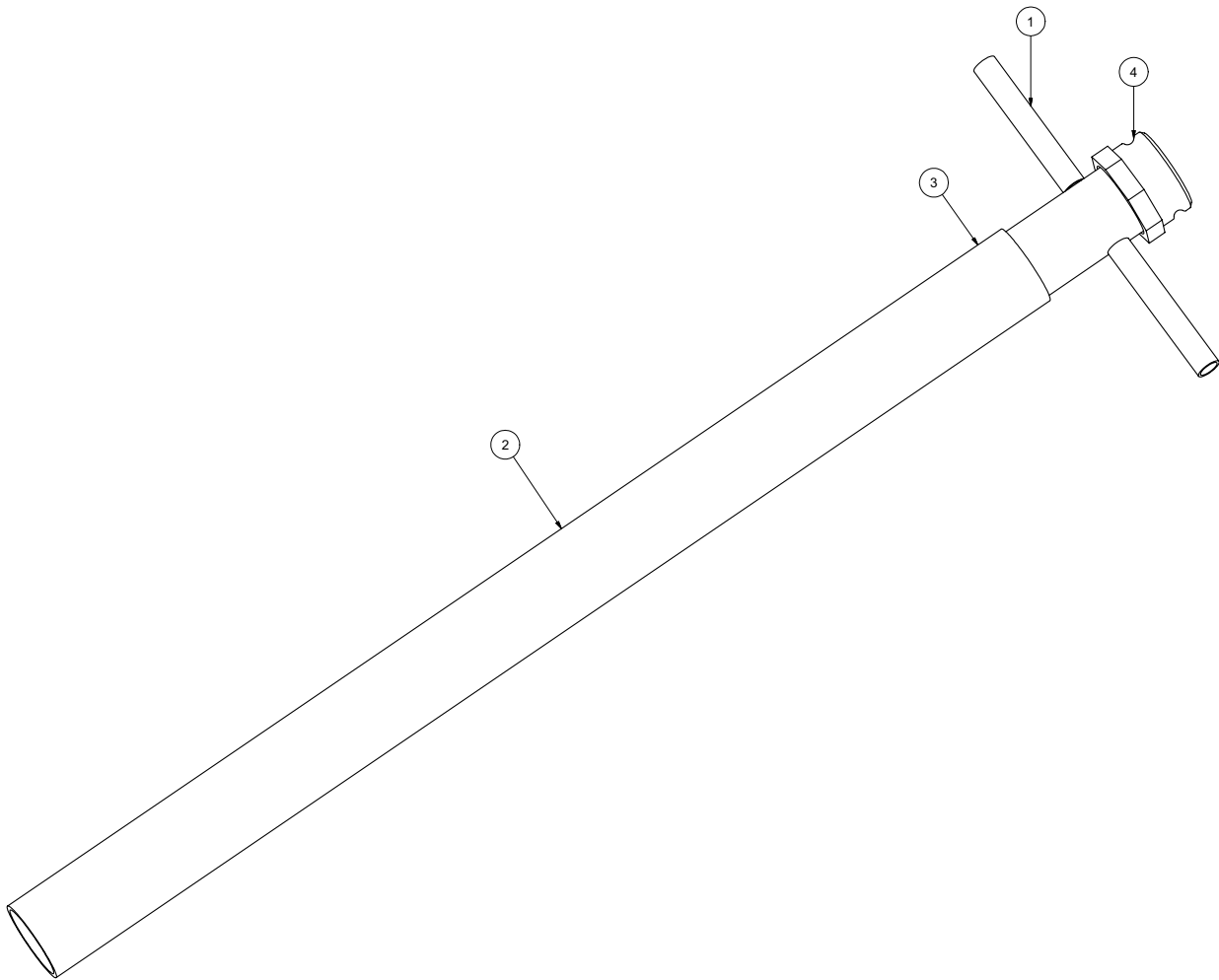
## HD Reduction Tool

ITEM	QTY	PART NO.	DESCRIPTION
-	-	8043115	TOOL VAC REDUCTION HD COMPLETE
1	1	8042862	TOOL VAC HEAD ASSY 3"
2	1	8048567	STRAIGHT SPRAY GUN
3	1	8042811	TOOL VAC REDUCTION PVC 3" X 48"
5	1	8091356	WATER QD 3/8 MNPT SS
6	2	T320030	FITTING, HOSE 4HO 4FJ
7	1	8031278	HOSE ASSEMBLY REDUCTION TOOL
8	2	8030244	VAC CLAMP BAND 3 1/2" PUNCHLOCK
9	1	8030244	VAC CLAMP BAND 3 1/2" PUNCHLOCK
10	1	8041099	TOOL VAC REDUCTION HD LOWER ASSY
11	1	8043764	VAC WATER SUPPLY TUBE
12	1	T400020	UNION 1/4" MP-1/4" MJ STRAIGHT
13	2	T422010	COUPLING,PIPE 1/4"FP
14	1	8030391	BANJO 3" MALE 3" FNPT
15	1	T401065	ELBOW, 3/8 MP - 3/8 FP
16	1	T401100	ELBOW 4MP 4MJ 90
*	2	8030370	REDUCTION TOOL NOZZLE
*	2	8031268	REDUCTION TOOL NOZZLE 45 DEG

\* NOT SHOWN

# Tools

# 4" Suction Tool



072308

VACASSY710

# Tools

# 4" Suction Tool

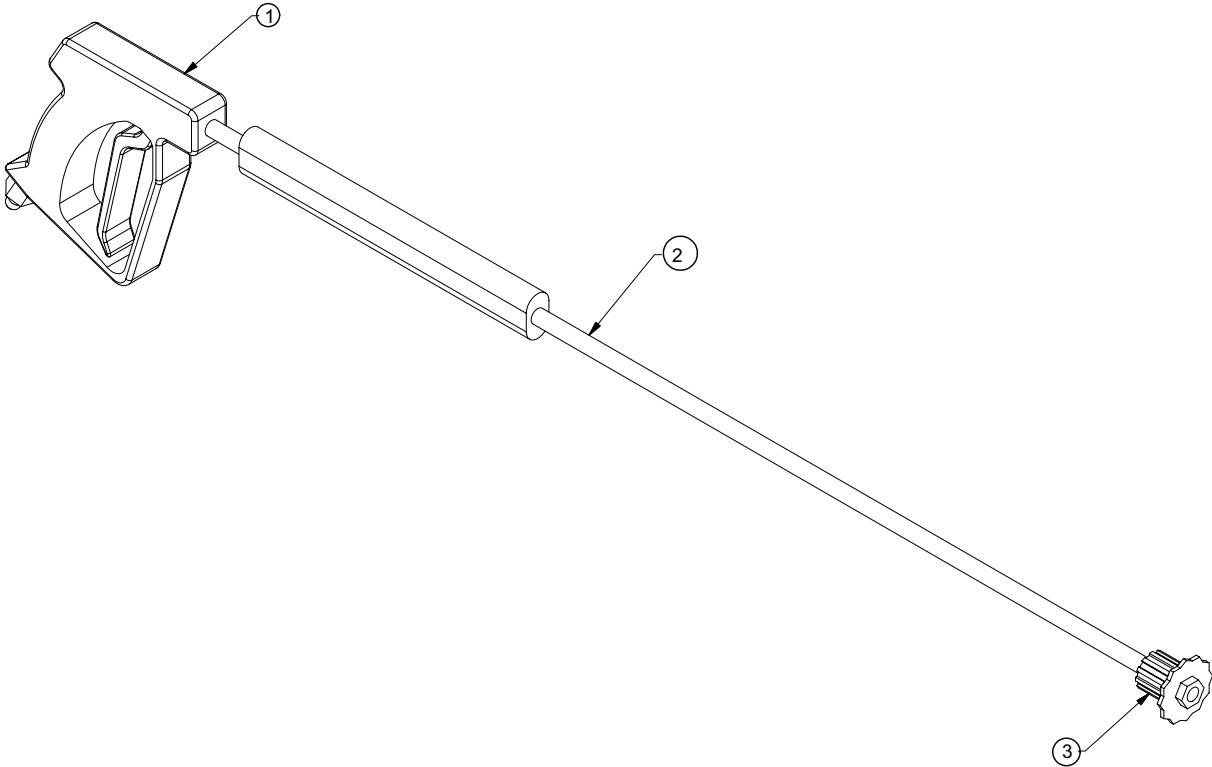
ITEM	QTY	NUMBER	DESCRIPTION
	1	8040983	TOOL VAC SUCTION 4" COMPLETE
1	1	8040981	TOOL VAC HANDLE ASSEMBLY 4"
2	1	8040982	PVC VACUUM TUBE 4"
3	1	8030912	CLAMP, 4.5" PUNCHLOK
4	1	8030844	COUPLING, 4" BANJO

072308

VACASSY710

# Tools

# Wash Wand



031814-E

VACASSY711

# Tools

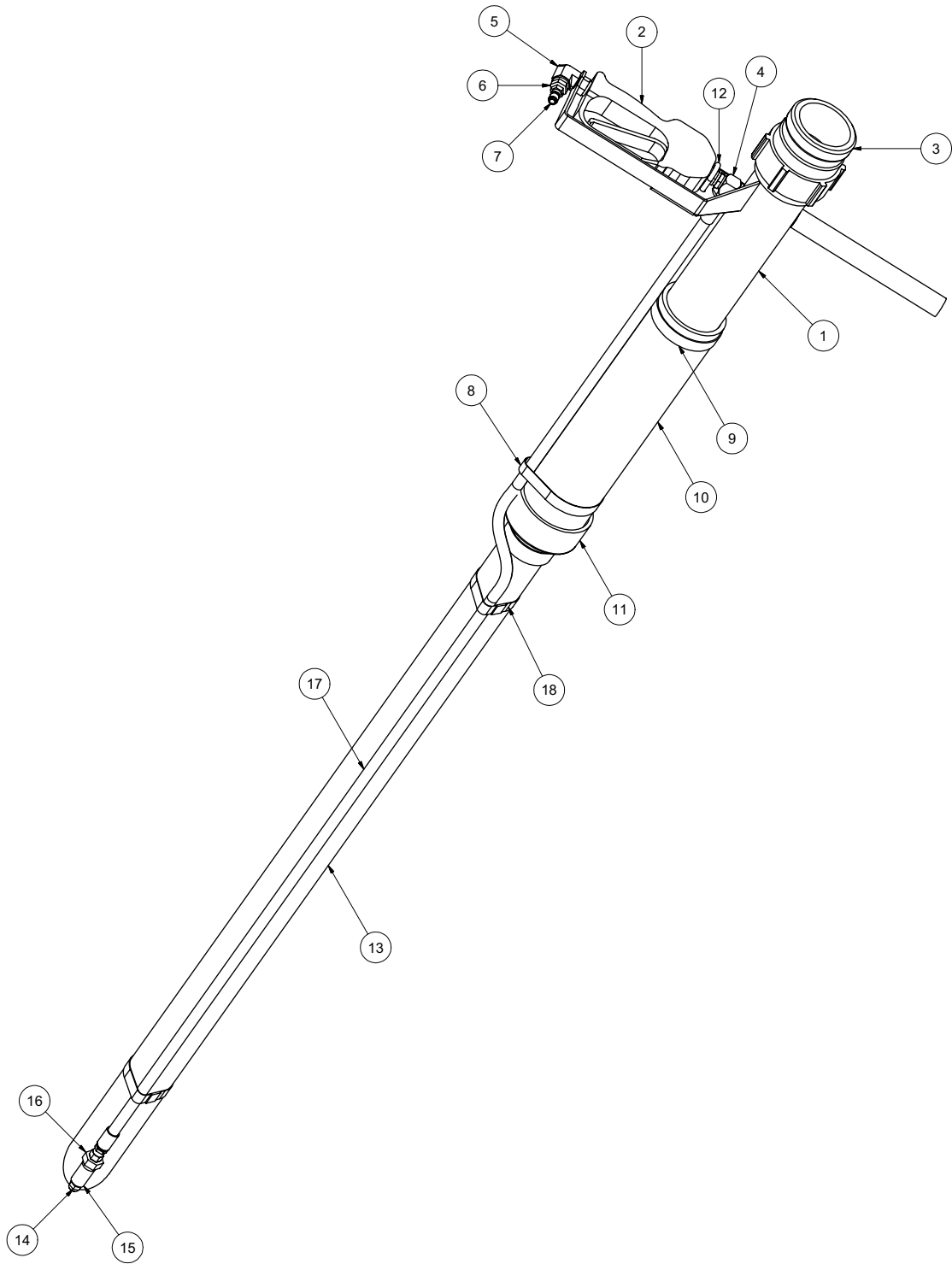
# Wash Wand

Item	Qty	Number	Description
1	1	8030348	TOOL VAC SPRAY WAND COMPLETE
2	1	8030928	TRIGGERASSEMBLY
3	1	8030847	WAND
		8031303	NOZZLE,#10 40 DEGREE FOR WAND

031814-E

VACASSY711

# Valve Box Cleanout Tool



101812-E

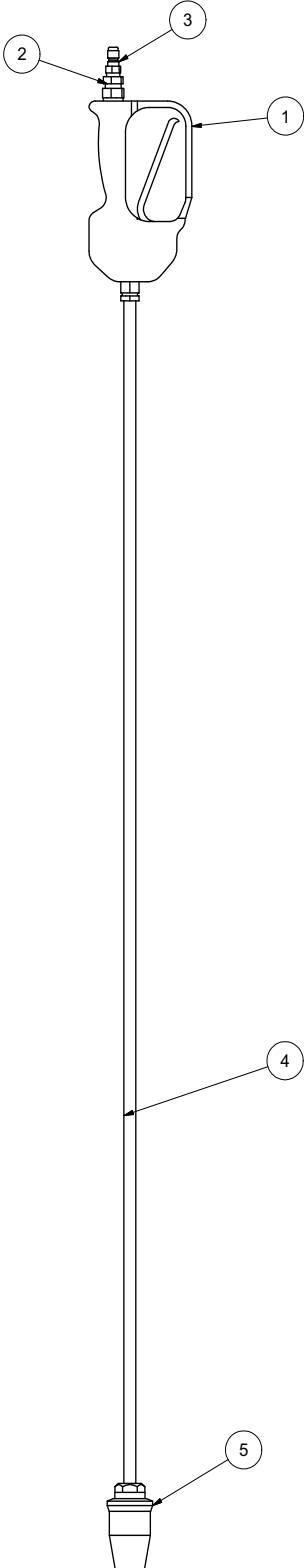
VACASSY714

# Valve Box Cleanout Tool

ITEM	QTY	PART NO.	DESCRIPTION
	1	8043384	VAC TOOL VALVEBOX CLEANOUT COMPLETE
1	1	8042862	REDUCTION TOOL HEAD WELD'T
2	1	8048567	STRAIGHT SPRAY GUN
3	1	8030391	BANJO 3" MALE FNPT
4	1	T401100	ELBOW 4MP 4MJ 90
5	1	T401065	ELBOW, 3/8 MP - 3/8 FP
6	1	T400023	REDUCER 6MP 4FP
7	1	8030486	WATER QD 1/4 MNPT SS
8	1	8042855	CLAMP HOSE T-BOLT 375
9	1	8042605	CLAMP HOSE T-BOLT 350
10	1	8044096	PVC 3" DIA X 9" LONG
11	1	8030669	REDUCER PVC 3" TO 2" SLIP ON
12	1	U010019	U-BOLT 1_4-20 X 3_4 WIDE X 2 1_4 LONG
13	1	8044097	PVC 2" DIA X 42.5" LG
14	1	8031246	NOZZLE, .100 X 0 DEG
15	1	T422010	COUPLING 1/4"FP
16	1	U400020	UNION, 1/4" MP - 1/4" MJ
17	1	8044098	HOSE ASSY VALVE BOX CLEANOUT TOOL
18	2	8045316	CLAMP, HOSE T-BOLT 275

# Tools

# Rotary Lance





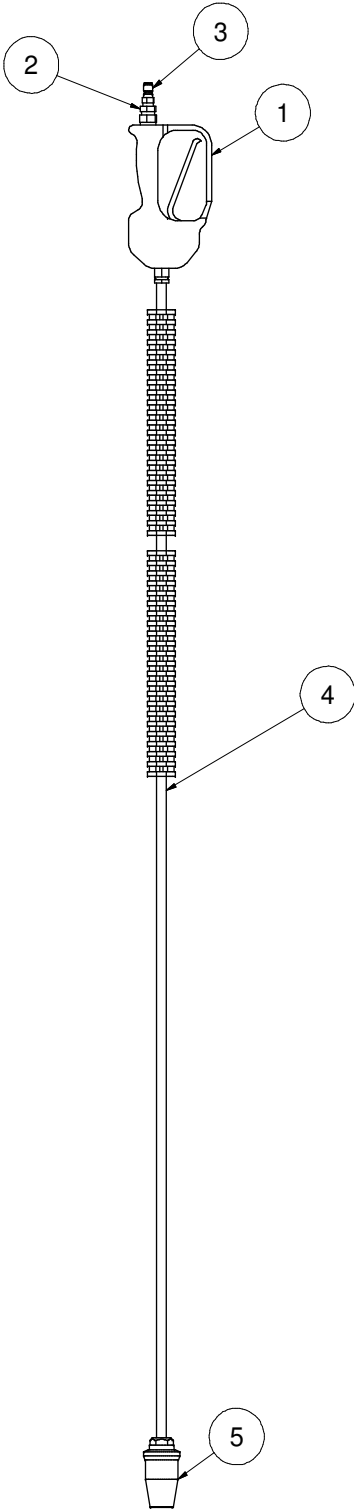
# Tools

# Rotary Lance

ITEM	QTY	PART NO.	DESCRIPTION
*		8043119	TOOL VAC ROTARY LANCE COMPLETE
1	1	8048567	STRAIGHT SPRAY GUN
3	1	8091356	WATER QD 3/8MNPT
4	1	8043765	TUBE, CHROME 1/4NPT ENDS 60"
5	1	8048739	ROTARY NOZZLE .055

# Tools

# Hot Box Rotary Lance



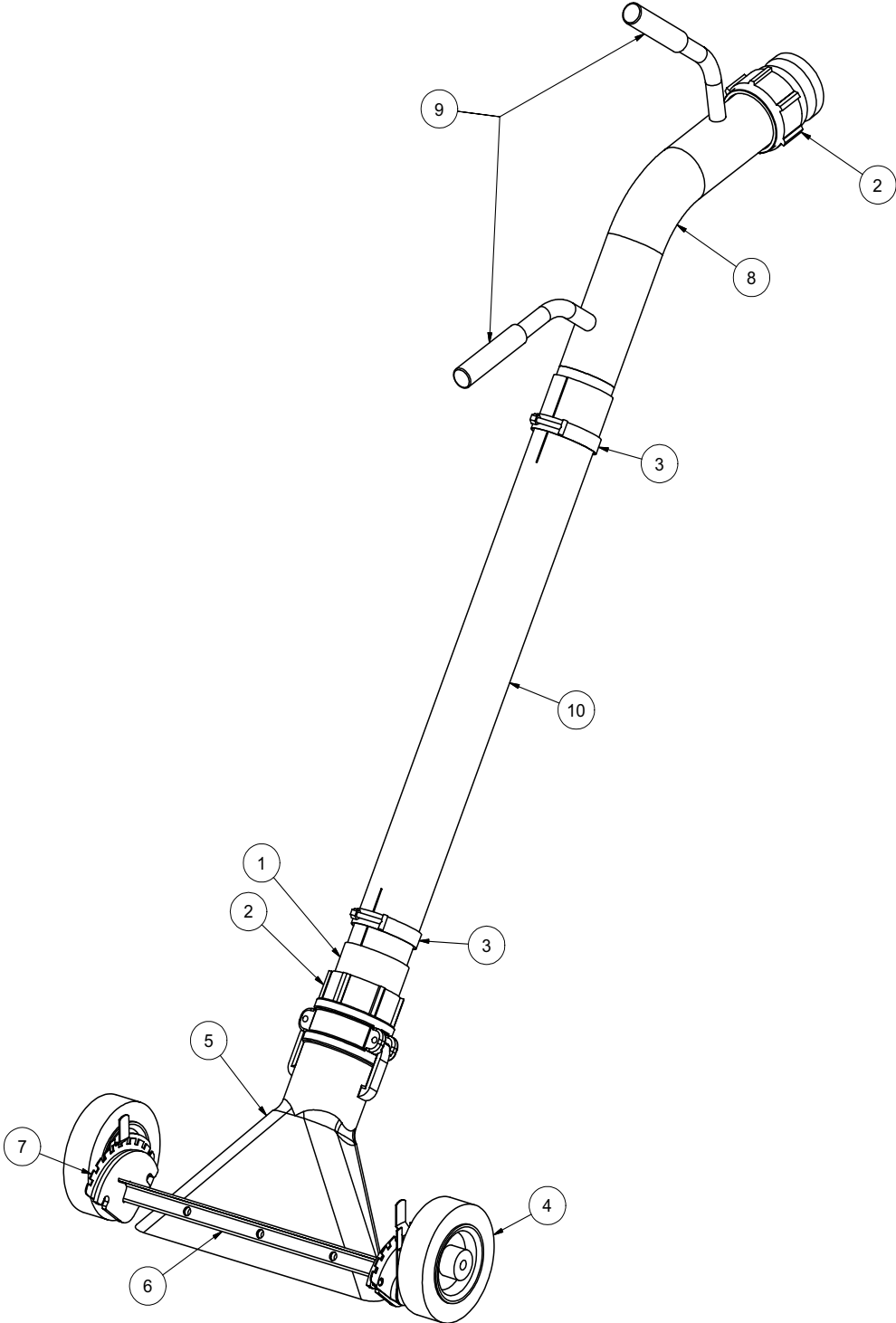
# Tools

# Hot Box Rotary Lance

ITEM	QTY	PART NO.	DESCRIPTION
*		8048192	TOOL VAC ROTARY LANCE for HOT BOX COMPLETE
1	1	8048567	STRAIGHT SPRAY GUN
3	1	8091356	WATER QD 3/8MNPT
4	1	8031394	WAND, 59" LONG
5	1	8048739	ROTARY NOZZLE .055

# Tools

# Lawn Sweeper 3''



101512-E

VACASSY713

# Tools

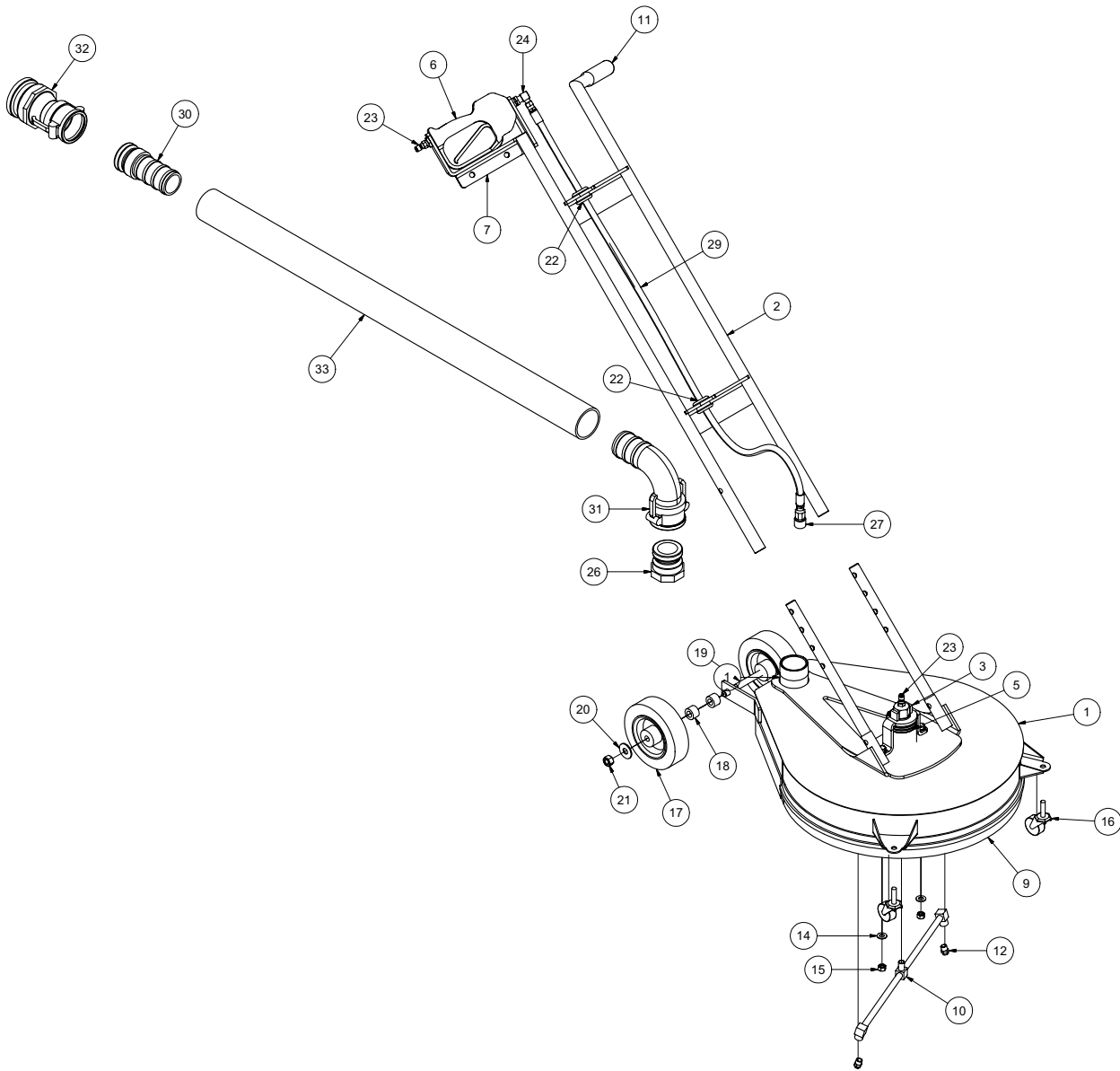
# Lawn Sweeper 3''

ITEM	QTY	PART #	DESCRIPTION
	1	8043935	VAC TOOL LAWN SWEEPER COMPLETE
1	1	8030287	3" HOSE X 3" MNPT ADAPTER
2	2	8030391	BANJO 3" MALE 3" FNPT
3	2	8042605	CLAMP T-BOLT 3" (350)
4	2	8043887	WHEEL 6" PNEUMATIC
5	1	8043925	DUCKBILL 3" ALUMINUM
6	1	8043928	LS WHEEL WELDMENT
7	1	8043931	WHEEL ADJUSTERS (1 LEFT/1 RIGHT)
8	1	8043933	LS HANDLE WELDMENT
9	2	J300080	HANDLE GRIP
10	1	8043932	PVC 3" X 30"

101512-E

VACASSY713

# Surface Cleaner



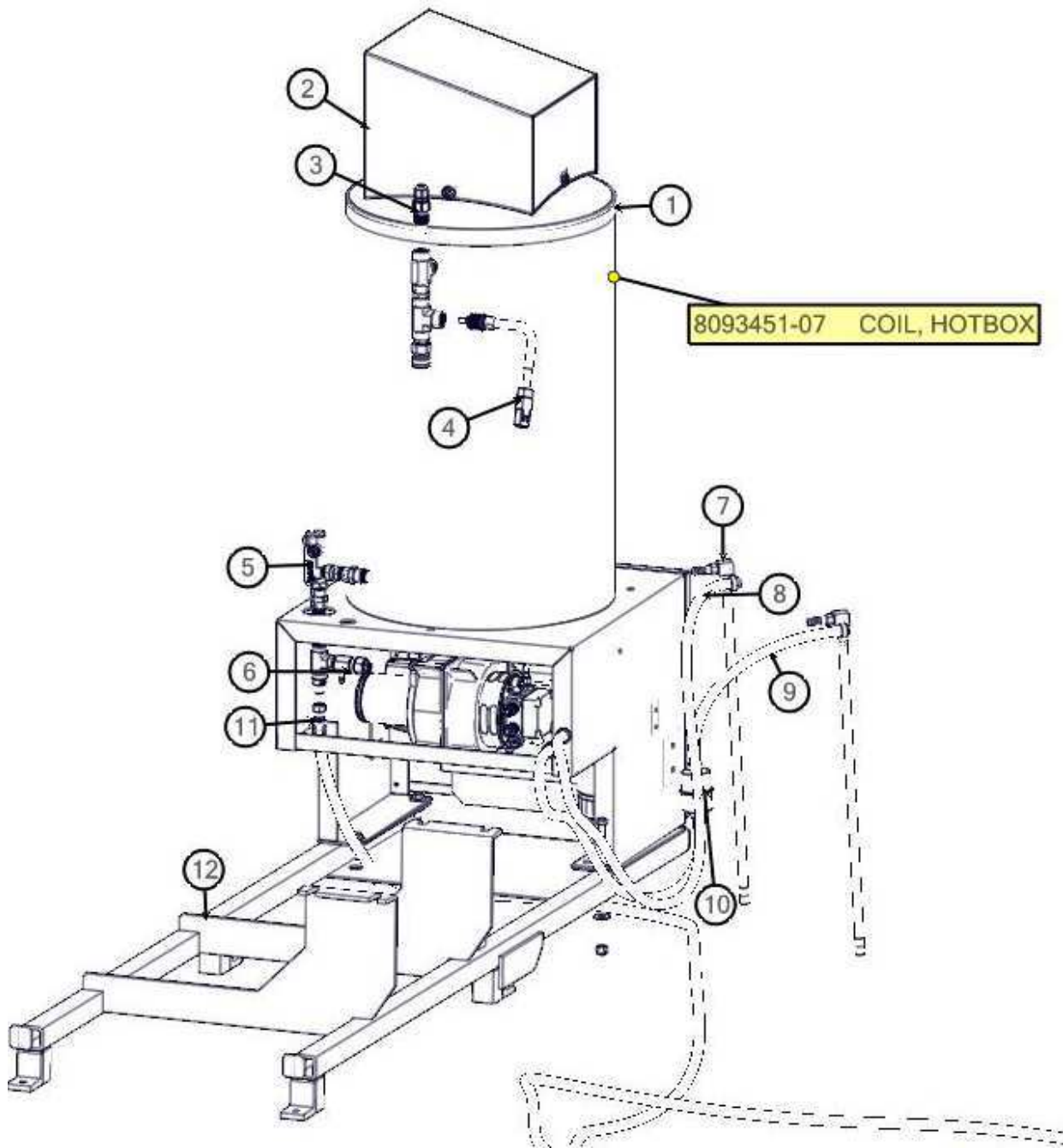
101812-E

VACASSY715

# Surface Cleaner

ITEM	QTY	PART NO.	DESCRIPTION
	1	8043480	VAC TOOL SURFACE CLEANER COMPLETE
1	1	8041887	SURFACE CLEANER - HEAD ASSY
2	1	8042019	HANDLE ASSY
3	1	8041890	ROTARY RETAINER
4	2	8042022	HANDLE ADJ. TUBE
5	1	8042027	ROTARY HEAD
6	1	8048567	STRAIGHT SPRAY GUN
7	1	8042020	GUN CAPTURE BRACKET
8	1	8043467	SQUEEGEE
9	1	8042030	FLEXIBLE BRUSH
10	1	8042028	ROTARY ARM
11	1	J300080	GRIPHANDLE
12	2	8031419	NOZZLE, #4.0 25 DEG
13	2	U000420	SCREW, HC 3/8-16 X 1.00
14	4	U200600	WASHER, FLAT 3/8"
15	2	U100060	NUT, HEX 3/8-16
16	2	8043387	SWIVEL CASTER 1 5/8"
17	2	8043887	WHEEL 6" PNEUMATIC
18	2	8043591	SURFACE CLEANER REAR WHEEL SPACER
19	1	U001060	SCREW, HC 1/2-13 X 6.0
20	2	U200100	WASHER, FLAT 1/2"
21	1	U120120	NUT, LOCK 1/2-13
22	2	8041686	GROMMET 1"ID- 1 1/4"DOG-1/4"WO
23	2	8030486	WATER QD 1/4 MNPT SS
24	1	T401100	ELBOW 4MP 4MJ 90
25	1	T320030	FITTING, HOSE 4HO 4FJ
26	1	8043389	ADAPTER M2" F THREAD
27	1	8030526	FITTING, QD WATER 1/4"F-1/4"FP
28	1	T320300	FITTING, HOSE 4HO 4MP
29	1	8044108	HOSE VAC SURFACE CLEANER
30	1	8043392	ADAPTER M2" F THREAD
31	1	8043391	REDUCER COUPLER 2"F 90 DEG - 3"M
32	1	8043395	REDUCER COUPLER 2" X 3" ADAPTER
33	1	8043398	HOSE VAC CLEAR 2"
*	2	8043397	CLAMP VAC CLEAR HOSE 2"
*	4	U360020	PIN, U-LOCK 3/8 X 1.5

# Hot Box Assembly





# Hot Box Assembly

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8093451	HOT BOX
2	1	8093451-02	STAINLESS STEEL RAIN CAP
3	1	8093451-03	SWITCH, HIGH LIMIT 110DEG C
4	1	8093451-04	INDEX SENSOR
5	1	8093451-05	FLOW SWITCH
6	1	8093451-06	RELIEF VALVE
7	2	8092990	KIT, FUEL PICKUP AND RETURN
8	1	8049946-043.50	HOSE, FUEL 5/16 X 43.50" LG
9	1	8049946-031.00	HOSE, FUEL 5/16 X 31.00" LG
10	1	8030656	FILTER, FUEL IN-LINE
11	1	8046899	HOSE ASSY VAC 6-143" ST-90
12	1	8093994	WELDMENT, HOT BOX MOUNT NON VX
*	1	J200062	DECAL HOT BOX TEMP HI-LO
*	1	X200024	HARNESS HOT BOX SWITCH SIDE
*	1	X200025	HARNESS HOT BOX POWER SIDE

\* ITEM NOT SHOWN



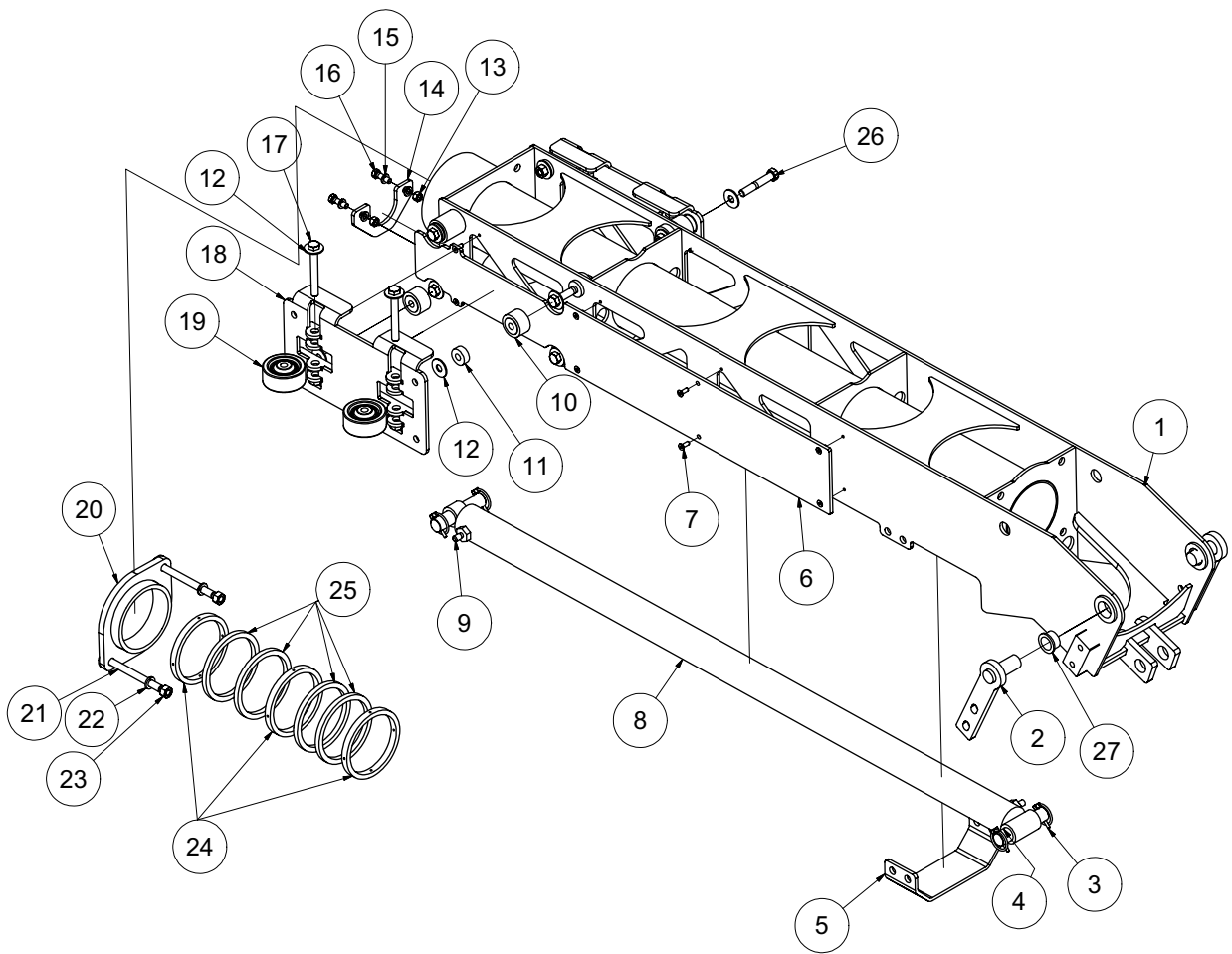
# EXTENSION ARM

# BOOM

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8042160	BOOM - PVC TUBE 4 X 60"
2	1	8043172	BOOM HANDLE WELDMENT
	1	8049245	BOOM HANDLE WELDMENT (MEGA VAC'S)
	2	8042971	RUBBER STRIP
3	2	8043947	CAPTURE PIN
	2	R700160	R-CLIP
	2	8041485	LANYARD CABLE
4	1	8046591	BOOM - EXTENSION ARM WELDMENT
5	1	8041938	GASKET, FLANGE 4"
6	1	8041937	4" PVC FLANGE
7	8	U001250	SCREW, HC 5/8" - 11 X 3.00"
	16	U200140	WASHER, FLAT 5/8"
	8	U120020	NUT, NYLOCK 5/8" - 11
8	1	8046638	BOOM - HOSE MOUNT PLATE WELDMENT
9	3	8042606	CLAMP, T-BOLT 4" (450)
10	1	8047019	HOSE VAC AG SUCTION 4-45"
11	1	8046444	CAMLOCK, 4" MCAM X MBARB
12	4	U000900	SCREW, 1/2" - 13 X 2 1/2" HHCS
	8	U200100	WASHER, FLAT 1/2"
	4	U120120	NUT, LOCK 1/2" - 13
13	1	8046612	BOOM - END PIVOT WELDMENT # 3
14	1	8046603	BOOM - END PIVOT WELDMENT # 1
15	1	8046606	BOOM - END PIVOT WELDMENT # 2
16	4	8046636	BOOM - SPRING BOLT
	4	U100200	NUT, HEX 3/4" - 10
17	1	8046771	SPRING, 3/8" - 5.00", 480lb per in
18	2	U000635	SCREW, HC .375 - 16 X 6.50" ZP CR5
19	4	U200600	WASHER, FLAT 3/8"
20	1	8046770	SPRING, 3/8" X 5.00", 395 lb per in
21	2	U120110	NUT, HEX LOCK

# PIVOT ARM

# BOOM



081910-E

VACASSY989

# PIVOT ARM

# BOOM

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8046582	BOOM - PIVOT ARM WELDMENT
2	2	8046634	BOOM - PIVOT PIN WELDMENT
3	4	U340050	PIN LINCH 3/16" X 1 9/16"
4	2	8041990	BOM - PIVOT CYLINDER ROD PIN
5	1	8046635	BOOM - CRADEL FOOT PLATE
6	2	8041986	BOOM - PIVOT ARM GUIDE SHEET
7	16	U030015	SCREW, SFH 1/4-20 X .750
8	1	8041926	BOOM - CYLINDER WX
9	2	T400611	REDUCER, 1/2"MB - 1/4"MJ
10	4	W000055	CAM YOKE ROLLER 1 3/4"DIA X 1.00"
11	4	8046624	BOOM - CAM SPACER
12	14	U200100	WASHER, FLAT 1/2"
13	2	U100060	NUT, HEX 3/8"-16
14	1	8041956	BOOM - PIVOT ARM CYC RETAINER PLATE
15	4	U210060	WASHER, LOCK 3/8"
16	2	U000440	SCREW, HC 3/8"-16 X 1.25"
17	4	8046773	SCREW, BOOM EXT. CAPTURE PLATE
18	2	8046627	BOOM - EXT. CAPTURE PLATE WELDMENT
19	4	8030226	WHEEL 3.00"OD X 1.25" WIDE W / BRG
20	1	8041963	PACKING GLAND WELDMENT
21	2	U001020	SCREW, HC .50"-13 X 5.50"ZP GR5
22	2	U210111	WASHER, LOCK 1/2"
23	2	U100120	NUT, HEX 1/2-13
24	3	8041945	SLEEVE PLASTIC
25	4	8041947	PACKING RING
26	8	U000940	SCREW,HC .500-13X3.50
	16	U200110	WASHER, FLAT .500
	8	U120120	NUT, LOCK .500 - 13
27	2	8041883	BUSHING, BRONZE FLANGED 1"



# TURRET

# BOOM MANUAL ROTATION REV. FLOW

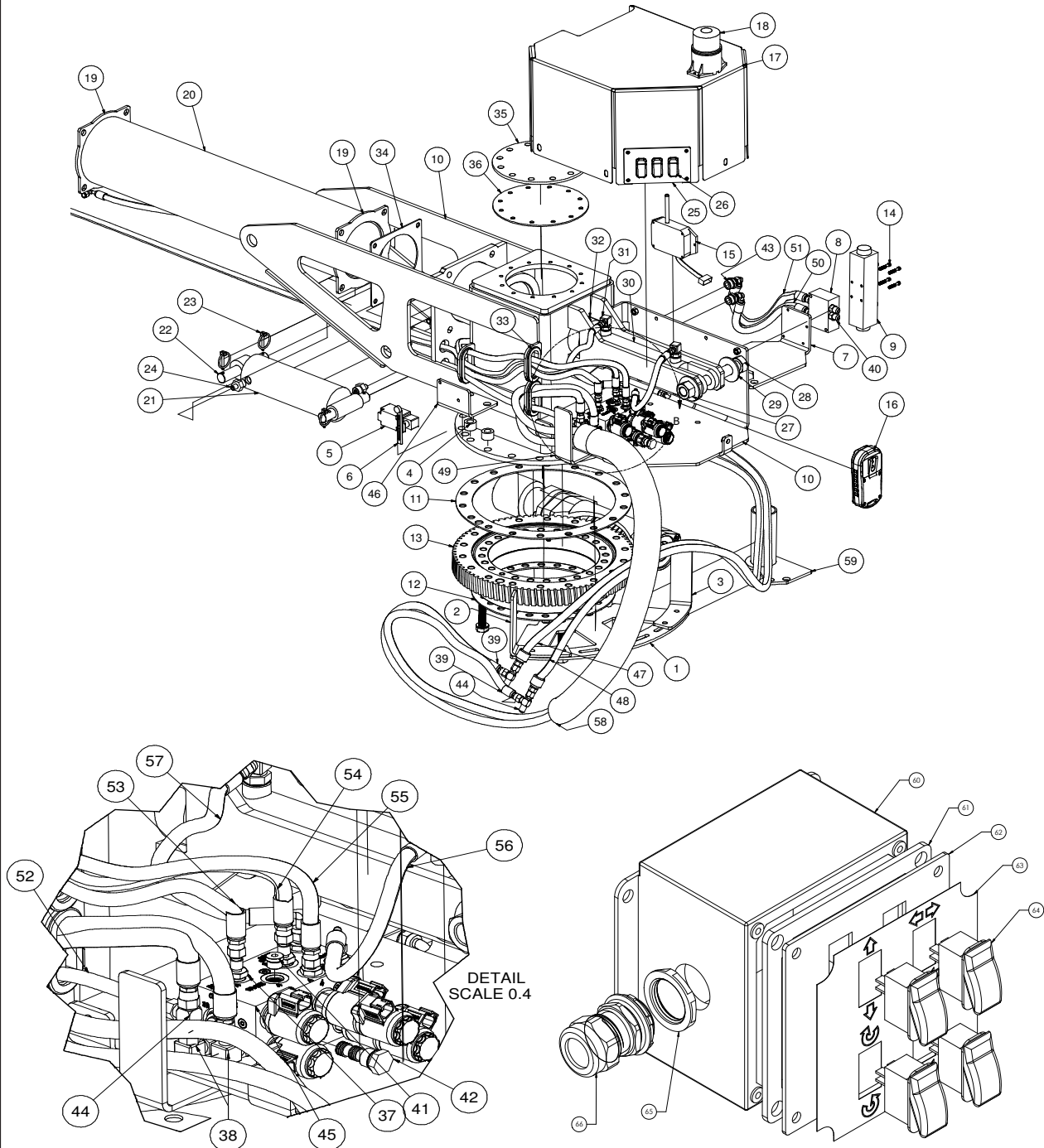
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	8043139	LIGHT STROBE LED DEUTSCH				
2	1	8046644	BOOM - COVER WELDMENT				
*	5	U000400	SCREW, HC 3/8"-16 X .75	38	1	8047949	HOSE ASSY VAC 4 - 11" ST-90
*	5	U000440	WASHER, FLAT 3/8"	39	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
3	1	8046696	PANEL CONTROL BOOM OVERRIDE	40	1	8044745	HOSE ASSY VAC 4 - 20" ST-90
	1	X000274	SWITCH, ROCKER (UP / DOWN)	41	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
	1	X000274	SWITCH, ROCKER (EXTEND / RETRACT)	42	1	8044745	HOSE ASSY VAC 4 - 20 ST-90
	1	X000273	SWITCH, ROCKER (BRAKE)	43	2	T400039	REDUCER, 6FJ - 4MJ
4	2	T500030	GREASE FITTING 1/8"NPT STRAIGHT	44	2	T401250	ELBOW, 90 3/8MB - 3/8" MJ
5	1	8092804	BOOM - RC RECEIVER (US)	45	2	T402153	TEE 6MJ - 6MJ - 6FJ
6	1	U120120	NUT, LOCK 1/2 - 13	46	1	8047331	MANIFOLD ASSY BOOM (CROSS2)
7	8	U200100	WASHER, FLAT 1/2"	47	2	T401265	ELBOW, 90 1/2" MB - 1/4" MJ
8	1	8043052	CYLINDER, BRAKE	48	5	T400550	REDUCER, 3/8" MB - 1/4" MJ
9	1	U000980	SCREW, HEX 1/2 - 13 X 4.00"	49	1	8092698	BOX, BOOM CONTROLS
10	2	T400570	UNION, 1/4" MB - 1/4" MJ	50	1	8092678	GASKET, BOOM CONTROL BOX
11	2	T401660	ELBOW, 90 3/8" MB - 1/4" MJ	51	1	8092677	COVER PLATE
12	1	U001570	SCREW, HC 1"-8 X 5.00	52	1	J200210	DECAL REOMOTE BOOM CONTROL
13	2	U200170	WASHER, FLAT 1" - 2 1/2" OD	53	4	X000274	SWITCH ROC.DPDT (ON)-OFF-(ON)
14	1	8048198	BOOM GATE VALVE CYLINDER	54	1	X000155	CONDUIT LOCKNUT 1"
	2	W201020	WIPER, CYLINDER ROD, 1 1/8" ROD	55	1	X000154	CONNECTOR, STRAIN RELIEF 1"
	1	8044480	SEAL PLATE WELDMENT				
	1	8044482	BOOM SHUTOFF SEAL				
	1	8044483	BOOM SHUTOFF SEAL PLATE SHIELD				
15	1	8092803	REMOTE CONTROL BOOM MAN. ROT. (US)				
16	1	U120060	NUT, LOCK NY 1" - 8				
17	1	8042234	SWIVEL BEARING				
	3	T500020	FITTING, GREASE .125 STRAIGHT (2 IN INNER RING, 1 IN OUTER RING)				
	18	U001195	SCREW, HC 5/8"-11 X 1 3/4"				
	23	U001210	SCREW, HC 5/8"-11 X 2 1/4"				
	41	U200140	WASHER, FLAT 5/8"				
	41	U210140	WASHER, LOCK 5/8"				
18	1	8046688	BOOM MOUNT BRAKE RING				
	4	U001900	SCREW, HC 5/8"-11 X 2 1/2"				
	8	U200140	WASHER, FLAT 5/8"				
	4	U120140	NUT, LOCK 5/8"-11				
19	4	8030315	SKID - WATER TANK CLEVIS TUBE				
20	1	8046690	BOOM - LOWER STOP RING				
21	2	8043781	GASKET BOOMBRG BOT				
22	1	8043780	GASKET BOOMBRG TOP				
23	4	8042812	GROMMET 2" ID 3" OD 1/4" WOG TSM				
24	2	8041977	BOOM - PIVOT CYLINDER BASE PIN				
25	1	8046597	CYLINDER, HYD BOOM 3 X 6				
26	2	T400611	UNION, 8MB - 4MJ				
27	4	U340050	PIN LINCH 3/16 X 1 9/16"				
28	2	8041958	BOOM - FLEX HOSE ADAPTER WELDMENT				
29	1	8042103	HOSE AG SUCTION 6 - 32 1/2"				
	2	8042104	CLAMP, HOSE T-BOLT 6.75				
30	2	8041988	BOOM - FLANGE GASKET				
31	1	8046571	BOOM TURRET WELDMENT				
	6	U001281	SCREW, HC .625 - 11 X 3.50"				
	6	U120020	NYLON LOCK NUT .625 - 11				
	12	U200140	WASHER, FLAT .625				
32	1	8044475	BOOM TURRET SHUTOFF - CLEAN COVER GASKET				
33	1	8044471	BOOM TURRET SHUTOFF - CLEAN COVER				
34	2	8049287	HOSE ASSY VAC 6 - 50" ST-90				
35	1	8047948	HOSE ASSY VAC 4 - 9" ST-90				
36	1	8047951	HOSE ASSY VAC 4 - 95" ST-90				
37	1	8047952	HOSE ASSY VAC 4 - 121" ST-90				

070115-E

VACASSY989-1

# TURRET

# BOOM HYD. ROTATION REV. FLOW



070115-E

VACASSY989-05 US



# TURRET

# BOOM HYD. ROTATION REV. FLOW

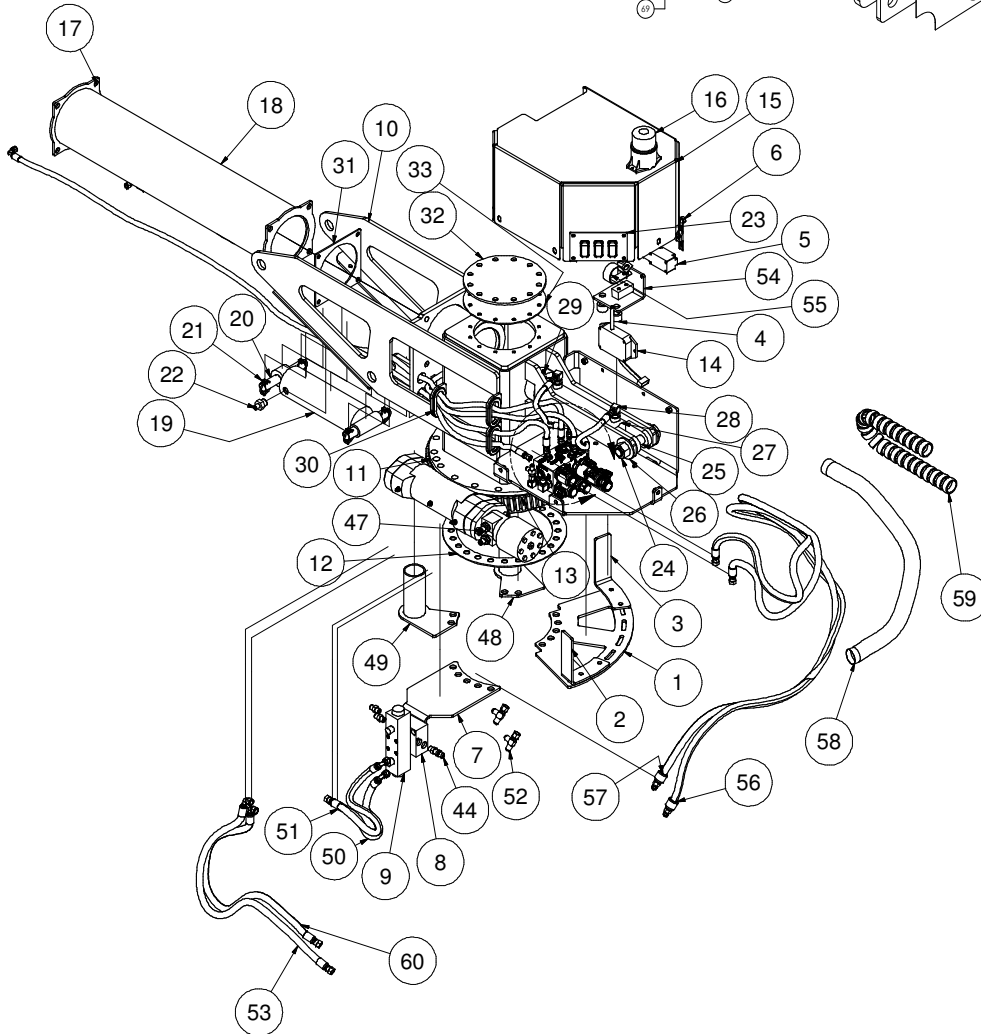
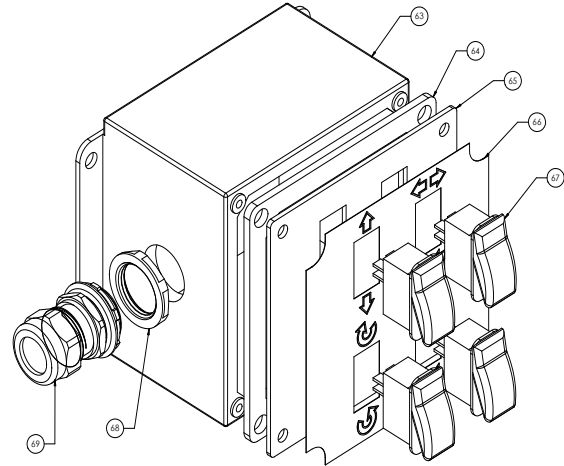
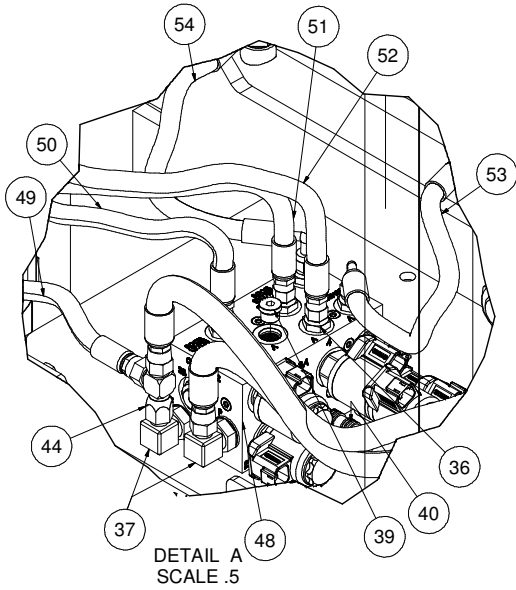
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	8042351	BOOM - ROTATION STOP BASE PLATE	43	2	T400035	REDUCER, 5/8"MB - 3/8"MJ
2	1	8042357	BOOM - ROTATION STOP BRACKET	44	1	T402153	TEE, 3/8"FJ - 3/8"MJ - 3/8"MJ
3	1	8042359	BOOM - ROTATION STOP BRACKET (OPP)	45	1	8047331	MANIFOLD ASSY, BOOM (CROSS2
4	2	8042376	BOOM - LIMIT SWITCH BRACKET	46	1	8042360	BOOM - LIMIT SWITCH BRACKET
5	1	8042431	SWITCH, LIMIT (BOOM)	47	1	8043664	HOSE ASSY VAC 6 - 36ST-90
6	1	8042432	SWITCH LIMIT BOOM, ADJ LEVER	48	1	8048653	HOSE ASSY VAC 6 - 38 ST-90
7	1	8042344	TANK-BOOM MANIFOLD PLATE	49	1	8049440	BRACKET BOOM, HOSE BUNDLE
8	1	8049329	MANIFOLD SUBPLATE D03 BOOM HR	50	1	8049405	HOSE ASSY VAC 6 - 8 1/2" ST-90
9	1	8049328	VALVE DIRECTIONAL BOOM HR D03	51	1	8049406	HOSE ASSY VAC 6 - 9 1/2" ST-90
10	1	8048371	BOOM TURRET WELDMENT	52	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
	6	U001281	SCREW, HC .625 - 11 X 3.50"	53	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
	6	U120020	NYLON LOCK NUT .625 - 11	54	1	8049374	HOSE ASSY VAC 4 - 120" ST-90
	12	U200140	WASHER, FLAT .625	55	1	8047951	HOSE ASSY VAC 4 - 95" ST-90
11	1	8043780	GASKET BOOMBRG TOP	56	1	8047948	HOSE ASSY VAC 4 - 9" ST-90
12	2	8043781	GASKET BOOMBRG BOT	57	1	8047949	HOSE ASSY VAC 4 - 11" ST-90
13	1	8042231	BEARING, BOOM HYD. ROT. ASSY	58	1	8049477	HYD. HOSE WRAP 60"
	3	T500020	FITTING, GREASE .125 STRAIGHT (2 IN INNER RING, 1 IN OUTER RING)	59	1	8049418	BOOM-HOSE ROUTING BRACKET
	18	U001195	SCREW, HC 5/8"-11 X 1 3/4"	60	1	8092698	BOX, BOOM CONTROLS
	23	U001210	SCREW, HC 5/8"-11 X 2 1/4"	61	1	8092678	GASKET, BOOM CONTROL BOX
	41	U200140	WASHER, FLAT 5/8"	62	1	8092677	COVER PLATE
	41	U210140	WASHER, LOCK 5/8"	63	1	J200210	DECAL REOMOTE BOOM CONTROL
14	4	U010007	SCREW, HSH #10-24 X 1.25	64	4	X000274	SWITCH ROC.DPDT (ON)-OFF-(ON)
15	1	8092806	RECEIVER, BOOM HR BLACK	65	1	X000155	CONDUIT LOCKNUT 1"
16	1	8092805	REMOTE CONTROL BOOM HR	66	1	X000154	CONNECTOR, STRAIN RELIEF 1"
17	1	8046644	BOOM - COVER WELDMENT				
*	5	U000400	SCREW, HC 3/8"-16 X .75				
*	5	U000440	WASHER, FLAT 3/8"	*	20	U001325	SCREW,HC .625-11 X 4.25" GR5
18	1	8043139	LIGHT STROBE LED DEUTSCH				
19	2	8041958	BOOM - FLEX HOSE ADAPTER WELDMENT				
20	1	8046758	BOOM HOSE, 6 - 32 1/2"				
	2	8042104	CLAMP, HOSE T-BOLT 6.75				
21	1	8046597	CYLINDER, HYD BOOM 3 X 6				
22	2	8041977	BOOM - PIVOT CYLINDER BASE PIN				
23	4	U340050	PIN LINCH 3/16 X 1 9/16"				
24	2	T400611	UNION, 8MB - 4MJ				
25	1	8046696	PANEL CONTROL BOOM OVERRIDE				
26	1	X000274	SWITCH, ROCKER (UP / DOWN)				
	1	X000274	SWITCH, ROCKER (EXTEND / RETRACT)				
	1	X000273	SWITCH, ROCKER (BRAKE)				
27	1	U120060	NUT, LOCK NY 1 - 8				
28	1	U001570	SCREW, HC 1"-8 X 5.00				
29	2	U200170	WASHER, FLAT 1" - 2 1/2"OD				
30	1	8048198	BOOM GATE VALVE CYLINDER				
	2	W201020	WIPER, CYLINDER ROD, 1 1/8" ROD				
	1	8044480	SEAL PLATE WELDMENT				
	1	8044482	BOOM SHUTOFF SEAL				
	1	8044483	BOOM SHUTOFF SEAL PLATE SHIELD				
31	2	T401660	ELBOW, 90 3/8"MB - 3/8"MJ				
32	2	T500030	GREASE FITTING 1/8"NPT STRAIGHT				
33	4	8042812	GROMMET, 2"ID 3"OD 1/4"WOG				
34	2	8041988	BOOM - FLANGE GASKET				
35	1	8044471	BOOM TURRET SHUTOFF - CLEAN COVER				
36	1	8044475	BOOM TURRET SHUTOFF - CLEAN COVER GASKET				
37	5	T400550	REDUCER, 3/8"MB - 1/4"MJ				
38	2	T401250	ELBOW, 90 3/8"MB - 3/8"MJ				
39	2	8044133	HOSE ASSY VAC 6-120" ST-ST				
40	4	T400037	UNION, 6MB - 6MJ				
41	1	T405092	PLUG, 3/8"MB-HEX SOCKET				
42	1	8049370	PLUG CAVITY #8 3-WAY				

070115-E

VACASSY989-05 US

# TURRET

# AUS. BOOM HYD. ROTATION REV. FLOW



070115-E

VACASSY989-05 AUS

# TURRET

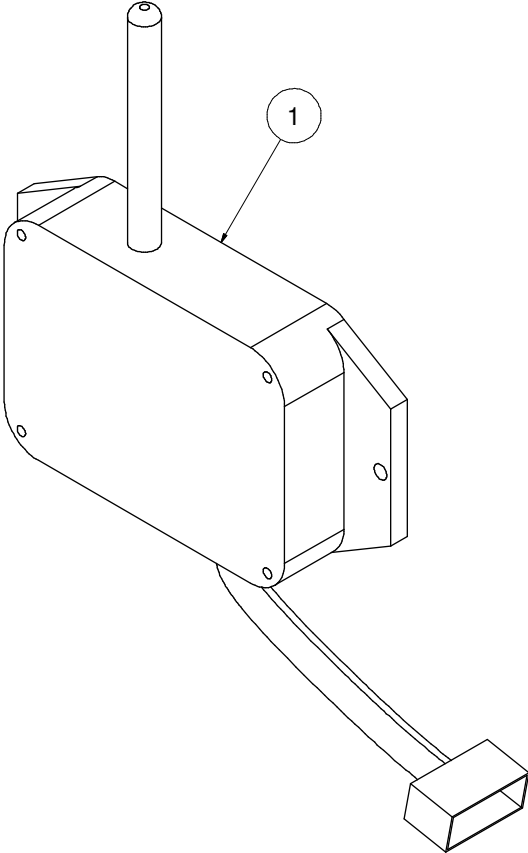
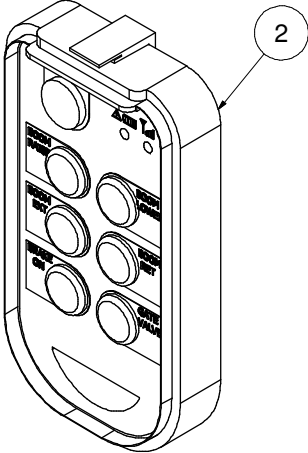
# AUS. BOOM HYD. ROTATION REV. FLOW

ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	8042351	BOOM - ROTATION STOP BASE PLATE	45	1	8049445	LIMIT SWITCH BRACKET (AUS)
2	1	8042357	BOOM - ROTATION STOP BRACKET	46	2	8031239	CLAMP, BOLT-ON 2" INSULATED
3	1	8042359	BOOM - ROTATION STOP BRACKET (OPP)	47	1	8049447	SPIRAL WRAP 24"
4	2	8042376	BOOM - LIMIT SWITCH BRACKET SPACER	48	1	8047331	MANIFOLD BOOM UPPER
5	1	8042431	SWITCH LIMIT BOOM	49	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
6	1	8042432	SWITCH LIMIT BOOM ADJ LEVER	50	1	8047714	HOSE ASSY VAC 4 - 38" ST-90
7	1	8042344	TANK - BOOM HYD MANIFOLD MTG PLATE	51	1	8049374	HOSE ASSY VAC 4 - 120" ST-90
8	1	8049329	MANIFOLD SUBPLATE D03 BOOM HR	52	1	8047951	HOSE ASSY VAC 4 - 95" ST-90
9	1	8049328	VALVE DIRECTIONAL BOOM HR D03	53	1	8047948	HOSE ASSY VAC 4 - 9" ST-90
10	1	8048371	BOOM TURRET WELDMENT	54	1	8047949	HOSE ASSY VAC 4 - 11" ST-90
	6	U001281	SCREW, HC .625 - 11 X 3.50"	55	1	8049475	HOSE ASSY VAC 6 - 19" ST-90
	6	U120020	NYLON LOCK NUT .625 - 11	56	1	8049453	HOSE ASSY VAC 6 - 18" ST-90
	12	U200140	WASHER, FLAT .625	57	1	8049454	HOSE ASSY VAC 6 - 32" ST-90
11	1	8043780	GASKET BOOMBRG TOP	58	1	8049454	HOSE ASSY VAC 6 - 32" ST-90
12	2	8043781	GASKET BOOMBRG BOT	59	1	8049455	HOSE ASSY VAC 6 - 120" ST-90
13	1	8042231	BEARING, BOOM HYD. ROT. ASSY	60	1	8049455	HOSE ASSY VAC 6 - 120" ST-90
	3	T500020	FITTING, GREASE .125 STRAIGHT (2 IN INNER RING, 1 IN OUTER RING)	61	1	8049477	HYD HOSE WRAP 60"
	18	U001195	SCREW, HC 5/8"-11 X 1 3/4"	62	3	U021100	SCREW, SET 5/8 -11X 1.00"LG
	23	U001210	SCREW, HC 5/8"-11 X 2 1/4"	63	1	8092698	BOX, BOOM CONTROLS
	41	U200140	WASHER, FLAT 5/8"	64	1	8092678	GASKET, BOOM CONTROL BOX
	41	U210140	WASHER, LOCK 5/8"	65	1	8092677	COVER PLATE
14	1	8092806	RECEIVER, BOOM HR BLACK	66	1	J200210	DECAL REOMOTE BOOM CONTROL
15	1	8092805	REMOTE CONTROL BOOM	67	4	X000274	SWITCH ROC.DPDT (ON)-OFF-(ON)
16	1	8046644	BOOM - COVER WELDMENT	68	1	X000155	CONDUIT LOCKNUT 1"
*	5	U000400	SCREW, HC 3/8"-16 X .75	69	1	X000154	CONNECTOR, STRAIN RELIEF 1"
*	5	U000440	WASHER, FLAT 3/8"				
17	1	8043139	LIGHT STROBE LED DEUTSCH				
18	2	8041958	BOOM - FLEX HOSE ADAPTER WELDMENT				
19	1	8046758	BOOM HOSE, 6 - 32 1/2"				
	2	8042104	CLAMP, HOSE T-BOLT 6.75				
20	1	8046597	CYLINDER, HYD BOOM 3 X 6				
21	2	8041977	BOOM - PIVOT CYLINDER BASE PIN				
22	4	U340050	PIN LINCH 3/16 X 1 9/16"	*	20	U001325	SCREW,HC .625-11 X 4.25" GR5
23	2	T400611	UNION, 8MB - 4MJ	*	1	X200135	HARNESS, REMOTE OVERRIDE
24	1	8046696	PANEL CONTROL BOOM OVERRIDE				
25	1	X000274	SWITCH, ROCKER (UP / DOWN)				
	1	X000274	SWITCH, ROCKER (EXTEND / RETRACT)				
	1	X000273	SWITCH, ROCKER (BRAKE)				
26	1	U120060	NUT, LOCK NY 1 - 8				
27	1	U001570	SCREW, HC 1"-8 X 5.00				
28	2	U200170	WASHER, FLAT 1" - 2 1/2"OD				
29	1	8048198	BOOM GATE VALVE CYLINDER				
	2	W201020	WIPER, CYLINDER ROD, 1 1/8" ROD				
	1	8044480	SEAL PLATE WELDMENT				
	1	8044482	BOOM SHUTOFF SEAL				
	1	8044483	BOOM SHUTOFF SEAL PLATE SHIELD				
30	2	T401660	ELBOW, 90 3/8"MB - 1/4"MJ				
31	2	T500030	GREASE FITTING 1/8"NPT STRAIGHT				
32	3	8042812	GROMMET, 2"ID 3"OD 1/4"WOG				
33	2	8041988	BOOM - FLANGE GASKET				
34	1	8044471	BOOM TURRET SHUTOFF - CLEAN COVER				
35	1	8044475	BOOM TURRET SHUTOFF - CLEAN COVER GASKET				
36	5	T400550	REDUCER, 3/8"MB - 1/4"MJ				
37	2	T401250	ELBOW, 90 3/8"MB - 3/8"MJ				
38	4	T400037	UNION, 6MB - 6MJ				
39	1	T405092	PLUG, 3/8"MB-HEX SOCKET				
40	1	8049370	PLUG CAVITY #8 3-WAY				
41	2	T400035	REDUCER, 5/8"MB - 3/8"MJ				
42	1	8049418	BRACKET HOSE ROUTING WELD'T				
43	1	8049426	BRACKET HOSE ROUTING WELD'T				
44	2	T402153	TEE, 3/8"FJ - 3/8"MJ - 3/8"MJ				

101415-E

VACASSY989-05 AUS

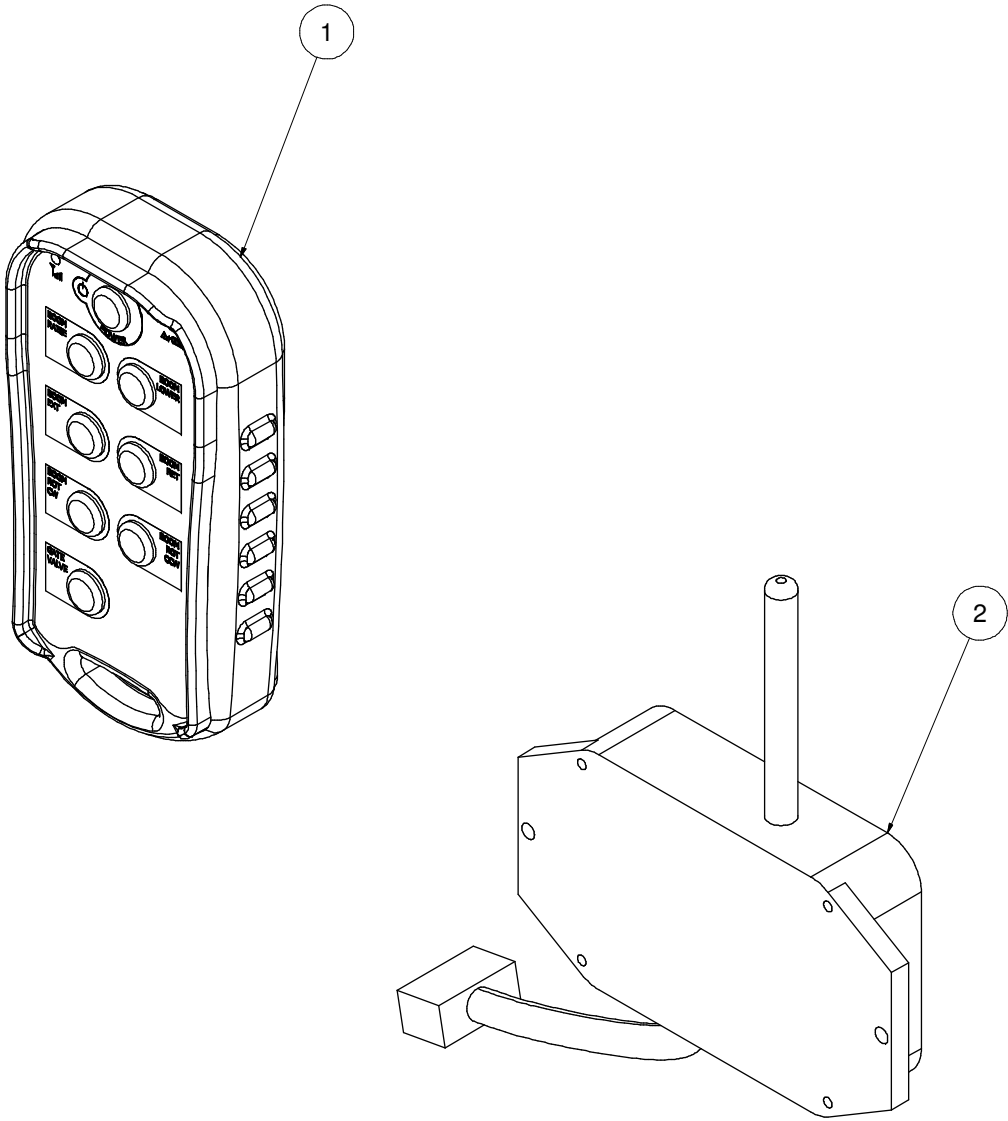
# BOOM REMOTE CONTROL MANUAL



# BOOM REMOTE CONTROL MANUAL

ITEM	QTY	PART #	DESCRIPTION
1	1	8092804	RECEIVER BOOM MANUAL
2	1	8092803	REMOTE CONTROL BOOM MANUAL
*	1	X200060	HARNESS VAC BOOM UPPER
*	1	X200040	HARNESS VAC BOOM LOWER
*	1	8048777	SYSTEM OPERATION & TROUBLESHOOTING

# BOOM REMOTE CONTROL HYDRAULIC ROTATION



072915-E

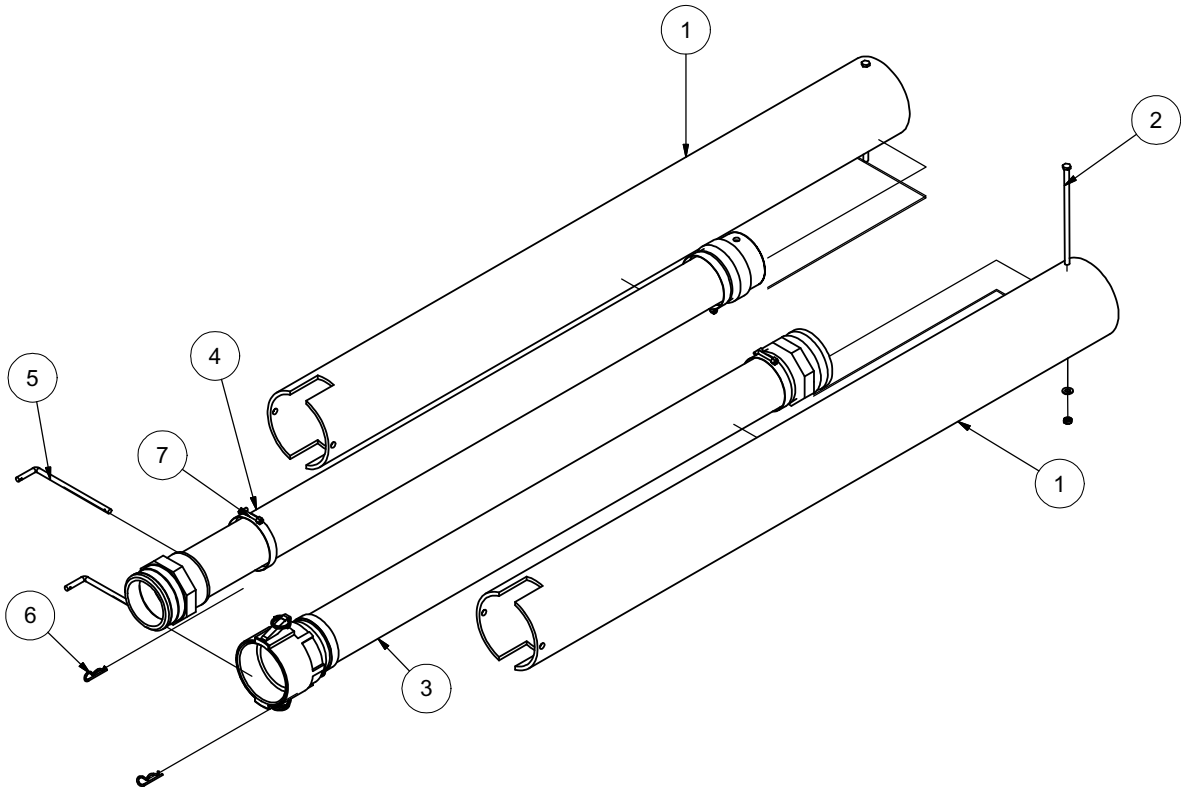
VACASSY01504

# BOOM REMOTE CONTROL HYDRAULIC ROTATION

ITEM	QTY	PART #	DESCRIPTION
1	1	8092805	REMOTE CONTROL HYD. ROT. BOOM
*	1	X200060	HARNESS VAC BOOM UPPER
*	1	X200040	HARNESS VAC BOOM LOWER
*	1	8048777	SYSTEM OPERATION & TROUBLESHOOTING
*	1	X200066	HARNESS, BOOM HYD. ROTATION LIMIT SWITCH
*	1	X200067	HARNESS, BOOM HYD. ROTATION VALVE
2	1	8092806	RECEIVER HYD. ROT. BOOM

# HOSE STORAGE

# BOOM



051613-E

VACASSY978



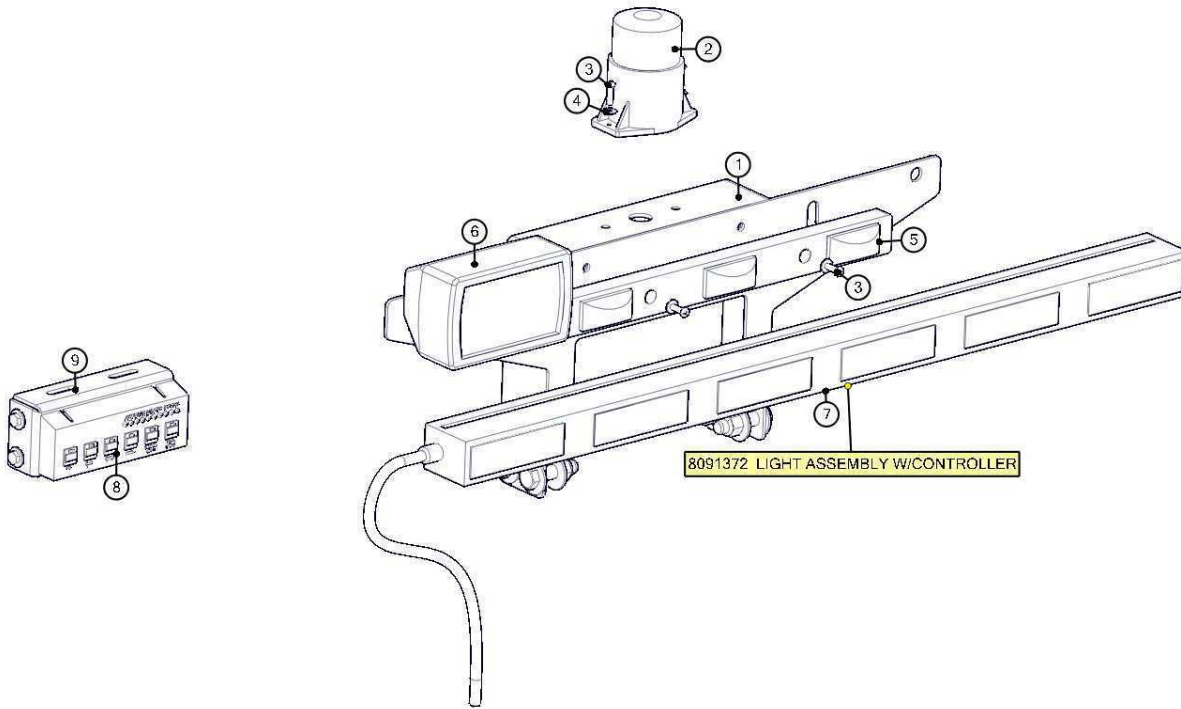
# HOSE STORAGE

# BOOM

ITEM	QTY	NUMBER	DESCRIPTION
1	2	8042222	BOOM EXTENSION HOSE STORAGE
	2	8043198	CLAMP T-BOLT 700
2	2	U000626	SCREW, HC 3/8"-16 X 7.50"
	1	U200060	WASHER, FLAT 3/8"
	1	U120110	NUT, LOCK .375-16
3	1	8042137	BOOM HOSE EXTENSION
	1	8041781	BOOM EXTENSION HOSE
	1	8046444	CAMLOCK, 4" AL FCAM X MBARB
	1	8046443	CAMLOCK, 4" AL MCAM X MBARB
	2	8042606	CLAMP HOSE T-BOLT 450
4	1	8032138	BOOM HOSE EXTENSION WITH 4" UNION PVC
	1	8045723	4" ALUMINUM TUBE 52 1/2"LG
	2	8045728	4" HALF NIPPLE
	1	8030844	COUPLING, 4" ALUM CAMLOCK MXF
5	1	8045725	UNION PVC 4"FNPT 4"MSLIP w/HOLE
	2	8041101	HOSE STORAGE RETAINING ROD
	2	8041485	LANYARD CABLE
6	2	R700160	R-CLIP
7	4	8042606	CLAMP T-BOLT 450

# Arrow Board Option

# (Strong Arm)



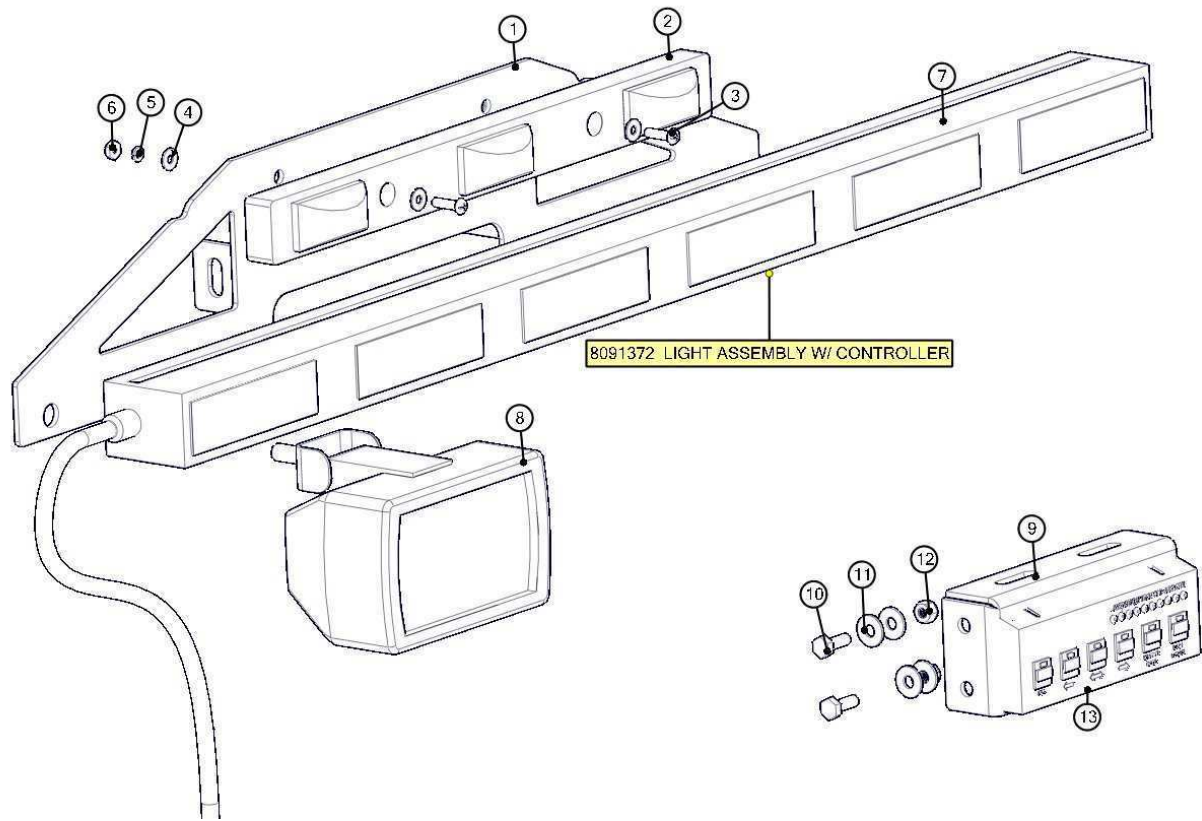
ITEM	QTY	PART #	DESCRIPTION
1	1	8093904	WELDMENT, BRACKET LIGHT DIRECTIONAL
2	1	8043139	LIGHT, STROBE LED DEUTSCH
3	4	U030809	SCREW, PAN HD PHIL 10-24 X .75
4	8	U200001	WASHER, FLAT #10
5	1	8041509	LIGHT, TANK CLEARANCE 3 BAR
6	1	8043138	LIGHT, WORK VAC TRAP DEUTSCH
7	1	8093911	LIGHT, DIRECTIONAL LED FRONT (NO CONTROLS)
8	1	8091372-1	CONTROLLER, TRAFFIC ARROW
9	1	8093926	CONTROLLER MOUNT

052516-E

**8093930**

# Arrow Board Option

# (Boom)



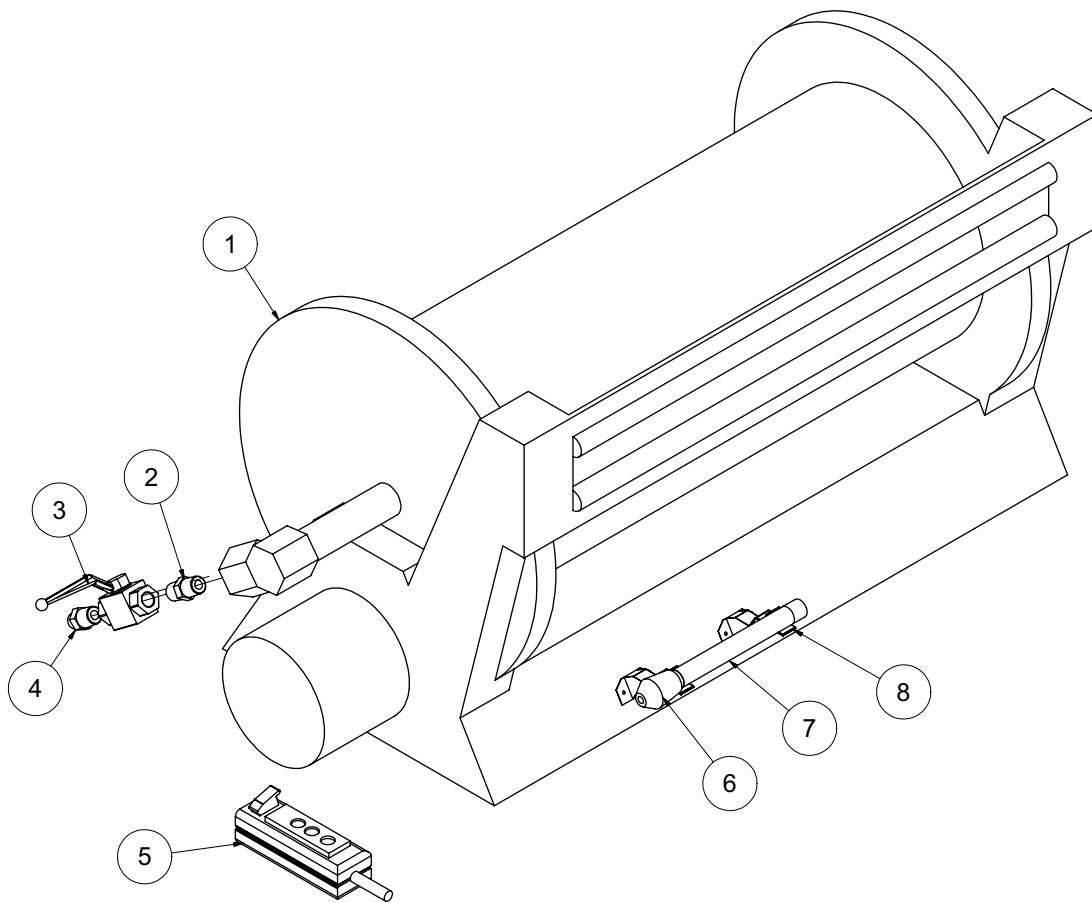
ITEM	QTY	PART #	DESCRIPTION
1	1	8093908	WELDMENT, BRACKET LIGHT DIRECTIONAL (BOOM)
2	1	8041509	LIGHT, TANK CLEARANCE 3 BAR
3	2	U030809	SCREW, PAN HD PHIL 10-24 X .75
4	4	U200001	WASHER, FLAT #10
5	1	U210005	WASHER, LOCK #10
6	1	U100010	NUT, HEX M/S #10-24
7	1	8093911	LIGHT, DIRECTIONAL LED FRONT (NO CONTROLS)
8	1	8043138	LIGHT, WORK VAC TRAP DEUTSCH
9	1	8093926	CONTROLLER MOUNT
10	2	U000040	SCREW, HC .250-20 X .750 ZP G5
11	4	U200020	WASHER, FLAT .250 ZP
12	2	U120000	NUT, LOCK .250-20 ZP G2
13	1	8091372-1	CONTROLLER, TRAFFIC ARROW

052516-E

**8093931**

# Hose Reel Assembly

(Jetter)



091813-E

VACASSY766

# Hose Reel Assembly

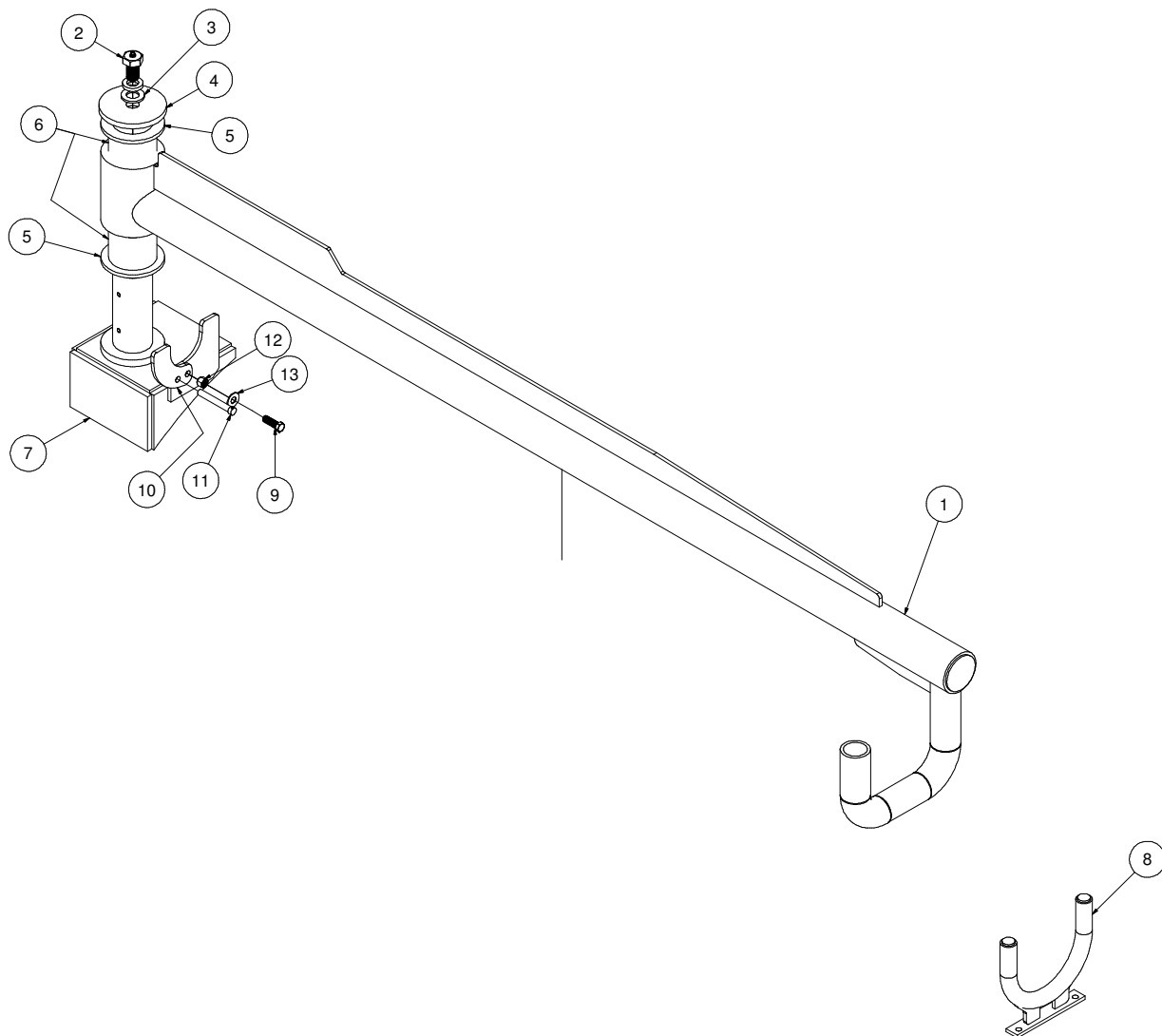
(Jetter)

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8043214	REEL ONLY JETTER 1/2" X 500'
2	1	T404020	UNION, 8MP - 8MP
3	1	8031197	STEEL BALL VALVE - 1/2"NPT
4	1	T400040	UNION, 8MP - 8MJ
5	1	8041859	JETTER CONTROLLER (WIRED)
	1	8041858	WIRE VAC S04-16-480
	1	8031153	COVER, TOGGLE SWITCH
	1	8030859	HANDSET, HYD. POWER UNIT
	1	X000097	SWITCH, TOGGLE SPST ON - OFF
6	1	8040546	JETTER NOZZLE 12GPM
7	1	8032013	NIPPLE, STAINLESS 1/2"MP X 8"
8	1	8040899	CLIP, TOOL HOLDER

091813-E

VACASSY766

# STRONGARM



013013-E

VACASSY990

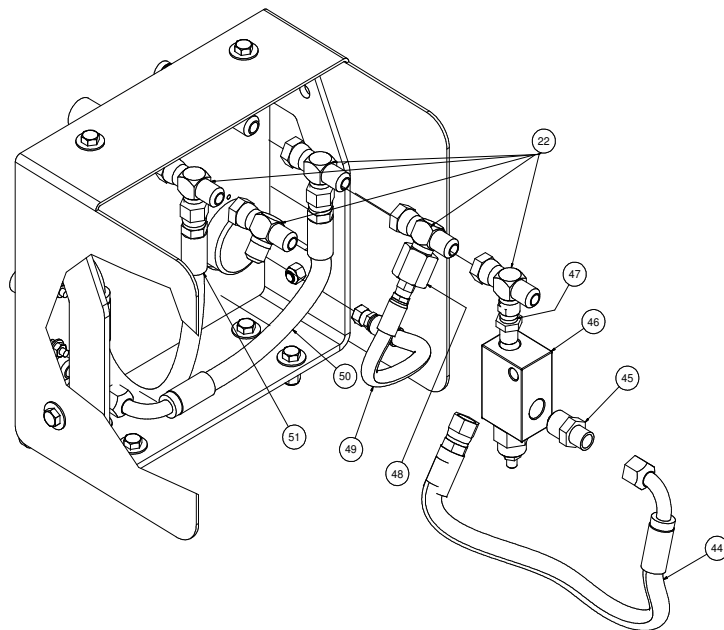
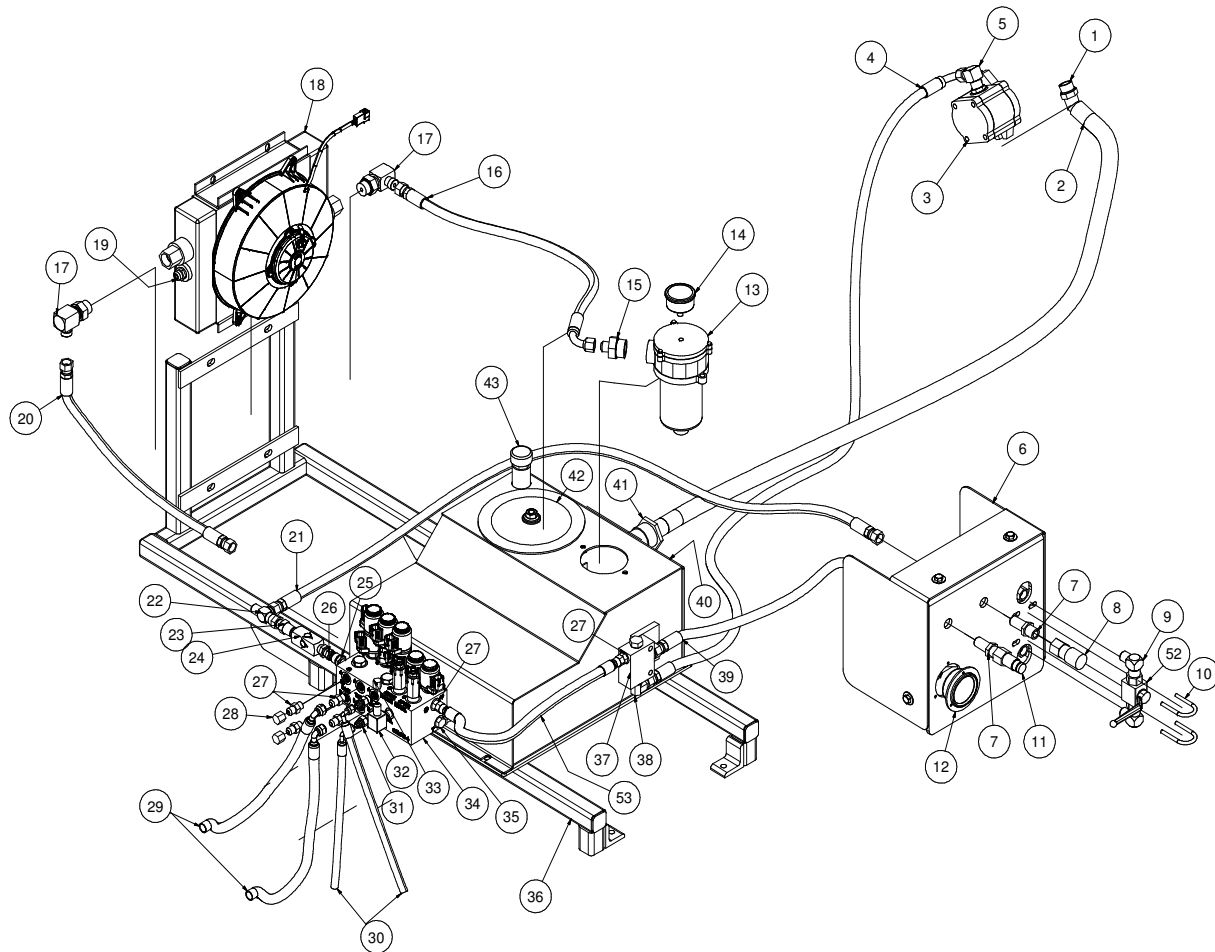
# STRONGARM

ITEM	QTY	NUMBER	DESCRIPTION
1	1	8047181	STRONGARM
2	1	8048195	SCREW, HC .750 10 X 1.25 ZP G5 W/GREASE FITTING
	1	U210160	WASHER, LOCK .750
3	1	U200160	WASHER, FLAT 3/4"
4	1	8047085	END CAP, SA
5	2	8047077	WEAR FLANGE, UHMW
6	2	8047076	BEARING, NYLON
7	1	8047098	STRONG ARM BASE (500)
	1	8047258	STRONG ARM BASE (800)
8	1	8047194	STRONGARM HOLDER WELDMENT
9	1	U000445	SCREW,HC 3/8"-16 X 1.25
10	1	8047089	RETAINER, FRONT PLATE
11	1	8041213	SAFETY SNAP PIN
12	1	U210061	NUT, LOCK, NY, .375
13	1	U200060	WASHER, FLAT 3/8"
*	1	J200114	DECAL, I.D. STRONGARM

\* NOT SHOWN

# Aux. Hydraulics

# 67/99HP



021417-E

VACASSY01910



# Aux.Hydraulics

# 67/99HP

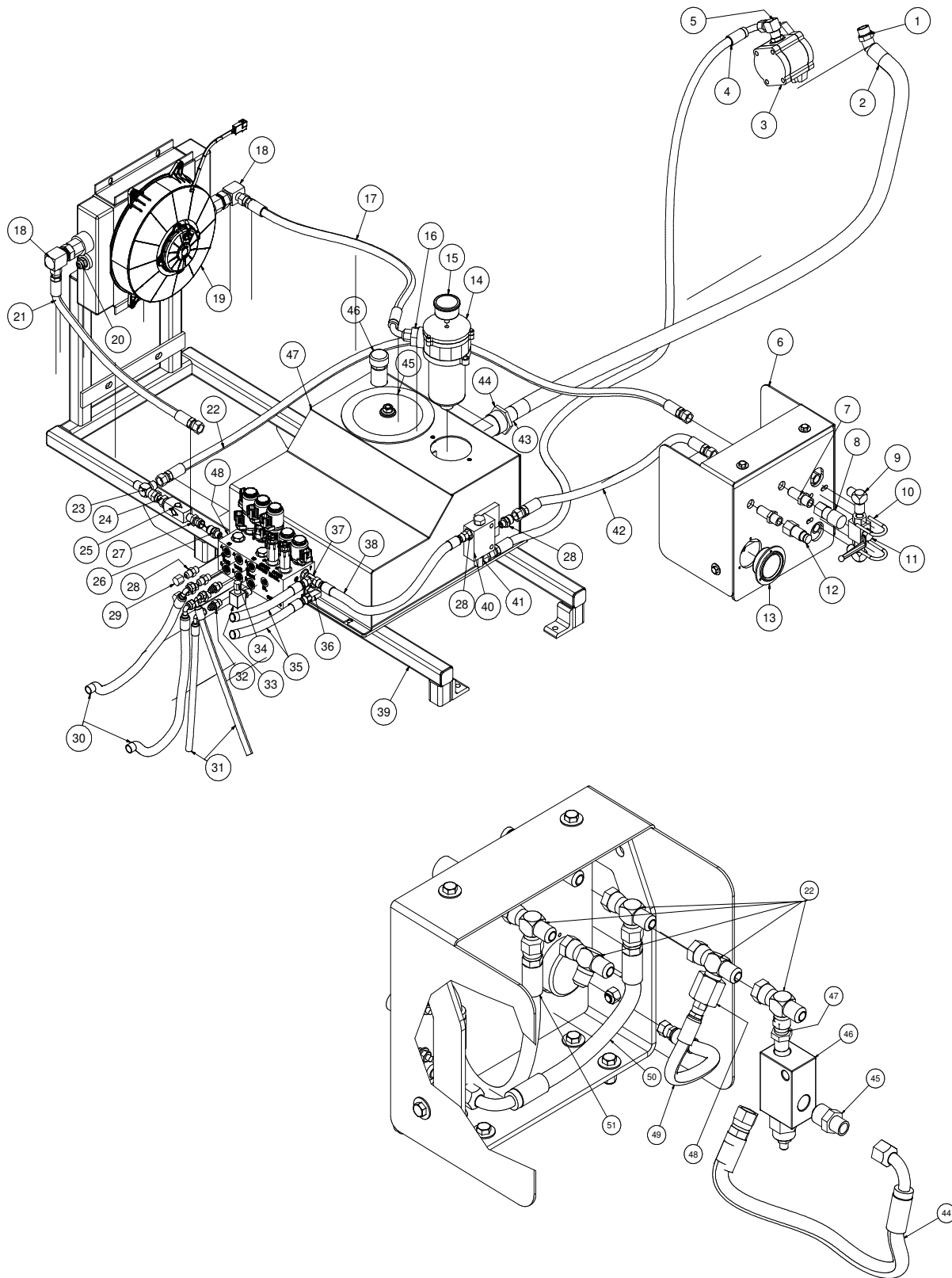
ITEM	QTY	PART	DESCRIPTION
1	1	8043964	ELBOW, 45 16HB - 12MB
2	1	8047786	HOSE VAC SUCTION 1" - 52"LG
3	1	8047409	PUMP, AUX. HYD. 67/99HP
4	1	8042924	HOSE ASSY VAC 6-60" ST-90
5	1	T401300	ELBOW, 90 5/8"MB(ADJ) - 1/2MJ
6	1	8048906	AUX. HYD. BRACKET W/ SHIELD ASSEMBLY
7	2	T400396	BULKHEAD, 8MP - 8MJ
8	1	8030663	FITTING, QUICK DISCONNECT FEMALE
9	2	T401140	ELBOW, 8MP - 8MJ
10	2	U010017	CLAMP HOOK 1 1/2", 1/4"THD
	4	U100020	NUT, HEX 1/4-20
	4	U200020	WASHER, FLAT 1/4"
11	1	8030662	FITTING, QUICK DISCONNECT MALE
12	1	HM00092	PRESSURE GAUGE
13	1	8047456	FILTER, HYD. OIL AUX. HYD.
14	1	8047456-1	PRESSURE INDICATOR
15	1	T400240	REDUCER, 1"MB - 1/2"MJ
16	1	8048117	HOSE ASSY VAC 6-34" ST-90
17	2	T401320	ELBOW, 90 3/4"(ADJ) - 1/2"MJ
18	1	CM00041	COOLER, HYD W/FAN
19	1	8047920	SWITCH, TEMP OIL AUX HYD 165F
20	1	8049327	HOSE ASSY VAC 8-36" ST-90
21	1	8049008	HOSE ASSY VAC 8-60" ST-90
22	6	T402155	TEE, 1/2FJ - 1/2MJ - 1/2MJ
23	1	T400040	UNION, 1/2"MP - 1/2"MJ
24	1	8041734	CHECK VALVE
25	1	T400120	REDUCER, 3/8MB - 1/2MJ
26	1	T400814	UNION, 8MP - 8FJ
27	6	T400037	UNION, 6MB - 6MJ
28	2	T405203	CAP, 3/8" FEM. JIC., HEX HEAD
29	2	8043664	HOSE ASSY VAC 6-36" ST-90
30	2	8049011	HOSE ASSY VAC 4-106" ST-90
31	2	T400550	REDUCER, 6MB - 4MJ
32	1	T401230	ELBOW, 90 1/4MB - 1/4MJ
33	1	T405200	CAP, 1/4" FEM. JIC, HEX HEAD
34	1	8048690-02	MANIFOLD ASSEMBLY, BOOM (CROSS3)
35	1	T405064	PLUG, 3/8"NPT
36	1	8047316	BRACKET, AUX. HYD.
37	1	8093964	REGULATOR, PRIORITY FLOW
38	1	T401120	ELBOW, 90 3/8MP - 1/2MJ
39	1	8049003	HOSE ASSY VAC 8-30" ST-90
40	1	8047388	TANK, HYD. AUX (CROSS2)
*	1	T720115	GAUGE, SIGHT HYD. OIL
41	1	8011058	SUCTION STRAINER 1"/15GPM
42	1	4800758-01	CLEAN-OUT COVER, TOP
43	1	8047330-4	CAP, HYD. TANK
44	1	8049005	HOSE ASSY VAC 8-16" ST-90
45	1	T400040	UNION, 8MP - 8MJ
46	1	8041829	VALVE, RELIEF
47	1	T400814	UNION, 8MP - 8FJ
48	1	T400700	REDUCER 1/2FJ - 1/4MJ
49	1	8042934	HOSE ASSY VAC 4 - 12" ST-ST
50	1	8049006	HOSE ASSY VAC 8 - 8" ST-90
51	1	8049007	HOSE ASSY VAC 8 - 10" ST-ST
52	1	8031197	VALVE, BALL 1/2" 3000 PSI.MIN
53	1	8041785	HOSE ASSY VAC 6-18" ST-ST

021417-E

VACASSY01910

# Aux. Hydraulics (Boom)

# 67/99HP



021417-E

VACASSY01911

# Aux.Hydraulics (Boom)

# 67/99HP

ITEM	QTY	PART	DESCRIPTION
1	1	8043964	ELBOW, 45 16HB - 12MB
2	1	8047786	HOSE VAC SUCTION 1" - 52"LG
3	1	8047409	PUMP, AUX. HYD. 67/99HP
4	1	8042924	HOSE ASSY VAC 6-60" ST-90
5	1	T401300	ELBOW, 90 5/8"MB(ADJ) - 1/2MJ
6	1	8048906	AUX. HYD. BRACKET W/ SHIELD ASSEMBLY
7	2	T400396	BULKHEAD, 8MP - 8MJ
8	1	8030663	FITTING, QUICK DISCONNECT FEMALE
9	2	T401140	ELBOW, 8MP - 8MJ
10	2	U010017	CLAMP HOOK 1 1/2", 1/4"THD
	4	U100020	NUT, HEX 1/4-20
	4	U200020	WASHER, FLAT 1/4"
11	1	8031197	VALVE,BALL 1/2" 3000 PSI.MIN
12	1	8030662	FITTING, QUICK DISCONNECT MALE
13	1	HM00092	PRESSURE GAUGE
14	1	8047456	FILTER, HYD. OIL AUX. HYD.
15	1	8047456-1	PRESSURE INDICATOR
16	1	T400240	REDUCER, 1"MB - 1/2"MJ
17	1	8048117	HOSE ASSY VAC 6-34" ST-90
18	2	T401320	ELBOW, 90 3/4"(ADJ) - 1/2"MJ
19	1	CM00041	COOLER, HYD W/FAN
20	1	8047920	SWITCH, TEMP OIL AUX HYD 165F
21	1	8049327	HOSE ASSY VAC 8-36" ST-90
22	1	8049008	HOSE ASSY VAC 8-60" ST-90
23	6	T402155	TEE, 1/2FJ - 1/2MJ - 1/2MJ
24	1	T400040	UNION, 1/2"MP - 1/2"MJ
25	1	8041734	CHECK VALVE
26	1	T400120	REDUCER, 3/8MB - 1/2MJ
27	1	T400814	UNION, 8MP - 8FJ
28	4	T400037	UNION, 6MB - 6MJ
29	2	T405203	CAP, 3/8" FEM. JIC., HEX HEAD
30	2	8043664	HOSE ASSY VAC 6-36" ST-90
31	2	8049011	HOSE ASSY VAC 4-106" ST-90
32	2	T400550	REDUCER, 6MB - 4MJ
33	1	T401230	ELBOW, 90 1/4MB - 1/4MJ
34	1	T405200	CAP, 1/4" FEM. JIC, HEX HEAD
35	2	8049283	HOSE ASSY VAC 6 - 204" ST-90
36	1	T401250	ELBOW, 90 3/8MB - 3/8MJ
37	1	T402148	TEE, 6MB - 6MJ - 6MJ
38	1	8041785	HOSE ASSY VAC 6 - 18" ST-ST
39	1	8047316	BRACKET, AUX. HYD.
40	1	8093964	REGULATOR, PRIORITY FLOW
41	1	T401120	ELBOW,90 3/8MP - 1/2MJ
42	1	8049003	HOSE ASSY VAC 8-30" ST-90
43	1	8043963	UNION, 1"MP - 1"BARB
44	1	8011058	SUCTION STRAINER 1"/15GPM
45	1	4800758-01	CLEAN-OUT COVER, TOP
46	1	8047330-4	CAP, HYD. TANK
47	1	8047388	TANK, HYD. AUX (CROSS2)
*	1	T720115	GAUGE, SIGHT HYD. OIL
48	1	8048690-02	MANIFOLD ASSEMBLY, BOOM (CROSS3)
49	1	T400814	UNION, 8MP - 8FJ
50	1	8041829	VALVE, RELIEF
51	1	T400040	UNION, 8MP - 8MJ
52	1	8049005	HOSE ASSY VAC 8 - 16" ST-90
53	1	T400700	REDUCER, 1/2FJ - 1/4MJ
54	1	8042934	HOSE ASSY VAC 4 - 12" ST-ST
55	1	8049006	HOSE ASSY VAC 8 - 8" ST-90

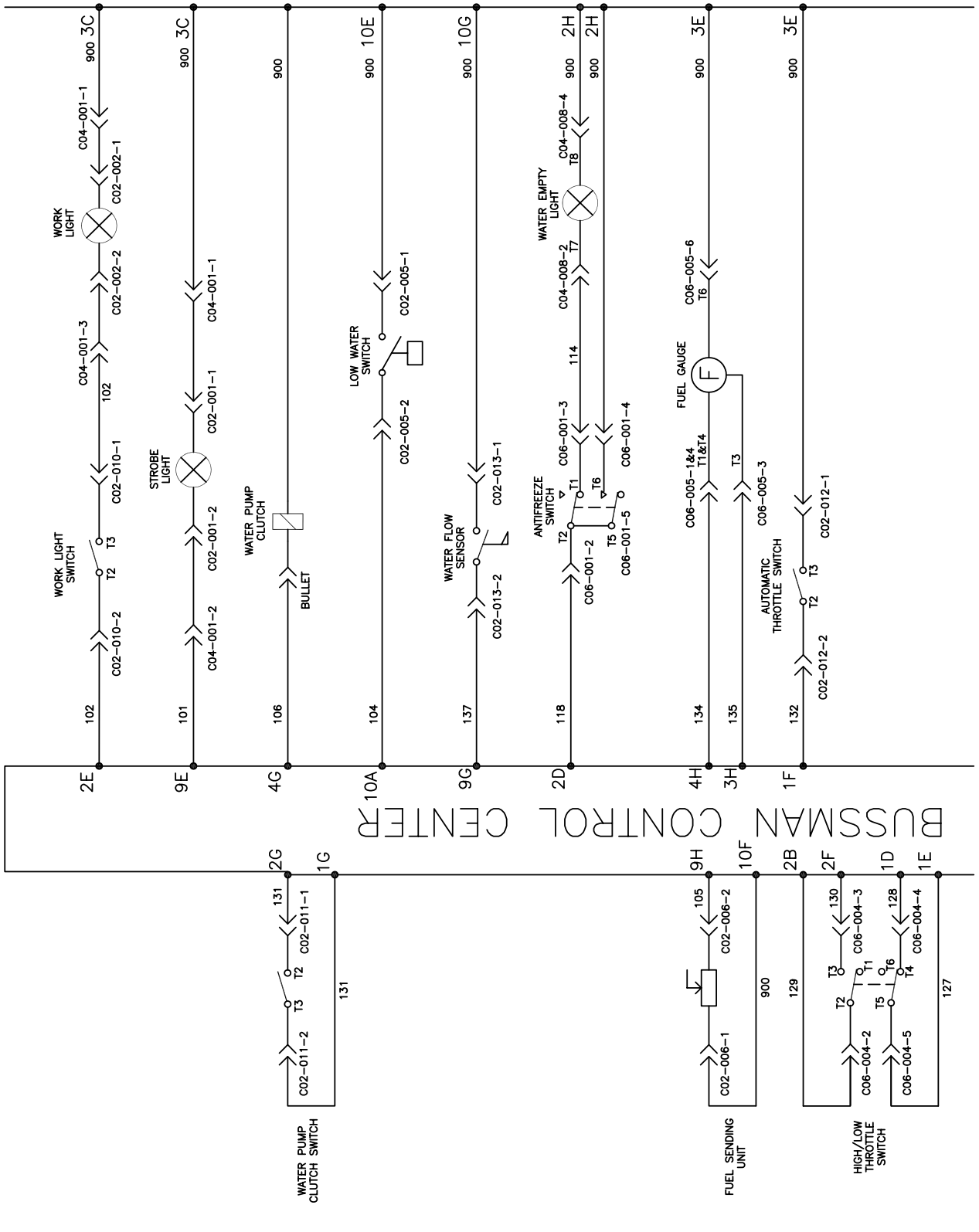
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VACASSY01911





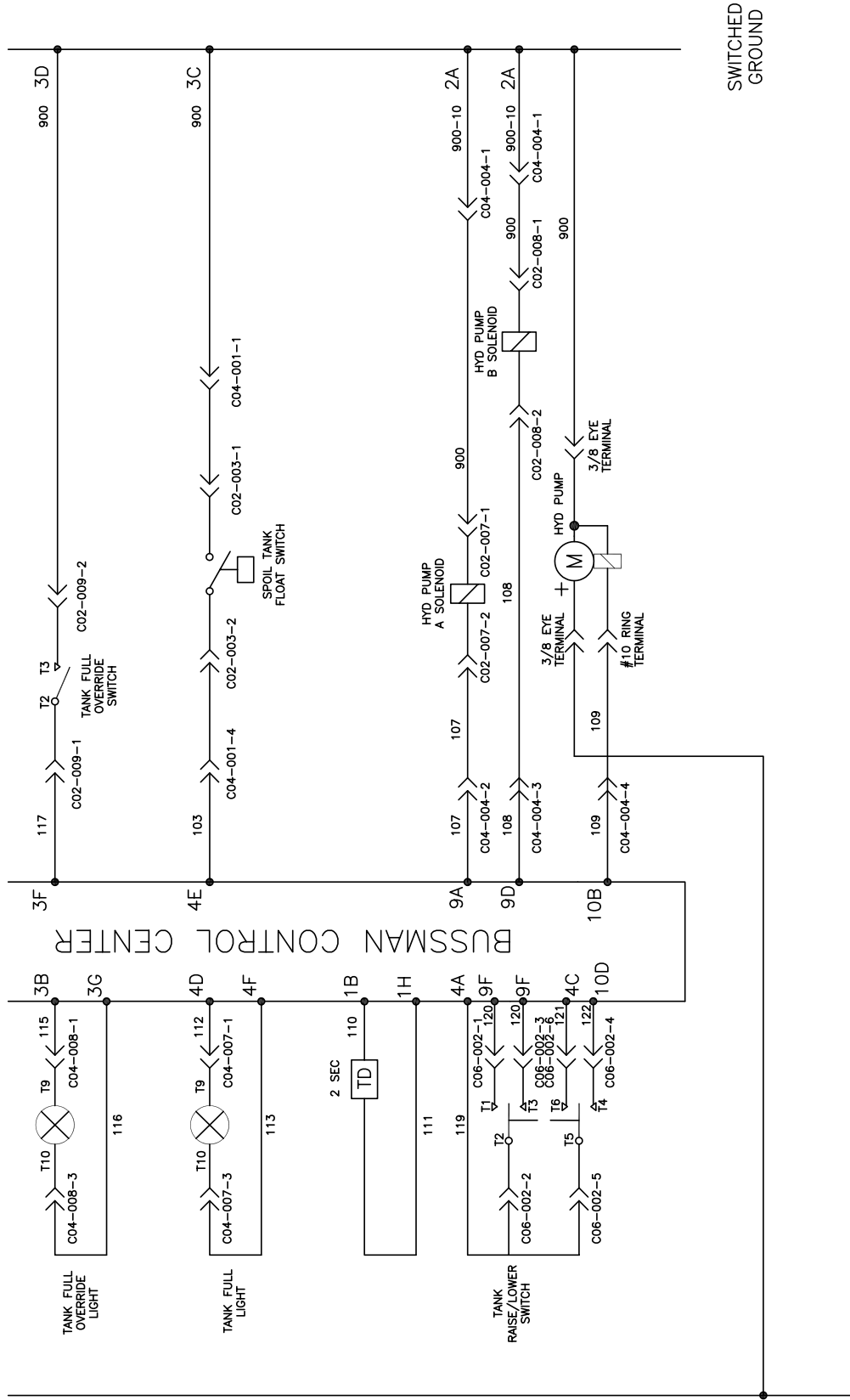
# Vacuum Diesel Engine Schematic



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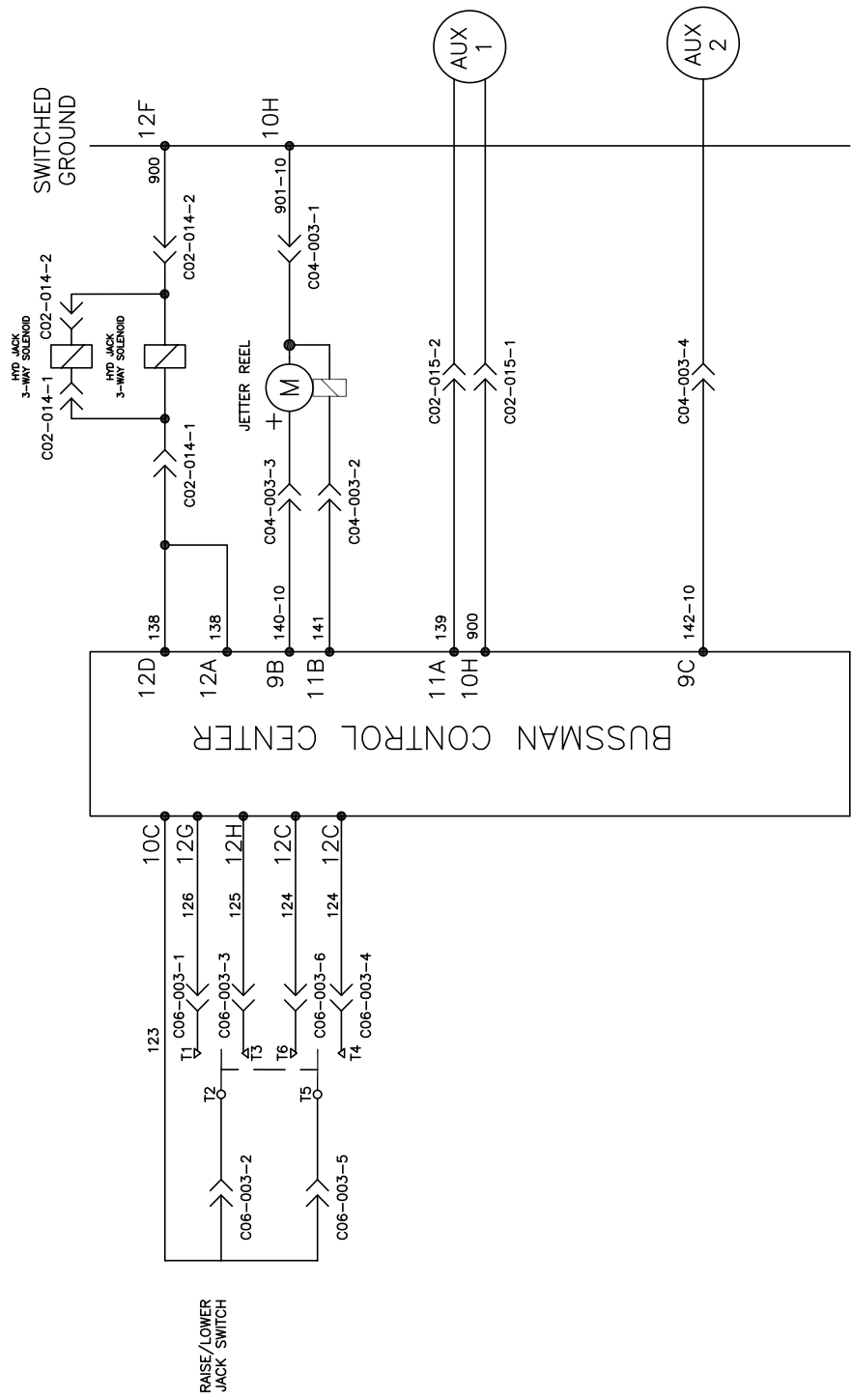
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# Vacuum Diesel Engine Schematic



# Vacuum Diesel Engine Schematic

BUSSMAN CONTROL CENTER  
OPTIONS



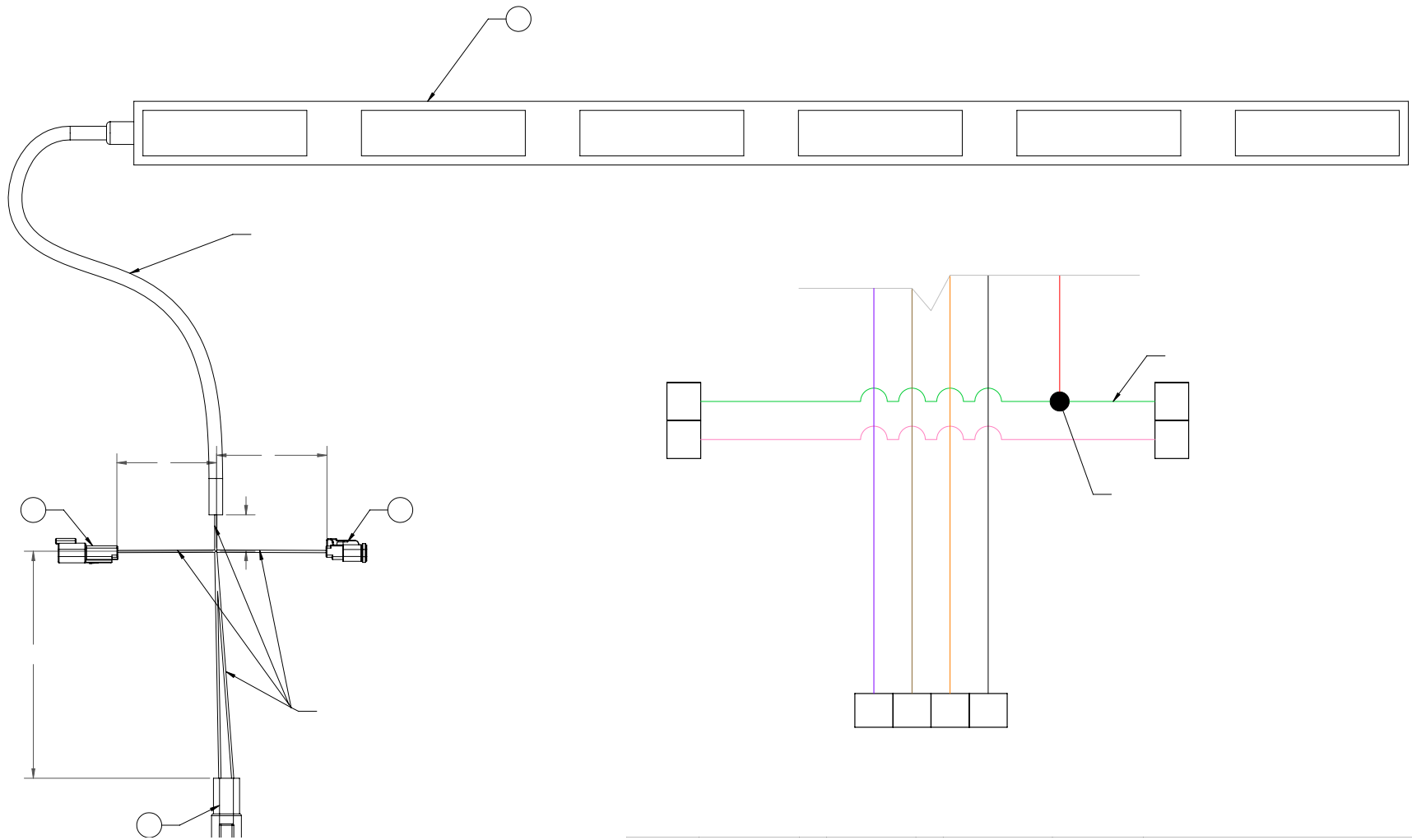
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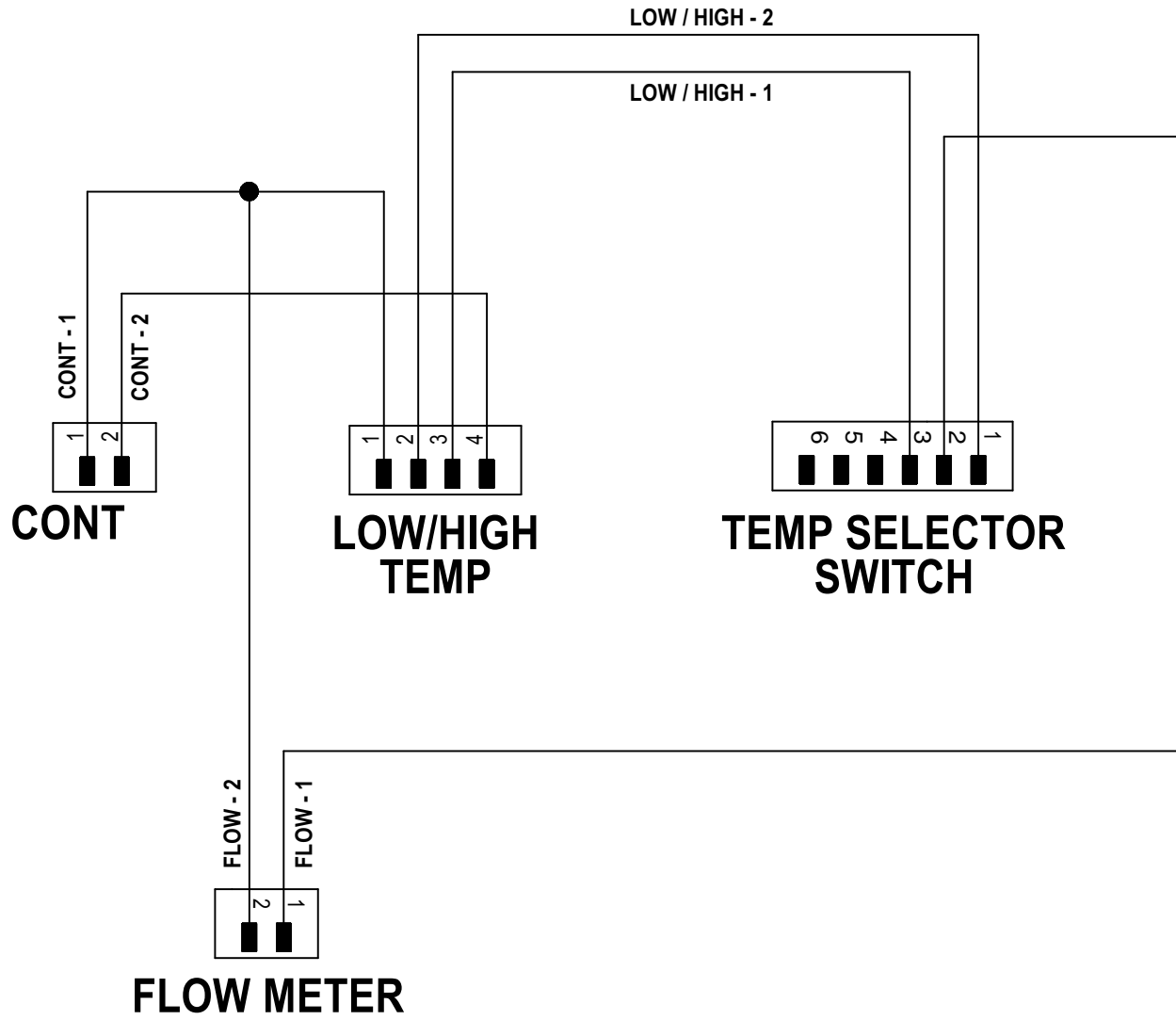
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## ARROWBOARD WIRING SCHEMATICS

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# MCLAUGHLIN - HOT BOX SCHEMATIC

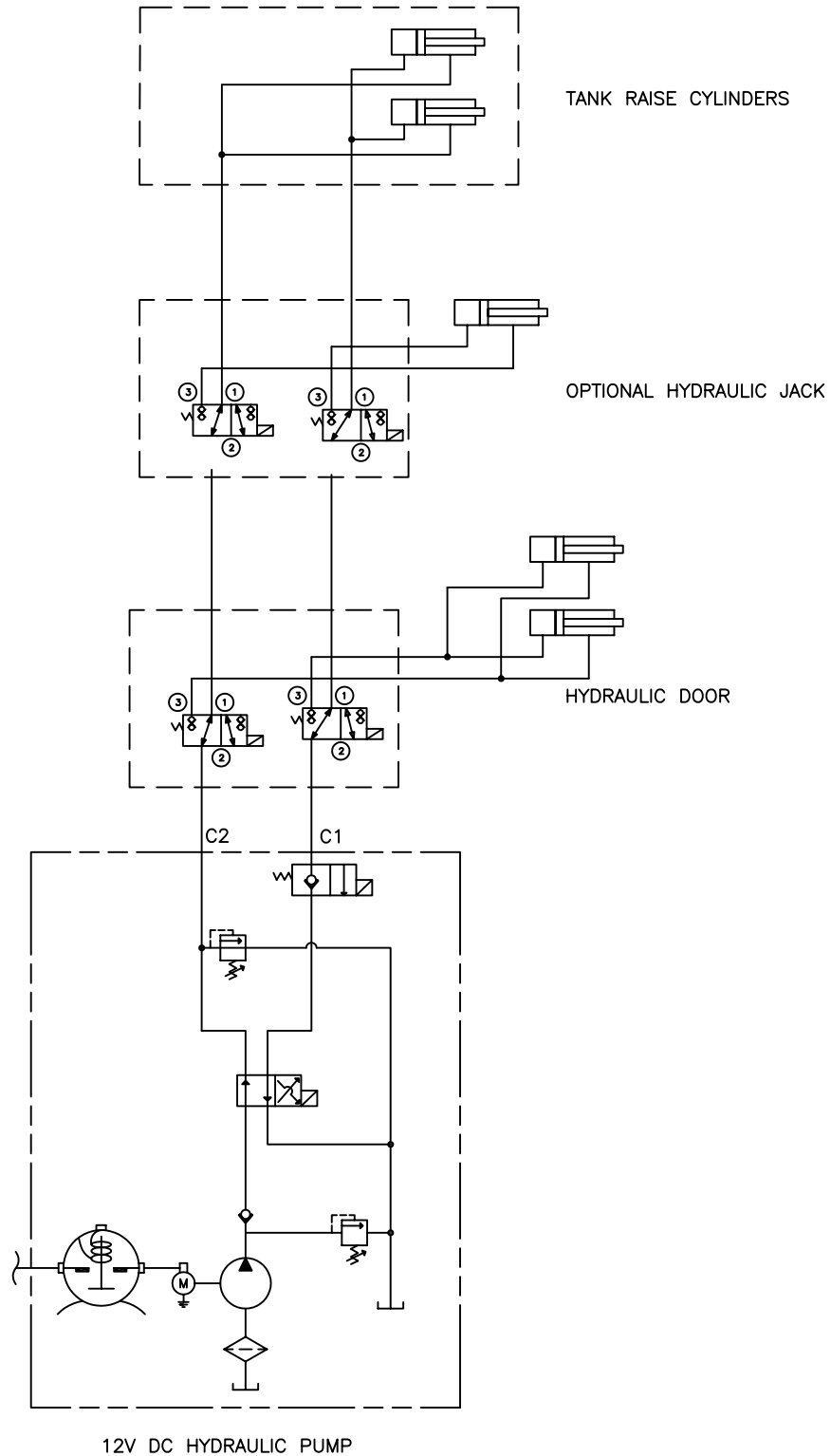


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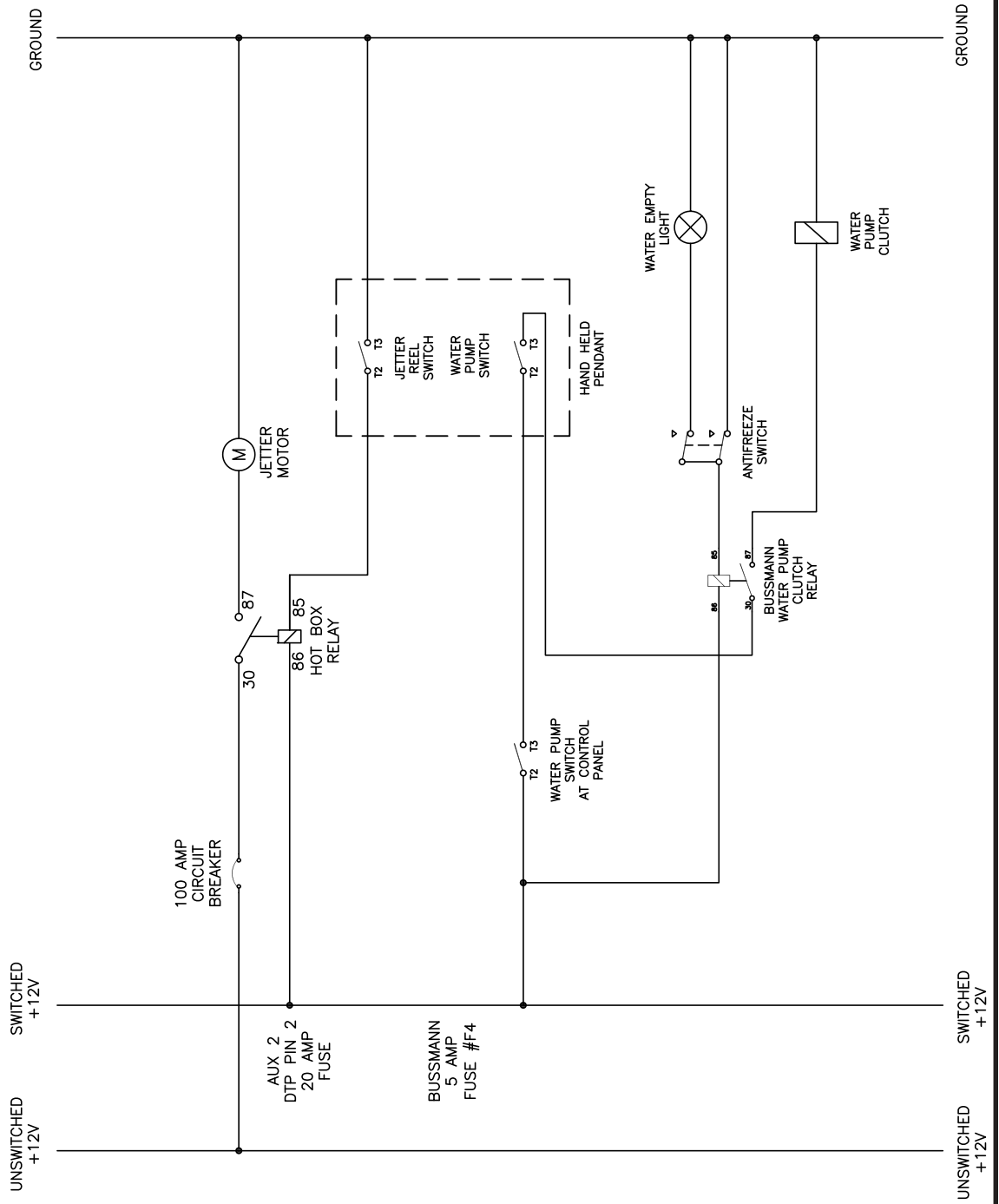
# TANK AND OPTIONAL JACK HYDRAULIC SCHEMATIC (2-Stage)



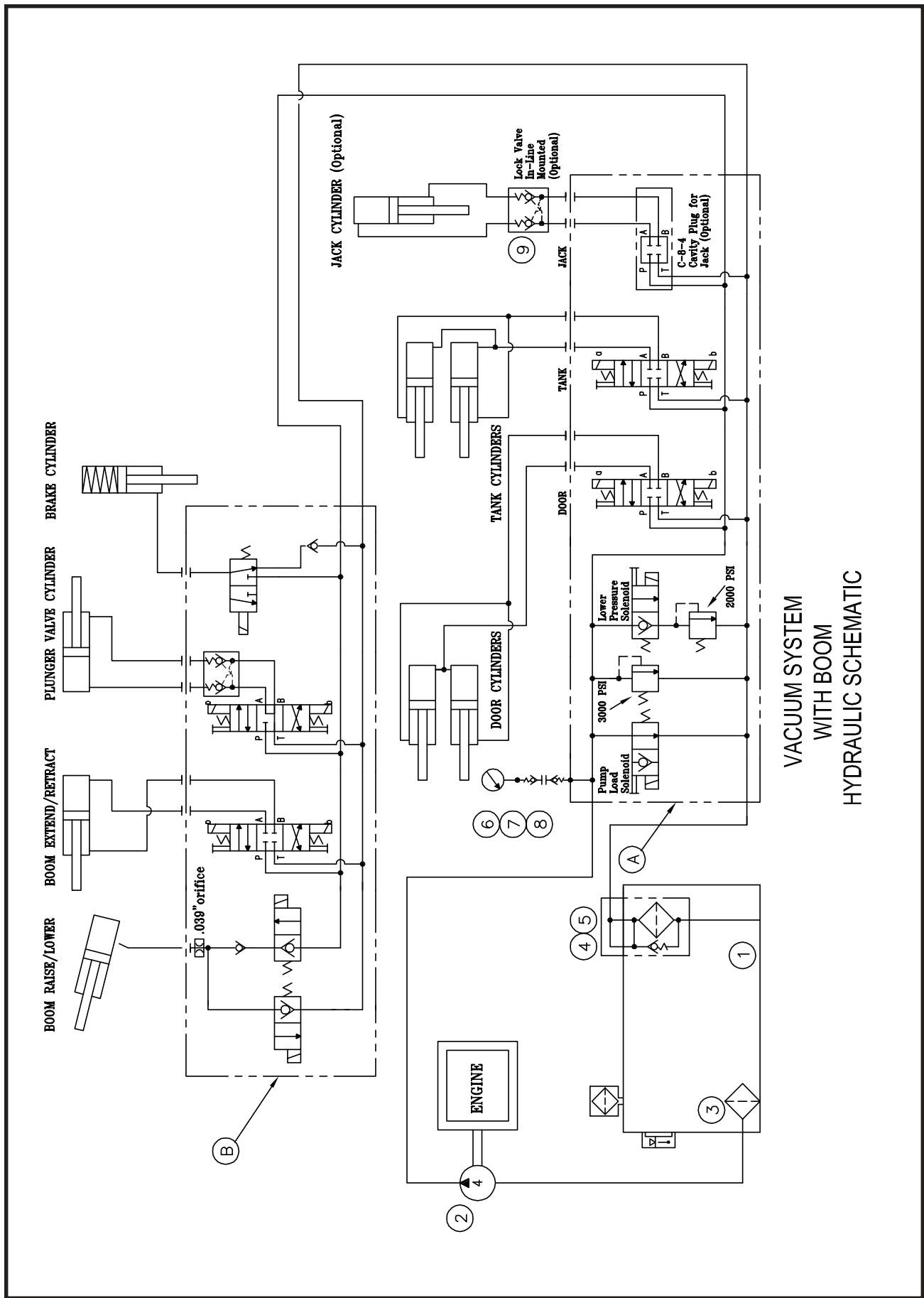
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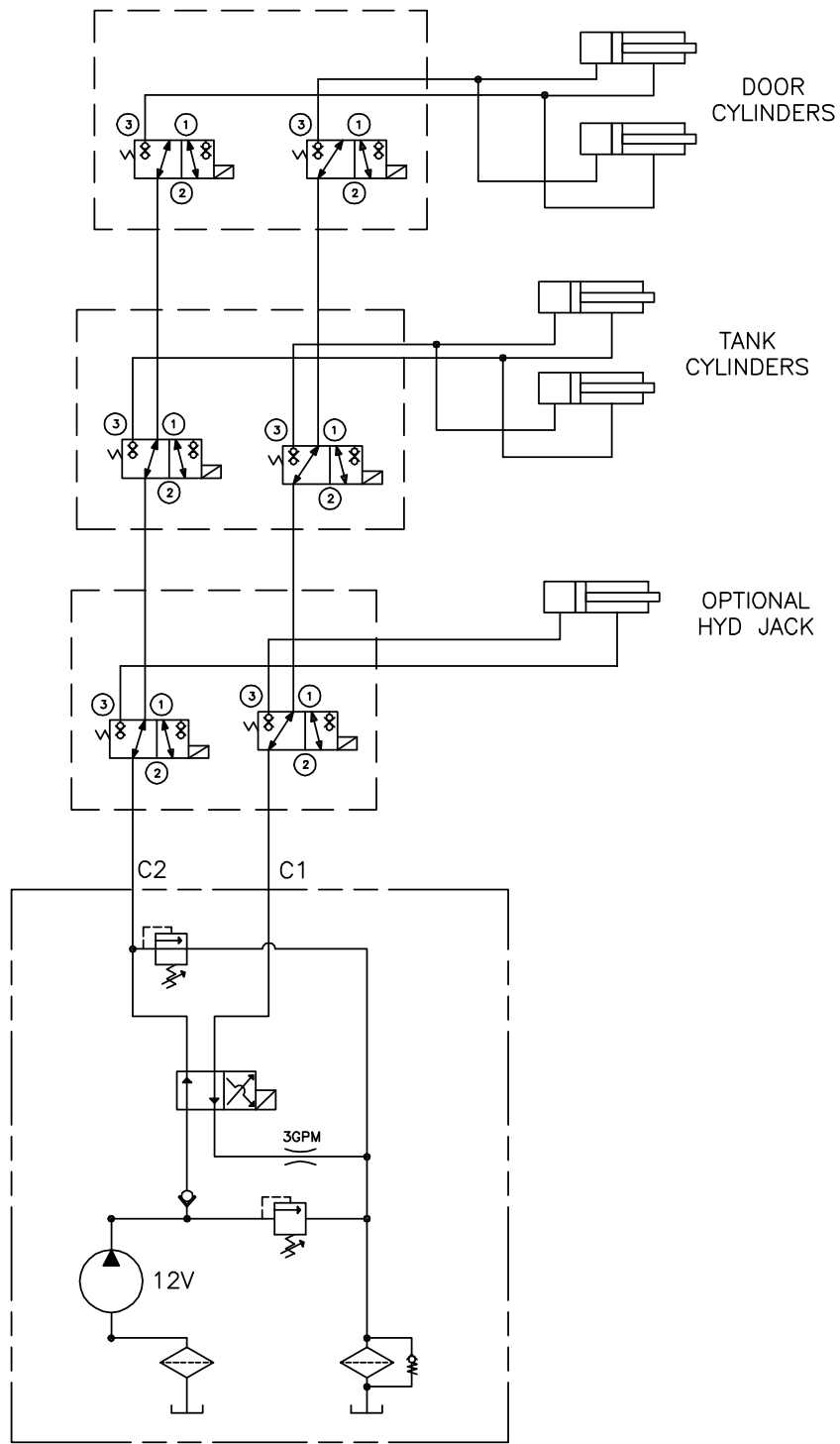
# MCLAUGHLIN – JETTER WIRING SCHEMATIC



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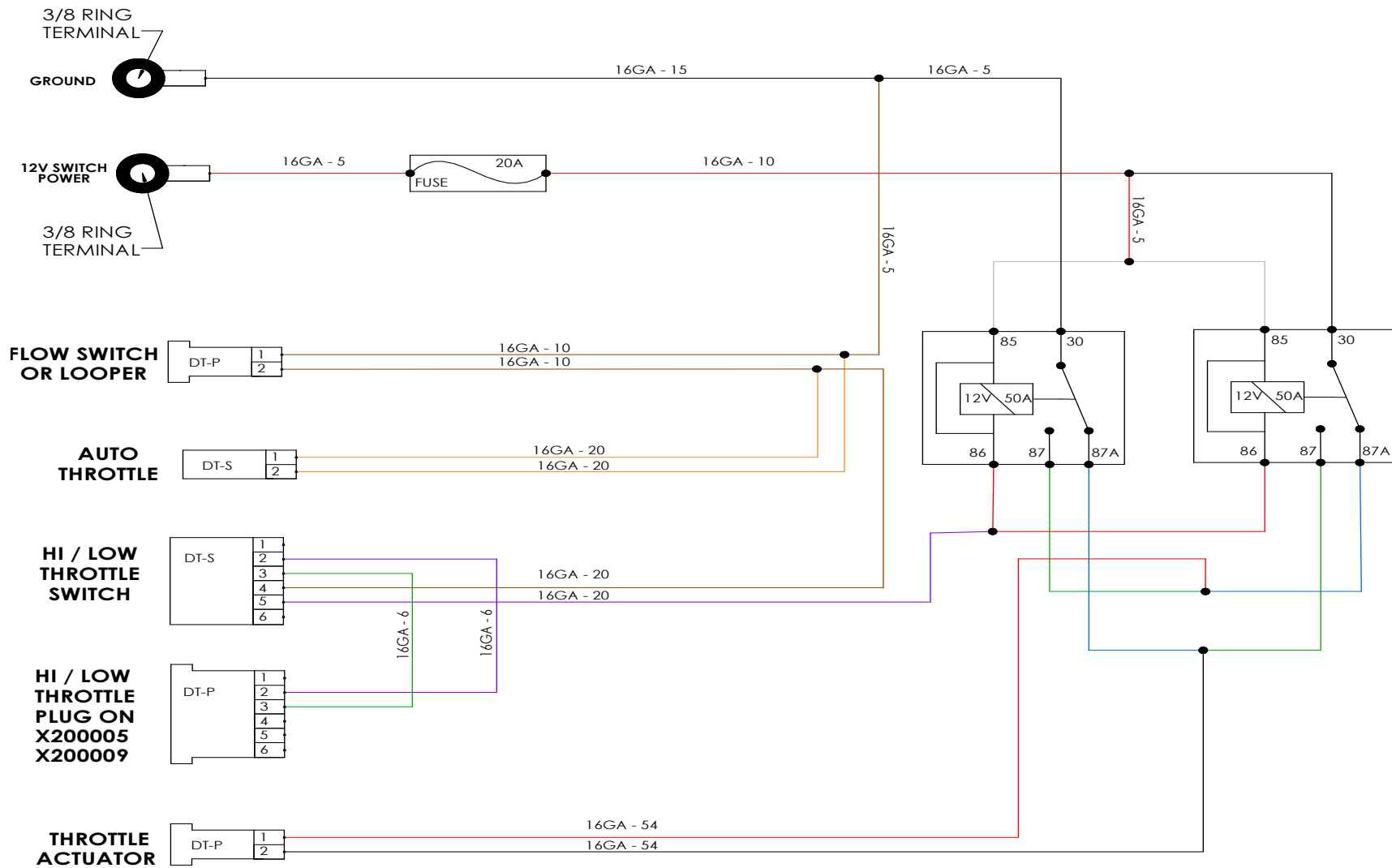
VACUUM SYSTEM WITH BOOM HYDRAULIC SCHEMATIC



BASE HYDRAULIC MANIFOLD

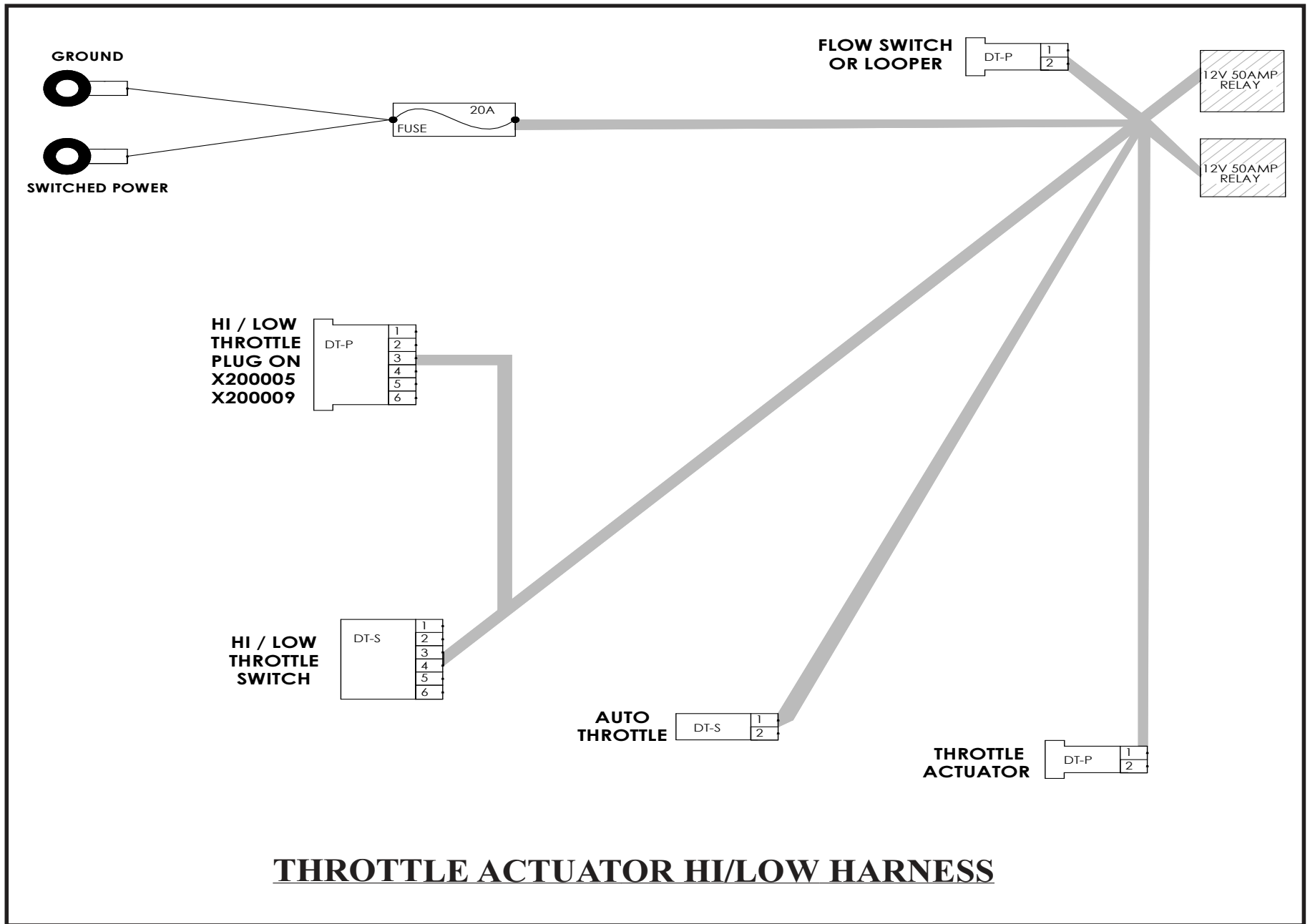
VACUUM SYSTEM  
 W/O BOOM  
 12V HYDRAULIC SCHEMATIC

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## THROTTLE ACTUATOR HI/LOW HARNESS





# ROOTS

Blowers Compressors Exhausters

## Universal URAI-DSL

### Contents

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Information Summary	Troubleshooting
Safety Precautions	Inspection & Maintenance
Operating Limitations	Data
Lubrication	Assembly Drawings
Operation	Parts List

### Do These Things To Get The Most From Your ROOTS™ blower

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- **Make sure both driving and driven equipment is correctly lubricated before start-up. See LUBRICATION.**
- In event of trouble during installation or operation, do not attempt repairs of ROOTS furnished equipment. Notify ROOTS, giving all nameplate information plus an outline of operating conditions and a description of the trouble. Unauthorized attempts at equipment repair may void ROOTS warranty.
- Units out of warranty may be repaired or adjusted by the owner. Good inspection and maintenance practices should reduce the needs for repairs.

**NOTE:** Information in this manual is correct as of the date of publication. ROOTS reserves the right to make design or material changes without notice, and without obligation to make similar changes without notice, and without obligation to make similar changes on equipment of prior manufacture.



## Safety Precautions

It is important that all personnel observe safety precautions to minimize the chances of injury. Among many considerations, the following should be particularly noted:

- Blower casing and associated piping or accessories may become hot enough to cause major skin burns on contact.
- Internal and external rotating parts of the blower and driving equipment can produce serious physical injuries. Do not reach into any opening in the blower while it is operating, or while subject to accidental starting. Protect external moving parts with adequate guards.
- Disconnect power before doing any work, and avoid bypassing or rendering inoperative any safety or protective devices.
- If blower is operated with piping disconnected, place a strong coarse screen over the inlet and avoid standing in the discharge air stream. **CAUTION: Never cover the blower inlet with your hand or other part of body.**
- Stay clear of the blast from pressure relief valves and the suction area of vacuum relief valves.
- Use proper care and good procedures in handling, lifting, installing, operating and maintaining the equipment.
- Casing pressure must not exceed 25 PSI (1725 mbar) gauge. Do not pressurize vented cavities from an external source, nor restrict the vents without first consulting Roots.
- Do not use air blowers on explosive or hazardous gases.
- Other potential hazards to safety may also be associated with operation of this equipment. All personnel working in or passing through the area should be trained to exercise adequate general safety precautions.

## Operating Limitations

A ROOTS blower or exhauster must be operated within certain approved limiting conditions to enable continued satisfactory performance. Warranty is contingent on such operation.

Maximum limits for pressure, temperature and speed are specified in TABLE 1 for various models & sizes of blowers & exhausters. These limits apply to all units of normal construction, when operated under standard atmospheric conditions. Be sure to arrange connections or taps for instruments, thermometers and pressure or vacuum gauges at or near the inlet and discharge connections of the unit. These, along with a tachometer, will enable periodic checks of operating conditions.

**PRESSURE** – The pressure rise, between inlet and discharge, must not exceed the figure listed for the specific unit frame size concerned. Also, in any system where the unit inlet is at a positive pressure above atmosphere a maximum case rating of 25 PSI gauge (1725 mbar) should not be exceeded without first consulting Roots. Never should the maximum allowable differential pressure be exceeded.

On vacuum service, with the discharge to atmospheric pressure, the inlet suction or vacuum must not be greater than values listed for the specific frame size.

**TEMPERATURE** – Blower & exhauster frame sizes are approved only for installations where the following temperature limitations can be maintained in service:

- Measured temperature rise must not exceed listed values when the inlet is at ambient temperature. Ambient is considered as the general temperature of the space around the unit. This is not outdoor temperature unless the unit is installed outdoors.
- If inlet temperature is higher than ambient, the listed allowable temperature rise values must be reduced by 2/3 of the difference between the actual measured inlet temperature and the ambient temperature.
- The average of the inlet and discharge temperature must not exceed 250°F. (121°C).
- The ambient temperature of the space the blower/motor is installed in should not be higher than 120°F (48.8°C).

**SPEED** – These blowers & exhausters may be operated at speeds up to the maximum listed for the various frame sizes. They may be direct coupled to suitable constant speed drivers if pressure/temperature conditions are also within limits. At low speeds, excessive temperature rise may be a limiting factor.

**Special Note:** The listed maximum allowable temperature rise for any particular blower & exhauster may occur well before its maximum pressure or vacuum rating is reached. This may occur at high altitude, low vacuum or at very low speed. The units' operating limit is always determined by the maximum rating reached first. It can be any one of the three: Pressure, Temperature or Speed.

## Lubrication

### For Units with Splash Lubrication on Both Ends

Bearings and oil seals are lubricated by the action of the timing gears or oil slingers which dip into the main oil sumps

causing oil to splash directly on gears and into bearings and seals. A drain port is provided below each bearing to prevent an excessive amount of oil in the bearings. Seals located inboard of the bearings in each headplate effectively retain oil within the sumps. Any small leakage that may occur should the seals wear passes into a cavity in each vented headplate and is drained downward.

Oil sumps on each end of the blower are filled by removing top vent plugs, Item (25), and filling until oil reaches the middle of the oil level sight gauge when the unit is not operating, Item (45 or 53), DO NOT FILL PAST THE MIDDLE OF THE SIGHT GLASS.

Initial filling of the sumps should be accomplished with the blower not operating, in order to obtain the correct oil level. Approximate oil quantities required for blowers of the various models and configurations are listed in Table 3. Use a good grade of industrial type non-detergent, rust inhibiting, anti-foaming oil and of correct viscosity per Table 2. **\*ROOTS synthetic oil (Roots P/N 813-106-) is specified and recommended.** Roots does not recommend automotive type lubricants, as they are not formulated with the properties mentioned above.

The oil level may rise or fall on the gauge during operation, to an extent depending somewhat on oil temperature and blower speed.

Proper lubrication is usually the most important single consideration in obtaining maximum service life and satisfactory operation from the unit. Unless operating conditions are quite severe, a weekly check of oil level and necessary addition of lubricant should be sufficient. During the first week of operation, check the oil levels in the oil sumps about once a day, and watch for leaks. Replenish as necessary. Thereafter, an occasional check should be sufficient. It is recommended that the oil be changed after initial 100 hours of operation. Frequent oil changing is not necessary unless the blower is operated in a very dusty location.

Normal life expectancy of petroleum based oils is about 2000 hours with an oil temperature of about 180°F (82°C). As the oil temperature increases by increments of 15-18°F (8°C - 10°C), the life is reduced by half. Example: Oil temperatures of 210-216°F (99°C - 102°C) will produce life expectancy of 1/4 or 500 hours. Therefore, it is considered normal to have oil change periods of 500 hours with petroleum based oils.

Normal life expectancy of ROOTS™ Synthetic Oil is about 4000 to 8000 hours with an oil temperature of about 180°F (82°C). As the oil temperature increases by increments of 15-18°F (8°C - 10°C), the life is reduced by half. Example: Oil temperatures of 210-216°F (99°C - 102°C) will produce life expectancy of 1/4 or 1000 to 2000 hours.

NOTE: To estimate oil temperature, multiply the discharge temperature of the blower by 0.80. Example: if the discharge air temperature of the blower is 200° F, it is estimated that the oil temperature is 160° F.

\*ROOTS™ Synthetic Oil & Grease is superior in performance to petroleum based products. It has high oxidation stability, excellent corrosion protection, extremely high film strength and low coefficient of friction. Typical oil change intervals are increased 2-3 times over petroleum based lubricants. Also, ROOTS™ Synthetic Oil is 100% compatible with petroleum based oils. Simply drain the oil in the blower and refill the reservoirs with ROOTS™ Synthetic Oil to maintain optimum performance of your ROOTS™ blower.

## Operation

Before operating a blower under power for the first time, recheck the unit and the installation thoroughly to reduce the likelihood of avoidable troubles. Use the following procedure check list as a guide, but consider any other special conditions in the installation.

- Be certain that no bolts, tools, rags, or debris have been left in the blower air chamber or piping.
- If an outdoor intake without filter is used, be sure the opening is located so it cannot pick up dirt and is protected by a strong screen or grille. Use of the temporary protective screen as described under INSTALLATION is strongly recommended.
- Recheck blower leveling, drive alignment and tightness of all mounting bolts if installation is not recent. If belt drive is used, adjust belt tension correctly.
- Turn drive shaft by hand to make sure impellers still rotate without bumping or rubbing at any point.
- Ensure oil levels in the main oil sumps are correct.
- Check lubrication of driver. If it is an electric motor, be sure that power is available and that electrical overload devices are installed and workable.
- Open the manual unloading valve in the discharge air line. If a valve is in the inlet piping, be sure it is open.
- Bump blower a few revolutions with driver to check that direction of rotation agrees with arrow near blower shaft, and that both coast freely to a stop.

After the preceding points are cleared, blower is ready for trial operation under "no-load" conditions. The following procedure is suggested to cover this initial operation test period.

- a. Start blower, let it accelerate to full speed, then shut off. Listen for knocking sounds, both with power on and as speed slows down.
- b. After blower comes to a complete stop, repeat above, but let blower run 2 or 3 minutes. Check for noises, such as knocking sounds.
- c. After blower comes to a complete stop, operate blower for about 10 minutes unloaded. Check oil levels. Observe cylinder and headplate surfaces for development of hot spots such as burned paint, indicating impeller rubs. Be aware of any noticeable increase in vibration.

Assuming that all trials have been satisfactory, or that necessary corrections have been made, the blower should now have a final check run of at least one hour under normal operating conditions. After blower is restarted, gradually

close the discharge unloading valve to apply working pressure. At this point it is recommended that a pressure gauge or manometer be connected into the discharge line if not already provided, and that thermometers be in both inlet and discharge lines. Readings from these instruments will show whether pressure or temperature ratings of the blower are being exceeded.

During the final run, check operating conditions frequently and observe the oil levels at reasonable intervals. If excessive noise or local heating develops, shut down immediately and determine the cause. If either pressure rise or temperature rise across the blower exceeds the limit specified in this manual, shut down and investigate conditions in the piping system. Refer to the TROUBLESHOOTING CHECKLIST for suggestions on various problems that may appear.

The blower should now be ready for continuous duty operation at full load. During the first few days make periodic checks to determine whether all conditions remain steady, or at least acceptable. This may be particularly important if the blower is supplying air to a process system where conditions can vary. At the first opportunity, stop the blower and clean the temporary inlet protective screen. If no appreciable amount of debris has collected, the screen may be removed. See comments under INSTALLATION. At this same time, verify leveling, coupling alignment or belt tension, and mounting bolt tightness.

Should operating experience prove that blower capacity is a little too high for the actual air requirements, a small excess may be blown off continuously through the manual unloading or vent valve. Never rely on the pressure relief valve as an automatic vent. Such use may cause the discharge pressure to become excessive, and can also result in failure of the valve itself. If blower capacity appears to be too low, refer to the TROUBLESHOOTING CHECKLIST.

### Vibration Assessment Criteria

With measurements taken at the bearing locations on the housings, see chart below for an appropriate assessment guide for rotary lobe blowers rigidly mounted on stiff foundations.

In general, blower vibration levels should be monitored on a regular basis and the vibration trend observed for progressive or sudden change in level. If such a change occurs, the cause should be determined through spectral analysis.

As shown on the chart below, the level of all pass vibration will determine the need to measure discrete frequency vibration levels and the action required.

All Pass Vibration (in/sec)	Discrete Frequency Vibration (in/sec)	Action
0.45 or less	N/R	Acceptable
Greater than 0.45 but 1.0 or less	0.45 or less @ any frequency	Acceptable
	Greater than 0.45 @ any frequency	Investigate
Greater than 1.0	Less than 1.0	Investigate
	Greater than 1.0	Investigate

## Troubleshooting Checklist

Trouble	Item	Possible Cause	Remedy
No flow	1	Speed too low	Check by tachometer and compare with published performance
	2	Wrong rotation	Compare actual rotation with Figure 1 Change driver if wrong
	3	Obstruction in piping	Check piping, valves, silencer to assure open flow path
Low capacity	4	Speed too low	See item 1, If belt drive, check for slippage and readjust tension
	5	Excessive pressure rise	Check inlet vacuum and discharge pressure and compare with Published performance
	6	Obstruction in piping	See item 3
	7	Excessive slip	Check inside of casing for worn or eroded surfaces causing excessive clearances
Excessive power	8	Speed too high	Check speed and compare with published performance
	9	Excessive pressure rise	See Item 5
	10	Impeller rubbing	Inspect outside of cylinder for high temperature areas, then check for impeller contact at these points. Correct blower mounting, drive alignment
	11	Scale, sludge, rust or product build up	Clean blower appropriately
Damage to bearings or gears	12	Inadequate lubrication	Check oil sump levels in gear and drive end headplates
	13	Excessive lubrication	Check oil levels. If correct, drain and refill with clean oil of recommended grade
	14	Excessive pressure rise	See Item 5
	15	Coupling misalignment	Check carefully. Realign if questionable
	16	Excessive belt tension	Readjust for correct tension
Vibration	17	Misalignment	See Item 15
	18	Impellers rubbing	See Item 10
	19	Worn bearings/gears	Check gear backlash and condition of bearings, and replace as indicated
	20	Unbalanced or rubbing impeller	Scale or process material may build up on casing and impellers, or inside impellers. Remove build-up to restore original clearances and impeller balance
	21	Driver or blower loose	Tighten mounting bolts securely
	22	Piping resonances	Determine whether standing wave pressure pulsations are present in the piping
	23	Scale/sludge build-ups	Clean out interior of impeller lobes to restore dynamic balance
Driver stops, or will not start	24	Casing strain	Re-work piping alignment to remove excess strain
	25	Impeller stuck	Check for excessive hot spot on headplate or cylinder. See item 10. Look for defective shaft bearing and/or gear teeth
	26	Scale, sludge, rust or product build-up	Clean blower appropriately
Excessive breather	27	Broken seal	Replace seals
Blow-by or excessive oil leakage to vent area	28	Defective O-ring	Replace seals and O-ring
Excessive oil leakage in vent area	29	Defective/plugged breather	Replace breather and monitor oil leakage
	30	Oil level too high	Check sump levels in gear and drive headplates.
	31	Oil type or viscosity incorrect	Check oil to insure it meets recommendations. Drain then fill with clean oil of recommended grade.
	32	Blower running hot	Check blower operating conditions to ensure they are within the operating limitations defined in this manual.

## Inspection & Maintenance: Universal RAI® series blowers

A good program of consistent inspection and maintenance is the most reliable method of minimizing repairs to a blower. A simple record of services and dates will help keep this work on a regular schedule. Basic service needs are:

- Lubrication
- Checking for hot spots
- Checking for increases or changes in vibration and noise
- Recording of operating pressures and temperatures

Above all, a blower must be operated within its specified rating limits, to obtain satisfactory service life.

A newly installed blower should be checked often during the first month of full-time operation. Attention there after may be less frequent assuming satisfactory performance. Lubrication is normally the most important consideration and weekly checks of lubricant levels in the gearbox and bearing reservoirs should be customary. Complete oil change schedules are discussed under **LUBRICATION**.

Driver lubrication practices should be in accordance with the manufacturer's instructions. If direct connected to the blower through a lubricated type coupling, the coupling should be checked and greased each time blower oil is changed. This will help reduce wear and prevent unnecessary vibration. In a belted drive system, check belt tension periodically and inspect for frayed or cracked belts.

In a new, and properly installed, unit there is no contact between the two impellers, or between the impellers and cylinder or headplates. Wear is confined to the bearings (which support and locate the shafts) the oil seals, and the timing gears. All are lubricated and wear should be minimal if clean oil of the correct grade is always used. Seals are subject to deterioration as well as wear, and may require replacement at varying periods.

Shaft bearings are designed for optimum life under average conditions with proper lubrication and are critical to the service life of the blower. Gradual bearing wear may allow a shaft position to change slightly, until rubbing develops between impeller and casing. This will cause spot heating, which can be detected by observing these surfaces. Sudden bearing failure is usually more serious. Since the shaft and impeller are no longer supported and properly located, extensive general damage to the blower casing and gears is likely to occur.

Oil seals should be considered expendable items, to be replaced whenever drainage from the headplate vent cavity becomes excessive or when the blower is disassembled for

any reason. Some oil seal leakage may occur since an oil film under the lip is required for proper operation. Periodically leaked oil should be wiped off from surfaces. Minor seal leakage should not be considered as indicating seal replacement.

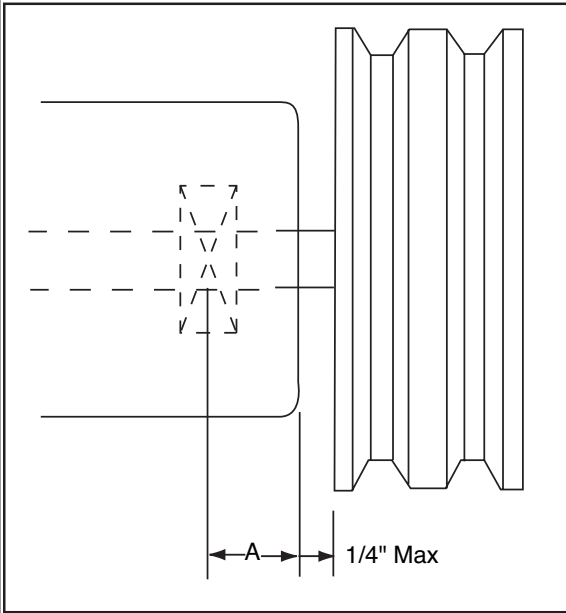
Timing gear wear, when correct lubrication is maintained, should be negligible. Gear teeth are cut to provide the correct amount of backlash, and gears correctly mounted on the shafts will accommodate a normal amount of tooth wear without permitting contact between lobes of the two impellers. However, too high an oil level will cause churning and excessive heating. This is indicated by unusually high temperature at the bottom of the gear housing. Consequent heating of the gears will result in loss of tooth-clearance, backlash and rapid wear of the gear teeth usually will develop. Continuation of this tooth wear will eventually produce impeller contacts (knocking), and from this point serious damage will be unavoidable if blower operation is continued. A similar situation can be produced suddenly by gear tooth fracture, which is usually brought on by sustained overloading or momentary shock loads.

Problems may also develop from causes other than internal parts failure. Operating clearances within a blower are only a few thousandths of an inch. This makes it possible for impeller interference or casing rubs to result from shifts in the blower mounting, or from changes in piping support. If this type of trouble is experienced, and the blower is found to be clean, try removing mounting strains. Loosen blower mounting bolts and reset the leveling and drive alignment. Then tighten mounting again, and make sure that all piping meets blower connections accurately and squarely. Foreign materials in the blower will also cause trouble, which can only be cured by disconnecting the piping and thoroughly cleaning the blower interior.

A wide range of causes & solutions for operating troubles are covered in the **TROUBLE SHOOTING CHECKLIST**. The remedies suggested should be performed by qualified mechanics with a good background. Major repairs generally are to be considered beyond the scope of maintenance, and should be referred to an authorized Roots distributor.

Warranty failures should not be repaired at all, unless specific approval has been obtained through Roots before starting work. Unauthorized disassembly within the warranty period may void the warranty.

Figure 2 - Allowable Overhung Loads for V-Belt Drives Universal RAI®/URAI®-DSL Units



$$\text{Belt Pull lbs} = \frac{252100 \cdot \text{Motor HP}}{\text{Blower RPM} \cdot \text{Sheave Diameter}}$$

$$\text{Shaft Load (lb.in)} = \text{Belt Pull} \cdot \left( A + \frac{1}{4} + \frac{\text{Sheave Width}}{2} \right)$$

Frame Size	Dimension "A"	Max Allowable Shaft Load (lb-in)	Min Sheave Diameter
59	1.13	1,325	6.00

**NOTE:**

Arc of sheave belt contact on the smaller sheave not to be less than 170°

Driver to be installed on the inlet side for vertical units, and on the drive shaft side for horizontal units.

Roots recommends the use of two or more 3V, 5V or 8V matched set or banded belts and sheaves.

**Specified Lubricants**

**ROOTS Synthetic Oil: ISO-VG-320 Grade**

	Part Number
Quart	13106004
Gallon	13106005
Case (12 qts)	13106007

**ROOTS Synthetic Oil: ISO-VG-220 Grade**

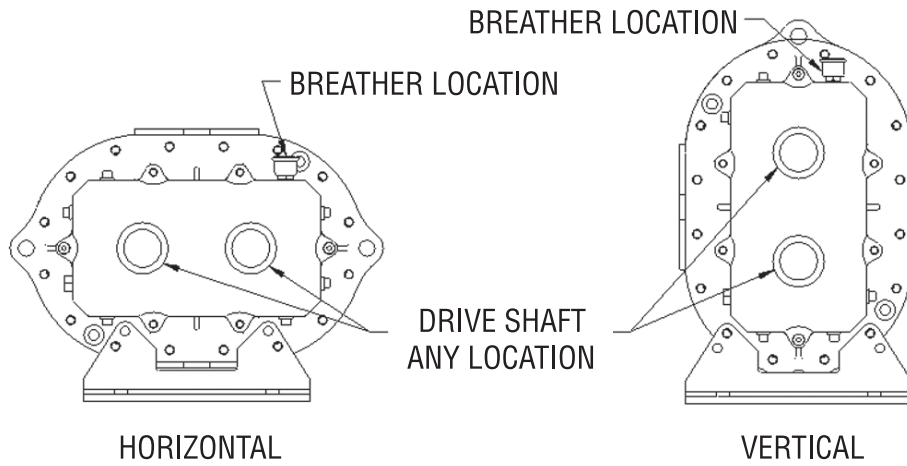
	Part Number
Quart	13106001
Gallon	13106002
Case (12 qts)	13106008

**ROOTS Synthetic Oil: ISO-VG-150 Grade**

	Part Number
Quart	13106020
Gallon	13106021
Case (12 qts)	13106023
5 Gallon Pail	13106022
55 Gallon Drum	13106025



Drive End Breather Orientation for URA-DSL blowers with Oil Lube



**URAI DSL BREATHER ORIENTATION**

Table 1 - URAI, URAI-DSL Blowers,  
Maximum Allowable Operating Conditions

Frame Size	Gear Diameter (Inch)	Speed RPM	Temp. Rise Deg F (Deg C)	Delta Pressure PSI (mbar)	Inlet Vacuum INHG (mbar)
59	5	2,850	225 (125)	7 (483)	15 (500)

**Table 2 - Recommended Oil Grades**

Ambient Temperature °F (°C)	ISO Viscosity No.
Above 90° (32°)	320
32° to 90° (0° to 32°)	220
0° to 32° (-18° to 0°)	150
Below 0° (-18°)	100

Ambient temperature is defined as the temperature of the space in which the blower and drive are located.

**Table 3 - Approximate Oil Sump Capacities**

These capacities are provided to assist in stocking the correct amount of oil. Exact sump capacities may differ slightly. See “Lubrication” section for proper filling instructions.

**URAI-DSL Splash Lubricated Blowers**

Frame Size	Gear End Capacity Fl. Oz (Liters)	Drive End Capacity Fl. Oz. (Liters)
59	27.6 (.82)	14.8 (.44)

Basic Connection & Drive Shaft Information

**URAI DSL AIR BLOWERS (with Dual Splash Lubrication DSL)**

BOM#	FRAME SIZE	INLET/DISCHARGE CONN.	SHAFT DIAMETER	BARE WEIGHT
T30361020	59	4" NPT	1.125	209

Universal RAI air blowers include detachable mounting feet which permit vertical or horizontal installation. The units are center timed for rotation in either direction. The bearings on the URAI are grease lubricated on the drive end and splash lubricated on the gear end. The URAI-DSL is splash lubricated on BOTH ends.

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# WARRANTY RETURN GOODS POLICY

## LIMITED WARRANTY

The Manufacturer warrants its products to be free from defects in material and workmanship for a period of twelve months from the date of shipment from the factory. The Manufacturer shall not be responsible for any damage resulting to or caused by its products by reason of installation, improper storage, unauthorized service, alteration of the products, neglect or abuse, or use of the product in a manner inconsistent with its design. The warranty does not extend to any component parts not manufactured by Manufacturer; however, Manufacturer's warranty herein shall not limit any warranties made by manufacturers of component parts which extend to Buyer.

Claims for defects in material and workmanship shall be made in writing to Manufacturer within ten days of discovery of defect. Manufacturer may either send a service representative or have the product returned to its factory at Buyer's expense for inspection. Upon notification of defect, Manufacturer will issue a return goods authorization number to Buyer. The return goods authorization number must accompany the product returned. If judged by the Manufacturer to be defective in material or workmanship, the product will be replaced or repaired at the option of the Manufacturer, free from all charges except authorized transportation. Buyer shall be responsible for all maintenance services consisting of lubrication and cleaning of equipment, replacing expandable parts, making minor adjustments, and performing operating checks, all in accordance with procedures outlined in Manufacturer's maintenance literature.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES AND NO REPRESENTATIONS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, (INCLUDING BUT NOT LIMITED TO A WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), ARE MADE BY THE MANUFACTURER IN CONNECTION WITH THE MANUFACTURE OR SALE OF ITS PRODUCTS. NO EMPLOYEE, DISTRIBUTOR, OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY ON BEHALF OF MANUFACTURER.

THE REMEDIES OF BUYER SET FORTH HEREIN ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER REMEDIES. THE LIABILITY OF MANUFACTURER WHETHER IN CONTRACT, TORT, UNDER ANY WARRANTY, OR

OTHERWISE SHALL NOT EXTEND BEYOND ITS OBLIGATION TO REPAIR OR REPLACE, AT ITS OPTION ANY PRODUCT OR PART FOUND BY MANUFACTURER TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP. MANUFACTURER SHALL NOT BE LIABLE FOR COST OF INSTALLATION AND/OR REMOVAL OR BE RESPONSIBLE FOR DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE.

## GENERAL RETURNS OF MERCHANDISE

1. All returns must be pre-authorized
  - A. Please call our parts department for an RGA number
  - B. Please include RGA number on the outside of box
  - C. Include any required paper work or special instructions
  - D. Items returned without an RGA number will not be accepted
2. All returns are subject to a 20% restock charge.
3. Special items are non-returnable
  - A. Non-stock parts
  - B. Custom parts
  - C. If you are unsure about a parts status when ordering, ask your McLaughlin representative if the item fits on of the above conditions.
4. Items must be returned within thirty days of original order date.
5. Items not returned within 30 days from the date of RGA is issued will not be accepted.
6. The item(s) must be in new condition. Used item(s) are not returnable.



