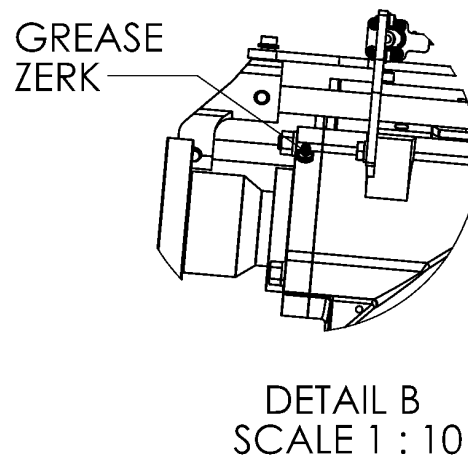
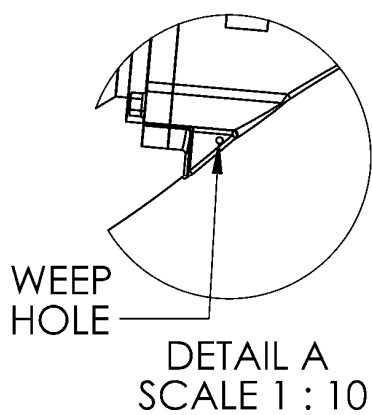
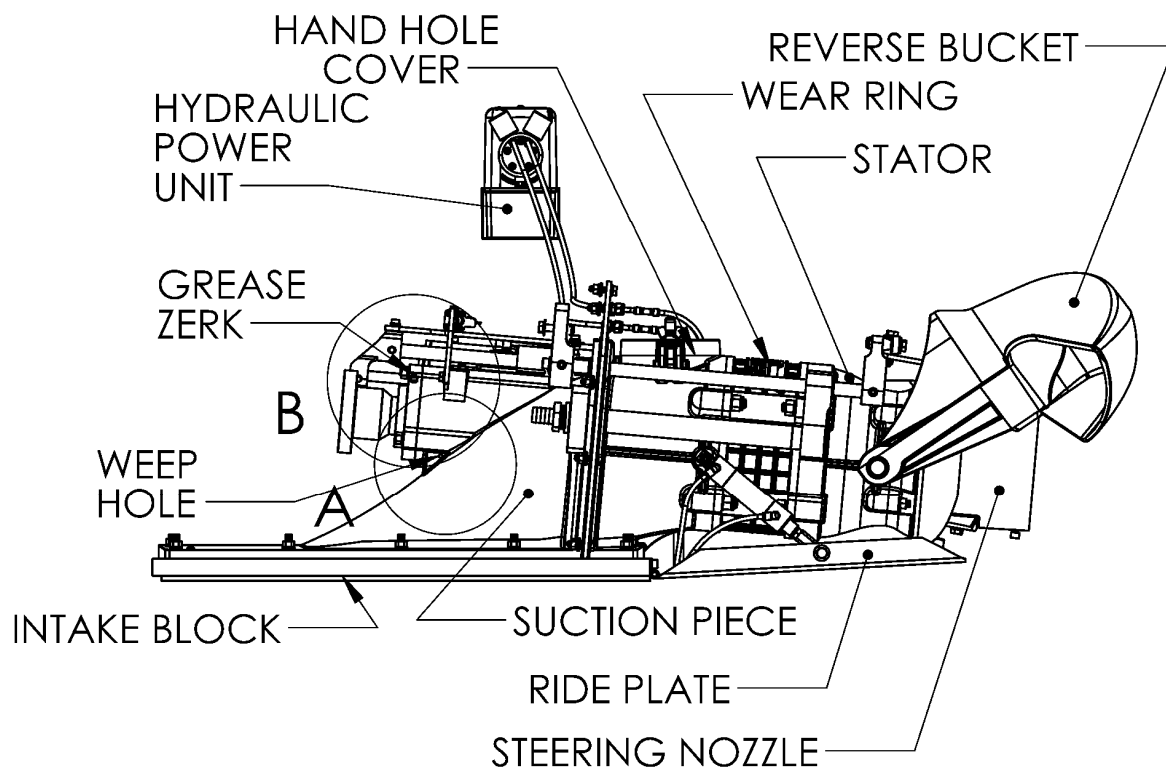
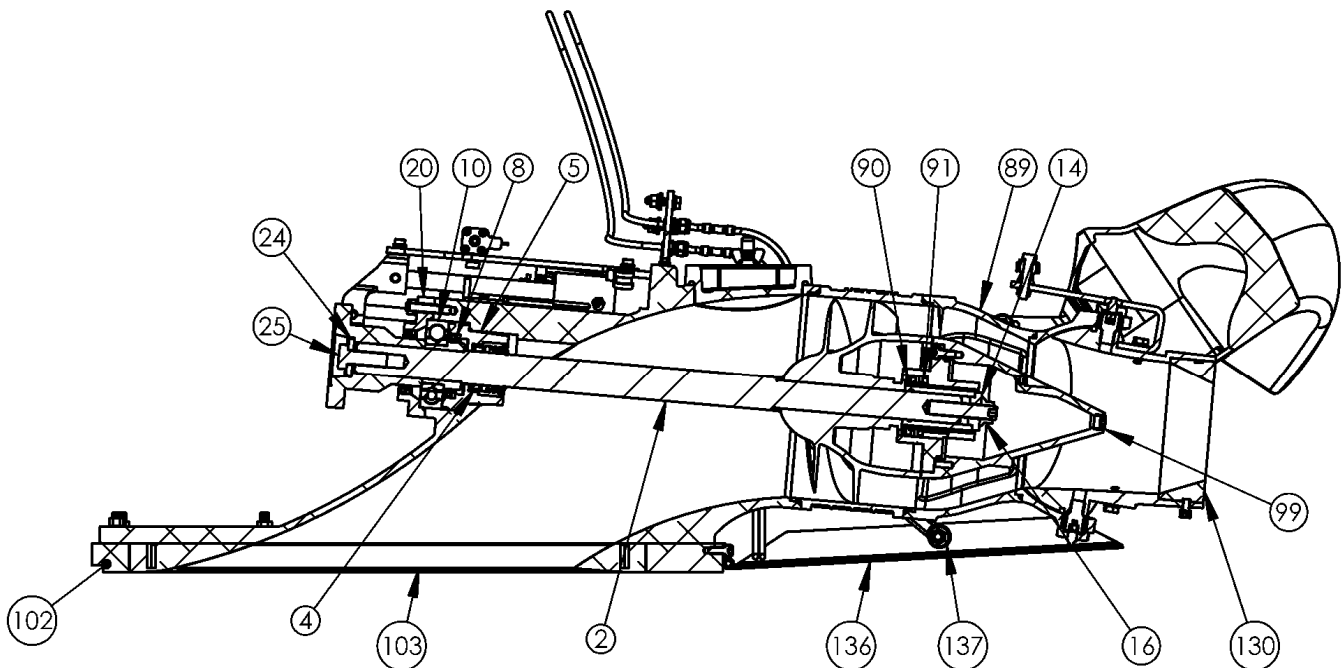
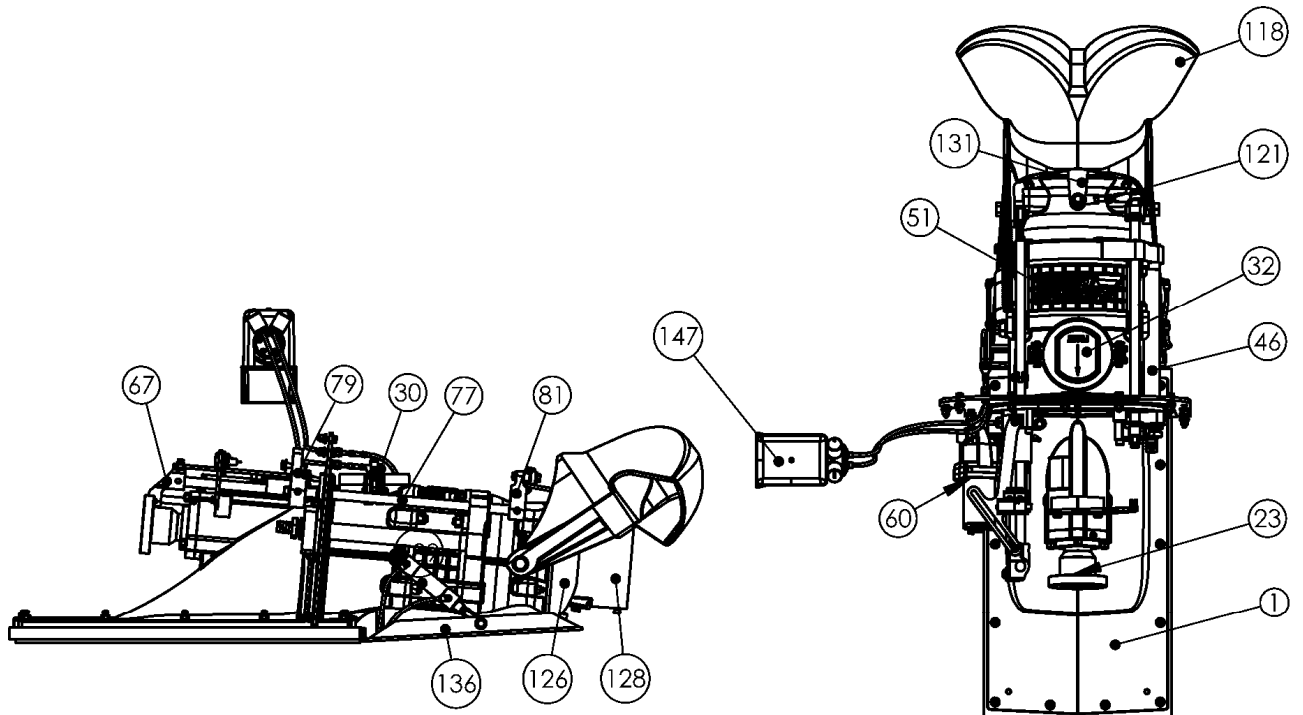


SD231 INSTALL MANUAL

SUPER DUTY JET
231mm Axial Flow

THE POWER IS IN THE PUMP



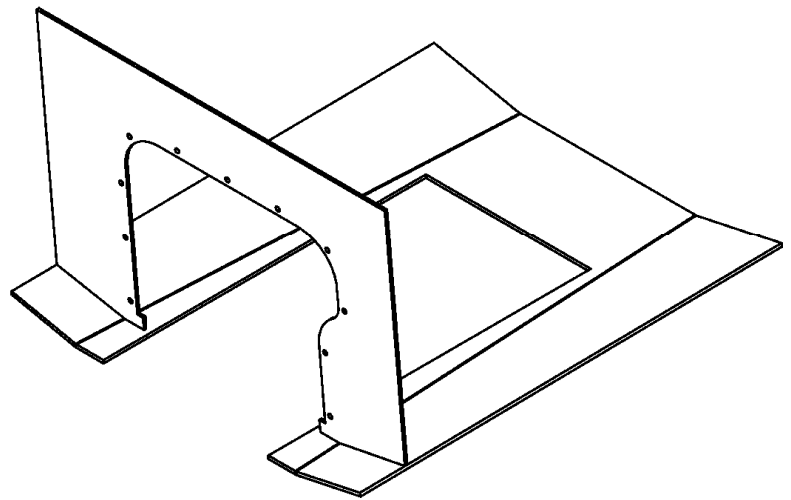
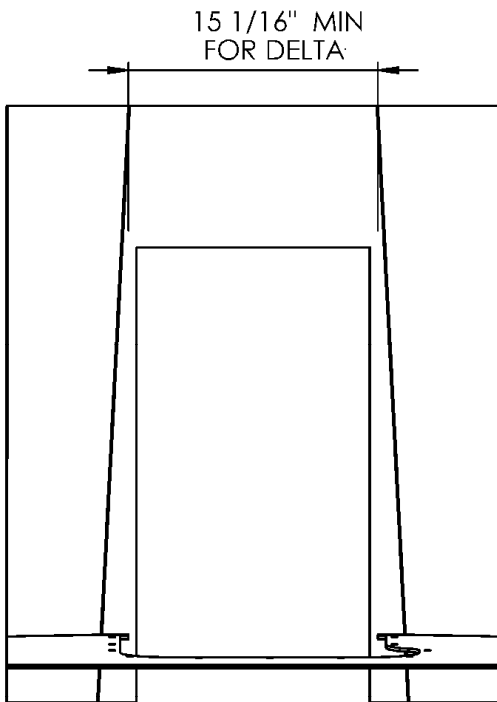




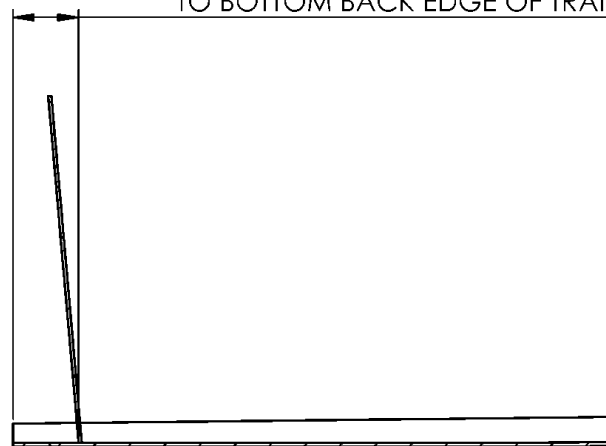
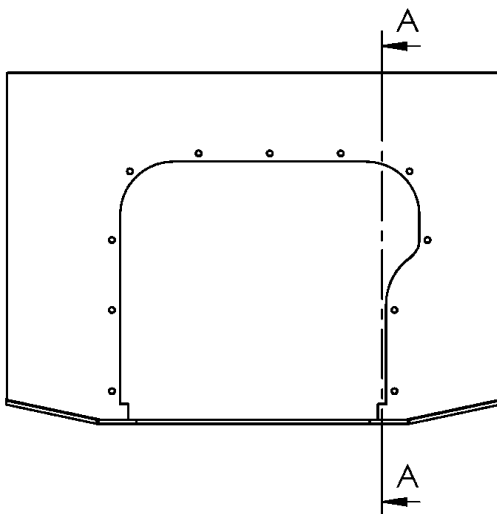
ITEM #	PART #	DESCRIPTION	QTY.
1	SC1412	SUCTION PIECE, SD231	1
2	SH1412	PUMP SHAFT, SD231	1
4	SL4008	SEAL, MECHANICAL	1
5	SH5412	SEAL FACE HOUSING, SD231	1
8	SL1007	SEAL	2
10	B1001	THRUST BEARING	1
14	SH5010	BEARING SLEEVE WASHER, STATOR, SD231	1
16	F10 18 FLN	5/8-18 FLANGED LOCK NUT, GRADE 8	1
20	SC4212	BEARING HOUSING, SD231	1
23	SH6412	DRIVE FLANGE, SD231	1
24	SH6413	5/8 MACINED THICK WASHER	1
25	F10 18 14 HH	5/8-18 X 1-3/4 HEX HEAD	1
30	F06 WN	3/8 WING NUT	2
32	SC1901	HAND HOLE COVER, SD231	1
46	SC4314	WATER TUBE, SD231	1
51	WR412C	WEAR RING, SD231 CAST	1
60	RV4004	HYDRAULIC POWER UNIT (REVERSE)	1
67	RV4001	HVR, EHA SHAFT LINK	1
77	RV3003	HVR, STEERING SHAFT	1
79	RV3000	HVR, STEERING ARM INSIDE	1
81	RV3002	HVR, STEERING ARM OUTSIDE	1
89	SC9412	STATOR, SD231	1
90	B4134	STATOR BEARING CARTIRDGE, SD231	1
91	SL1507	SEAL	2
99	SC9903	3/8 PIPE PLUG	1
102	I1601	INTAKE, WELD-IN, SD231	1
103	I4601	GRATE, SD231	1
118	RV2101	HVR, REVERSE BUCKET	1
121	RV2201	HVR, STEERING TIE ROD	1
126	RV1007	HVR, NOZZLE HOUSING	1
128	RV2001	HVR, NOZZLE	1
130	RV7XXX	HVR, NOZZLE INSERT-SEE DWG SD231-PART#-1	1
131	RV2200	HVR, TILLER ARM	1
136	I1602	RIDE PLATE, SD231	1
137	F06 24 FRE	3/8-24 FEMALE ROD END	2
139	I1603	RIDE PLATE CYLINDER, SD231	2
147	R7301	HYDRAULIC POWER UNIT (RIDE PLATE)	1

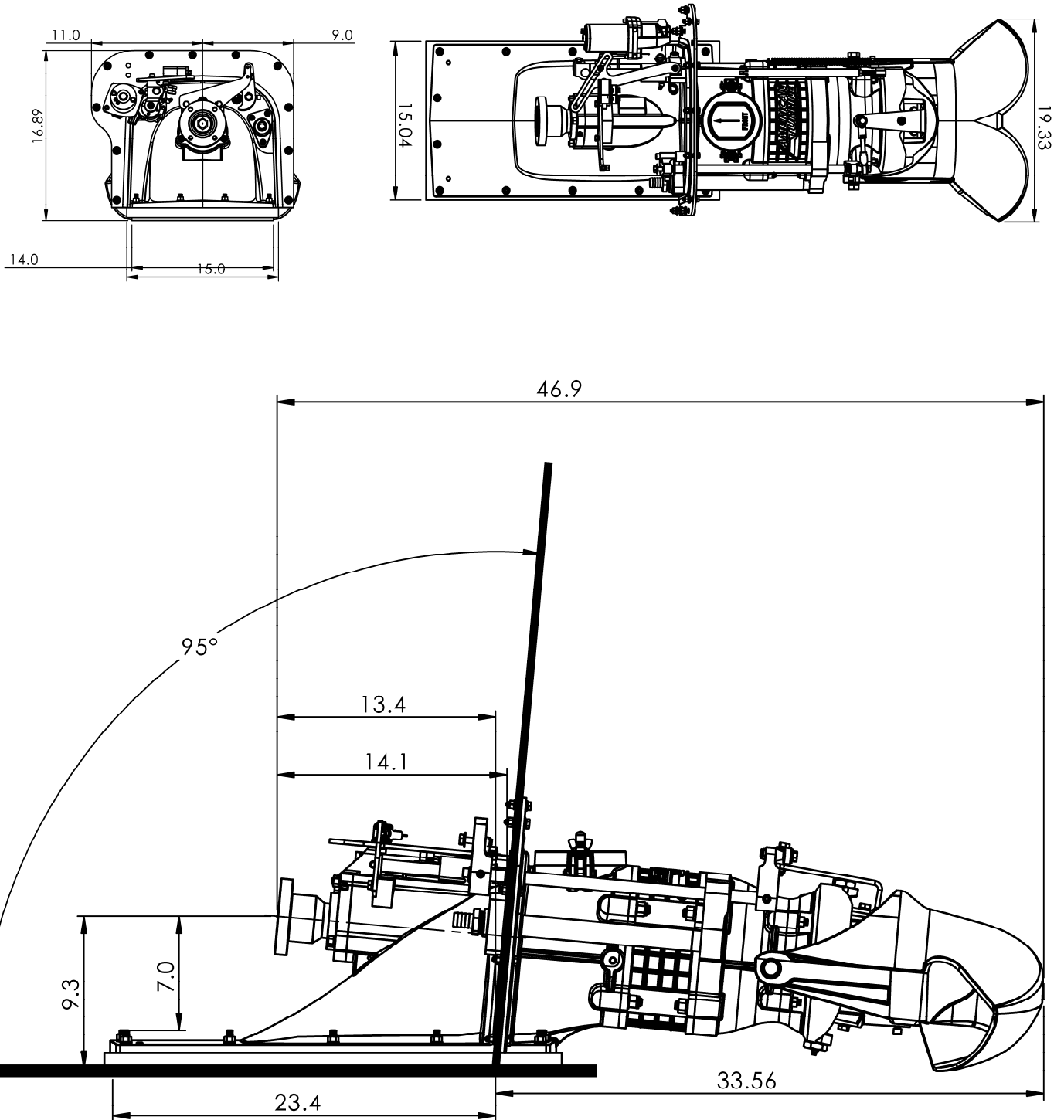


TRANSOM and HULL CUTOUT DETAIL 1



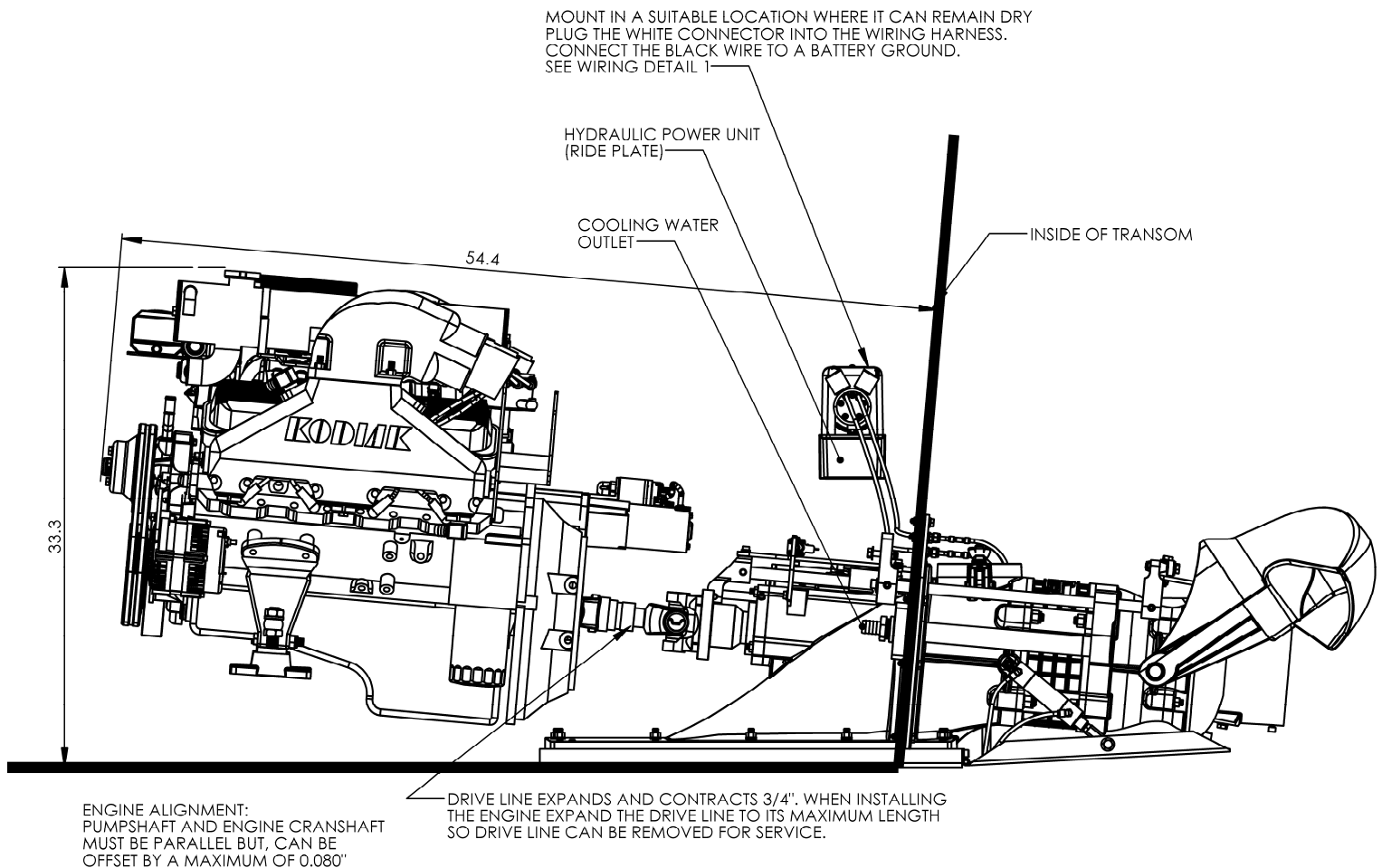
INTAKE STICKS OUT 3 15/16" FROM
FROM BACK OF INTAKE CENTERLINE
TO BOTTOM BACK EDGE OF TRANSOM







ENGINE INSTALLATION DETAIL 3

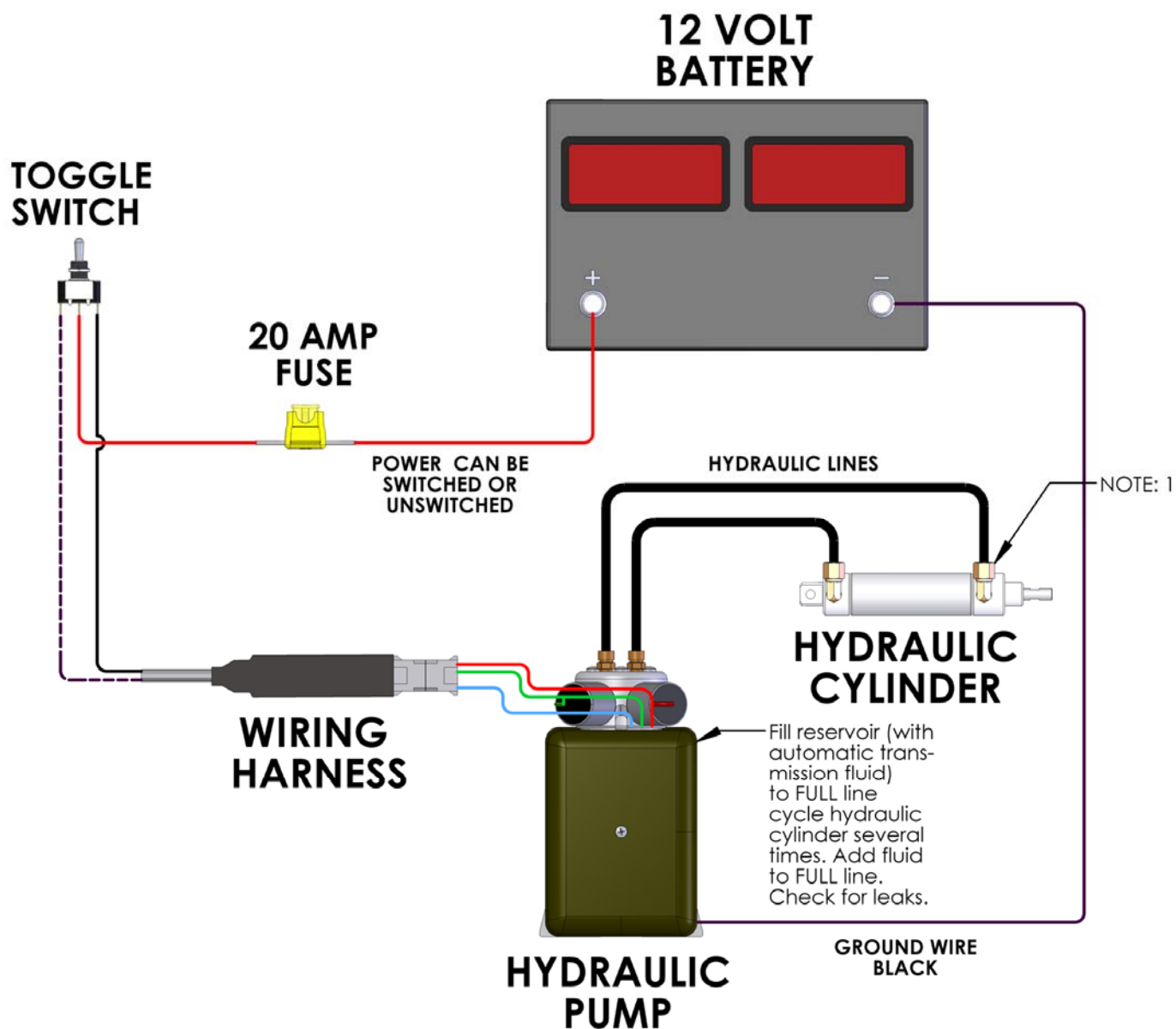




RIDE PLATE Wiring Detail 1

NOTES:

1. Brass inserts are included in the kit.
After cutting line to length deburr the end of the tube, slip the nut and ferrule over the end of the tube and insert (brass insert) inside of tube. Tighten tube nuts by hand then one half turn by wrench.
2. Plastic fittings are included to seal hydraulic lines as they pass through the transom, drill the transom 7/16" and tap 1/2-20.





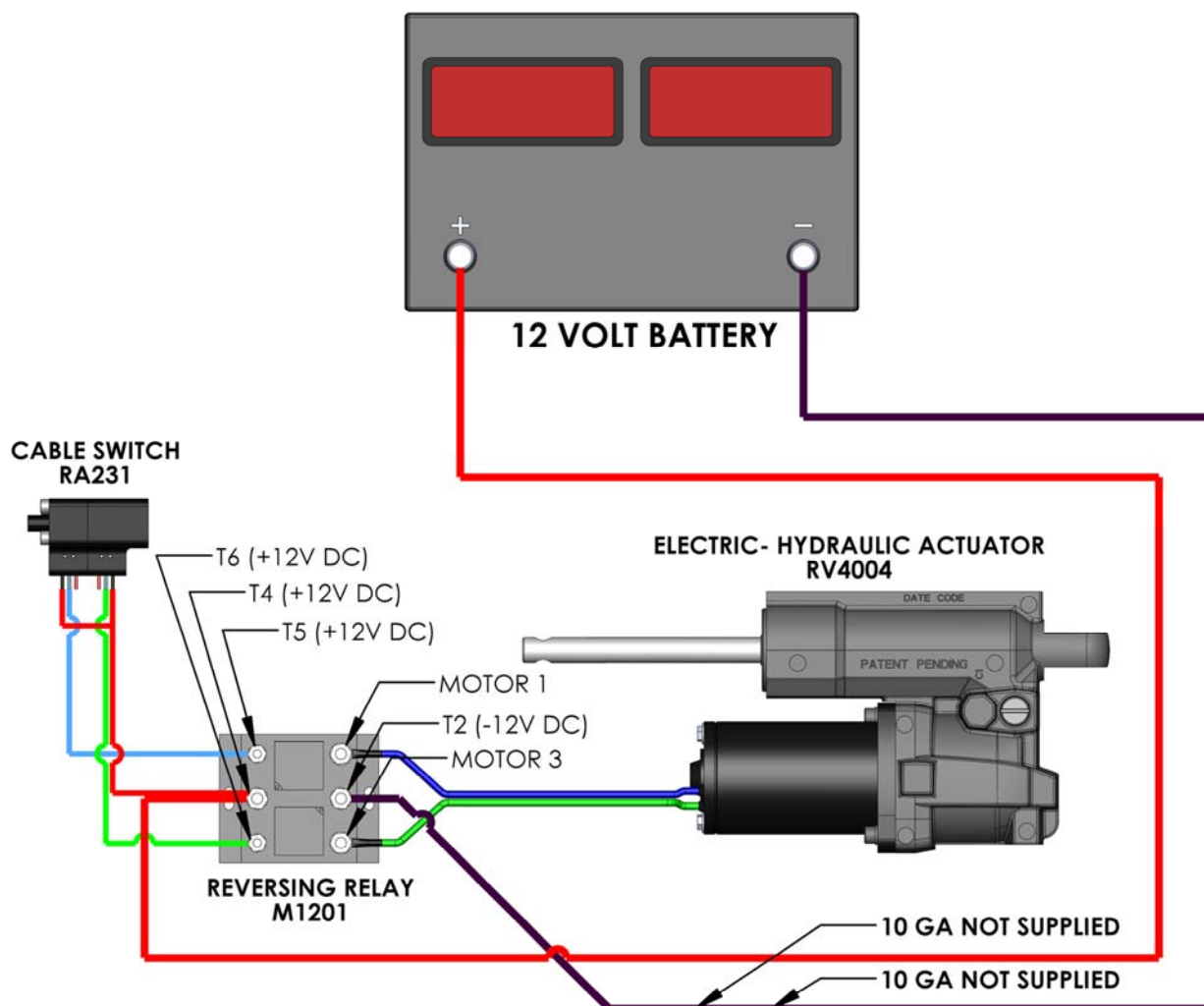
ELECTRIC HYDRAULIC SHIFT DETAIL 4

WARNING: 50A circuit protection required (NOT SUPPLIED)
Do Not Jump Across Relay (SHORT CIRCUIT WILL OCCUR).

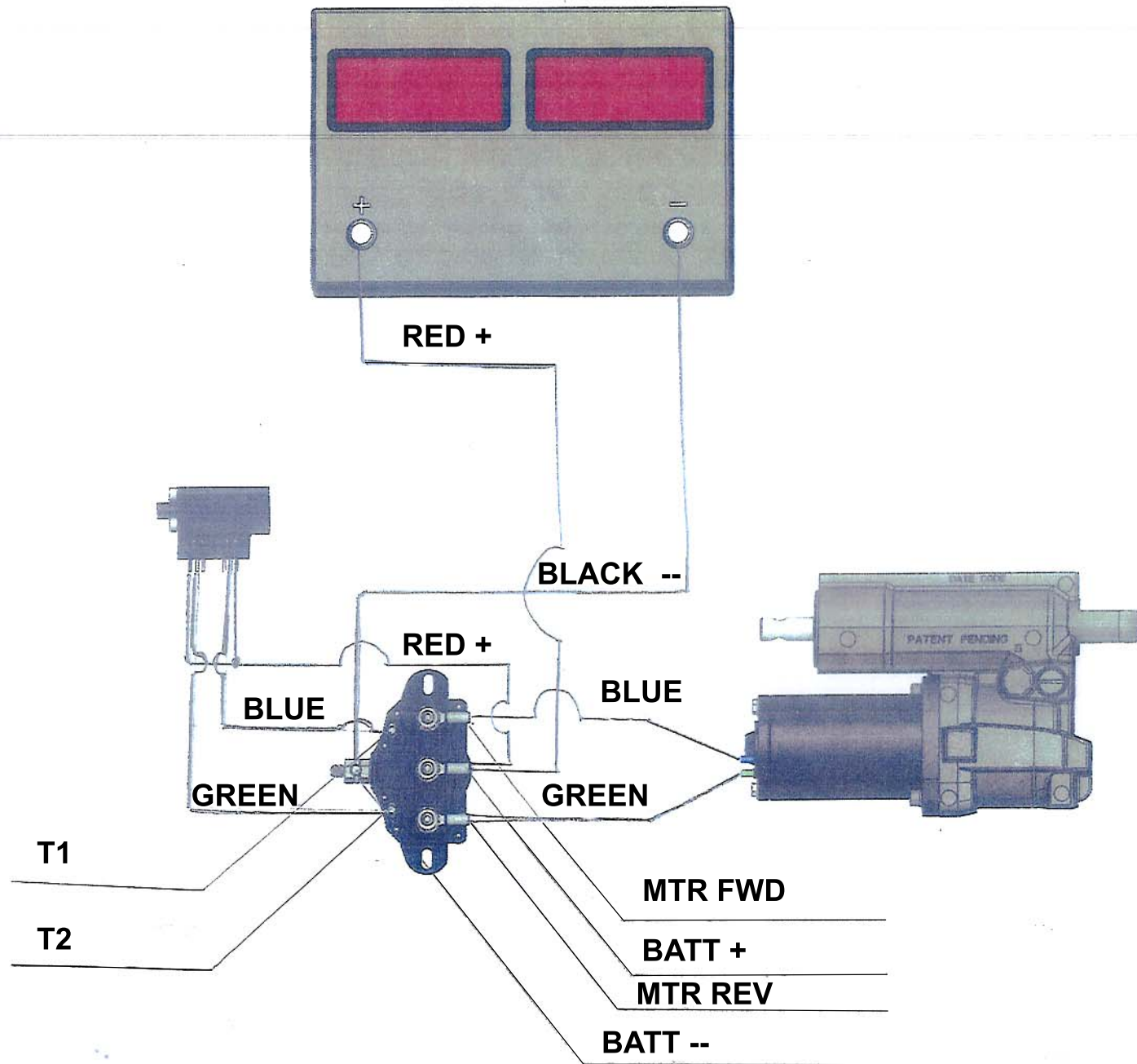
To test EHA **DISCONNECT** leads from Relay and Jump
directly to Battery.
Mount Reversing Relay in a serviceable location.

TORQUE: Large studs 40 in-lbs Max.
Small studs 12 in-lbs Max.

50A RELAY SWITCH SETUP



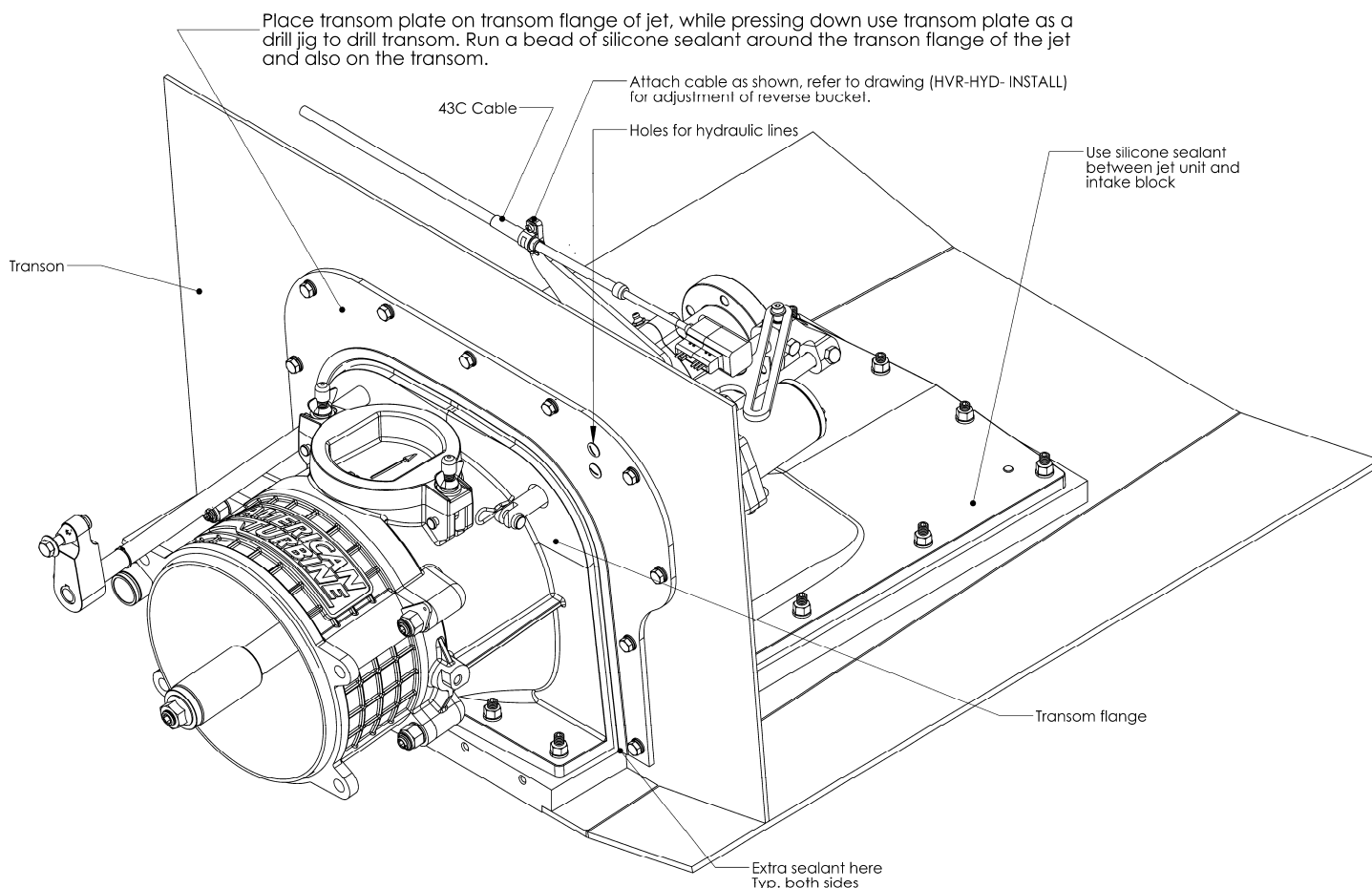
75A RELAY SWITCH SETUP





Jet Unit Installation on to Intake Block

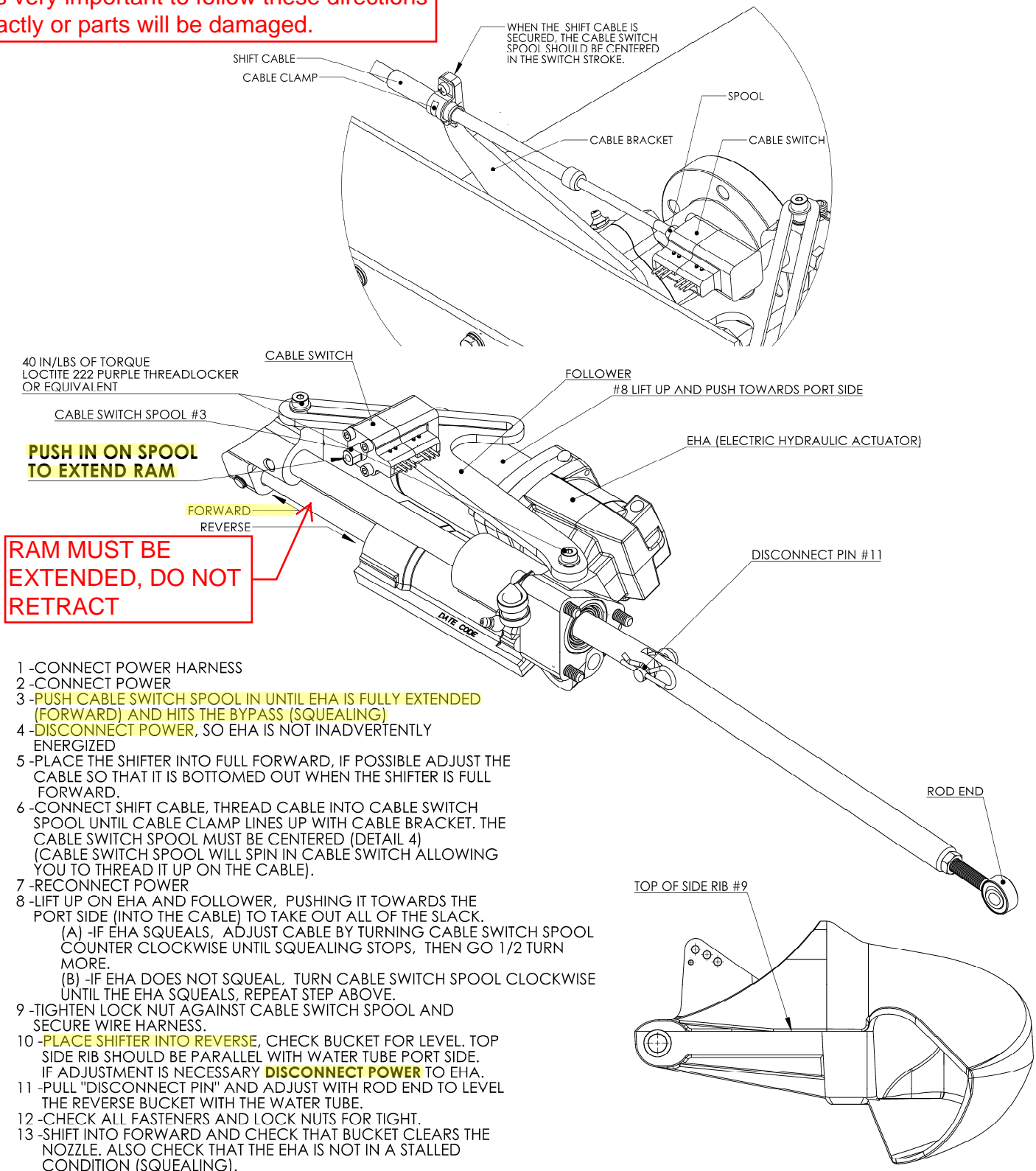
1. Test fit to make sure transom lines up properly with transom flange.
2. The transom flange should not touch the transom (sound and vibration transmission).
3. Install studs into intake block with #277 Loc-Tite or equivalent and torque to 15 ft/lb.
4. Use 3M 5200 or equivalent on intake block to jet unit.
5. Set the jet unit on the intake block and torque the nuts to 20 ft/lb use zinc based anti-seize (for saltwater use Lanocote or equivalent).
6. Install the transom plate per instructions below. For a nice sealant job use masking tape 1/4-3/8" past part to be sealed spread out evenly then pull tape.



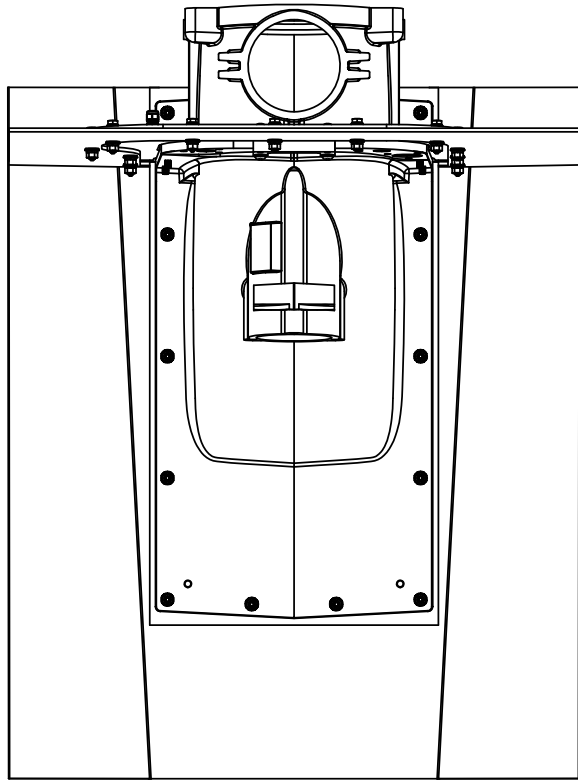


Setting up the Power Shift:
It is very important to follow these directions exactly or parts will be damaged.

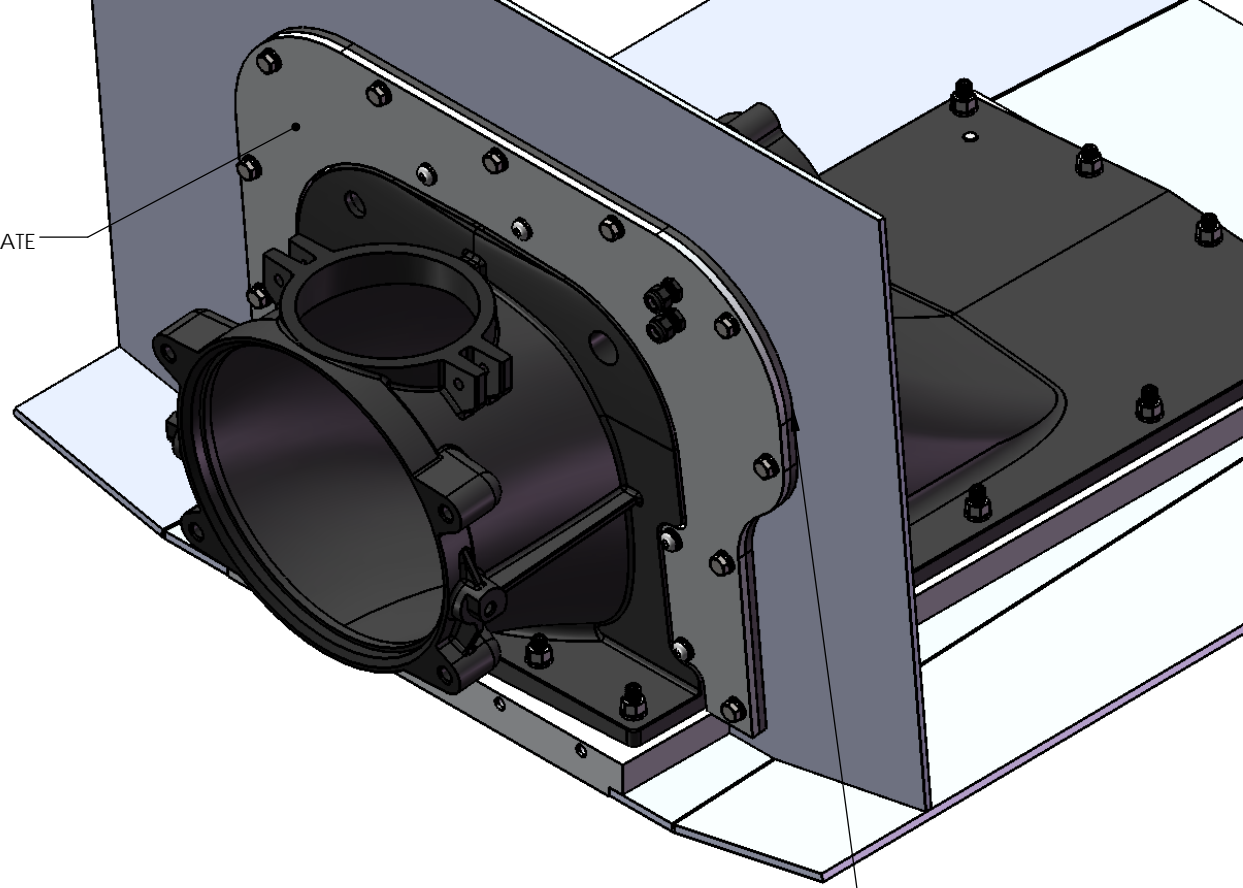
(DETAIL 4)



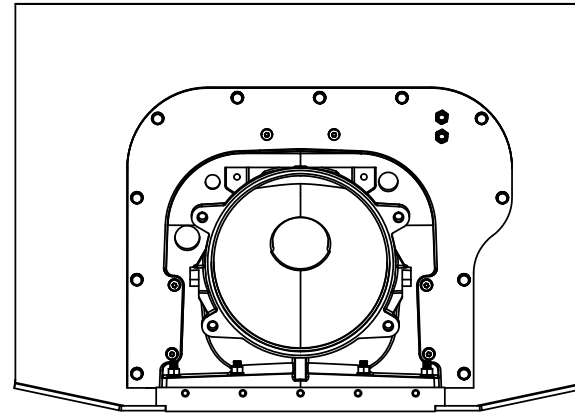
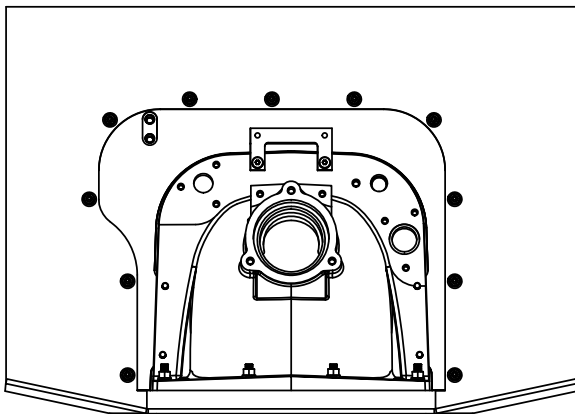
- 1 -CONNECT POWER HARNESS
- 2 -CONNECT POWER
- 3 -**PUSH CABLE SWITCH SPOOL IN UNTIL EHA IS FULLY EXTENDED (FORWARD) AND HITS THE BYPASS (SQUEALING)**
- 4 -**DISCONNECT POWER**, SO EHA IS NOT INADVERTENTLY ENERGIZED
- 5 -PLACE THE SHIFTER INTO FULL FORWARD, IF POSSIBLE ADJUST THE CABLE SO THAT IT IS BOTTOMED OUT WHEN THE SHIFTER IS FULL FORWARD.
- 6 -CONNECT SHIFT CABLE, THREAD CABLE INTO CABLE SWITCH SPOOL UNTIL CABLE CLAMP LINES UP WITH CABLE BRACKET. THE CABLE SWITCH SPOOL MUST BE CENTERED (DETAIL 4) (CABLE SWITCH SPOOL WILL SPIN IN CABLE SWITCH ALLOWING YOU TO THREAD IT UP ON THE CABLE).
- 7 -RECONNECT POWER
- 8 -LIFT UP ON EHA AND FOLLOWER, PUSHING IT TOWARDS THE PORT SIDE (INTO THE CABLE) TO TAKE OUT ALL OF THE SLACK.
 - (A) -IF EHA SQUEALS, ADJUST CABLE BY TURNING CABLE SWITCH SPOOL COUNTER CLOCKWISE UNTIL SQUEALING STOPS, THEN GO 1/2 TURN MORE.
 - (B) -IF EHA DOES NOT SQUEAL, TURN CABLE SWITCH SPOOL CLOCKWISE UNTIL THE EHA SQUEALS, REPEAT STEP ABOVE.
- 9 -TIGHTEN LOCK NUT AGAINST CABLE SWITCH SPOOL AND SECURE WIRE HARNESS.
- 10 -**PLACE SHIFTER INTO REVERSE**, CHECK BUCKET FOR LEVEL. TOP SIDE RIB SHOULD BE PARALLEL WITH WATER TUBE PORT SIDE. IF ADJUSTMENT IS NECESSARY **DISCONNECT POWER** TO EHA.
- 11 -PULL "DISCONNECT PIN" AND ADJUST WITH ROD END TO LEVEL THE REVERSE BUCKET WITH THE WATER TUBE.
- 12 -CHECK ALL FASTENERS AND LOCK NUTS FOR TIGHT.
- 13 -SHIFT INTO FORWARD AND CHECK THAT BUCKET CLEARS THE NOZZLE. ALSO CHECK THAT THE EHA IS NOT IN A STALLED CONDITION (SQUEALING).



SET BACK PLATE



RUBBER GASKET



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800 622 JETS

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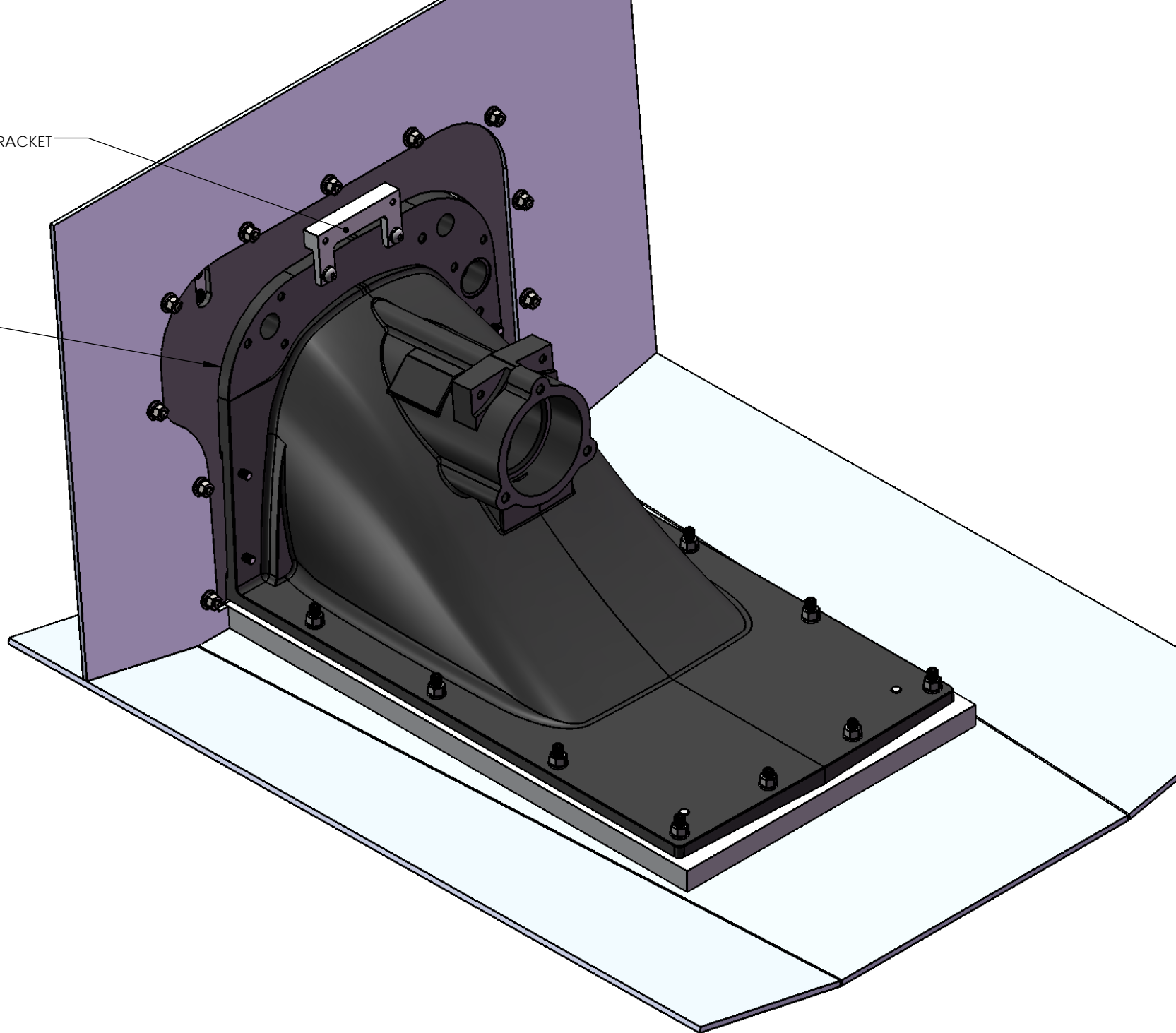
DRAWING#:
SD231 W VER 2 TRANSOM SEAL - 1

REV.

SHEET 1 OF 2

TRANSOM PLATE BRACKET

USE SEALANT AROUND
PERIMETER OF SUCTION
FLANGE



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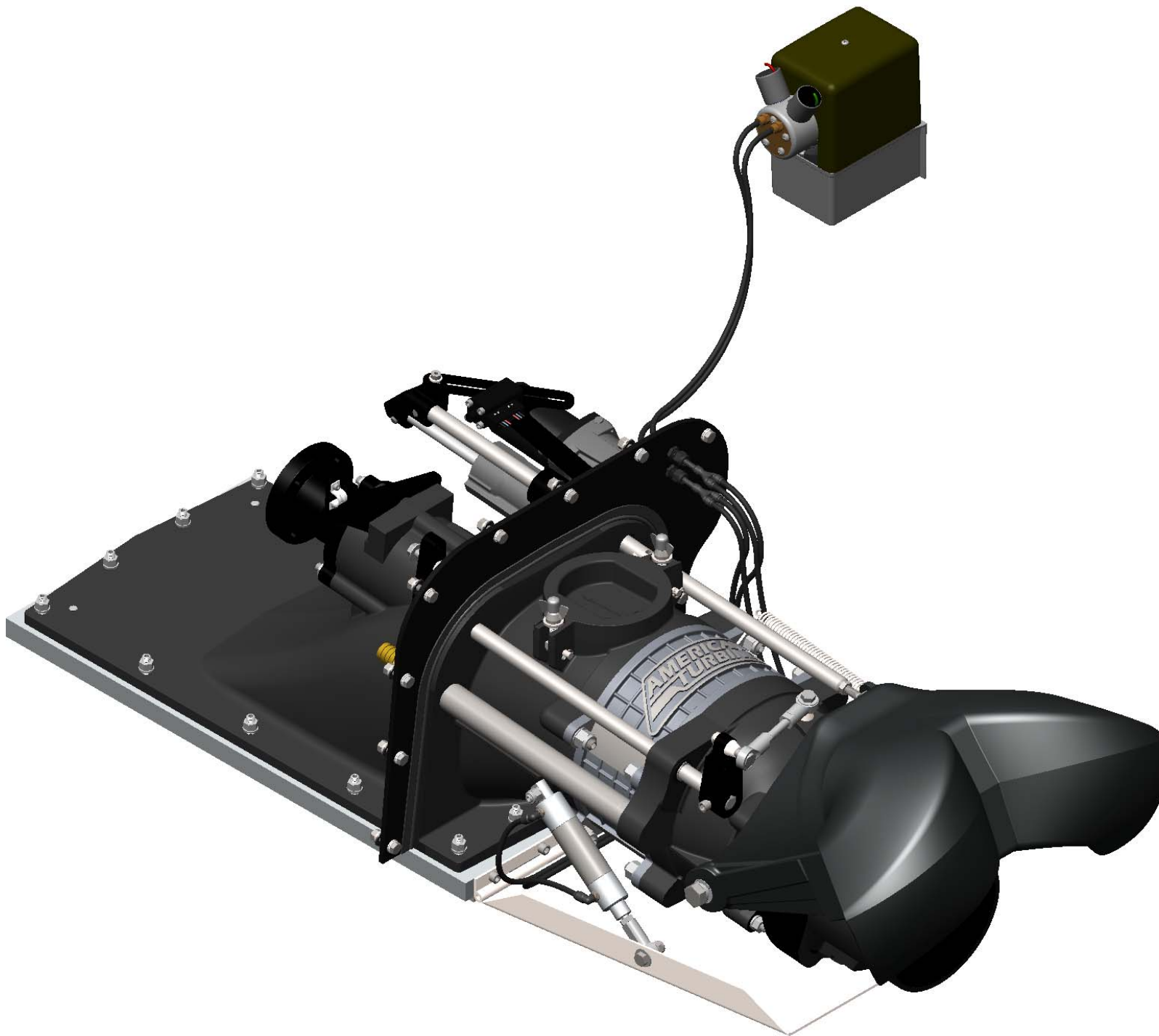
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TITLE:
Default

DRAWING#:
SD231 W VER 2 TRANSOM SEAL-2

REV.

SHEET 2 OF 2



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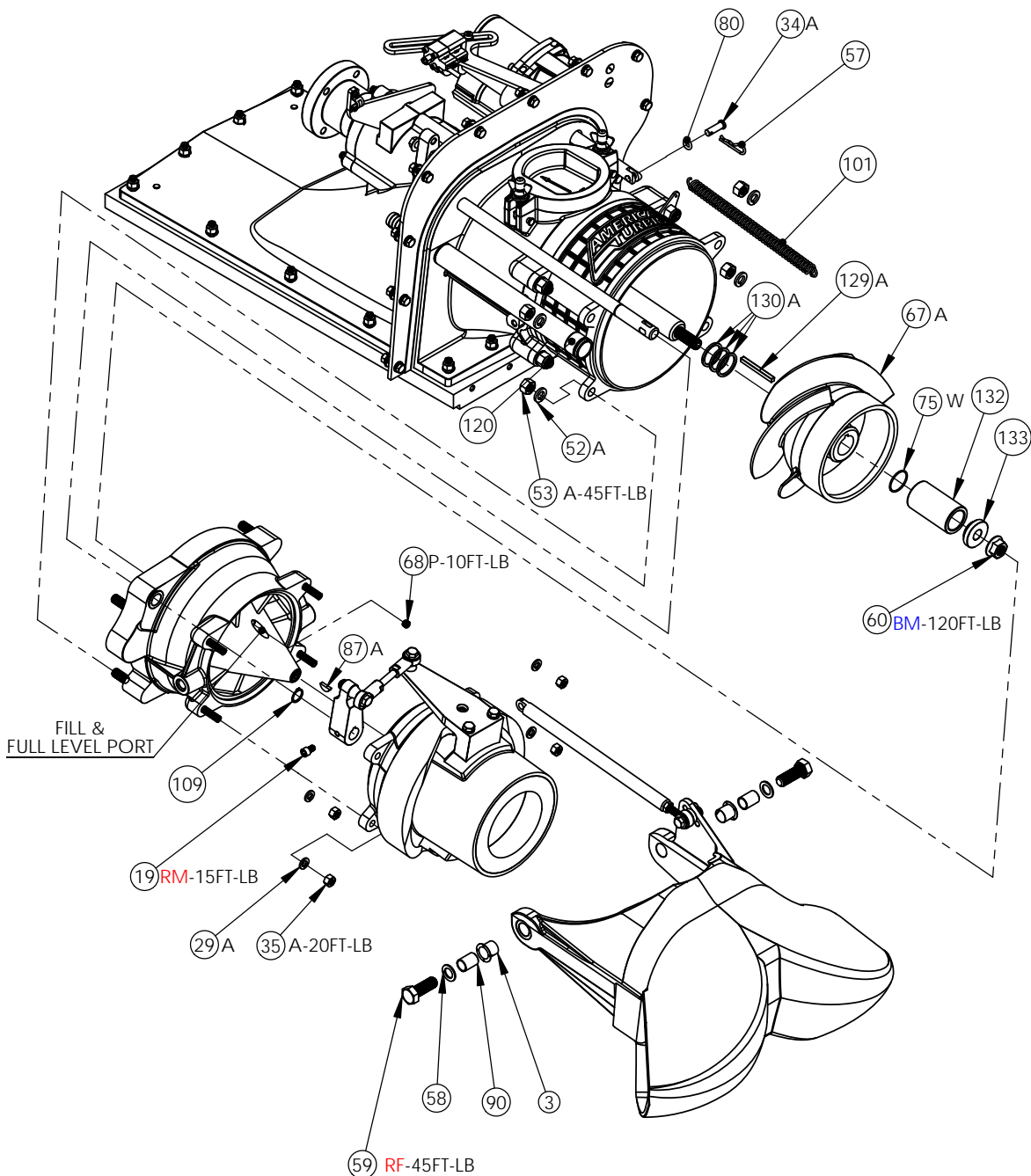
TITLE:
SD231 with OPTIONAL RIDEPLATE

DRAWING#:
SD231-EXP-1

REV.

SHEET 1 OF 13

IMPELLER REMOVE AND REPLACE



NOTES: TORQUE SPECS & THREAD TREATMENT NOTED ON ITEM

- PULL R-CLIP(56) & REMOVE PIN(26) OF REVERSE LINKAGE & DISCONNECT SPRING(100).
- REMOVE REVERSE BUCKET PIVOT BOLTS(57) & SET REVERSE BUCKET ASIDE.
- REMOVE TILLER ARM LOCK BOLT(13) & STEERING ASSY. NUTS(31) TO REMOVE STEERING ASSY..
- REMOVE WOODRUFF KEY(86) & SNAP RING(108).
- WARNING!** STATOR FILLED W/ OIL, WILL SPILL WHEN REMOVING STATOR.
- BEFORE REMOVING 1/2-20 NUTS(51) LOOSEN 1/8 PIPE PLUG(67) TO CHECK FOR PRESSURE & RETIGHTEN.**
- TO REMOVE STATOR PUSH STEERING SHAFT FORWARD AND SLIDE STATOR OFF PUMP SHAFT. TO PREVENT OIL FORM RUNNING OUT SHAFT BORE, ROTATE STATOR STEERING SIDE DOWN QUICKLY TO CATCH OIL WHEN THE STATOR CLEARS THE PUMP SHAFT.
- REMOVE IMPELLER NUT(60), WASHER(131), & SLEEVE(130) TO REMOVE IMPELLER.
- REVERSE ORDER TO INSTALL WITH NOTES 10-15
- SHIM IMPELLER SO THE SKIRT IS EVEN W/ THE BACK EDGE OF WEAR RING $\pm .010$ ".
- WHEN INSTALLING SLEEVE(130) MAKE SURE O-RING(73), (INSIDE SLEEVE) IS NEXT TO IMPELLER.
- PACK LIP SEALS IN STATOR W/ SCHAEFFER 274 MOLY EP* & LUBE WATER TUBE(118) O-RING WITH WD-40*
- TO INSTALL STATOR, START ON SHAFT WITH AS MINIMAL OIL LOSS AS POSSIBLE & LOOSEN 1/8 PIPE PLUG(14) TO RELEASE AIR & GUIDE WATER TUBE(118) INTO STATOR.
- WHEN STATOR IS TORQUE TO SPEC MAKE SURE STEERING SHAFT MOVES FREELY.
- FILL STATOR WITH SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90* TO FILL PORT.

KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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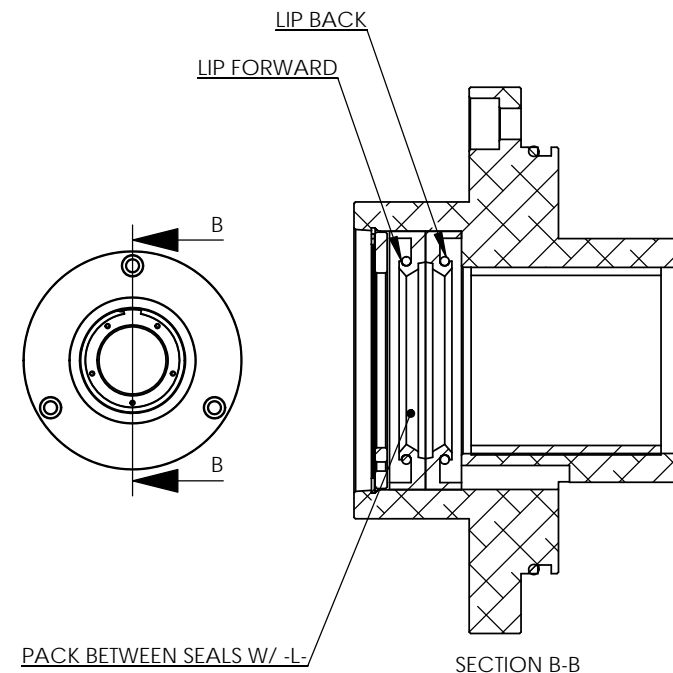
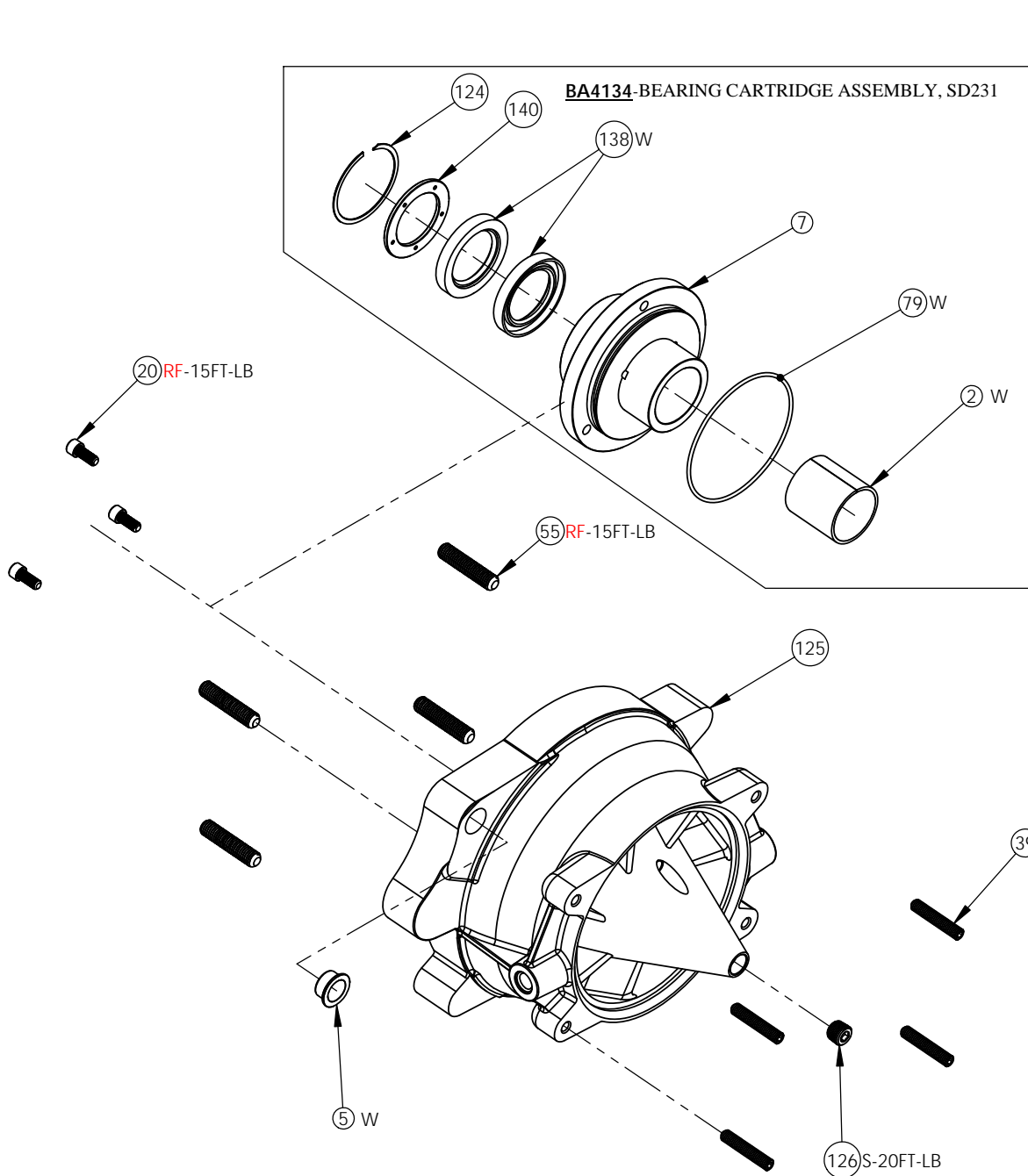
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TITLE:
SD231-IMPELLER REMOVAL

DRAWING#:
SD231-EXP-2

REV.

SHEET 2 OF 13



BA4134

NOTES:

1. COAT BEARING CARTRIDGE BORE IN STATOR WITH (W) BEFORE ASSY. IN STATOR.
2. PACK (L) BETWEEN LIP SEALS BEFORE ASSY. ON SHAFT

KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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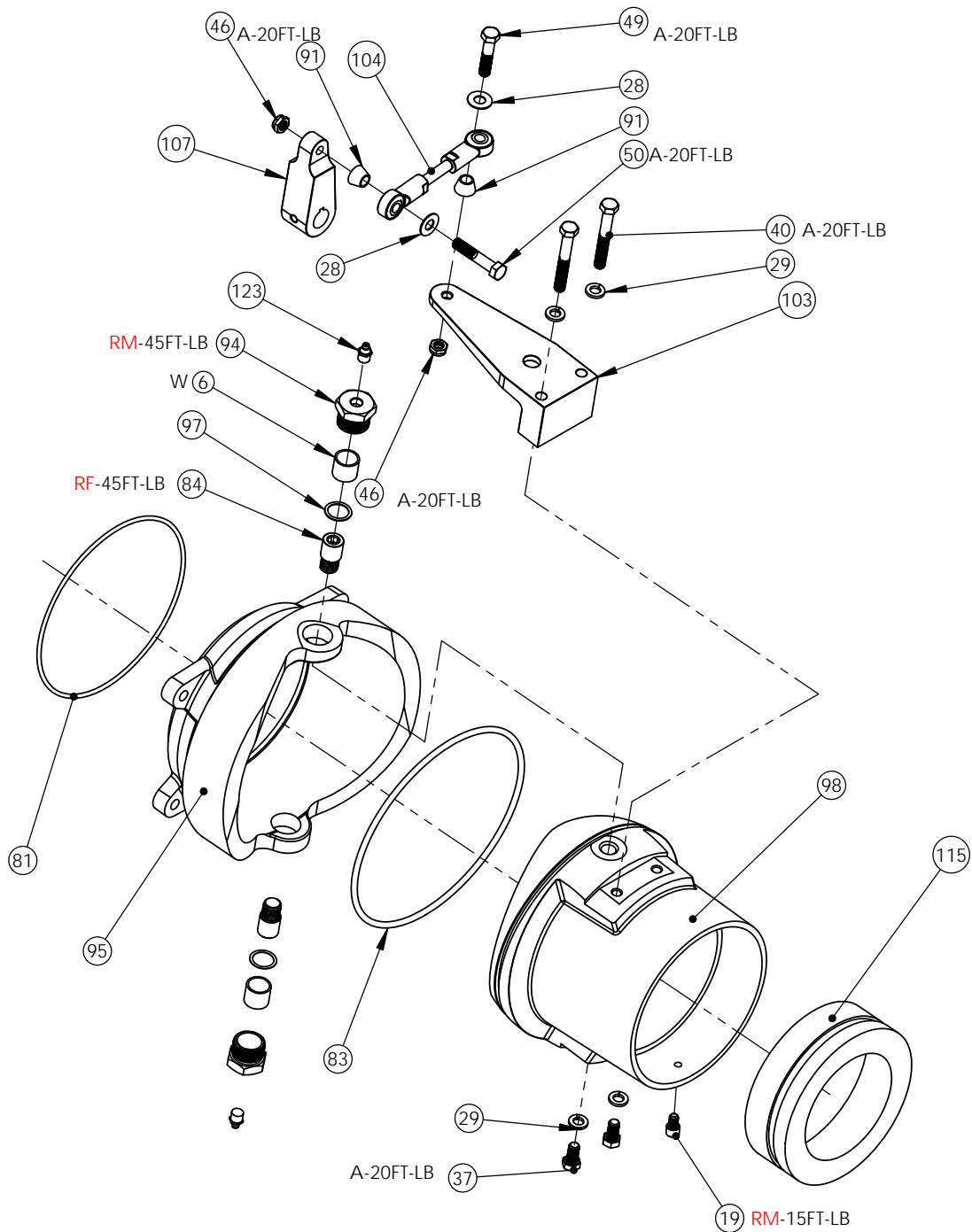
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800 622 JETS

TITLE:
SD231-STATORASSY-EXP

DRAWING#:
SD231-EXP-3

REV.

SHEET 3 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUILENT	

NOTES:

1. SHIM BOTTOM PIN(83) SO NOZZLE IS IN THE CENTER OF THE HOUSING AND DOES NOT RUB.
2. SHIM TOP PIN(83) SO NOZZLE HAS .005 TO .010 OF MOVEMENT UP.

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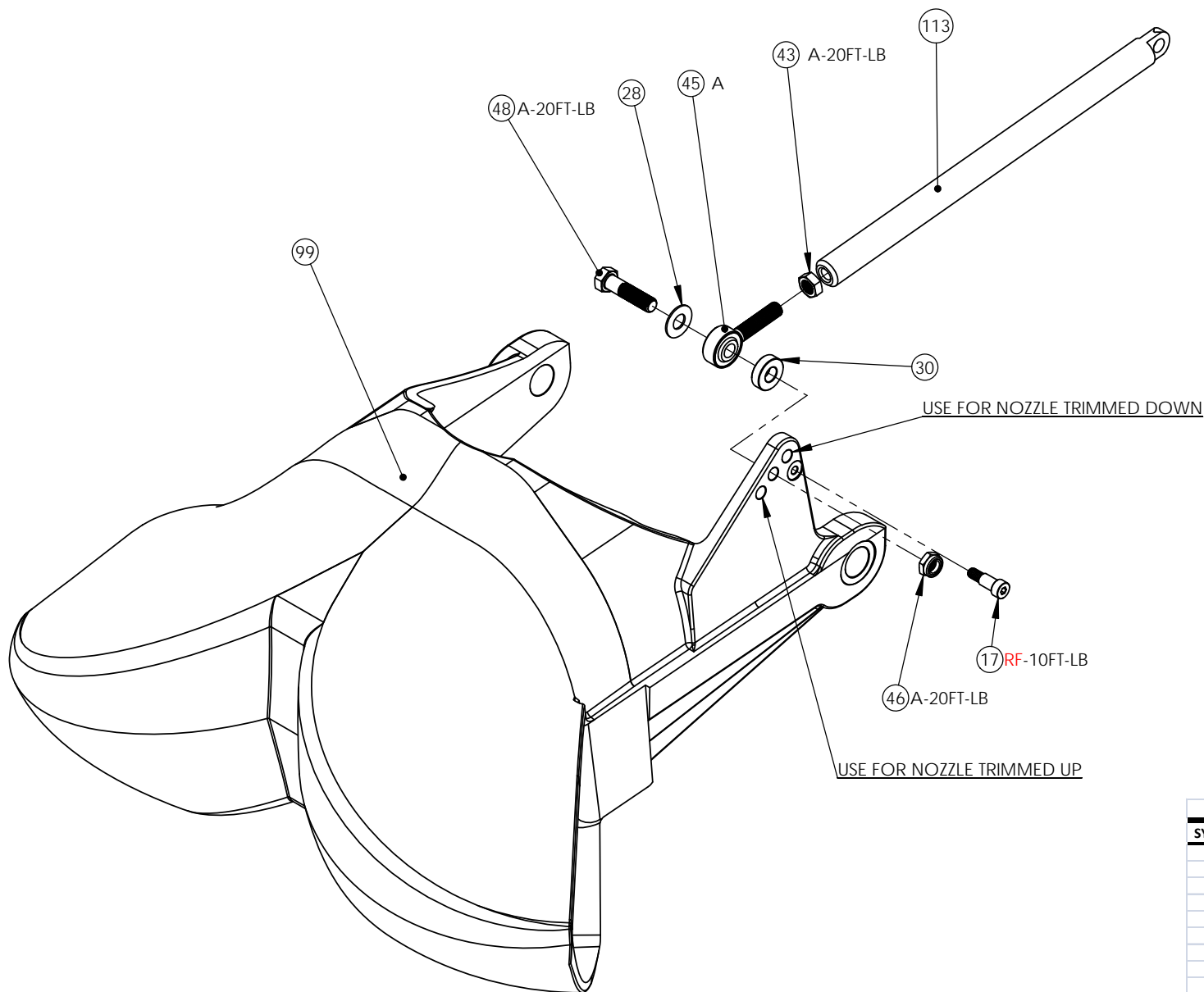
ASOTIN, WA. 99402
800 622 JETS

TITLE:
SD231-STEERINGASSY-EXP

DRAWING#:
SD231-EXP-4

REV.

SHEET 4 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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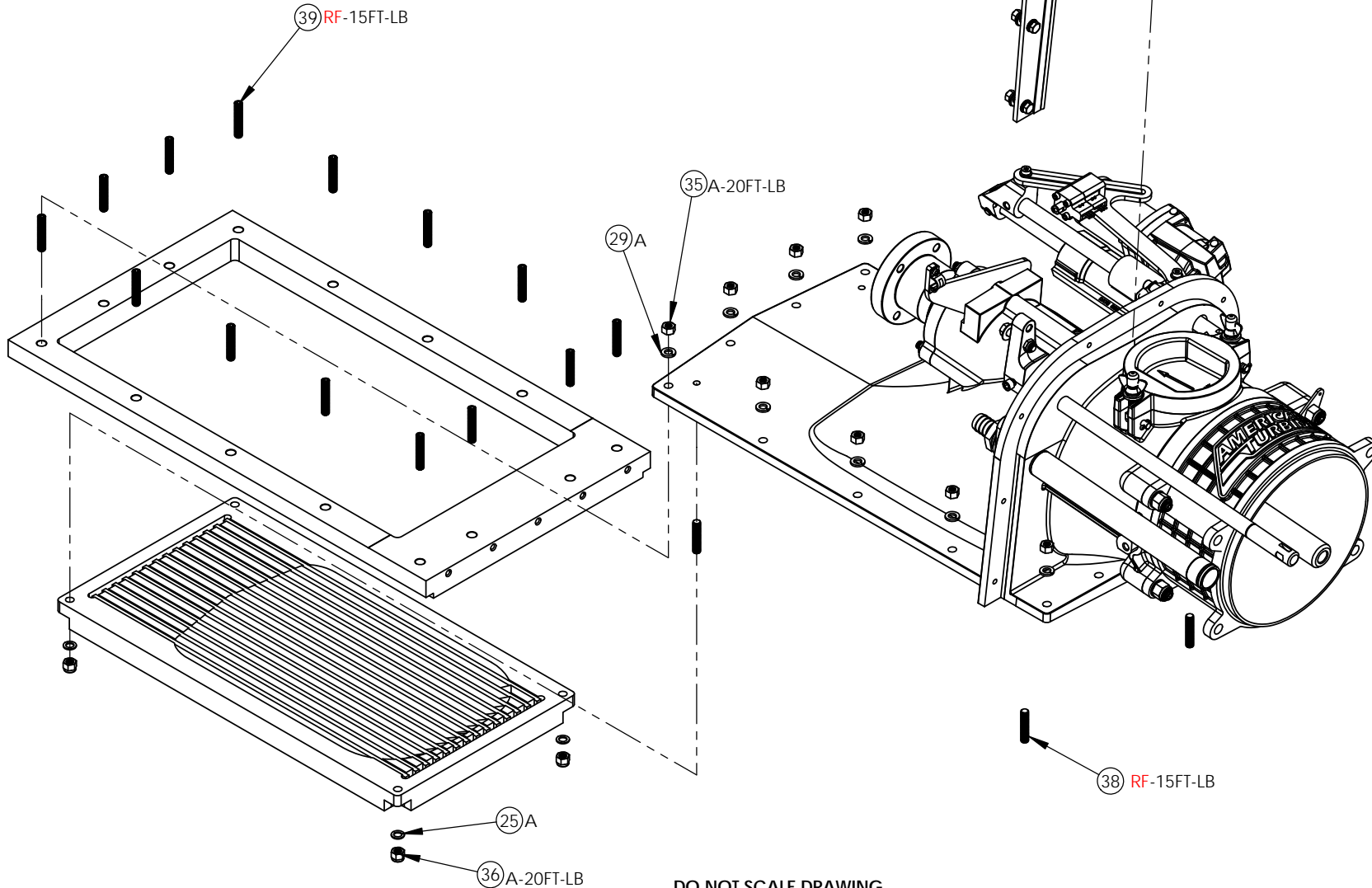
TITLE:
SD231-REVERSEASSY-EXP

DRAWING#:
SD231-EXP-5

REV.

SHEET 5 OF 13

KEY	
SYMBOL	DESCRIPTION
RF	277-LOCTITE*-ON FEMALE THREADS
RM	277-LOCTITE*-ON MALE THREADS
BF	243-LOCTITE*-ON FEMALE THREADS
BM	243-LOCTITE*-ON MALE THREADS
PF	222-LOCTITE*-ON FEMALE THREADS
PM	222-LOCTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	



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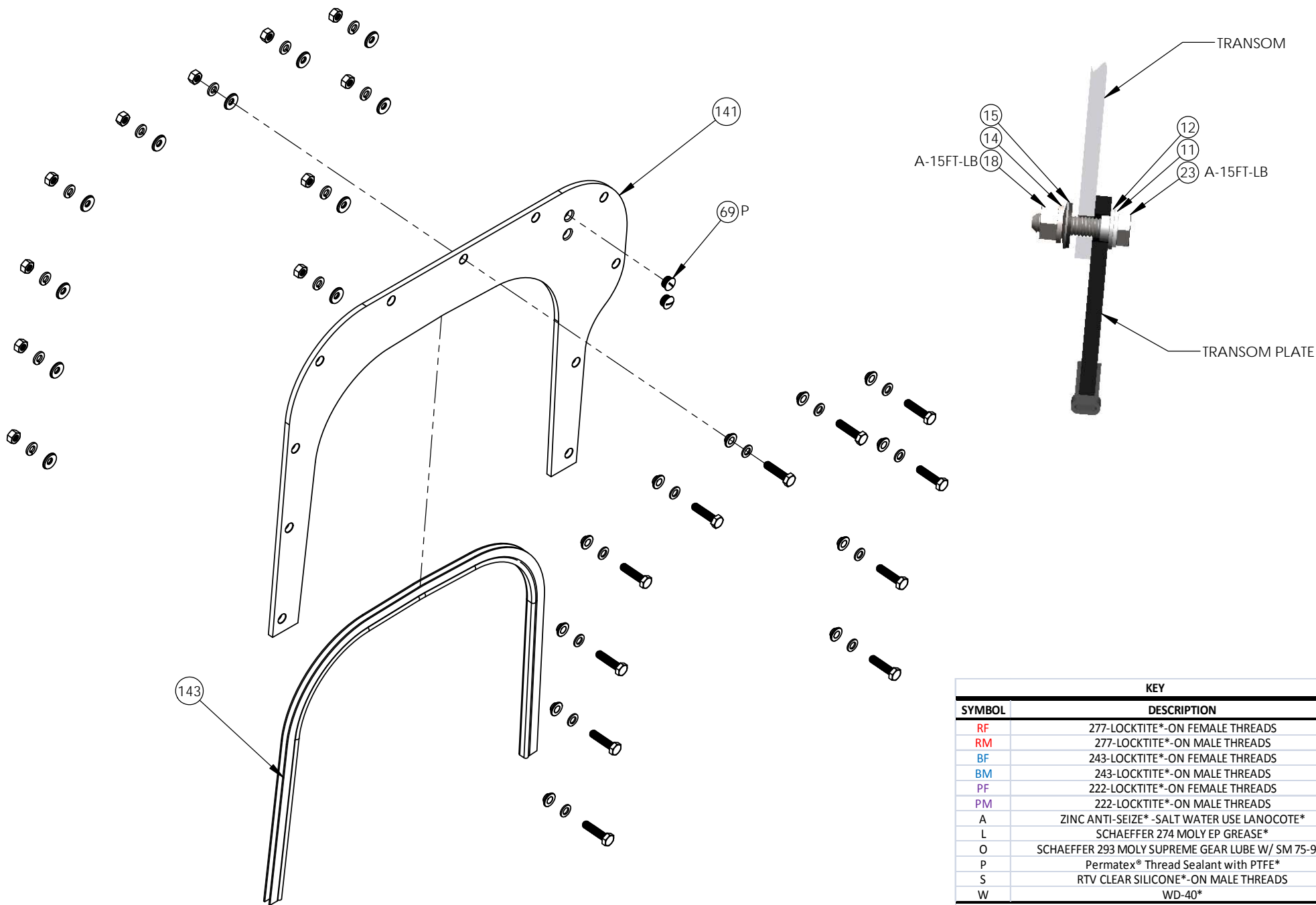
ASOTIN, WA. 99402
800 622 JETS

TITLE:
SD231-SUCTIONASSY-1-EXP

DRAWING#:
SD231-EXP-6

REV.

SHEET 6 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE*-SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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800 622 JETS

TITLE:
SD231-TRANSOMPLATEASSY-EXP

DRAWING#:
SD231-EXP-7

REV.

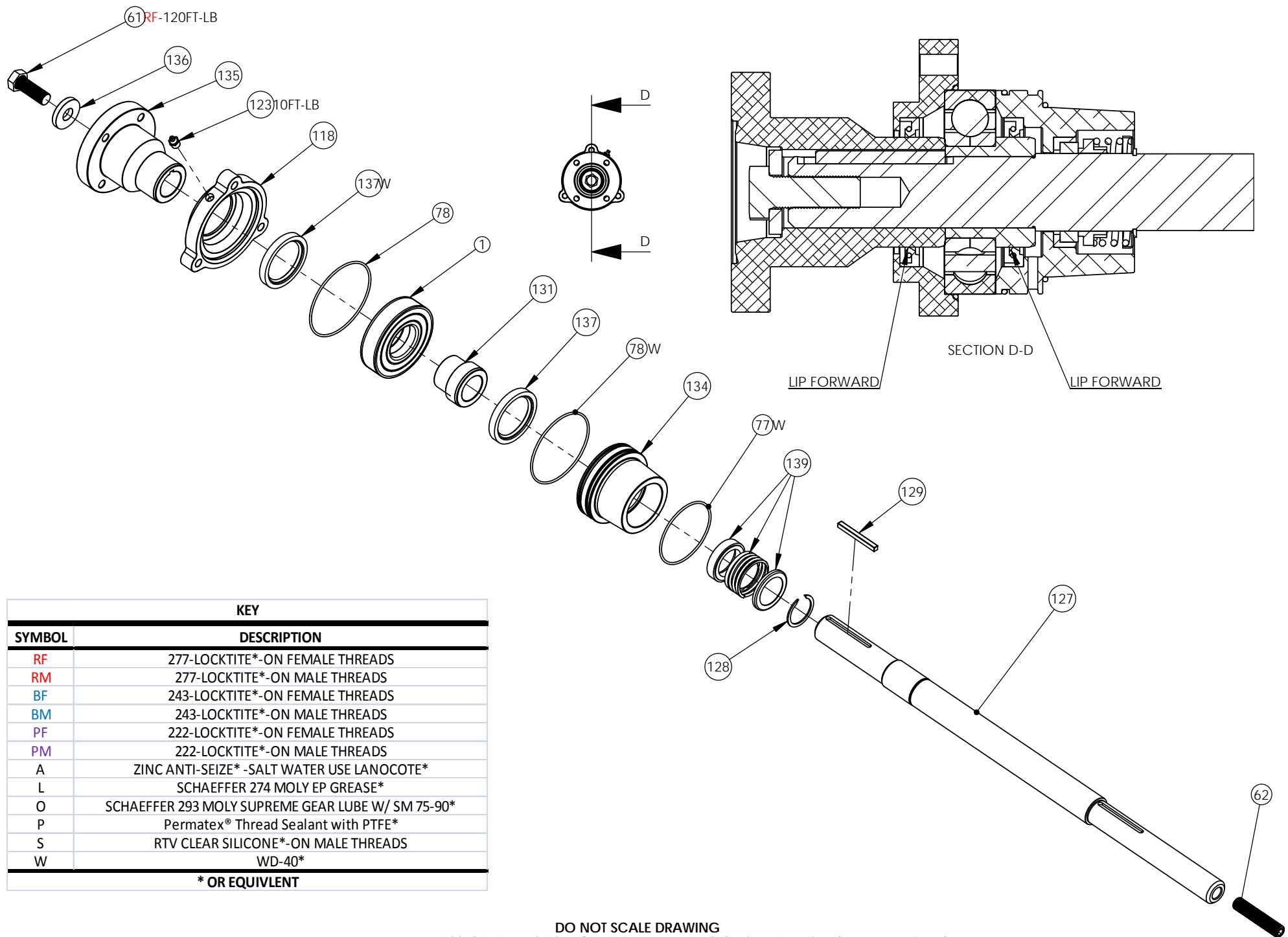
SHEET 7 OF 13

1. WHEN INSERTING SHAFT ASSY. COAT BEARING BORE IN SUCTION WITH (W)
2. GLUE ORING #32 TO HAND HOLE COVER #31 WITH SUPER GLUE* IN 3 SPOTS
3. COAT STEERING BORE WITH (L) AFTER PRESSING BUSHING(4) & ORING(71)
4. COAT BORES FOR WATER TUBE(118) WITH (W) BEFORE ASSY.

WHEN INSERTING SHAFT ASSY. COAT BEARING BORE IN SUCTION WITH (W)
LUBE ORING #32 TO HAND HOLE COVER #31 WITH SUPER GLUE* IN 3 SPOTS
COAT STEERING BORE WITH (L) AFTER PRESSING BUSHING(4) & ORING(71)
COAT BORES FOR WATER TUBE(118) WITH (W) BEFORE ASSY.

RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE*-SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SIM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

SHEET 8 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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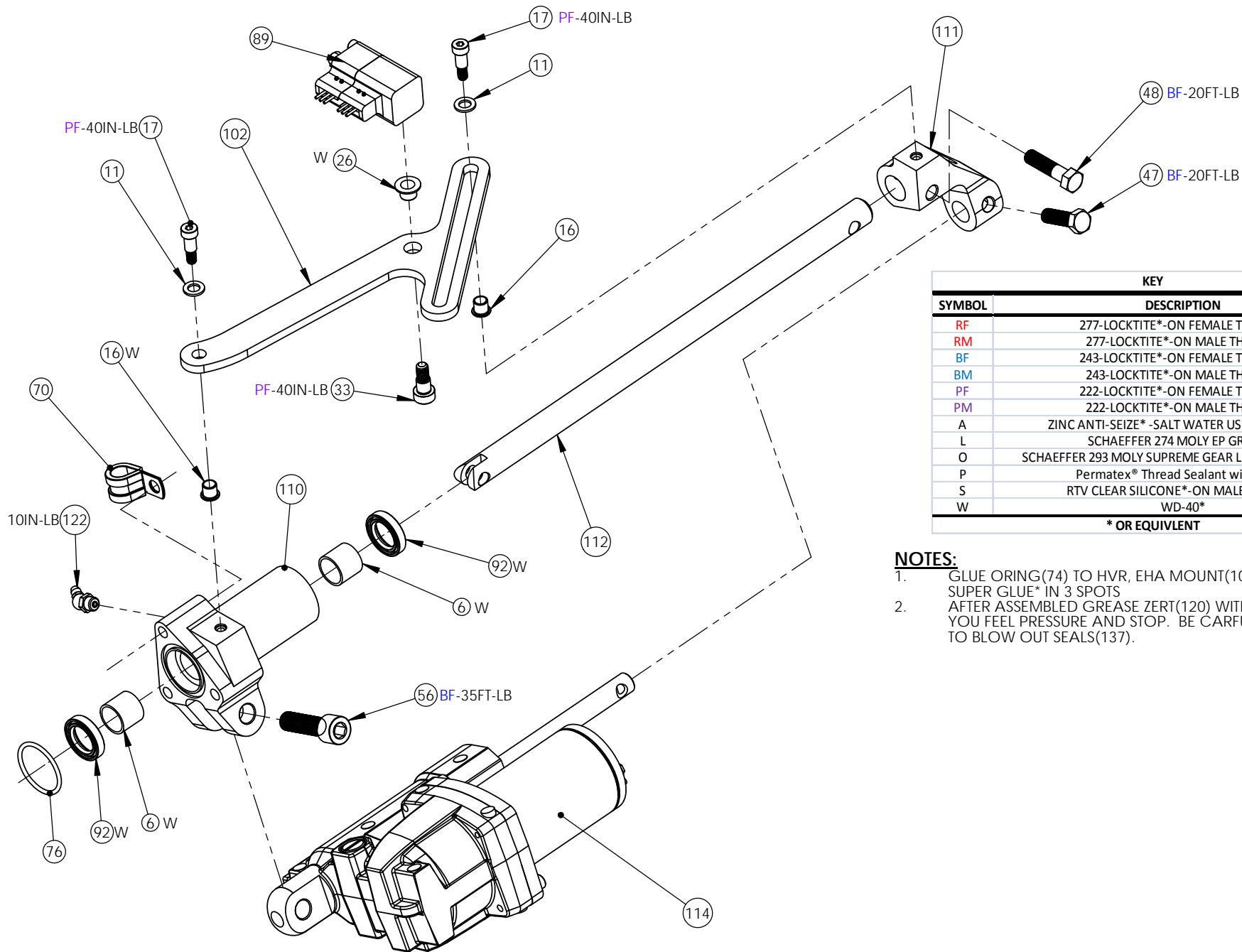
AMERICAN TURBINE, INC.

ASOTIN, WA. 99402
800 622 JETS

TITLE:
SD231-SHAFTASSY-EXP
DRAWING#:
SD231-EXP-9

REV.

SHEET 9 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

NOTES:

1. GLUE ORING(74) TO HVR, EHA MOUNT(109) WITH SUPER GLUE* IN 3 SPOTS
2. AFTER ASSEMBLED GREASE ZERT(120) WITH (L) UNTIL YOU FEEL PRESSURE AND STOP. BE CAREFUL NOT TO BLOW OUT SEALS(137).

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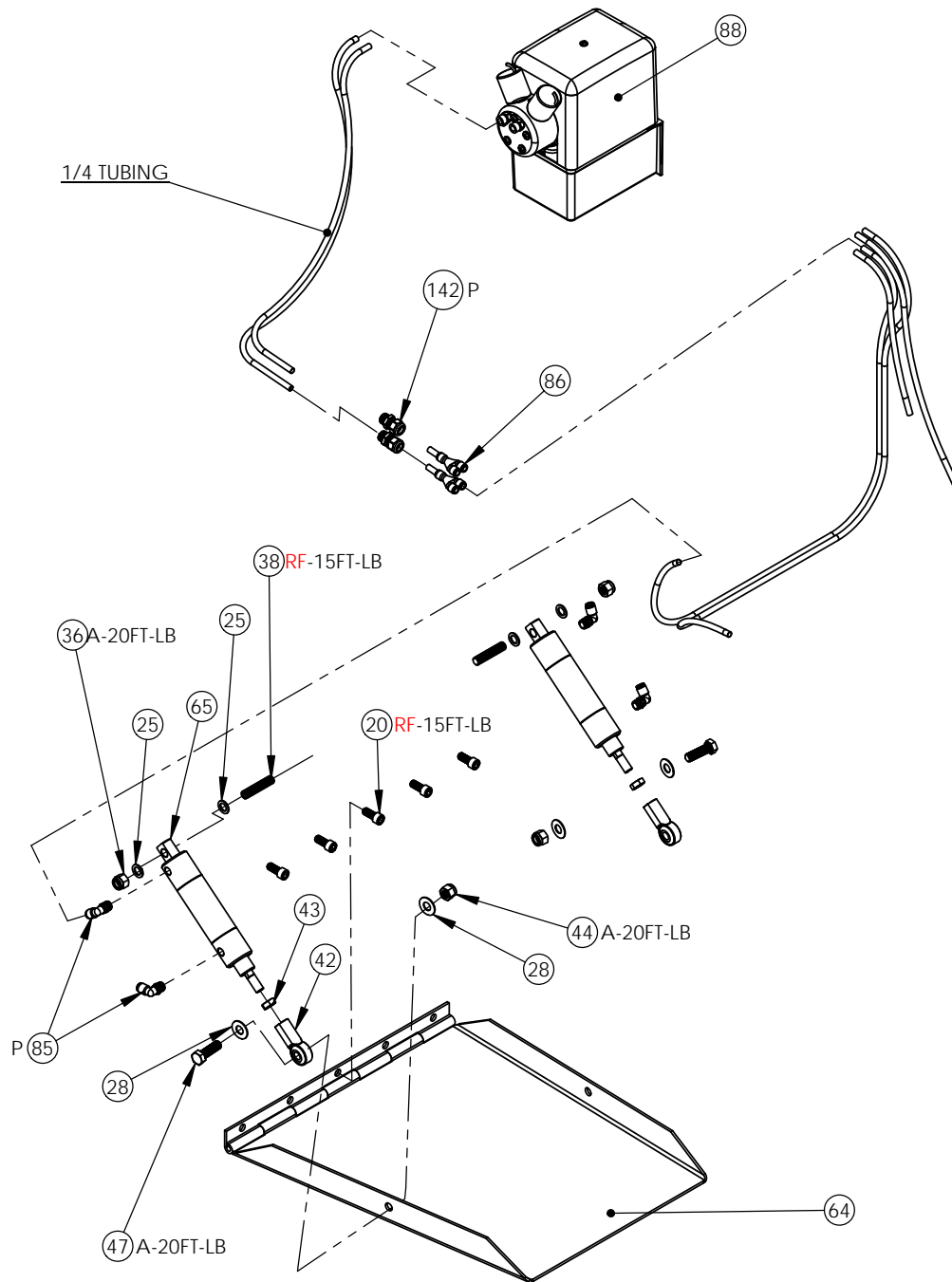
ASOTIN, WA. 99402
800 622 JETS

TITLE:
SD231-EHAASSY-EXP

DRAWING#:
SD231-EXP-10

REV.

SHEET 10 OF 13



KEY	
SYMBOL	DESCRIPTION
RF	277-LOCKTITE*-ON FEMALE THREADS
RM	277-LOCKTITE*-ON MALE THREADS
BF	243-LOCKTITE*-ON FEMALE THREADS
BM	243-LOCKTITE*-ON MALE THREADS
PF	222-LOCKTITE*-ON FEMALE THREADS
PM	222-LOCKTITE*-ON MALE THREADS
A	ZINC ANTI-SEIZE* -SALT WATER USE LANOCOTE*
L	SCHAEFFER 274 MOLY EP GREASE*
O	SCHAEFFER 293 MOLY SUPREME GEAR LUBE W/ SM 75-90*
P	Permatex® Thread Sealant with PTFE*
S	RTV CLEAR SILICONE*-ON MALE THREADS
W	WD-40*
* OR EQUIVLENT	

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800 622 JETS

TITLE:
SD231-RIDEPLATEASSY-EXP

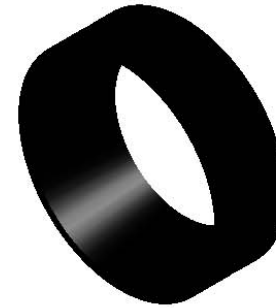
DRAWING#:
SD231-EXP-11

REV.

SHEET 11 OF 13



<u>SD231 IMPELLER CHART IMX231-XXX</u>	
<u>PART #</u>	<u>DESCRIPTION</u>
IMX231-290	IMPELLER, STAINLESS, SD231AF, 2.9 KW
IMX231-350	IMPELLER, STAINLESS, SD231AF, 3.5 KW
IMX231-400	IMPELLER, STAINLESS, SD231AF, 4.0 KW



<u>SD231-NOZZLE INSET CHART RV7XXX</u>	
<u>PART #</u>	<u>DESCRIPTION</u>
RV7400	SD231 NOZZLE INSERT, 4.0
RV7420	SD231 NOZZLE INSERT, 4.2
RV7430	SD231 NOZZLE INSERT, 4.3
RV7440	SD231 NOZZLE INSERT, 4.4



<u>PIVOT BOLT SHIM CHART RV1X07</u>	
<u>PART #</u>	<u>DESCRIPTION</u>
RV1107	PIVOT BOLT SHIM .036, SD231
RV1207	PIVOT BOLT SHIM .010, SD231



<u>IMPELLER SHIM CHART SH4X07</u>	
<u>PART #</u>	<u>DESCRIPTION</u>
SH4007	IMPELLER SHIM .005
SH4107	IMPELLER SHIM .010
SH4207	IMPELLER SHIM .020
SH4307	IMPELLER SHIM .040
SH4407	IMPELLER SHIM .060
SH4507	IMPELLER SHIM .075

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800 622 JETS

TITLE:
IMX231-XXX

DRAWING#:
SD231-EXP-12

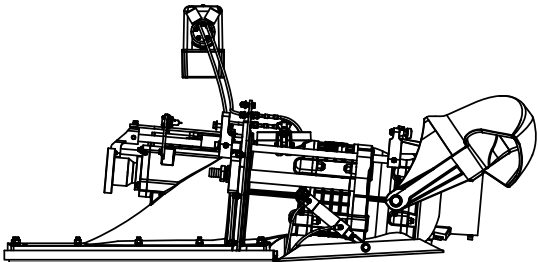
REV. 1

SHEET 12 OF 13

ITEM #	PART #	DESCRIPTION	QTY.
1	B1001	THRUST BEARING, (SD231, HAM241)	1
2	B1506	STATOR BEARING, SD231	1
3	B2007	NYLINER BUSHING, SPLIT (3/4) (WJ STR)	2
4	B2201	BRASS BEARING (3/4)	1
5	B2401	NYLON BEARING (3/4)	1
6	B4000	PLAIN BEARING (3/4)	4
7	B4134	STATOR BEARING CARTIRDGE, SD231	1
8	CMC-40	40 SERIES CABLE CLAMP	1
9	F02 04 CP	7/64 X 3/4 COTTER PIN	3
10	F03 32 03 FH	10-32 X 3/8 FILLISTER HEAD PHILLIPS MACHINE SCREW	2
11	F05 AN	5/16 AN FLAT WASHER	14
12	F05 BI	5/16 BOLT INSULATOR	11
13	F05 CL	5/16 CLEVIS PIN	2
14	F05 LW	5/16 LOCK WASHER	13
15	F05 NW	5/16 NEOBOND WASHER	11
16	F05 03 BI	BOLT INSULATOR, 5/16, SD231	2
17	F05 04 SB	5/16 X 1/2 SHOULDER BOLT	3
18	F05 18 HN	5/16-18 HEX NUT	11
19	F05 18 04 SH	5/16-18 X 1/2 SOCKET HEAD CAP SCREW	3
20	F05 18 06 SH	5/16-18 X 3/4 SOCKET HEAD CAP SCREW	8
21	F05 18 08 HH	5/16-18 X 1 HEX HEAD CAP SCREW	2
22	F05 18 08 SH	5/16-18 X 1 SOCKET HEAD CAP SCREW	3
23	F05 18 10 HH	5/16-18 X 1-1/4 HEX HEAD CAP SCREW	11
24	F05 18 16 SH	5/16-18 X 2 SOCKET HEAD CAP SCREW	3
25	F06 AN	3/8 AN FLAT WASHER	8
26	F06 BI	3/8 BOLT INSULATOR	1
27	F06 EB	3/8 EYE BOLT	2
28	F06 FW	3/8 FLAT WASHER	8
29	F06 LW	3/8 LOCK WASHER	27
30	F06 TW A	3/8 THICK WASHER ALUMINUM	1
31	F06 TW	3/8 THICK WASHER (SD HAND HOLE COVER)	2
32	F06 WN	3/8 WING NUT	2
33	F06 03 SB	3/8 X 3/8 SHOULDER BOLT	1
34	F06 08 CL	3/8 X 1-1/16 CLEVIS PIN, STAINLESS STEEL	1
35	F06 16 HN	3/8-16 HEX NUT	21
36	F06 16 LN	3/8-16 LOCK NUT	6
37	F06 16 06 HH	3/8-16 X 3/4 HEX HEAD CAP SCREW	2
38	F06 16 14 SS	3/8-16 X 1-3/4 SOCKET HEAD SET SCREW	6
39	F06 16 16 SS	3/8-16 X 2 SOCKET HEAD SET SCREW	21
40	F06 16 22 HH	3/8-16 X 2-3/4 HEX HEAD CAP SCREW	2
41	F06 16 24 SH	3/8-16 X 3 SOCKET HEAD CAP SCREW	1
42	F06 24 FRE	3/8-24 FEMALE ROD END, STAINLESS STEEL	2
43	F06 24 JN	3/8-24 JAMB NUT	3
44	F06 24 LN	3/8-24 LOCK NUT	2
45	F06 24 MRE	3/8-24 MALE ROD END	1
46	F06 24 TL	3/8-24 THIN LOCK NUT	4
47	F06 24 10 HH	3/8-24 X 1-1/4 HEX HEAD CAP SCREW	3
48	F06 24 12 HH	3/8-24 X 1-1/2 HEX HEAD CAP SCREW	2
49	F06 24 14 HH	3/8-24 X 1-3/4 HEX HEAD CAP SCREW	2
50	F06 24 16 HH	3/8-24 X 2 HEX HEAD CAP SCREW	1
51	F08 AN	1/2 AN FLAT WASHER	3
52	F08 LW	1/2 LOCK WASHER	4

ITEM #	PART #	DESCRIPTION	QTY.
53	F08 13 HN	1/2-13 HEX NUT	4
54	F08 13 LN	1/2-13 LOCK NUT	4
55	F08 13 18 SS	1/2-13 X 2-1/4 SOCKET HEAD SET SCREW	8
56	F08 20 14 SH	1/2-20 X 1-3/4 SOCKET HEAD CAP SCREW	1
57	F08-10 RC	1/2-5/8 R CLIP	1
58	F10 TW	5/8 THICK WASHER	2
59	F10 11 14 HH	5/8-11 X 1-3/4 HEX HEAD CAP SCREW	2
60	F10 18 FLN	5/8-18 FLANGED NUT, SERRATED	1
61	F10 18 14 HH	5/8-18 X 1-3/4 HEX HEAD CAP SCREW	1
62	F10 18 24 SS	5/8-18 X 3 SOCKET HEAD SET SCREW	1
63	I1601	INTAKE BLOCK, SD231	1
64	I1602	RIDE PLATE, SD231	1
65	I1603	RIDE PLATE CYLINDER, SD231	2
66	I4601	INTAKE GRATE, SD231	1
67	IMX231-XXX	IMPELLER-SEE DWG SD231-EXP12	1
68	J0883	DRAIN PLUG, 1/8 PIPE	1
69	J0894	DOME PLUG, TRANSOM PLATE 1/2-20	2
70	M1008	RUBBER COVERED CLAMP 3/8	1
71	M5001	VINYL CAP, 3/8	2
72	O3101	O-RING, BOWL (AT, SD231, WJ)	2
73	O5018	O-RING, STEERING SHAFT, SD231	1
74	O5024	O-RING, WATER TUBE, SD231AF	2
75	O5026	O-RING, BEARING SLEEVE STATOR	1
76	O5126	O-RING, EHA MOUNT, SD231	2
77	O5152	O-RING, SEAL FACE HOUSING SMALL, SD231	1
78	O5154	SEAL FACE HOUSING, SD231	2
79	O5156	O-RING, STATOR BEARING CARTRIDGE, SD231	1
80	O5204	O-RING, SHIFT SHAFT PIN, SD231	1
81	O5262	O-RING, NOZZLE HOUSING, SD231	1
82	O5352	O-RING, HANDHOLE COVER, SD231	1
83	O5369	O-RING, TEFLON, NOZZLE, SD231	1
84	R3703	5/8-11 X 5/8 SOCKET HEAD CAP SCREW W/ 3/4 PIVOT HEAD - TYP 304	2
85	R4001	1/4 O.D. NPT MALE ELBOW	4
86	R4002	1/4 O.D. PUSH TO CONNECT UNION WYE	2
87	R5507	KEY, WOODRUFF #9	2
88	R7301	HYDRAULIC CONTROL UNIT (MAX. 25% DISCOUNT) PUMP ONLY	1
89	RA231	CABLE SWITCH, 40 SERIES	1
90	RS2131	HTR II, HVR, BUSHING (BUCKET PIVOT)	2
91	RS2621	HTR II, HVR, TAPPED SPACER	2
92	RS5601	SEAL, HTRII, HVR SHIFT ROD	2
93	RV1001	REVERSE CABLE BRACKET, SD231	1
94	RV1006	BUSHING CAP, STEERING PIVOT, SD231	2
95	RV1007	HOUSING, NOZZLE, SD231	1
96	RV1207	PIVOT BOLT SHIM .010, SD2312	1
97	RV1X07	PIVOT BOLT SHIM .036, SD2312	1
98	RV2001	NOZZLE, SD231	1
99	RV2101	REVERSE BUCKET, SD231	1
100	RV2104	REVERSE SPRING TAB, SD231	1
101	RV2105	REVERSE BUCKET SPRING, SD231	1
102	RV2106	SHIFT CONTROL FOLLOWER, SD231	1
103	RV2200	TILLER ARM. SD231	1
104	RV2201	STEERING TIE ROD, SD231	1
105	RV3000	STEERING SHAFT ARM (INSIDE), SD231	1
106	RV3001	STEERING STOP, SD231	1

ITEM #	PART #	DESCRIPTION	QTY.
107	RV3002	STEERING SHAFT ARM (OUTSIDE), SD231	1
108	RV3003	STEERING SHAFT, SD231	1
109	RV3004	SNAP RING SS 3/4, STEERING, SD231	2
110	RV4000	EHA MOUNT, SD231	1
111	RV4001	EHA SHAFT LINK, SD231	1
112	RV4002	SHIFT SHAFT-1, SD231	1
113	RV4003	SHIFT SHAFT-2, SD231	1
114	RV4004	ELECTRIC - HYDRAULIC ACTUATOR	1
115	RV7XXX	HVR, NOZZLE INSERT-SEE DWG SD231-EXP-12	1
116	SC1412	SUCTION PIECE, SD231	1
117	SC1901	HAND HOLE COVER, SD231	1
118	SC4212	BEARING HOUSING, SD231	1
119	SC4302	FLANGE MOUNT, WATER TUBE, SD231	1
120	SC4314	WATER TUBE, SD231	1
121	SC4502	HOSE NIPPLE, ENGINE COOLING, SD231	1
122	SC8801	1/8" 45 DEG. GREASE FITTING	1
123	SC8901	GREASE ZERT	3
124	SC9202	RETAINING RING, SEAL RETAINER, SD231	1
125	SC9412	STATOR, SD231	1
126	SC9903	3/8 PIPE PLUG	1
127	SH1412	PUMP SHAFT, SD231	1
128	SH1609	RETAINING RING, SHAFT, SD231	1
129	SH3017	SHAFT KEY, SD231	2
130	SH4X07	SHIMS-SEE DWG SD231-EXP-12	3
131	SH5000	BEARING SLEEVE, SD231	1
132	SH5009	SHAFT SLEEVE, SD231	1
133	SH5010	SHAFT SLEEVE WASHER, SD231	1
134	SH5412	SEAL FACE HOUSING, SD231	1
135	SH6412	DRIVE FLANGE, SD231	1
136	SH6413	5/8 MACINED THICK WASHER	1
137	SL1007	SEAL, BEARING CAP (AT, BERK, DOM,SD231)	2
138	SL1507	SEAL, SUCTION (AT, BERK, LATE DOM), STATOR BEARING CARTRIDGE SD231	2
139	SL4008	SEAL, MECHANICAL (SD, YJ & 212 HAMILTON)	1
140	SL9412	SEAL SAVER, STATOR BEARING CARTRIDGE SD231	1
141	T1412	TRANSOM PLATE, SD231	1
142	T2301	REV. CABLE PACKER, HYDRAULIC LINE	2
143	T2412	TRANSOM PLATE SEAL, SD231	1
146	WR412	WEAR RING, SD231	1



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TITLE:
SD231 with OPTIONAL RIDEPLATE

DRAWING#:
SD231-EXP-13

REV.

SHEET 13 OF 13