



INJECTION PUMP SPECIFICATION ©

FULL LOAD RPM: 2600
 GOV. REGULATION: 7-10 %
 ENGINE: D753TE3
 APPLICATION: 41.2 KW (TIER 3)

CUSTOMER PART #: 35022126G
 CUSTOMER'S NAME:
 VM

MODEL NO.: DB4329-6095
 SUPERSEDES:
 EDITION NO.: 12
 DATED: 09/04/2015

NOTE: THIS SPECIFICATION DEVELOPED WITH STANADYNE LOW DEAD VOLUME CALIBRATION INJECTORS.
 ALL SPEEDS ARE IN ENGINE RPM UNLESS OTHERWISE NOTED.
 USE LATEST REVISION FOR ALL REFERENCED DOCUMENTS.

TEST STAND: ISO 4008:

1. CALIBRATING HIGH PRESSURE PIPES...SAE J1418/ISO 4093:
.055" (1.4mm) ID X 25" (635 mm) LONG.
2. CALIBRATING INJECTORS...STANADYNE P/N 40163
(LOW DEAD VOLUME)
0.4 mm ORIFICE PLATE NOP: 3400 PSI (234 BAR)
3. CALIBRATION FLUID: SAE J967/ISO 4113 (REF. S.B. 201)
a. TEMPERATURE **110°-115°F** (43°-46°C) AT INLET.
b. SUPPLY PRESSURE (S.B. 334): 5.0 ± 0.5 PSI.
(34 ± 3 kPa) AT PUMP INLET.
4. ELECTRONIC ADVANCE INDICATOR: 39938

PUMP INSTALLATION: IT-181

ROTATION-CCW-* LEVER ANGLES (REF.)
 NAME PLATE-L-SIDE** THOT MIN. (∠B) 13°
 #1 CYL. -1-O'CLOCK** THOT MAX. (∠C) 18.5°
 THROTTLE-L-SIDE**
 E.S.O. (12V E.T.R.)

* VIEWED FROM DRIVE END ** VIEWED FROM TRANSFER PUMP END

PUMP OPERATING SPEED...HALF...ENGINE SPEED

PUMP CALIBRATION CHECKS: AS RECEIVED FOR SERVICE (REF. SL-222)

1. **1000 RPM (WOT):** OPERATE PUMP FOR 10 MINUTES TO BRING TO OPERATING TEMPERATURE AND CLEAR AIR FROM SYSTEM.
2. **2950 RPM (WOT):** RESET HIGH IDLE SCREW IF NECESSARY TO OBTAIN **10-12 mm³/STROKE**.
3. **CHECK POINTS:** (SEQUENCE MUST BE FOLLOWED AS LISTED)

RPM	THROTTLE POSITION	mm³/STROKE	ADVANCE
a. 3050	WOT	5 MAX.	---
b. 2950	WOT	10-12	8.5°-9.5°
c. 2600	WOT *	4 MAX.	---
d. 2600	WOT	70 MIN.	0°-0.3°
e. 2600	ADJ.	58-62	0°-0.3°
f. 2600	ADJ.	38-42	2.2°-4.2°
g. 2500	WOT	73 MIN.	---
h. 1900	WOT	73-85	---
i. 800	WOT	59.5-71.5	---
j. 1000	L.I.	5-13	3° MIN.
k. 400	WOT *	4 MAX.	---
l. 150	WOT	33 MIN.	---
m. 500	WOT **	---	8°-9°

* E.S.O. DE-ENERGIZED
 ** COLD ADVANCE SOLENOID ENERGIZED

PUMP SETTINGS: FOLLOWING PUMP SERVICE

1. ROLLER-TO-ROLLER DIMENSION: **1.979" ± .0015"**
(50.27 mm ± 0.04 mm)
MAXIMUM ECCENTRICITY: **.004"** (0.10 mm) T.I.R.
2. GOVERNOR LINKAGE GAP: **.125" TO .145"** (3.2-3.7 mm)
(USE KIT #23093 S.B. 95)
3. **1000 RPM (WOT):** OPERATE PUMP FOR 10 MINUTES TO BRING TO OPERATING TEMPERATURE AND CLEAR AIR FROM SYSTEM.
4. **400 RPM (WOT):**
a. CHECK SHUT-OFF: **4 mm³/STROKE MAX.**
b. CHECK FOR MINIMUM TRANSFER PUMP LIFT OF 18" HG.
(60 kPa).
5. **2600 RPM (WOT):** SET TRANSFER PUMP PRESSURE FOR **90-92 PSI**, (620-634 kPa) (SUPPLY SET PER TEST STAND NOTE 3B)
6. **2600 RPM (WOT):**
a. ADJUST RETURN OIL TO **200-700 CC/MIN.** RECHECK TRANSFER PUMP PRESSURE.
b. CHECK HOUSING PRESSURE FOR **8.5-13.5 PSI**, (59-93 kPa)
7. **2500 RPM (WOT):** SET ROLLER-TO-ROLLER FUEL DELIVERY **78.5-79.5 mm³/STROKE**.
8. **800 RPM (WOT):**
a. TURN IN FUEL LIMITER ADJUSTING SCREW UNTIL IT BOTTOMS.
b. PRESET LIMITER ORIFICE SCREW FOR **[58.5-64.5] mm³/STROKE**.
9. **1900 RPM (WOT):** BACK OUT FUEL LIMITER ADJUSTING SCREW TO **78.5-79.5 mm³/STROKE**.
10. **2500 RPM (WOT):** CHECK FUEL **78.5-79.5 mm³/STROKE**.
11. **1900 RPM (WOT):** ADJUST FUEL LIMITER ADJUSTING SCREW TO **78.5-79.5 mm³/STROKE**.
12. **800 RPM (WOT):** READJUST FUEL LIMITER ORIFICE SCREW FOR **65-66 mm³/STROKE**.
13. **2500 RPM (WOT):** CHECK FUEL **78.5-79.5 mm³/STROKE**.

PUMP SETTINGS (CON'T)

14. **1900 RPM (WOT):** ADJUST FUEL LIMITER ADJUSTING SCREW TO **78.5-79.5 mm³/STROKE**.
15. **800 RPM (WOT):** ADJUST FUEL LIMITER ORIFICE SCREW FOR **65-66 mm³/STROKE**. READJUST ORIFICE SCREW IF NECESSARY AND REPEAT STEP. DO NOT PROCEED TO NEXT STEP UNTIL STEPS 14 AND 15 FALL INTO SPEC.
16. **2950 RPM (WOT):** SET HIGH IDLE SCREW **10-12 mm³/STROKE**
17. **2500 RPM (WOT):** CHECK FUEL DELIVERY FOR **73 mm³/STROKE MIN.**
18. **1000 RPM (L.I.):** SET LOW IDLE SCREW **8-10 mm³/STROKE**
19. **2600 RPM (ADJ. 40 mm³/STROKE):** SET LIGHT LOAD ADVANCE ADJUSTING SCREW FOR **3.2°**.
20. **CHECK POINTS:**

RPM	THROTTLE POSITION	mm³/STROKE	ADVANCE	T.P. PRESSURE
a. 3050	WOT	5 MAX.	---	---
b. 2950	WOT	10-12	8.5°-9.5°	---
c. 2600	WOT *	4 MAX.	---	---
d. 2600	WOT	70 MIN.	0°-0.3°	90-92 ***
e. 2600	ADJ.	58-62	0°-0.3°	---
f. 2600	ADJ.	39.5-40.5	2.7°-3.7°	---
g. 2500	WOT	73 MIN.	---	---
h. 1900	WOT	78.5-79.5	---	---
i. 1200	WOT	50-60	---	---
j. 800	WOT	64.5-66.5	---	---
k. 1000	L.I.	8-10	4° MIN.	---
l. 400	WOT *	4 MAX.	---	---
m. 150	WOT	35 MIN.	---	10 MIN. **
n. 500	WOT ****	---	8°-9°	---

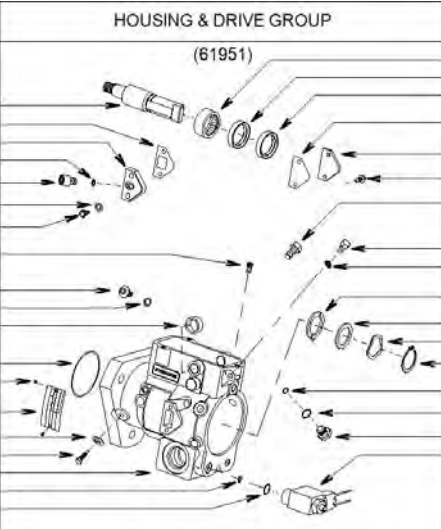
* E.S.O. DE-ENERGIZED ** (69 kPa) *** (620-634 kPa)
 **** COLD ADVANCE SOLENOID ENERGIZED

21. SPECIAL NOTES:

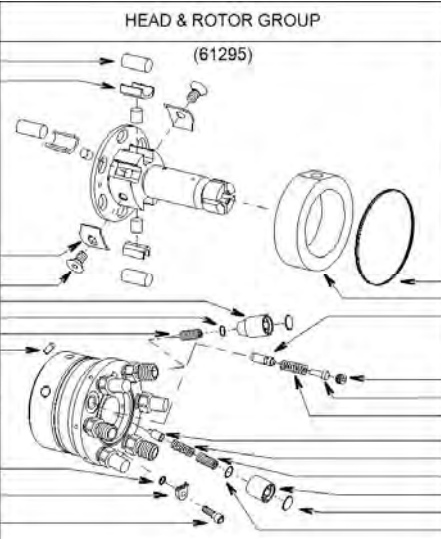
- a. TORQUE ALL FASTENERS PER S.B. 106.
 - b. ASSEMBLE THROTTLE LEVER SPACER AND ARM IN B4-L POSITION PER S.B. 164.
 - c. SEAL FASTENER PER S.B. 134R.
 - d. ASSEMBLE DRIVE COMPONENTS PER S.B. 438.
 - e. ASSEMBLE SHUT-OFF ARM ASSY IN R2-R POSITION.
 - f. SET FORWARD SHUT-OFF ADJUSTING SCREW AT 1500 RPM FOR **52 mm³/STROKE**.
 - g. DO NOT REMOVE TIMING LOCK PLATE. REFERENCE S.B. 553
22. **ANEROID SETTING (OFF TEST STAND) S.B. 225R.**
a. INSTALL ANEROID WITH INLET AT THE **12:00 O'CLOCK** POSITION VIEWING END CAP.
b. SET ANEROID TRAVEL TO **.450" ± 0.025"** BY USING REAR SHUT-OFF ADJUSTING SCREW.
c. CONNECT ANEROID ROD TO LEVER. LEVER SHOULD LIFT OFF FRONT SCREW AT 11.8" TO 12.6" HG. (5.8-6.2 PSI). IF LEVER MOTION REQUIRES MORE THAN 12.6" HG. (6.2 PSI), LENGTHEN ROD. IF LESS THAN 11.8" HG. (5.8 PSI) IS REQUIRED SHORTEN ROD.
d. FULL TRAVEL OF LEVER SHOULD BE OBTAINED BY 29.5" HG. (14.5 PSI).
e. RE-CHECK RESPONSE AND REPEATABILITY.

23. FOR SERVICE ONLY:

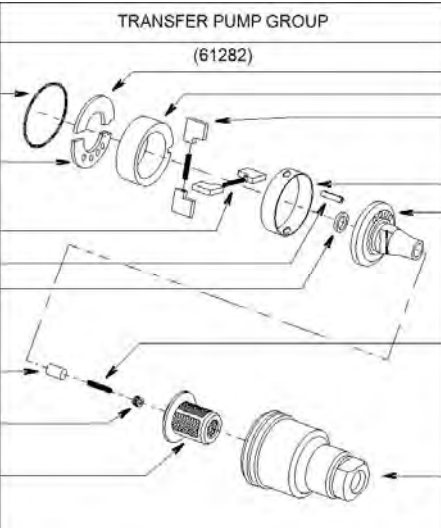
AIR TIME PUMP USING STANADYNE AIR TIMING FIXTURE 42973 WITH HUB ADAPTER 29711. INSTALL TOOL TO DRIVE SHAFT AND TIGHTEN LOCKING NUT TO 50-60 lbf-inches (5.7-6.8 NM). CONNECT AIR SUPPLY WITH 60-100 PSI (4.1-6.9 BAR) TO #1 CYLINDER OUTLET. SLOWLY ROTATE TOOL IN DIRECTION OF ROTATION UNTIL ROLLERS STRIKE CAM RING AND TOOL STOPS. LOOSEN THE TIMING FIXTURE THUMBSCREW AND ROTATE THE FIXTURE'S OUTER PORTION UNTIL POINTER IS CENTERED OVER ONE OF THE PUMP HOUSING FLANGE "EARS". USING THE POINTER AS A GUIDE, PLACE A THIN REFERENCE LINE ON THE FLANGE WITH A LEAD PENCIL. NEXT, LOOSEN THE FIXTURE'S THUMBSCREW AND ROTATE OUTER PORTION IN THE OPPOSITE DIRECTION OF ROTATION A TOTAL OF 4°. TIGHTEN THUMBSCREW TO LOCK THE INNER AND OUTER PORTIONS OF THE FIXTURE TOGETHER. WITH COMPRESSED AIR OFF, ROTATE AIR TIMING FIXTURE AND PUMP DRIVE SHAFT IN DIRECTION OF ROTATION UNTIL TIMING POINTER IS REALIGNED WITH PREVIOUS REFERENCE LINE. TIGHTEN DRIVE SHAFT LOCKING SCREW TO 105-110 lbf-inches (11.9-12.4 NM). IF INTERFERENCE BETWEEN STRAIGHT EDGE AND HOUSING OCCURS, PLACE WASHER (i.e. 13521) BETWEEN STRAIGHT EDGE AND TOOL.

Description	QTY	P/N	HOUSING & DRIVE GROUP	P/N	QTY	Description
			(61951)			
SHAFT, DRIVE	1	39651		40018	1	BEARING, NEEDLE
GASKET, TIMING PLATE	1	37586		36534	1	SEAL, DRIVE SHAFT
PLATE, TIMING LOCK	1	39623		43363	1	SEAL, DRIVE SHAFT
SEAL, O-RING	1	32534		27603	1	GASKET, TIMING WINDOW COVER
SCREW, PLATE	1	41800		23107	1	COVER, TIMING WINDOW
WASHER, INTERNAL TOOTH	2	12049		21194	2	SCREW, HEX HEAD
SCREW, TIMING PLATE	2	37585		11331	1	SCREW, HEX HEAD
SCREW ASSY, VENT OR 21661-21665	1	21660		12259	1	SCREW, PAN HEAD
SCREW, BUTTON HD CAP	1	22601		10464	1	WASHER, SEALING
WASHER, SEALING	1	27606		28749	1	BEARING, THRUST
SLEEVE, THROTTLE STOP	1	24364		26468	1	WASHER, THRUST
				28381	1	WASHER, DRSFT SPRING
SEAL, RECTANGULAR SECTION	1	26470		26469	1	RING, RETAINING
SCREW, RIVET	2	24419		17438	1	SEAL, O-RING
PLATE, NAME	1	10394		32884	1	SEAL, O-RING
KEY PLATE, DRSFT LOCK	1	28389		33985	1	SCREW, LLA ORIFICE
SCREW, DRIVE SHAFT LOCKING	1	29011		33307	1	VALVE, BODY SLEEVE ASSY
HOUSING ASSY, PUMP	1	39650		33240	1	COIL, COLD ADV SOLENOID 12V
SEAL, O-RING	1	27268		32955	1	NUT, LOCK
SEAL, O-RING	1	32866				

Note: IF VALVE BODY / COIL ARE NOT AS PICTURED USE 34195 VALVE & 34268 COIL ASSEMBLY. REFERENCE S.B. 373A. CSA COIL WIRES EXIT TO THE RIGHT

Description	QTY	P/N	HEAD & ROTOR GROUP	P/N	QTY	Description
			(61295)			
ROLLER, CAM	4	26072		40123	1	HEAD & ROTOR ASSY, 3 CYL HYD
SHOE, CAM ROLLER OR 20120 (-.015) OR 20124 (-.005) AS REQ'D REF. S.B.332	4	20119		11056	2	PLUNGER, ROTOR USE 11057-11060 (STD) OR 11062-11065 (O/S)
				20101	2	PLUNGER, ROTOR USE 20102-20105 (STD) OR 20107-20110 (O/S)
				12216	1	SCREW, SOCKET SET
				11438	3	SCREW, SET
				20727	3	CONNECTOR, FUEL LINE
				20177	3	CONN, FUEL LINE SOLID
SPRING, LEAF	2	29363		27245	1	SEAL, O-RING
SCREW, LEAF SPR ADJ	2	15619		32165	1	RING, CAM
NUT, FUEL LIMIT LOCK	1	33083		21221	1	VALVE, DELIVERY OR 21222 (O/S) AS REQ'D REF. S.B. 143B
SEAL, O-RING	1	32534				
SCREW, ADJABLE ORF	1	33211		20127	1	SCREW, DELIVERY VALVE RET
VALVE, CHECK	1	40119		20128	1	STOP, DELIVERY VALVE
SCREW, ACC PSTN RET	1	17050		20129	1	SPRING, DELIVERY VALVE
SPRING, ACCUMULATOR	1	33615		33253	1	PISTON, FUEL LIMITER
PISTON, REGULATING	1	19895		33237	1	SPRING, REGULATING
GUIDE, ACC SPRING	1	33616		33274	1	SCREW, FUEL LIMITER
				33082	1	NUT, FUEL LIMIT LOCK
SEAL, O-RING	1	27601		33084	2	PLUG, WELCH
PLATE, SINTERED LOCK	1	29384		27602	1	SEAL, O-RING
SCREW, SKT HEAD CAP	1	29710				

Note:

Description	QTY	P/N	TRANSFER PUMP GROUP	P/N	QTY	Description
			(61282)			
SEAL, TRANSFER PUMP	1	27608		19870	1	RETAINER, ROTOR
				21232	1	LINER, TRANSFER PUMP
RETAINER, ROTOR	1	32859		34759	4	BLADE, TRANSFER PUMP OR 20511, 20512, 34758 REFERENCE S.B. 304
				19906	1	RING, LINER LOCATING
SPRING, TP BLADE	2	15699		33040	1	RGLTR ASSY, PORTING
ROLL PIN	1	19837				
SEAL, TP RGLTR SLEEVE	1	19844		22936	1	SPRING, REGULATING
PISTON, REGULATING	1	31240				
PLUG, END PLATE ADJ	1	32642				
FILTER, INLET	1	28986		33128	1	CAP, TRANSFER PUMP END

Note:

Description	QTY	P/N	GOVERNOR GROUP (63231)	P/N	QTY	Description
SPRING, GOV CONTROL RED-BROWN ARM, GOVERNOR	1	20955		12210	1	RETAINER, SPRING
	1	40226		14504	1	SPRING, IDLE
SPRING, DAMPER	1	20475		11969	1	GUIDE, IDLE SPRING
SEAL, O-RING	2	31332		27606	1	WASHER, SEALING
NUT, PIVOT SFT RTNR	2	12288		24726	1	STUD, GUIDE
SHAFT, GOVERNOR ARM	1	12214				
PISTON ASSY, DAMPER	1	16572				
BARREL ASSY, DAMPER	1	34665		38352	1	ARM ASSY, METERING VALVE
				21917	1	SPRING, MTR VALVE
SLEEVE, GOVERNOR THRUST	1	36498		36861	1	VALVE, METERING
WASHER, THRUST	1	19860				
WEIGHT, GOVERNOR	6	19858	29136	3	CLIP, RETAINING REF. S.B. 370	
RETAINER ASSY, GOV WT	1	19893	19894	3	RETAINER, CUSHION	
			19873	6	CUSHION, GOV WEIGHT RETAIN	

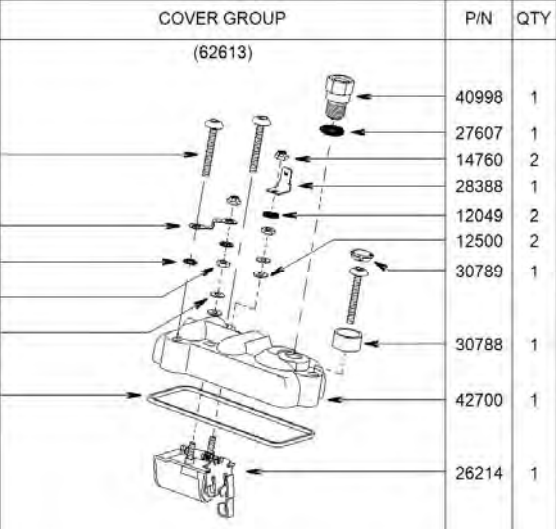
Note: * O.S. METERING VALVE 36862 AND ARM 38400 REFERENCE S.B. 336

Description	QTY	P/N	LINKAGE GROUP (61323)	P/N	QTY	Description
SCREW, HEX HEAD	1	12972		11582	1	WASHER, INTERNAL TOOTH
NUT, HEX	1	12174		12998	1	SCREW, SOCKET HEAD CAP
LEVER, THROTTLE FORK	1	12221		12051	1	SCREW, SOCKET CAP
SEAL, O-RING	2	17438		12049	1	WASHER, INTERNAL TOOTH
WASHER, SPACER	2	14408		33609	1	LEVER ASSY, ADJ SO
SHAFT ASSY, THROTTLE	1	12019		21358	1	SPRING, IDLE SCREW
SCREW, HEX HEAD	1	12972		21646	1	SCREW, HEX HEAD
NUT, HEX	1	12174		12237	1	SHAFT ASSY, SHUTOFF
SPACER, THROT LVR ADJ	1	16135		12249	1	CAM, SHUTOFF
				15306	1	SPACER, GOVERNOR SPRING
SCREW, SOCKET CAP	1	12051		12165	1	SCREW, HEX HEAD
ARM, ADJUSTING SPACER	1	16136		12173	1	NUT, HEX
				18021	1	HOOK ASSY, GOV LKGE
LEVER ASSY, THROTTLE	1	15026		12360	1	SCREW, HEX HEAD
				12362	1	LOCK WASHER, SHPRF
SPRING, THROTTLE LEVER	1	13003	18020	1	HOOK, GOVERNOR LINKAGE	
SCREW, SOCKET HEAD CAP	1	15668	12358	1	LINK ASSY, ADJUSTING	
RETAINER, THROTTLE LVR SPRG	1	13010	11919	1	SPRING, GOVERNOR LINK	

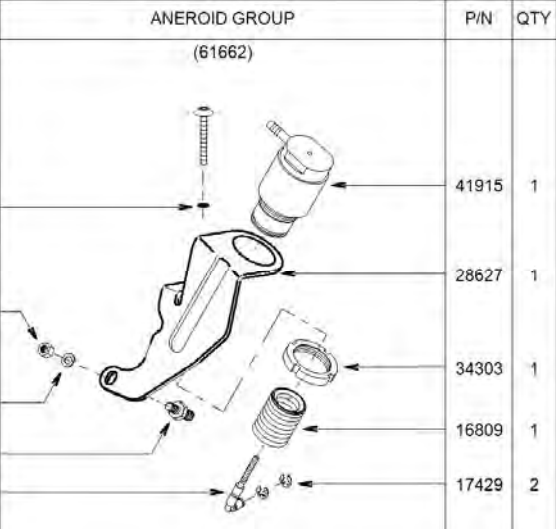
Note: THROTTLE LEVER BUSHING OUT

Description	QTY	P/N	AUTOMATIC ADVANCE GROUP (61290)	P/N	QTY	Description
VALVE, SERVO ADVANCE	1	39426		40136	1	SCREW, ORIFICE
PISTON, ADVANCE	1	40116				
SCREW, ORIFICE	1	32562		22592	1	SCREW, SET
SEAL, RECT SECTION	1	30206		39425	1	PLUG, ADV SERVO SPRING SIDE
PISTON, COLD ADVANCE	1	37052		22591	1	SEAL, O-RING
SPRING, CSA ASSIST	1	39454		22590	1	SCREW, ADV TRIMMER
COVER, POWER SIDE	1	39455		27610	1	SEAL, O-RING
SCREW, SOCKET HD CAP	4	33012		39926	1	SPRING, SERVO ADVANCE
				22589	1	SEAT, PILOT VALVE SPR
				21147	1	PIN, ADVANCE CAM
SEAL, O-RING	1	27602		27610	1	SEAL, O-RING
SCREW ASSY, HEAD LOCATING	1	26787		23056	1	PLUG, HEX SOCKET

Note: USE 39926 OR 24977 SERVO ADVANCE SPRING TO OBTAIN PROPER SCREW POSITION.

Description	QTY	P/N	COVER GROUP (62613)	P/N	QTY	Description
						
SCREW, BUTTON HD CAP	3	22351		40998	1	REGULATOR ASSY, HSG PRESSUF
				27607	1	SEAL, O-RING
				14760	2	NUT, HEX LOCK
				28388	1	TERMINAL, ESO
STRAP, TERM GROUNDING	1	20951		12049	2	WASHER, INTERNAL TOOTH
WASHER, INTERNAL TOOTH	1	18493		12500	2	WASHER, FIBER
NUT, HEX	2	12519		30789	1	CAP, COVER SCREW
WASHER, PLAIN	2	18501		30788	1	CUP, COVER SCREW
GASKET ASSY, GOV COVER	1	42696		42700	1	COVER, GOVERNOR CONTROL
				26214	1	SOLENOID, 12V ETR 2-23190 TUBE, INSULATE

Note: INSTALL GROUNDING STRAP ON LEFT SIDE VIEWING TRANSFER PUMP REF. S.B. 108

Description	QTY	P/N	ANEROID GROUP (61662)	P/N	QTY	Description
						
WASHER, INTERNAL TOOTH	1	11582		41915	1	ANEROID ASSEMBLY
NUT, HEX	1	23536		28627	1	BRACKET, ANEROID MTG
WASHER, SPRING LOCK	1	19116		34303	1	NUT, ANEROID RETAINING
SCREW, HEAD LOCKING	1	28449		16809	1	BOOT, ANEROID
ROD, ANEROID	1	19776		17429	2	RING, RETAINING

Note:

APPLICABLE SERVICE ASSEMBLIES

Assembly	Description
17776	THROTTLE SHAFT BUSHING REPLACEMENT
26431	ESO MOUNTING AND GROUNDING KIT
33702	GASKET KIT
37056	CSA SOLENOID KIT 12V NON-DELAY

FOR ENGINEERING USE ONLY

DATE	ECN NO	EDITION
02/25/2009	31951	1
12/09/2009	32463	2
07/16/2010	32775	3
05/20/2011	33316	4
06/09/2011	33350	5
09/22/2011	33507	6
11/04/2011	33623	7
08/24/2012	34591	8
03/22/2013	35337	9
10/02/2013	36144	10
01/31/2014	36596	11
09/04/2015	38587	12