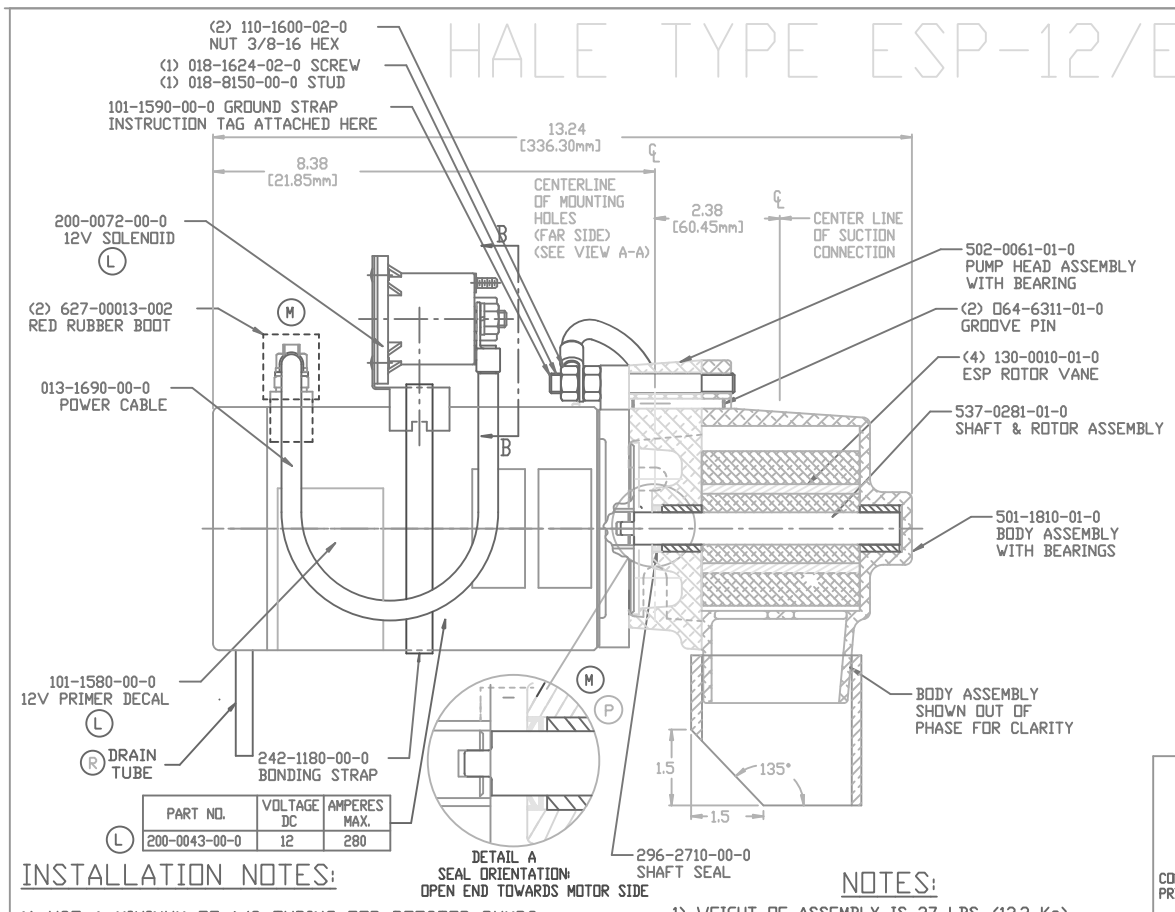
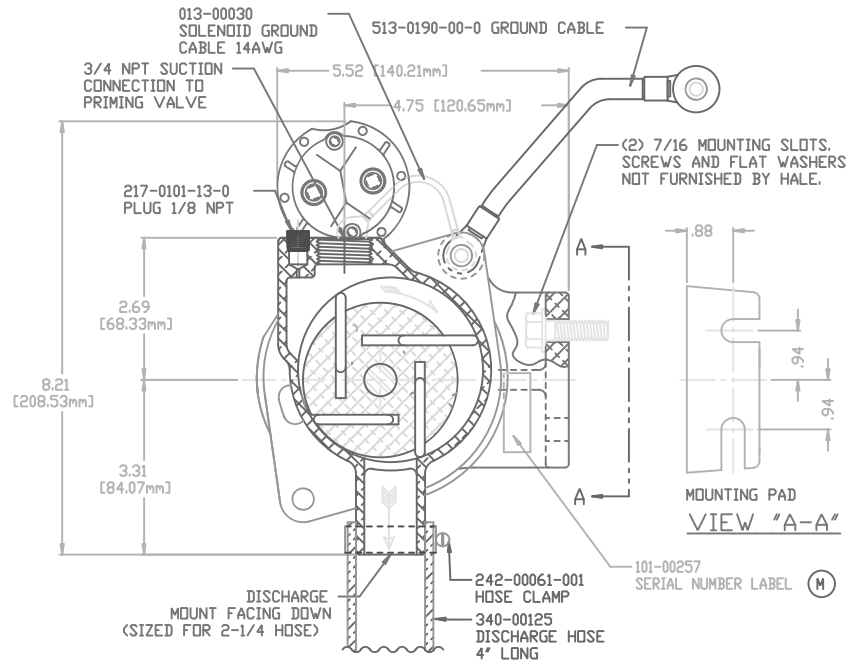
HALE TYPE ESP-12/ESPS-12 PRIMING PUMP



PART NO.	VOLTAGE DC	AMPERES MAX.
200-0043-00-0	12	280



INSTALLATION NOTES:

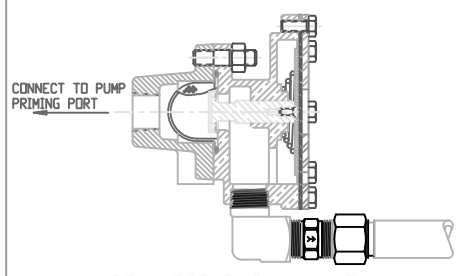
A) USE A MINIMUM OF 1/2 TUBING FOR BOOSTER PUMPS.
B) USE A MINIMUM OF 3/4 PIPE FOR MIDSHIP PUMPS.
C) CONNECT TO HIGHEST POINT ON DISCHARGE OF MAIN PUMP IF PRIMING WHILE THE PUMP IS STATIONARY.
D) CONNECT TO HIGHEST POINT ON THE SUCTION NEAR THE IMPELLER EYE IF PRIMING WHEN THE MAIN PUMP IS RUNNING.
E) A SHUT-OFF VALVE, SUCH AS A HALE PVG OR SPV PRIMING VALVE, MUST BE LOCATED IN THE PRIMING LINE BETWEEN THE PRIMING PUMP AND THE MAIN PUMP.
F) THE PRIMING PUMP MUST BE MOUNTED SO THAT THE MOTOR SHAFT IS IN A HORIZONTAL PLANE WITH THE PRIMING PUMP DISCHARGE FACING DOWN.
G) GROUND THE PRIMING PUMP TO THE TRUCK CHASSIS, USING THE GROUND STRAP FURNISHED. THE GROUND STRAP IS REQUIRED FROM THE TRUCK CHASSIS TO THE TERMINAL STUD ON THE PRIMING PUMP.THIS IS TO INSURE A GROUND FOR THE MOTOR. THE CABLE IS SIZED FOR A 12 VOLT DC 280 AMP LOAD.
H) DURING THE PRIMING OPERATION (EVACUATING AIR), DO NOT RUN MOTOR FOR MORE THAN 60 SECONDS.
I) PROTECT ALL ELECTRICAL CONNECTIONS WITH BATTERY TERMINAL SEALER. (M)

NOTES:

1) WEIGHT OF ASSEMBLY IS 27 LBS. (12.2 Kg).
2) (M) THEORETICAL DISPLACEMENT IS .066 GAL. (.25 LITERS) PER REVOLUTION OR 47,000 CU. IN. (770,000 CU. CM) AIR PER MINUTE.
3) VACUUM CAPABILITY: 25 IN. Hg (635 MM Hg).
4) TO AID IN LONG PRIMER LIFE AND PROPER PERFORMANCE, IT IS RECOMMENDED THAT THE PRIMING PUMP BE CLEANED YEARLY OR AFTER 500 CYCLES OF USE. SEPARATE THE PUMP BODY AND HEAD FROM THE MOTOR AND REMOVE ANY BLACK BUILD UP OR CONTAMINATES WITH SAFETY KLEEN OR STODDARD SOLVENT. USE CARE TO REINSTALL THE VANES IN THE SAME ORIENTATION AND TO GREASE THE SHAFT SEAL.
5) TO PREVENT DAMAGE TO PLASTIC HOUSING WHEN INSTALLING OR REMOVING LEADS, DO NOT APPLY SIDE LOADS TO NUTS.
6) WHEN USING A TERMINAL LUG ON THE BATTERY CONNECTION WITH A 5/16 DIA. HOLE, LOWER WASHER IS NOT NEEDED. IF HOLE DIA. IS LARGER THAN 5/16, WASHERS ARE REQUIRED BOTH ABOVE AND BELOW THE TERMINAL. (M)
7) FOR ELECTRICAL DETAILS REFER TO SHEET 2.
8) APPLY MOLLY GREASE ON FEMALE TANG DRIVE OF MOTOR AT ASSEMBLY.

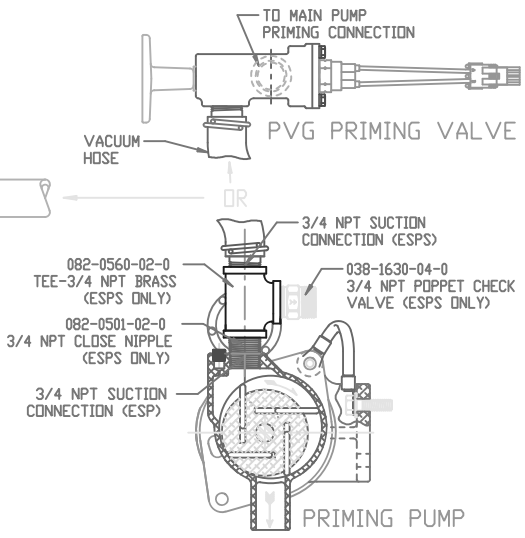
PLUMBING INSTALLATION DETAILS

SEE PLATE 480 FOR PVG VALVE.



SPV PRIMING VALVE

SEE PLATE 819 FOR PUMP MOUNTED SPV OR PLATE 828 FOR UNIVERSAL MOUNTED SPV.



NOTE: THE VACUUM HOSE, HOSE NIPPLES AND HOSE CLAMPS ARE FURNISHED BY HALE ON THE GEARBOX MOUNTED ESP PRIMER WITH SPV VALVE. WITH ALL OTHER MOUNTINGS, THE PRIMING VALVE CONNECTING PARTS ARE FURNISHED BY THE APPARATUS BUILDER.

ECO NO	REV	CHANGED FROM	BY	DATE	APVD
3844	N	ADDED DRAWING OF DISCHARGE TUBE WITH 45° CUT.	DMB	10-13-16	JLS
4114	P	REMOVED .31 BOSS	DMB	7-25-17	JLS
4214	R	DRAIN TUBE LOCATION VERIFIED	CMB	10-16-17	JLS

ECO NO	REV	CHANGED FROM	BY	DATE	APVD
CFL3240	L	REMOVED 24V PART NUMBERS & INFO; REDESIGNED ELECTRICAL INSTALL. INFO.	JRP	06-09-14	AJG
3619	M	ADDED DETAIL VIEW, S/N LABEL, NOTES 7 & 8 ADDED SOLENOID GND CABLE,RUBBER BOOT UPDATED SOLENOID RELOCATION INSTRUCTIONS	JSJ KTN	12-17-15	AJG

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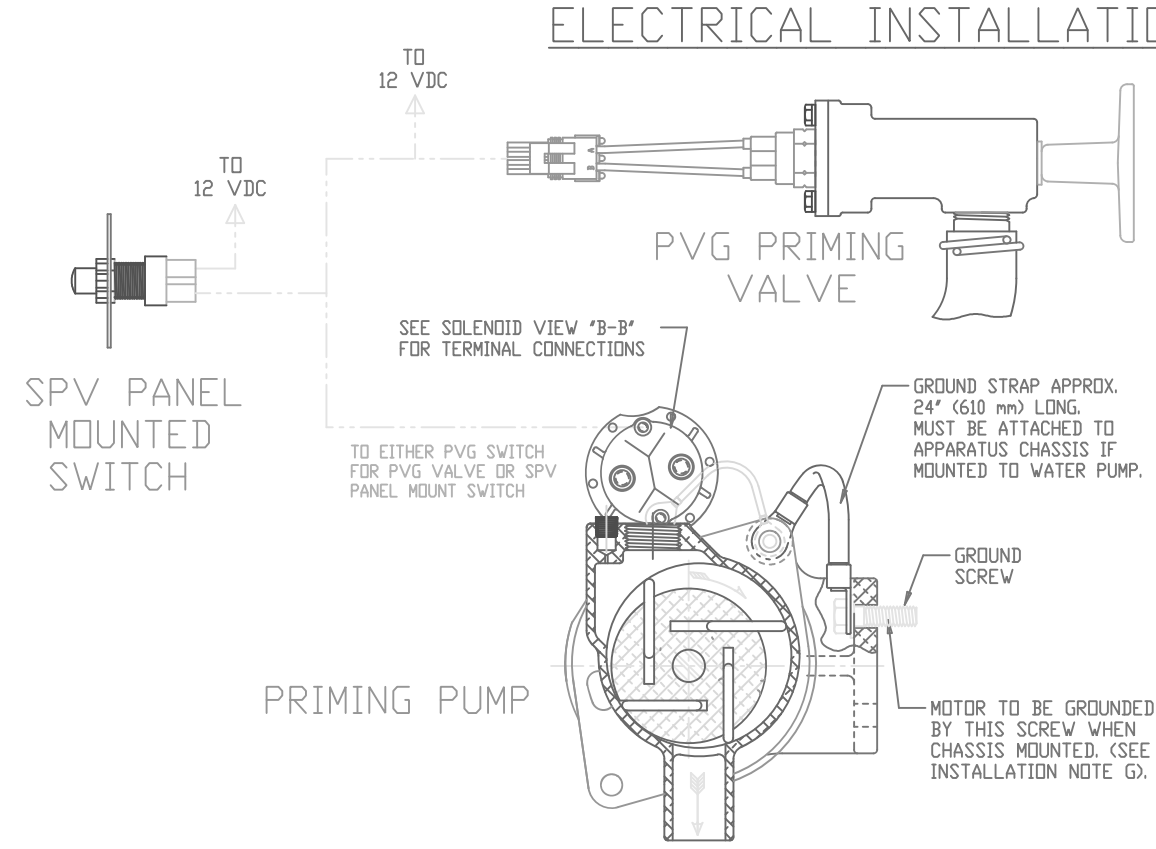
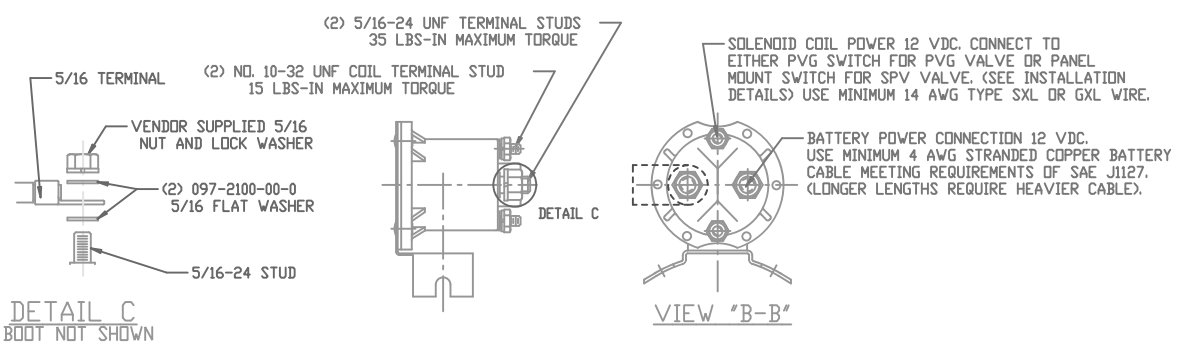
PLATE NO. 821AR (SHEET 1 OF 2)

HALE TYPE ESP-12/ESPS-12 PRIMING PUMP

ELECTRICAL INSTALLATION DETAILS



SOLENOID FASTENER TORQUE SPECIFICATION



DETAIL C
BOOT NOT SHOWN

(M) SOLENOID RELOCATION INSTRUCTIONS

1- REMOVE THE EXISTING SOLENOID CABLES AND LOOSEN THE SOLENOID CLAMP SCREW.

2- POSITION THE SOLENOID IN THE DESIRED LOCATION. PLACE THE CLAMP BETWEEN THE (4) CLAMP GUIDES ON THE SOLENOID MOUNTING BRACKET. TIGHTEN THE SOLENOID CLAMP.

3- TIGHTEN THE LOWER POWER TERMINAL NUT ON THE MOTOR TO 50 LBS-IN. INSTALL THE CABLE AND THE UPPER POWER TERMINAL NUT. HOLD THE LOWER TERMINAL NUT WITH A WRENCH WHILE TIGHTENING THE UPPER TERMINAL NUT TO 50 LBS-IN. SEAL CONNECTION WITH BATTERY TERMINAL SEALER AND REPOSITION BOOT.

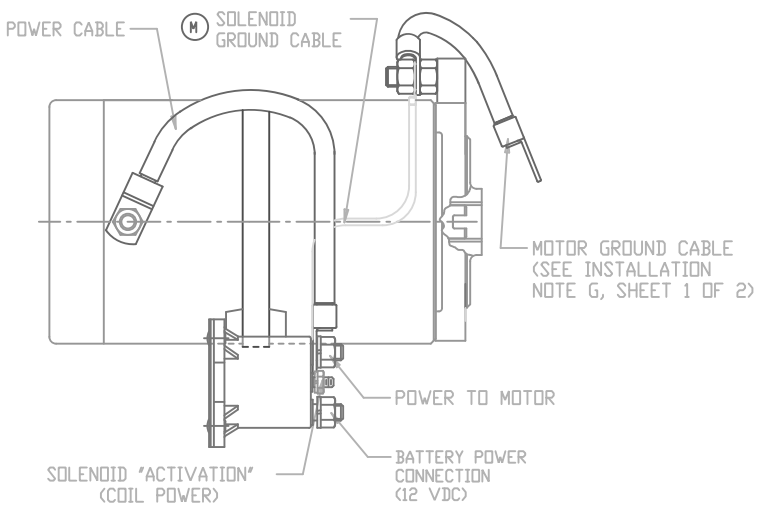
4- INSTALL THE POWER CABLE ON (1) OF THE 5/16-24 SOLENOID TERMINAL STUDS AND TIGHTEN THE TERMINAL NUT TO 35 LBS-IN. DO NOT OVER-TIGHTEN. SEAL CONNECTION WITH BATTERY TERMINAL SEALER AND REPOSITION BOOT.

5- INSTALL THE SOLENOID BATTERY POWER CABLE (NOT SHOWN) ON THE REMAINING 5/16-24 TERMINAL STUD AND TIGHTEN THE TERMINAL NUT TO 35 LBS-IN. INSTALL A LONGER SOLENOID GROUND CABLE TO THE LOWER 10-32 TERMINAL STUD USING A MINIMUM 14 AWG TYPE SXL OR GXL WIRE AND TIGHTEN THE TERMINAL NUT TO 15 LBS-IN. RE-INSTALL THE NEW GROUND CABLE TO THE MOTOR GROUND TERMINAL STUD AND TIGHTEN TERMINAL NUT TO 50 LBS-IN. SEAL CONNECTION WITH BATTERY TERMINAL SEALER AND REPOSITION BOOT.

6- INSTALL THE SOLENOID "ACTIVATION" WIRE (COIL POWER) CABLE TO THE UPPER 10-32 TERMINAL STUD AND TIGHTEN THE TERMINAL NUT TO 15 LBS-IN.

7- POSITION ALL CABLES SO THEY HAVE THE LEAST POSSIBILITY FOR DAMAGE.

8- CABLE BOOTS NOT SHOWN.



NOTE: SOLENOID IS SHOWN IN TYPICALLY RELOCATED POSITION AND ELECTRICAL CONNECTIONS HAVE BEEN MOVED ACCORDINGLY.

ECO NO	REV	CHANGED FROM	BY	DATE	APVD
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PLATE NO. 821AR (SHEET 2 OF 2)