



UNPACKING

Please open and inspect your package upon receipt. Your package was packed with great care and all the necessary packing materials to arrive to you undamaged. If you do find an item that is broken or damaged, you must contact the delivering carrier to report the claim.

Pilot Valve and Manifold Instructions

GETTING TECHNICAL ASSISTANCE

The H.E. Anderson Company is dedicated to assisting our customers with installation and use of our products. Our technical staff are available each weekday from 8:30am to 4:30pm central time. You may call us toll free at **1-800-331-9620** from anywhere in the U.S.A. and Canada. If no one is available, we will promptly return your call.

Before you call, we suggest that you review this manual. You may find the answer to your question here. But even if you do not, reviewing the manual will help us to help you.

There is some information you should have available when you call. You should know the model and serial number of your control unit. Also, you should note the number of pumpers of each type, and their model numbers (found under the adjustment knob, stamped into the casting). We may not need all this information, but having it available at the start can sometimes save a lot of time and trouble for you.

If you need an additional owners manual for any H.E. Anderson Company product, please visit our website at <http://heanderson.com/manuals.php>



Type A (Anderson) Valves.

Anderson pilot valves are three way valves which switch a pumper manifold alternately between a pressure source (air or water) and an outlet (drain).

They come in two sizes, ½" single pumper and ¾" manifold multiple pumper.

Each size comes in two types, pressure operated (air or water) or electric solenoid operated (12VDC or 24VAC).

In normal operation there is fast crisp switching. A small short discharge is typical when switching to the 'on' (pumper or manifold connected to the inlet). A larger more distinct discharge is noted when switching to the 'off' state. The volume of water discharged is a function of the size and number of pumpers on the manifold. The relief (drain) cycle frequency is determined by the water flow rate in the main line. The valve should never discharge continuously.



The discharge line and any tubing attached, must open to "daylight", unrestricted, and go directly to a drain. No obstructions or vertical elevating of tubing is permitted. If a long line is needed, the discharge line should be expanded to a larger size.

Servicing

Diaphragm replacement

- Remove pressure from valve.
- Remove the diaphragm cover part 18309 or 18310.
- Remove opposite cover part 18298.
- Un-stick diaphragm from valve body.
- Using suitable tools, remove the nuts (P/N 18498) from each end of the poppet shaft P/N 18343.
- **DO NOT HOLD DIAPHRAGM** while

removing or tightening nuts.

- Remove and inspect poppets and diaphragm. Replace if necessary. Install diaphragm first by assembling all parts onto poppet shaft diaphragm end. Tighten nut by holding shaft with locking pliers or placing in vise.
- The diaphragm is a three piece assembly. The black 'rubber' part with three holes installs away from the nut. As the nut is tightened, the parts may rotate with respect to one another. Observe how far the parts rotate by observing the small hole near the edge of the black diaphragms.
- Now loosen the nut and pre-position the parts the other way. Tighten the nut and the small holes should be in alignment just as the nut becomes tight.
- Now place this assembly into the valve body and assemble the remaining parts onto the other end of the poppet shaft.
- Tighten the nut by holding the opposite nut with a suitable tool (socket).
- Now position the diaphragm so that the small hole near the edge is in alignment with the hole in the valve body.
- Replace the cover assembly to seal and hold the diaphragms in the proper position.
- Replace the opposite end cover. Place the complete valve back in service and test.

Removal From Service

- If you remove your injector from the line for the winter, you should drain the water from the manifold and pilot valve.



DO NOT ALLOW THE VALVE TO FREEZE! Freezing can shift internal parts causing it to malfunction, or possibly cause more serious damage. It is not warranted for freeze damage.

Troubleshooting the Type A Anderson Pilot Valve		
Condition	Probable Cause	Remedy
Valve does not switch	1. No signal.	1. Not a fault of valve. Fix signal.
	2. Insufficient pressure.	2. Minimum pressure required for system is 30 psig. Also if using pressure from an external source to switch the valve, the pressure should be equal to or greater than the pressure in the water line.
	3. Dirt in valve or pilot circuit.	3. Sluggish or slow operation can be caused by dirt in the pilot circuit. If a solenoid is used, carefully remove the plastic tube from the end of solenoid to the valve body. Blow compressed air through the small tube.
	4. Broken diaphragm operator.	4. Valve follows signal. Be sure signal is correct.
Excessive or continuous waste	5. Insufficient pressure.	5. Minimum system pressure is 30 psig.
	6. Broken diaphragm.	6. Replace diaphragm, see detail repair procedures.
	7. Damaged poppet and/or seat.	7. Remove diaphragm and poppet shaft. Inspect poppets and seat area in valve. If seat is damaged valve cannot be repaired in the field. Contact factory.
Chattering or "groaning"	8. Valve switching too rapidly.	8. Broken diaphragm. Replace, see detail procedures. Occasionally, low pressure dirt in the pilot circuit can cause these symptoms. See remedy three above.

Pilot Valve & Pumper Operation

The Pilot Valve is a remote control large capacity three way valve. This valve is pilot operated, that is, pressure from the inlet port is used to switch the valve. In some designs, an external pressure signal is used to switch the valve. This can be either gas or fluid pressure.

The Pilot Valve is used to control the modular pumpers that inject the chemical additive into the water line. The pumpers are single acting hydraulic (or pneumatic) cylinders. The pressure to power these cylinders is drawn from the water line or an external source such as compressed air.

After the pressure is used to inject the chemical, it must be exhausted to a drain or container at zero pressure. Because the pumpers operate very fast at times and because more than one pumper can

be used for various reasons, the pilot valve must switch rapidly and have a relatively large flow capacity.

The pumpers are single acting so the pilot valve must be a three way type. A three way valve has three ports or connections. A pressure port (inlet), an exhaust port (outlet), and a common (cylinder or pumper) port. The action of the valve alternately connects the inlet to the common or the outlet to the common. When the 'inlet' is connected to the 'common', the pumper 'pumps' or injects a measured dose of chemical into the water line. When the valve switches and connects the 'outlet' to the 'common', a suction cycle occurs. The fluid or gas used to power the pumping cycle is exhausted or wasted and a new measured dose of chemical is drawn into the pumper to be ready for the next full cycle.



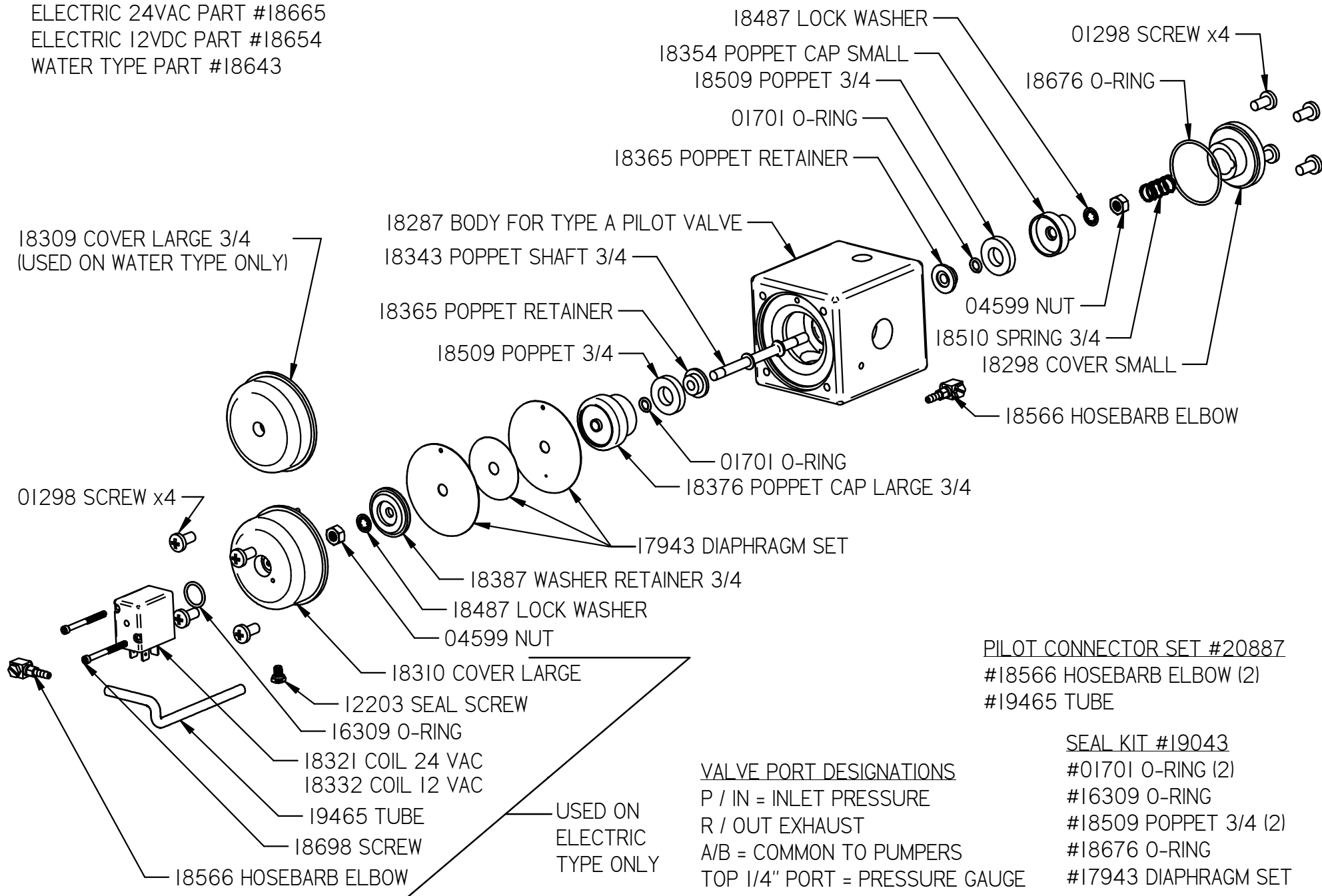
H.E. Anderson
COMPANY
Muskogee, OK. 74402-1006
(918) 687-4426

NAME: TYPE A (ANDERSON) PILOT VALVE 3/4"

DATE: 3/21/2013

Proprietary Rights Apply To The Subject Shown And Are Property Of H.E. Anderson Co., Inc.

ELECTRIC 24VAC PART #18665
ELECTRIC 12VDC PART #18654
WATER TYPE PART #18643





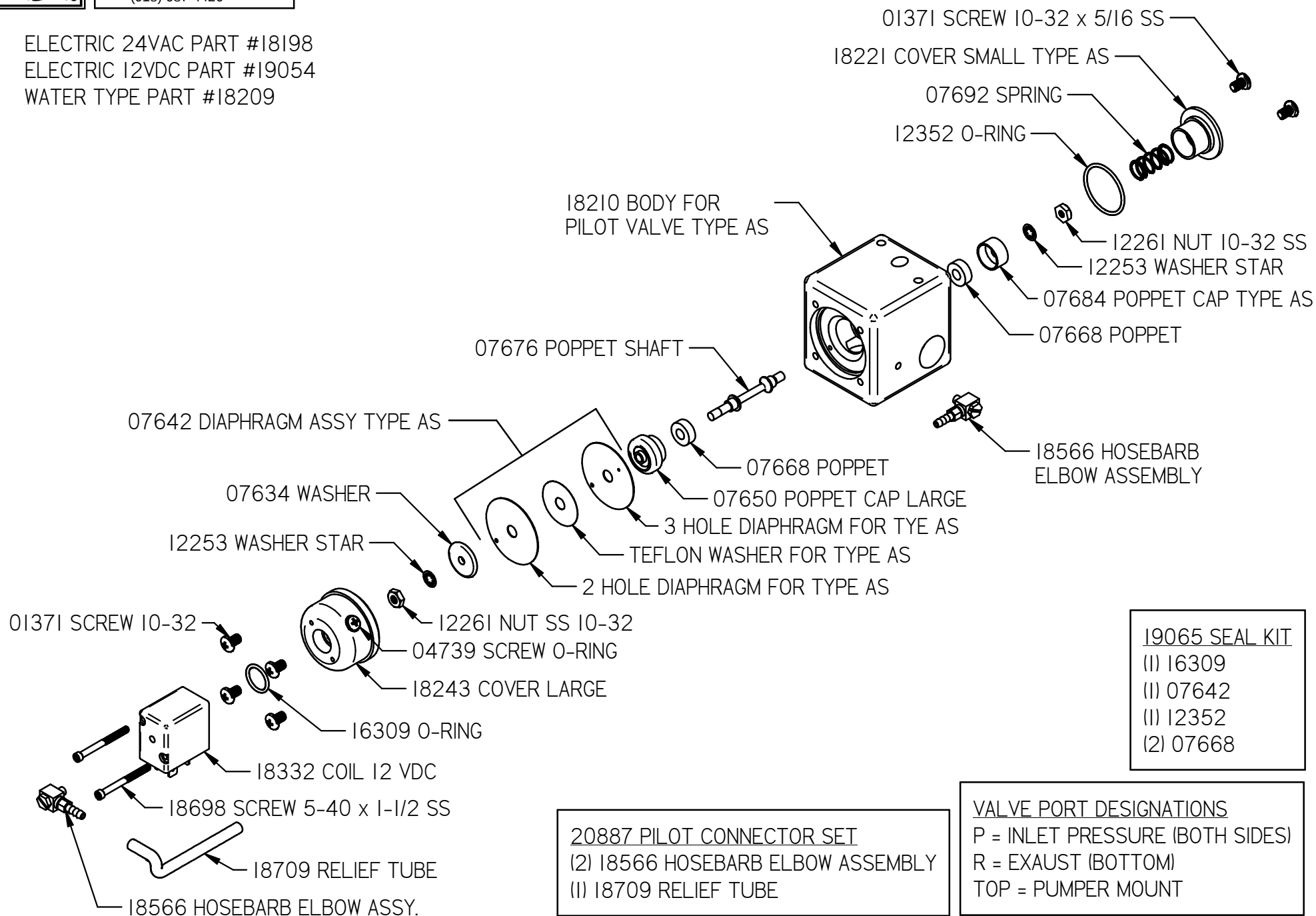
H.E. Anderson
COMPANY
 Muskogee, OK. 74402-1006
 (918) 687-4426

NAME: TYPE 'AS' PILOT VALVE

DATE: 3-4-2015

Proprietary Rights Apply To The Subject Shown And Are Property Of H.E. Anderson Co., Inc.

ELECTRIC 24VAC PART #18198
 ELECTRIC 12VDC PART #19054
 WATER TYPE PART #18209



19065 SEAL KIT
 (1) 16309
 (1) 07642
 (1) 12352
 (2) 07668

20887 PILOT CONNECTOR SET
 (2) 18566 HOSEBARB ELBOW ASSEMBLY
 (1) 18709 RELIEF TUBE

VALVE PORT DESIGNATIONS
 P = INLET PRESSURE (BOTH SIDES)
 R = EXHAUST (BOTTOM)
 TOP = PUMPER MOUNT



H.E. Anderson
COMPANY
Muskogee, OK. 74402-1006
(918) 687-4426

NAME: MANIFOLD PARTS TYPE A ELECTRIC

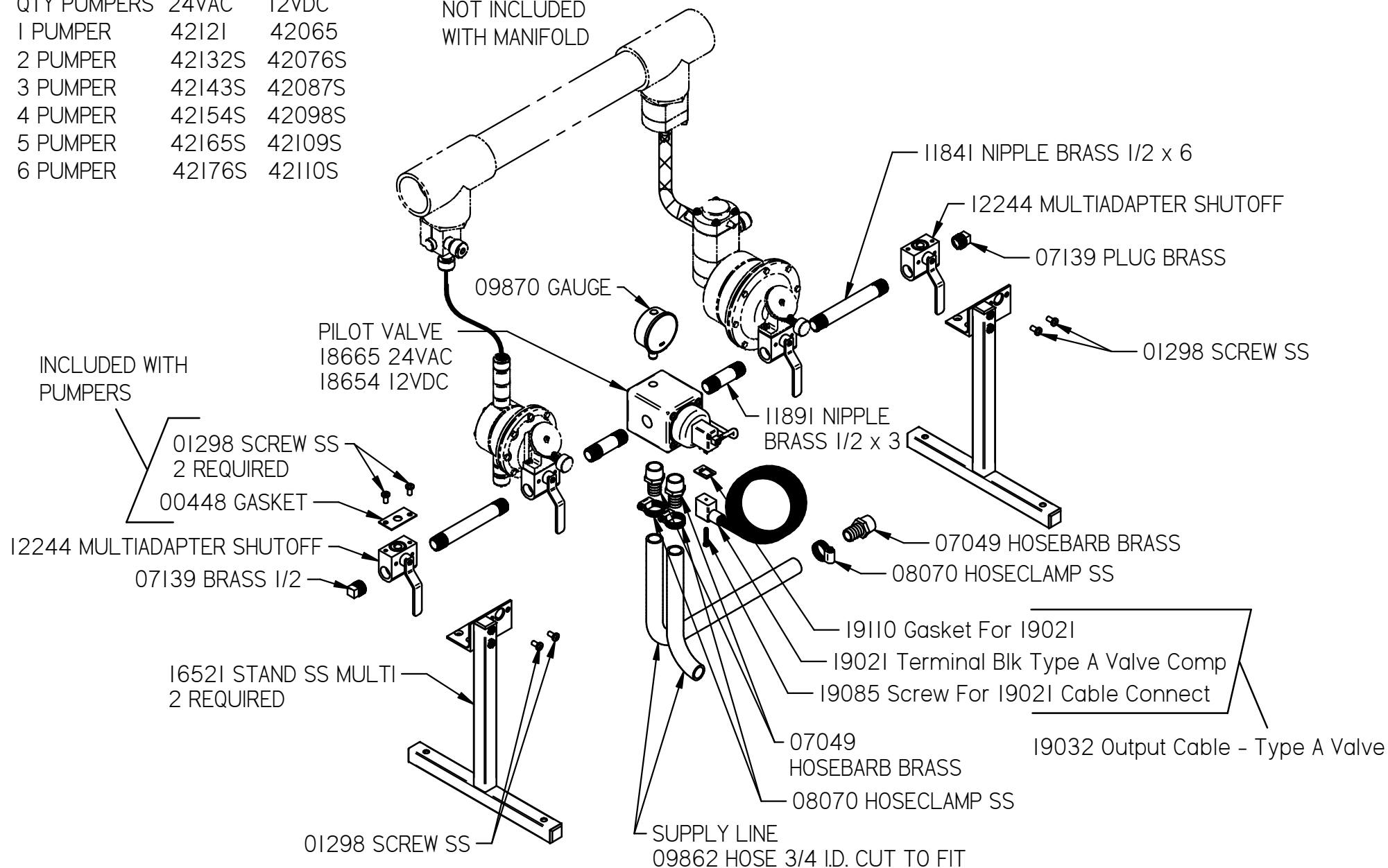
DATE: 5/7/2014

Proprietary Rights Apply To The Subject Shown And Are Property Of H.E. Anderson Co., Inc.

MANIFOLD ASSY PART NUMBERS

QTY	PUMPS	24VAC	12VDC
1	PUMPER	42121	42065
2	PUMPER	42132S	42076S
3	PUMPER	42143S	42087S
4	PUMPER	42154S	42098S
5	PUMPER	42165S	42109S
6	PUMPER	42176S	42110S

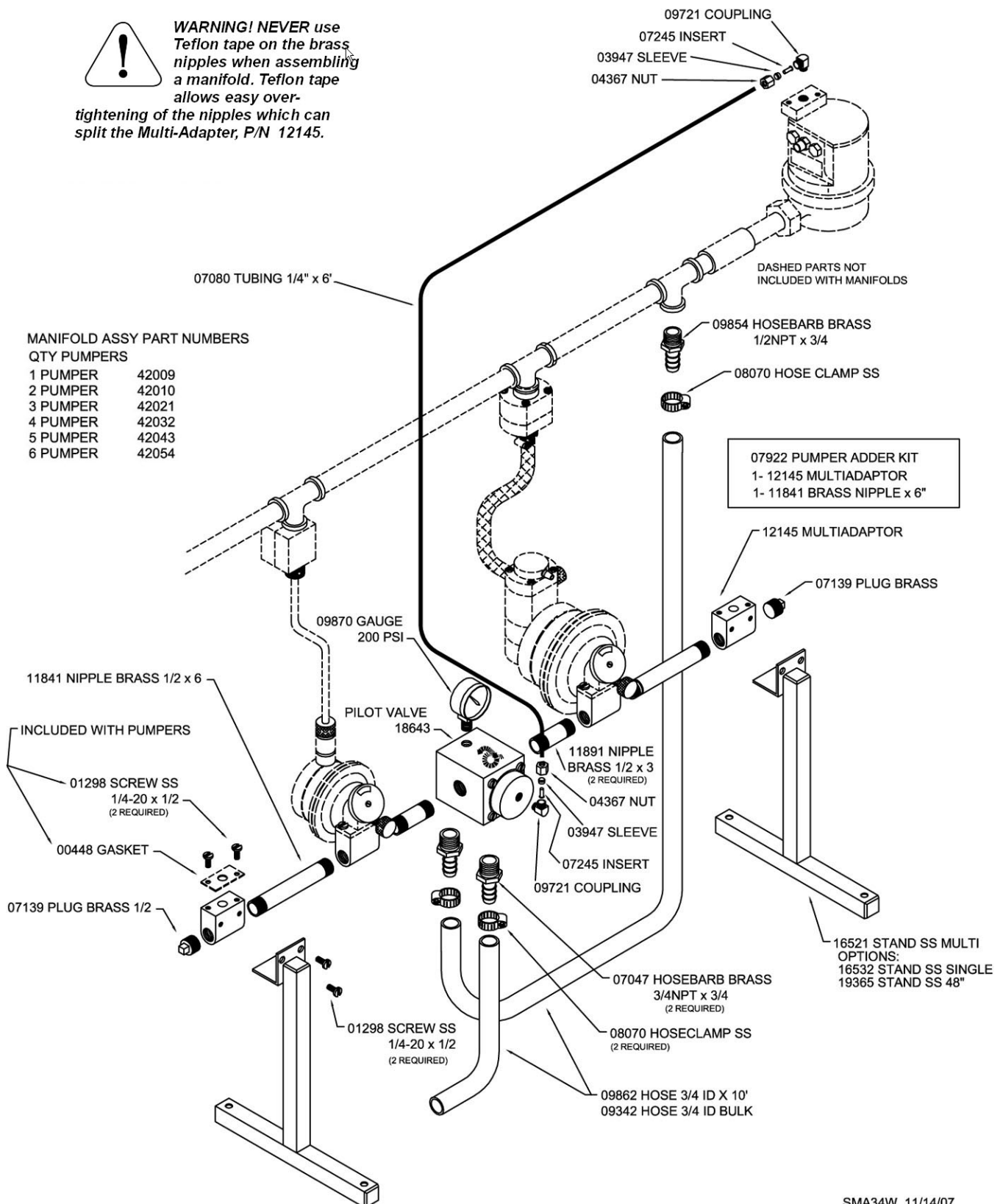
DOTTED PARTS
NOT INCLUDED
WITH MANIFOLD



MANIFOLD PARTS TYPE A WATER

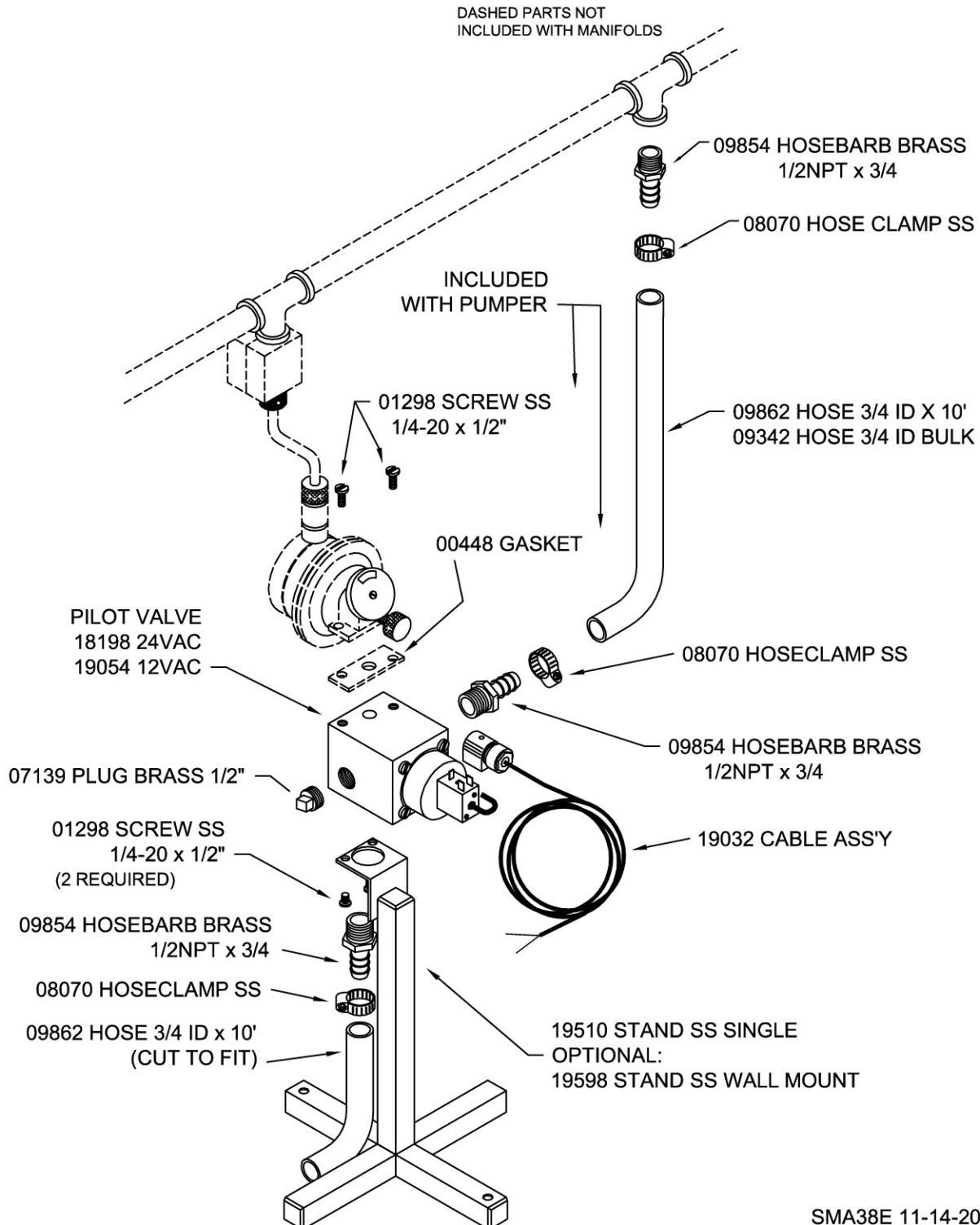


WARNING! NEVER use Teflon tape on the brass nipples when assembling a manifold. Teflon tape allows easy over-tightening of the nipples which can split the Multi-Adapter, P/N 12145.



MANIFOLD PARTS TYPE AS ELECTRIC

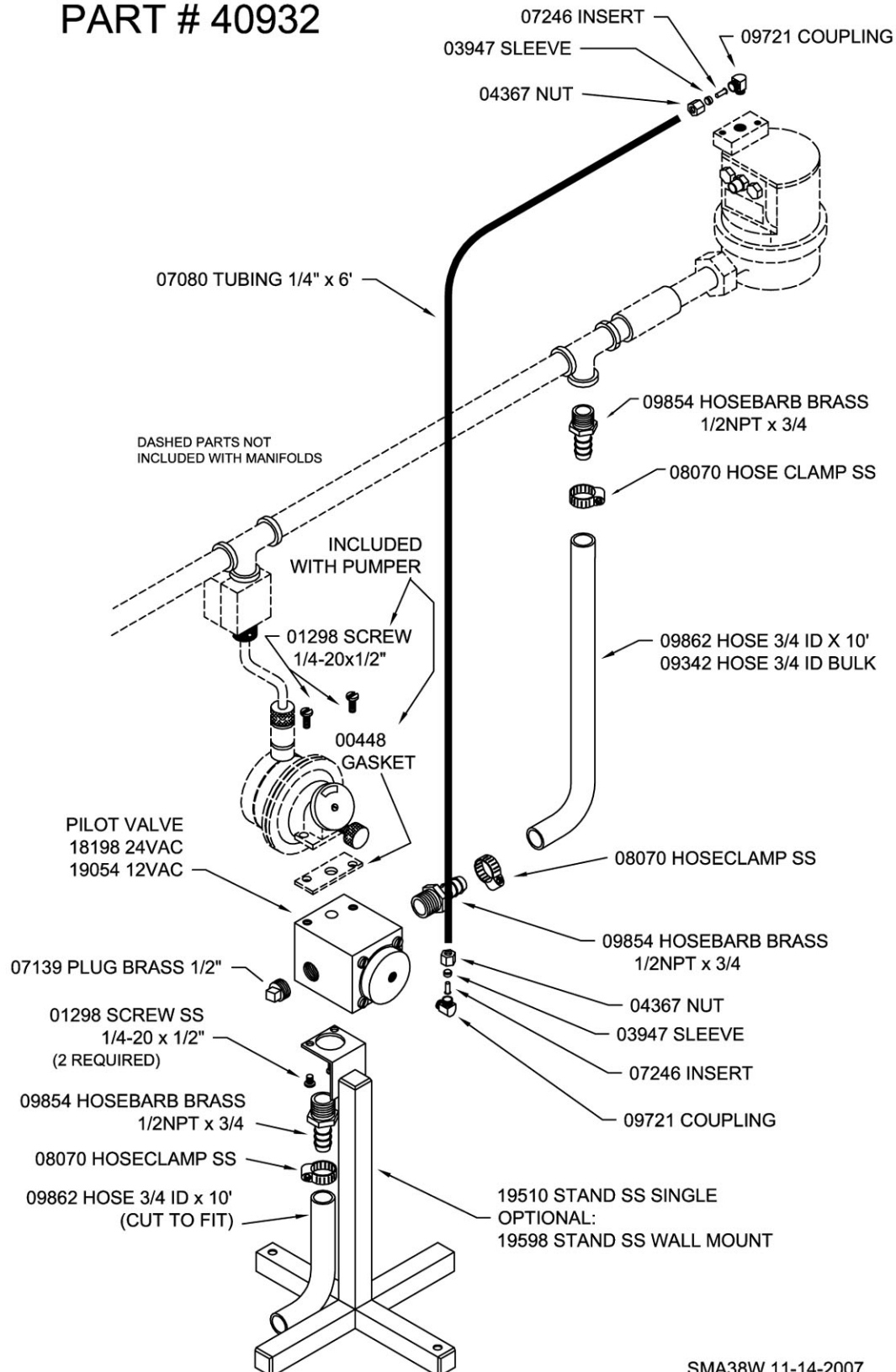
12VDC PART # 40921 24VAC PART # 40910



SMA38E 11-14-2007

MANIFOLD PARTS TYPE AS WATER

PART # 40932



SMA38W 11-14-2007

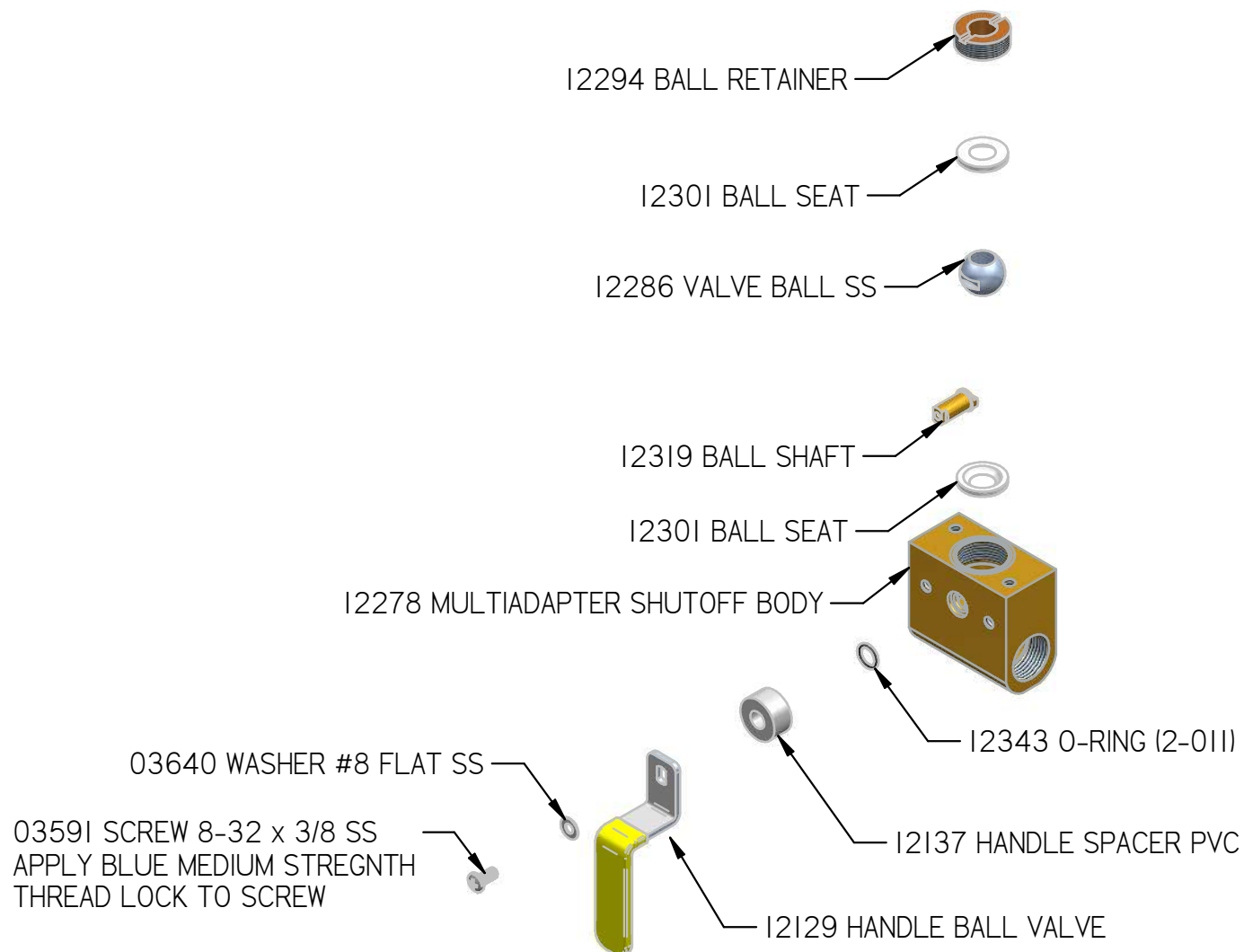


H.E. Anderson
COMPANY
Muskogee, OK. 74402-1006
(918) 687-4426

NAME: I2244 MULTIADAPTER SHUTOFF

DATE: 2-13-2015

Proprietary Rights Apply To The Subject Shown And Are Property Of H.E. Anderson Co., Inc.



H.E. ANDERSON COMPANY LIMITED WARRANTY

WHAT IS COVERED

The H.E. Anderson Company of Muskogee, Oklahoma, will make any necessary repairs and/or replace any parts of this H.E. Anderson Company product made necessary because of defects in materials or workmanship for fifteen months from date of manufacture. Warranty repairs and/or replacements will be performed without charge to the owner by H.E. Anderson Company within a reasonable time after prepaid delivery of the defective product to the H.E. Anderson Company, 2100 Anderson Drive, Muskogee, Oklahoma 74403.

WHAT IS NOT COVERED

This warranty specifically excludes failure of any parts or materials caused by chemical attack or damage caused by operation above rated capacity or pressure. Further, this warranty does not cover wear or failure caused by sand or other foreign materials which may be found in water that is passed through our products, or damage caused by freezing or exposure to water temperatures above 60°C (140°F).

This warranty does not cover damage caused by failure to follow prescribed installation instructions and limitations issued by H.E. Anderson Company. In addition, this warranty does not cover service adjustments, repairs, or replacements caused by misuse, negligence, alteration, accident, or lack of specified maintenance.

This warranty does not cover components used by, but not manufactured by H.E. Anderson Company, in the manufacture of our products except to the extent of said component manufacturer's warranty.

This warranty specifically excludes liability for consequential damages or for charges for labor or expense in making repairs or adjustments, or losses of time or inconvenience.

This warranty gives you specific legal rights and you may also have other legal rights which may vary from state to state. H.E. Anderson Company does not authorize any person to create for it any other obligation or liability in connection with these products. ANY IMPLIED WARRANTY APPLICABLE TO THESE PRODUCTS IS LIMITED TO THE DURATION OF THIS WARRANTY. H.E. Anderson Company shall not be liable for consequential damages resulting from breach of this written warranty.

NOTE: Some states do not allow limitation on how long an implied warranty will last or the exclusion of limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

WHAT TO DO IF THERE IS A QUESTION REGARDING WARRANTY

- 1) Promptly notify the consumer adviser at H.E. Anderson Company by telephone at 800-331-9620 or 918-687-4426.
- 2) Confirm the report in writing (or via FAX at 918-682-3342) to the H.E. Anderson Company, stating the circumstances surrounding the problem.

PURCHASER'S OBLIGATION

- a) Purchaser must give H.E. Anderson Company immediate written notice on discovery of defect.
- b) Purchaser must pay for shipment of the defective product to the H.E. Anderson Company, 2100 Anderson Drive, Muskogee, Oklahoma 74403.