SQUIBB TAYLOR

MANUFACTURED BY PARKER - PGI DIVISION

Installation, Operation, Maintenance, Disassembly and Assembly Instructions for A1804 & A1805 Equa-Flo Manifolds

March 2014 *Form* FVC 055 - Rev 09

IMPORTANT: KEEP THIS DOCUMENT WITH THE PRODUCT UNTIL IT REACHES THE END USER.

WARNING!

1. Contact with or inhalation of Liquid Anhydrous Ammonia (NH_3) or of LP Gas, can cause SERIOUS INJURY OR DEATH.
2. Before installation or removal of any Equa-Flo Manifold, the system must be purged of all product.
3. Personal Protective Equipment (PPE), safety gloves, goggles and clothing should be worn.
4. For proper handling and storage of NH_3, and Liquefied Petroleum Gas, refer to ANSI Standard K61.1. and NFPA Pamphlet 58.
5. An abundant supply of fresh water should be available to provide immediate first aid treatment for exposure to NH_3 and LP Gas.
6. To prevent the accidental opening of any valve, never grasp or carry a valve by its Hand wheel or handle.
7. To ensure a long term and safe operation, the manufacturer recommends that under normal service conditions this product should be inspected at least once every year and be repaired or replaced as required.

TOOLS REQUIRED: Safety Equipment (i.e. Gloves, Goggles, and Clothing), 7/16” Wrench, 3/4” Wrench, 5/16” Allen Wrench, 3/4”-10 X 3” Bolt (included)

Installation Instructions

1. Install the Equa-Flo Manifold at the rear of the tool bar using two 1/2”-13 mounting bolts (not included) on any structural member. The Manifold should be plumbed as level to the ground as possible.

2. Each manifold is equipped with either 16 or 21 ports (Model Numbers 1804-1000 & 1805-1000, respectively). Depending on the number of knives on the tool bar, plug the unused ports as symmetrically as possible to obtain the most even distribution of anhydrous ammonia. All outlet distribution hoses should be the same length within six inches. Use only full port hose barbs.

3. Install the inlet hose in a gentle sweeping arc into a 1” NPT Swivel Fitting (not included). Do not use a 45° or 90° elbow to attach the hose to the manifold. Avoid excessive use of thread pipe sealants which could result in an obstruction in the line. Never remove the 6” inlet nipple, as this helps provide a uniform liquid/vapor mixture into the dividing chamber.

4. NOTE: We strongly recommend that an inline strainer with a 40 mesh screen and a magnet be installed in the tool bar piping somewhere between the safety disconnect coupling and the meter that is measuring the flow of anhydrous ammonia. Rust or bits of tape may obstruct the precision distribution ports and greatly affect the knife-to-knife NH_3 delivery.

   Note: Manifold can be mounted with nipple pointed to the sky or the ground.

Operating Instructions

Start-Up Procedure

The Equa-Flo manifold is shipped from the factory with the .810” Flow Restrictor installed. The following are recommended starting points based on application rates of Anhydrous Ammonia in lbs. N per acre.

The factory installed .810 Flow Restrictor should be used for an application rate equal to or less than 100 lbs. N per acre.
For an application rate between 100 and 150 lbs. N per acre, install the .640” Flow Restrictor.
For an application rate between 150 and 200 lbs. N per acre, install the .470” Flow Restrictor.
For an application rate greater than 200 lbs. N per acre, use no Flow Restrictors.

See Replacement of Flow Restrictor or O-Ring, on page 2.
An operating back-pressure in the range of 40% to 75% of tank pressure will generally yield the best results. If the operating back-pressure is too high and/or application rate cannot be achieved, remove the .810” Flow Restrictor and install the .640” Flow Restrictor.

Note: The .640” and .470” Flow Restrictors and the 3/4”-10 x 3” Bolt are included with the Equa-Flo Manifold.
An essential element of running with the Equa-Flo manifold is knowing the nurse tank pressure and being able to see the manifold back-pressure while the unit is in operation. To achieve optimal performance, a 0-200 psi pressure gage must be installed (as shown in Figure 1) and should be readable from the cab of the tractor. The gage is not included.

Operating Instructions —Start-Up Procedure (cont'd)

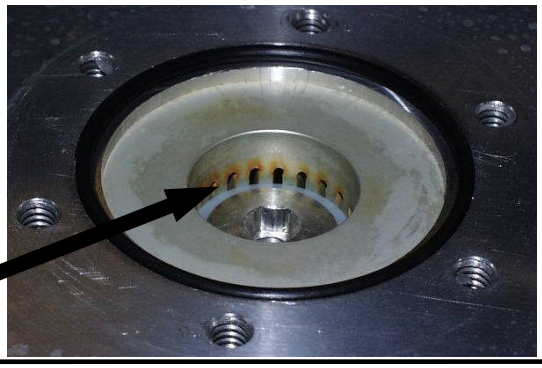
Begin Application of NH_3

1. Begin application of one row and observe the manifold back-pressure during operation after flow stabilization.
2. If the operating manifold back-pressure is between 40% and 75% of the nurse tank pressure, continue operation. The correct Flow Restrictor is installed.
3. If the operating manifold back-pressure is greater than 75% of the nurse tank pressure, install a shorter Flow Restrictor to achieve a lower back-pressure. Run another row and observe the back-pressure after flow stabilization.
4. If the operating manifold back-pressure is less than 40% of the nurse tank pressure, install a longer Flow Restrictor to achieve a higher back-pressure. Run another row and observe the back-pressure after flow stabilization.

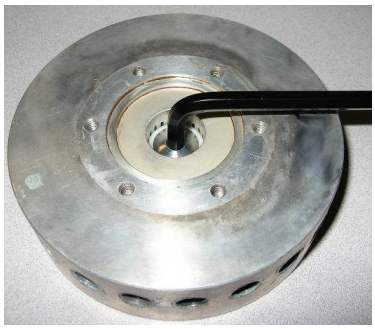
Replacement of Flow Restrictor or O-Ring (Refer to figure 1 for item numbers)

1. Safety Equipment (i.e. goggles, gloves and clothing) must be worn before continuing with the next step.
2. Before opening the Equa-Flo Manifold, make sure all pressure is bled from the system.
   NOTE: See "WARNING" at top of first page.
3. Remove the six 1/4"-20 Hex Head Bolts ④ and Lock Washers ⑤ from the Distributor Top ③.
   NOTE: The Distributor Top should be re-installed in its original position.
4. With the hose still attached, lift the Distributor Top from the Main Body ① and set aside. Remove O-Ring ⑥.

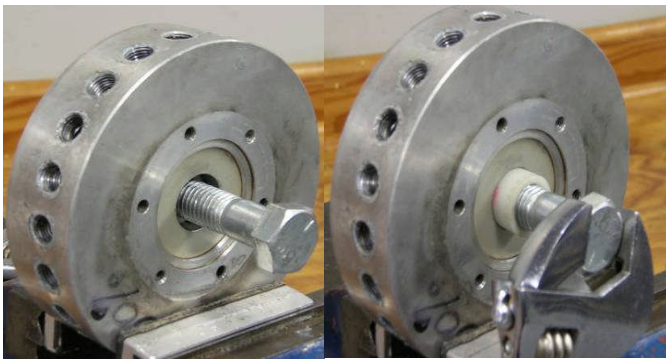
   CAUTION: The Distributor Center Core ② is permanently installed inside the Distributor Main Body. Do not attempt to separate from the Main Body ①. Using compressed air or a clean, lint-free cloth, remove any debris or particles from the bore of the Center Core. **Do not use a screwdriver or any metal object inside the bore to remove debris, as the surface finish could be damaged, causing the Flow Restrictor to leak.**



5. With a 5/16" Allen wrench, remove the Cap from the Restrictor.



6. **Taking great care to avoid damage to the area where the Distributor Top ③ meets the Main Body ①,** secure the unit in a bench-mounted vise, as shown. To replace the Flow Restrictor ⑨, screw the 3/4"-10 x 3" Bolt into the existing Flow Restrictor. When the bolt reaches the bottom, continue turning it and allow it to "jack" the Restrictor out of the Distributor Center Core ②. **Use caution to avoid damage to the Center Core and the O-Ring seal surface.**



7. Remove the old Restrictor from the Bolt. Select a replacement Flow Restrictor. (See steps 3 & 4 of **Operating Instructions** to determine which Restrictor will produce the proper back-pressure.) Inspect both ends of the new Restrictor for nicks or marks. If one end is damaged, be sure to install that end downward, leaving the smooth end up to seal against the anhydrous ammonia.
   Screw the new Restrictor onto the Bolt about 3 or 4 threads.

Replacement of Flow Restrictor or O-Ring cont'd (Refer to figure 1 for item numbers)

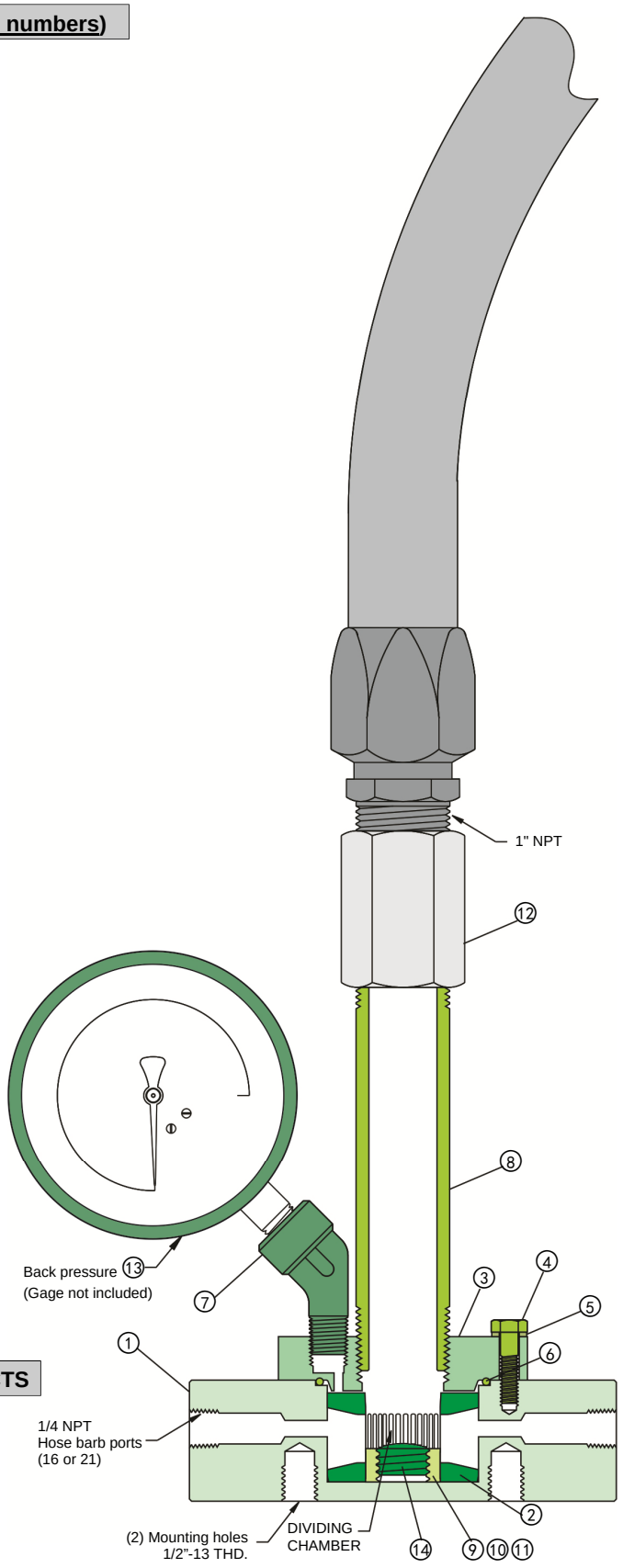
8. Insert the Restrictor into the Distributor Center Core ② and, using a hammer, tap the head of the bolt until the Flow Restrictor bottoms-out in the Main Body.

   NOTE: Make sure the Flow Restrictor is all the way down.

9. Remove the Bolt and re-install the Flow Restrictor Cap ⑫.

10. Install the O-Ring ⑥ into the groove on the Distributor Main Body ①. Lubricate the O-Ring with a good quality grease that is compatible with anhydrous ammonia.
11. Re-install the Distributor Top ③ in its original position and secure with the six 1/4"-20 Hex Head Bolts ④ and the six 1/4" External Tooth Lock Washers ⑤. Cross tighten to a torque of 7 Ft.lbs. The Equa-Flo Manifold may now be returned to service.

NO.	QTY.	DESCRIPTION
1	1	DISTRIBUTOR MAIN BODY
2	1	DISTRIBUTOR CENTER CORE
3	1	DISTRIBUTOR TOP
4	6	1/4"-20UNC HEX HEAD BOLT X 1" LONG,300 SERIES SS
5	6	EXTERNAL TOOTH LOCK WASHER, CBN,ZINC PLATED
*6	1	O-RING (2-140 N674-70)
7	1	1/4" NPT 45° STREET ELBOW
8	1	1" NPT SCHEDULE 40 STEEL PIPE
9	1	.810" FLOW RESTRICTOR (INSTALLED)
10	1	.640" FLOW RESTRICTOR (INCLUDED)
11	1	.470" FLOW RESTRICTOR (INCLUDED)
12	1	FLOW RESTRICTOR CAP
13	1	1" FNPT X 1" FNPT COUPLING (NOT INCLUDED)
14	2	4" DIA. DIAL 0-200 PSI AMMONIA GAGE (NOT INCLUDED)
*REPAIR KIT		1804-0022 (INCLUDED O-RING ONLY)



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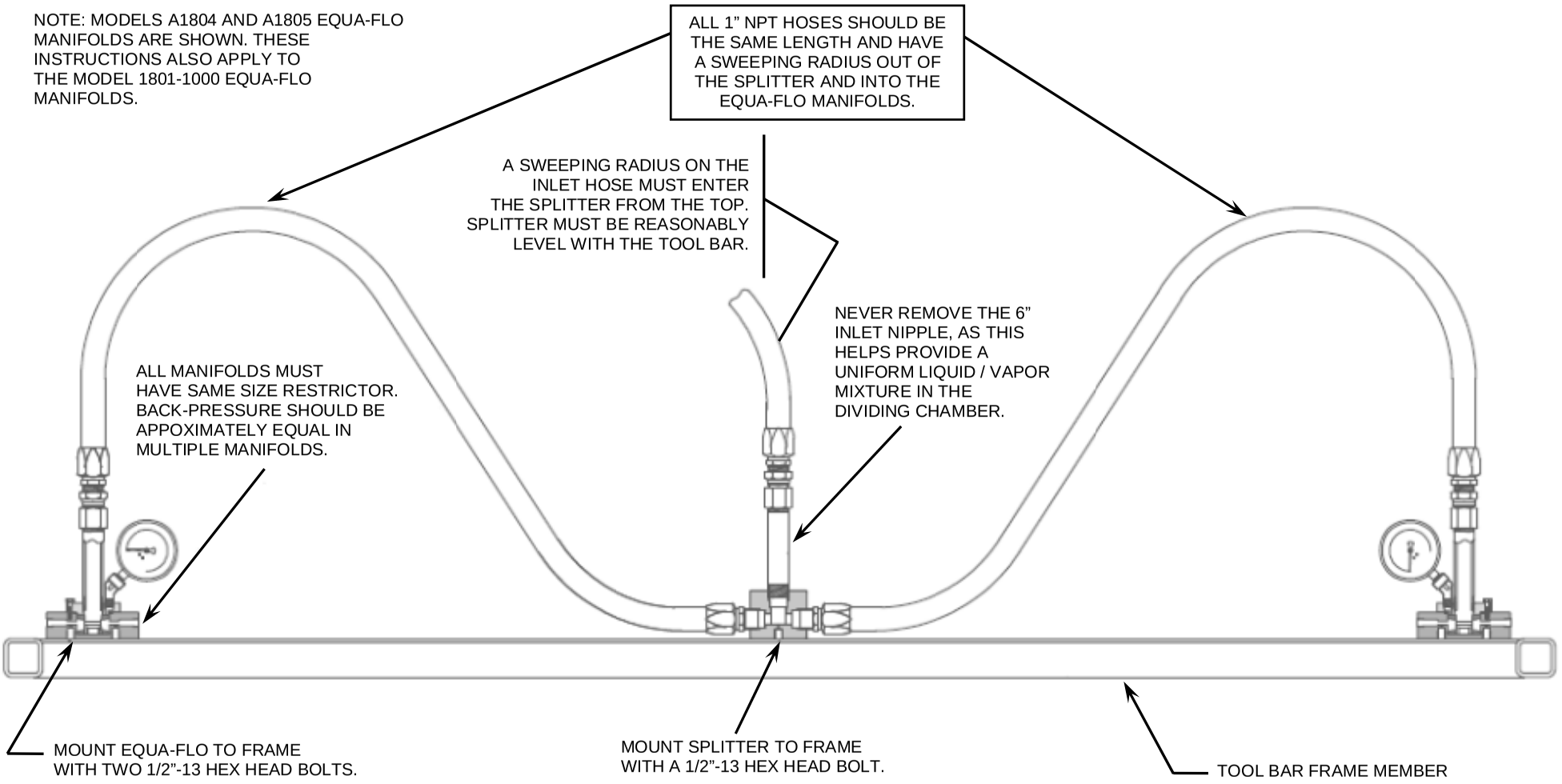
Installation Instruction for Two-way (Model A1802 / A1812), Three-Way (Model A1803 / A1813), Four-Way (Model A1806/ A1816), Five-Way (Model A1807/A1817) Splitters

NOTE: MODELS A1804 AND A1805 EQUA-FLO MANIFOLDS ARE SHOWN. THESE INSTRUCTIONS ALSO APPLY TO THE MODEL 1801-1000 EQUA-FLO MANIFOLDS.



NOTE:
MODEL A1802/A1812 TWO-WAY SPLITTER IS SHOWN. MODEL A1803/A1813 THREE-WAY SPLITTER, MODEL A1806/A1816 FOUR-WAY SPLITTER OR MODEL A1807/A1817 FIVE-WAY SPLITTER WILL MOUNT IDENTCALLY AND EACH HOSE TO THE EQUA-FLO MANIFOLDS MUST BE THE SAME LENGTH.