PRESSURE INTENSIFIER

Installation and Service Instructions

TABLE 1 (Specifications)

Model Number	Intensifier Fluid Type	Actuator Fluid Type	Repair Kit Number
03-465-134	HO	BF	12-400-015
03-465-136	HO	HO	02-400-111
03-465-140	HO	HO	02-400-113

(BF) = Brake Fluid (HO) Mineral Base Hydraulic Oil

NOTE: If your product number is not listed, contact ZF Off-Highway Solutions Minnesota Inc.

NOTE

Maximum inlet pressure for this actuator is not to exceed 15.5 bar (225 PSI). The inlet pressure will determine outlet pressure by a ratio of approximately 9:1, therefore, inlet pressure of 15.5 bar (225 PSI) will yield approximately 137.9 bar (2000 PSI) outlet pressure. Maximum outlet pressure for this valve is not to exceed 137.9 bar (2000 PSI).

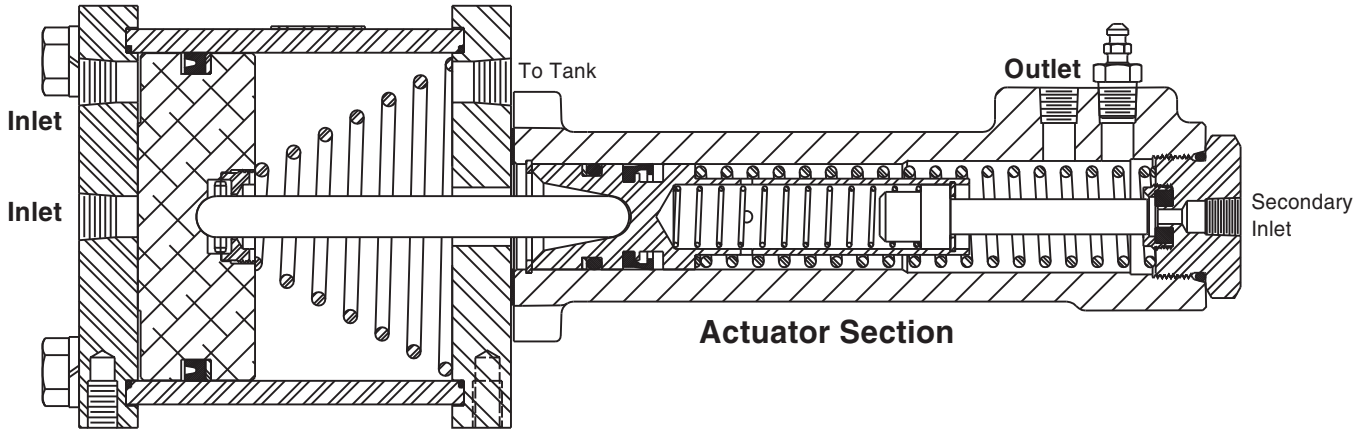

FIGURE 1

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MOUNTING PROCEDURE

1. The pressure intensifier must be mounted in a horizontal position with actuator bleeder screw facing up.
2. Using the six 5/16-18UNC mounting holes on the intensifier end plates locate and drill mounting holes.
3. Mount the pressure intensifier using SAE Grade 8 or better mounting bolts (not included).

DISASSEMBLY PROCEDURE

(Refer to Figures 1 & 2)

1. Remove unit from vehicle by disconnecting necessary fluid lines and removing mounting bolts. Drain fluid from assembly.
2. Remove cap screws (1) and lock washers (2). Separate plate (3), cylinder (5), spring (9) and remove o-rings (4 & 10).
3. Remove piston assembly (6) from cylinder (5). Remove cup (7) and back-up ring (8) from piston assembly (6). Note direction of cup (7).
4. Remove end plug assembly (21), spring (20) and piston assembly (12) from housing (11).
5. Remove retainer (22), seat (23) and o-ring (24) from end plug (25). **NOTE: Not all actuators use the same size o-ring (24). Compare the o-ring removed from your actuator to the o-rings in the repair kit for proper replacement.**
6. Depress stem (18) and remove retaining ring (19). Remove stem (18), spring (17), cup (15), o-ring (14) and back-up ring (13) from piston (16). Note direction of cup (15). **NOTE: Earlier 03-465-134 models used a different cup (15). Compare the cup (15) removed from your actuator to the cups in repair kit 12-400-015 for proper replacement.**

ASSEMBLY PROCEDURE

(Refer to Figures 1 & 2)

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN FLUID. SEE TABLE 1 FOR PROPER FLUID TYPE USED IN THE INTENSIFIER SECTION AND ACTUATOR SECTION.

1. Clean all parts thoroughly before assembling.
2. Install new cup (15), new o-ring (14) and new back-up ring (13) on piston (16). Note direction of cup (15). **NOTE: Be sure to install the correct new cup (15).**
3. Install spring (17), stem (18) and new retaining ring (19) in piston (16).
4. Apply Loctite 242 to threads of retainer (22). Install new seat (23), new retainer (22) and new o-ring (24) on end plug (25). Note direction of seat (23), chamfers are to face stem (18). See Figure 2a. Torque retainer (22) 10.9-16.3 N·m (8-12 lb·ft). **NOTE: Be sure to install the correct new o-ring (24).**
5. Install piston assembly (12), spring (20) and end plug assembly (21) in housing (11). Torque end plug (25) 67.8-108.5 N·m (50-80 lb·ft).
6. Install new cup (7) and new back-up ring (8) on piston assembly (6). Note direction of cup (7).
7. Install piston assembly (6) in cylinder (5). Apply a light coat of grease to the end of push rod in piston assembly (6).
8. Assemble o-ring (10), spring (9), cylinder (5), o-ring (4) and plate (3) using four cap screws (1) and lock washers (2). Tighten cap screws (1) evenly and torque 51.5-57.0 N·m (38-42 lb·ft).

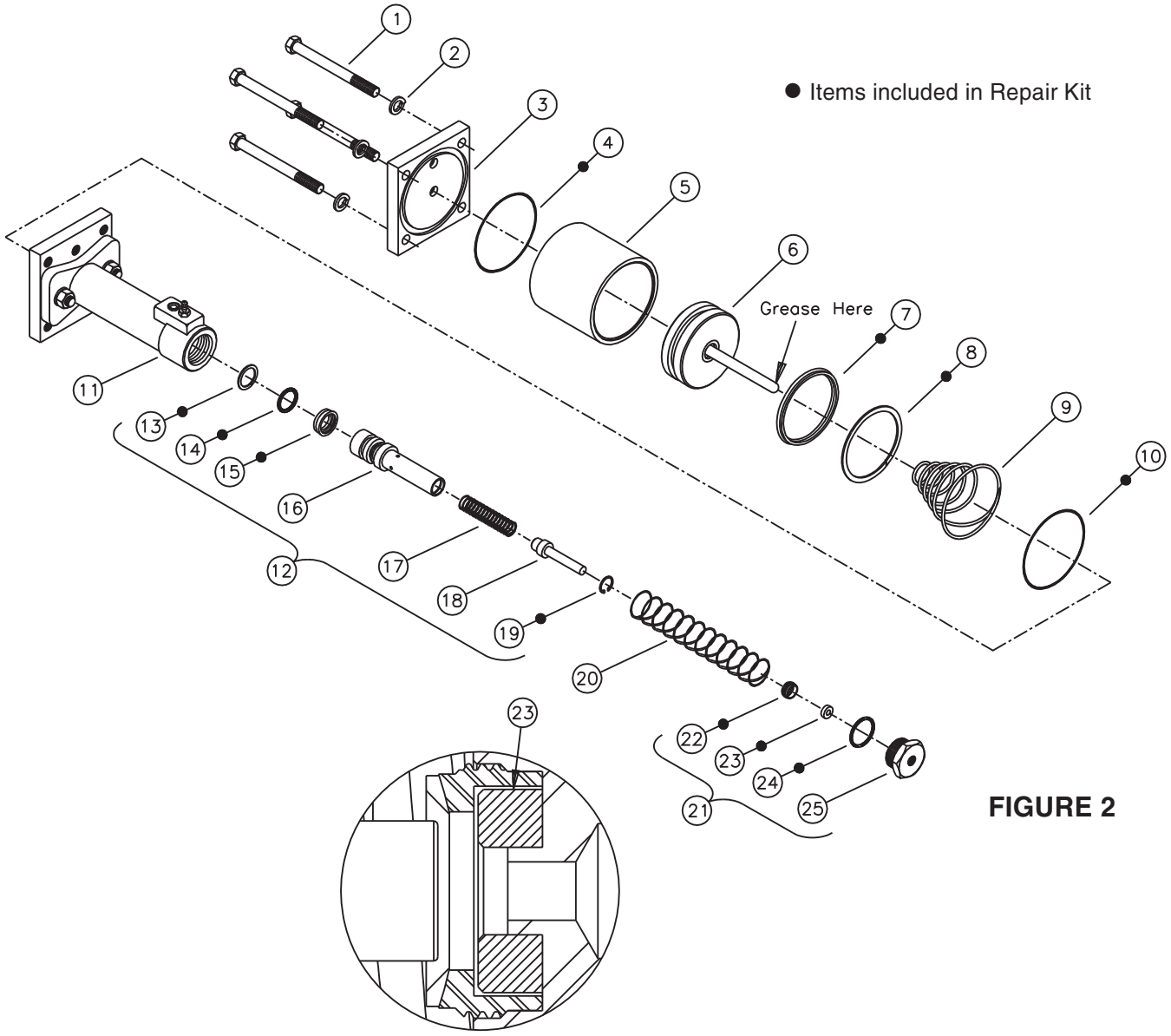

FIGURE 2

FIGURE 2a

BLEEDING PROCEDURE

(Refer to Figures 3 & 4)

1. For proper operation of the pressure intensifier, all air must be bled from the pressure intensifier, lines, hoses, cylinders, brakes, etc.
2. Continuous bleeding can be accomplished by cycling the pressure intensifier with three-way or four-way valving. This type of bleeding can be aided by installing a line between the inlet and outlet ports of the pressure intensifier with a check valve checked against the outlet port.

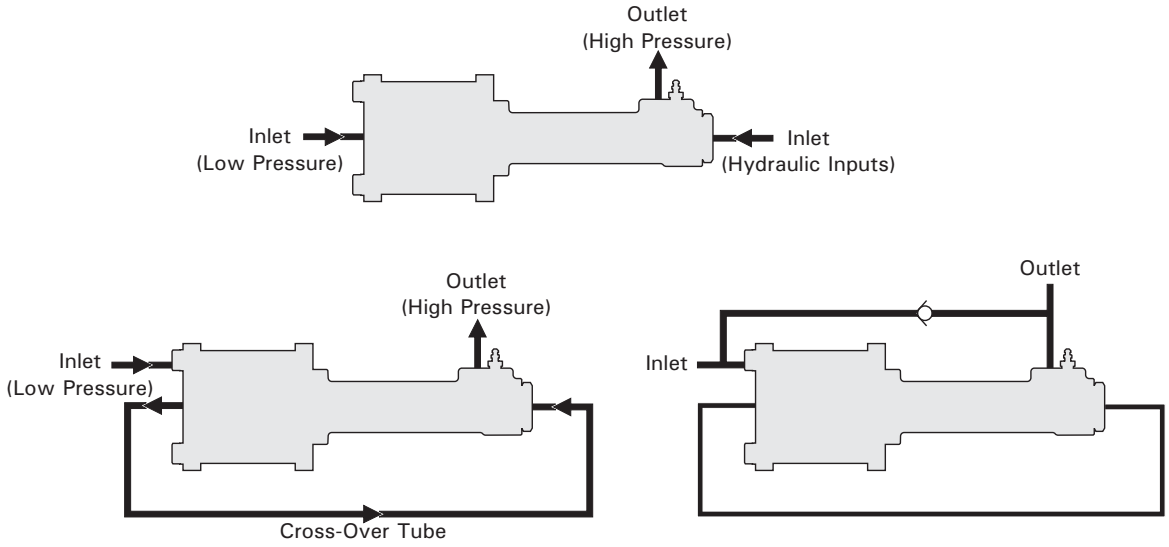

FIGURE 3

Typical Circuits

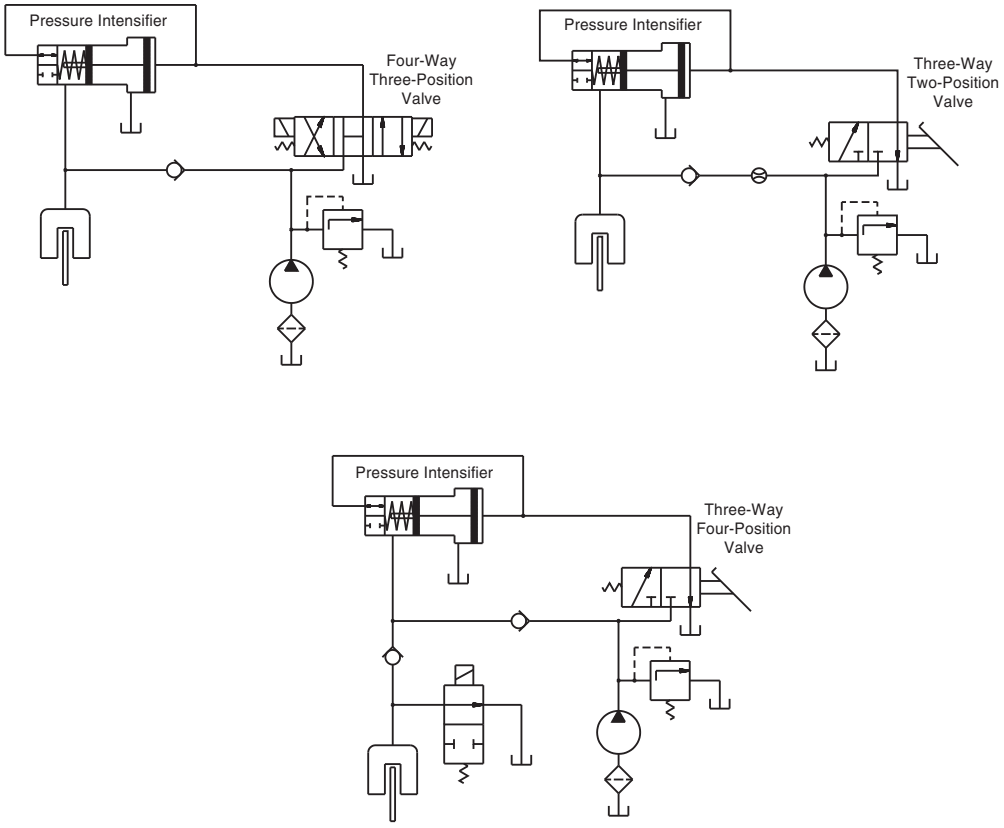

FIGURE 4