

**Rebuild Procedure
Model B1 Accelerator**

1.0 **Scope**

This procedure provides the instructions for field rebuilding the Model B1 Accelerator using replacement parts Kit No. 6888000100. Reliable also provides the following:
a. Factory upgrade of Model B Accelerator to Model B1 configuration.
b. Factory reconditioning of Model B1 Accelerator.
c. Field Replacement Parts Kit for Model B Accelerators.
d. Revisions to this specification shall be added to Caution Sheet CA-72 (89241050).

2.0 **Recommendations**

Follow all steps in Bulletin 322 to determine whether the accelerator requires repair.

If water is present in the accelerator, it is strongly recommended that the accelerator system connection must be moved to a location on the system riser at least 2 ft. above the dry pipe valve. A Model B1 Accelerator should be available for job site replacement thereby eliminating the need for a return trip. Factory rebuilding or upgrading is preferred to field rebuilding.

3.0 **Preparation**

If rebuilding is required, proceed as follows:

Have on hand:

Tools:

- Pair of 3/4" Open End or Box Wrenches
- Pair of Vise Grips
- One 7/16" Combination Wrench
- One Screwdriver, 1/4" Wide Blade

- Rebuild Kit; Model B1
- Bulletin 322
- Clean Lint Free Cloths

4.0 **Removal**

- Remove accelerator from system as follows:
 - a. Close valves A & B (see Fig. 1, Bulletin 322)
 - b. Vent and drain by removing plugs D & E.
 - c. Remove accelerator from system by uncoupling unions #11 & 12.
 - d. Remove piping and pressure gage from accelerator.

5.0 **Rebuild**

General:

The overall recommended rebuild sequence is:

- a. Disassemble accelerator - retaining those parts required for reuse and scrapping the others.
- b. Clean all parts which are to be reused.
- c. Reassemble the accelerator using the parts in the replacement parts kit.
- d. Test per Bulletin 322.

Use a well lit flat bench type working area. Clean with water where necessary and dry all parts retained for reuse. Discard scrapped items. Note that dirt inside the accelerator may cause malfunction. Do not use lubricant on any parts, particularly on the push rod ends, diaphragm nut-filter area or poppet 'O' ring. Replacement parts for those scrapped are provided in the replacement parts kit.

5.1.0 **Disassembly**

Refer to Fig. 1, page 5 of this specification or Fig. 2 of Bulletin 322.

5.1.1 Remove both 1/4" pipe plugs (item 3 - retain)

5.1.2 Remove valve plug assembly (item 13 - retain) along with poppet (item 15 - retain) and poppet spring (item 17 - retain). Remove valve plug 'O' ring (item 14 - scrap) and poppet 'O' ring (item 16 - scrap).

5.1.3 Remove top chamber bolts (item 4 - retain), top chamber cover (item 2 - retain), diaphragm spring (item 9 - retain) and diaphragm assembly (item 5, 6, 7, & 8) as a unit.

5.1.4 Disassemble diaphragm nut-filter sub assembly (item 8 - scrap) from diaphragm retainer (item 6 - retain) using pair of 3/4" wrenches. Remove diaphragm washer (item 7 - retain), sensing diaphragm (item 5 - scrap) and diaphragm washer (item 7 - retain).

5.1.5 Remove push rod (item 10 - scrap) and push rod guide 'O' ring (item 12 - scrap) using pointed end of tool furnished for removal. Avoid damage to push rod guide.

5.1.6 Remove accelo-check screws (item 25 - retain), accelo-check body (item 19 - retain) and accelo-check spring (item 24 - retain); remove accelo-check diaphragm assembly (items 20, 21, 22, & 23) as a unit.

5.1.7 Disassemble accelo-check nut (item 23 - retain) from accelo-check poppet (item 20 - retain). Avoid damage to poppet by holding with vise grips across accelo-check poppet (washer section, flat area) and accelo-check washer while removing nut with 7/16" open end wrench. Remove accelo-check washer (item 21 - retain), accelo-check diaphragm (item 22 - scrap) and accelo-check 'O' ring (item 11 - scrap).

5.1.8 Remove filter assembly (item 18 - scrap) from body/push rod guide sub assembly (item 1 - retain). Clear all internal passageways, particularly F & E. Use blunt end of tool provided. Avoid scratching or damaging any surfaces which mate with 'O' rings or diaphragms. Clean and dry all retained parts, particularly internal surfaces, with a clean lint free cloth. It is imperative that the internal parts of the accelerator be clean, especially in the middle and upper chambers and the accelo-check poppet areas.

5.3.0 **Reassemble**

Reassemble the accelerator using parts in the kit along with retained parts. Use Fig. 1 to assure correct parts location and orientation. Be sure to maintain cleanliness during assembly.

5.3.1 Install new push rod guide 'O' ring (item 12) into body/push rod guide sub assembly (item 1) using blunt end of tool furnished. Insert new push rod (item 10). Note: Flat end of push rod to be down against poppet.

5.3.2 Install new poppet 'O' ring (item 16) onto poppet (item 15) and new valve plug 'O' ring (item 14) onto valve plug assembly (item 13). Preassemble poppet spring (item 17) and poppet (item 15) onto valve plug assembly (item 13). Then assembly these parts into body (item 1) and tighten securely. Depress push rod and poppet. After release, poppet should return to seat.

5.3.3 Assemble diaphragm washer (item 7) onto diaphragm retainer (item 6) (NOTE: assemble diaphragm washers with the sharp edges away from the diaphragm), followed by new sensing diaphragm (item 5), second diaphragm washer (item 7) and, after removing protective cap, new diaphragm nut-filter sub assembly (item 8). Tighten using 3/4" wrenches until the diaphragm starts to deform. Install this sub assembly onto the body (item 1). Align screw holes. Install diaphragm spring (item 9) followed by top chamber cover above body drain plug port. Secure with top chamber bolts (item 4). Tighten securely and evenly to prevent leakage.

5.3.4 Install and tighten new filter assembly (item 18) into body (item 1). Filter assembly should be below the body surface. Do not mar filter assembly or surface when installing. Assemble new accelo-check diaphragm (item 22) followed by the accelo-check washer (item 21) onto accelo-check poppet (item 20). Secure with accelo-check nut (item 23). Do not mar surface or create burrs on poppet. Hold with vise grips across accelo-check poppet (washer surface) and accelo-check washer while tightening nut. Assemble new accelo-check 'O' ring (item 11) onto the accelo-check poppet (item 20). Install this sub assembly into body (item 1). Align screw holds. Install accelo-check spring (item 24) and accelo-check body (item 19). Secure with accelo-check screw (item 25).

5.3.5 Reinstall drain plugs (item 3), gage and piping using new thread sealant. Install accelerator into system and secure with unions (items 11 & 12).

5.4.0 **Test**

Test per "Test and Inspection" section of Installation Bulletin 322.

NOTE: The Accelerator is only one cause for premature dry pipe valve tripping; other causes include:

1. Supply pressure surges.
2. Low system air pressure.
3. Loss of air pressure.
4. Failure of ball drip to open, coupled with dry pipe valve leakage.
5. System air leaks.

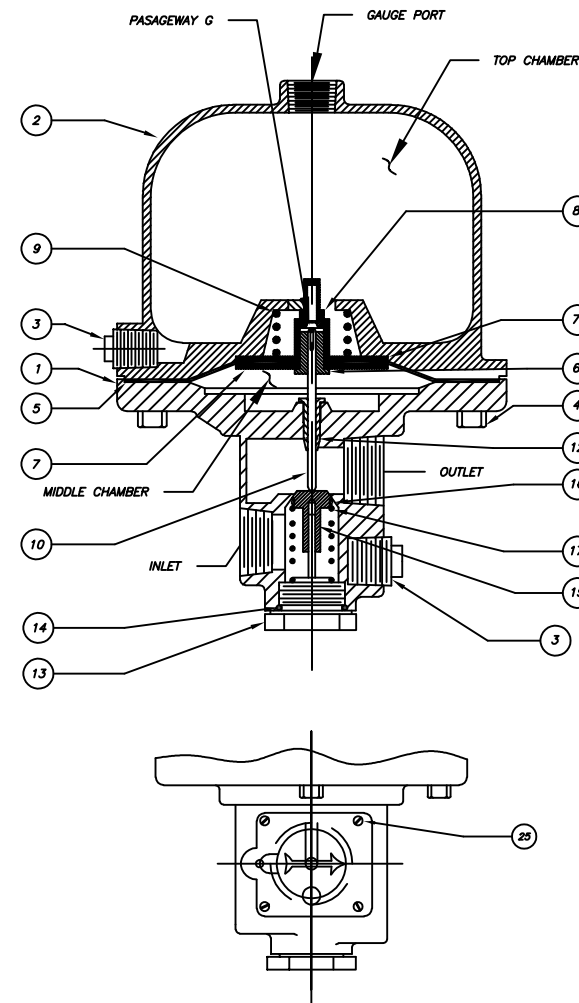


FIGURE 1

27	85000050	GREASE, GPL-201	A/R
26	94386911	LABEL, RESETTING	1
25	95606311	ACCELO - CHECK SCREW	4
24	96406317	ACCELO - CHECK SPRING	1
23	94906327	ACCELO - CHECK NUT	1
22*	92206317	ACCELO - CHECK DIAPHRAGM	1
21	96906327	ACCELO - CHECK WASHER	1
20	95226327	ACELLO - CHECK POPPET	1
19	91006417	ACELLO - CHECK BODY	1
18*	73016343	FILTER ASSEMBLY	1
17	96406314	POPPET SPRING	1
16*	95406313	"O" RING POPPET	1
15	95226321	POPPET	1
14*	95406312	"O" RING, VALVE PLUG	1
13	73016333	VALVE PLUG ASSEMBLY	1
12*	95406315	"O" RING, PUSH ROD GUIDE	1
11*	95406311	"O" RING, ACCELO - CHECK	1
10*	95506307	PUSH ROD/FLOW ELEMENT ASSY	1
9	96406311	DIAPHRAGM SPRING	1
8*	92207002 92207000 (LPCB)	DIAPHRAGM NUT/FILTER S/A	1
7	96906311	DIAPHRAGM WASHER	2
6	95276321	DIAPHRAGM RETAINER	1
5*	92206311	SENSING DIAPHRAGM	1
4	91106311	TOP CHAMBER BOLT	6
3	98604413	DRAIN PLUG 1/4" NPT	2
2	92106411	DOME, TOP CHAMBER	1
1	91007000	BODY/PUSH ROD GUIDE S/A	1
ITEM NO.	PART NO.	DESCRIPTION	NO. REQ'D

SHOULD REPLACEMENT PARTS BE NEEDED, USE ONLY GENUINE RELIABLE MADE PARTS. WHEN ORDERING, SPECIFY PART NAME AND NUMBER. ALSO, NAME, SIZE, MODEL AND SERIAL NUMBER OF THE UNIT.

* THESE ITEMS ARE CONTAINED IN REPLACEMENT PARTS KIT. PART NO. 6888000100, FOR ALL EXCEPT LPCB. FOR LPCB, REPLACEMENT PARTS KIT IS PART NO. 6888000150.

ASSEMBLY SHEET
MODEL B1 ACCELERATOR
P/N 6888000100