

ASSEMBLY

Place diaphragm plate # 4434 over diaphragm (Fig 3.2). Diaphragm plate #4434 center hole is 1.37" make sure you do not put diaphragm plate #4441 on this end.



Figure .3.2

Place lower spring plate on top of stem apply grease were they connect (Fig 3.3). Place upper spring plate on spring (Fig 3.4).

Grease



Figure 3.3

Figure 3.4

Place upper bonnet over spring (Fig 3.5). Flip unit over and install mounting plate and 4 screws and tighten (Fig 3.6).



Figure 3.5

Figure 3.6

Align sense holes on bottom with supply and output holes in middle housing. Breather hole needs to be rotated 90 deg from supply and output ports holes (Fig 3.7).



Figure 3.7

Install adjustment screw and apply grease to end before inserting (Fig 3.8). Install breather plug with loc-tite (Fig 3.9).



Figure 3.8

Figure 3.9

Tighten nut snug to secure (Fig 1.15).



Figure 1.15

STEP 2

ASSEMBLE LOWER HOUSING

Install washer on bellows ONLY ON 150 PG PILOT (Fig 2.1). Roll O-Ring over threads to install (Fig 2.2)



Figure 2.1



Figure 2.2

Screw bellows into lower housing snug (Fig 2.3). Install O-Ring around lower housing (Fig 2.4).



Figure 2.3



Figure 2.4

Place bellows assembly into lower housing (Fig 2.5).



Figure 2.5

STEP 8

ASSEMBLE MIDDLE HOUSING

Place stem assembly into middle housing. On direct pilot this diaphragm goes up towards spring if indirect pilot this diaphragm faces towards bellows (Fig 3.1).



Figure 3.1

ASSEMBLY

Install lower seat into housing and tighten snug (Fig 1.5). Install O-Ring on upper seat #113 again rolling over threads so as not to cut (Fig 1.6).



Figure 1.5

Figure 1.6

Install #113 seat into seat housing and tighten snug (Fig 1.7). Now install diaphragm #4436 (Fig 1.8).



Figure 1.7

Figure 1.8

Install diaphragm spacer #4442 and align holes in spacer with holes in housing to make a through hole (Fig 1.9). Screw on diaphragm nut to secure, making sure holes are still aligned (Fig 1.10).



Figure 1.9

Figure 1.10

Place upper seat housing over small ball of pilot plug make sure it is aligned (Fig 1.11). Place ring on top of diaphragm as shown plate #4441 (Fig 1.12).



Figure 1.11

Figure 1.12

Place diaphragm #4447 over stem (Fig 1.13). Place spacer ring after diaphragm (Fig 1.14).



Figure 1.13

Figure 1.14

STEP 1
ASSEMBLE MIDDLE HOUSING
INDIRECT

Open kit # RBQ and check for all parts. (Fig 1.1).



Figure 1.1

If **DIRECT** pilot simply turn middle housing upside down (Fig 1.2)

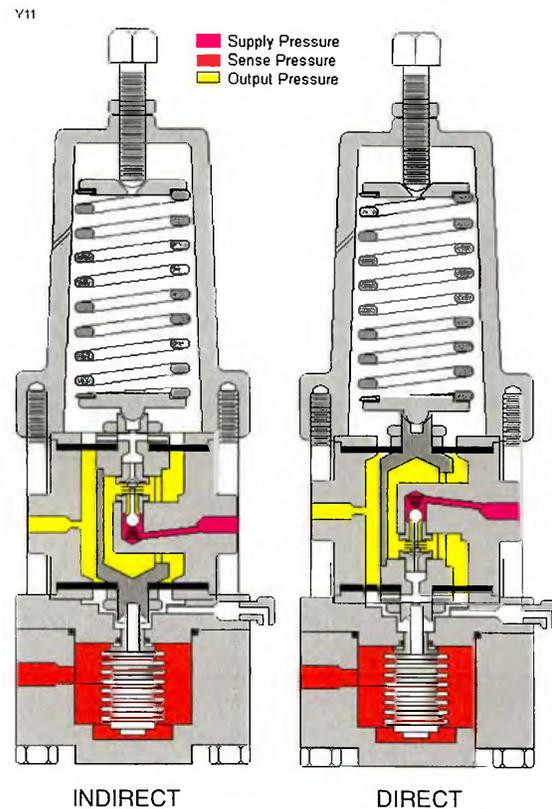


Figure 1.2

Install #108 spring, make sure supply port is clear of any obstructions and clean. (Fig 1.3). Insert O-Ring over #111 seat by rolling so as not to cut O-Ring and insert pilot plug small ball first (Fig 1.4).



Figure 1.3

Figure 1.4

PART INSPECTION

STEP 1

BELLOWS

Look for cracks in bellows or separation in rings. This can be caused by pulsation or over pressure. (Fig 1.1)



Figure 1.1

Look for cracks or splits in diaphragm. (Fig 1.2)



Figure 1.2

Port from supply input to lower seat must be cleaned and blown out well. This port is easy to overlook and can become blocked. Even the smallest particle of rust or dirt can clog pilot plug causing failure to occur. (Fig 1.3 & F 1.4)



Figure 1.3

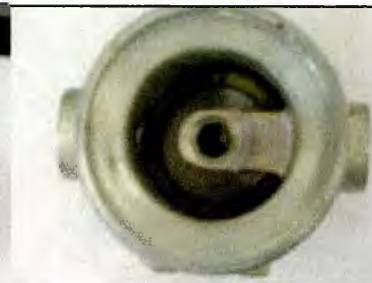


Figure 1.4

Remove upper spring plate (Fig 4.3)



Figure 4.3

STEP 5

REMOVE LOWER HOUSING

Remove breather plug and make sure it is clear of any obstructions. (Figure 5.1 & 5.2)



Figure 5.1



Figure 5.2

Remove lower housing from main body. Being careful not to damage the bellows. (Fig 5.3). Remove O-Ring from lower housing and discard (Fig 5.4).



Figure 5.3



Figure 5.4

Carefully not to crush bellows remove it from lower housing, channel locks may be used if it is stuck (Fig 5.5). Discard O-Ring from top of bellows. Make sure to save the washer under o-ring (Fig 5.6). Make sure bellows does not have any holes and fins have not flattened.



Figure 5.5



Figure 5.6

Washer present on 150 PG Pilot but not on 50 or 75 PG

WASH ALL PARTS BEFORE ASSEMBLY

DISASSEMBLY



With flat blade screw driver peel up diaphragm and remove stem from housing. Discard diaphragm it will be replaced. (Fig 3.6).



Figure 3.6

Figure 3.7

Flip middle housing over and remove diaphragm nut (Fig 3.8). Remove diaphragm spacer (Fig 3.9).



Figure 3.8

Figure 3.9

Remove upper diaphragm and seat from body and discard diaphragm (Fig 3.10). Remove upper seat from seat housing and discard seat (Fig 3.11).



Figure 3.10

Figure 3.11

Remove lower seat and pilot plug and discard (Fig 3.12). Remove spring from under lower seat and discard (Fig 3.13).



Figure 3.12

Figure 3.13

**STEP 4
REMOVE BONNET**

Remove lower spring plate (Fig 4.1). Remove spring (Fig 4.2).



Figure 4.1

Figure 4.2

**STEP 1
REMOVE ADJUSTMENT SCREW**

Remove any connection from body. With 9/16 wrench remove adjustment screw. (Fig 1.1 & Fig 1.2).



Figure 1.1



Figure 1.2

**STEP 2
REMOVE LOWER HOUSING**

Flip pilot upside down and secure, then remove 4 bolts holding body to bonnet. Remove any plugs from housing at this time (Fig 2.1). Remove lower housing and set aside at this time. (Fig 2.2).



Figure 2.1



Figure 2.2

**STEP 3
REMOVE MIDDLE HOUSING**

Remove middle housing and place on bench. (Fig 3.1). With adjustable wrench remove diaphragm nut (Fig 3.2).



Figure 3.1



Figure 3.2

Remove diaphragm spacer (Fig 3.3).



Figure 3.3

Remove diaphragm plate (Fig 3.4), it may be stuck in place. Use caution when removing so not to score housing or plate if a screwdriver is used. (Fig 3.5).



Figure 3.4



Figure 3.5