Application

To ensure maximum efficiency, be certain to install the pressure change assembly in accordance with the recommended procedures.

The pressure change assembly, or PCA, is sold as a complete kit. All parts should be used when replacing your existing PCA.

A pressure change assembly consists of:

Figure 1
Valve and Lever Assembly

Figure 2
Valve Seat

Figure 3
Guide Pin Assembly

Note: Two mounting screws, not shown.

Preliminary Procedures

A. Check Orifice Size of Trap and Parts

Make sure that your steam trap parts are stamped with the orifice size required for your operating pressure differential (see table 1). The orifice size (1/8" for example) is stamped on the valve seat, valve lever, and guide pin assembly. Parts with different orifice stampings should never be used together.

	Trap Model Numbers												
Size Orifice	800 880	211 811 881 TVS811 310	981	421 411-G	212 TVS812 812 882	312	213 813 TVS813 313 413 883 983	214 814 314	215 315 415 815	216 316 416 816	5133-G	5155-G	6155-G
5/64		*400	600	1000									
#38	150	250	325	600									
7/64	125	200	250		250	*600	*1100				*1500		*2700
1/8	80	125	175		200	*450	*950				*1200	*1800	*2500
5/32		70	85		125	225	*450	*650	*1000		*800	*1350	*2000
3/16	20	30	50		70	150	250	*550	*800				*1400
7/32						90	180	*375	*500	*1000			
1/4		15	20		30	60	125	250	*350	*700			
9/32						40	80	180	225	*600			
5/16					15	25	60	125	180	*500			
11/32								80	130	*370			
3/8						15	30	60	100	250			
7/16									60	180			
1/2						10	15	30		125			
9/16									30	80			
5/8								15		60			
3/4									15	40			
7/8										25			
1-1/16										15			

*Steel Traps Only
Parts in shaded areas are interchangeable but for different pressures.

Table 1
Maximum Working Pressures for Pressure Change Assembly.

B. Maintain Valve and Valve Seat as Matched Set

Armstrong valves and seats have been carefully lapped together and are furnished for installation as matched sets. Do not use a new seat with an old valve or vice-versa.

Installation Procedures

For replacement of an old Armstrong PCA:

1. Remove trap cap and place in vise with mechanism up.
2. Remove bucket, lever and guide pin assembly by removing the two guide plate screws.
3. Unscrew the valve seat.
4. Free cap of all dirt, pipe scale, etc., especially threaded holes.
5. Screw the valve seat into position. Pipe dope or lubricant must not be used on valve seat threads. The seal is made, not by the threads, but by metal to metal contact at the ground end of the valve seat. Make sure the seating area in the trap is clean before screwing the valve seat into position.
6. Mount the guide pin assembly with the two screws provided. The guide pins must always point away from the adjoining gasket surface (See figs. 4 and 5).

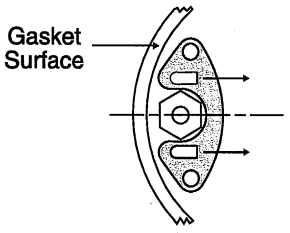

Figure 4
For traps 211, 212, 213 310, 312, 313, 411-G, 421, 800, 811, 812, 813, 880,881, 882, 883, 981, 983

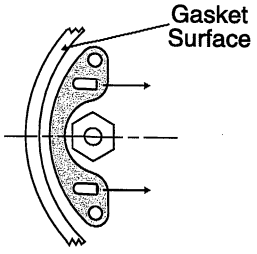

Figure 5
For traps 214, 215, 216, 314 and larger 814, 815 and 816.

7. Attach the valve lever. In a few sizes of traps the valve lever must be attached before mounting the guide pin assembly. However, in most traps the lever is attached after the guide pin assembly has been mounted. The lever simply hooks over the guide pins for installation.

Installation Procedures – continued

8. Check the alignment of guide pins. Hold the lever and valve against the valve seat with the valve contacting its seat and the two fulcrum points resting on the face of the seat. When the lever is held in this position, the guide pins should be central in the guide pin holes, as in Fig. 6. When correctly aligned, the lever will move sideways the same distance to the right as to the left. Should the guide pins be out of line for any reason at all, they should be straightened so that they will be centered in the guide pin holes as shown in Fig. 6. For example, the guide pins in Figs. 7 and 8 have been bent and should be tapped with a hammer to force them in the direction of the arrows. If the pins are too far apart or too close together, a similar procedure should be followed to position them centrally.

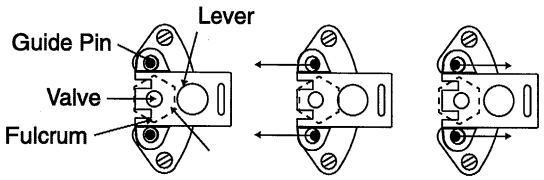

Figure 6 **Figure 7** **Figure 8**

9. Hook bucket to valve lever and remove cap from vise. The trap is now ready for assembly.

Important: An additional adjustment is required for the following traps:

No. 216, 316, 416, 816 Traps With 1-1/16" Orifice

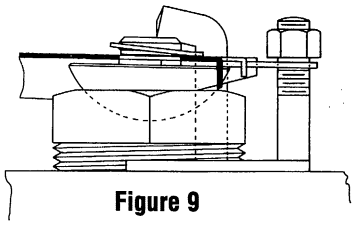

Figure 9

A stop lock nut, as shown in Fig. 9 must be installed in traps No. 216, 316, 416, 816 with 1-1/16" Orifice.

After you have installed the PCA in accordance with the recommended procedures, these additional steps are required:

1. Hold the valve in the valve seat with the two fulcrum points resting on the face of the valve seat.
2. Using an adjustable wrench, turn the stop lock nut down on its post until there is approximately 1/32" clearance between the nut and the extension of the valve lever which is under the nut.

No. 214, 314, 414, 814 Traps With 5/8" and ½" Orifice
No. 215, 315, 415, 815 Traps With ¾" and 9/16" Orifice

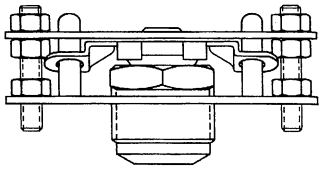

Figure 10

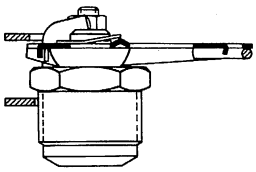

Figure 11

A positive closing mechanism, as shown in Fig. 10 and 11, must be installed in traps No. 214, 314, 414, 814 with 5/8" and ½" orifices only, and No. 215, 315, 415, 815 with ¾" and 9/16" orifices only. The following additional steps are required to install the positive closing bar:

1. Two studs and two nuts will replace guide plate screws. Tighten nuts to secure guide plate.
2. Install two nuts, positive closing bar and two more nuts as shown. Tighten nuts lightly only!
3. Push down on the valve, making sure the valve is seated and the fulcrums are in contact with the top of the valve seat. Check the clearance between the lever and the positive closing bar. There should be about 1/64" clearance.
4. Turn the nuts to adjust positive closing bar and obtain proper clearance. When a satisfactory adjustment is obtained, tighten the nuts holding the positive closing bar. Check the free motion at the end of the lever to make sure the adjustment did not change.