

# Tempress Pressure Balancing Valve INSTALLATION INSTRUCTIONS

**NEWPORT BRASS.**  
*The Luxury of Style*

Valve Body No. I-505

as used with Tub and Shower Fittings

## Description

This valve is precision engineered to provide satisfactory performance provided it is installed and operated in accordance with our recommendations contained in these instructions. In order to fully enjoy the comfort, safety and the reliability of this valve, be certain to familiarize yourself with these instructions.

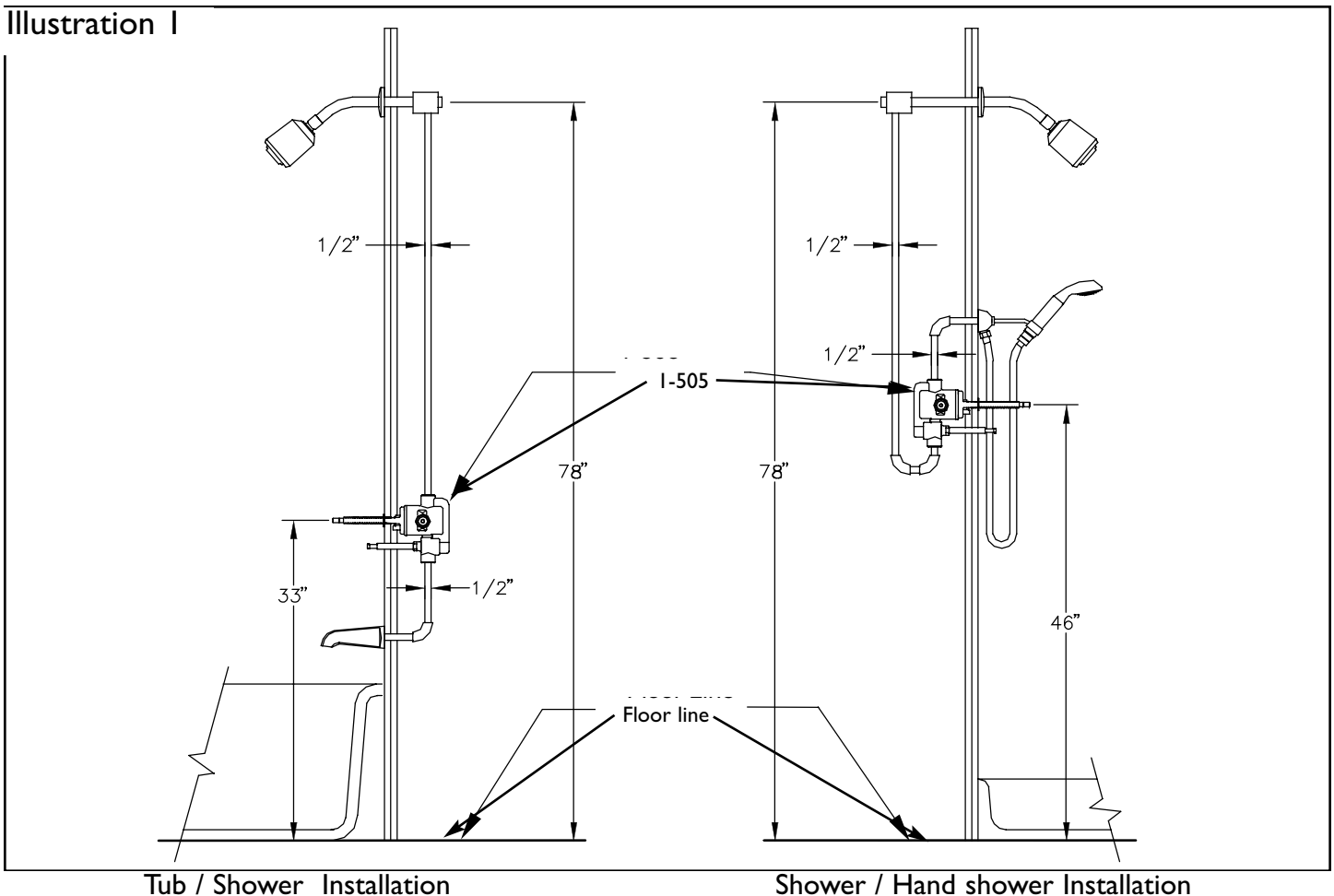
## Operation

The pressure balancing cartridge contained in this valve compensates for pressure fluctuations in the water supply system through a diaphragm-connected pressure balancing mechanism. The outlet temperature will change by no more than a mere  $\pm 2^{\circ}\text{F}$  ( $1^{\circ}\text{C}$ ) with a 50% drop in either the hot or cold water pressure. Even if the cold water pressure fails completely, the anti-scald design will reduce the flow rate to a safe level ensuring reliable protection against scalding. The built-in check valves prevent cross flow between the hot and cold supplies.

## Specifications

Minimum operating pressure	20 psi Dynamic
Maximum operating pressure	145 psi
Maximum test pressure	500 psi
Hot and cold water inlets	1/2" IPS or CxC
Shower outlet	1/2" IPS or CxC
Flow capacity	5USGPM @ 50 psi
Finished wall adjustment	See Illustration 2.

Illustration 1



Make sure valve is securely fastened to studs. Be sure to remove trim items, handles, escutcheons and plates before installation. Wrap carefully and store until finished wall is completed.

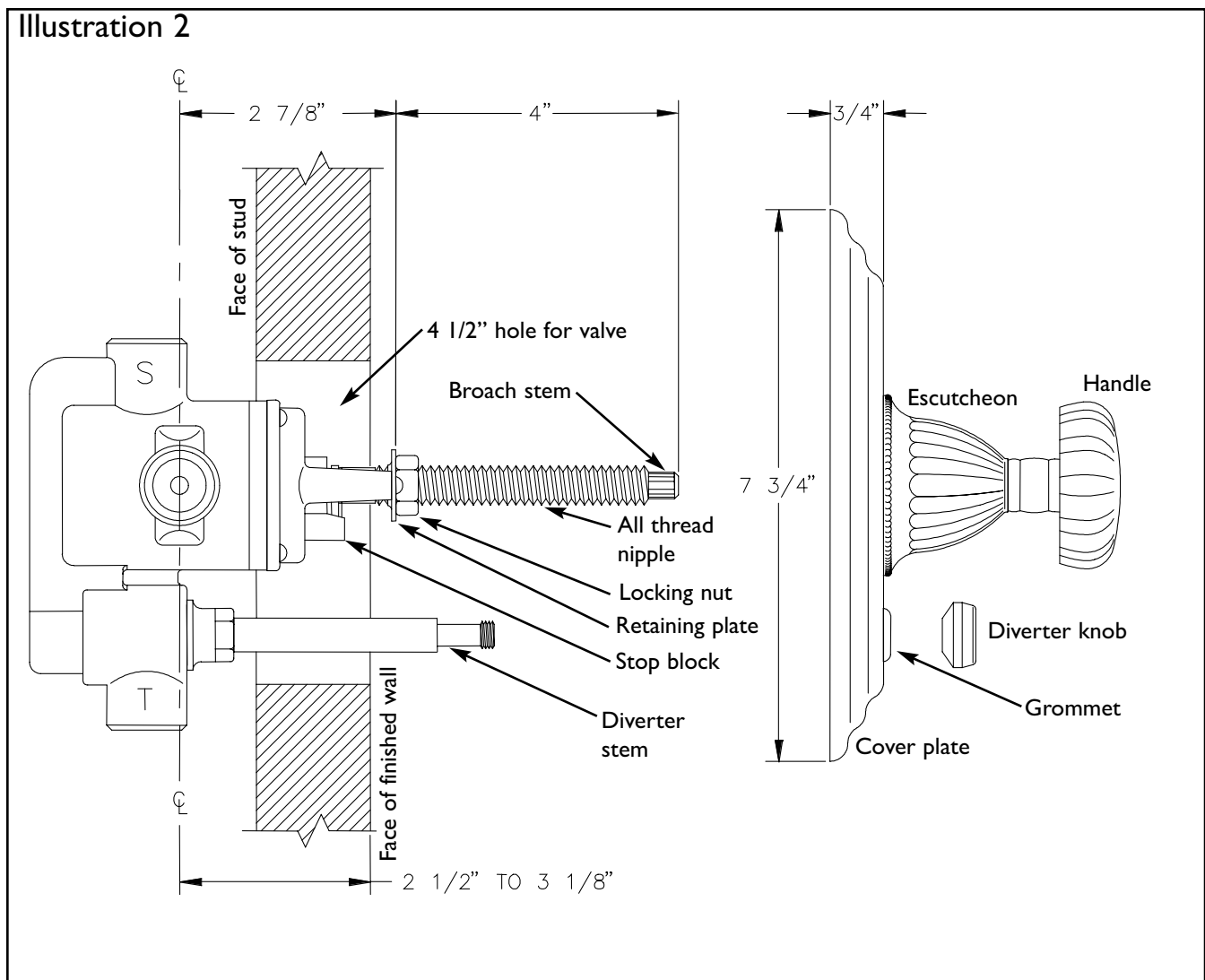
Install the valve by positioning the 1/2" shower outlet in the up position. If installing showerhead & hand shower configuration, plumb showerhead from tub port (T) and hand shower from shower port (S). Finished wall must be within dimensions shown in illustration 2.

On tiled wall surfaces, grouting must be either flush or raised for proper sealing of the cover plate.

**IMPORTANT:** It is not necessary to remove the cartridge from the valve during NORMAL soldering operations. When soldering CxC connections, do not solder within 4" of valve port. To test pipe joints, pressurize both hot and cold inlets.

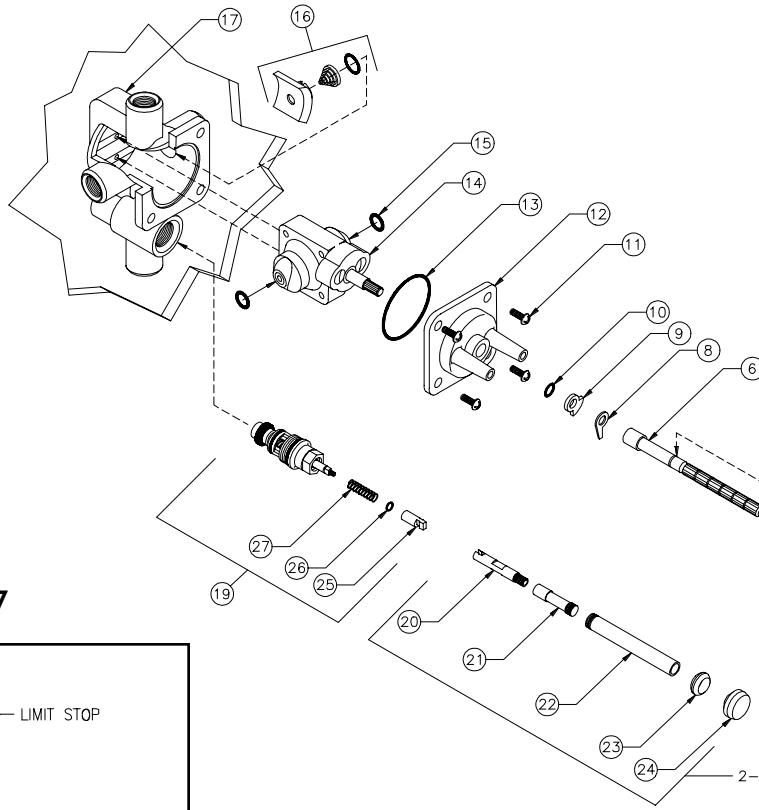
### Installing Trim

Thread plastic upper link (Item 20) into finished post (Item 21). Insert assembled post onto end of diverter stem (Item 25), then slide finished sleeve (Item 22) over attached items and screw sleeve into diverter housing. Place coverplate on valve stem while sliding diverter trim through rubber grommet. Screw on escutcheon trim and mark all-thread nipple (Item 2) where excess needs to be cut off. (NOTE: For stem to be fully seated into cartridge, all-thread nipple and locking nut must be tightly secured against retaining plate.) Place handle on stem. Measure excess between escutcheon and handle base. Remove handle and cut previously measured excess from end of stem (Item 6). Reinstall handle and tighten set screws. (Refer to Illustrations 2 and 3.)



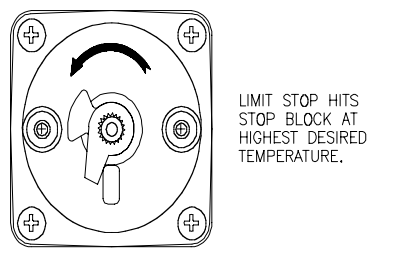
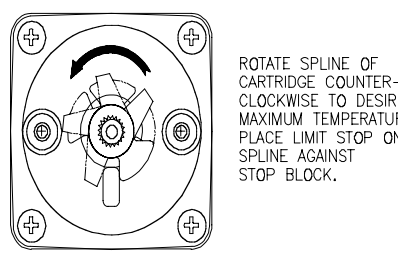
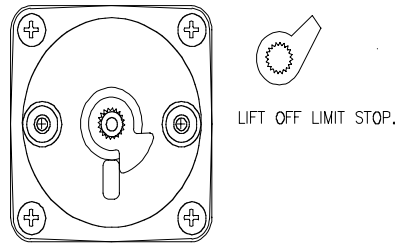
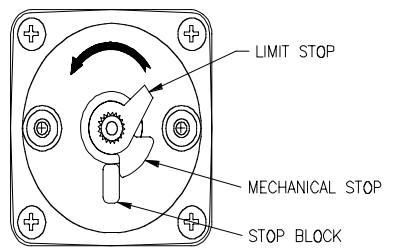
**NOTE:** Dimensions shown are from the inlet ports to the finished wall.

Illustration 3



ITEM	QTY	DESCRIPTION	P.N.
2	1	ALL-THREAD NIPPLE	10631
3	2	RETAINING PLATE SCREW	92013
4	1	RETAINING PLATE	10466
5	1	O-RING	91099
6	1	FULL BROACH	10632
7	1	LIMIT STOP	10493
8	1	MECHANICAL STOP	10494
9	1	O-RING	91049
10	1	COVER SCREW	10714
11	4	VALVE BODY COVER	-
12	1	COVER O-RING	-
13	1	CARTRIDGE	1-028
14	1	CARTRIDGE O-RING	-
15	2	CARTRIDGE SEAT/FILTER ASSY	1-068
16	1	VALVE BODY	-
17	1	LOCKING NUT	10259
18	1	DIVERTER VALVE ASSY	1-043
19	1	UPPER LINK	91065
20	1	STEM-BRASS	10497
21	1	SLEEVE-BRASS	10496
22	1	GROMMET	91033
23	1	KNOB-BRASS	10498
24	1	LOWER LINK	91101
25	1	O-RING	91100
26	1	SPRING	10499
27	1		

Illustration 4-7



### Setting the Temperature Limit Stop

This valve has an upper temperature limit stop (Item 7), which can allow desired and safe hot water temperature (recommended maximum is 110°F). This stop may be adjusted once the valve is installed. Before making this adjustment, run the water with the valve turned to the hot setting. If the water temperature is too high in this position, then perform the following adjustments:

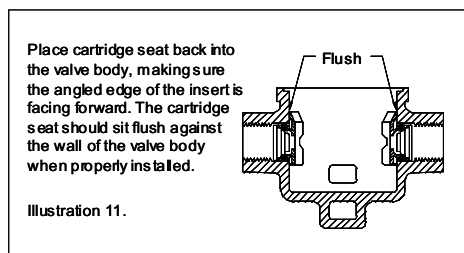
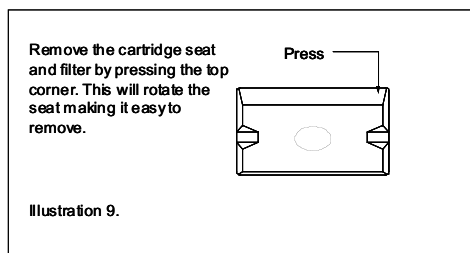
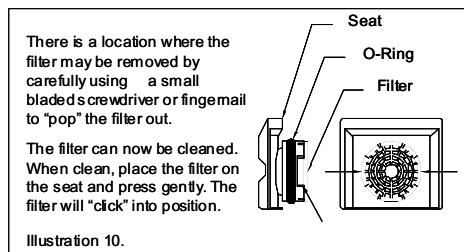
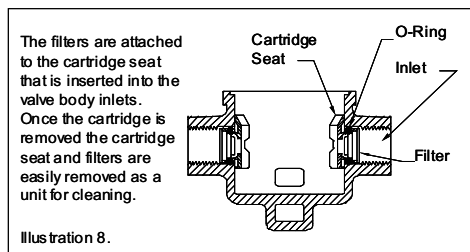
- Remove the trim (handle, escutcheon and cover).
- Remove the all-thread nipple, retaining screws and retaining plate (Items 1, 3 and 4 respectively).
- Remove the broach (Item 6) and the limit stop (Item 7). Do not remove the mechanical stop (Item 8). If for any reason the mechanical stop or the cartridge is removed, the following steps must be performed:
  1. Close the valve by turning the cartridge stem clockwise until it stops, (Do not forcefully rotate).
  2. Position the mechanical stop on the cartridge against the stop block as shown in Illustration 5 and continue with the following steps.
    - From the CLOSED position, rotate the cartridge stem counter-clockwise until the desired temperature is achieved.
    - Place the limit stop (Item 8) on the cartridge stem against the stop block as shown in Illustration 7. Rotate several times to make sure the stop is at the desired temperature setting.
    - Replace the full extension broach, retaining plate and screws, all-thread, nipple and locking nut. (NOTE: For stem to be fully seated into cartridge, all-thread nipple and locking nut must be tightly secured against retaining plate.)

**\*WARNING!** Never try to stop dripping by applying extreme force or over-tightening the handle.

MALFUNCTION	CAUSE	REMEDY
Opening immediately to hot water.	Hot and cold water supplies have been connected in reverse.	Rotate cartridge. (See Page 3)
Water drips after shutting off the valve.	Residual water in valve and piping.  Incorrect setting of the mechanical stop against the stop block causing a partially opened cartridge.  O-ring seal on the inlet of the cartridge is faulty or seat assembly is damaged.	Allow approximately 3-8 minutes to drain.*  Reset the mechanical stop. (See Page 3)  Check the O-ring & seat for cuts or overheating damage during installation. Replace if necessary.
Water insufficiently hot.	Adjustable handle position stop incorrectly set.	Refer to the instruction on "Setting Temperature Limit Stop".
Valve body too deep into wall.	The measured rough in or finished wall surface is incorrect.	Reset the valve.
Diverter will not stay on during shower.	Not enough backpressure between showerhead and diverter valve.	Flow restrictor @ shower head 2.5 GPM
No or low flow of hot or cold water.	Either the hot or cold side is not fully pressurized.  Debris caught inside the inlet of the cartridge.  Debris caught inside filter or inlet ports	Verify that all service stops for both the hot and cold are fully open and pressurized.  Remove the cartridge (See Page 3). If debris is lodged in the inlet check valve, the white poppet will be stuck in the open (down) position. The debris can be removed with a straightened paper clip or fine wire. Gently insert the wire and move it in a circular motion to dislodge any debris.  Remove cartridge and follow illustrations 8 thru 11 below.

### Cleaning the Filter

The Tempress II Integral Diverter Valve has filters that prevent debris from clogging the pressure balance cartridge. If these filters become clogged, you will notice a decrease in flow from the valve.



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