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RK-PAD-KPFS ELASTOMERIC PAD REPLACEMENT KIT INSTRUCTIONS FOR MODEL KPFS LIQUID LEVEL FLOAT SWITCH

NOTE: Two styles of bleed valves have been produced for model KPFS Float Switches. A needle valve style and an elastomeric pad style. These instructions are for the elastomeric pad style bleed valve and require the RK-PAD-KPFS elastomeric pad replacement kit. If your KPFS has the needle style bleed valve, an RK-KPFS-PAD-CONV (-T) kit is required. This kit will convert your current needle style valve to the elatomeric pad style valve. Due to the unavailability of the needle, this is the required repair path for all needle operated KPFS units that still have valves and switches that are in good operating order but require a new needle.

RK-PAD-KPFS ELASTOMERIC PAD REPLACEMENT KIT

The RK-PAD-KPFS is the elastomeric pad replacement kit for the Kenco pneumatic float switch model KPFS with the elastomeric pad style bleed valve. The kit includes the adjustable bleed valve seat, extra valve mounting screws, lock washers and o-rings and the elastomeric pad bleed valve seal with extra hardware incuded for the switch assembly as well. These components are shown in figure 1. To get started with pad replacement, the valve and switch assembly must be removed.

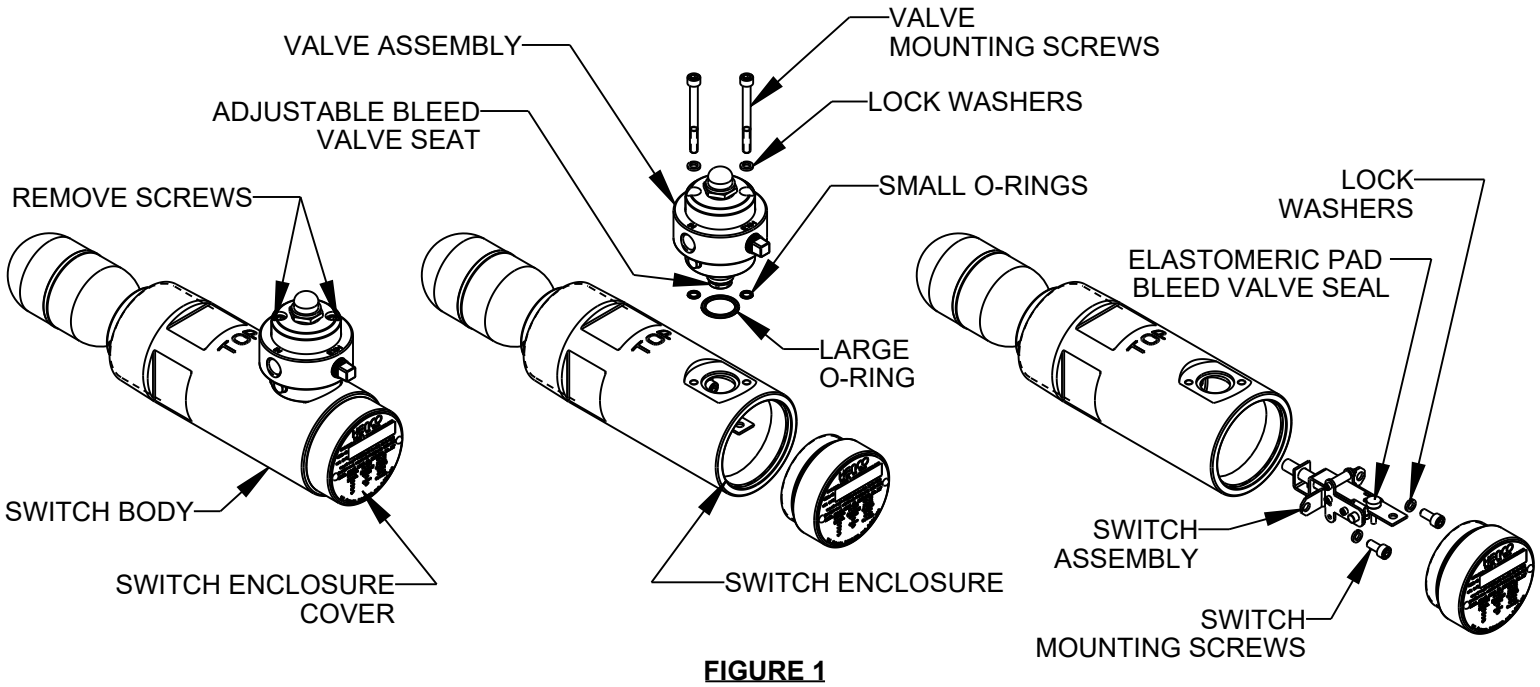
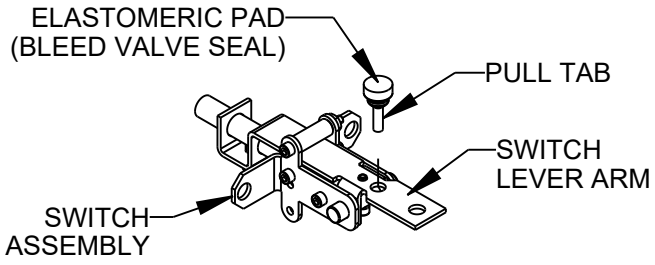


FIGURE 1

Refer to the illustrations in figure 1 for the valve removal process.

REMOVE VALVE AND SWITCH ASSEMBLY:

1. Turn off the supply line pressure to the valve if the system is pressurized.
2. Disconnect the supply and outlet lines. Disconnect the exhaust line if equipped.
3. Remove the switch enclosure cover.
4. Remove the two mounting screws holding the valve assembly in place and discard.
5. Remove the valve assembly and set aside.
6. Remove all of the o-rings and discard.
7. Remove the two mounting screws holding the switch assembly in place and discard.
8. Remove the switch assembly.
9. Make sure the valve mounting surface on the switch body is clean and free of any dirt or debris. The KPFS is now ready to have the new adjustable bleed valve seat and elastomeric pad installed.



NOTE: -LR Switch assembly shown but instructions apply to -LF version as well

FIGURE 2

REPLACE ELASTOMERIC PAD

1. Remove the old elastomeric pad bleed valve seal from the switch assembly by simply pulling it out. Be careful here as it is easy to bend the switch lever arm which could prevent the KPFS from functioning properly.
2. Install the new elastomeric pad bleed valve seal by inserting it into the hole on the switch lever arm as shown in figure 2 and pulling on the pull tab from the bottom side of the switch lever arm. Again, take care not to bend the switch lever arm.
3. Reinstall the switch assembly using the two new screws and lockwashers in the RK-PAD-KPFS valve replacement kit. Refer to Figure 1 if needed.

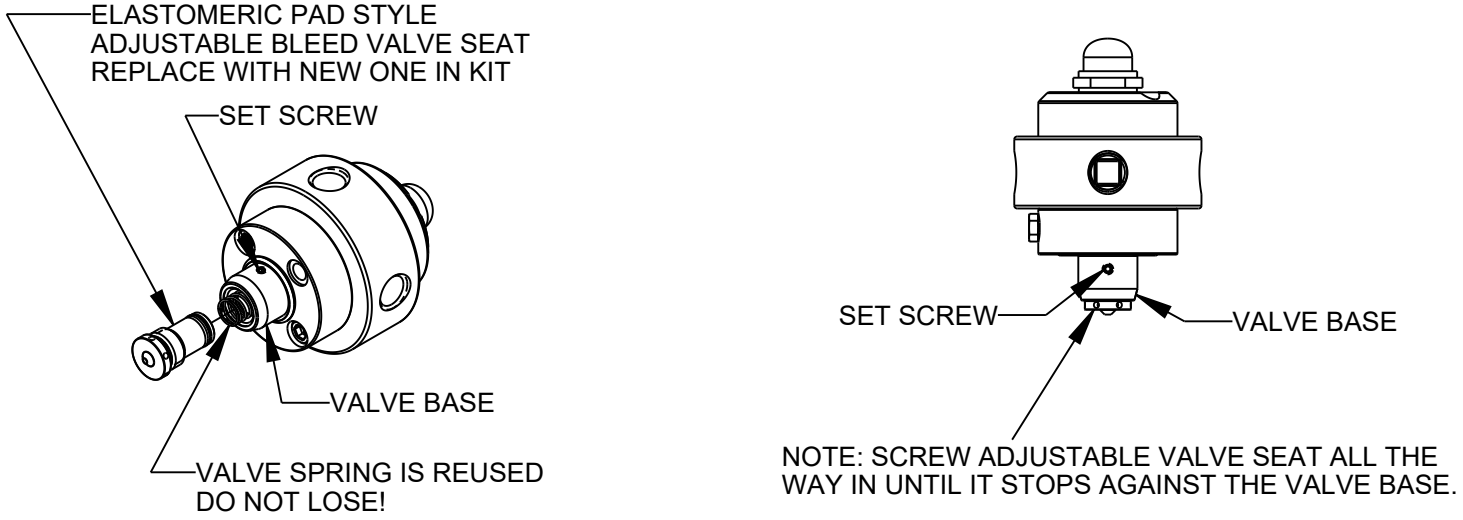


FIGURE 3

REPLACE ELASTOMERIC PAD STYLE ADJUSTABLE BLEED VALVE SEAT

1. Locate the setscrew in the valve using Figure 3 as a reference. This setscrew locks the elastomeric pad style adjustable bleed valve seat in place. Loosen the setscrew and remove the old adjustable bleed valve seat by unscrewing it from the valve base. You can use the included .050" "L" shaped allen wrench included in the kit to make removing the adjustable bleed valve seat easier. Use the allen wrench by simply sticking it in one of the 6 holes that are around the perimieter of the adjustable bleed valve seat and use the wrench as a handle to turn the seat. Note that there may be a spring on top of the seat. If your valve has the spring, make sure it stays in the valve. See Figure 3
2. Screw the new elastomeric pad style adjustable bleed valve seat into the valve. Screw it all the way in until it bottoms out on the valve base as shown in Figure 3. Lightly tighten the set screw. It needs to be tightened down a little bit to prevent it from sticking out of the valve base which will cause it to hang up on the hole in the switch body when you try to reinstall it in the KPFS.
3. Reinstall the valve using the reverse procedure used to install it. Refer to Figure 1 on page 1 if necessary.
4. If you have not installed the switch cover yet, go ahead and do so now.
5. Before the KPFS can be put back into service, it must be adjusted, Refer to "VALVE SETUP" on page 3.

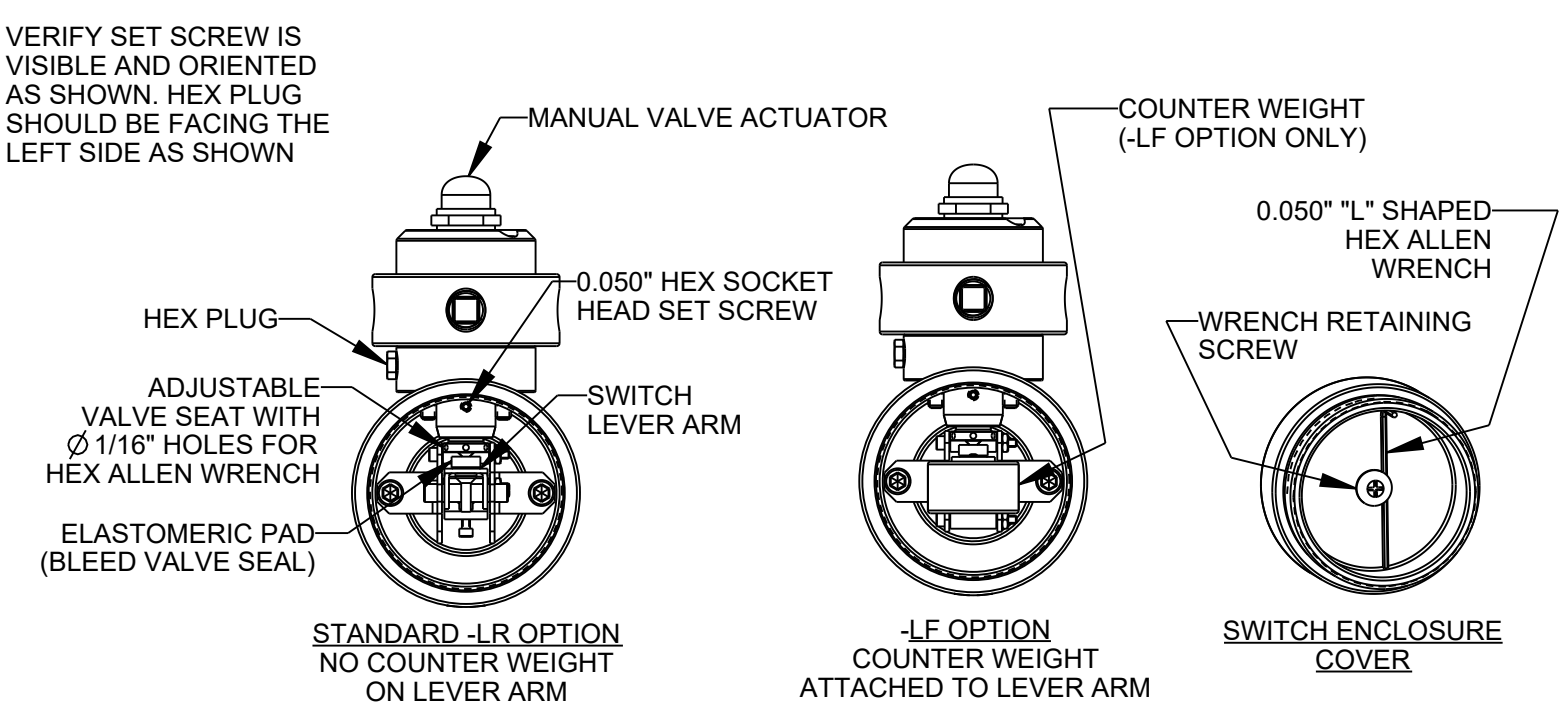


FIGURE 4

VALVE SETUP

Note: *For safety reasons, KENCO Engineering recommends the use of air when setting up the valve. If natural gas is being used as the supply gas, temporarily connect a portable tank pressurized with air to the KPFS valve. Make sure the supply pressure is within the rated range of 30-75 PSI and the air is clean and dry. Once the valve is adjusted, disconnect the portable air tank and reconnect the supply gas.*

- Make sure the switch float is in the "valve closed" position. On the KPFS-LR model, the switch float will need to be in the down position. On the KPFS-LF model, the switch float will need to be in the up position. You will know which model you have by the model number on the switch enclosure cover name tag. In addition to this, the KPFS-LF has a counter weight attached to the lever arm and the KPFS-LR does not. See illustrations in Figure 4.
- Turn off the air supply line pressure to the valve if system is pressurized.
- Remove the switch enclosure cover on the end of the switch body.
- Remove the 0.050" "L" shaped hex allen wrench from inside the switch enclosure cover by loosening the wrench retaining screw.
- Using the 0.050" "L" shaped hex allen wrench supplied with the switch, loosen the hex socket head set screw located at the 12 o'clock position inside the switch enclosure. *Important: Only loosen the hex socket head set screw 1/2 to 1 turn. Anymore than this may cause the set screw to fall out and become lost.*
- The adjustable valve seat is designed to be raised and lowered using the "L" shaped hex allen wrench supplied with the switch. There are six holes in the seat and you can only turn one hole at a time. It takes six turns to rotate the seat one complete revolution. A good starting point for adjustment is to raise the adjustable valve seat until it bottoms out against the valve base and then screw it back out one half of a revolution. To accomplish this insert the long end of the wrench into one of the holes in the adjustable valve seat and turn it to the right as far as possible before moving the wrench to the next hole.
- Once the adjustable valve seat is bottomed out against the valve base, lower the needle valve seat 3 turns to the left or one half of a revolution.

  Important: Great care must be taken here. If the adjustable valve seat is lowered so much that the lever arm is in a bind, damage to the elastomeric pad (bleed valve seal) and/or lever arm can occur. During adjustment, continuously check the movement of the lever arm by gently toggling it with your finger to make sure it moves up and down freely. If the lever arm does not move up and down freely, the adjustable valve seat has been lowered too much and has the lever arm in a bind. If this is the case, raise the adjustable valve seat by turning the wrench to the right until the lever arm moves freely.
- With this starting point established, pressurize the system somewhere within the 30-75 psig switch pressure range.
- Air should be leaking from the adjustable valve seat. If it is not, toggle the lever arm or switch float to verify that the valve is shifting properly.

  Note: If air is still not leaking from the adjustable valve seat, raise the seat by turning the wrench to the right until you hear the air leaking.
- While the air is leaking, pay close attention to the sound it makes as it leaks out.
- Slowly lower the adjustable valve seat by turning the wrench to the left until you hear the air stop leaking.
- When you hear the air stop leaking, lower the adjustable valve seat an additional 1 to 1-1/2 turns. This will put the right amount of preload on the adjustable valve seat to ensure that the valve opens when the switch float is level.
- Gently toggle the lever arm a few times to make sure it moves up and down freely and to verify that the valve is opening and closing properly.
- Tighten the hex socket head set screw.
- Reinstall the hex allen wrench inside the switch enclosure cover and reinstall the switch enclosure cover.
- Your KPFS is now ready for operation.