



Spring Kit Procedure for Use with V-3000-8001 or V-3000-8003 Pneumatic Actuators

The procedure covered in this document describes the recommended method to install or replace the spring used with T-3000, V-3000-8001, or V-3000-8003 Pneumatic Valve Actuators.

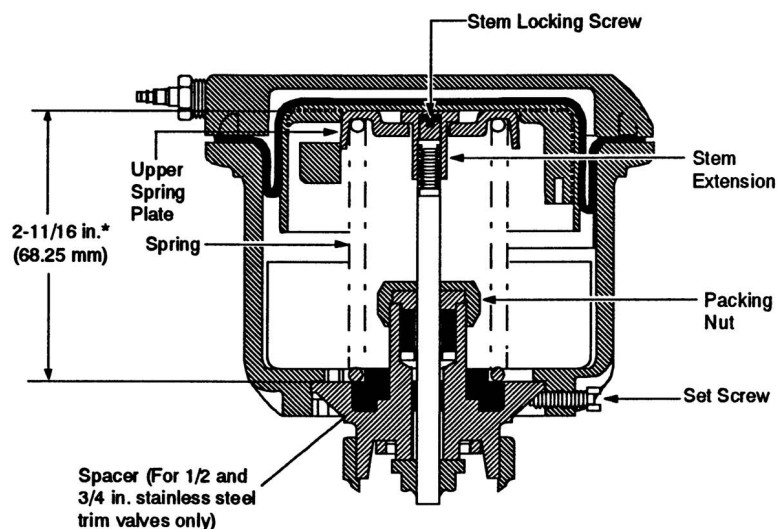
Kit Includes (See Figure 1)

- one spring
- one upper spring seat
- one stem extension
- one stem locking screw (set screw)
- one spacer (For 1/2 and 3/4 in. valve kits only)

Tools Required

- standard screwdriver
- pliers
- 9/16 in. (14 mm) box or open end wrench
- JC 5216, squeeze bulb (Contact a Johnson Controls representative to order.)
- JC 5389, spring compression tool.

Note: Some of the older spring compression tools do not fit the V-3000-8001 Spring Kits. The I.D. of the inner spring compressor must be 2 in. to fit over the VG7000 valve springs.
(Contact a Johnson Controls representative to order.)



*Note: Gauge height is from top of bonnet to top of upper spring plate.

Figure 1: Typical Representation of V-3000 Actuator

Actuator Removal Procedures

Disconnect the air line attached to the actuator and cap it to prevent control system operation problems. Make sure that the pressure in the actuator has been relieved.

The actuator is easily removed by loosening the set screw and lifting the actuator off of the valve.



CAUTION: The spring under the actuator is attached to the valve and is precompressed. Unknown damage to the valve stem may create a hazardous condition.

Spring Removal Procedures

1. For reinstallation purposes, note the position of the stem extension relative to the stem. Place the locking base of the spring compression tool (JC 5389) over the spring (align with pilot arm on upper spring plate) and attach it securely to the valve bonnet, using the knurled set screws (refer to Figure 2).
2. Insert the spring compressor portion of the tool over the spring and using hand pressure compress the spring and slightly rotate the compressor to engage the locking stud into the slot in the locking base.

3. Using a 9/16 in. or 14 mm box or open end wrench, hold the stem extension while loosening the stem locking screw with a screwdriver. Unscrew the stem extension. Using hand pressure, carefully disengage the top half of the spring compression tool (JC 5389) and allow the spring to expand to its relaxed position. Remove the upper spring plate, spring, and compression tool from the valve.
4. Reverse the procedure to reinstall the spring assembly and actuator. Verify that the spring gauge height is properly set according to Figure 1.

Note: For 1/2 and 3/4 in. stainless steel trim VG7000 Valves, a spacer must be installed onto the bonnet, prior to installing the spring.

Isolate and bleed the internal pressure from the valve. Then, remove the packing nut and install the spacer. Replace and tighten the packing nut until it is firmly seated. Over tightening of the packing nut may cause the stem to bind.

Valve/Actuator Commissioning Procedure

When the spring and actuator have been reinstalled, check the following items:

1. Verify that all threaded parts have been tightened.
2. Verify that when air is applied to the actuator, the valve stem moves to its full up or down position. (If necessary, a squeeze bulb (JC 5216) can be used to manually verify operation of the valve.)

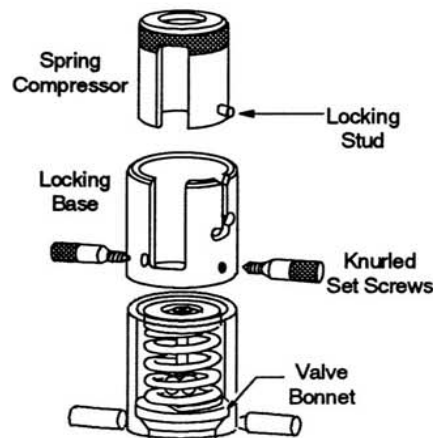


Figure 2: Spring Removal Details