

Product Manual 26371 (Revision A) Original Instructions



8", 10", and 12" Globe Valves

GE Tag Numbers FCV4540, FCV4541, PCV0150, TCV4539, FV4525 Supplement to Manual 26367

Hydro Test and Blow-down Procedure



Read this entire manual and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment.

Practice all plant and safety instructions and precautions.

Failure to follow instructions can cause personal injury and/or property damage.



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Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment. Any such unauthorized modifications: (i) constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage, and (ii) invalidate product certifications or listings.



If the cover of this publication states "Translation of the Original Instructions" please note:

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Revisions—Changes in this publication since the last revision are indicated by a black line alongside the text.

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Warnings and Notices

Important Definitions



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

- **DANGER**—Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING**—Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION**—Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE**—Indicates a hazard that could result in property damage only (including damage to the control).
- **IMPORTANT**—Designates an operating tip or maintenance suggestion.

| WARNING Overspeed / Overtemperature / Overpressure | The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage. The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate. |
|--|--|
| WARNING | The products described in this publication may present risks that could lead to personal injury, loss of life, or property damage. Always wear the appropriate personal protective equipment (PPE) for the job at hand. Equipment that should be considered includes but is not |

Personal Protective Equipment

- Eye Protection
- Hearing Protection
- Hard Hat
- Gloves

limited to:

- Safety Boots
- Respirator

Always read the proper Material Safety Data Sheet (MSDS) for any working fluid(s) and comply with recommended safety equipment.

WARNING Start-up

Be prepared to make an emergency shutdown when starting the engine, turbine, or other type of prime mover, to protect against runaway or overspeed with possible personal injury, loss of life, or property damage.



Applications

On- and off-highway Mobile Applications: Unless Woodward's control functions as the supervisory control, customer should install a system totally independent of the prime mover control system that monitors for supervisory control of engine (and takes appropriate action if supervisory control is lost) to protect against loss of engine control with possible personal injury, loss of life, or property damage.

NOTICE

To prevent damage to a control system that uses an alternator or battery-charging device, make sure the charging device is turned off before disconnecting the battery from the system.

Battery Charging Device

Electrostatic Discharge Awareness

| 1 | |
|------------------------------|---|
| NOTICE | Electronic controls contain static-sensitive parts. Observe the following precautions to prevent damage to these parts: |
| Electrostatic Precautions | Discharge body static before handling the control (with power to the control turned off, contact a grounded surface and maintain contact while handling the control). Avoid all plastic, vinyl, and Styrofoam (except antistatic versions) around printed circuit boards. Do not touch the components or conductors on a printed circuit board with your hands or with conductive devices. To prevent damage to electronic components caused by improper handling, read and observe the precautions in Woodward manual 82715, Guide for Handling and Protection of Electronic Controls, Printed Circuit Boards, and Modules. |

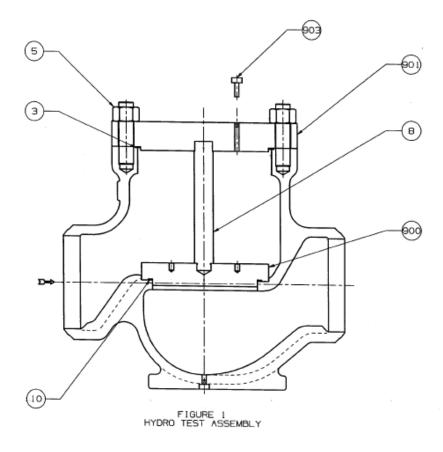
Follow these precautions when working with or near the control.

- 1. Avoid the build-up of static electricity on your body by not wearing clothing made of synthetic materials. Wear cotton or cotton-blend materials as much as possible because these do not store static electric charges as much as synthetics.
- 2. Do not remove the printed circuit board (PCB) from the control cabinet unless absolutely necessary. If you must remove the PCB from the control cabinet, follow these precautions:
 - Do not touch any part of the PCB except the edges.
 - Do not touch the electrical conductors, the connectors, or the components with conductive devices or with your hands.
 - When replacing a PCB, keep the new PCB in the plastic antistatic protective bag it comes in until you are ready to install it. Immediately after removing the old PCB from the control cabinet, place it in the antistatic protective bag.

7H - FCV4540

Hydro Test Procedure

- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25).
- 2. Remove Bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove Plug and Cage (items 15 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove Seat Ring and Gasket (items 9 and 10). Refer to Chapter 3 of Woodward manual 26367.
- 5. Install blank seat ring and gasket (items 900 and 10).
- 6. Install new testing rod (item 8).
- 7. Install new bonnet gasket in groove (item 3).
- 8. Install bonnet plate (item 901).
- 9. Install bonnet nuts and torque (item 5). Refer to Chapter 3 of Woodward manual 26367.
- 10. Use vent plug (item 803) to evacuator air if needed.
- 11. Proceed to system test.



NOTE:

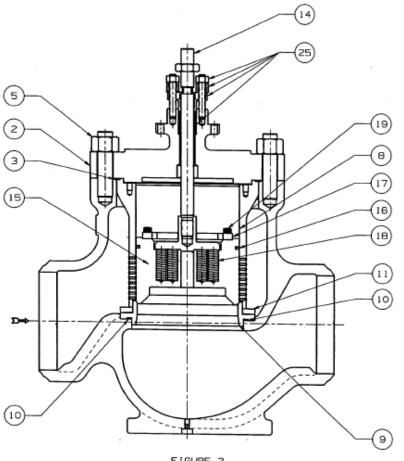


FIGURE 2 STANDARD ASSEMBLY

- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –278 O-ring (item 808) and –262 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –262 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Carefully, install blow-down bonnet (item 805) to align with outlet blow-down support tube (item 807).
- 7. Install bonnet nuts (item 5) and torque to proper value. Refer to Chapter 3 of Woodward manual 26367.
- 8. Proceed to system outlet blow-down test.

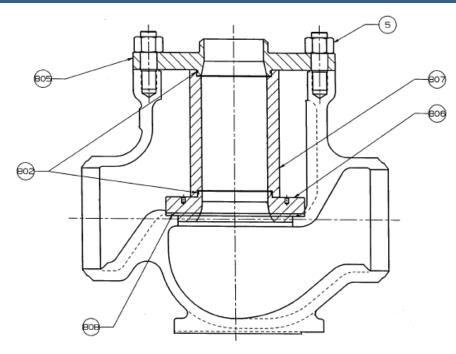


FIGURE 3 OUTLET BLOW DOWN ASSEMBLY

| | F | lydro-Test Procedure (Figure 1) |
|------|-----|----------------------------------|
| Item | QTY | Description |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 10 | Hex Nut |
| 8 | 1 | Test Rod |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| | | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 10 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat |
| 10 | 1 | Seat Ring Gasket |
| 11 | 1 | Load Ring |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 16 | 1 | Piston Ring |
| 17 | 1 | Pilot Retaining Plate |
| 18 | 23 | Pilot Spring |
| 19 | 8 | Socket Head Cap Screw |
| 25 | 1 | Packing Mode |
| | | outlet Blow Procedure (Figure 3) |
| 802 | 2 | Tube O-ring |
| 805 | 1 | Bonnet Plate |
| 806 | 1 | Blow Seat Ring |
| 807 | 1 | Blow Support Tube |
| 808 | 1 | Seat O-Ring |

9H - FCV4540

Hydro Test Procedure

- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25).
- 2. Remove bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove plug and cage (items 14 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove load ring, seat ring, gasket (items 9, 10, & 11). Refer to Chapter 3 of Woodward manual 26367.
- 5. Screw test rod (item 601) into blank seat (item 900), then install blank seat ring and seat gasket (items 900 and 10).
- 6. Install new bonnet gasket in groove (item 3).
- 7. Install bonnet plate (item 901).
- 8. Install bonnet nuts and torque (item 5). Refer to Chapter 3 of Woodward manual 26367.
- 9. Use vent plug (item 903) to evacuate air if needed.
- 10. Proceed to system test.

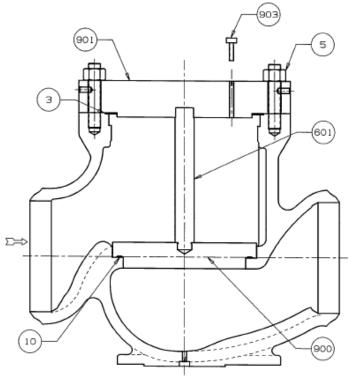


FIGURE 1

NOTE:

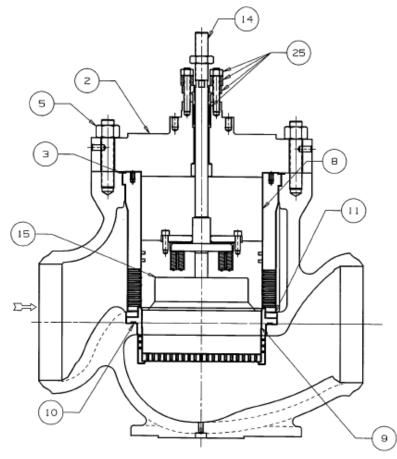
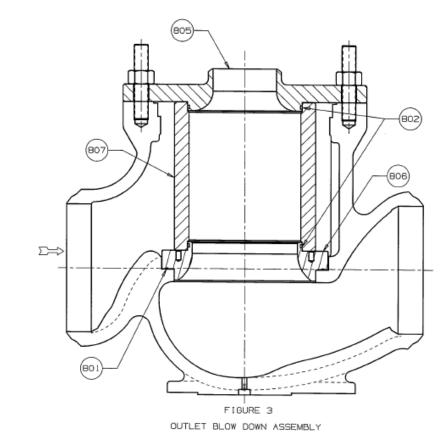


FIGURE 2

- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –280 O-ring (item 801) and –377 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –377 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Carefully, install blow-down bonnet (item 805) to align with outlet blow-down support tube (item 807).
- 7. Install bonnet nuts (item 5) and torque to proper value. Refer to Chapter 3 of Woodward manual 26367.
- 8. Proceed to system outlet blow-down test.

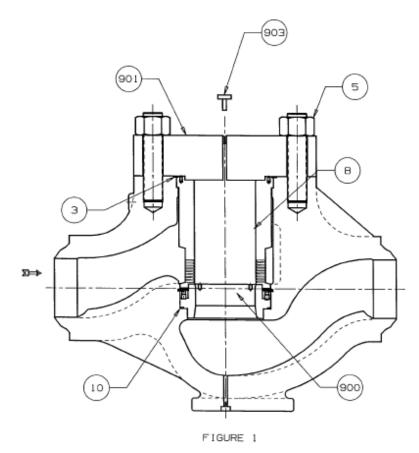


| | н | lydro-Test Procedure (Figure 1) |
|------|-----|---------------------------------|
| ltem | QTY | Description |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 20 | Hex Nut |
| 601 | 1 | Test Rod |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| | _ | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 20 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat Assembly |
| 10 | 1 | Seat Gasket |
| 11 | 1 | Load Ring |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 25 | 1 | Packing Mode |
| | o | utlet Blow Procedure (Figure 3) |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 805 | 1 | Blow-down Bonnet |
| 806 | 1 | Outlet Blow Seat Ring |
| 807 | 1 | Support Tube - Outlet |

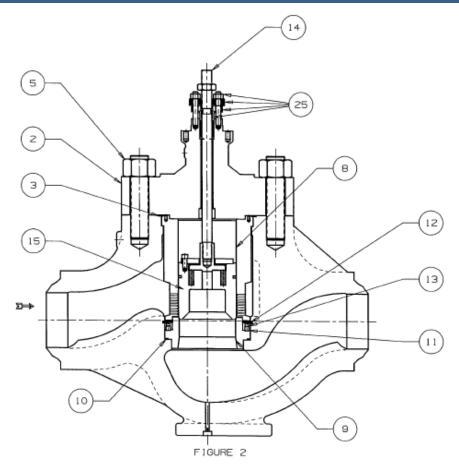
7H / 9H - FCV4541

Hydro Test Procedure

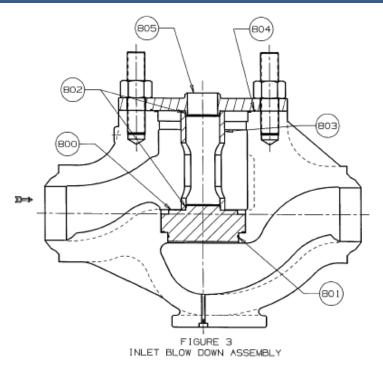
- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25)
- 2. Remove Bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove Plug and Cage (items 14 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove Seat Ring, Gasket (items 9 and 10). Refer to Chapter 3 of Woodward manual 26367.
- 5. Install blank seat ring and gasket (items 900 and 10).
- 6. Re-install cage (item 8). Refer to Chapter 3 of Woodward manual 26367.
- 7. Install new bonnet gasket in groove (item 3).
- 8. Install bonnet plate (item 901).
- 9. Install bonnet nuts and torque (item 5). Refer to Chapter 3 of Woodward manual 26367.
- 10. Use vent plug (item 803) to evacuator air if needed.
- 11. Proceed to system test.



NOTE:



- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –269 O-ring (item 801) and –156 O-ring (item 802) onto inlet blowdown seat ring (item 800).
- 3. Install inlet blow-down seat ring into valve body.
- 4. Install inlet blow-down support tube with a hole biased toward inlet and hole biased downwards onto seat ring.
- 5. Install –156 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –279 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with inlet blow-down support tube.
- 8. Install bonnet nuts (item 301) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system inlet blow-down.



- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –269 O-ring (item 801) and –156 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –156 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –279 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with outlet blowdown support tube.
- 8. Install bonnet nuts (item 304) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system outlet blow-down.

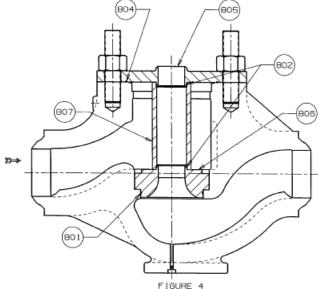


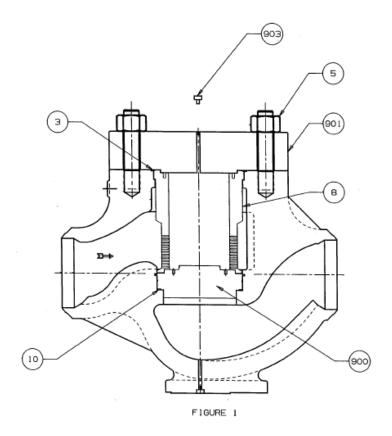
FIGURE 4 OUTLET BLOW DOWN ASSEMBLY

| | н | lydro-Test Procedure (Figure 1) |
|------|-----|---------------------------------|
| Item | QTY | Description |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| | | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat Assembly |
| 10 | 1 | Seat Gasket |
| 11 | 1 | Load Ring |
| 12 | 1 | Seat Ring Retainer |
| 13 | 24 | Load Ring Screw |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 25 | 1 | Packing Mode |
| | I | nlet Blow Procedure (Figure 3) |
| 800 | 1 | Blow Seat Ring |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 803 | 1 | Inlet Support Tube |
| 804 | 1 | Bonnet O-ring |
| 805 | 1 | Bonnet Plate |
| | | utlet Blow Procedure (Figure 4) |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 804 | 1 | Bonnet O-ring |
| 805 | 1 | Bonnet Plate |
| 806 | 1 | Blow Seat Ring |
| 807 | 1 | Outlet Support Tube |

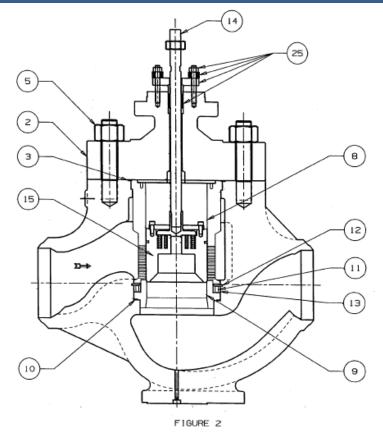
7H / 9H - PCV0150

Hydro Test Procedure

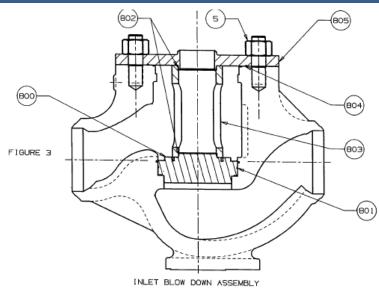
- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25).
- 2. Remove Bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove Plug and Cage (items 15 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove Seat Ring, Gasket (items 9 and 10). Refer to Chapter 3 of Woodward manual 26367.
- 5. Install blank seat ring and gasket (items 900 and 10).
- 6. Re-install cage (item 8). Refer to Chapter 3 of Woodward manual 26367.
- 7. Install new bonnet gasket in groove (item 3).
- 8. Install bonnet plate (item 901).
- 9. Install bonnet nuts and torque (item 5). Refer to Chapter 3 of Woodward manual 26367.
- 10. Use vent plug (item 803) to evacuator air if needed.
- 11. Proceed to system test.



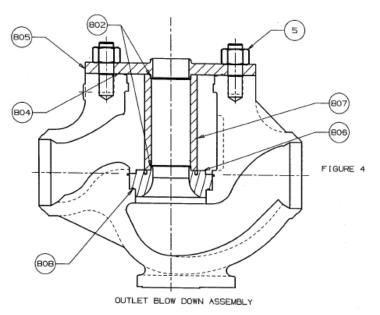
NOTE:



- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –281 O-ring (item 801) and –162 O-ring (item 802) onto inlet blowdown seat ring (item 800).
- 3. Install inlet blow-down seat ring into valve body.
- 4. Install inlet blow-down support tube with a hole biased toward inlet and hole biased downwards onto seat ring.
- 5. Install –162 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –379 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with inlet blow-down support tube.
- 8. Install bonnet nuts (item 5) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system inlet blow-down.



- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –281 O-ring (item 808) and –162 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –162 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –379 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with outlet blowdown support tube.
- 8. Install bonnet nuts (item 5) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system outlet blow-down.

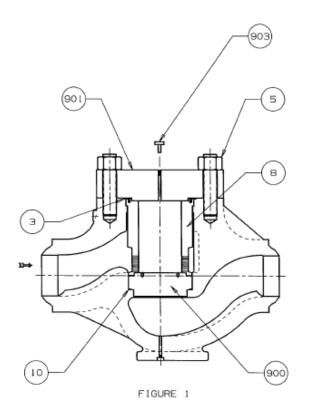


| ltem | | Hydro-Test Procedure (Figure 1) |
|------|----|--|
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| - | 1 | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat |
| 10 | 1 | Seat Gasket |
| 11 | 1 | Seat Retainer |
| 12 | 1 | Seat Ring Retainer |
| 13 | 24 | Load Ring Screw |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 25 | 1 | Packing Mode |
| | | utlet Blow Procedure (Figures 3 and 4) |
| 800 | 1 | Blow Seat Ring |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 803 | 1 | Blow Support Tube |
| 804 | 1 | Bonnet O-ring |
| 805 | 1 | Bonnet Plate |
| 806 | 1 | Blow Seat Ring |
| 807 | 1 | Blow Support Tube |
| 808 | 1 | Seat O-ring |

7H / 9H - TCV4539

Hydro Test Procedure

- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25).
- 2. Remove Bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove Plug and Cage (items 14 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove Seat Ring, Gasket (items 9 and 10). Refer to Chapter 3 of Woodward manual 26367.
- 5. Install blank seat ring and gasket (items 900 and 10).
- 6. Re-install cage (item 8). Refer to Chapter 3 of Woodward manual 26367.
- 7. Install new bonnet gasket in groove (item 3).
- 8. Install bonnet plate (item 901).
- 9. Install bonnet nuts and torque (item 5). Refer to Chapter 3 of Woodward manual 26367.
- 10. Use vent plug (item 903) to evacuator air if needed.
- 11. Proceed to system test.



NOTE:

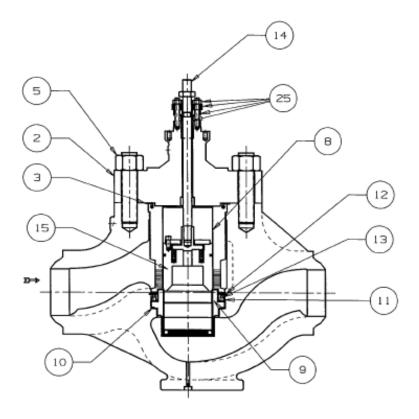
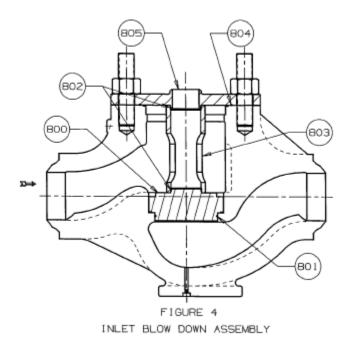
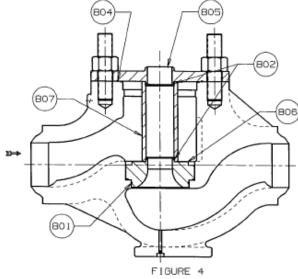


FIGURE 2

- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –269 O-ring (item 801) and –156 O-ring (item 802) onto inlet blowdown seat ring (item 800).
- 3. Install inlet blow-down seat ring into valve body.
- 4. Install inlet blow-down support tube with a hole biased toward inlet and hole biased downwards onto seat ring.
- 5. Install –156 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –279 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with inlet blow-down support tube.
- 8. Install bonnet nuts (item 304) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system inlet blow-down.



- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –269 O-ring (item 801) and –156 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –156 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Using grease for retention, install –279 O-ring (item 804) into blow-down bonnet face groove.
- 7. Install blow-down bonnet making sure to carefully align with outlet blowdown support tube.
- 8. Install bonnet nuts (item 304) and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system outlet blow-down.



OUTLET BLOW DOWN ASSEMBLY

| | F | lydro-Test Procedure (Figure 1) |
|------|-----|----------------------------------|
| Item | QTY | Description |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| | | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 12 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat Assembly |
| 10 | 1 | Seat Gasket |
| 11 | 1 | Load Ring |
| 12 | 1 | Seat Ring Retainer |
| 13 | 24 | Load Ring Screw |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 25 | 1 | Packing Mode |
| | | Inlet Blow Procedure (Figure 3) |
| 800 | 1 | Blow Seat Ring |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 803 | 1 | Inlet Support Tube |
| 804 | 1 | Bonnet Ö-ring |
| 805 | 1 | Bonnet Plate |
| | O | Dutlet Blow Procedure (Figure 4) |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 804 | 1 | Bonnet O-ring |
| 805 | 1 | Bonnet Plate |
| 806 | 1 | Blow Seat Ring |
| 807 | 1 | Outlet Support Tube |

9H – FV4525

Hydro Test Procedure

- 1. Remove stem packing nuts (item 25) and spring washer assembly (item 25).
- 2. Remove Bonnet (item 2). Refer to Chapter 3 of Woodward manual 26367.
- 3. Remove Plug and Cage (items 15 and 8). Refer to Chapter 3 of Woodward manual 26367.
- 4. Remove Load Ring, Seat Ring, Gasket (items 9 and 10 and 11). Refer to Chapter 3 of Woodward manual 26367.
- 5. Screw test rod (item 601) into blank seat (item 900), then install blank seat ring and seat gasket (items 900 and 10).
- 6. Install new bonnet gasket in groove (item 3).
- 7. Install bonnet plate (item 901).
- 8. Install bonnet nuts (item 5 and torque. Refer to Chapter 3 of Woodward manual 26367.
- 9. Use vent plug (item 803) to evacuator air if needed.
- 10. Proceed to system test.

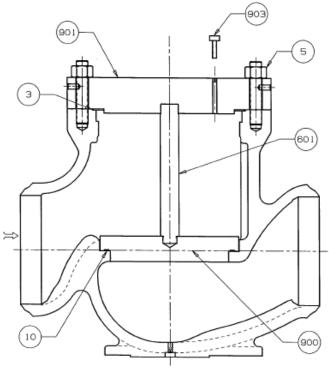


FIGURE 1

NOTE:

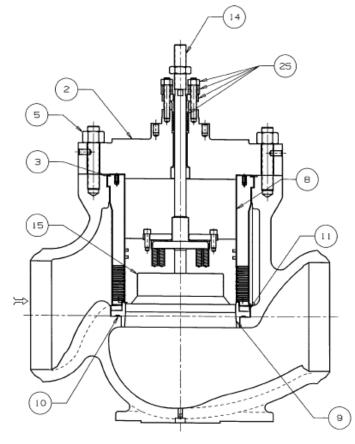
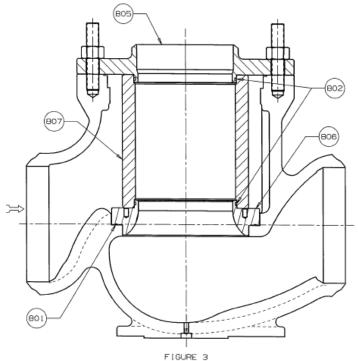


FIGURE 2

Woodward

- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –280 O-ring (item 801) and –377 O-ring (item 802) onto outlet blowdown seat ring (item 806).
- 3. Install outlet blow-down seat ring into valve body.
- 4. Install outlet blow-down support tube onto seat ring.
- 5. Install –377 O-ring (item 802) onto blow-down bonnet (item 805).
- 6. Carefully, install blow-down bonnet (item 805) to align with outlet blow-down support tube (item 807).
- 7. Install bonnet nuts (item 304) and torque to proper value. Refer to Chapter 3 of Woodward manual 26367.
- 8. Proceed to system outlet blow-down test.



OUTLET BLOW DOWN ASSEMBLY

- 1. Follow Hydro-Test Procedure Items 1 through 4.
- 2. Install –280 O-ring (item 801) and –377 O-ring (item 802) onto inlet blowdown seat ring (item 808).
- 3. Install inlet blow-down seat ring into valve body.
- 4. Install inlet blow-down support tube with a hole biased toward inlet and with hole biased downwards onto seat ring.
- 5. Install –377 O-ring (item 802) onto blow-down bonnet (item 809).
- 6. Install bonnet gasket (item 810).
- 7. Carefully, install blow-down bonnet (item 805) to align with inlet blow-down support tube (item 807).
- 8. Install bonnet nuts (item 5) and torque to proper value. Refer to Chapter 3 of Woodward manual 26367.
- 9. Proceed to system inlet blow-down test.

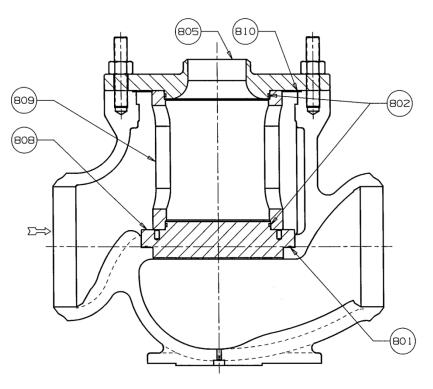


FIGURE 4 INLET BLOW DOWN ASSEMBLY

| ltem | QTY | lydro-Test Procedure (Figure 1) Description |
|------|-----|---|
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 20 | Hex Nut |
| 601 | 1 | Test Rod |
| 10 | 1 | Seat Gasket |
| 900 | 1 | Blank Seat |
| 901 | 1 | Bonnet Plate |
| 903 | 1 | Pipe Plug |
| | | |
| - | | Standard Assembly (Figure 2) |
| 2 | 1 | Bonnet |
| 3 | 1 | Body/Bonnet Gasket |
| 5 | 20 | Hex Nut |
| 8 | 1 | Cage |
| 9 | 1 | Seat |
| 10 | 1 | Seat Gasket |
| 11 | 1 | Load Ring |
| 14 | 1 | Pilot Plug / Stem Assembly |
| 15 | 1 | Main Plug |
| 25 | 1 | Packing Mode |
| | C | outlet Blow Procedure (Figure 3) |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 805 | 1 | Blow-down Bonnet |
| 806 | 1 | Outlet Blow Seat Ring |
| 807 | 1 | Support Tube - Outlet |
| | | Inlet Blow Procedure (Figure 4) |
| 801 | 1 | Seat O-ring |
| 802 | 2 | Tube O-ring |
| 805 | 1 | Blow-down Bonnet |
| 808 | 1 | Inlet Blow Seat Ring |
| 809 | 1 | Support Tube - Inlet |
| 810 | 1 | Bonnet Gasket |

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