



**How to Temporarily Disable the Solenoid of
Bendix® ATR-6™ Traction Relay Valves (Kit K070706)**
(Valve Retains Service Braking and ABS Relay Valve Functions)

• This Kit
Temporarily
Disables up to
Two (2) ATR-6
Valves

FOLLOW ALL STANDARD INDUSTRY SAFETY PRECAUTIONS, INCLUDING THOSE LISTED ON PAGE FOUR OF THIS DOCUMENT. Park the vehicle on level ground, chock the wheels, **FULLY DRAIN ALL** the reservoirs, and turn off the ignition. Locate the Bendix® ATR-6™ Traction Relay Valve(s) on the vehicle.

CAUTION: You must FULLY complete ALL FIVE PROCEDURES, IN ORDER.

OVERVIEW:

PROCEDURE ONE:

Replace the small O-ring with the ball or plug supplied. *(If necessary, remove the valve from the vehicle to service.)*

Repeat this procedure for ALL ATR-6 valves present on the vehicle before continuing.

PROCEDURE TWO:

Use the Chuff Test (or Bendix® ACom® diagnostics software) to confirm that the blocking insert is effective for the valve(s) serviced.

This **MUST** be confirmed for ALL ATR-6 valves before continuing.

PROCEDURE THREE:

Remove at least one of the pins inside **EACH** ATR-6 valve connector.

PROCEDURE FOUR:

Verify that the dash ATC/ESP lamp is illuminated to confirm that the temporary disable procedure is completed.

Post a visual reminder to the driver.

PROCEDURE FIVE:

Complete the *Operational and Leakage Tests*.

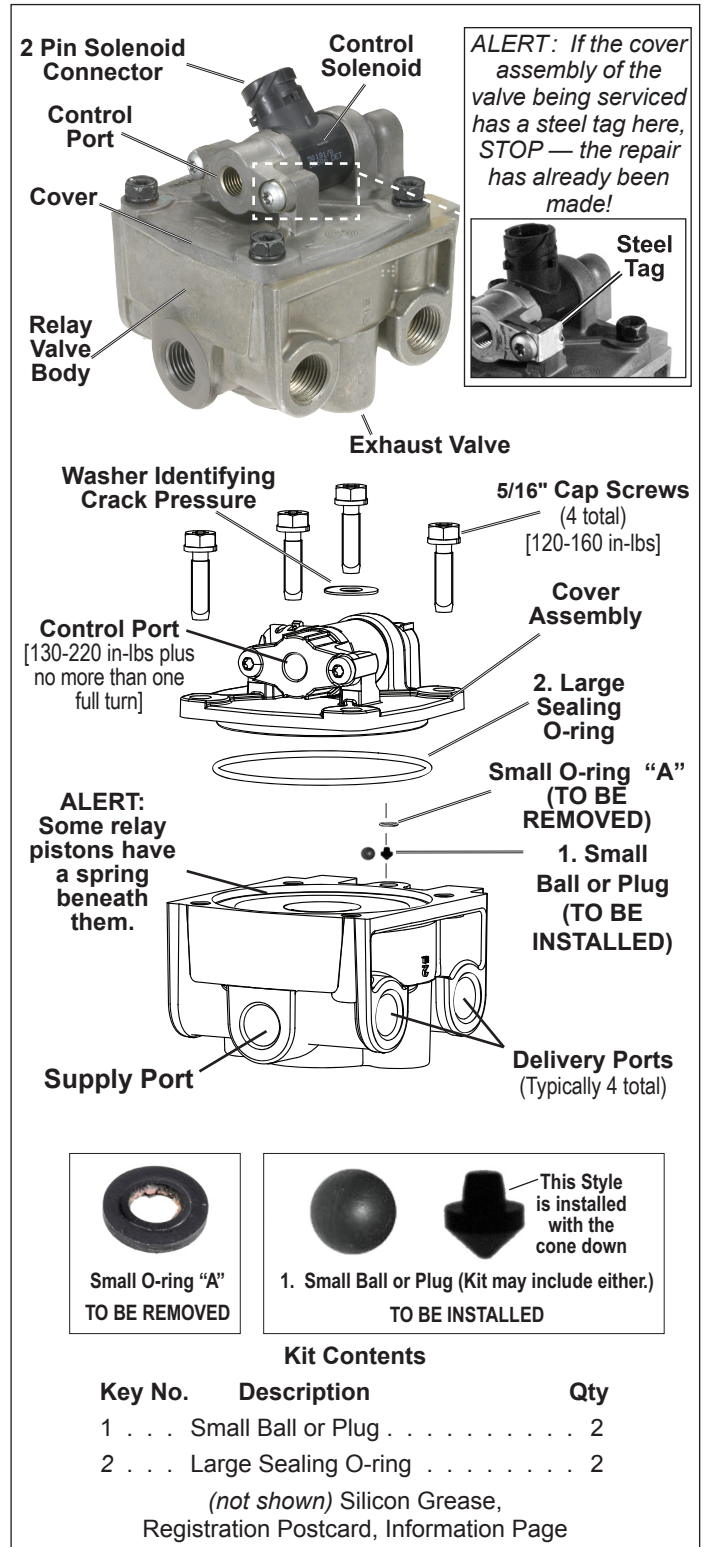



FIGURE 1 - BENDIX® ATR-6™ TRACTION RELAY VALVE

PROCEDURE ONE: Replace the small O-ring with the ball or plug supplied. (If necessary, remove the valve from the vehicle to service.)

1. Verify that the valve has not already been serviced. Check:
 - (a) For the steel tag showing that the repair has already been made (See Figure 1);
 - (b) Service records;
 - (c) For a tie-wrap, or similar, marker, or missing connector pin (See Procedure Three).
2. **Clean the valve and take care to avoid any contamination inside the valve during these procedures.**
3. Disconnect the electrical connector from the traction solenoid.
4. With ALL reservoirs drained, remove the air hose from the control port of the relay valve cover.
5. Be sure to mark the orientation of the cover. Using hand wrenches, remove and retain the four cap screws (and I.D. washer) and bracket(s). (ALERT: Some relay pistons have a spring beneath them).
NOTE: If cap screw(s) break off, or are stripped, install a replacement ATR-6 valve (or relay valve lower body).
6. **Remove and discard** the small O-ring ("A" in Figure 1) and the large sealing O-ring (2) from the cover.
7. Grease and install the new large sealing O-ring (2) onto the cover assembly.
8. Grease and install the supplied ball or plug (1) into the valve body where the small O-ring was removed, so that it blocks the air passage. Plugs are installed with the cone down. 
9. Verify that no contamination has entered the valve. You MUST remove any debris inside. Use a clean shop cloth/shop air and use the supplied grease to replace any removed. With the cover (and mounting bracket) in the same orientation as before, place the cover assembly into position over the valve body, while keeping the ball or plug in place. USE HAND-WRENCHES (ideally torque-wrenches) to re-install the four cap screws and I.D. washer in the cover and torque (in a cross-pattern) to 120-160 in-lbs.

NOTE: All torques specified are assembly torques and can be expected to fall off slightly after assembly. **Do not over-tighten** or re-torque after the initial assembly torque falls off.

10. Reconnect the control air hose to the cover. Torque to 130-220 in-lbs, plus no more than one full turn. [If it was necessary to remove the valve from the vehicle, reinstall the Supply and Delivery hoses, using a torque of 180-340 in-lbs, plus no more than one full turn.]
Follow OEMs recommendations for re-installing the valve/any brackets to the vehicle.
11. Reconnect the wire harness to the traction solenoid.
12. Repeat steps 1-11 where a second Bendix® ATR-6™ valve is present.



PROCEDURE TWO: Use the Chuff Test (or Bendix® ACom® diagnostics software - see step 4) to confirm that the blocking insert is effective for the valve(s) serviced.

1. Power-up and FULLY charge the vehicle's air brake system (listen for the air dryer exhaust). Turn the vehicle off.

The **Bendix Chuff Test** occurs after ignition power is applied and during it, in sequence, the ABS modulator valves are energized and the ATR-6 valve(s) emit a short burst of air (the rear ATR-6 valve has a much quieter exhaust during the Chuff Test than the front valve). Since the solenoid(s) are temporarily disabled there should be no exhaust from the ATR-6 valves during this test.
NOTE: This Procedure requires the brakes NOT be applied.
2. **Check the rear ATR-6 valve: Have the ignition switch activated (brakes not applied) while a technician closely monitors the rear ATR-6 valve.** Listen closely, or use your hand to feel for a short release of air. **Bendix® ATR-6™ valve(s) — with a correctly installed ball or plug — WILL NOT exhaust any air during the Chuff Test.**
3. **Check the front ATR-6 valve (if present): Repeat the chuff test [again, brakes NOT applied].**
Listen for the front ATR-6 valve during the Chuff Test. The front ATR-6 valve with an enabled solenoid emits a short audible burst of air. **Bendix® ATR-6™ valve(s) — with a correctly installed ball or plug — WILL NOT exhaust any air during the Chuff Test.**
- CAUTION: If you observe an exhaust from either ATR-6 valve during the Chuff Test, go back to Procedure One and re-install the ball or plug.**
4. The ALTERNATE TEST using PC-based Bendix ACom diagnostics uses the Component Test Feature to permit the ATR-6 valves to be selected and cycled. Follow the directions on the Component Test screen.
5. Only move on to Procedure Three if the Chuff Test affirmed the repair.
6. Shut off the engine.



PROCEDURE THREE:

Do this Procedure only after the chuff test has been completed on ALL ATR-6 valves on the vehicle!

Remove at least one of the pins inside the connector.

1. Remove the harness connector(s).
Grasp one of the connector pins using needle-nose pliers, or a similar tool.*



Rock back and forth, or twist, the pin to break it off flush at the base. See the Photo.

Discard the pin.

*An alternate method for breaking off the pin(s) is to carefully insert a 1/2 inch drill bit and turn it by hand (using vice-grips or similar); the pins will snap off.

CAUTION: Do not drill into the solenoid - only break off the pins.

Repeat this for ALL ATR-6 valves on the vehicle.

2. **Verify that the pin(s) have broken off flush at the bottom and have been removed. Check that any remaining pin(s) are not bent.**
3. Re-install the harness connector(s) to prevent corrosion and/or damage. Verify that you can fully close the connector(s).
4. Use a tie-wrap (or similar) on the valve(s) to visually indicate that the solenoid has been temporarily disabled.



PROCEDURE FOUR:

Observe the dash ATC lamp is illuminated to verify that the temporary disable procedure is completed.

1. Power-up the vehicle. After the start-up sequence, the ATC/ESP lamp **MUST REMAIN ILLUMINATED.**
If the lamp does not remain illuminated, go back to Procedure Three.



2. Verify that the ABS lamp does not remain illuminated after the bulb check. See the Bendix Service Data sheet for the ABS system or call the Tech Team.
3. Complete and mail the postcard included in this kit, or use the on-line form at www.bendix.com.



PROCEDURE FIVE:

Complete the *Operational and Leakage Tests.*

1. Always check the vehicle brake system for proper operation after performing brake work and before returning the vehicle to service. Chock the wheels, and fully charge the air brake system.
2. Operational Test: Apply and release the brakes several times and check for prompt application and release at each wheel.

If an incomplete or sluggish release of the brakes is noted at some, but not all wheels, test the Antilock Modulator Valve(s) operating those wheels for proper operation, and inspect for a kinked or obstructed air hose leading to, or from, the Modulator(s).

If an incomplete or sluggish release is noted at all wheels, inspect for a kinked or obstructed air hose leading to, or from, the ATR-6™ valve(s).

Three Part Leakage Test:

- 3a. With the air system pressure charged to governor cut-out, apply a soap solution to the exhaust port(s). The leakage noted should not exceed a one-inch bubble in 3 seconds.
- 3b. Make and hold a full brake application and apply a soap solution to the exhaust port and around the cover where it joins the body. The leakage noted should not exceed a one-inch bubble in 3 seconds at the exhaust port(s).
- 3c. Check for inlet valve and O-ring leakage. Make this check with the service brakes released. Coat the exhaust port(s) and the area around the relay valve exhaust retaining ring(s) with a soap solution; leakage of a one-inch bubble in 3 seconds is permitted.

Complete and mail the postcard included in this kit, or use the on-line form at www.bendix.com.



ALL PROCEDURES, ONE THROUGH FIVE MUST BE COMPLETED FOR THIS KIT TO BE EFFECTIVE AND THE VEHICLE RETURNED TO SERVICE.

Double-check the dash ATC lamp is illuminated before operating the vehicle.



Be sure that the driver is aware that the traction control / Bendix® ESP® and/or the Bendix® Wingman® ACB system are temporarily disabled, by using a label, or similar, on the dash or windshield without blocking the driver's view.

GENERAL SAFETY GUIDELINES

WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, EXTREME CAUTION should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with an AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
8. Use only genuine Bendix® replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

CAUTION: It is very important to be sure that the air pressure has been completely drained from all vehicle reservoirs. Any remaining air pressure would be present underneath the Relay Piston, presenting a hazard to the technician during valve disassembly.

Bendix Technical Assistance Team

For direct telephone technical support, call the Bendix Tech Team at:

1-800-AIR-BRAKE (1-800-247-2725), option 2, then option 1. Follow the instructions in the recorded message.

(For a limited period, phone lines are being staffed for extended hours.)

Our normal hours are Monday through Thursday, 8:00 A.M. to 6:00 P.M., Friday, 8:00 A.M. to 5:00 P.M., EST.

Or, you may e-mail: techteam@bendix.com

Please have the following information ready when you call: Bendix product model number, part number and configuration, vehicle make and model, vehicle configuration (number of axles, tire size, etc.).

Reference: The full Service Data sheet for the Bendix® ATR-6™ Traction Relay Valve is SD-13-4861 (BW2598) and is available for download on www.bendix.com, or you can order copies from the Literature Center at the website.

