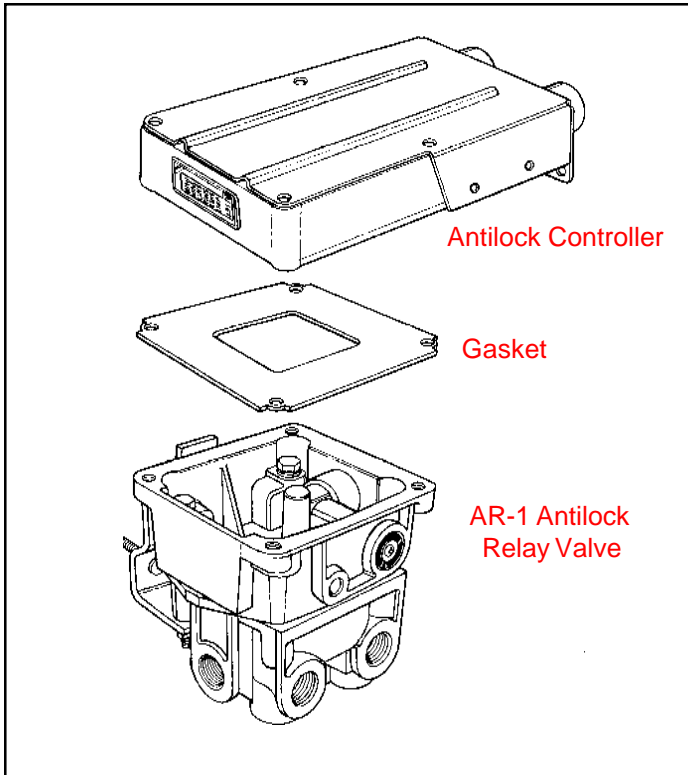




Installation Instructions

AR-1 ANTILOCK RELAY VALVE



CR-15 Controller Relay Assembly

This kit contains the following components:

Qty.	Description
1	AR-1 Antilock Relay Valve
1	Gasket (controller to AR-1)
1	Installation Instruction Sheet
1	Antilock Troubleshooting Pamphlet

IMPORTANT! 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.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.
4. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.

5. When working in the engine compartment the engine should be shut off. 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.
6. 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.
7. Never exceed recommended pressures and always wear safety glasses.
8. 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.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

VALVE REMOVAL

1. Park the vehicle on a level surface and block the wheels and/or hold the vehicle by means other than the air brakes.
2. Drain the air pressure from all vehicle reservoirs.
3. Identify, mark or label all air lines and wiring cables and their respective connections on the valve or AntiLock controller to facilitate ease of installation.
4. Disconnect all air lines and wiring.
5. Remove the valve and controller assembly from the vehicle.
6. Clean the exterior of the AR-1 and controller assembly.
7. Remove all air fittings and plugs from the AR-1.
8. Note the relationship of the Antilock Electronic Controller to the AR-1. Remove and retain the four cap screws and lock washers that secure the controller to the AR-1, then remove the electronic controller.
9. Remove and discard the gasket between the AR-1 and the Antilock Electronic Controller.

VALVE INSTALLATION

1. Install all air line fittings and plugs making certain thread sealing material does not enter the valve.
2. Install the gasket on the Antilock Controller. Using the four cap screws and lock washers, secure the Antilock Controller to the AR-1, in the same relationship as noted in Step 8 of VALVE REMOVAL. Torque the cap screws to 50 - 80 pound inches.
3. Install the assembled AR-1 and Antilock Controller on the vehicle.
4. Reconnect all air lines and wiring cables to the valve and controller assembly using the identification made during Step 3 of VALVE REMOVAL. Make certain thread sealing material does not enter the valve.
5. After installing the valve and controller assembly, test all air fittings for excessive leakage and tighten as needed.
6. Perform the OPERATION and LEAKAGE TESTS presented in this instruction sheet. Before returning the vehicle to service, perform the "Initial Start-Up Procedure" in the Troubleshooting Pamphlet included with the replacement AR-1 valve.

OPERATION & LEAKAGE TESTS

OPERATING TEST

1. Apply and release the brakes several times and check for prompt application and release at each wheel. If prompt reaction is noted at some, but not all wheels, test the AntiLock modulator between the AR-1 and the brake actuator for proper operation. If a "sluggish" response is noted at all wheels, inspect for a kinked or obstructed air line leading to or from the AR-1.
2. If a complete release of the brakes is noted at some, but not all wheels, test the AntiLock modulator between the AR-1 and the brake actuator for proper operation. If an incomplete release is noted at all wheels, inspect for a kinked or obstructed air line leading to or from the AR-1.
3. During brake release confirm that a slight "puff" of air exits at the AR-1's quick exhaust port in the cover. Air exiting at this exhaust port indicates the AR-1 integral quick release is functioning.

LEAKAGE TESTS

1. Build the air system pressure to governor cut-out, apply a soap solution to the exhaust port in body. The leakage noted should not exceed a one inch bubble in less than three (3) seconds.
2. Make and hold a full brake application and apply a soap solution to the exhaust ports in the body and cover and around the cover where it joins the body. The leakage noted should not exceed a one inch bubble in less than three (3) seconds at any exhaust port.

