Preventive Maintenance

- Drain the moisture from all air reservoirs during each pre-trip/safety inspection.
- Compressor power switch should be turned OFF when trailer is not in use to avoid damage to the vehicle air system.
- Check battery(ies) on a regular basis. The battery should remain at full charge (12.6 volts) at all times.
- Periodically check all electrical and air-fitting connections. Clean and tighten as needed.
- Replace air filter element at least once per year. Replace at least once a month if used frequently in a dusty environment.
- Regularly clean dust/dirt from cooling fins and motor housing.
- Check all compressor/accessory mounting bolts. Tighten as needed.

Refer to these American Trucking Association’s Technology & Maintenance Council (TMC) publications on air system maintenance:
- RP 617-Air-System Installation and Service Manual
- RP 618-Air-System Compressors
- RP 634-Ride Height Adjustment Procedures for Truck/Tractor Air Ride Suspensions
- RP 643-Air-Ride Maintenance Guidelines

Air Compressor Kit – Vehicle Mounting Guide

Location
Mount the compressor in a flat, secure location away from heat sources and protected from the elements. The location should provide enough air flow to cool the compressor.

Supply at least two holes when mounting the compressor inside an enclosure. One hole in the side facing the vehicle front and one hole in the rear-facing side should provide enough air flow from vehicle movement to cool the compressor.

Make sure the air line run lengths provide enough slack to allow for vehicle movement. Use a cutting tool instead of a knife or scissors for a clean, straight cut.

1. Exhale all pressure from the air system and wear proper eye protection at all times when working on a vehicle air system. Never touch the air compressor or connected fittings with bare hands during or immediately after use. If necessary, wear heat resistant gloves to handle the fittings, air lines, and leader hose.

2. Connect and test the system by running the air compressor from the battery - inside the vehicle, for example. Refer to manufacturer’s specifications for the proper fuse size. Locate the fuse as close as possible to power source.

3. Plumb the system
Connections must be airtight to get the proper system performance. Use liquid thread sealant on all threaded connections. Torque fittings to 10-12 ft lbs. Mount and plumb remote inlet air filters, if used, in a clean and dry location away from water sources. Replace the filter media when dirty.

The air tank drain should point down when mounted. The air line from the air compressor to the air tank should slope downward so that water condensation collects in the tank. Drain air tank(s) daily.

4. Test for leaks
Connect and test the system by running the air compressor to build up pressure in the air tank. The compressor will stop when the pressure reaches the “cut-out” pressure of the pressure switch. NOTE: Air-ride suspension system air compressors are controlled/limited by a pressure switch. The switch monitors the air tank pressure between a preset maximum and minimum.

The installer is responsible for making sure air system components comply with all federal and state regulations such as “Federal Motor Vehicle Safety Standards (FMVSS) 121 for Air Brake Systems.”

Install near the battery
Locate the air compressor close to the battery to reduce the length of positive lead wire required. Install a larger gauge positive lead wire all the way through the run when mounting the compressor away from the battery - inside the vehicle, for example.

5. Wiring

Electrical wiring should be sized according to the voltage, the maximum ampere draw of the system components; and the total wire length. There are several wire gauge calculators online that can help determine the appropriate wire size.

The installer is responsible for making sure air system requirements comply with all federal and state regulations such as “Federal Motor Vehicle Safety Standards (FMVSS) 121 for Air Brake Systems.”

6. Notes and Cautions

The instructions use two types of service notes:

"NOTE": Provides additional instructions or procedures to complete tasks and make sure the equipment functions properly.

"CAUTION": Indicates a hazardous situation or unsafe practice that, if not avoided, could result in equipment damage and serious injury.

Air Compressor/Air Control Kit Installation and Service Manual

AIR SYSTEMS
- Air Compressor – Wire Diagram
- Air Compressor Kit – Vehicle Mounting Guide

RIDESWELL SUSPENSIONS

9710010-D-AirCompressor-MTG-Guide-07-24-20
### Troubleshooting - Air Compressor Operation

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressor will not operate</td>
<td>— Power switch in OFF position or no power to the switch.</td>
<td>— Make sure battery is fully charged and compressor switch is turned to ON. Disconnect compressor from power source, check for blown fuse. Replace fuse, if necessary, and reconnect. Refer to Manufacturer Specs for fuse amperage. Use ohm-meter to check the continuity between power source and switch and from power switch to compressor. — Check battery/CPSR grounding with voltmeter.</td>
</tr>
<tr>
<td>— Inadequate grounding.</td>
<td>— Motor overheated.</td>
<td>— Air tank pressure above the cut-in pressure point.</td>
</tr>
<tr>
<td>Fuses burn out repeatedly</td>
<td>— Wrong fuse size.</td>
<td>— Electrical short to ground.</td>
</tr>
<tr>
<td>Reset mechanism cuts out repeatedly; properly sized fuses burn out.</td>
<td>— Malfunction/improperly adjusted.</td>
<td>— Lack of proper ventilation or temperature around compressor is too high.</td>
</tr>
<tr>
<td>Compressor runs continuously</td>
<td>— Leak in air system beyond standards.</td>
<td>— Compressor does not stop running (unload) at cut-off pressure point.</td>
</tr>
<tr>
<td>Air flow lower than normal</td>
<td>— Clogged air filter element.</td>
<td>— Low voltage</td>
</tr>
<tr>
<td>Tank pressure drops after air compressor shuts off</td>
<td>— Leak in air system beyond the accepted standards.</td>
<td>— Pressure check-valve leaking.</td>
</tr>
</tbody>
</table>

### Troubleshooting – Height Control Valve Installation

A "bad HCV" is a common misdiagnosis of the air system not working. Most problems are traced to other parts of the system such as pinched/damaged lines, other valves or loose component fittings. Repair problems before resuming troubleshooting.

#### Problem

**HCV is not receiving air/HCV is not delivering air to the air springs.**

- Blocked air supply line.
- Air tank is not filling/reaching set pressure.
- Pressure Protection Valve (PPV) not working correctly.
- Pilot port is not plumbed or is plumbed incorrectly.

**Air springs fill but do not exhaust.**

- Obstructed air line.
- HCV installed backwards.
- Supply line installed in SUSP port.

**Air system leaks down in a short period of time.**

- HCV installed backwards.
- Leak in air system beyond the accepted standards.

**Troubleshooting – Height Control Valve Installation**

- **Safety Precautions:** The installer is responsible for making sure the air system complies with federal and state requirements such as the "Federal Motor Vehicle Safety Standards (FMVSS) 121 for Air Brake Systems." The installer should ensure proper installation of the height control valve (HCV) and follow the manufacturer's guidelines to avoid misdiagnosis issues.

- **Installation Guide:** The installer should follow the installation guide for installation procedures. Check the air system after installation for leakage.

- **Height Control Valve (HCV):** The HCV automatically adds and exhausts air from the vehicle air system to maintain the proper ride height as loads increase and decrease. A height control kit (HCK) assembly is a lever arm connected to the HCV and a vertical rod arm (vertical linkage) that is connected to the suspension/axle. Refer to the HCV installation guide for installation procedures. Check the air system after installation for leakage.

- **CAUTION:** The installer should ensure proper alignment of the HCV and check that tubing cuts are straight and smooth. Re-cut and assemble if necessary.