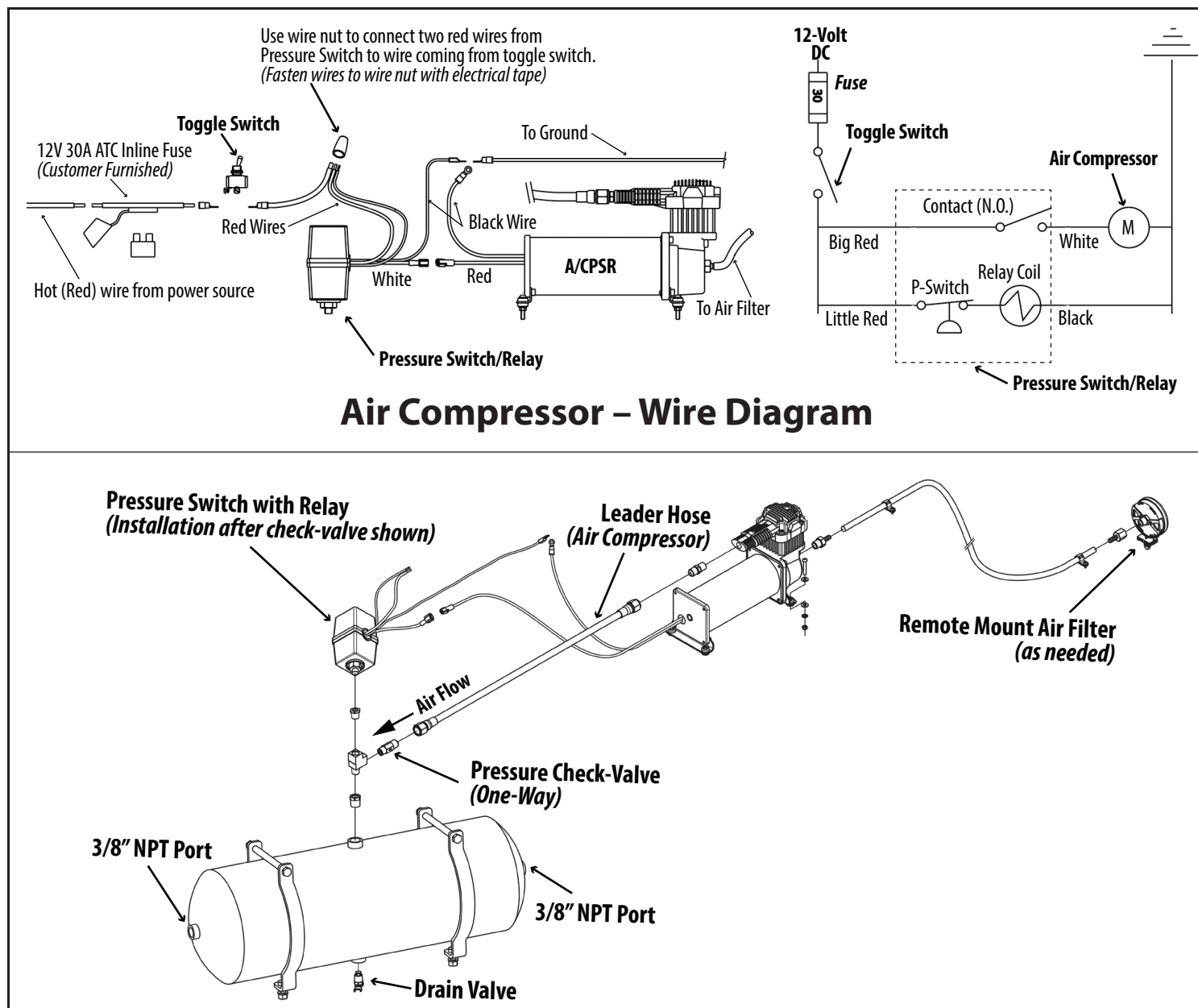




Typical 12-volt single air compressor/single air tank configuration.

NOTE: Air compressor systems configured for air springs are not to be used with air brakes.

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 Associations Technology & Maintenance Council (TMC) publications for additional maintenance information on air spring systems:

RP 617-Air-System Contaminant Elimination

RP 619-Air-System Inspection Procedure

RP 634-Ride Height Adjustment Procedures for Truck/Tractor Air Ride Suspensions

RP 643-Air-Ride Maintenance Guidelines

Air Compressor Kit Mounting Guide

All connections must be airtight for the proper air compressor/system performance. Use liquid thread sealant on all fittings and torque to 10-12 ft lbs.

Make sure that the length of air line runs provide enough slack to allow for vehicle movement. Use a cutting tool instead of knife or scissors to make sure there is a clean, straight cut for installation.

Install close to battery

1. Locate the air compressor as close to the battery as possible so that the wire length needed to reach the battery is as short as possible.
2. If the compressor is to be mounted at a distance from the battery (such as inside the vehicle), use larger gage wires throughout the length of the wiring run.
3. Make sure that your compressor setup is properly fused. Always locate the fuse as close as possible to the power source. Refer to the manufacturer's specifications for the appropriate fuse size.

Keep the air compressor cool

1. Mount the compressor in a flat, upright and secure location away from heat sources and protected from the elements. The location should provide enough air flow to cool the compressor.
2. If the compressor is to be mounted inside an enclosure, provide at least two holes - one in the side of the enclosure that faces the vehicle front and one in the rear-facing side - so air flow from the vehicle movement will cool the compressor.
3. Remote inlet air filters, if used, should be located in a clean and dry location away from water sources. Install air line tubing between the inlet filter and the air compressor for remote mounting. Filter media should be replaced when dirty.
4. The air tank must be mounted so that the air tank drain is pointing down. The air tank should be drained daily.
5. The air line from the compressor to the air tank should slope downward so that water condensation collects in the tank. NOTE: Kinks in the line or an upward running air line may cause water to pool and freeze inside the air line.

Test for leaks in the system

1. Connect and test the system by running the air compressor for a short time to build up pressure in the air tank. The compressor will stop when the pressure reaches the "cut-out" pressure of the pressure switch.
2. Inspect all air line connections for leaks with soap and water solution. If a leak is detected, the air line may not be cut squarely or pushed all the way in. Fix leaking connections, as needed.

CAUTION Exhaust all pressure from the air system and wear proper eye protection at all times when working on a vehicle air system.

CAUTION 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.

The installer is responsible for making sure that the vehicle's air system requirements comply with the appropriate Federal Motor Vehicle Safety Standards.

Notes and Cautions

The instructions use two types of service notes, defined as:

"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.

Troubleshooting - Air Compressor Operation		
Problem	Possible Cause	Corrective Action
Compressor will not operate	– Power switch in OFF position or no power to the switch.	– 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. <i>Refer to Manufacturer Specs for fuse amperage.</i> Use ohm-meter to check the continuity between power source and switch and from power switch to compressor.
	– Inadequate grounding.	– Check battery/CPSR grounding with voltmeter.
	– Motor overheated.	– Let compressor cool approximately 30 minutes to allow thermal overload switch to reset.
	– Air tank pressure above the cut-in pressure point.	– Release air pressure until compressor starts.
Fuses burn out repeatedly	– Wrong fuse size. – Electrical short to ground.	– Confirm fuses are proper ampere rating. – Make sure battery/CPSR are properly grounded.
Reset mechanism cuts out repeatedly; properly sized fuses burn out.	– Malfunction/improperly adjusted. – Lack of proper ventilation or temperature around compressor is too high.	– Adjust; repair; or replace compressor. – Move compressor to well-ventilated area or area surrounded by lower temperature. Add vents to air compressor enclosure, if used.
Compressor runs continuously	– Leak in air system beyond standards.	– Pressurize system and spray soapy water solution onto the connections. Check for air bubbles (leaks). Re-cut/reassemble lines and tighten connections, as necessary.
	– Compressor does not stop running (unload) at cut-off pressure point.	– Verify air tank pressure. Check that preset cut-off pressure point has been reached ($\pm$ 5 PSI). Check pressure switch connections. Repair/replace pressure switch, as necessary.
	– Check-valve stuck in closed position (pressure switch installed after check-valve).	– Drain tank and inspect check-valve. Clean/replace faulty parts.
	– Water in air tank.	– Drain tank.
Air flow lower than normal	– Clogged air filter element. – Low voltage	– Replace filter element. – Verify system voltage with voltmeter.
Tank pressure drops after air compressor shuts off	– Leak in air system beyond the accepted standards.	– Check drain valve and tighten. Spray soapy water solution onto system. Check and repair leaks, as needed.
	– Pressure check-valve leaking.	– Bleed tank and disassemble check-valve assembly. Clean or replace faulty parts.
	– Water in air tank.	– Drain tank.

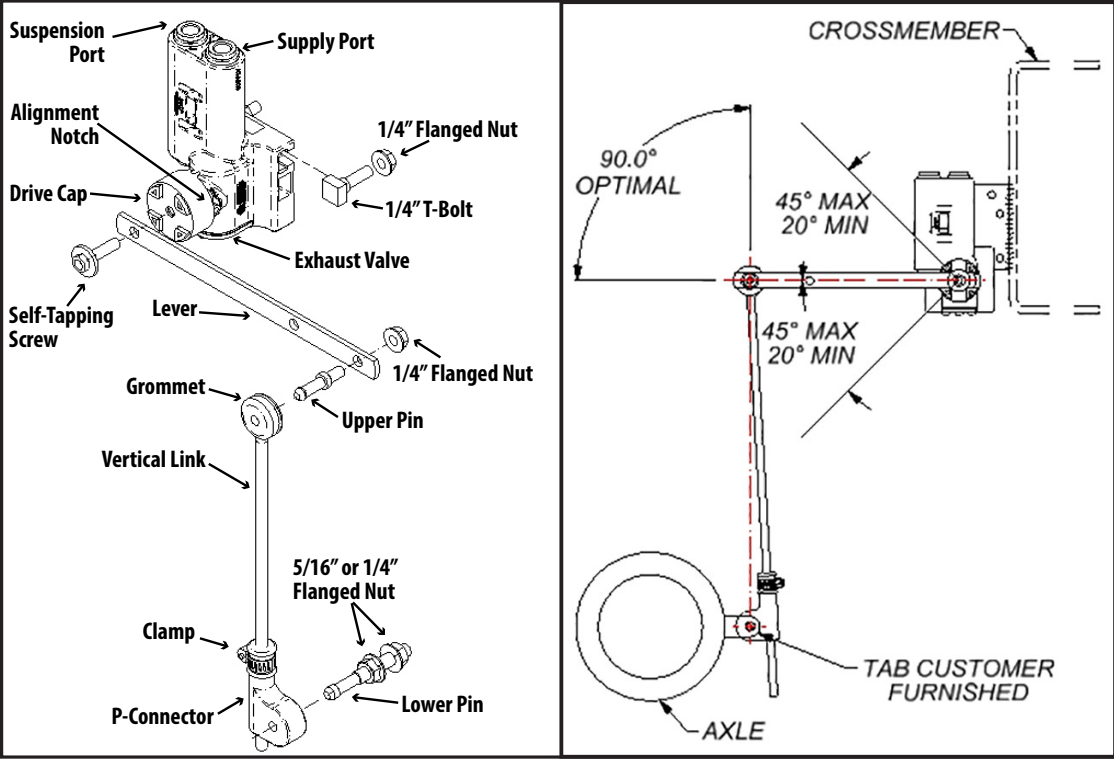
Cut-In/Cut-Out Air Pressure

Air-ride suspension system air compressors are controlled and limited by a pressure switch that turns the compressor on-and-off. The pressure switch monitors the air reservoir pressure between a preset maximum and minimum level to control the compressor.

When the tank air pressure is greater than the pre-set “cut-out level” (120-130 PSI), the compressor is turned off. When the pressure drops to the pre-set “cut-in level” (90-100 PSI), the compressor is turned on and resumes pumping air into the reservoir(s).

The Height Control Valve (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 is responsible for ensuring the air system complies with appropriate Federal Motor Vehicle Safety Standards.



Height Control Kit (HCK) should be installed with the HCV-to-lever angles between 20°-to-45° to provide the maximum valve flow rates throughout the jounce/rebound of suspension travel.

Troubleshooting – Height Control Valve Installation		
Problem	Possible Cause	Corrective Action
HCV is not receiving air/HCV is not delivering air to the air springs.	– Blocked air supply line.	– Verify air lines are pressurized by removing supply line at HCV. Check for pinched lines.
	– Air tank is not filling/reaching set pressure.	– Verify tank pressure with manual/in-line pressure gauge.
	– Pressure Protection Valve (PPV) not working correctly. – Pilot port is not plumbed or is plumbed incorrectly.	– Check PPV operation by making sure that valve opens when system reaches the desired pressure setpoint (<i>usually greater than 70 psi</i>). – Check configuration – Non-Dump; Pressure-Dump (Normally Open); Zero-Pressure Dump (Normally Closed). Reinstall, if necessary.
Air springs fill but do not exhaust.	– Obstructed air line.	– Disconnect linkage. Rotate actuating lever to down position (exhaust). If springs remain inflated, check for pinched/blocked lines.
	– HCV installed backwards.	– Check installation. Reinstall, if necessary.
	– Supply line installed in SUSP port	– Move air supply line to HCV supply port.
Air system leaks down in a short period of time.	– HCV installed backwards.	– Disconnect HCV linkage. Rotate actuating lever to the up position (fill). If air springs do not inflate, reinstall HCV.
	– Leak in air system beyond the accepted standards.	– To find leak in the HCV area, pressurize system and spray soapy water solution onto the valve and lines. Check for bubbles (leaks): No leak found – Do not remove valve, check the rest of the system for leaks. Check that tubing cuts are straight and smooth. Re-cut and reassemble if necessary.