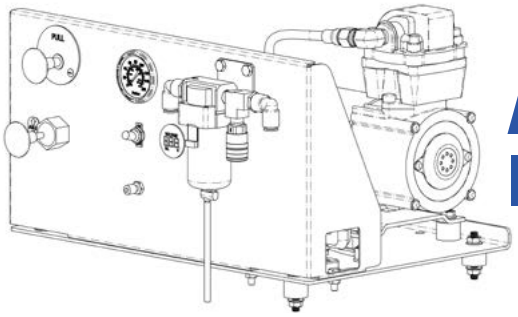

# Air Compressor/Air Control Kit Installation and Service Manual

## PacBrake Air Compressor Control Kit



## ViAir Air Compressor Control Kit



## Maintenance



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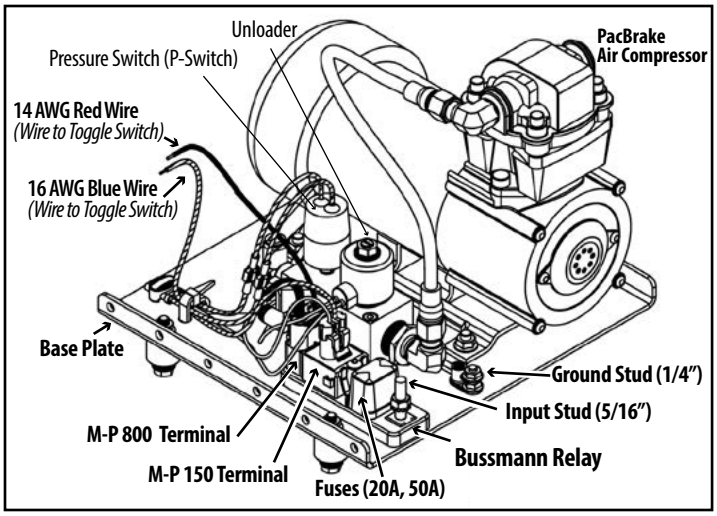



**Figure 1.**
**PacBrake Air Compressor Control Kit**
**Base Mount Configuration**

- **(1220026) PacBrake Air Compressor Kit A/CPSR-to-ACK electrical connections *(Bussmann™ Relay - Electrical Component shown)***
- **Base Plate**

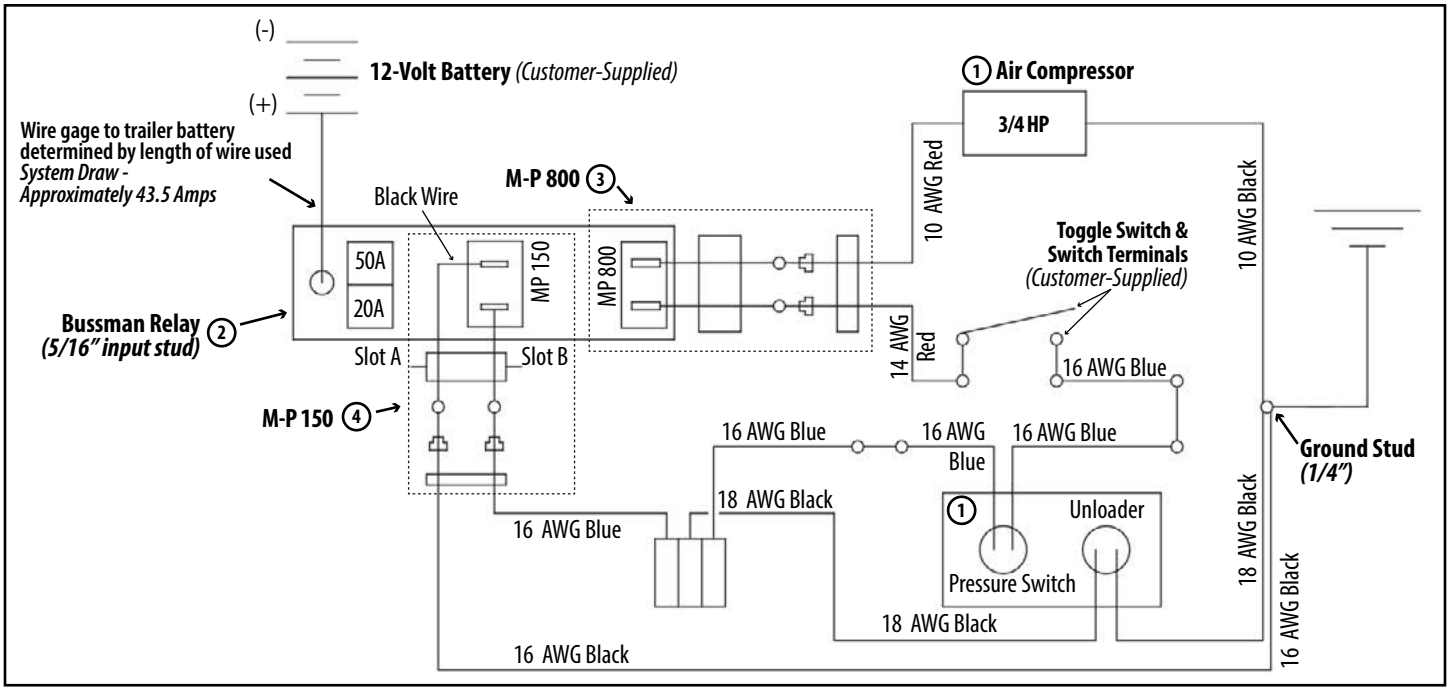



**Figure 2.**
**Wiring Diagram – 1220026 PacBrake A/CPSR Base-Mount Kit (*Bussmann Relay shown*)**

| PacBrake Air Compressor Control Kit – Base-Mounted Configuration | | | |
|---|---|---|---|
| **Diagram No.** | **QTY** | **Part Number** | **Item Description** |
| **1** | **1** | **1230236** | Pacbrake Air Compressor, 3/4 Hp 12V 42A |
| **2** | **1** | **1420192** | Bussmann Power Module Relay (PRM), 12V 70A |
| | **1** | **1420204** | 50A Fuse; JCase Cartridge-Red (Waytek Wire #46593) |
| | **1** | **1420194** | 20A Fuse; JCase Cartridge-Blue (Waytek Wire #46590) |
| **3** | **1** | **1420195** | Metri-Pack (M-P) 800 Female Connector 2-Cavity |
| | **1** | **1420196** | Metri-Pack (M-P) 800 TPA, 2-Cavity |
| | **2** | **1420197** | Metri-Pack (M-P) 800 Female Terminal 8-10 GA |
| | **2** | **1420207** | Metri-Pack (M-P) 800 Cable Seal 14 GA Blue |
| **4** | **1** | **1420142** | Metri-Pack (M-P) 150 Secondary Lock 2-Cavity |
| | **2** | **1420146** | Metri-Pack (M-P) 150 Cable Seal 18 GA |
| | **1** | **1420149** | Metri-Pack (M-P) 150 Female Connector 2-Cavity |
| | **2** | **1420152** | Metri-Pack (M-P) 150 Female Terminal 18-16 GA |

## PacBrake Air Compressor – Panel-Mounted ACK Options

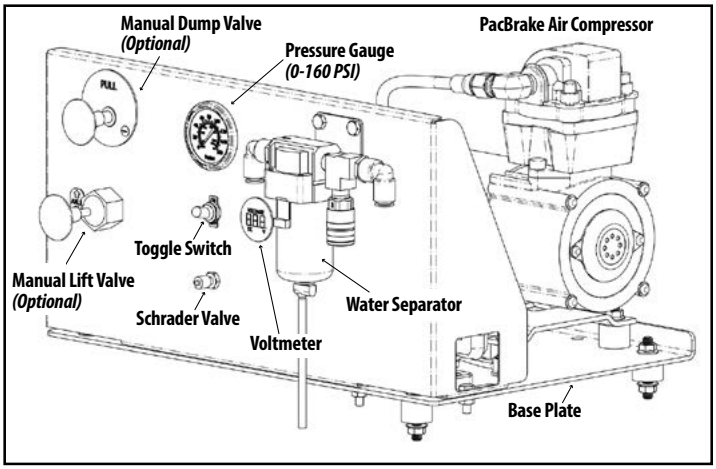
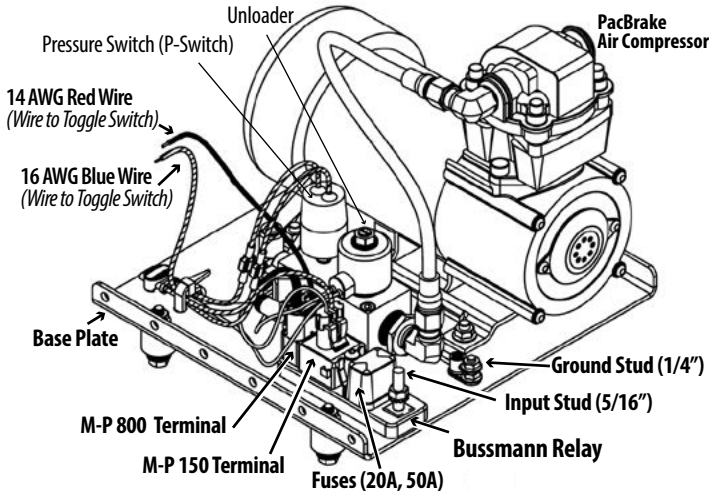


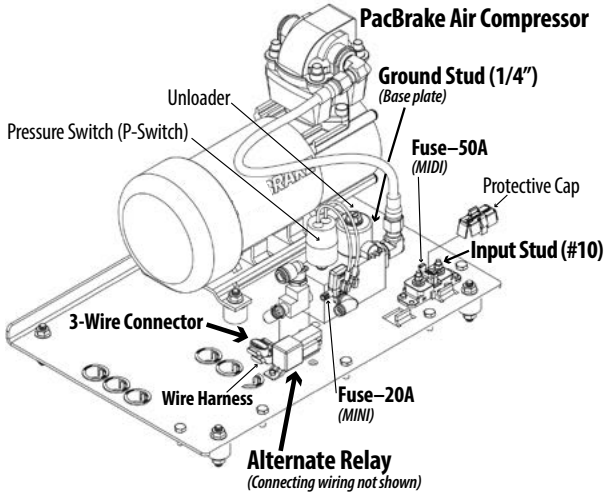

**Figure 3.**
**PacBrake Air Compressor**
**Panel-Mounted Air Control Kit (PM-ACK)**

- **Air Compressor Control Kit**
  **Air Compressor-to-ACK electrical connections**
  ***(Electrical Components - Bussmann™ Relay or Alternate Relay)***
- **Base Plate**
- **Mounting Panel**
- **Optional Dump Valve**
- **Optional Lift Valve**
- **A/CMPSR Control Kit with air tank mounting kit available**

### PacBrake Air Compressor Control Kit – Electrical Connection Components




**Bussmann Relay electrical component (Wiring Diagram-pg 18)**




**Alternate Relay electrical component (Wiring Diagram-pg 19)**

| PacBrake Air Compressor Control Kit – Panel-Mounted Configurations | | 1220038 | 1220040 | 1220029 | | 1220027 | |
|---|---|---|---|---|---|---|---|
| **Part No.** | **Item Description** | | | | | | |
| **1230236** | PacBrake Air Compressor, 3/4 Hp 12V 42A | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1230080** | Pressure Gauge, 2" Panel Mount, Lighted; 0-160 PSI | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1230296** | Water Separator Valve, 1/4 NPT | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1420094** | Toggle Switch SPST; Quick-Disconnect Terminals | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1230302** | Voltmeter, 5-48V DC | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1230295** | Schrader Valve 1/4" Tube; Panel Mount | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| **1230243** | Manual Push/Pull Dump Valve - 3-Port; 2-Position | | | ☒ | ☒ | ☒ | ☒ |
| **1230244** | Manual Push/Pull Lift Valve - 5-Port; 2-Position | | ☒ | | | ☒ | ☒ |
| **ACK/Air Tank Configuration –** *(Includes air lines; fittings; and hardware to install/connect tank to A/CPSR)* | | **1220039** | **1220041** | **1220037** | **1220046** | **1220042** | **1220028** |
| **1234256B001** | Air Tank - 1175 Cubic In., 8" OD X 27" LG | **1** | **2** | **2** | | **2** | **2 (w/ HCK)** |
| **1230280** | Air Tank - 2850 Cubic In., 12" OD X 29.5" LG | | | | **1** | | |

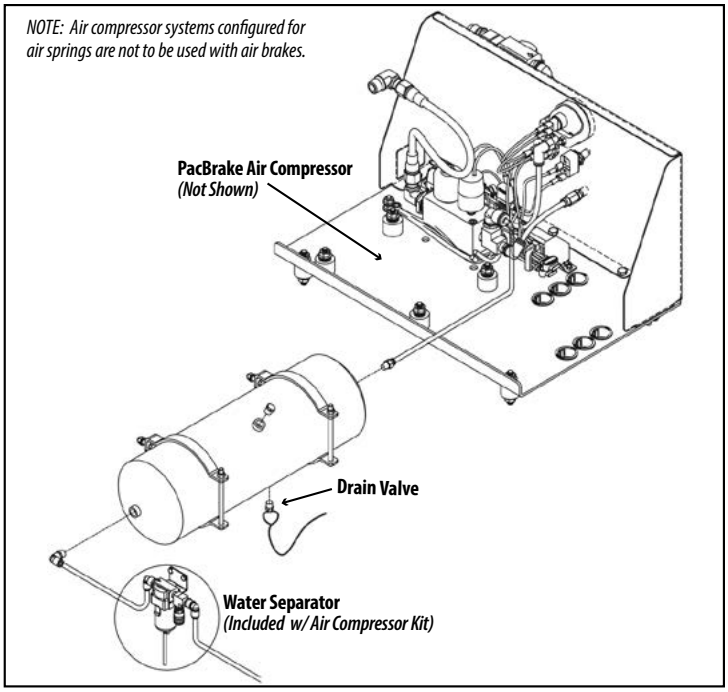



**Figure 4.**
**(1220039) PacBrake Air Compressor Panel-Mounted ACK with one air tank**

- **No Dump Valve**
- **No Lift Valve**
- **One Air Tank *(includes tank mounting kit)***

**1220039 – PM-ACK; One air tank** *(Mounting kit includes fittings and hardware to connect air tank to air compressor)*

| QTY | Part Number | Item Description |
|---|---|---|
| 1 | **1220038** | PacBrake Air Compressor Kit *(No Dump Valve; No Lift Valve)* |
| 1 | **1234256B001** | Air Tank - 1175 Cubic In., 8" OD X 27" Length |

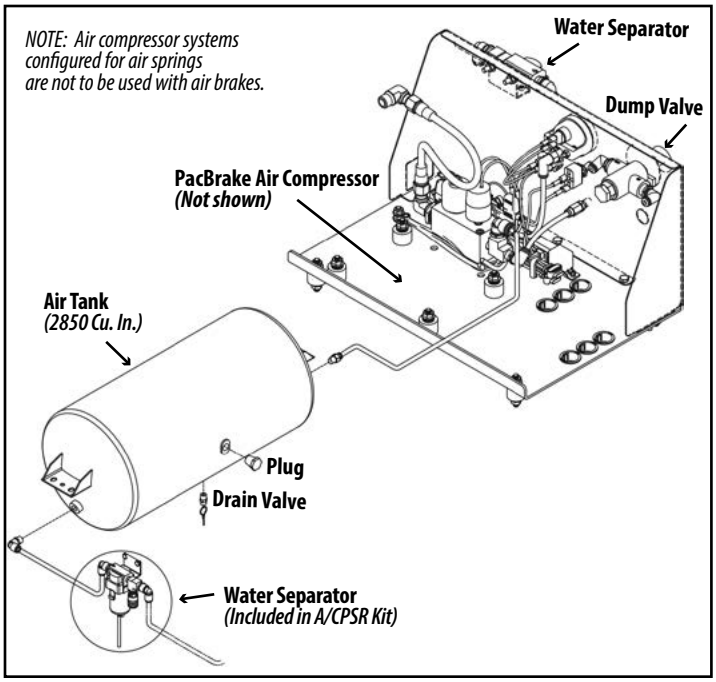



**Figure 5.**
**(1220046) PacBrake Air Compressor Panel-Mounted ACK with large air tank**

- **Dump Valve**
- **One 2850 Cu. In. Air Tank (*Mounting Bracket-End)***

| **1220046 – PM-ACK; One air tank** *(Mounting kit includes fittings and hardware to connect air tank to air compressor)* | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1220029** | PacBrake Air Compressor Kit |
| **1** | **1230243** | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| **1** | **1230280** | Air Tank - 2850 Cubic In., 12″ OD X 29.5″ LG |

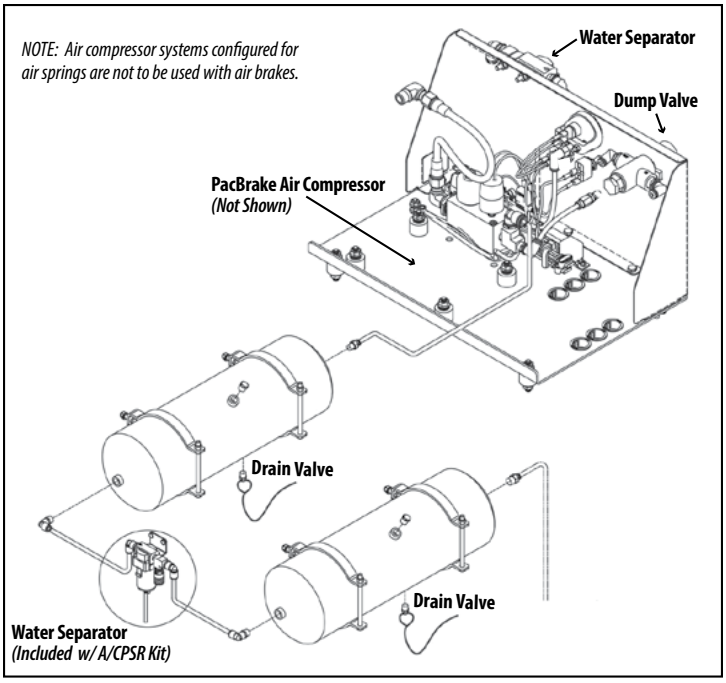



**Figure 7.**
**(1220037) PacBrake Air Compressor Panel-Mounted ACK with two air tanks**
- **Dump Valve**
- **Two Air Tanks *(includes tank mounting kit)***

| **1220037 – PM-ACK; Two air tanks** *(Mounting kit includes air lines; fittings and hardware to connect air tank to air compressor)* | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1220029** | PacBrake Air Compressor Kit |
| **1** | **1230243** | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| **2** | **1234256B001** | Air Tank - 1175 Cubic In., 8" OD X 27" Length |

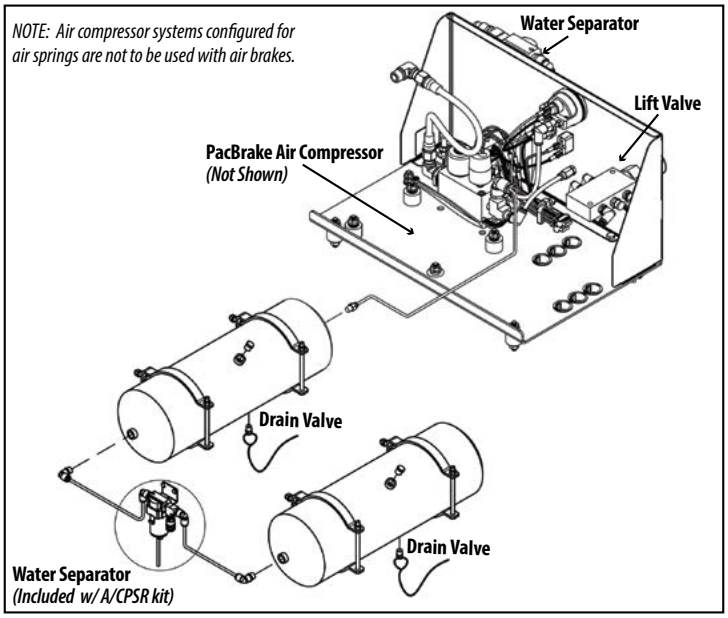



**Figure 6.**
**(1220041) PacBrake Air Compressor Panel-Mounted ACK with two air tanks**
- **Lift Valve**
- **Two Air Tanks *(includes tank mounting kit)***

| **1220041 – PM-ACK; Two air tanks** *(Mounting kit includes air lines; fittings and hardware to connect air tank to air compressor)* | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1220040** | PacBrake Air Compressor Kit |
| **1** | **1230244** | Manual Push/Pull Lift Valve - 5-Port; 2-Position |
| **2** | **1234256B001** | Air Tank - 1175 Cubic In., 8" OD X 27" Length |

## PacBrake A/CPSR Panel-Mounted Air Control Kit – Two Control Valves; Two Air Tanks

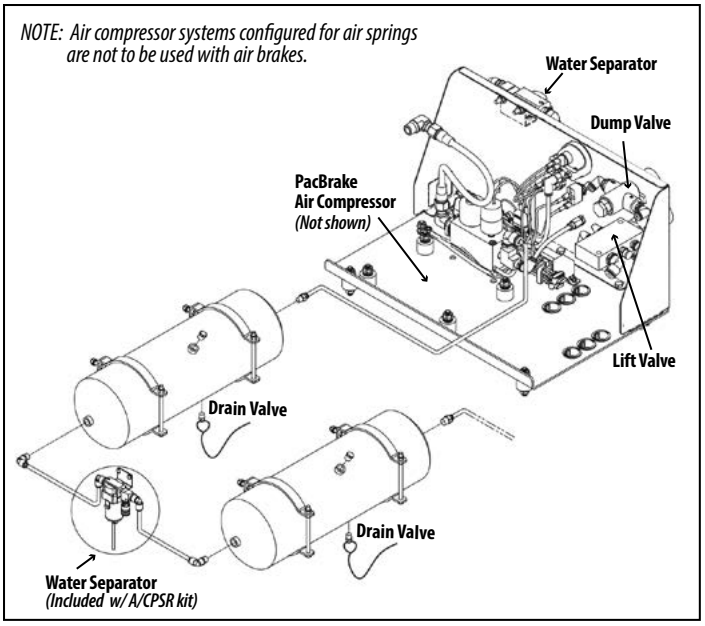



**Figure 9.**
**(1220042) PacBrake Air Compressor Panel-Mounted ACK with two air tanks**

- **Dump Valve**
- **Lift Valve**
- **Two Air Tanks *(includes tank mounting kit)***

**1220042 – PM-ACK; Two air tanks** *(Mounting kit includes fittings and hardware to connect air tank to air compressor)*

| QTY | Part Number | Item Description |
|---|---|---|
| 1 | 1220027 | PacBrake Air Compressor Kit |
| 1 | 1230243 | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| 1 | 1230244 | Manual Push/Pull Lift Valve - 5-Port; 2-Position |
| 2 | 1234256B001 | Air Tank - 1175 Cubic In., 8" OD X 27" Length |

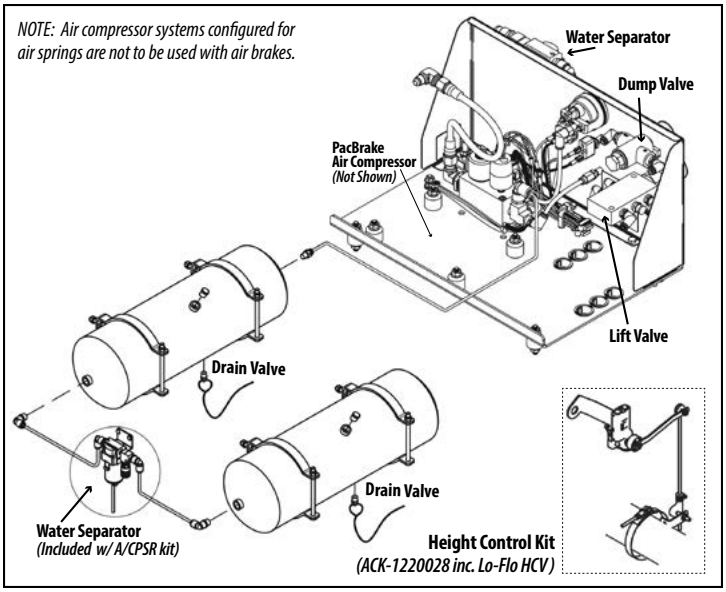



**Figure 8.**
**(1220028) PacBrake Panel-Mounted ACK – Includes Height Control Valve (HCK)**

- **Dump Valve**
- **Lift Valve**
- **Two Air Tanks *(includes tank mounting kit)***
- **Height Control Kit (6330CFAJ65)**

**1220028 – PM-ACK; Height Control Kit; Two air tanks** *(Mounting kit inc. fittings and hardware to connect air tank to air compressor)*

| QTY | Part Number | Item Description |
|---|---|---|
| 1 | 1220027 | PacBrake Air Compressor Kit |
| 1 | 1230243 | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| 1 | 1230244 | Manual Push/Pull Lift Valve - 5-Port; 2-Position |
| 2 | 1234256B001 | Air Tank - 1175 Cubic In., 8" OD X 27" Length |
| 1 | 6330CFAJ65 | Height Control Kit *(includes Lo-Flo HCV)* |

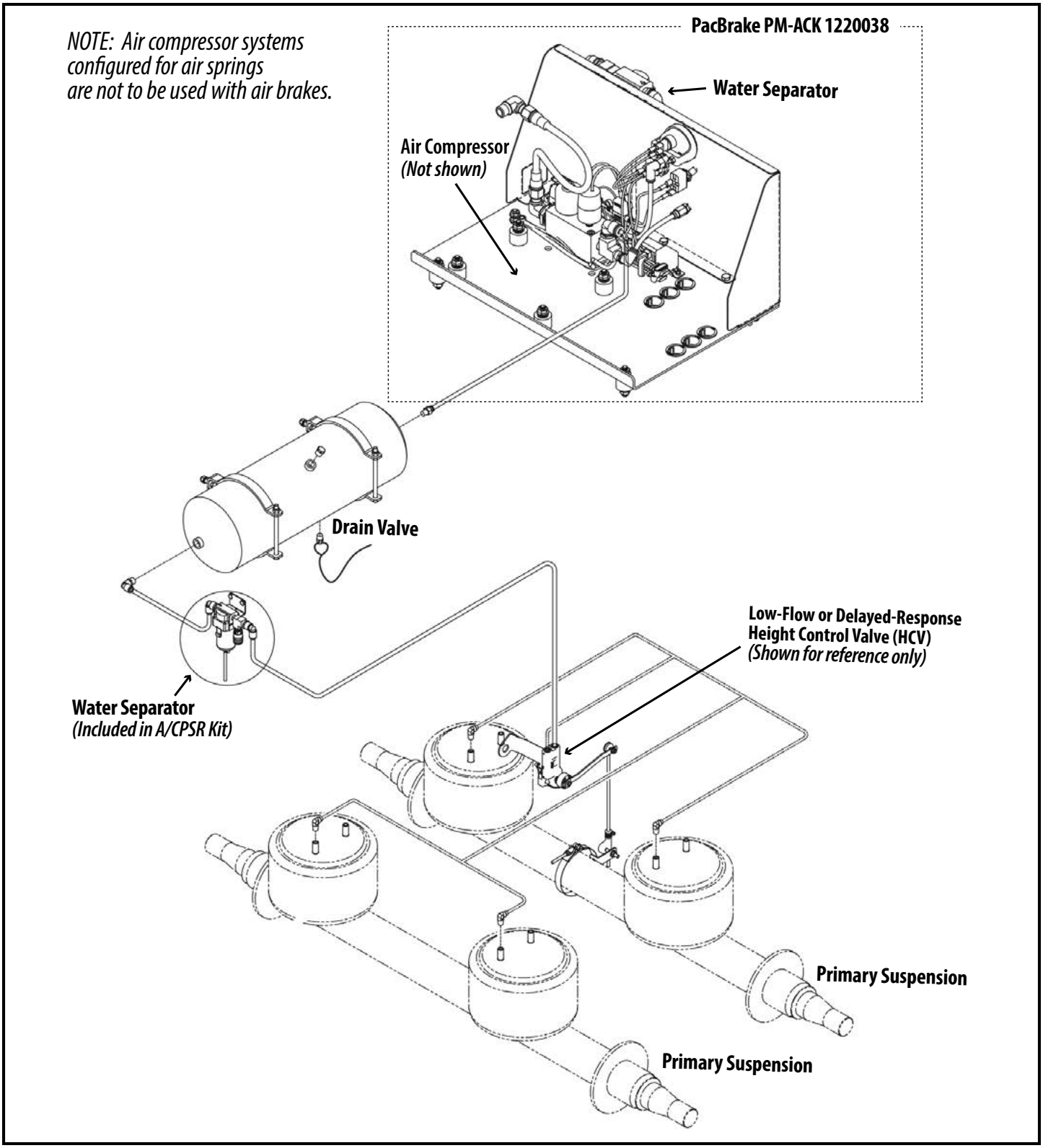



**Figure 10.**
**Tandem Axle plumbing example**
***(Air tank; No control valves; HCK w/ Lo-Flo HCV shown for reference only)***

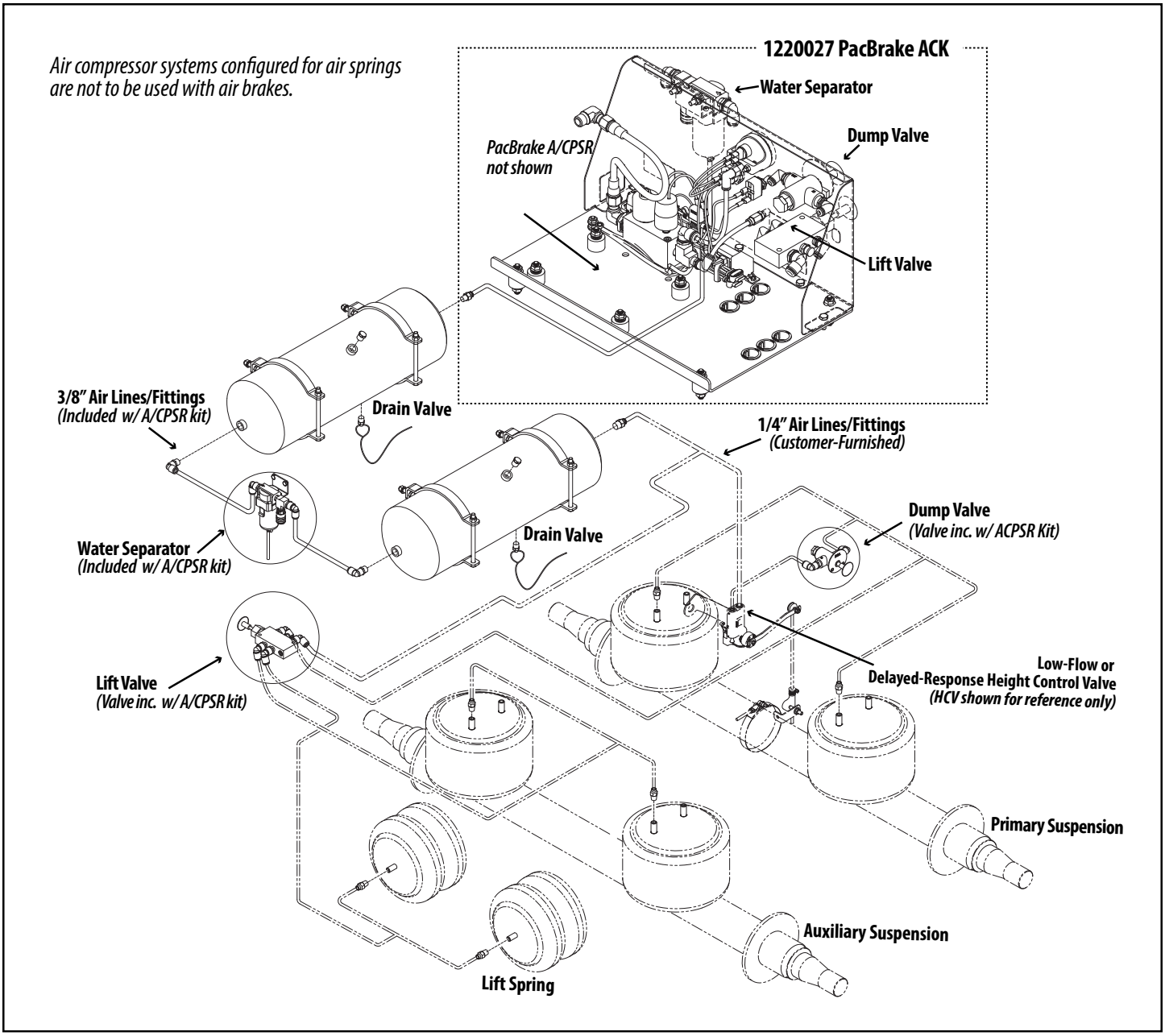



**Figure 11.**
**Tandem Axle (Auxiliary Axle) plumbing example**
***(Two air tanks; Control valves; HCK w/ Lo-Flo HCV shown for reference only)***

## ViAir Air Compressor – Air Control Kit Options

| QTY | Part No. | Item Description | Air Tank *(1175 cubic in)* | Dump Valve *(Panel-Mounted)* | Lift Valve *(Panel-Mounted)* | Height Control Kit *(Lo-Flo HCV)* |
|---|---|---|---|---|---|---|
| 1 | **1220008** | Air Control Kit – A/CPSR; Air Tank; Height Control Kit (HCK) | ☒ | | | **6330DMAE20** |
| 1 | **1220009** | Air Control Kit – A/CPSR; Air Tank | ☒ | | | |
| 1 | **1220018** | Panel-Mounted ACK – Dump-Valve; Lift-Valve; Air Tank; HCK | ☒ | ☒ | ☒ | **6330CFAJ65** |
| 1 | **1220024** | Panel-Mounted ACK – Dump-Valve; Lift-Valve; Air Tank; HCK | ☒ | ☒ | ☒ | **6330DMAE20** |
| 1 | **1220019** | Panel-Mounted ACK – Dump-Valve; Air Tank; HCK | ☒ | ☒ | | **6330CFAJ65** |
| 1 | **1220025** | Panel-Mounted ACK – Dump-Valve; Air Tank; HCK | ☒ | ☒ | | **6330DMAE20** |
| 1 | **1220032** | Air Control Kit – (2) A/CPSR; (2)Air Tanks; HCK | **(2)** | | | **6330CFAJ65** |
| 1 | **1220033** | Air Control Kit – (2) A/CPSR; Air Tank; HCK | ☒ | | | **6330CFAJ65** |

**Figure 13.**
**Wiring Diagram:**
**ViAir Air Compressor – ACK Configuration**

| Pressure Switch/Relay Wire Designation | |
|---|---|
| **Wire** | **TAG** |
| **Big Red** | Connect to (Fused) Positive Power Source |
| **Little Red** | |
| **White** | Connect to Load or Compressor Power Wire |
| **Black** | Connect to Grounding Point (or Control Switch) |

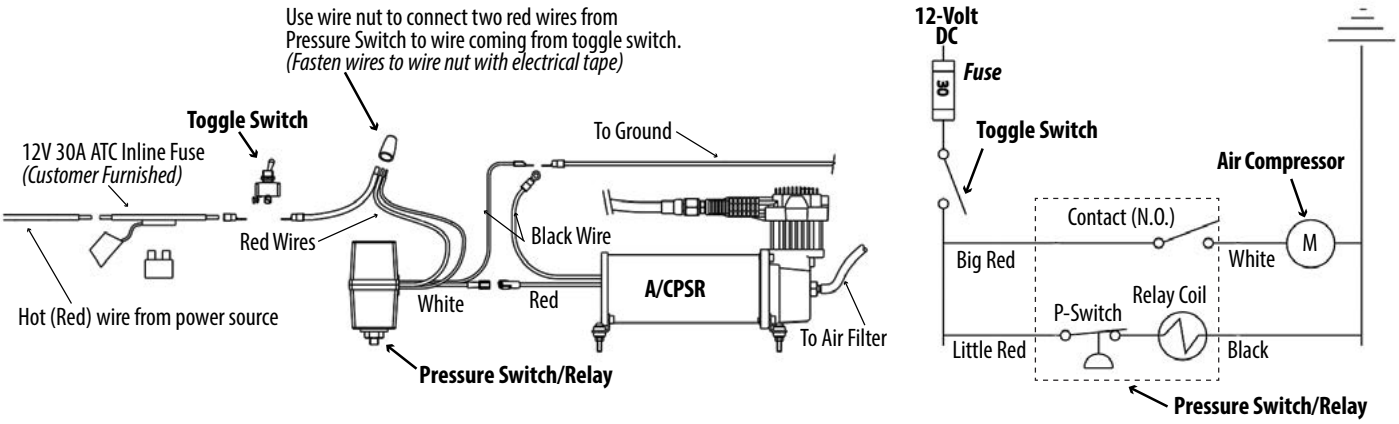
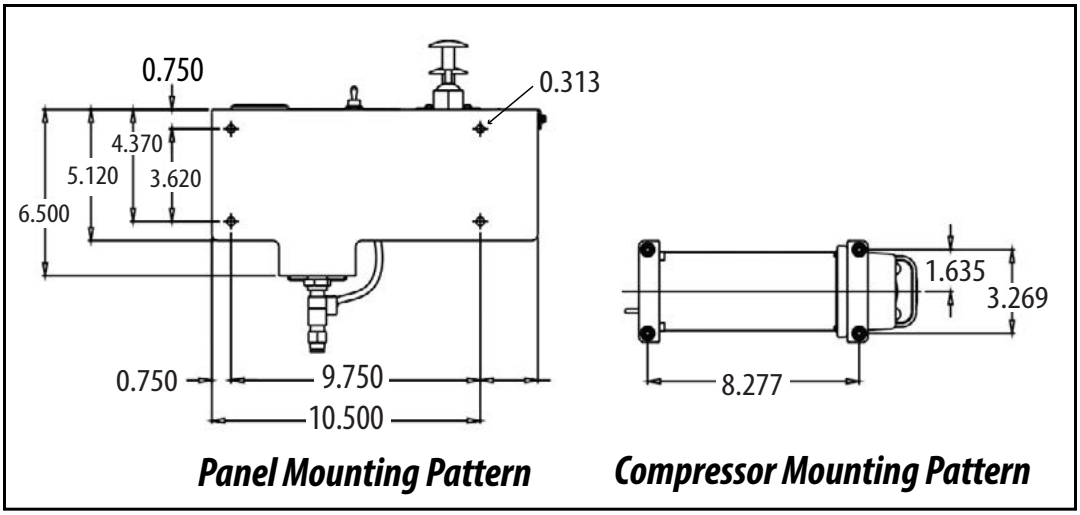



**Figure 12.**
**Mounting Pattern –**
**ViAir Air Compressor;**
**Panel-Mount Assembly**



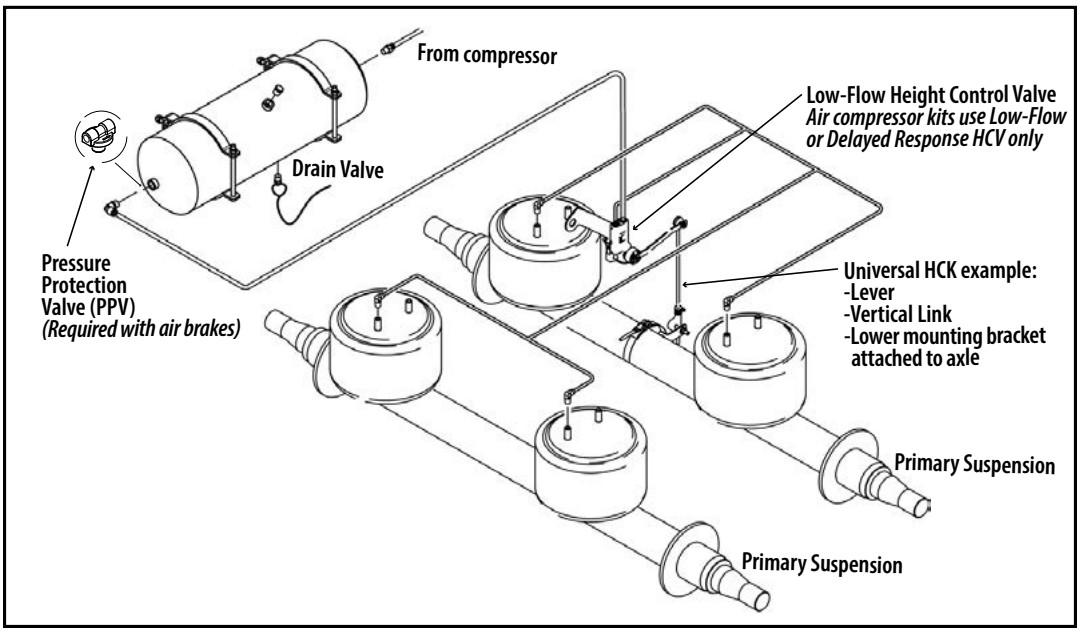


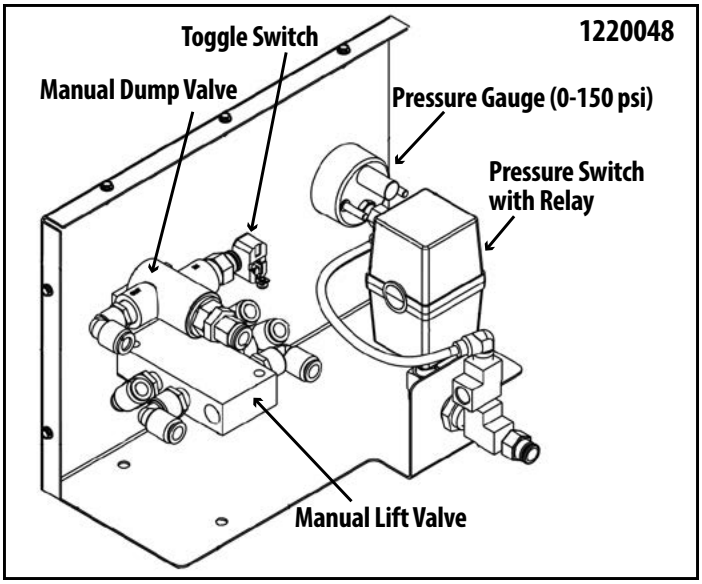

**Figure 14.**
**ViAir A/CPSR Air Control Kit**

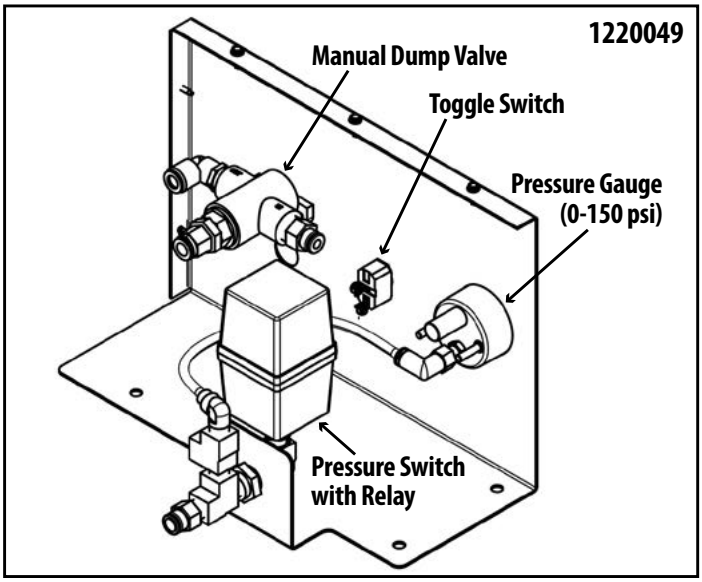
**(1220008) – includes HCK**
- **ViAir Air Compressor**
- **One Air Tank**
  ***(Inc. tank mounting kit)***
- **Height Control Kit with Lo-Flo HCV (6330DMAE20)**

**(1220009) – A/CPSR Kit**
- **ViAir Air Compressor**
- **One Air Tank**
  ***(Inc. tank mounting kit)***

| 1220008 – ViAir A/CPSR Control Kit – One Air Tank; Height Control Kit (HCK) | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **1** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **1** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG |
| **1** | **1234257B000** | Bracket Kit-8" Air Tank *(includes mounting hardware and fittings to connect air tank to air compressor)* |
| **1** | **6330DMAE20** | Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1220009 – ViAir A/CPSR Control Kit – One Air Tank** | | |
| **1** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **1** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **1** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG |
| **1** | **1234257B000** | Bracket Kit-8" Air Tank *(includes mounting hardware and fittings to connect air tank to air compressor)* |

# ViAir Air Compressor – Panel-Mount Assembly




| QTY | | Part Number | Item Description |
|---|---|---|---|
| 1 | | | **1210048 – ViAir A/CPSR Panel-Mounted Air Control Kit *(Dump-Valve; Lift-Valve)*** |
| | 1 | 1230245 | A/CPSR Base Plate |
| | 1 | 1420117 | Toggle Switch SPST; Quick-Disconnect Terminals |
| | 1 | 1240021 | Pressure Switch/Relay; 90-120 PSI |
| | 1 | 1230080 | Pressure Gauge, 2" Panel Mount, Lighted; 0-150 PSI |
| | 1 | 1230243 | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| | 1 | 1230244 | Manual Push/Pull Lift Valve - 5-Port; 2-Position |
| 1 | | | **1210049 – ViAir A/CPSR Panel-Mounted Air Control Kit *(Dump-Valve)*** |
| | 1 | 1230245 | A/CPSR Base Plate |
| | 1 | 1420117 | Toggle Switch SPST; Quick-Disconnect Terminals |
| | 1 | 1240021 | Pressure Switch/Relay; 90-120 PSI |
| | 1 | 1230080 | Pressure Gauge, 2" Panel Mount, Lighted; 0-150 PSI |
| | 1 | 1230243 | Manual Push/Pull Dump Valve - 3-Port; 2-Position |

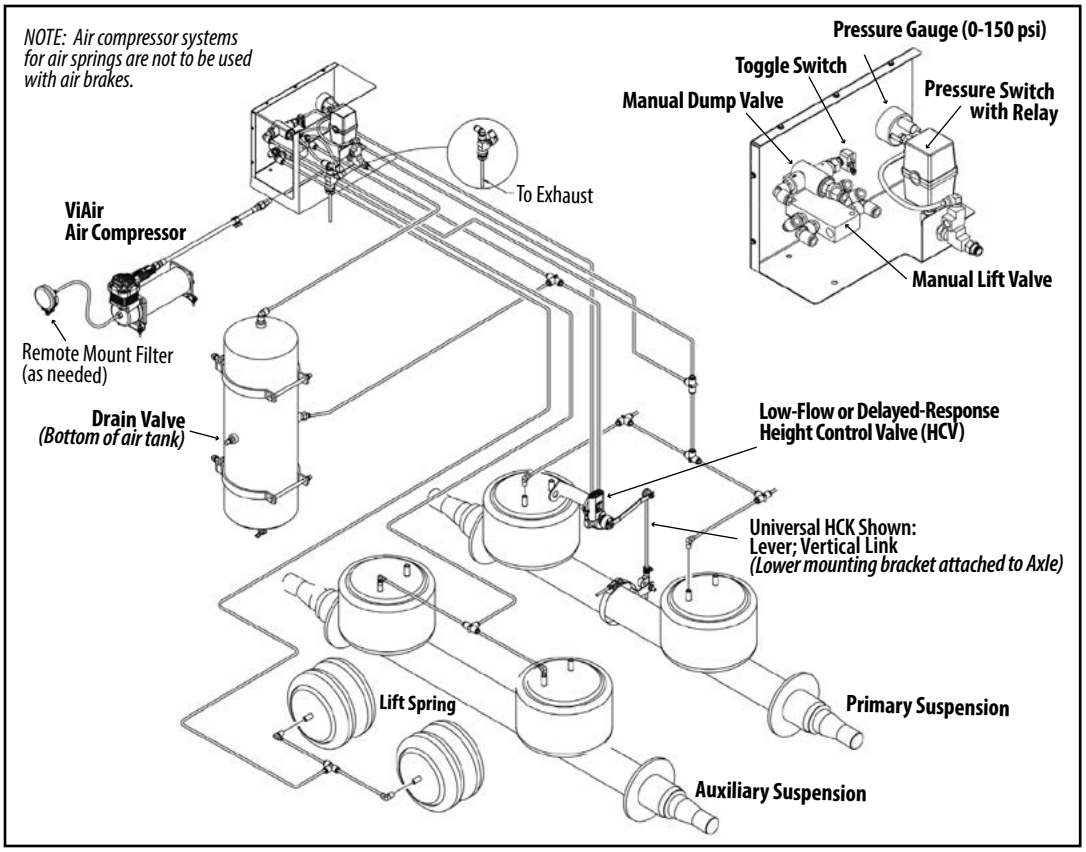



**Figure 15.**
**ViAir Panel-Mounted ACK w/ Height Control Kit**

- **ViAir Air Compressor**
- **Mounting Panel**
- **Dump-Valve**
- **Lift-Valve**
- **Height Control Kit**
- **One Air Tank** ***(Inc. tank mounting kit)***

**PM-ACK (1220018)**

- **HCK w/ Lo-Flo HCV (6330CFAJ65)**

**PM-ACK (1220024)**

- **HCK w/ Lo-Flo HCV (6330DMAE25)**

| 1220018/1220024 – ViAir Panel-Mounted Air Control Kit – Dump-Valve; Lift-Valve; HCK *(inc. Lo-Flo HCV)* | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **1** | **1230250** | ACK Panel Cover (Black) 8.69″x12.93″x6.5″ |
| **1** | **1230039** | Schrader Valve 1/4″ Tube; Panel Mount |
| **1** | **1420187** | Fuse ATC 30 Amp #7460K49 |
| **1** | **1420052** | Fuse Block 12AWG #8110K4 |
| **1** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG *(Mounting kit inc. fittings and hardware to connect tank to air compressor)* |
| **1** | **1234257B000** | Bracket Kit-8" Air Tank |
| **Height Control Kits** | | |
| **1** | **6330CFAJ65** | **(1220018)** Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1** | **6330DMAE25** | **(1220024)** Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1** | **1210048** | **Panel-Mounted ACK *(Dump Valve; Lift Valve)*** |
| **1** | **1230245** | A/CPSR Base Plate (with corner) |
| **1** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **1** | **1230080** | Pressure Gauge, 2″ Panel Mount, Lighted; 0-150 PSI |
| **1** | **1230243** | Manual Push/Pull Dump Valve - 3-Port; 2-Position |
| **1** | **1230244** | Manual Push/Pull Lift Valve - 5-Port; 2-Position |

# ViAir A/CPSR Panel-Mounted Air Control Kit - Dump-Valve; Air Tank; HCK

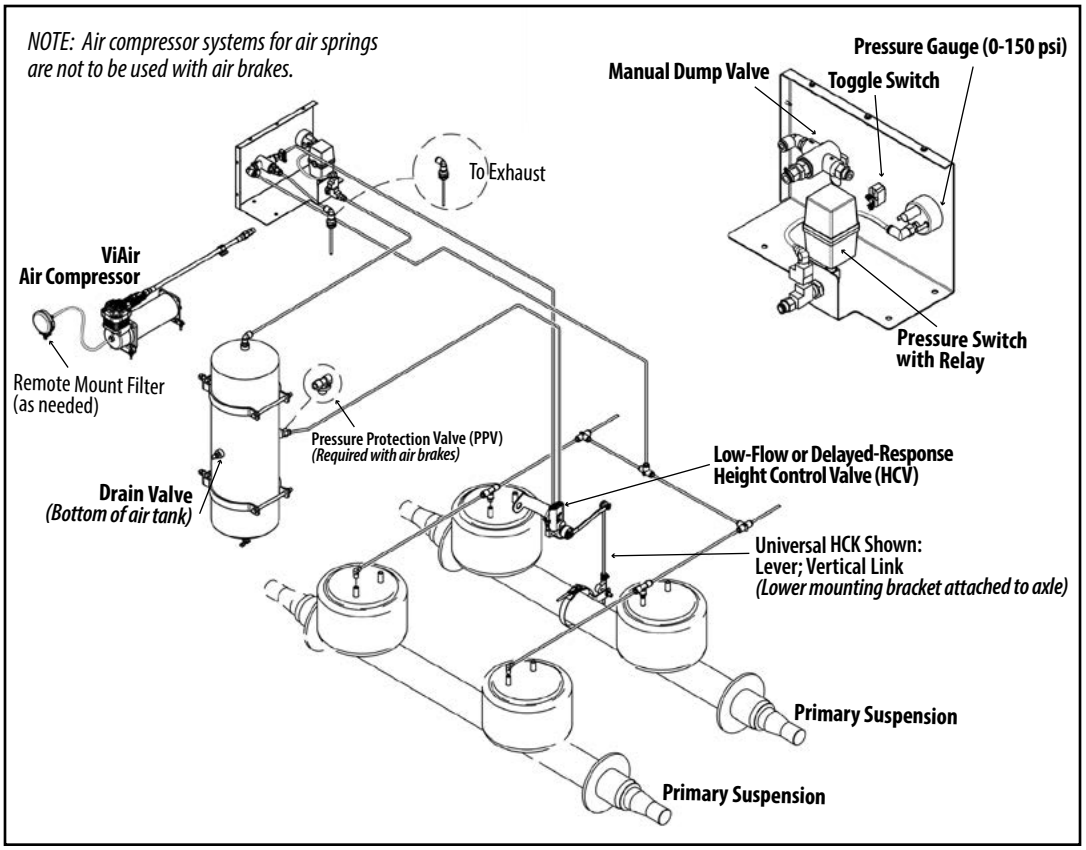



**Figure 16.**
**ViAir Panel-Mounted ACK w/ Height Control Kit**

- **ViAir Air Compressor**
- **Mounting Panel**
- **Dump-Valve**
- **One Air Tank** ***(inc. tank mounting kit)***

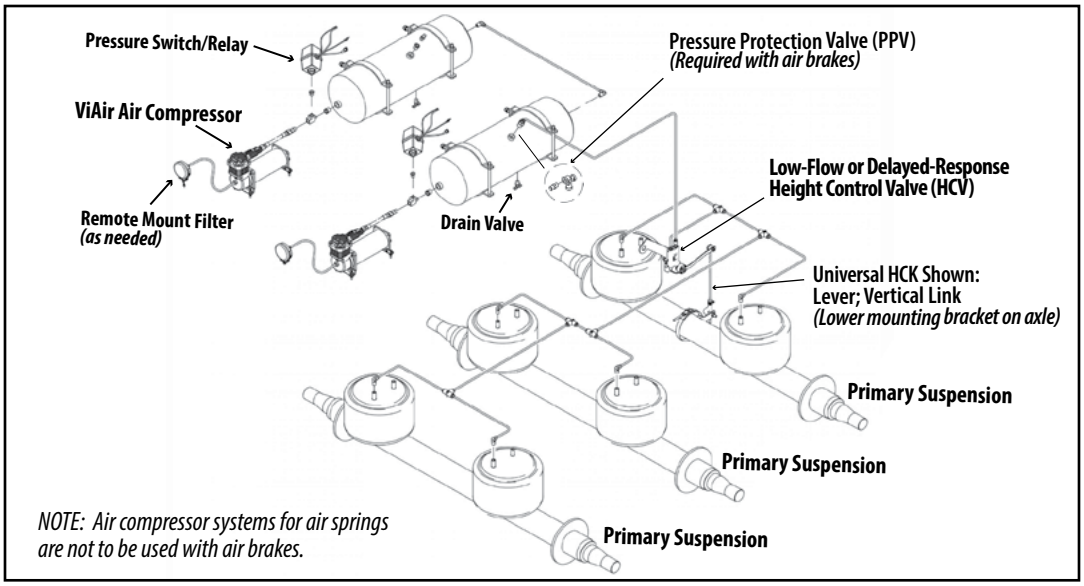
**PM-ACK (1220019)**

- **HCK w/ Lo-Flo HCV ( 6330CFAJ65)**

**PM-ACK (1220025)**

- **HCK w/ Lo-Flo HCV (6330DMAE25)**

| **1220019/1220025 –ViAir A/CPSR Panel-Mounted Air Control Kit - Dump-Valve; Air Tank; HCK *(inc. Lo-Flo HCV)*** | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **1** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **1** | **1230250** | ACK Panel Cover (Black) 8.69″x12.93″x6.5″ |
| **1** | **1230039** | Schrader Valve 1/4″ Tube; Panel Mount |
| **1** | **1420187** | Fuse ATC 30 Amp #7460K49 |
| **1** | **1420052** | Fuse Block 12AWG #8110K4 |
| **1** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG *(Mounting kit inc. fittings and hardware to connect tank to air compressor)* |
| **1** | **1234257B000** | Bracket Kit-8" Air Tank |
| Height Control Kits | | |
| **1** | **6330CFAJ65** | **(1220019)** Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1** | **6330DMAE25** | **(1220025)** Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1** | **1210049** | **Panel-Mounted ACK *(Dump Valve)*** |
| **1** | **1230245** | A/CPSR Base Plate (with corner) |
| **1** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **1** | **1230080** | Pressure Gauge, 2″ Panel Mount, Lighted; 0-150 PSI |
| **1** | **1230243** | Manual Push/Pull Dump Valve - 3-Port; 2-Position |



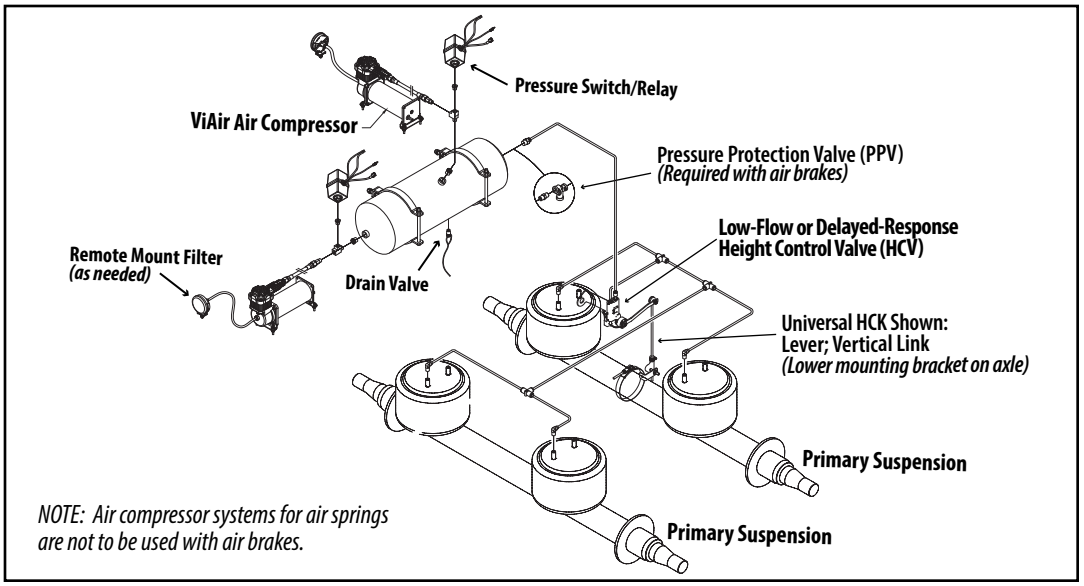




**Figure 17.**
**ViAir Dual Air Compressor ACK w/ Height Control Kit**

**Tri-Axle (1220032)**
- **Two ViAir A/CPSR**
- **Two Air Tanks** ***(inc. tank mounting kit)***
- **HCK w/ Lo-Flo HCV ( 6330CFAJ65)**

**Tandem Axle (1220033)**
- **Two ViAir A/CPSR**
- **One Air Tank** ***(inc. tank mounting kit)***
- **HCK w/ Lo-Flo HCV (6330DMAE25)**

| 1220032 – ViAir Air Control Kit - (Tri-Axle) Two Air Compressors; Two Air Tanks; HCK | | |
|---|---|---|
| **QTY** | **Part Number** | **Item Description** |
| **2** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **2** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **2** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1230295** | Schrader Valve 1/4" Tube; Panel Mount |
| **2** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG |
| **2** | **1234257B000** | Bracket Kit-8" Air Tank *(includes mounting hardware and fittings to connect air tank to air compressor)* |
| **1** | **6330CFAJ65** | Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |
| **1220033 – ViAir Air Control Kit - (Tandem-Axle) Two Air Compressors; Air Tank; HCK** | | |
| **2** | **1230171** | ViAir Air Compressor 1/4 HP 12V 23A |
| **2** | **1240021** | Pressure Switch/Relay; 90-120 PSI |
| **2** | **1420117** | Toggle Switch SPST; Quick-Disconnect Terminals |
| **1** | **1234256B001** | Air Tank-1175 Cu In, 8″ OD X 27″ LG |
| **1** | **1234257B000** | Bracket Kit-8″ Air Tank *(includes mounting hardware and fittings to connect air tank to air compressor)* |
| **1** | **6330CFAJ65** | Height Control Kit w/ Lo-Flo Height Control Valve (HCV) |

## Air Compressor Mounting Guide/Preventive Maintenance

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."

### 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.

### Mounting Inside Enclosure

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

Make sure 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.

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.

CAUTION Exhaust 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.

### Wiring

Size the electrical wiring according to the voltage; the maximum amperage draw of system components; and, the total wire length. An online wire gauge calculator can help determine the appropriate wire size.

### 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 compressor away from the battery.

Refer to manufacturer's specifications for proper fuse size. Always locate fuse as close as possible to the power source.

### Notes and Cautions

All work should be completed by a trained technician using the proper tools and safe work procedures.

The manual uses service notes to provide important safety guidelines and ensure system components operate correctly. The service notes are defined as:

"NOTE" – Provides additional instructions or procedures to complete tasks and ensure the equipment functions properly.

CAUTION – Indicates a hazardous situation or unsafe practice that, if this is not avoided, could result in equipment damage and-or serious injury.

### Plumb the system

Connections must be airtight to get the proper system performance. Use liquid thread sealant on all threaded air fittings. Torque fittings to 10-12 ft lbs.

If used, mount/plumb remote inlet air filters in a clean location away from water sources. Replace filter media when dirty.

**Air Tank Drain:** The air tank drain valve 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 the air tank(s) daily. NOTE: Kinks in air lines or an upward-running air line can cause water to pool/freeze inside the lines.

### 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 tank pressure between a preset maximum and minimum. The air compressor turns off when the pressure reaches the "cut-out level" (120-130 PSI).
The compressor turns on when the air tank pressure drops to the "cut-in level" (90-100 PSI).

Inspect all air line connections for leaks with soap and water solution. An air line that is not cut squarely or not pushed all the way into the fitting are the most common causes of leaks. Fix or replace as needed.

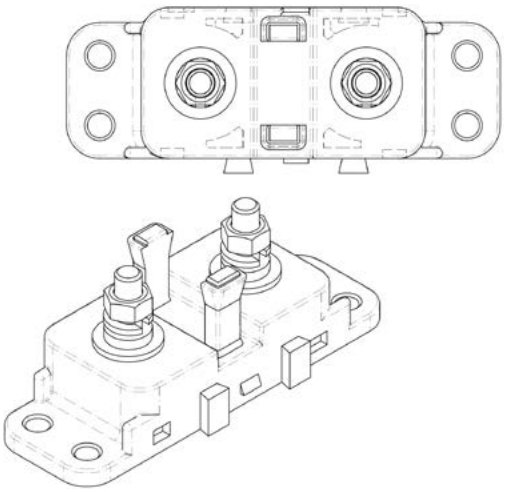
### Preventive Maintenance

- Drain the moisture from all air reservoirs (tanks) during each pre-trip/safety inspection.
- Compressor power switch should be turned OFF when vehicle is not in use to avoid damage to the 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 element at least once a month if used frequently in a dusty environment.
- Regularly clean dust and dirt from the air compressor cooling fins and motor housing.
- Check all compressor/accessory mounting bolts. Tighten as needed.

**Refer to these American Truck Association Technology & Maintenance Council (TMC) publications for additional information**

| | |
|---|---|
| RP 132 | Battery Charging, Testing and Handling |
| RP 617 | Air-System Contaminants Elimination Procedure |
| RP 619 | Air System Inspection Procedure |
| RP 634 | Ride Height Adjustment - Air Ride Suspensions |
| RP 643 | Air-Ride Maintenance Guidelines |

**Figure 18.**
**Alternate Relay**
- **(# 10) Input studs**
- **Protective cap (included)**



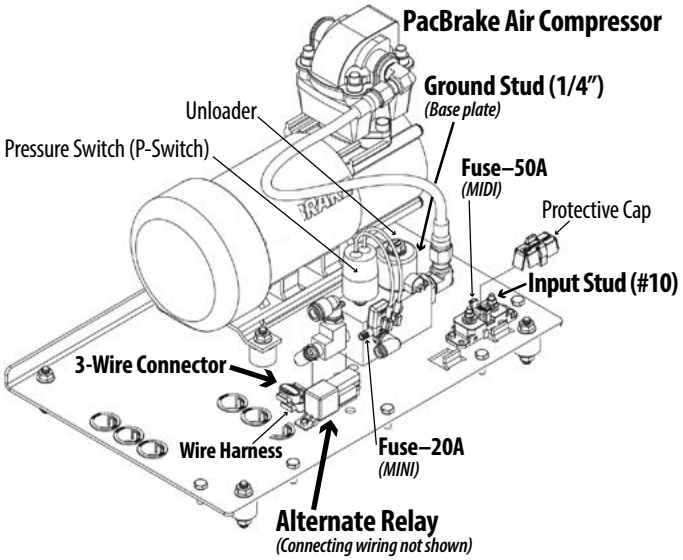
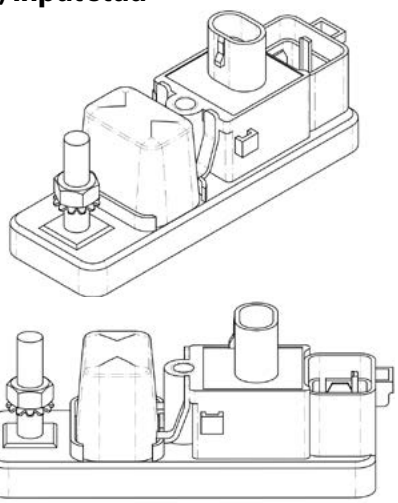
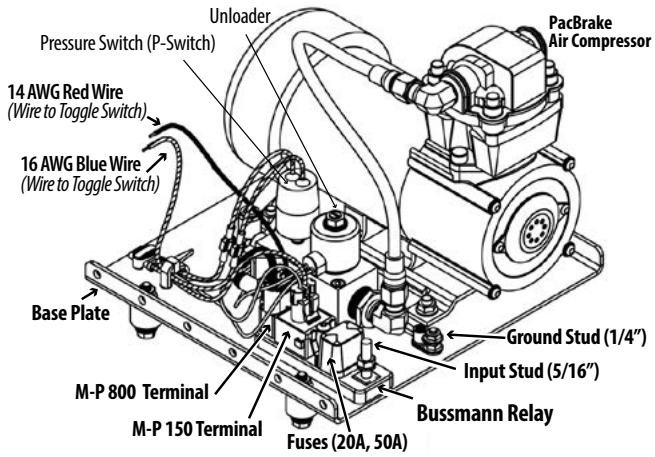



**Figure 19.**
**Bussmann™ Relay**
- **Sealed Unit**
- **Modular Components**
- **(5/16") Input stud**





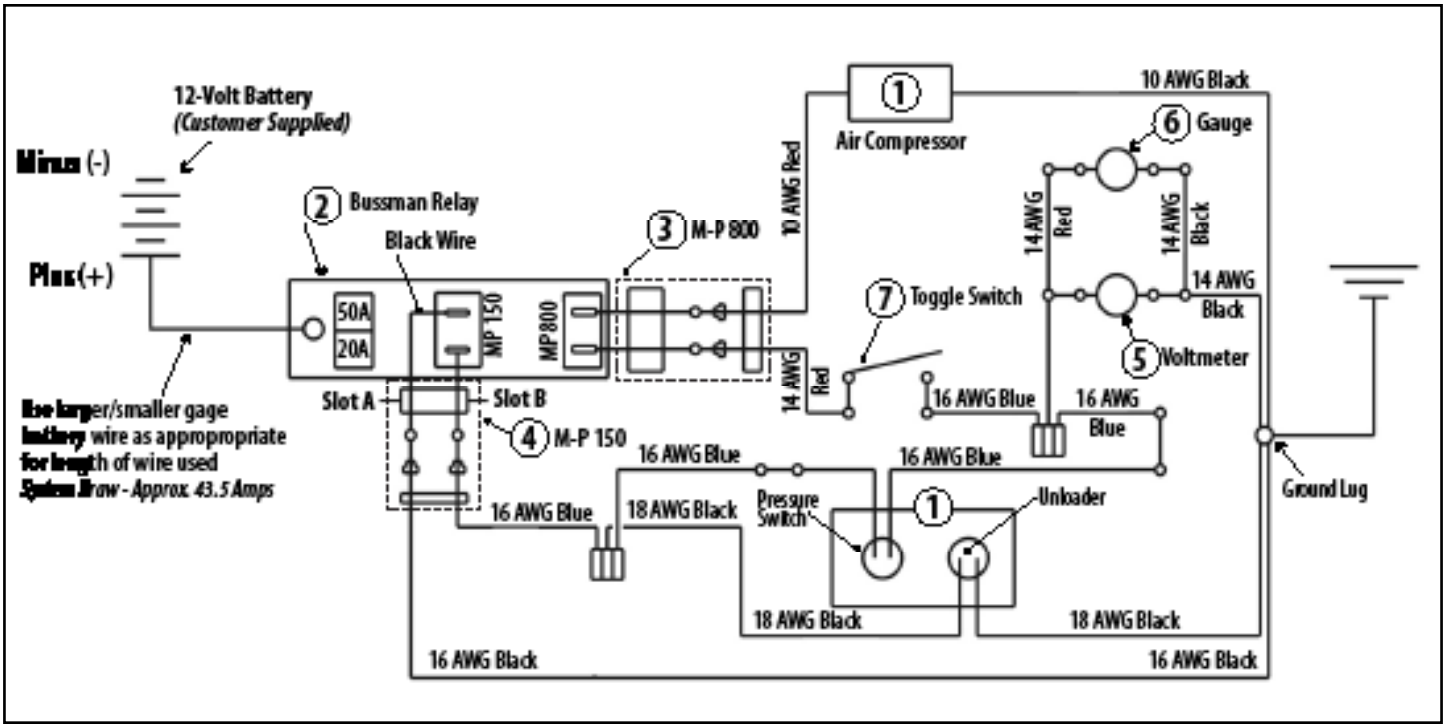



**Figure 20.**
**Wiring Diagram – PacBrake Air Compressor Panel-Mounted Air Control Kit (Bussmann Relay)**

| Diagram No. | QTY | Part Number | Item Description |
|---|---|---|---|
| 1 | 1 | 1230236 | Pacbrake Air Compressor, 3/4 Hp 12V 42A |
| 2 | 1 | 1420192 | Bussmann Power Module Relay (PRM), 12V 70A |
| 3 | 2 | 1420197 | Metri-Pack (M-P) 800 Female Terminal 8-10 GA |
| | 1 | 1420195 | Metri-Pack (M-P) 800 Female Connector 2-Cavity |
| | 1 | 1420196 | Metri-Pack (M-P) 800 TPA, 2-Cavity |
| | 2 | 1420207 | Metri-Pack (M-P) 800 Cable Seal 14 GA Blue |
| 4 | 1 | 1420142 | Metri-Pack (M-P) 150 Secondary Lock 2-Cavity |
| | 1 | 1420149 | Metri-Pack (M-P) 150 Female Connector 2-Cavity |
| | 2 | 1420146 | Metri-Pack (M-P) 150 Cable Seal 18 GA |
| | 2 | 1420152 | Metri-Pack (M-P) 150 Female Terminal 18-16 GA |
| 5 | 1 | 1230302 | Voltmeter, 5-48V DC |
| 6 | 1 | 1230080 | Pressure Gauge, 2" Panel Mount, Lighted; 0-160 PSI |
| 7 | 1 | 1420094 | Toggle Switch SPST; Quick-Disconnect Terminals |

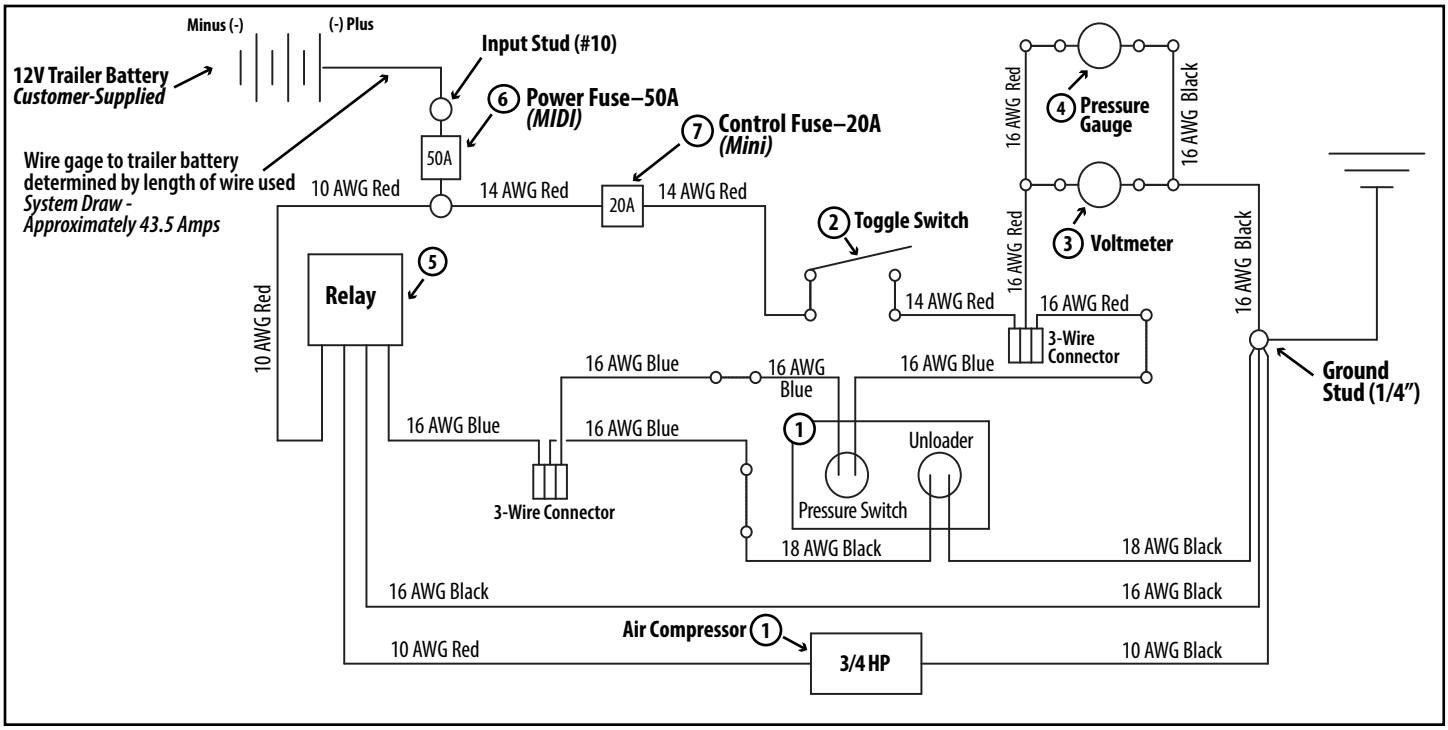
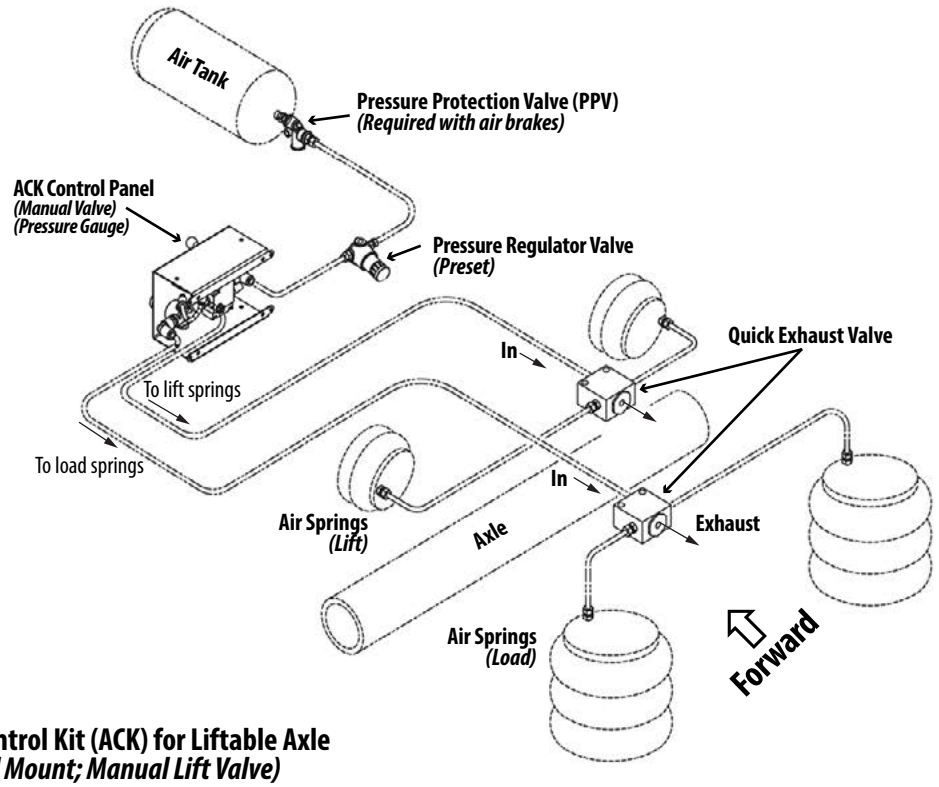



**Figure 21.**
**Wiring Diagram – PacBrake Air Compressor Panel-Mounted Air Control Kit (Alternate Relay)**

| DIAG No. | QTY | Part No. | Item Description | Manufacturer Part Number |
|---|---|---|---|---|
| 1 | 1 | 1230236 | Pacbrake Air Compressor, 3/4 Hp 12V 42A | |
| | 1 | 1230324 | Unloader Assembly w/ Pressure Switch Relay–105-135 PSI (+/-10 PSI) | |
| | 1 | 1230330 | Pressure Switch 105-135 PSI +/-10PSI | |
| | 1 | 1230331 | Unloader Solenoid | |
| | 1 | 1230335 | Check Valve (1/4" NPT to 1/4" NPT) | |
| 2 | 1 | 1420094 | Toggle Switch SPST; Quick-Disconnect Terminals | |
| 3 | 1 | 1230302 | Voltmeter, 5-48V DC | |
| 4 | 1 | 1230080 | Pressure Gauge, 2" Panel Mount, Lighted; 0-160 PSI | |
| 5 | 1 | 1420240 | Relay 70A, Automotive SPST | Digi-Key #255-3733-Nd |
| | 1 | 1420233 | Relay Socket, 4 Pin | Waytek #75363 |
| | 2 | 1420234 | F, Crimp Terminal 18-14 AWG | Mouser #571-422812-Ct |
| | 2 | 1420235 | F, Crimp Terminal 12-10 AWG | Mouser #571-2807564-Ct |
| 6 | 1 | 1420237 | Fuse 50A, MIDI Bolt-Down Time Delay | Waytek #46382 |
| | 1 | 1420236 | Fuse Holder MIDI Flex-Holder | Mouser #576-04981038HXFC |
| 7 | 1 | 1420238 | Fuse 20A, Yellow Mini Automotive Fuse | Waytek #46257 |
| | 1 | 1420239 | Fuse Holder In-Line, 14GA | Waytek #46277 |
| | 1 | 1420242 | Wire Harness Kit – PacBrake A/CPSR w/ Air Control Kit | |

## Air Control Kit Components – Liftable Axle




**Air Control Kit (ACK) for Liftable Axle**
***(Panel Mount; Manual Lift Valve)***

The air control kit (ACK) consists of a pressure regulator with a gauge; connected to an air valve that is operator-controlled by a manual knob or by an electric switch.

The operator uses the air control kit to control the pressure to the air springs to support different loads.

Contact Ridewell Customer Service for the manual/electric ACK configurations available. Installation will vary by configuration.

⚠CAUTION The installer is responsible for ensuring the vehicle's air system requirements comply with all appropriate Federal Motor Vehicle Safety Standards.

### Air Control Kit Installation – Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| **Air springs fill but do not exhaust.** | — Obstructed air line.<br>— Faulty controls wiring.<br>— Manual override pushed in. | — Check for pinched/blocked lines.<br>— Check wiring with voltmeter and correct wiring/installation.<br>— Release manual override. |
| **Air system leaks down after a short period of time.** | — Leak in air system beyond accepted standards. NOTE: Some valves will leak at an acceptable rate. | — Pressurize system and spray soapy water solution onto the tubing, valves and fittings. Check for bubbles (leaks).<br>— Check that tubing cuts are straight and smooth. Re-cut and reassemble fitting joints, if necessary. |
| **Auxiliary unit will not stay up** | — Loose air fitting connection/Damaged air lines.<br>— Air lines to lift and load air springs are reversed.<br>— Damaged or worn air springs. | — Check and retighten fittings. Repair or replace component, as necessary.<br>— Check installation. Air line from regulator goes to (load) air springs.<br>— Replace air spring if worn or damaged. |
| **Auxiliary unit not achieving correct lift** | — Air lines to lift and load air springs are reversed.<br>— Lift air springs do not have proper air pressure.<br>— Interference with driveline/other chassis components.<br>— Air control system not installed correctly. | — Check installation. Air line from regulator goes to (load) air springs.<br>— Check for loose fittings or worn/damaged lines. Verify air tank pressure with gauge.<br>— Visually inspect auxiliary unit operation for proper clearance. Retighten any loose fasteners.<br>— Check air control kit installation; refer to OEM installation procedures. |

## Air Compressor Operation – Troubleshooting

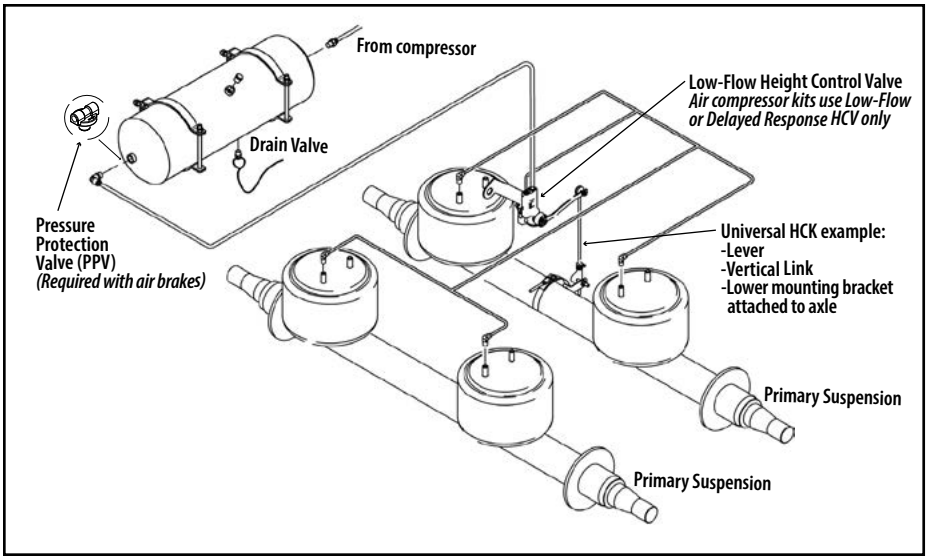
| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **Compressor will not operate** | — Power switch is in OFF position or there is no power to the switch. | — Make sure battery is fully charged and compressor switch is turned to ON.<br>Disconnect compressor from power source, check for blown fuse. Replace fuse, if necessary, and reconnect. *Refer to Manufacturer Specification for fuse amperage.*<br>Use ohm-meter to check continuity between power source and switch; and, from switch to compressor. |
| | — Inadequate grounding. | — Check battery/compressor grounding with voltmeter. |
| | — Motor overheated. | — Let compressor cool for 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 repeatedly burn out** | — Wrong fuse size.<br>— Electrical short to ground. | — Confirm fuses are proper ampere rating.<br>— Make sure battery/compressor are properly grounded. |
| **Reset mechanism cuts out repeatedly; fuses of proper size burn out.** | — Malfunction/ improperly adjusted. | — Adjust; repair; or replace compressor. |
| | — Lack of proper ventilation or ambient temperature too high. | — Move compressor to well-ventilated area or area with lower ambient temperature. Drill additional holes in enclosure for venting. |
| **Air Compressor runs continuously** | — Leak in air system beyond accepted standards. | — Pressurize system. Spray soapy water solution onto connections. Check for air bubbles (leaks). Re-cut/reassemble lines. 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 (± 5 PSI). Check pressure switch connections. Repair/replace pressure switch as necessary. |
| | — Check-valve may be stuck in closed position (pressure switch installed after the 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.<br>— Low voltage | — Replace filter element.<br>— Verify system voltage with voltmeter. |
| **Tank pressure drops after air compressor shuts off** | — Leak in air system beyond 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/replace faulty parts. |
| | — Water in air tank. | — Drain tank. |

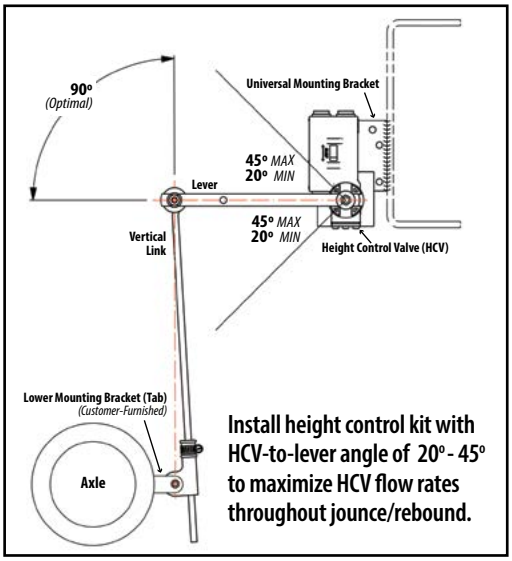
The Ridewell Extreme Air® Height Control Kit (HCK) adds and exhausts air from the air springs to maintain the vehicle ride height. The HCK assembly consists of a lever connected to the height control valve (HCV) and a rod arm (vertical link) connected to the HCK lower mounting bracket.

Refer to the Height Control Kit Installation Guide (P/N 9710008) for installation procedures and HCK configurations for different suspension applications. The vehicle's entire air system should be checked for leaks after any HCV/HCK installation.

CAUTION The installer is responsible for ensuring the air system requirements comply with all appropriate Federal Motor Vehicle Safety Standards.

**9710008**
**HCK Installation Guide**




## (HCV) Height Control Kit Installation – Troubleshooting

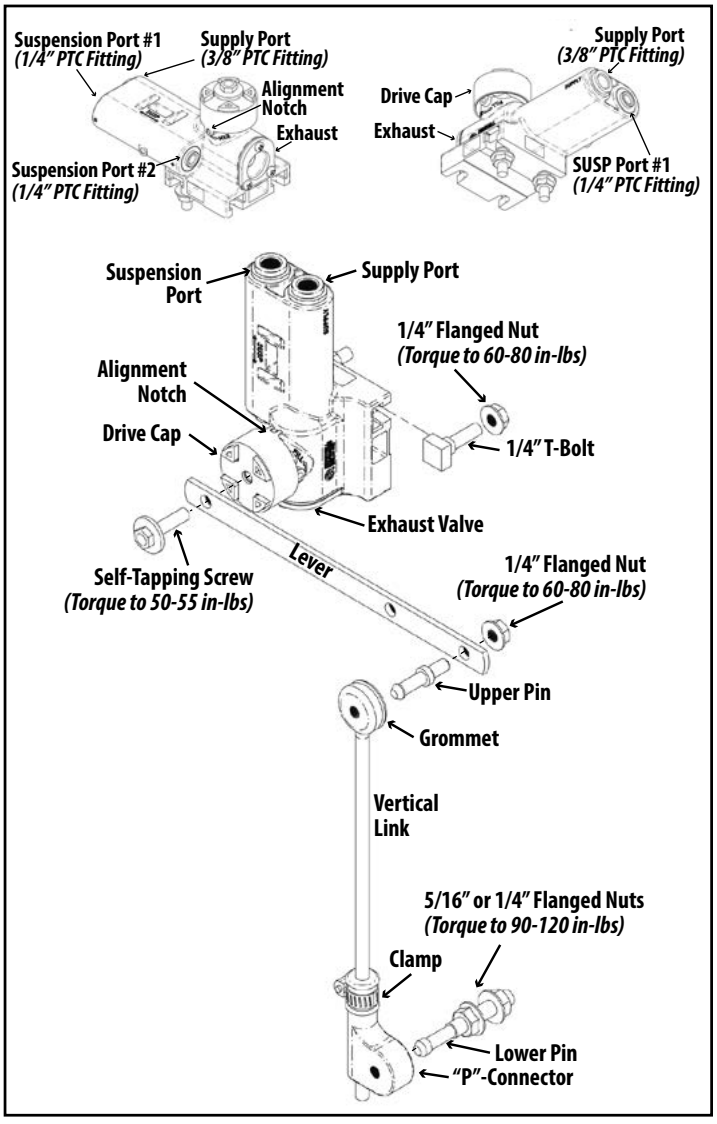
| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **HCV is not receiving air.** | — Blocked air supply line. | — Verify air lines are pressurized by removing supply line at HCV. Check for pinched lines. |
| | — Air tank not filling/reaching set pressure. | — Verify air tank pressure with manual/in-line pressure gauge. |
| **HCV is not delivering air to the air springs.** | — Pressure Protection Valve (PPV) not working correctly. | — Check PPV operation by making sure valve opens when system reaches the desired pressure setpoint *(usually greater than 70 psi)*. |
| **Air springs fill but do not exhaust.** | — Obstructed air line. | — Disconnect linkage. Rotate 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 to suspension port | — Move air supply line to HCV supply port. |
| **Air system leaks down in a short period of time.** | — HCV installed backwards. | — Disconnect linkage to HCV. Turn lever to the up position (fill). If air springs do not inflate, reinstall height control valve. Check air system for leaks. |
| | — Leak in air system beyond 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 rest of system for leaks. Check that tubing cuts are straight and smooth. Re-cut and reassemble if necessary. |

## 63– Series Height Control Kit — Part Number Decoder (HCK Reference Drawing 6300AAAA00)

**HCK Part Numbers:** *Height control kit component options are designated by the numbers "0-9" and-or "A-P" grouped together and listed on Engineering Drawing 6300AAAA00.*

| 63 | X | X | X | X | A | X | X | X |
|---|---|---|---|---|---|---|---|---|
| HCK Series P/N Prefix | Height Control Valve (0-3; "9"-No HCV) | Pressure Protection Valve ("0"-No PPV; 1-2) | Lever (A-E) | Vertical Link (A-P; No "i" "0") | Reserved-Future Use | Lower Pin ASY (A-K; No "i") | Upper Mounting Bracket (0-6) | Air Fittings (0-9; A-D) |

| HCK Part Number | Suspension Model(s) | NOTE |
|---|---|---|
| **6330BFAB13** *(633– Extreme Air™ Lo-Flo HCV)* | Air-Ride Trailer Suspension that requires a Low-Flow or Delayed-Response Height Control Valve (HCV) | "Universal Height Control Kit" *(Lower pin assembly typically attached to axle)* |
| **6330CFAJ65** | RAR-260 Underslung Suspensions* | **Verify with Ridewell Customer Service* |
| **6330DMAE20** | RAR-244-8K Underslung Suspensions* | **Verify with Ridewell Customer Service* |



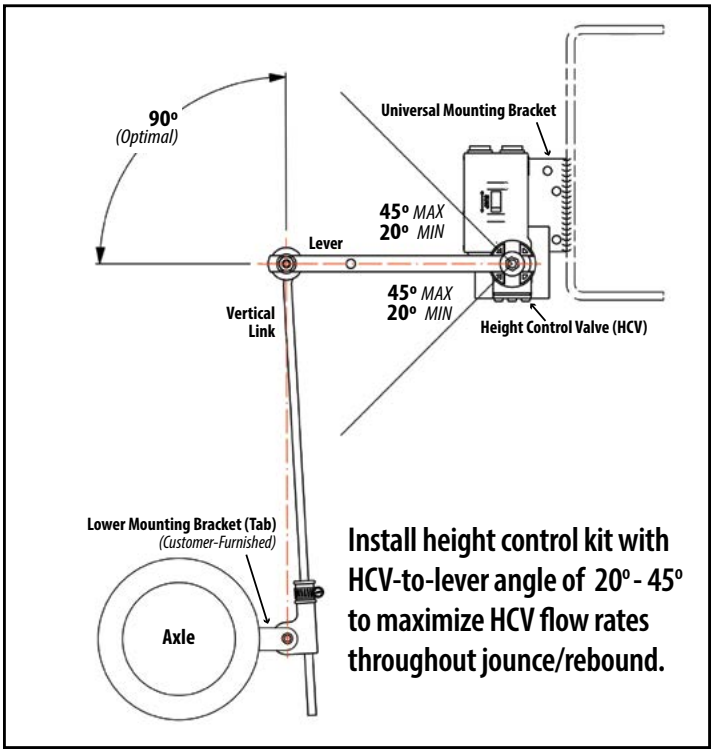




**Figure 22.**
**Standard (Non-Dump) Lo-Flo Height Control Valve (HCV); Height Control Kit (HCK) Components**

**Terms and coverage in this warranty apply only to the United States and Canada.**

Ridewell Suspensions warrants the suspension systems manufactured by it to be free of defects in material and workmanship. Warranty coverage applies only to suspensions that have been properly installed, maintained and operated within the rated capacity and recommended application of the suspension. The responsibility for warranty coverage is limited to the repair/replacement of suspension parts. The liability for coverage of purchased components is limited to the original warranty coverage extended by the manufacturer of the purchased part.

All work under warranty must have prior written approval from the Ridewell warranty department. Ridewell has the sole discretion and authority to approve or deny a claim and authorize the repair or replacement of suspension parts. All parts must be held until the warranty claim is closed.

Parts that need to be returned for warranty evaluation will be issued a Returned Materials Authorization (RMA). Parts must be returned to Ridewell with the transportation charges prepaid. The transportation charges will be reimbursed if the warranty claim is approved.

This non-transferable warranty is in lieu of all other expressed or implied warranties or representations, including any implied warranties of merchantability or fitness or any obligations on the part of Ridewell. Ridewell will not be liable for any business interruptions, loss of profits, personal injury, any costs of travel delays or for any other special, indirect, incidental or consequential losses, costs or damages.

**Contact the Ridewell Warranty Dept. at 417.833.4565 - Ext. 135, for complete warranty information.**