

Installation Manual



BASIC **IN-CAB CONTROL KIT**

w/ 325 SERIES AIR COMPRESSOR

(for vehicles with a preexisting air system)

10281* **SIMULTANEOUS ACTIVATION**
Paddle Valve w/ Digital Gauge

10272** **INDEPENDENT ACTIVATION**
Paddle Valve w/ Digital Gauge

Thank you & congratulations on the purchase of a Basic In-Cab Control Kit with simultaneous or independent air spring activation via a Digital Paddle Valve switch.

- This Basic Kit is for vehicles with a pre-existing onboard air system. Premium kits are available for those without an existing air system on their vehicle.
- **Simultaneous Kits* (10281)** are designed to fill and exhaust both air springs to the same pressure simultaneously.
- **Independent Kits (10272)** are designed to fill and exhaust each air spring independently to its own pressure.
- *Air Spring Kit sold separately.*

***IMPORTANT**

This kit is not recommended for vehicles carrying slide in campers or other loads which the load is above the cab. Air spring inflation kits that simultaneously fill both air springs through one supply / discharge line do not prevent air transfer from one air spring to the other when cornering.

*If this is a concern to the customer, contact Customer Service at 800.663.0096 for an **Independent Air Spring Inflation Kit** option.*

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BEFORE STARTING THE INSTALLATION:

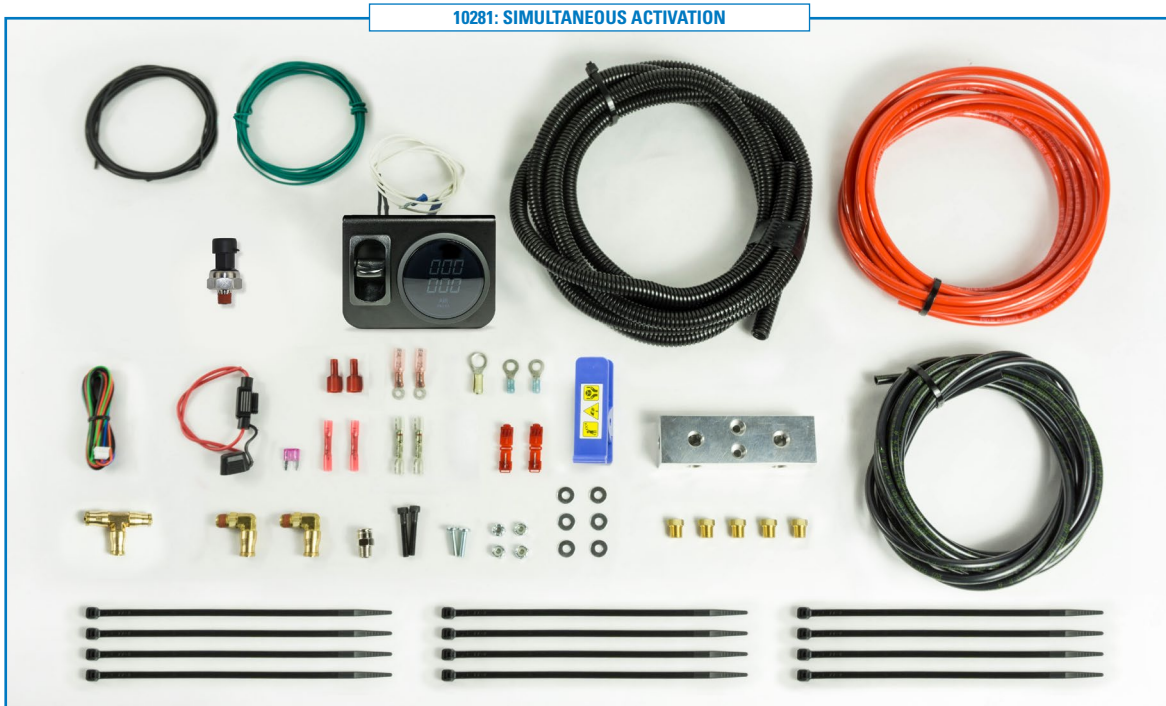
1. Read through this manual and ensure you can complete the installation once started.
2. Ensure the kit you received contains all the items shown in the kit layout photo on the following page.
3. It is recommended to use a good quality anti-seize on all fasteners. This will reduce the chance of corrosion on the fasteners and will help facilitate removal, if required at a later date.

PLEASE NOTE:

This kit contains push-to-connect fittings; using scissors or wire cutters to cut the nylon airline will distort the line and cause the connection to leak. THE AIRLINE MUST BE CUT OFF SQUARELY WITH THE NYLON HOSE CUTTER PROVIDED IN THIS KIT OR A SHARP UTILITY KNIFE.

KIT CONTENTS / LAYOUTS

BASIC KITS: for those with a pre-existing air system on their vehicle.



1 ASSEMBLY PREPARATION

Install the air spring assemblies (if not previously installed).

Follow the instructions provided within the air spring kit – with the exception of the airline routing.

2 ASSEMBLE & MOUNT THE MANIFOLD



CAUTION: The manifold utilizes NPT fittings. Finger tighten the fittings and turn an extra 1.5-3.0 turns to tighten the fittings. Never back off an installed NPT fitting as it will corrupt the seal and contribute to leakage and failure.

NOTE: Apply thread sealant or Teflon tape to all the fitting threads installed into the manifold to prevent air leaks.

If a simultaneous kit (10281) is being installed, complete Step 2A and then proceed onto Step 3.

If an independent kit (10272) is being installed, skip Step 2A, complete Step 2B and then proceed onto Step 3.

2A SIMULTANEOUS AIR SPRING ACTIVATION MANIFOLD ASSEMBLY (10281 KITS ONLY)

Install the pressure sensor into the top port of the manifold.

Install two 1/8" 90° air fittings into the side ports.

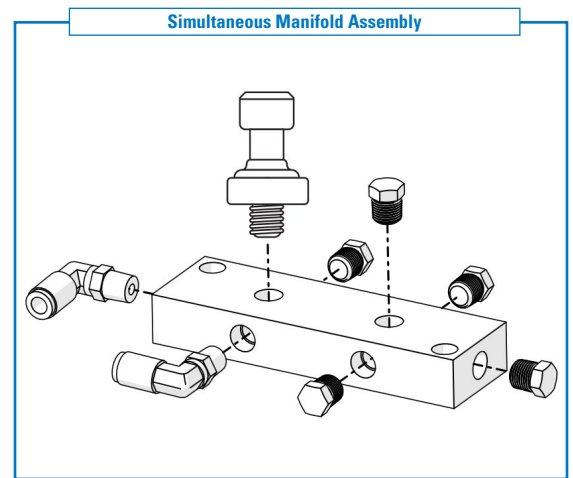
Provided in the kit are five 1/8" brass plugs. Install them into the remaining ports of the manifold as shown in Figure 2A.

2B INDEPENDENT AIR SPRING ACTIVATION MANIFOLD ASSEMBLY (10272 KITS ONLY)

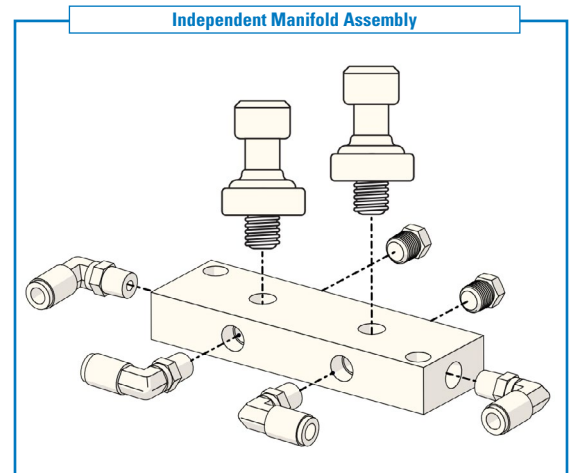
Install the pressure sensors into the top ports of the manifold as shown in Figure 2B.

Install four 1/8" 90° air fittings into the manifold.

Install two 1/8" brass plugs into the remaining ports.



2A



2B

3 MOUNT THE MANIFOLD

Choose a location on the frame to mount the manifold. Preferably near the air springs and away from any debris, moving components or heat sources.

NOTE: The manifold must be mounted in a location where a 12 ft length of wire can reach the manifold from the pressure gauge.

Using the manifold as a template, mark and drill two 13/64" holes.

Secure the manifold to the chosen location using two #10-32 x 1 1/4" socket head cap screws, two #10 flat washers, and two #10 nyloc nuts.

4 AIRLINE CONNECTIONS

NOTE: Before cutting the airline, ensure that there's enough red and black airline to complete the following steps. Adjust the manifold, compressor, relay, or gauge mounting locations if there is not enough airline.

If a simultaneous kit (10281) is being installed, complete Step 4A and then proceed to Step 5.

If an independent kit (10272) is being installed, skip Step 4A, complete Step 4B (on the following page), and then proceed to Step 5.

4A SIMULTANEOUS AIR SPRING ACTIVATION AIRLINE CONNECTIONS (10281 KITS ONLY)

Refer to the wiring and plumbing diagram on Page 13 for the following instructions:

Install the paddle switch into the supplied control panel bracket. The switch must be installed such that the delivery (DEL) port is above the supply (SUP) port.

Connect one end of the red airline to the paddle switch port marked "DEL".

Connect one end of the black airline to the paddle switch port marked "SUP".

Route the other end of both the red and black airlines through the firewall boot and into the engine compartment.

...Step continues on the following page

Route the black airline to the air source (tank), cut it to length and use the provided tube fittings to connect it to the outlet of the air source.

Route the red airline to the manifold, cut it to length, and connect it to the air fitting on the manifold.

Attach the remaining red airline to the air fitting on the manifold and route it near the air springs.

The red airline is connected to both air springs using the supplied tee fitting.

Use the tie straps provided in the kit to secure all the airlines away from any moving components, debris, or heat sources.

4B INDEPENDENT AIR SPRING ACTIVATION AIRLINE CONNECTIONS (10272 KITS ONLY)

Refer to the wiring and plumbing diagram on Page 14 for the following instructions:

Install both paddle switches into the supplied control panel bracket.

The switches must be installed such that the delivery (DEL) port is above the supply (SUP) port.

Using the supplied T-Fitting and hose cutter, cut the black hose length and connect the T-Fitting to allow the "Supply" air to come from the compressor to the T-Fitting and out to each switch port labeled "SUP" (*See diagram on Page 14*)

Locate the length of red airline and connect it to the LEFT paddle switch ports marked "DEL"

Locate the length of green airline and connect it to the RIGHT paddle switch ports marked "DEL"

Route green, red and black airlines through the firewall and into the engine bay.

Route the black airline to the air source (tank).

Cut it to length with the provided tube cutter, and connect it to the fitting on the outlet of the compressor.

...Step continues on the following page

Route the red airline to where the manifold was installed. Cut the airline to length and connect it to one of the air fittings on the end of the manifold.

NOTE: this will now be the end of the manifold that controls the "LEFT" hand air spring.

Route the green airline to where the manifold is installed. Cut the airline to length and connect it to one of the air fittings on the other end of the manifold.

NOTE: this will now be the end of the manifold that controls the "RIGHT" hand air spring.

Use the remaining red & green airline to connect the air fittings on the "respective side of the manifold to each air spring.

NOTE: In order to ensure that the system operates correctly it is imperative that the red airline attached to the left paddle switch is connected to the air fitting that supplies air to the left air spring, and vice versa for the other side. See the diagram on Page 14.

5 GAUGE HARNESS CONNECTIONS

If a simultaneous kit (10281) is being installed, complete Step 5A then proceed to Step 6.

If an independent kit (10272) is being installed, skip Step 5A, and complete Step 5B (on the following page) then proceed to Step 6.

5A SIMULTANEOUS AIR SPRING ACTIVATION GAUGE HARNESS CONNECTIONS (10281 KITS ONLY)

Refer to the Wiring Diagram on Page 13:

Install the pressure gauge into the control panel bracket. Insert the supplied gauge harness into the back of it. (Refer to Figure 7 on Page 10).

If the wires on the gauge harness need to be extended in order to reach the pressure sensors on the manifold, heat shrink butt connectors and 12ft of black, green, and blue 20 AWG wire have been provided in the kit.

...Step continues on the following page

(Optional: Tank Pressure Display - see wiring on page 13) To display "tank pressure an additional HP10278 pressure sensor harness will need to be purchased. Please contact 800.663.0096 for more info.

Locate 2 of the 3 black wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect these 2 wires with one of the black wires of the pressure sensor harness.

Locate the 2 brown wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect these 2 wires with the one brown wire of the pressure sensor harness.

Locate the 1 green & 1 blue wire of the pressure gauge harness, Using a heat shrinkable butt connector, connect these 2 wires with the one green wire of the pressure sensor harness.

Apply heat to the terminal to create a sealed connection.

NOTE: The white wires on the paddle switch are not used.

Use the supplied loom to cover the exposed wires.

5B INDEPENDENT AIR SPRING ACTIVATION GAUGE HARNESS CONNECTIONS (10272 KITS ONLY)

Refer to the Wiring Diagram on Page 14:

Install the pressure gauge into the panel control bracket. Insert the supplied gauge harness into the back of it. *(Refer to Figure 7 on Page 10).*

If the wires on the gauge harness need to be extended in order to reach the pressure sensors on the manifold, heat shrink butt connectors and 12ft of black, green, and blue 20 AWG wire have been provided in the kit.

LEFT SENSOR:

Locate the 1 green wire of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the green wire of one of the pressure sensor harness. **NOTE: this will be the LEFT sensor.**

Locate 1 of the black wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the black wire of the SAME pressure sensor harness.

Locate one of the brown wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the brown wire of the SAME pressure sensor harness.

...Step continues on the following page

RIGHT SENSOR:

Locate the 1 blue wire of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the green wire of the remaining pressure sensor harness.

NOTE: This will be the RIGHT sensor.

Locate one of the black wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the black wire of the SAME pressure sensor harness.

Locate one of the brown wires of the pressure gauge harness. Using a heat shrinkable butt connector, connect to the brown wire of the SAME pressure sensor harness.

NOTE: The white wires on the paddle switch(es) are not used.

Use the supplied loom to cover the exposed wires and route the wires to the pressure sensor on the manifold.

6 GAUGE HARNESS CONNECTIONS CONTINUED

Locate the red wire on the pressure gauge wiring harness and insert it into the white end of the heat shrinkable butt connector.

Insert a fuse holder into the red end of the connector. Crimp and heat both ends.

Insert a 3 amp fuse into the fuse holder.

Attach a red spade terminal to the free end of the fuse holder. Use a red T-tap connector to connect to the 12 VDC switched ignition.

(Optional) Connect the orange wire to the headlight switch for auto dimming of the gauge.

Connect the remaining black wire of the gauge harness to ground using the supplied ring terminal.

Use a blue ring terminal to connect one black wire from the gauge harness to the ground.

NOTE: The white wires on the paddle switches are not used.

NOTE: If additional wire is needed use 24-20 AWG wire to extend the wiring harness.

7 MOUNT THE CONTROL PANEL

The control panel consists of a digital air gauge, paddle switch(es), control panel bracket and its associated fasteners.

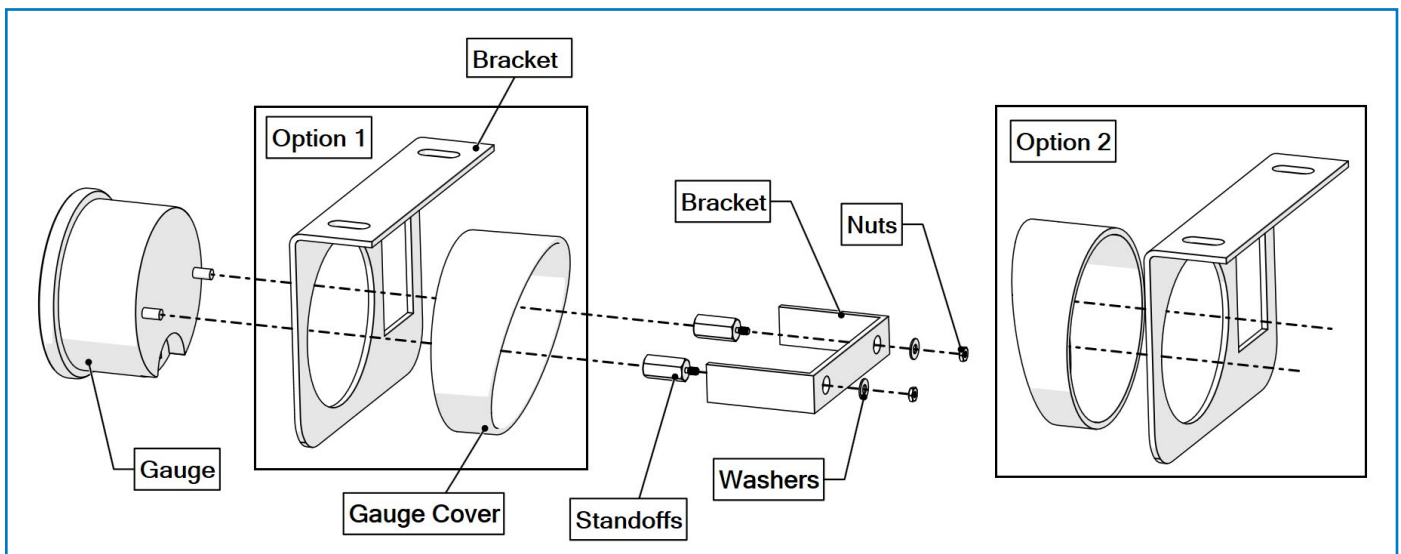
Mount the gauge (*according to the Figure 7 below*).

Use two #10 Phillips head screws, four flat washers and two nuts to secure the control panel to the chosen mounting location.

NOTE: When installing the gauge cover ensure that the flat face is flush against the bracket.

NOTE: If you do not wish to use the gauge cover assemble the kit according to Option 1.

If glare is affecting the legibility of the digital gauge, assemble the kit according to Option 2.



7

The installation for this kit is complete. Proceed to the next page to test the system.

8 TESTING THE SYSTEM

Turn the ignition ON, move the paddle switch to the UP position. The gauge should show air pressure being delivered to the air springs raising the vehicle.

Then move the paddle switch to the lower position. The gauge should show the air pressure dropping and lowering the vehicle.

If the pressure gauge cannot read the pressure sensor signal the gauge will count down to "0" and begin flashing. Check to ensure that the system is wired correctly.

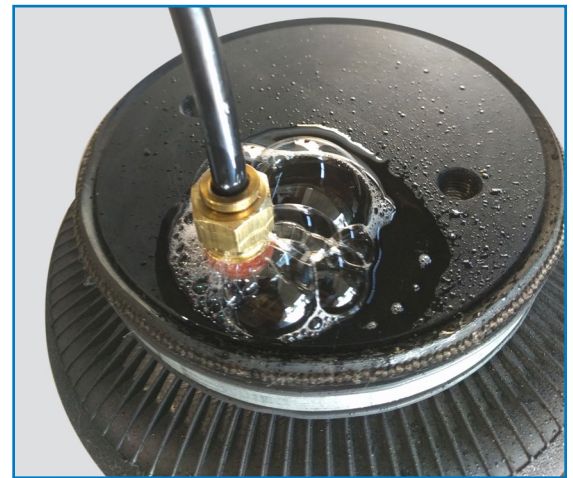
9 CHECK SYSTEM FOR LEAKS

Inflate both air springs to 90 psi (60 psi for in-coil bags) and then use a mixture of dish soap and water on all air line connections to detect any air leaks. Large, expanding bubbles indicate a leak (as shown in Figure 9).

Repair as necessary and retest.

Inflate air springs to a predetermined value and on following day recheck pressure. If one or both of air springs have lost pressure, an air leak is present.

⚠ Leak must be repaired, and then retested until no leaks exist.



**Air Spring & NPT Air Fitting may differ between kits*

9

AFTER COMPLETING THE INSTALLATION

- The air spring must have clearance between itself and the surrounding components to prevent any contact when spring is inflated or compressed. Trimming off excess bolt length may also be required to ensure no contact with the spring or other suspension components can be made once installed.
 - If removed, re-install the wheels and torque fasteners to the manufacturer's specifications. Re-torque all fasteners after the first 500 miles of driving.
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OPERATING YOUR VEHICLE WITH AIR SUSPENSION

Air springs have minimum and maximum recommended pressure requirements:

PART #	SPRING STYLE	SPRING TYPE	MIN PSI	MAX PSI
HP10189	In-Coil	STANDARD DUTY	5 PSI	70 PSI
HP10560		STANDARD DUTY		
HP10001	Sleeve Style	STANDARD DUTY	10 PSI	100 PSI
HP10173		STANDARD DUTY		
HP10199		STANDARD DUTY		
HP10083	Single Convoluted	HEAVY DUTY	5 PSI	100 PSI
HP10083J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10000	Double Convoluted	HEAVY DUTY	5 PSI	100 PSI
HP10000J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10068	Large Double Convoluted	HEAVY DUTY	5 PSI	100 PSI
HP10438	Double Convoluted	EXTREME DUTY	5 PSI	100 PSI
HP10438J		EXTREME DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI

* Springs with a jounce bumper can be run at zero PSI when vehicle is unloaded only

For safe and proper operation, never operate the vehicle over the maximum listed PSI in the air springs. Staying under the pressure limit will ensure maximum air spring life. **Failure in doing so may result in damage to your vehicle and/or a void warranty.**

! *It is recommended to check the air pressure in your air springs daily for first couple of days to ensure a leak has not developed.*

Air springs are designed to maintain the vehicle’s stock ride height with a load. Do not use the air springs as a means to lift vehicle with no load. This will result in a harsh ride.

SERVICING YOUR VEHICLE WITH AIR SUSPENSION

When lifting the vehicle with a floor jack or hoist on the frame, never allow the air spring to limit the travel of the axle. Try to always jack the vehicle on the axle. Suspending the axle with the air spring limiting the axle travel will damage the air spring and void the air spring warranty.

WARRANTY

See additional warranty included with this kit for details.

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WIRING & PLUMBING DIAGRAM

INDEPENDENT AIR SPRING ACTIVATION (10272 KITS)

