

# Installation Manual

**IMPACT BRAKE**

www.pacbrake.com 800.663.0096



## ONBOARD AIR SYSTEM

FOR ALL VEHICLES APPLICATIONS



Thank you and congratulations on the purchase of a Pacbrake onboard air system. Please read the installation manual prior to starting to ensure you can complete the installation once started.

These are specially designed kits for those customers who want options when building their own onboard air system. Pacbrake offers many different kits in which you can mix and match to develop your own system.

**NOTE: HP10051, HP10094, HP10265 & HP10268 CANNOT BE USED WITH THE HP325 SERIES COMPRESSOR KITS**

**IMPORTANT:** These kits include push-to-connect airline fittings. They require the end of the airline to be cut cleanly and square to ensure the internal seal will not leak air. The airline must only be cut with a sharp knife or hose cutter. Using scissors or wire cutters will distort the airline causing the connection to leak air past the o-ring seal.

## AIR COMPRESSOR AND AIR TANK MOUNTING

- 1 Thread sealant or Teflon tape must be applied to all the fitting threads installed throughout the installation to prevent air leaks. Install the push-to-connect fittings into the check valve, then install the assembly into the compressor head, as shown in the photo.  
The compressor makes an audible pumping noise when activated. Consider this when choosing a mounting location. The location should also be in a clean, dry area to maintain long compressor life. Using the compressor as a template, mark and drill three 3/16" diameter holes. Secure the compressor using the fasteners provided.
- 2 Choose a location to mount the air tank. Using the supplied hardware mount the tank with the drain port facing down.

## ELECTRICAL CONNECTIONS

- 3 Provided in the kit is a pre-wired relay receptacle to make this part of the installation easy. Find a convenient location to mount the relay receptacle within 12" of the positive battery terminal. Using the self tapping screw provided, secure the relay receptacle and install the relay.

**CAUTION:** Never extend the wire of the harness beyond the length supplied.

### STEP 1



### STEP 2



### STEP 3



- 4** Locate the black wire of the relay harness, route it to the air tank location. Using the fittings provided, install the pressure switch into one of the ports in the air tank. **DO NOT INSTALL IN THE BOTTOM PORT.** Using the fittings provided, install the pressure switch in a location for it to sense air tank pressure. Connect the black wire of the relay harness to one of the two wires of the pressure switch using the heat shrink butt connector. Using the loose piece of black wire and another heat shrink butt connector, connect to the remaining wire of the pressure switch. Heat the connectors to provide a water tight seal. Then, connect the end with an eye terminal to a good chassis ground.

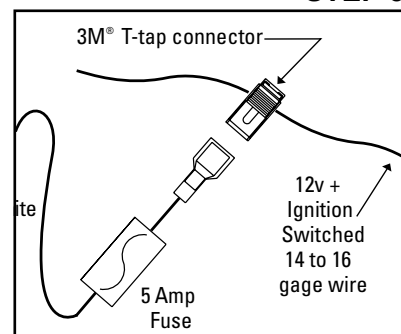
**STEP 4**



- 5** Locate the white wire of the relay harness. Connect it to an ignition power source through the 5 amp inline fuse provided. This wire can be connected through an ON/OFF switch to override the compressor activation should the customer prefer this option.

**STEP 5**

*If a HP10062 or HP10022 kit is being installed, a compressor ON/OFF switch is included in these kits.*



- 6** Locate the red 12 gauge wire of the relay harness, route this wire to the compressor mounting location. Connect to the red wire at the compressor. Connect the black wire of the compressor to a good chassis ground. Using the convoluted loom provided cover the exposed wires and secure with tie-straps provided.

**STEP 7**



- 7** Install the air compressors air intake filter using the blue nylon hose provided. Connect one end to the barbed fitting below the compressor head. Install the filter housing in the other end of the nylon hose. Install the filter housing in a dry clean area below the level of the air intake port to ensure maximum compressor life.

**CONNECTING AIR ACCESSORIES TO THE AIR TANK**

- 8** Do not source air from the bottom port of the air tank. Install the pressure relief valve provided in the bottom port of the air tank. Periodic draining of the tank will be necessary.

**STEP 8**

NOTE: The pressure switch included in this kit has a maximum pressure of 130 PSI and a minimum pressure of 110 PSI. Please ensure your accessories are capable of this pressure - a regulator may be necessary for some accessories. Pacbrake can supply lower pressure switches upon request. Also, Pacbrake offers dual needle gauge kits to monitor system pressure. This gauge kit can also be used to monitor air spring pressure.

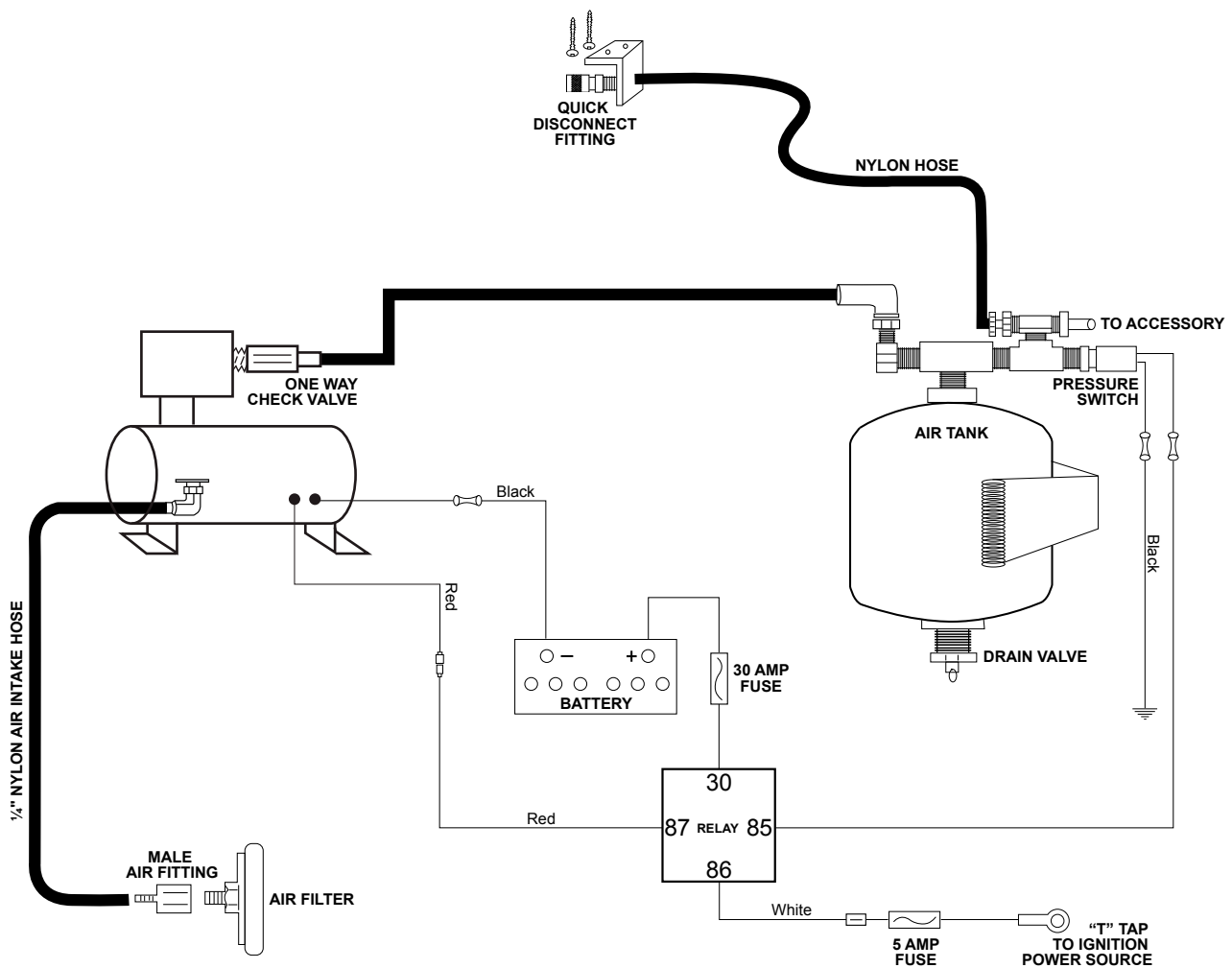


STEP 9

- 9 Locate the quick disconnect fitting provided. Consult with the vehicle operator for their preference on the mounting location with easy access. This location should be away from dirt and moisture which could contaminate the fitting. Using the mounting bracket, self tapping screws, nylon air line and fittings provided, connect it to the air tank, Use thread sealant on all fittings installed.



BASIC AIRLINE & WIRING DIAGRAM



## ACCESSORY INSTALLATION: GAUGE/SOLENOID KIT

HP10022: FOR SIMULTANEOUS INFLATION/DEFLATION OF REAR AIR SPRINGS

HP10062: FOR INDEPENDENT INFLATION/DEFLATION OF REAR AIR SPRINGS

Pacbrake's solenoid assemblies are designed to control the raising and lowering of the air springs from inside the cab. Pacbrake's dual needle air pressure gauge can be used to monitor the pressure in each spring or to measure air tank pressure and air spring pressure if HP10022 kit is installed.

### GAUGE INSTALLATION:

Choose a location for the 2 1/8" Pacbrake gauge assembly.

### IN CAB ELECTRICAL INSTALLATION:

At the back of the gauge, locate the orange, brown and black wires.

The brown wires are to be connected to an ignition power source.

A 5 amp inline fuse is provided and must be used in this circuit.

The black wire is to be connected to a good chassis ground.

Connect the orange wire to the dimmer circuit of the vehicle. Depending on the mounting location and availability of the dimmer circuit wires, this wire could be connected to an ignition power source. If an ignition power source is chosen, an inline fuse must be used.

### SOLENOID INSTALLATION:

Choose a location to mount the solenoid assembly that is away from heat sources, possible road spray and damage from flying objects. DO NOT mount the solenoid block with the bronze filter pointing up. The location shown is inside the driver side frame rail of the vehicle. The solenoid block has front and rear mounting plates secured to the solenoid block by threaded rods. Using the solenoid block as a template, scribe the frame for the 4 mounting holes and drill 5/32" holes. Using the self-tapping screws provided, secure the solenoid assembly to the frame.

### PLUMBING THE SOLENOID ASSEMBLY:

The solenoid above the port marked "inlet" is to inflate the air spring and the solenoid above the port marked "exhaust" is to deflate the air spring. From the reservoir (air tank) route a nylon airline to the fitting that is in the port marked "inlet" and connect. Route airline from the port(s) marked "bag" of each solenoid block to each air spring.

NOTE: When using the "push to connect" fittings, it is important to cut the hose **STRAIGHT** with a sharp knife.





**PLUMBING THE SOLENOID ASSEMBLY cont'd...**

*If the HP10062 kit is used...*

*This kit requires the nylon hose for the left air spring (driver side) to be connected to the solenoid port marked "bag" which is closest to the port marked "inlet" (air supply from the air tank).*

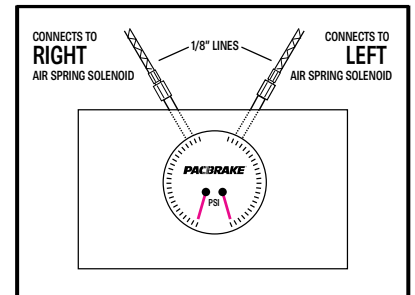
*If the HP10022 kit is used...*

*The airline will be routed from the "bag" port to the tee fitting provided and from there individual lines will then be connected to each bag.*

Using the 1/8" diameter nylon airline provided, connect the airline from the port(s) marked "gauge" on the solenoid blocks to the fitting(s) on the back of the gauge assembly. Do not over-tighten the fitting(s), damage to the gauge may result. Use thread sealant on all fittings when installed - to ensure no air leaks are present. Air leaks will reduce the life expectancy of the compressor assembly.

*If the HP10062 kit is used...*

*Ensure that airline from the solenoid block operating the left side air spring is connected to the right hand side of the gauge assembly and the right side solenoid is connected to the right side of a gauge.*



**SOLENOID ELECTRICAL INSTALLATION:**

Using the ring terminal provided, connect one wire from each solenoid to a good chassis ground. Route the solenoid harness up into the cab to where the gauge will be mounted, ensuring that the harness is securely fastened using the nylon tie-straps provided and is away from any heat sources or moving parts.

*If the HP10022 kit is used...*

*Connect the white wire to terminal #3 of the switch in the gauge assembly and connect the black wire to terminal #1 of the switch.*



HP10022 SHOWN

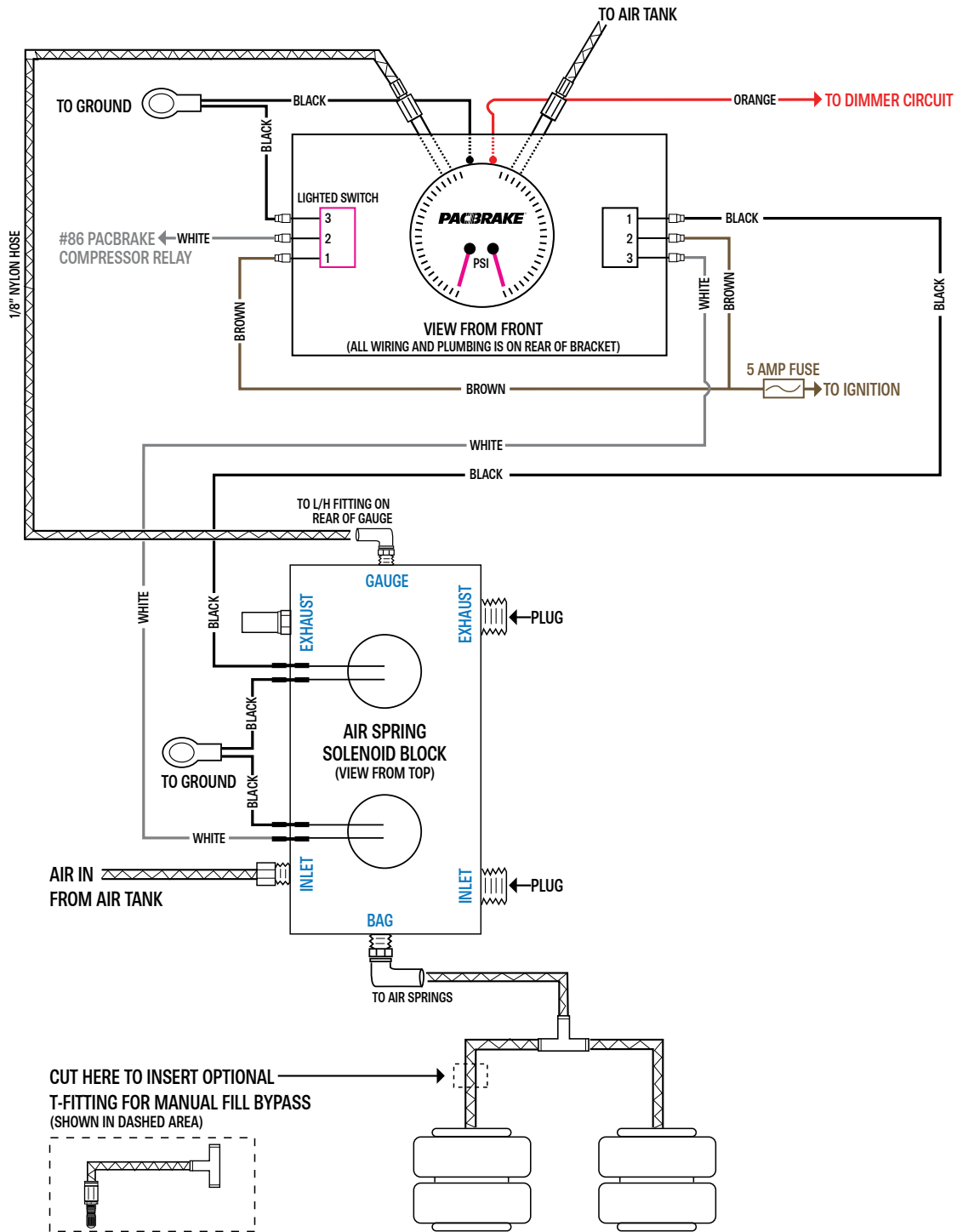
*If the HP10062 kit is used...*

*Looking at the correct schematic on the following pages, you will notice that the white and black wires are connected to one solenoid block and the red and green are connected to the other. The white and red wires are designated for inflation of the air bags. The black and green wires are designated for deflation. Terminal #3 on the back switches are for inflation and terminal #1 is for deflation of the air bags. Connect the appropriate wires to the appropriate terminals on the back of the gauge assembly ensuring that the right switch of the gauge assembly operates the right air spring and the left switch operates the left air spring.*

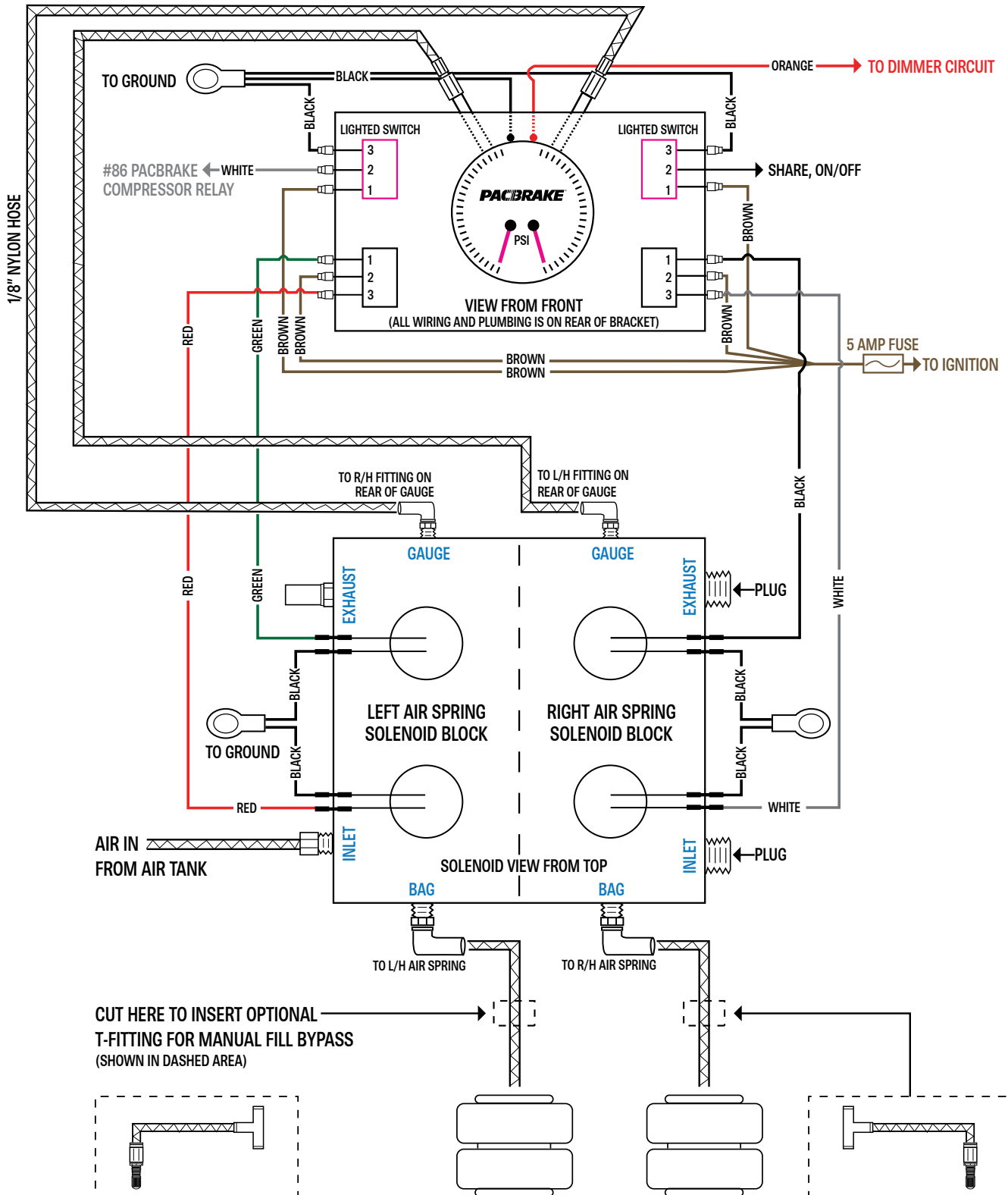


HP10062 SHOWN

**OPTIONAL WIRING SCHEMATIC  
HP10022 - SIMULTANEOUS AIR SPRING ACTIVATION**



HP10062 - INDEPENDENT AIR SPRING ACTIVATION





OPTIONAL WIRING SCHEMATIC  
HP10062 - SIMULTANEOUS AIR SPRING ACTIVATION

