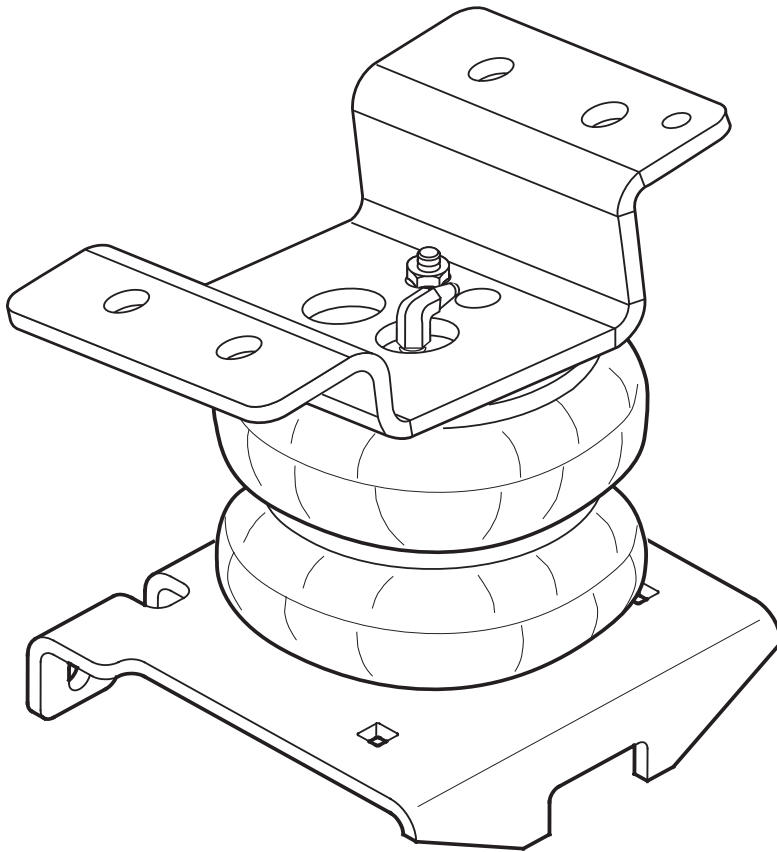




## 81214003 CHEVY C2500-C3500-K2500-K3500

Congratulations - your new LevelTow Helper Springs are quality products capable of improving the handling and comfort of your vehicle. As with all products, proper installation is the key to obtaining all of the benefits your kit is capable of delivering. Please take a few minutes to read through the instructions to identify the components and learn where and how they are used. It is a good idea to start by comparing the parts in your kit with the parts list below.



Components	Part#	QTY
AIR SPRING	6781	2
UPPER BRACKET	5766	2
LOWER BRACKET	5541	2
BRACKET CLAMP	0530	2
AIR LINE TUBING	0938	1
HEAT SHIELD	1004	1
BAIL CLAMP	3373	2

### Hardware

THERMAL SLEEVE	0899	2
3/8"-16 X 1-1/2" HEX BOLT		4
3/8"-16 FLANGE NUT		16
3/8"-16 X 3/4" FLANGE LOCK		2
3/8"-16 X 4" CARRIAGE BOLT		4
3/8"-16 X 3.5" CARRIAGE BOLT		1
3/8"-16 X 5/8" FLAT HEAD BOLT		2
3/8" FLAT WASHER		4

### WARNING!

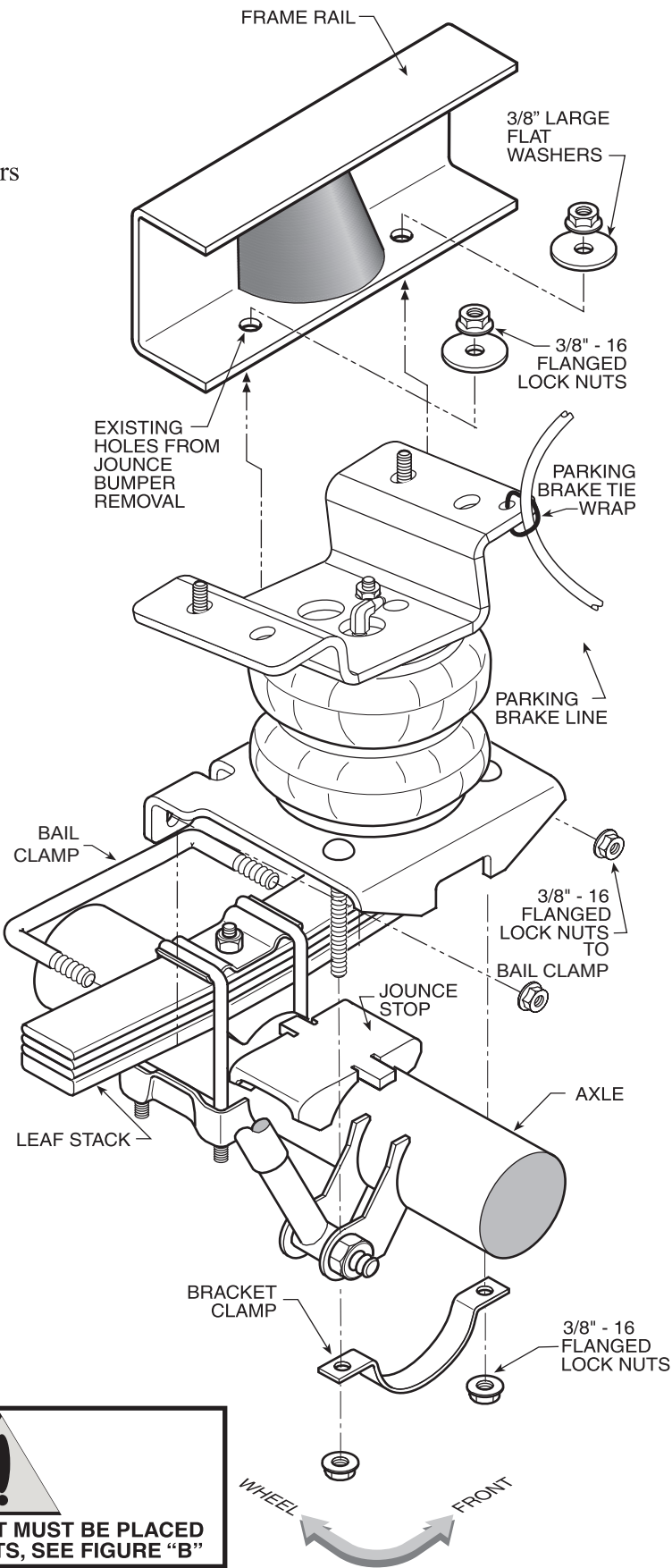
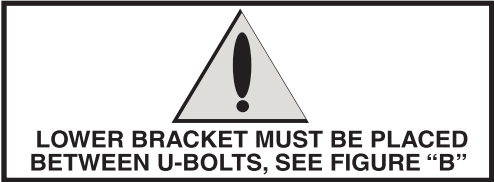
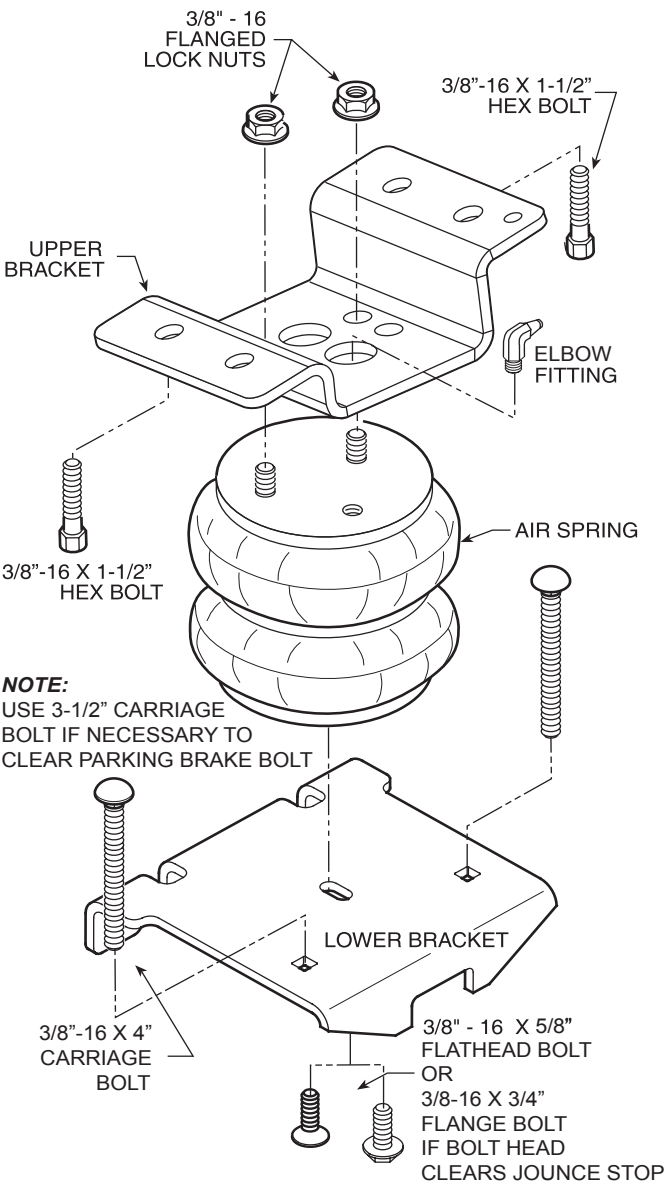
Do not inflate this assembly when it is unrestricted. The assembly must be restricted by the suspension or other adequate structure. Do not inflate beyond 100 P.S.I. Improper use or over inflation may cause property damage or severe personal injury.

# KIT TO FRAME ASSEMBLY

Figure "A"

**NOTE:** Both illustrations are of the left, or drivers

## KIT ASSEMBLY



### NOTE:

Please read thorough this manual completely before installing the air spring kit to your vehicle. A heat shield is required on the exhaust side of the vehicle as noted in Step 4. If your truck has an aftermarket dual exhaust system, you may have to order an extra heat shield.

### STEP 1 — PREPARE THE VEHICLE

Remove the jounce bumper located under the frame rail, *see Figure "C"*. The jounce bumpers and nuts will not be reused with this kit. Remove the 13 mm bolt and brake line clip located on the shock bracket, *see Figure "D"*. Save the 13 mm bolt and brake line clip, they will be re-installed.

### STEP 2 — PRE-ASSEMBLE THE KIT

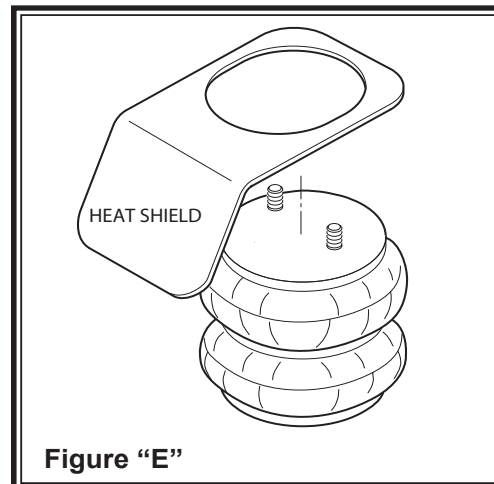
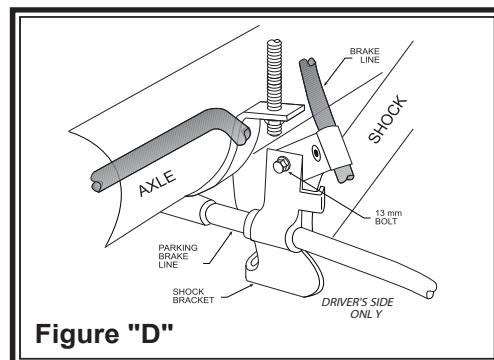
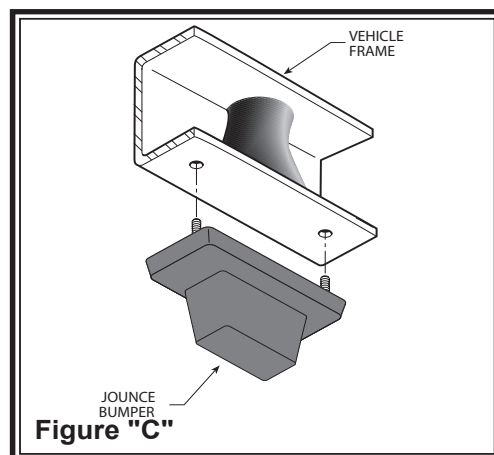
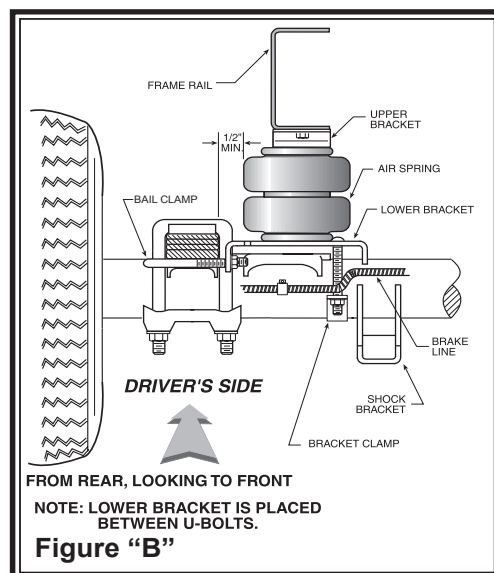
Select one air helper spring from your kit. Install a 3/8"-16 x 1-1/2 bolt in the short side of the upper bracket marked "L", *see Figure "A"*. Install the upper bracket by inserting the air helper spring studs into the holes, use two 3/8"—16 lock nuts to secure the bracket to the air spring, *see Figure "A"*. Install the male fitting into the air spring through the large access hole in the upper bracket. Tighten the air fitting securely to engage the orange thread sealant. Place the carriage bolts into the square holes of the lower bracket and then fasten the lower bracket to the air helper spring using a 3/8"-16 x 5/8" flat head bolt or the 3/8"-16 x 3/4" flange bolt, if the bolt head clears the jounce stop. *See Figure "A"*.

### STEP 3 — INSTALLING THE ASSEMBLY TO THE VEHICLE

Place the assembly on the top of the driver's side axle housing, *see Figures "A" & "B"*. Using the existing jounce bumper holes, install the upper bracket onto the frame with 3/8"-16 x 1-1/2 bolts, large flat washers, and 3/8"-16 flange nuts. The 3/8"-16 x 1-1/2" bolts will be facing upward with the washers and nuts on the inside of the frame rail, *see Figure "A"*. **On the drivers side only, the parking brake line will need to be tie-wrapped to the upper bracket, *see Figure "A"*.** Install the bail clamp under the leaf springs from the outside of the leaf stack into the holes in the legs of the lower bracket. Secure the bail clamp to the lower bracket with the 3/8"-16 flange nuts and draw the lower bracket against the leaf stack. *See Figures "A" & "B"*. Attach the lower bracket to the axle using the bracket clamp and the 3/8"-16 flange nuts, *see Figure "A"*. Once the assembly is in place, you must have a minimum of 1/2" clearance around the air spring for proper operation, *see Figure "B"*. Making sure that the brake line does not rub on the lower bracket, reinstall the brake line clip and bolt, *see Figure "D"*.

### STEP 4 — INSTALLATION OF THE PASSENGER'S SIDE ASSEMBLY

**Note: The use of a heat shield is required on the passenger's side of the vehicle, *see Figure "E"*.** The heat shield will mount between the upper bracket and the air helper spring. Bend the heat shield so it will fall halfway between the air helper spring and the closest point on the exhaust. Be sure that the heat shield will not contact any other component as the suspension compresses (*i.e.* brake lines, shock absorbers, lower bracket assembly). Follow Steps 1-3 for assembly and installation of the passenger's side.



STILL HAVE QUESTIONS?

### Tech line hours

Monday - Friday  
8Am - 6PM (EST) ..... 812-482-2932



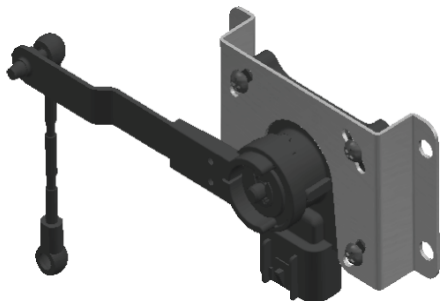
# LevelTOW

## ADVANCED TOWING SOLUTIONS

by ridetech

### LevelTow Compressor System

Congratulations - your new LevelTow Compressor System is a quality product, that when used in conjunction with the LevelTow helper Air Springs, is capable of improving the handling and comfort of your vehicle. As with all products, proper installation is the key to obtaining all of the benefits your kit is capable of delivering. Please take a few minutes to read through the instructions to identify the components and learn where and how they are used. It is a good idea to start by comparing the parts in your kit with the parts list below.



#### Components:

Compressor Unit  
Smart Sensor Height Sensor  
Compressor Mounting Bracket  
Smart Sensor Mounting Bracket  
Sensor Linkage  
Linkage Axle Bracket  
Control Panel Bracket  
Airline Fitting (mounted in compressor)  
Main Activation Switch  
Manual Control Switch  
Main Wire Harness  
Axle Bracket Clamp  
1/4" TEE Fitting  
1/4" Fitting for airsprings Straight / 90 Degree  
20 amp fuse  
Fuse Holder  
10-12 Butt Connector for Fuse Holder  
Ring Terminal for Main Power Hookup

#### Part #

#### QTY

31920021 1  
31980006 1  
90002637 1  
70010596 1  
31980011 1  
70011429 1  
70011439 1  
31957016 1  
35970000 1  
70011413 1  
31900051 1  
99000005 1  
31954400 1  
31954000 / 31954201 2  
90001922 1  
90001924 1  
90001913 1  
90001916 1

#### Hardware:

#10 x 5/8" Phillips pan head - sensor to bracket  
1/4"-14 x 1" Self Drilling Screw- Sensor to Frame  
3/8-16 x 1" Thread Forming - Compressor Bracket to Frame  
10-24 x 1 1/4" Maching Screw - Compressor to Bracket  
10-24 Nylok Nut - Compressor to Bracket  
#10 Flat Washer - Compressor to Bracket

99104002 4  
99254001 5  
99373007 5  
99101007 4  
99102002 4  
99103001 8

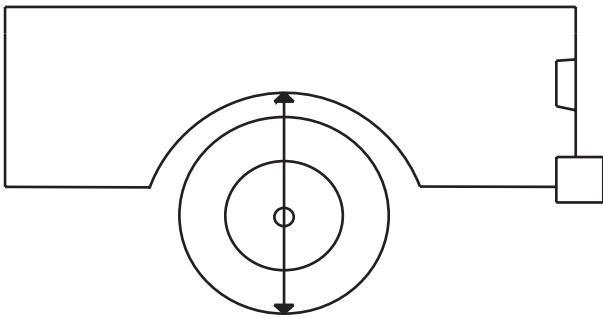
The LevelTow Compressor System is an automatic leveling system, once it is turned on(button illuminated blue) it will operate without any assistance.

The Smart sensor supplied with the compressor system will tell the system to inflate or deflate to keep the vehicle level. It has a dwell range built in so that when the truck is going down the road hitting small defects the system will be idle. It isn't until the sensor gets out of this dwell range for 18 seconds that the system will react.

**The activation switch has to be illuminated blue for the system to work.**



**Activation Button**

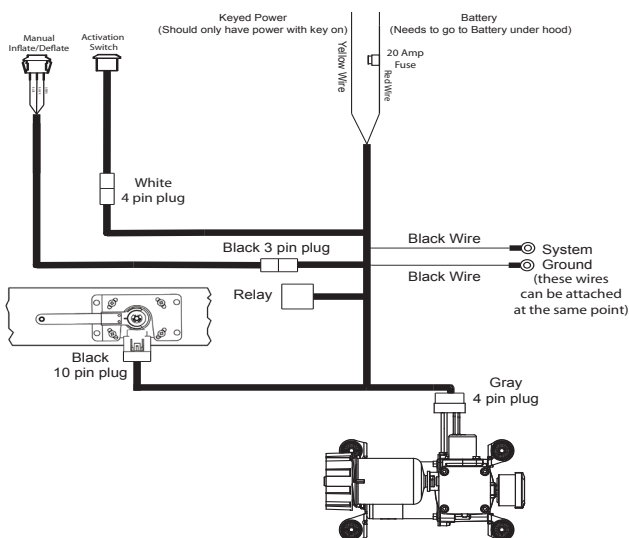


1. Before you install the compressor system, you will need to have the helper Airsprings installed. This will ensure that the LevelTow linkage does not get in the way of the Airsprings.

The first step to doing the install, with the vehicle at ride height, measure the lip of the fender to the ground at the center of the wheel and write it down.

Measurement\_\_\_\_\_

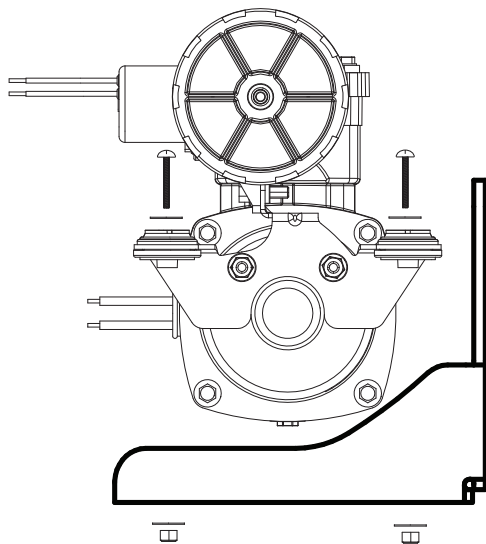
This measurement will be used as a reference once you have the compressor system installed.



2. Unpack the wiring for the LevelTow system and lay it out. This will give you an idea to where you can mount the components without having to modify the wiring harness.

**NOTE:**

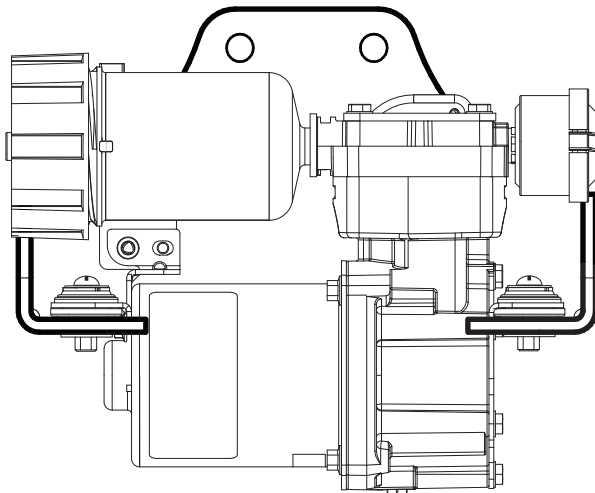
There is a wiring diagram on Page 7 to assist you in component location.



3. Bolt the compressor to the bracket. Position the compressor on the Bracket in the orientation shown. Line up the holes in the (4) Mounting Bushings with the (4) holes in the Bracket. Install a #10 Flat Washer on each of the (4) #10-24 x 1 1/4" Pan Head Screws. Insert a Screw/Washer in each of the 4 holes. Install a #10 Flat Washer on the threads sticking through the bottom of the bracket followed by a #10-24 Nylok Nut. Tighten the hardware.

**NOTE:**

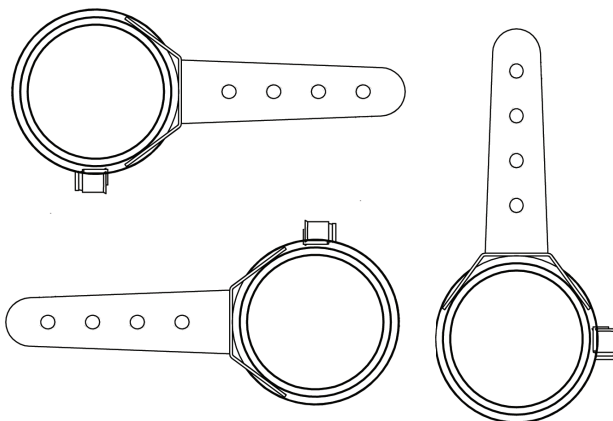
*The diagram shows the position the compressor goes onto the plate.*



4. The compressor needs to be mounted on the frame rail with the dryer up. Attach the compressor bracket to the frame with (4) 3/8"-16 x 1" Thread Forming Bolts supplied in the kit. Drill a 5/16" Hole for the bolts.

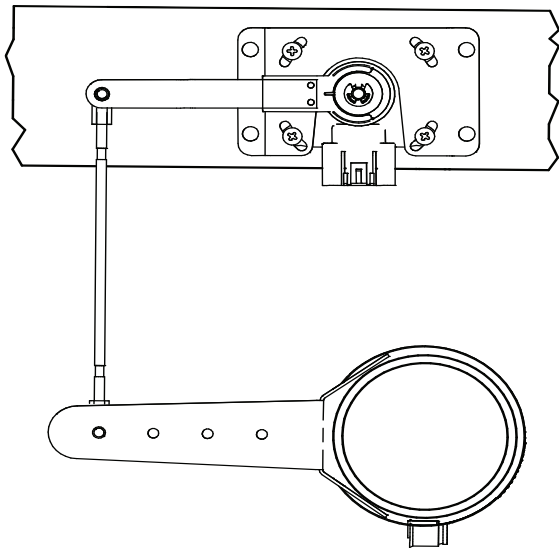
**NOTE:**

*Before drilling any hole be sure to check and see if there are any brake lines, fuel lines, or wires on the other side of the surface you are drilling.*

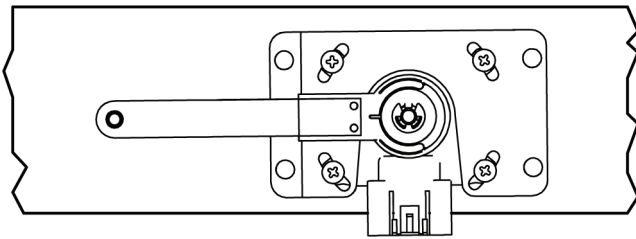


5. The Axle bracket can be mounted in any location on the axle tube to get the sensor linkage to line up. The Axle mount should be mounted on the axle so that the linkage will line up from the axle mount to the sensor. Keep this in mind when establishing the sensor location.





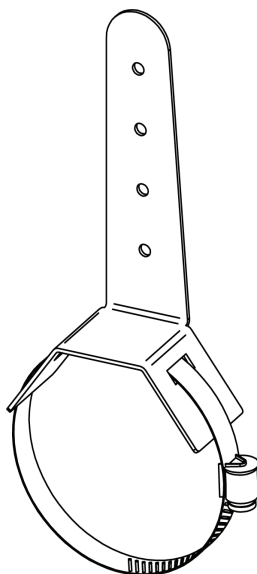
6. The next step will be to mount the sensor. The Smart Sensor needs to be centered in its travel at the trucks ride height to operate properly. This can be done by cutting the linkage rod to length. It can be fine tuned by loosening the 4 sensor mounting screws and twisting it in the mount and retightening the 4 screws. When the mounting and linkage is done it should look like the diagram seen here.



7. The sensor needs to be mounted on the frame rail with the wires pointing down. The arm will need to swing up opposite the direction of the wires as the suspension is being compressed. Attach the sensor bracket to the frame with (4) self drilling screws supplied with the kit.

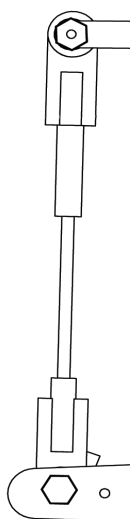
**NOTE:**

*The sensor can be mounted on the inside or outside of the frame. Make sure the linkage and arm can go through its entire travel without hitting any obstructions*

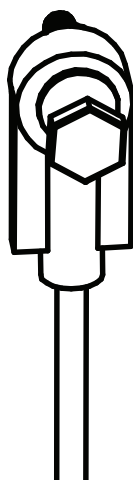


8. This diagram shows how the clamp sticks through the axle bracket. Loosen the clamp until it will open up and then slide it through the bracket. The whole assembly can then be put on the axle tube. Reinsert the end of the clamp back into the adjuster and tighten the clamp until the bracket is tight on the axle tube.

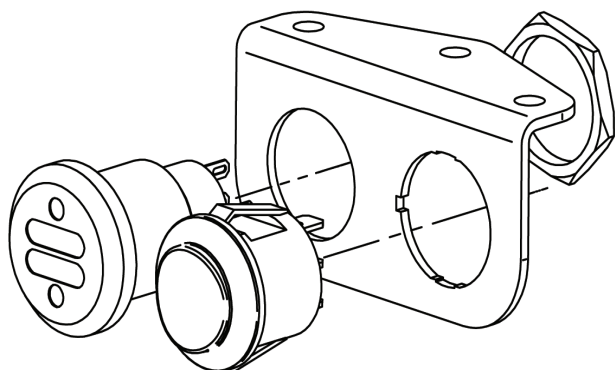




9. With the sensor and the axle bracket mounted, it is time to connect the 2 with the supplied linkage. The linkage is a universal length and will have to be cut to achieve the necessary length for your application. To do this it will be necessary to have the truck sitting at its factory ride height. With the truck at ride height center the sensor in its travel. The rod can slide into each rubber rod end up to 1".

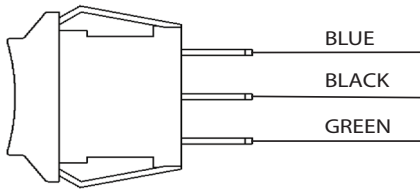


10. The linkage rod has barbs on the outside of it to keep it in the end link. After you push the ends in, they are difficult to pull back out. Push the linkage into the ends a little at a time until you get the desired length of the linkage assembly. If for some reason you must pull the rod out of the end, it is best done by twisting the end while pulling on it.



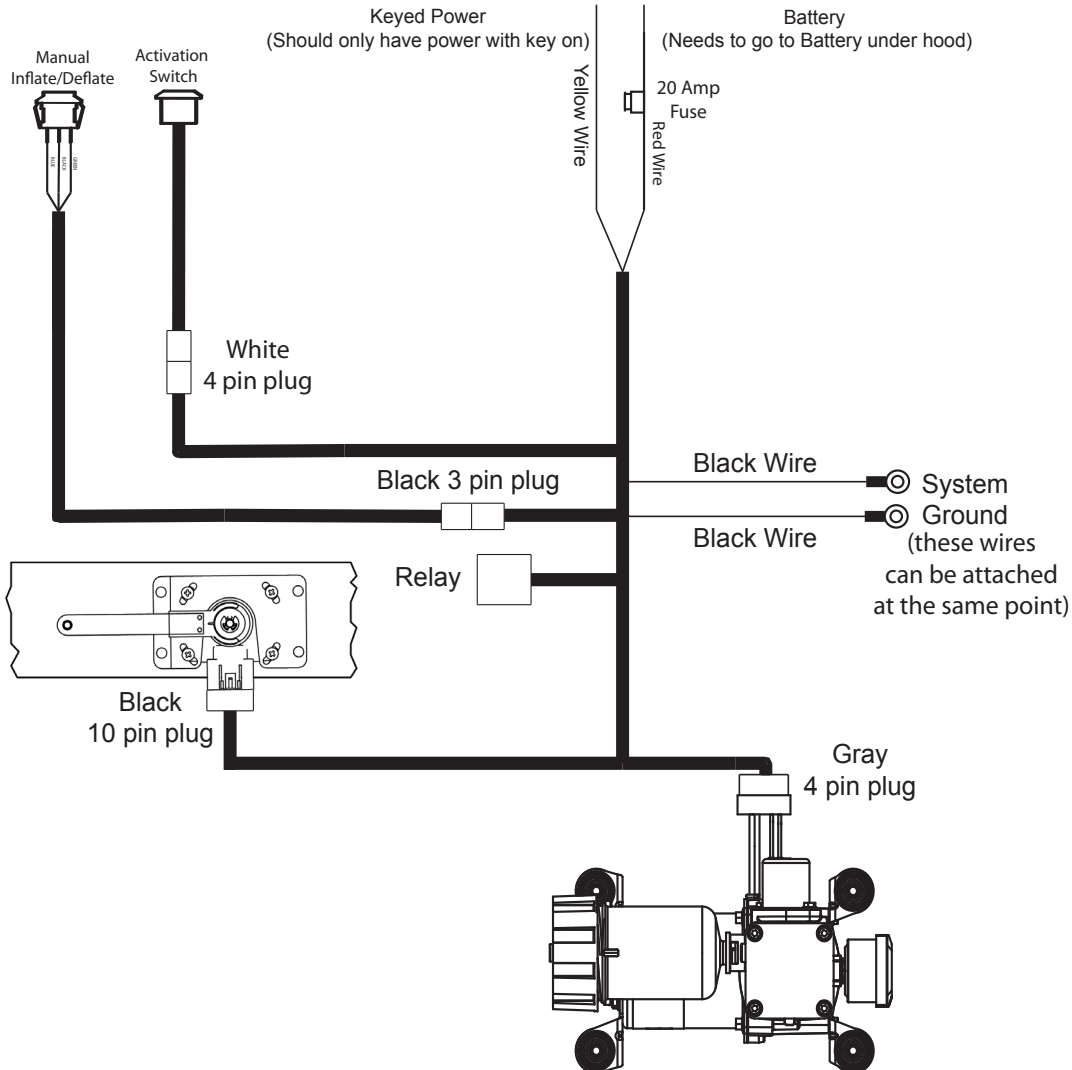
11. Mount the control panel in a convenient location. Install the Power Button and Manual Control Rocker into the panel. The Power Button gets installed into the round hole. The nut that is on the button is used to attach the button in the panel. The Rocker Switch goes into the hole with the notch in it. Align the tab on the switch with the slot and push the switch into the hole until it snaps in place. The rocker will only go into the hole one way. You can also custom mount the buttons if desired. They both use a 3/4" hole. The hole for the manual switch will have to have a slot for the tab

TOP



12. Hook the wires up to the manual control switch as shown in the diagram.

Green Wire-Manual Inflate  
Black Wire -Switch Supply  
Blue Wire - Manual Deflate

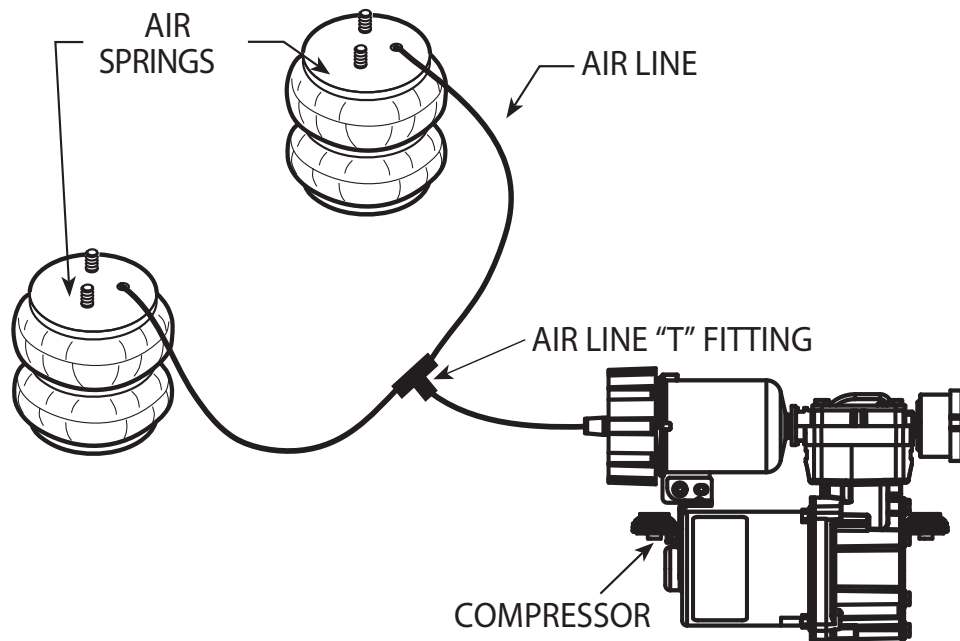


**Red Wire** - This wire needs to go straight to the **Battery** with the fuse holder installed within 18" of the Battery

**Yellow Wire** - This wire needs to go to a switched 12 volt power source. This wire should only have power when the key is on.

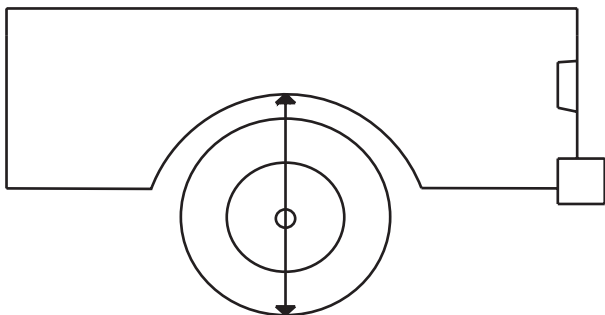
**Black Wires** - These wires go to a chassis ground. They can go to one of the screws attaching the compressor to the frame.

**Relay** - Will need to be attached to the frame with a self drilling screw supplied in the kit..



13. **Uncoil the airline being careful not to kink or flatten the line.** Start at the Airspring furthest from the compressor. Trim the airline so that the cut is clean and as square as possible. Insert the end of the airline into the fitting pushing it in as far as possible. Route the airline from the airspring to the compressor keeping it away the exhaust pipe and sharp edges. If it is necessary to run the line over a sharp edge, use a supplied thermal sleeve over the airline to protect it. The sleeve is installed by sliding it over the airline to the area where the line needs protected. **The airline should not be bent or curved sharply, this can cause the line to buckle or kink.** Secure the airline in place using the Zipties provided in the kit. Once the first airspring line is ran to the compressor, trim off the excess and use it for the remaining air spring line to the compressor. With both lines ran from the air spring to the compressor, install the "T" fitting on the lines and run the remaining side of the "T" fitting to the compressor fitting.

**TIP:** Wetting the end of the airline before sliding it into the fitting makes it easier to install into the fitting.



14. Once the system is installed you can verify the operation of the system by putting a load on the truck. With a load on the truck and the button illuminated blue, your fender to ground measurement that you took on the first step should be the same. If it is higher or lower you can adjust the height by loosening the 4 screws that attach the sensor to the bracket and twist in its mount. If ride height can not be achieved by adjusting in the bracket the linkage will need to be lengthened or shortened to achieve the height you need.

### Manual Operation:

The LevelTow Compressor System also has a manual control function. This function allows you to manually inflate or deflate the system. To use the manual function you must first turn the system off by pushing the main power button. Once the system is turned off you can push the rocker switch up to inflate or down to deflate. To put the system back in level mode push the main power switch to turn it back on.

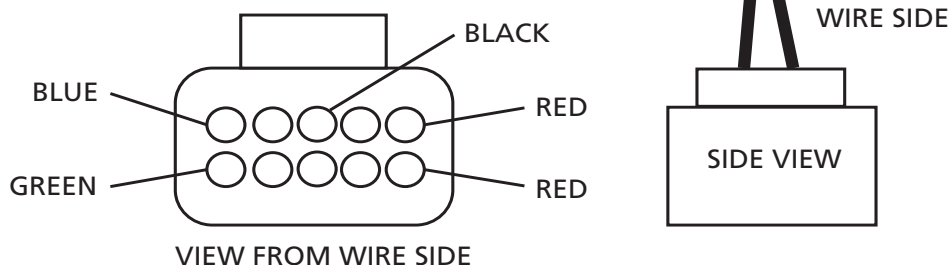
### Note:

If the Activation Button is illuminated blue and the manual button is pushed the truck will relevel itself. The activation button has to be off for the manual control to be used and the truck remain at the height.

### Troubleshooting:

If after installation you find the system not functioning correctly, you may have the sensor operating the wrong direction. You can verify this by turning the truck on and check that the activation button is illuminated blue. Unhook one end of the linkage and move the sensor arm by hand. If when you move the arm down (Keep in mind there is an 20 second delay) and the Air spring inflates, the sensor is operating in the wrong direction. You can fix this problem without remounting the sensor by swapping the blue and green wires in the harness at the sensor. To do this, with the truck turned off, simply unplug the harness from the sensor. Using a small screwdriver pop the purple retainer out of the plug by prying up on each end of it. After removing the retainer if you look into the end of the plug you will see a tang holding each wire terminal. Simply pry it down just enough to release the terminals of the blue and green wires. Swap the blue and green wire position and reinstall the wires into the plug paying attention to the direction of the small tab on the wire terminal. This tab will point to the center of the plug. Push the wire terminals into the plug making sure they catch on the tang and reinstall the purple retainer. After plugging the sensor back in you can confirm correct operation by turning the truck back on moving the sensor arm up, the Air spring should inflate. If the system is functioning correctly, shut the truck off and reattach the linkage.

#### WIRE LOCATIONS AT HEIGHT SENSOR



STILL HAVE QUESTIONS?

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Monday-Friday

8AM - 6PM (EST).....812-482-2932

