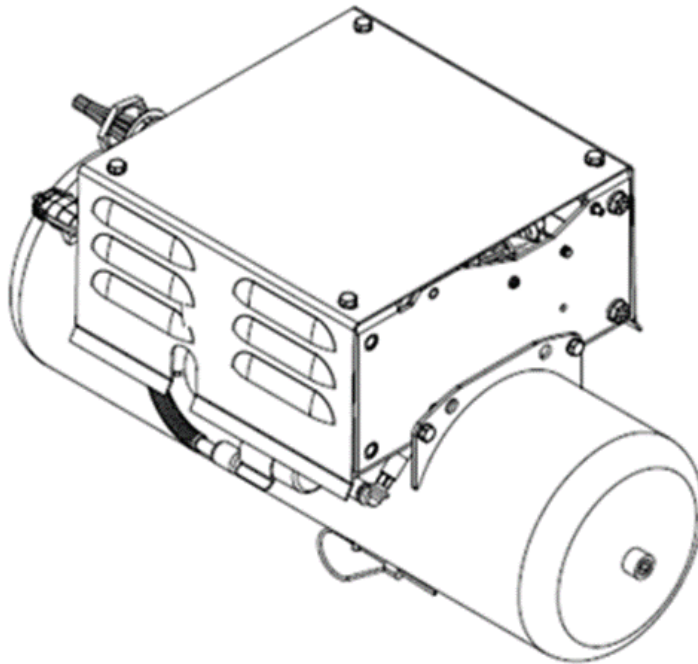


INSTALLATION GUIDE



Electronic Air Control Kit Link Part No. 800M1400



Questions ? Contact this Professional Installer :

Company : _____

Phone : _____

Installer : _____ Date : _____

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1. INTRODUCTION

IMPORTANT! It is important that the entire installation instructions be read thoroughly before proceeding with the installation.

The **UltraRide®** Electronic Air Control Kit is intended only to provide a pressurized air supply for Link **UltraRide®** Chassis Suspension and control the dump action of the suspension.

Any other use of these Air Control Products is not authorized. Link accepts no warranty responsibility for damage resulting from misuse.

Items included with the Air Control Kit

Power Pack. Contains the compressor, valves, ECU, relays, pressure switches, air filter and all other components necessary for the operation of the air kit.

Air Tank. Provides a reserve source of pressurized air to manage compressor run time and dump recovery time.

Chassis Integration Wiring Harness. The wiring harness that connects the Power Pack to the battery, to power the compressor, the cab controls to control the function of the air kit, the height sensors, and the brake system.

Air line, Extra air line is included with this kit to connect it to the **UltraRide®** suspension system.

This Installation Manual & a separate Owner's Manual.






Items NOT included with the Air Control Kit

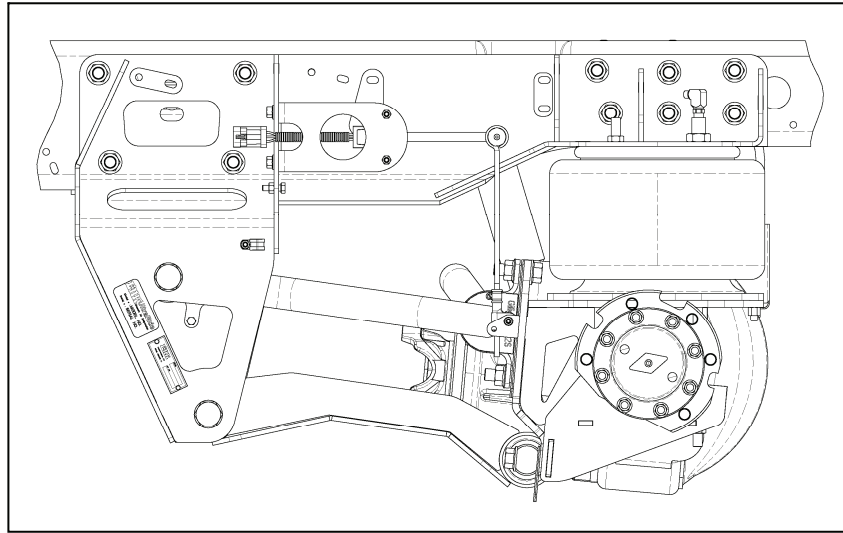
- ❑ **Mounting brackets.** Mounting brackets to mount the Air Control Kit to the vehicle ARE NOT included in this kit. The installer can either supply their own brackets to mount the kit OR Link Mfg. offers a mounting bracket kit, Link part number 800M1401 Contact your Link Mfg. representative for availability.
- ❑ **Cab Control Panel.** Many custom installers with to use their own custom cab switches and lights. For this reason, the **UltraRide®** air kit does not contain the Link Control Panel. It can be ordered separately as Link part number: 800M1074. Contact your Link Mfg. representative for availability.
- ❑ **Height sensors, their mounting hardware.** Height sensors and their mounting hardware and brackets are available through separate kits.
 - Ford Kit: 800M1071
 - Ram Kit: 800M1072
- ❑ **Interface software.** Used to set the suspension Dump Height and to diagnose air kit errors.
 - Diagnostic computer interface is included in the Harness of the control system.
 - Computer software can be downloaded from: <http://www.linkmfg.com/>

PRODUCT INSTALLER RESPONSIBILITIES

- ❑ Installer is responsible for installing the product in accordance with Link Mfg. specifications and installation instructions.
- ❑ Installer is responsible for providing proper vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation.
- ❑ Installer is responsible for advising the owner of proper use, service and maintenance required by the product and for supplying maintenance and other instruction as readily available from Link Manufacturing.

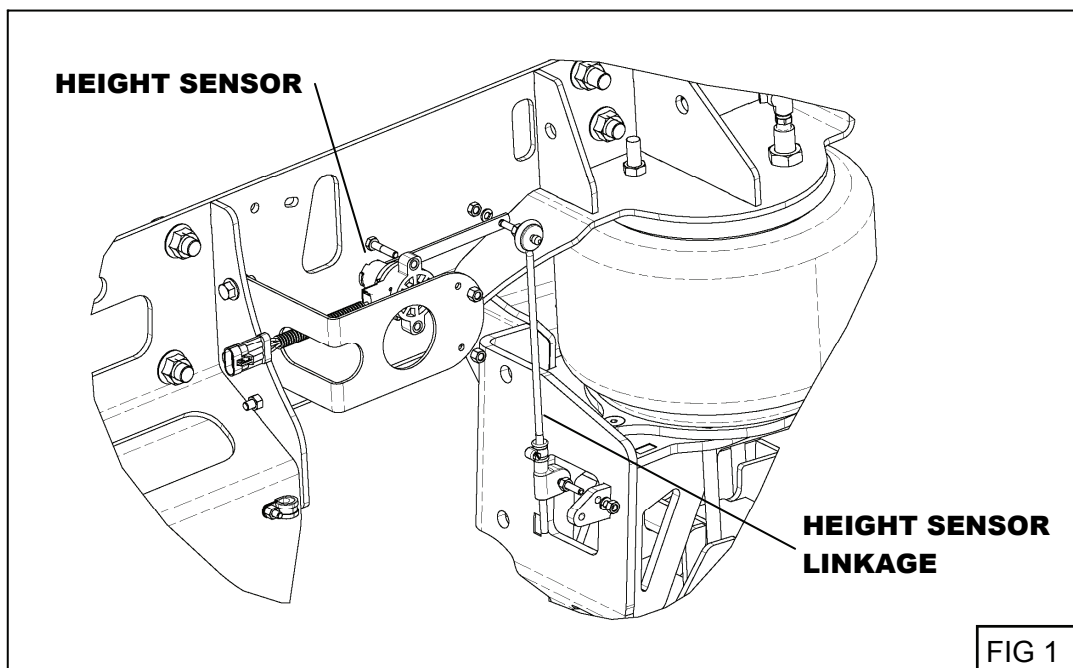
SAFETY SYMBOLS, TORQUE SYMBOL, and NOTES

	<p>This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.</p>		<p>The torque symbol alerts you to tighten fasteners to a specified torque value.</p>
	<p>WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</p>	<p>NOTE:</p>	<p>A Note provides information or suggestions that help you correctly perform a task.</p>
	<p>CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.</p>		<p>The electrical symbol indicates the presence of electric shock hazards which, if not avoided, may result in injury to personnel or damage to equipment.</p>
<p>CAUTION</p>	<p>CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.</p>		



2. INSTALLING THE HEIGHT SENSORS

1. The height sensor, with the lever arm pointed rearward is to be secured to the frame bracket as shown in Figure 1. Use (2) #10-24 UNC x 1 ¼ stainless steel button head cap screws, (2) #10 stainless steel flat washers, and (2) #10-24 UNC nylon locking nuts from the hardware bag. Repeat this step on the other side of the vehicle.
2. The height sensor is to be secured to the mount plate (provided with the suspension) also shown in Figure 1. Use (1) #10-24 UNC x 1 ¼ stainless steel counter sunk cap screws, (1) #10 stainless steel flat washers, and (1) #10-24 UNC nylon locking nuts from the hardware bag. Repeat this step on the other side of the vehicle.

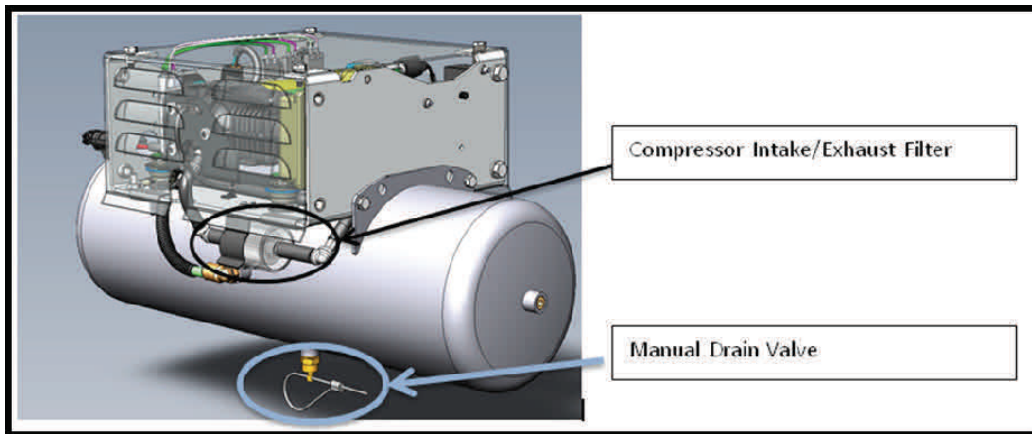


3. MOUNTING THE AIR KIT

The **UltraRide®** Electronic Air Control Unit is shipped with the air tank attached to the Power Pack. If desired, the air tank can be split from the Power Pack and each can be mounted separately, connecting them with a 3/8 inch DOT air line hose.

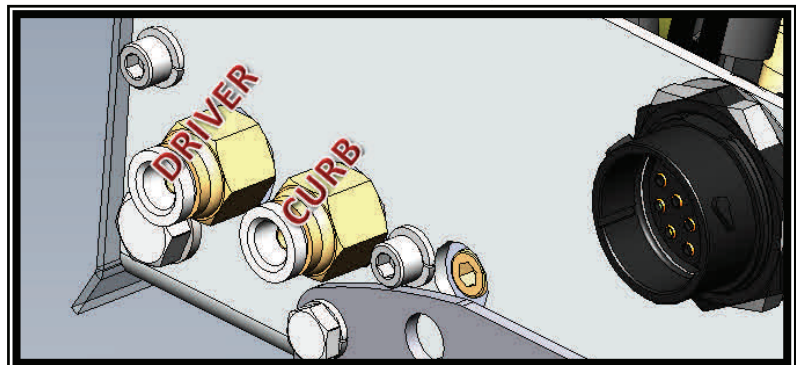
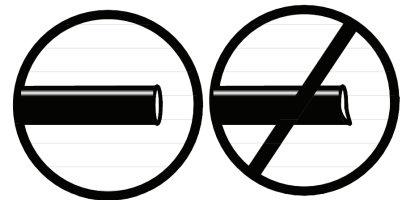
If mounting kit 800M1401 was purchased with your air kit, follow the instructions included in the mounting kit to mount your **UltraRide®** Electronic Air Control Unit to the vehicle.

If NOT using a Link Mfg mounting kit, mount the Air Control Unit in a suitable location with open air flow to cool the compressor. The air tank must be always mounted with the drain on the bottom side for proper drain operation.



4. AIR LINE CONNECTIONS

1. Only use 3/8" OD DOT air line (a length of air line is included in the kit). The air line ends must be cut squarely & cleanly using an air line cutting tool. **DO NOT USE scissors or wire cutters!** Link Mfg. recommends the SMC airline cutting tool. Inspect the air line ends to ensure they are free of dirt, debris, and scratches. Dirt and debris can clog or damage valves and/or limit airflow. Scratches near the end of the airline can prevent the fitting from sealing properly and cause it to leak.
2. Insert the 3/8" DOT air line hose into the Push To Connect (PTC) connection of Port X (X Side) until fully seated and route the other end of the air line hose to the left (driver side) air spring. Insert the air line hose into the PTC fitting on top of the air spring. Use the included elbow to improve connection routing.
3. Insert the other 3/8" OD DOT air line hose into the PTC connection of Port (Right/Curb Side) until fully seated. Route the other end of the air line hose to the right (curb) spring and insert into the PTC fitting on top of the air spring.




5. ELECTRICAL CONNECTIONS

The included chassis integration wiring harness for the **UltraRide®** Electronic Air Control Unit uses heavy gauge wiring and automotive standard sealed connectors, allowing greater flexibility in routing and placement options.

Connecting the Height Sensors

1. Connect the chassis integration harness to the **UltraRide®** Electronic Air Control Unit.
2. Locate the left (driver) height sensor connector plug (DELPHI with three colored wires: Orange, Yellow/Black, Black)
3. Route the wiring harness appropriately from the control unit to the left (driver) height sensor and insert the electrical plug until the plug lock engages. Secure the wiring harness to the chassis with cable ties every 12 inches.
4. Locate the right (curb) height sensor connector plug (DELPHI with three colored wires: Orange, Green/Black, Black).
5. Route the wiring harness appropriately from the control unit to the right height sensor and insert the electrical plug until the plug lock engages. Secure the wiring harness to the chassis with cable ties every 12 inches.

 **CAUTION!** All wiring and air lines should be routed and secured neatly to avoid any functional or visual issues. Under hood and under-body wire and airline routings should be clear of sharp edges (3/4 inches minimum) and direct sources of heat (4 inches minimum). They should not be routed through wheel well areas where it may be damaged by tire or road debris, and it should not be routed over the exhaust system. They should not contact the brake lines or fuel lines. Always disconnect the battery cables before installing or servicing any electrical components.

Connecting to the Control Panel

- Route the control panel plug and the diagnostic interface plug on the Chassis Integration Wiring Harness into the cab, where it can be connected to the air kit controls for easy, in-cab operator use. Route it to the driver's side of the bulkhead, either passing through an existing grommet hole behind the dash, or drilling an appropriate hole in the bulkhead to pass the harness through. **NOTE:** use a grommet around the harness and in the bulkhead to reduce noise transmission. Keep the harness away from the sharp edges and seal the cab area against dirt and moisture. For more detailed control harness routing options, see Appendix B for Ford vehicles.

Using the optional 800M1074 Control Panel (sold separately):

- The Control Panel should be mounted somewhere between the driver and passenger seating areas to keep it out of the Passenger Protection Zone (Figure 4).
- Connect the Control Panel wiring pigtail to the Control Panel connector plug on the Chassis Integration Wiring Harness.
- The **white wire** on the Control Panel wiring harness must be connected to a "key hot" signal wire so that it only receives +12V power when the ignition key is in the "RUN" position to ensure that the Air Control Kit only runs when the key is on, preventing the batteries from draining. For more details on locating a suitable "key hot" wire for your application, see Appendix B for Ford vehicles.

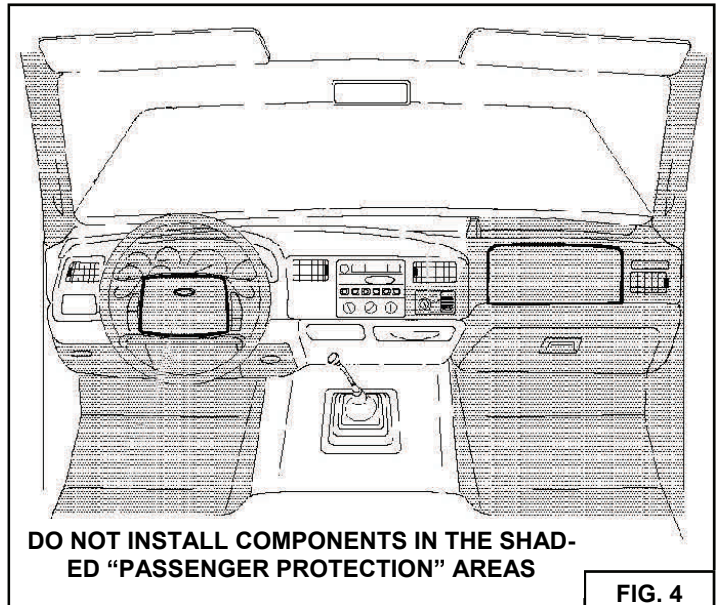
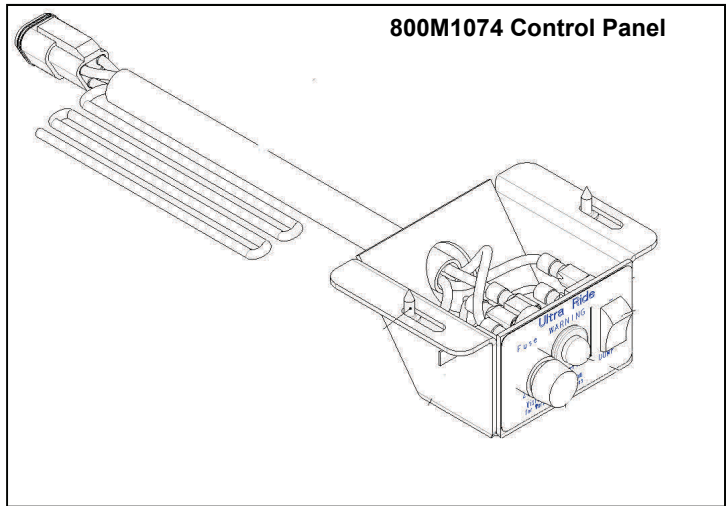
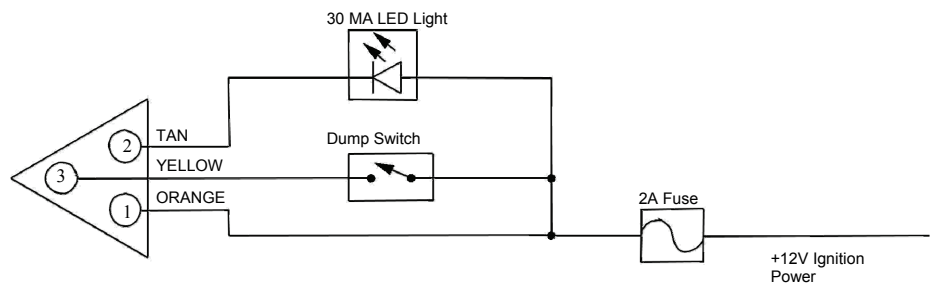


FIG. 4

UltraRide® Air Kit Control Panel Schematic

FIG. 5

Connector:
 Duetch Series DT Connector
 Housing: DT06-3S (QTY 1)
 Socket: 1062-16-0122 (QTY 3)
 Wedgelock: W3S
 Pin 1(A) - +12V Ignition Power
 Pin 2(B) - Warning Light
 Pin 3(C) - Dump Switch



- NOTE:** The warning indicator light MUST be a LED type light with a maximum current draw of **30 milliamps**. An incandescent light or any light exceeding a current draw of 30 milliamps will not function properly.

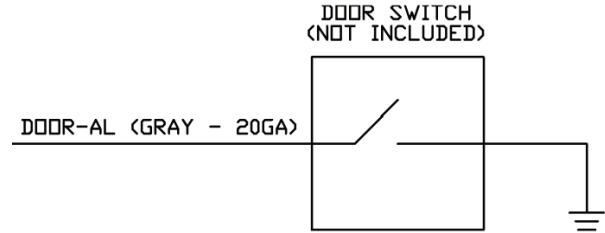
Using your own, custom control panel switches and lights:

- ❑ A 2A fuse, warning indicator light, and a dump switch must be installed to complete the control harness circuit. See Figure 5 for custom control panel wiring. Note: the use of a warning indicator device (such as a warning light), is REQUIRED and should be included in any custom control interface design. Failure to do so may result in damages not covered by warranty.

Connecting a Door Switch (if applicable)

If the application calls for the use of a door switch, the installer can utilize the Auxiliary Dump wire lead provided in the Chassis Integration Wiring Harness. The installer is responsible for providing the ground connection and the door switch.

- ❑ Connect the signal wire to the grey wire lead (**DOOR-AL**) on the provided Chassis Integration Wiring Harness.



Connecting the Trigger Input

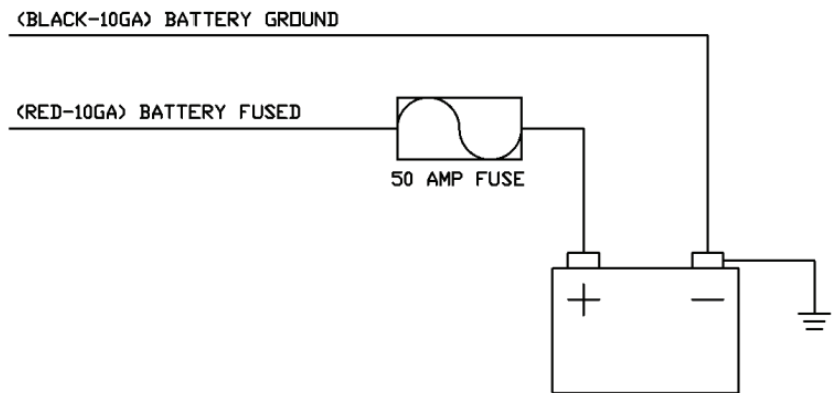
The **UltraRide**® Electronic Air Control Unit is designed to return the suspension to ride from a dump state the moment a trigger circuit signals and the dump switch has been de-activated.

- ❑ Locate a suitable trigger (i.e. brake) signal wire. Consult the body builder's guide and electrical manuals of your vehicle to best locate an appropriate signal wire.
- ❑ Connect the trigger signal wire to the pink wire lead (**RH TRIGGER**) on the provided Chassis Integration Wire Harness.

Connecting the Battery

To complete the electrical wiring, validate that all added connections have been properly connected and are sealed.

- ❑ Connect the black ground wire lead of the Chassis Integration Wiring Harness to the negative battery post.
- ❑ Connect the fused red power wire lead of the Chassis Integration Wiring Harness to the positive battery post.



6. AIR SYSTEM OPERATION

NOTE: Before operating the **UltraRide®** Air Control Kit, be sure it has been properly connected to the **UltraRide®** Chassis Suspension.

Powering the system up for the first time.

- ❑ Make sure the dump switch on the control panel is in the OFF position.
- ❑ If auxiliary door switches were installed, be sure that all doors are closed.
- ❑ Turn on the vehicle's ignition switch.

The Air Control Kit will power on and begin to fill the air tank. Once pressure in the tank has reached 150 psig, the air spring control valves will open and begin to fill the air springs. The vehicle will rise until Ride Height has been achieved at which point, the air spring control valves will close.

Setting the Suspension Ride Height

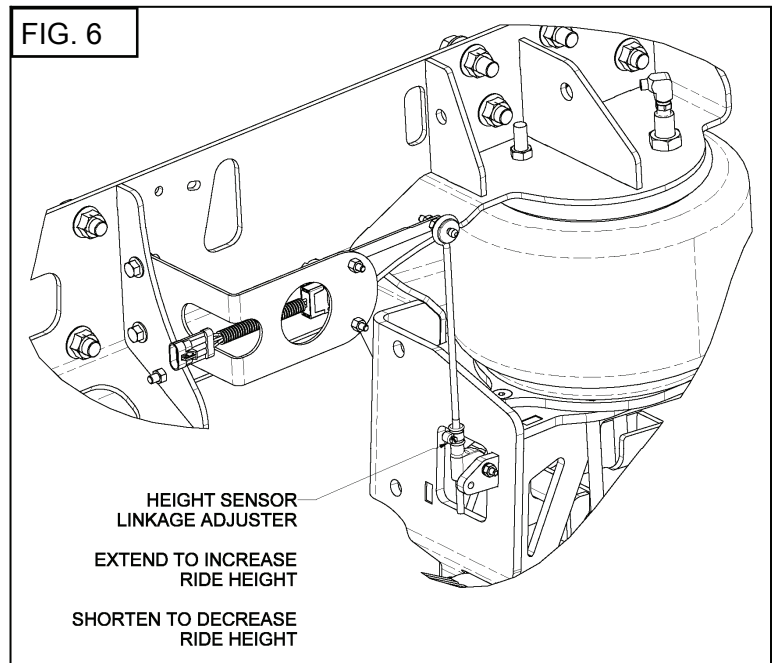
Adjust the suspension ride height... (See your suspension manual for correct design Height).

The Suspension Dump Height

From the factory, the Dump Height is set to -2.1 inches from Ride Height.

The suspension Dump Height can be changed via the diagnostic interface software. (See Appendix A on how to install the software on your laptop or computer)

See "Using the Diagnostic Interface Software" for adjustment of Dump Height.



7. USING THE DIAGNOSTIC INTERFACE SOFTWARE

Equipment required:

1. Portable computer with USB port running Windows XP, 7 or 8.
2. Link Air Kit Tools software.
3. USB communication cable (included in harness (H18170)).
4. Measuring tools to verify vehicle ride height.

Connecting and Starting the Program:

1. Position the computer in a appropriate place where the USB communication cable can be accessed and turn the computer ON.
2. Remove rubber boot from the connector and connect the USB to the computer.
3. The ON the vehicle ignition.

NOTE: When the ignition is turned ON the Diagnostic LED will be solid red for 4 seconds.



Important:

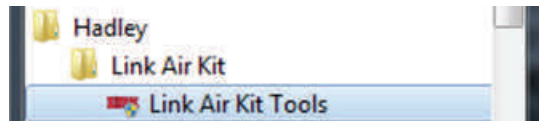
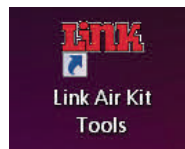
The vehicle must be parked on a smooth level surface to properly adjust the suspension heights. The vehicle must provide > 90 PSI of air pressure during the adjustment process. Start the vehicle if the battery voltage becomes less than 10 volts.

4. Locate the Air Kit Tools icon:

A. Located on the desktop

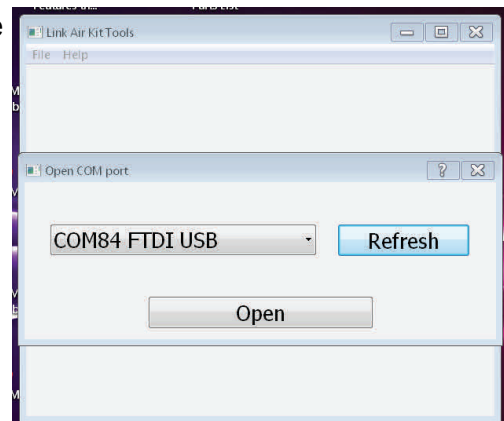
B. The Start Menu

Start the application.



NOTE: If the software is not installed on your computer please follow the software installation instructions.

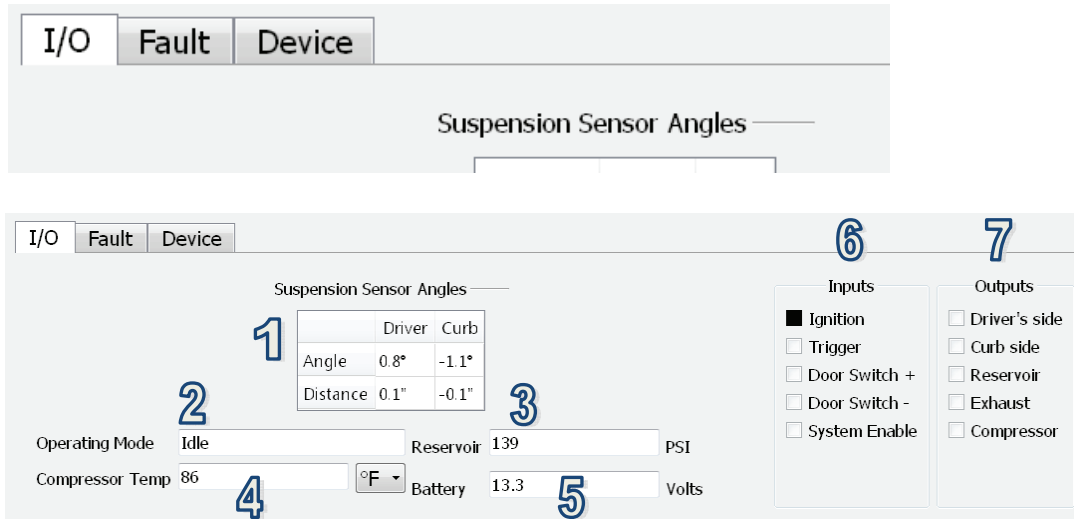
5. The “Open COM port” window should appear on the screen. The system will automatically attempt to find the com port needed to communicate. If you have multiple FTDI devices you will need to pick the device you use. In most cases this will be the only device with the FTDI name.
6. Press the “Open” button to start communications. If nothing appears, press the “Refresh” button.



Application Overview

The application window is split into two horizontal sections. The top section displays data coming from the ECU. The bottom section contains the controls for setting values on the ECU.

Each section has tab pages for navigating between control points or informational screens. Click on the tab with the page's name to select that page.



Top Tab Displays:

I/O Tab

The I/O tab stands for “Inputs and Outputs” and provides access to running information including:

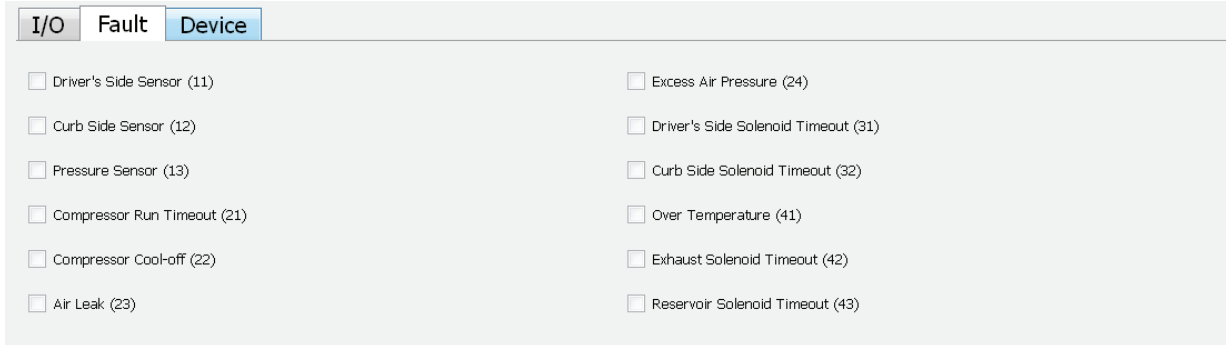
1. Suspension Sensor angles and computed distance.
2. Current Operating Mode (Idle/Raising/Lowering/Compressor Test).
3. Current Reservoir Pressure in pounds per square inch (PSI).
4. Current Compressor Temperature which can be switched between °C and °F.
5. Current Battery Voltage as measured at the ECU.
6. Current Hardwire Input status (ON/OFF).
7. Current Solenoid Control status (ON/OFF).


NOTE: If the battery voltage drops below 10VDC the battery indicator will flash a warning. 

NOTE: Sensor values will display the word “Faulted” when a sensor is disconnected or reads an out of range value.

Fault Tab

The Fault Tab provides the user with the status of the machine.



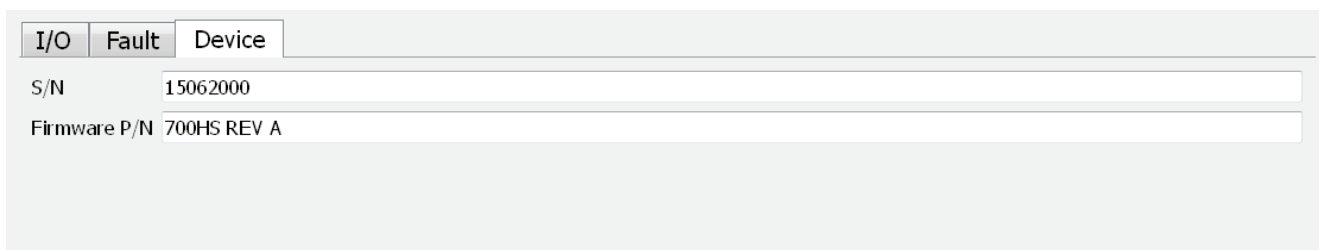
NOTE: If a fault is active the "Fault Tab" will flash  to direct the user to the page where the fault is being displayed.

The fault page contains indicators for all faults indicated by the controller. A fault is active if its indicator is shaded. The following faults are displayed on this tab. Numbers inside brackets, example (11), indicate the LED pulse code for the fault which can be observed on the 800M1074 Control Panel.

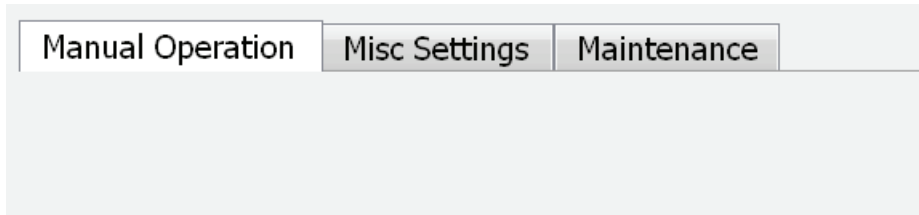
1. Driver's Side Sensor (11)
2. Curb Side Sensor (12)
3. Pressure Sensor (13)
4. Compressor Run Timeout (21)
5. Compressor Cool-off (22)
6. Air Leak (23)
7. Excess Air Pressure (24)
8. Driver's Side Solenoid Timeout (31)
9. Curb Side Solenoid Timeout (32)
10. Over Temperature (41)
11. Exhaust Solenoid Timeout (42)
12. Reservoir Solenoid Timeout (43)

Device Tab

The Device page displays the ECU serial number and the firmware part number.



Bottom Tab Displays:



Manual Operation Tab:

The manual operations page contains controls for raising and lowering the vehicle, for displaying the height presets stored in the controller, and for storing the current vehicle position into a preset.

Raising/Lowering the vehicle height

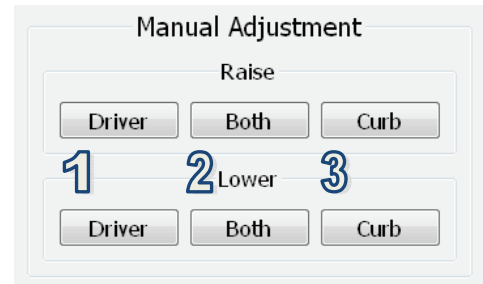
There are two ways to raise and lower the vehicle: with a manual height adjustment and by selecting a preset position.

Manual adjustment

The manual adjustment box contains controls for raising and lowering the vehicle's height. These controls are enabled regardless of the position of the suspension angle sensors.

There are six buttons for raising and lowering the vehicle.

1. The "Driver" button will send a command to raise or lower the driver's side of the vehicle.
2. The "Curb" button will send a command to raise or lower the curb side of the vehicle.
3. The "Both" button will send a command to raise or lower both the curb and driver's side of the vehicle at the same time.



Note: Clicking a button in either the "Raise" or "Lower" group boxes will send a single command to the ECU. Repeat as needed.

Moving to a stored preset position

The "Move To Preset..." box contains controls for moving the vehicle to stored preset height. These preset heights are further explained in the next section "Vehicle preset positions".

1. Click the "Ride Height" button to move the vehicle to the stored ride height preset position.
2. Click the "Dump Height" button to move the vehicle to the stored dump height preset position.



Both of the controls become disabled when either of the sensors are in a faulted state.

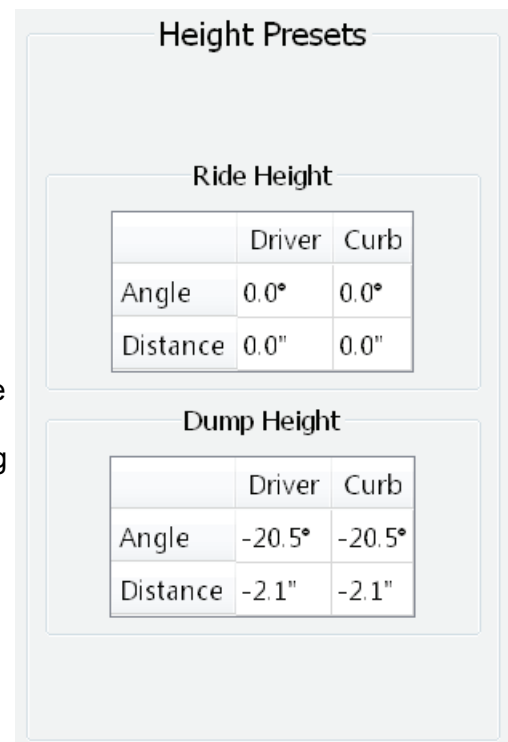
Height Presets:

Both the “Ride Height” and “Dump Height” vehicle height presets are displayed inside the “Height Presets” box. For each of these presets, the angle and distance in inches are displayed for both the driver’s die and curb side of the vehicle. Whenever a preset is saved the values for the updated preset will be updated to reflect the change.

Saving a stored preset height

The “Save As Preset...” box contains controls for saving the current height to a stored preset. Once the desired vehicle height is achieved, the ECU can be commanded to store it’s current position as either ride height or dump height by clicking either the “Ride Height” button or “Dump Height” button respectively.

Both of the controls become disabled when either of the sensors are in a faulted state.



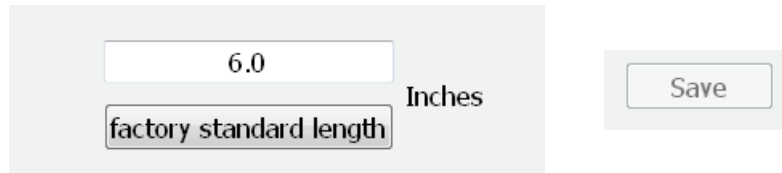
Misc Settings Page

The “Misc Settings” page contains the controls needed to set the lever length and the controller mode. The lever length is used by the application to calculate vehicle height for the driver’s side suspension and the curb side suspension. The default factory standard length should not be changed unless directed. If the vehicle uses an enable or park signal to allow the system to lower than the “Ambulance Mode” should be selected. If this signal is not going to be used then “Tow/Haul Mode” should be selected.



Setting the lever length

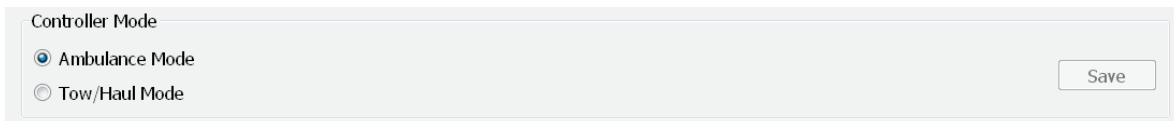
Lever length is set by using controls in the “Lever Length” box. Type the actual lever length in the text box and press the enter key or click the save button. Lever length can only be set inside a range of three to eight inches. If an invalid lever length is entered into the textbox, a warning icon is displayed next to the textbox and the user cannot click the save button.



To change the lever length back to the factory standard length, click the button “factory standard length”.

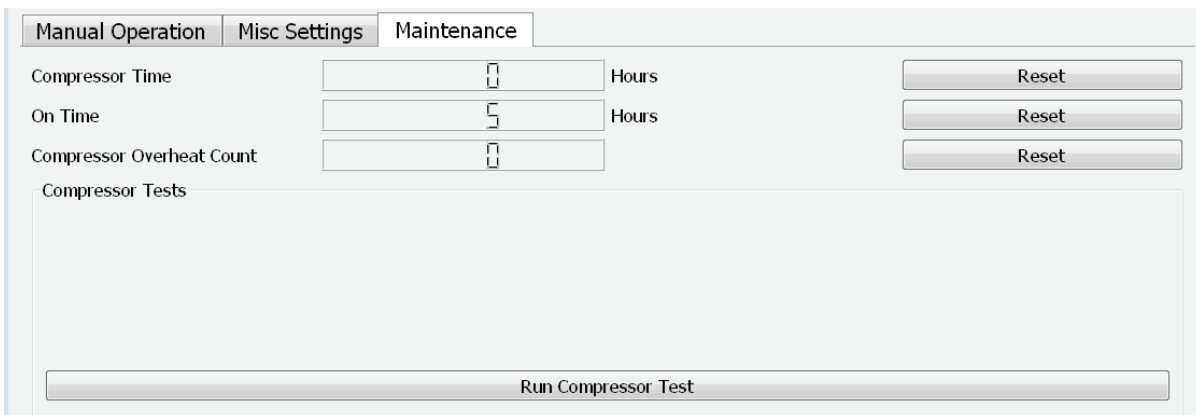
Setting the Controller Mode

Controller Mode is set by using the controls displayed in the “Controller Mode” box. To set the Controller Mode, select the button “Ambulance Mode” if the “Enable” wire **is** used or select the button “Tow/Haul Mode” if the “Enable” wire is **not** used. When the appropriate choice has been made, click the “Save” button displayed to the right of the selection.



Maintenance Page

The Maintenance page contains history information for the system. It allows for resetting of collected data including Compressor Time, On Time, and Compressor Overheat Count. It also allows the user to check the performance of the compressor by pressing the “Run Compressor Test” button.



Compressor Test

The compressor test is used to test the ability of the compressor to fill from 100 psi to 148 psi in a sufficient amount of time. Click the “Run Compressor Test” button to perform this test. If the compressor test passes the user will be indicated that the “Test Succeeded” and will display the test time. If the compressor test fails a dialog box will display any one of the following error messages:

A. “Unable to charge reservoir to 100 psi before test”

This means that the air pressure was below 100 psi before the test started and the compressor could not charge the system to 100 psi in a required amount of time.

B. “Unable to drain reservoir to 100 psi before test”

This means that the system was above 100 psi before starting the test and was unable to release the pressure in a given time before starting the test.

C. “Unable to charge reservoir in the necessary time frame”

This is an indication that the compressor filled the reservoir to the needed pressure but took longer than is expected.

D. “Compressor exceeds maximum temperature limit”

Allow the compressor to cool to a minimum of 50 deg C before attempting to run the test again.

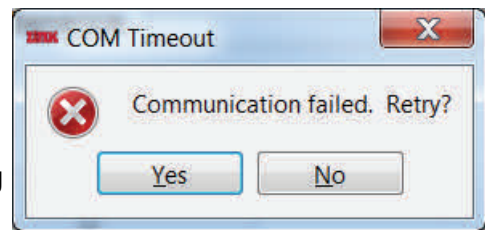
E. “Maximum Time exceeded”

The system attempted to run the test but was unable to complete and has timed out.

Description of Communication Error Messages:

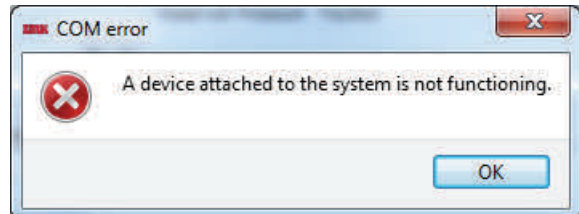
1. “COM Timeout” message:

This message is displayed when the computer does not receive the appropriate response after a set number of tries. When this appears, the communication line may have become disconnected or there is a lot of noise causing communication issues on the line. Close the program, remove the USB connector, reconnect the USB connector and start the “Link Air Kit Tools” software again.



2. “COM Error” message:

This message is displayed when the USB cable either is unplugged or has failed to operate. Restart the program and retry.



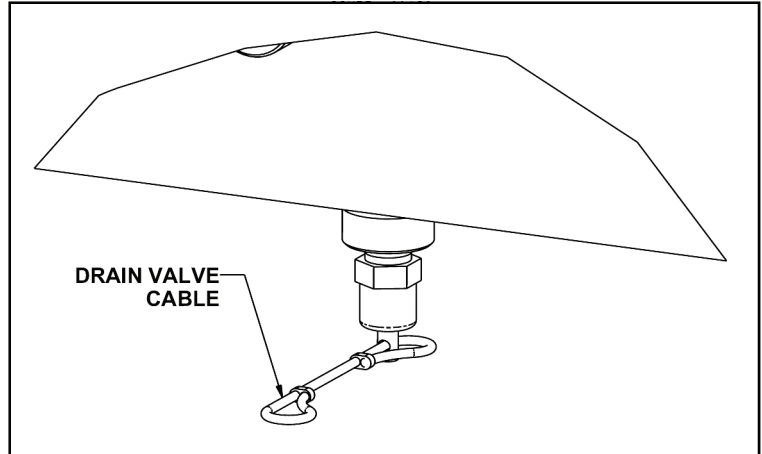
8. SERVICE & MAINTENANCE

The **UltraRide®** Air Control Kit needs no lubrication and little maintenance. The following components should be checked at the time the truck is being serviced. However, immediate corrective action should be taken if a serious malfunction occurs.

It is important to release any moisture contained within the air reservoir weekly!

Even with the advanced features of the electronic air kit system along with accessories like air dryers, moisture can build up in the air tank and should be checked.

This can be done by pulling on the cable attached to the drain valve. Not releasing the moisture on a regular basis will cause the drain valve to not operate properly, and may cause the air kit to malfunction. Excess moisture in the system can also cause premature failure of other components including the tank itself.



Operational Notes:

- ❑ The Warning light:
 - ❑ Solid on: Suspension is Dumped and vehicle should not be driven
 - ❑ Blinking: There is an error and the vehicle should not be driven.
- ❑ A minimum tank pressure of 90 psig is required for the system to recover from a suspension Dump. The Air Control Kit will not Dump if there is not sufficient pressure to recover

EVERY Week

- ❑ Manually drain excess moisture form tank.

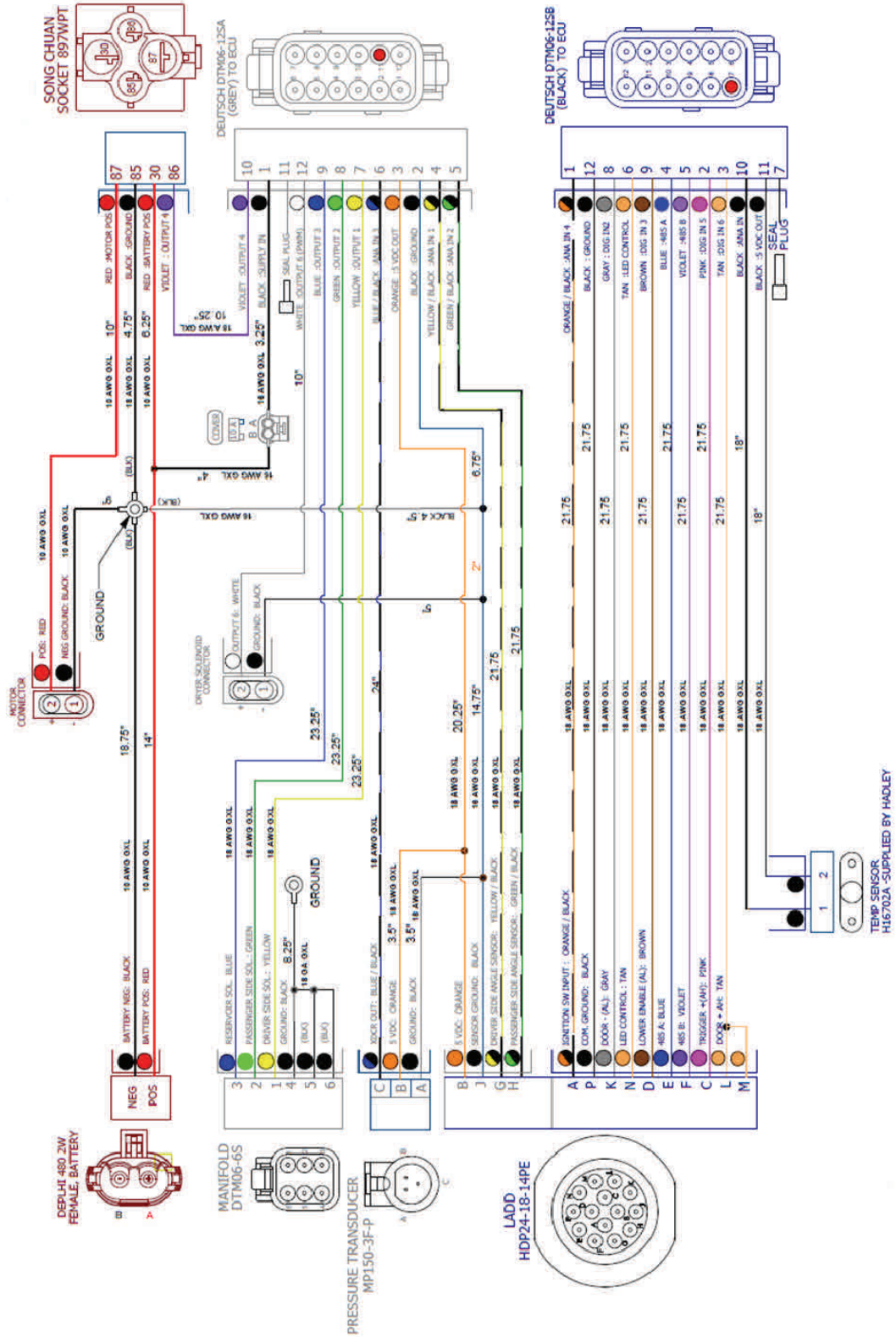
EVERY 3,000 miles or every oil change:

- ❑ Check for air leaks around fittings
- ❑ Check air filter; replace if necessary

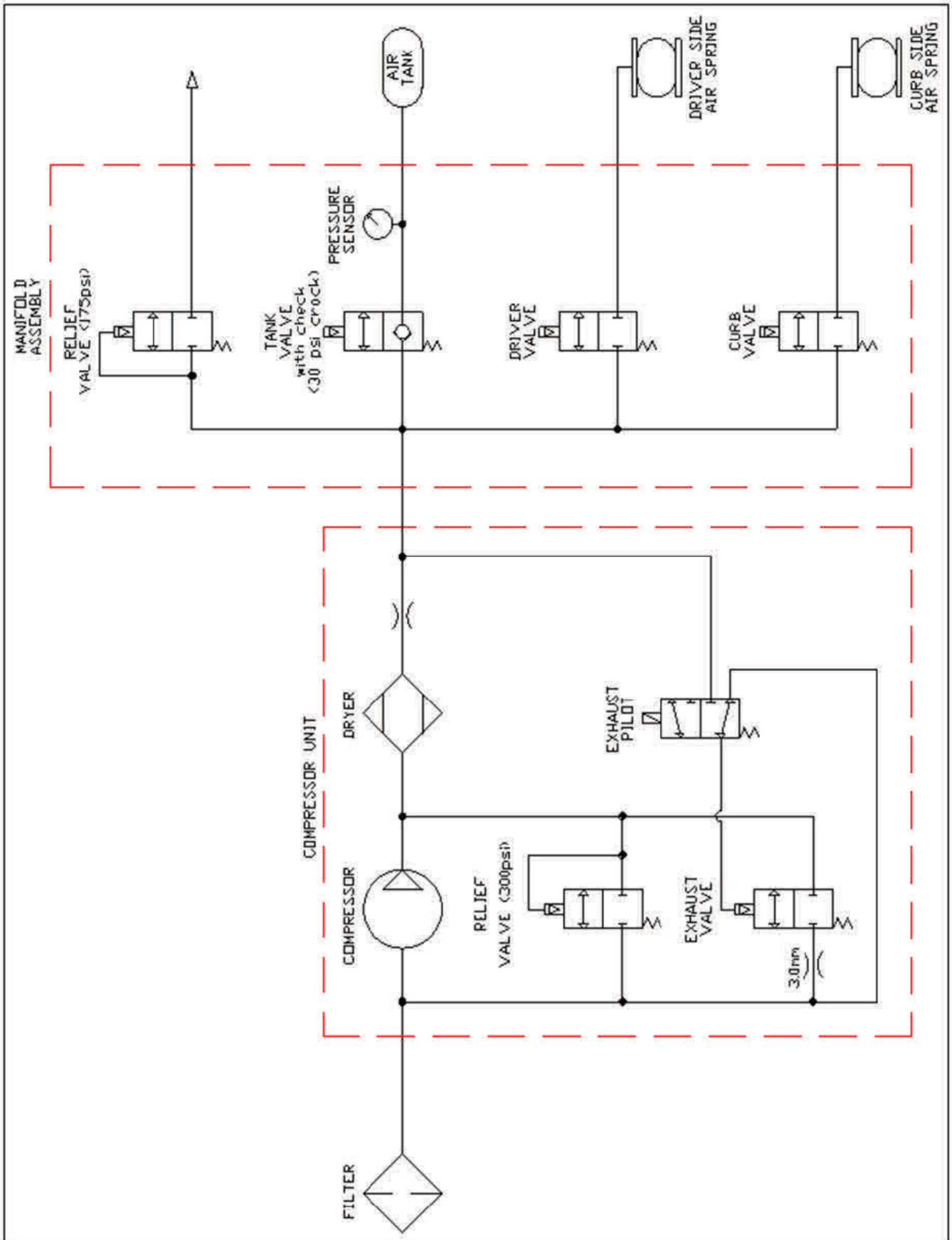
EVERY 30,000 miles or 6 months, whichever comes first:

- ❑ Replace the air filter

INTERNAL WIRING HARNESS ELECTRICAL SCHEMATIC



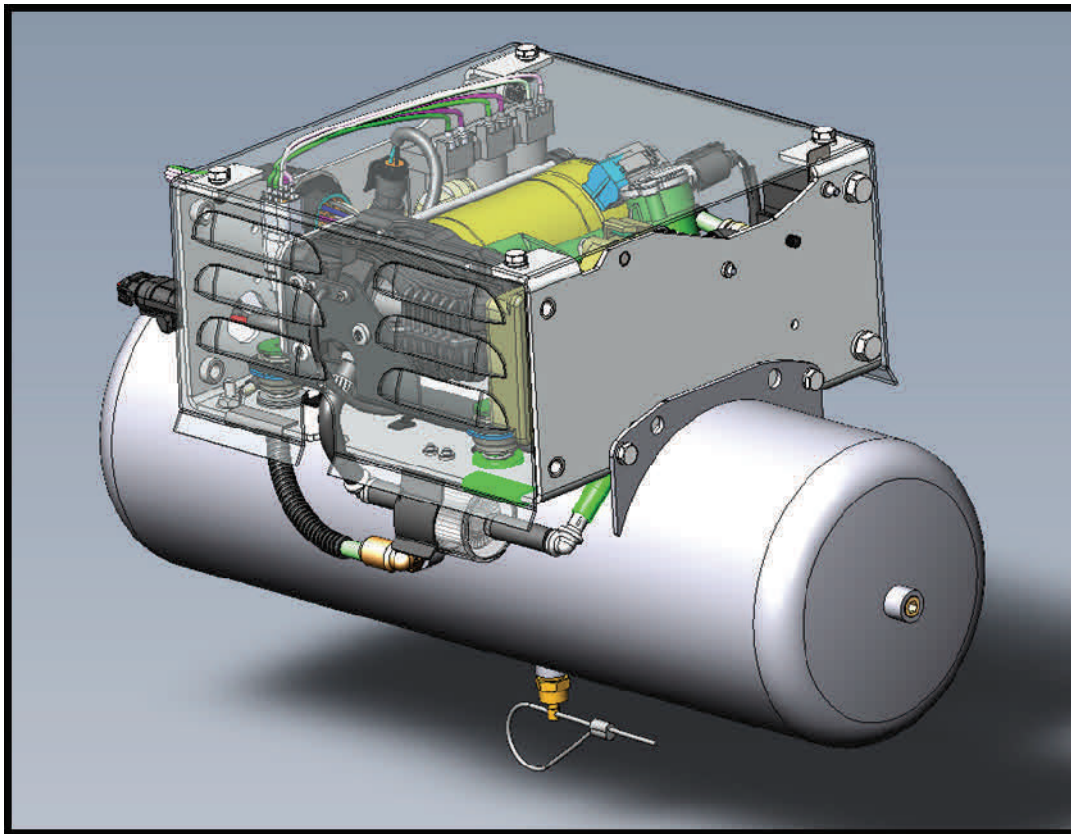
PNEUMATIC SCHEMATIC



ULTRARIDE® - 800M1400

ELECTRONIC AIR CONTROL KIT

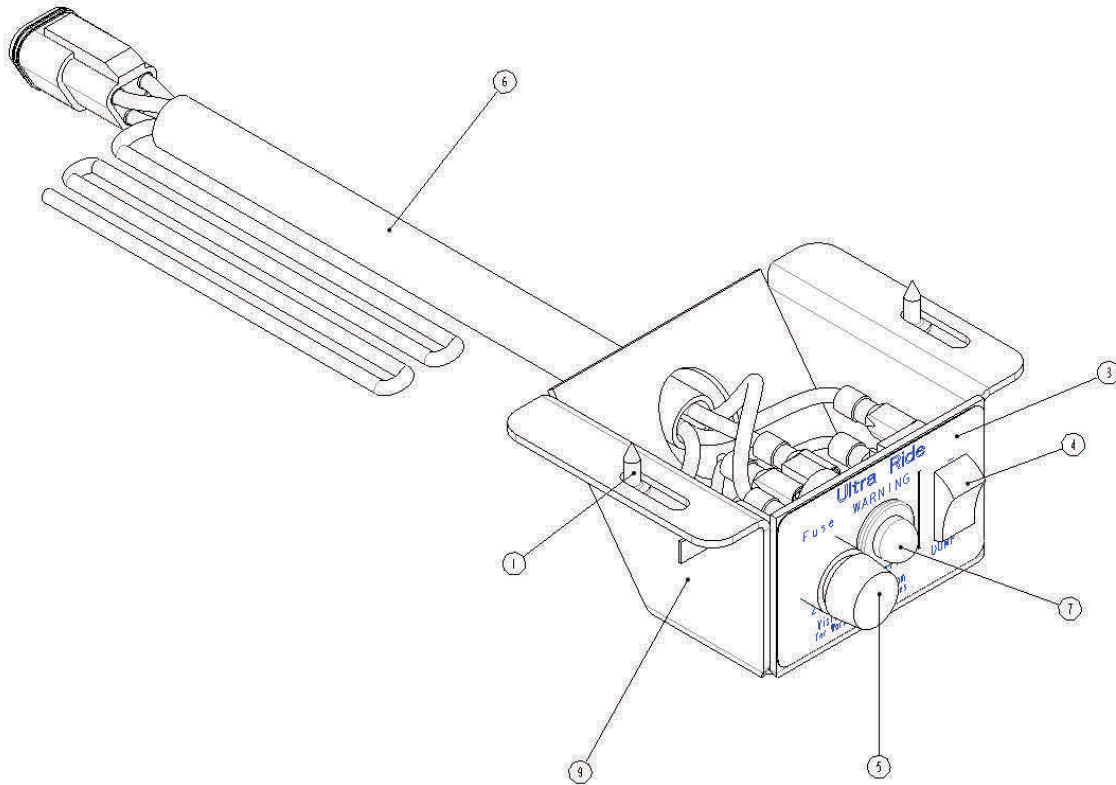
PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	QTY
1	13010586	INTAKE AIR FILTER KIT	1
2	15051996	POWER HARNESS	1
	15051997	COMMUNICATION HARNESS	
3	800M1402	AIR CONTROL UNIT	1
4	15051998	RELAY	1
5	15051999	ECU	1
6	13034000	AIRLINE-NYLON, 3/8" BULK (FEET)	30
7	15092000	CORRUGATED LOOM, 3/8" BULK (FEET)	30
8	13010587	COMPRESSOR	1
9	13010588	VALVE MANIFOLD	1
SOLD SEPERATELY			
1	800M1071	SENSOR KIT, FORD	2
2	800M1072	SENSOR KIT, RAM	2
3	800M1401	MOUNT KIT	1
4	800M1074	CONTROL PANEL	1
5	13010558	AUTOMATIC DRAIN VALVE KIT	1
6	13010559	HEATED AUTOMATIC DRAIN VALVE KIT	1

ULTRARIDE® - 800M1074

OPTIONAL CONTROL PANEL PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	QTY
1	1459-0C07	NO. 8 X .438 PHIL-PAN SHEET	2
2	1500-1255	BOX(4.25 X 2.5 X 8.00)	1
3	15001828	LABEL-AIR CONTROL, ULTRARIDE	1
4	1505-0207	SWITCH-ROCKER	1
5	1505-1883	FUSE HOLDER,PANEL STYLE	1
6	15050040	HARNESS-CONTROL, ULTRARIDE	1
7	15050053	LIGHT-LED, 12V	1
8	15051872	2 AMP FUSE	1
9	80002161	PANEL-MOUNT, SWITCH	1

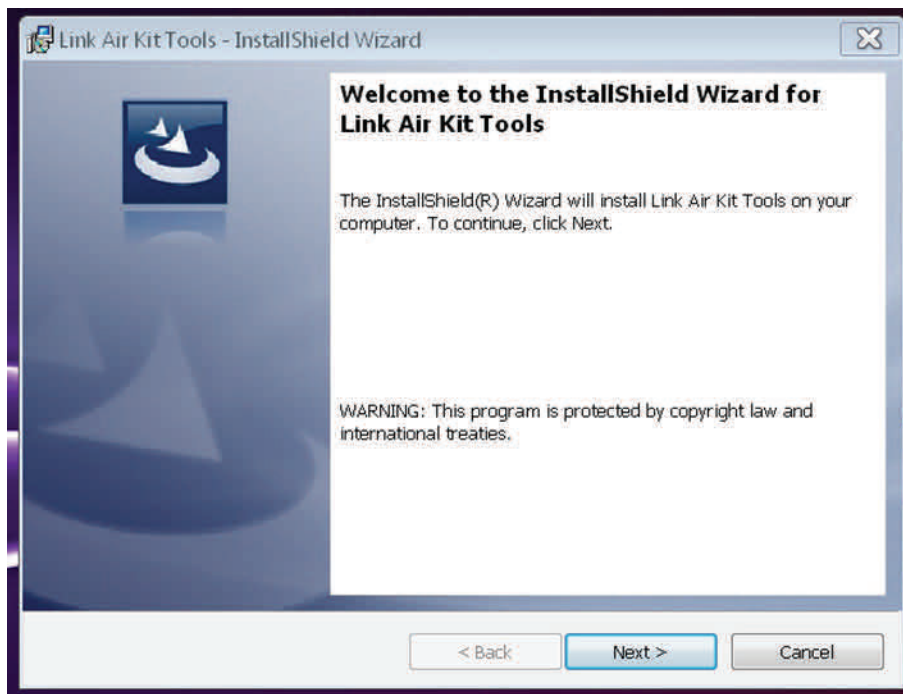
APPENDIX A.

INSTALLING THE DIAGNOSTIC INTERFACE SOFTWARE

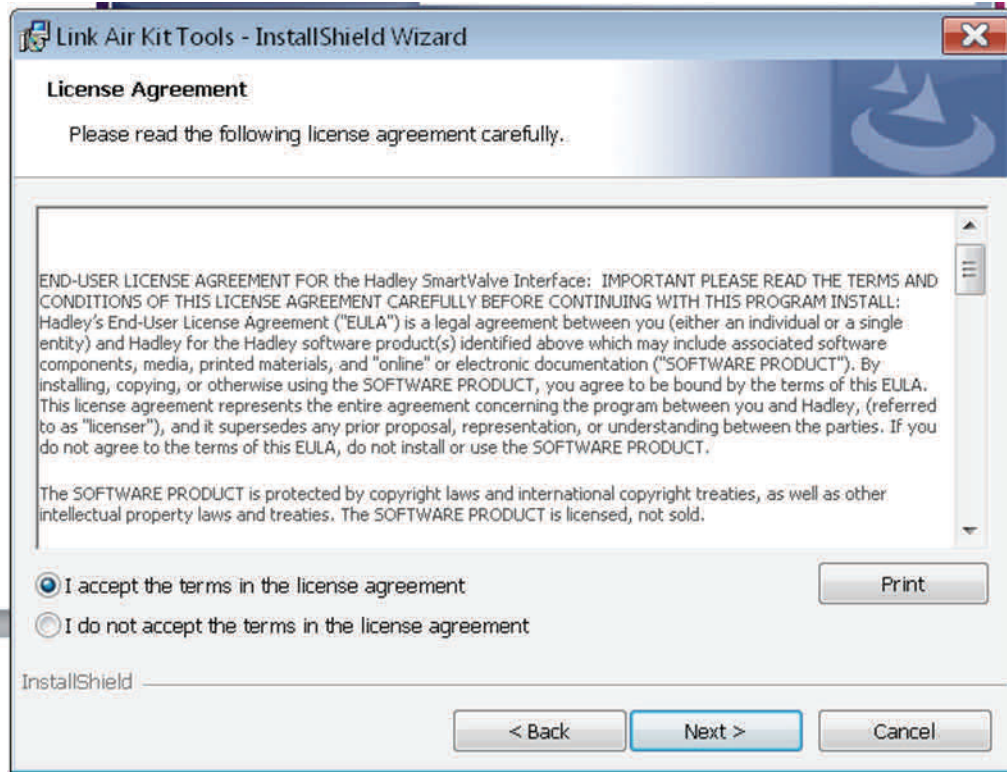
The interface tool is designed for the service technician to use while diagnosing **UltraRide®** Electronic Air Control suspension system related situations. The interface tool requires working knowledge of Microsoft Windows and the ability to install the software.

Items required:

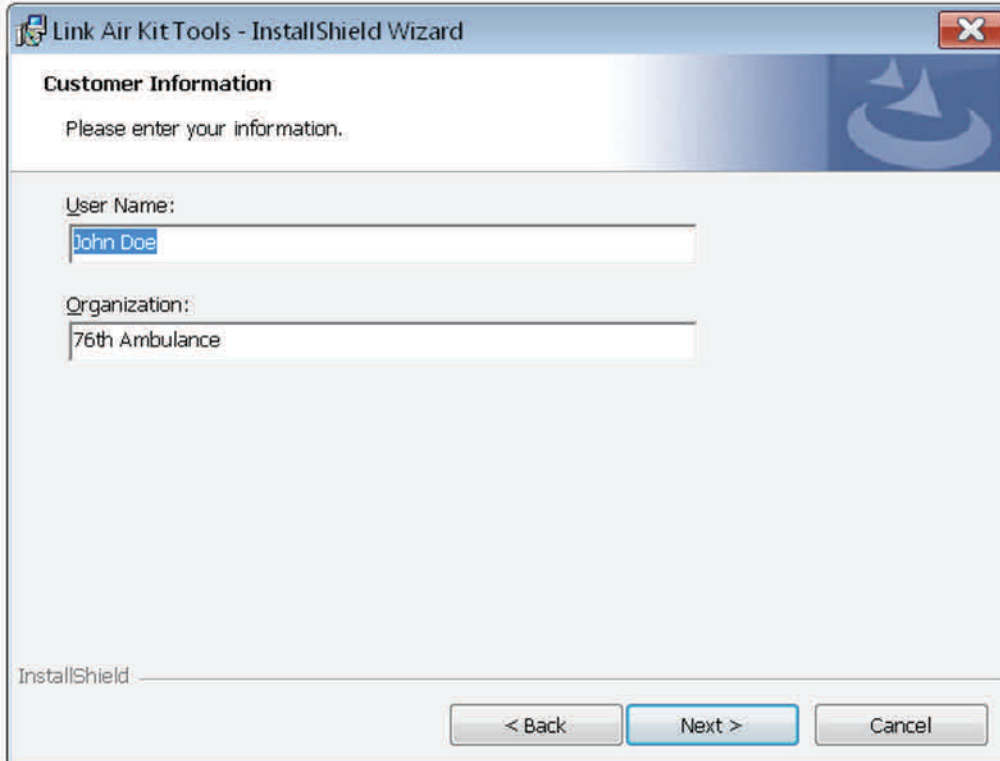
- PC or laptop running a Microsoft Windows Operating System that supports USB 2.0
- USB cable from Harness
- Downloaded copy of the Link Mfg. Air Kit Tools software
www.linkmfg.com
- Double click on the “setup.exe” file to install the device drivers and application software.
- Press the “Next >” button



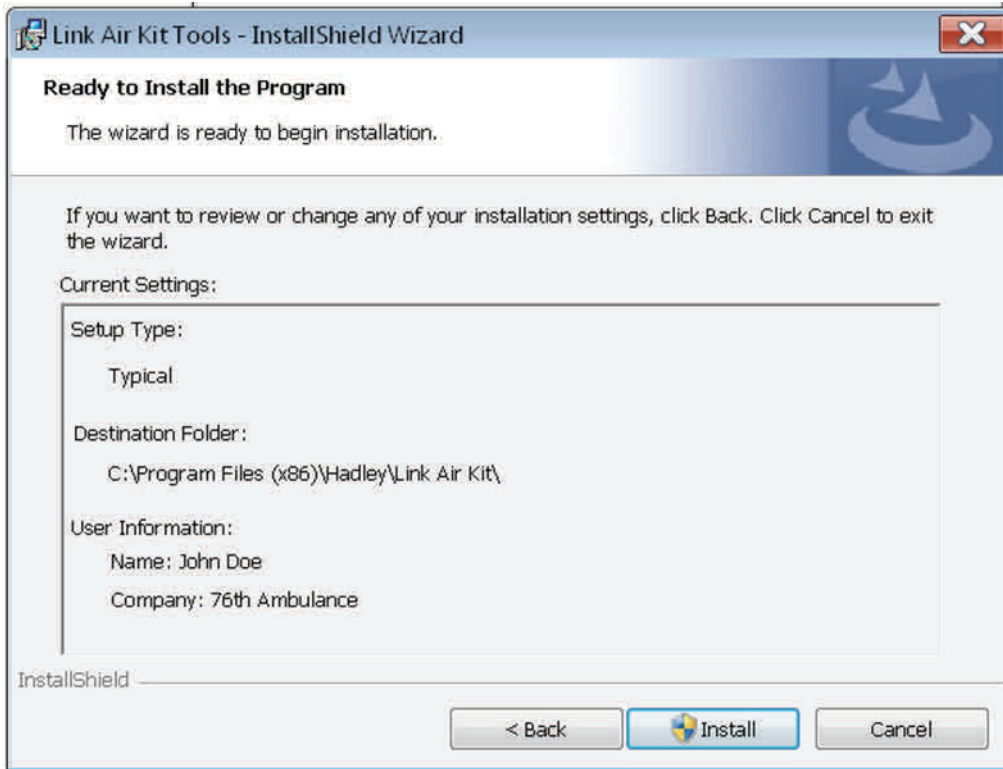
- Review the “terms of agreement” and accept if you agree to the terms.



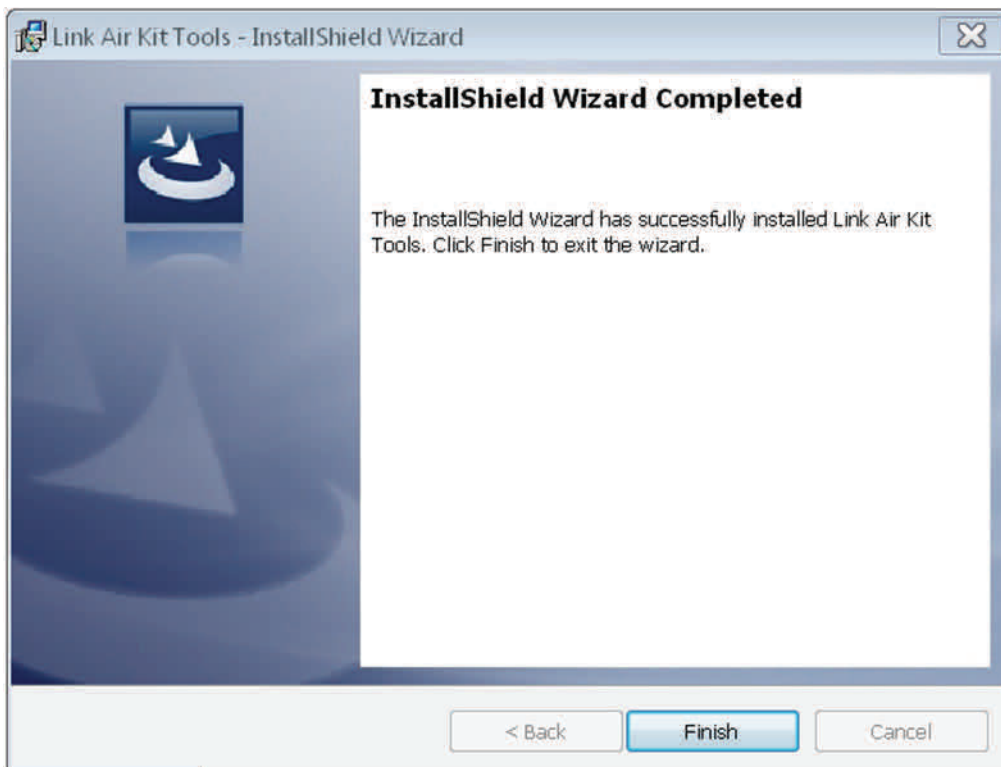
- Enter your user information.



- Press the “Install” button to install the software on your computer. Please note the destination folder. If you are a windows 7-8 user or without administrative permissions you will need to approve the installation.



- The software should now be installed, Press “Finish” to exit the installer



APPENDIX B

WIRING DETAIL FOR F-SERIES FORD VEHICLES

Harness Routing:

One option in routing the harness is to run the harness under the floor pan of the passenger's side, and through the grommet in the passenger side floor, if available. The harness can then run under the floor covering and behind the dash. See Figure A-1.

Key Hot Wire Selection:

For '99 and newer **Ford** vehicles, the PTO 12-volt power source wire provides an adequate "key hot" wire for the **UltraRide®** Air Kit. This wire does not have any terminals attached to it, and is part of the OE supplied Power Take-Off Circuits. To verify the correct wire, use a test light or multimeter. The selected wire should only be "hot" when the ignition switch is on.



FIG. A-1

For **pre-2002** model year vehicles, the wire is Circuit Number **295** and has a wire color of **light blue and pink**.

For **2002—2007** model year vehicles, the wire is Circuit Number **294** and has a wire color of **white and light blue**. This wire can be found blunt-cut & taped, on the harness behind the Diagnostic Link Connector (below and to the RIGHT of the steering wheel). See Figures A-2 and A-3.

For **2008 and newer** model year vehicles, the wire is Circuit Number **CBP44** and has a wire color of **purple**. This wire can be found blunt-cut & taped, on the harness behind the Diagnostic Link Connector (below and to the LEFT of the steering wheel).

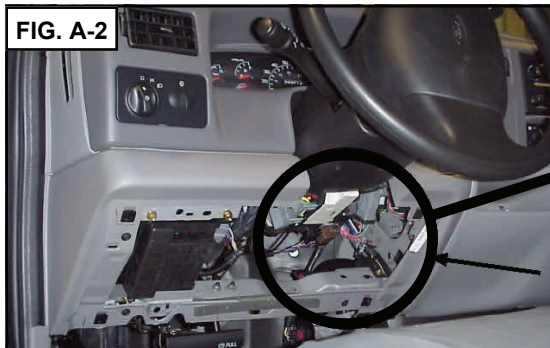


FIG. A-2

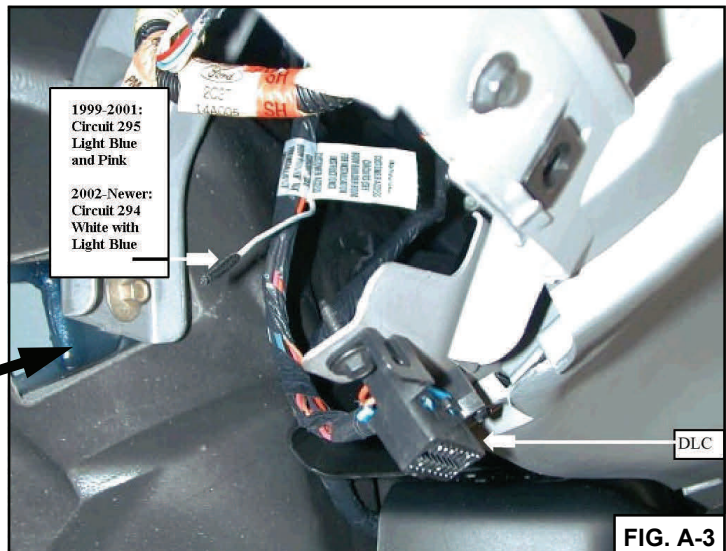


FIG. A-3

APPENDIX C

DIAGNOSING AND FINDING AIR SYSTEM LEAKS

Leaks in the Air Spring Paths:

An air spring circuit leak can be determined by a leaning vehicle. The easiest way to determine if it is leaking or not is to inspect it after sitting over night on level ground. If the vehicle is consistently leaning it needs to be inspected for a leak. Use a mixture of water and dish soap in a spray bottle to find the leak. Link Mfg. recommends 4 cups of water to 1/8 cup of dish soap.

1. Start by spraying the fitting at the air kit. If the line is cut improperly or is not pressed in all the way the fitting can leak in two places. It can be where the air line enters the fitting around the plastic ring or where the brass ring of the fitting meets the aluminum manifold. If either one of the two or both are showing bubble formation, remove and inspect the line for scratches or poor cuts. If the line is cut poorly or is scratched re-cut the line in a clean spot and re-install. If the same leak is present please call Link Mfg. Customer Service.
2. Check the entire length of air line for rubs, pinches or kinks. The soap solution can be used to check the line for leaks.
3. Check the fitting on the air spring. If bubbles are found please remove and follow procedure 1 above.
4. Check the air spring for rubs or holes, use the soapy solution to determine if a leak is present. Call Link Mfg. Customer Service for any questions.
5. If no leak is found Call Link Customer Service.

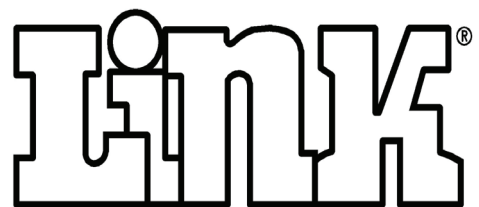
Leaks in the Air Tank Paths:

A tank leak can be determined by a few different things. A major leak will cause the system to not operate upon vehicle start up. The system must have a minimum pressure to function. Another way to help determine if you have a leak is if the compressor comes on every time the key is cycled to the on position after a short period of time. The best way to determine a leak is to connect the Link Mfg. PC Diagnostics to the air kit. Open up the virtual display and watch the tank pressure while the vehicle is sitting on level ground. **Note: A tank leak will not affect air spring pressures. The vehicle should not sag or lean over night even with a major tank leak.**

1. To find the leak use the same soapy solution and spray the fittings on the tank and the air line going to the control manifold.
2. If bubbles are found please call Link Mfg. Customer Service.

Leaks in the Compressor Fill & Exhaust Paths:

A leak between the compressor and the valve manifold can best be detected when the compressor is running. A leak in this area will not cause the tank or air springs to loose pressure, but it will increase compressor run time and reduce system performance.



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