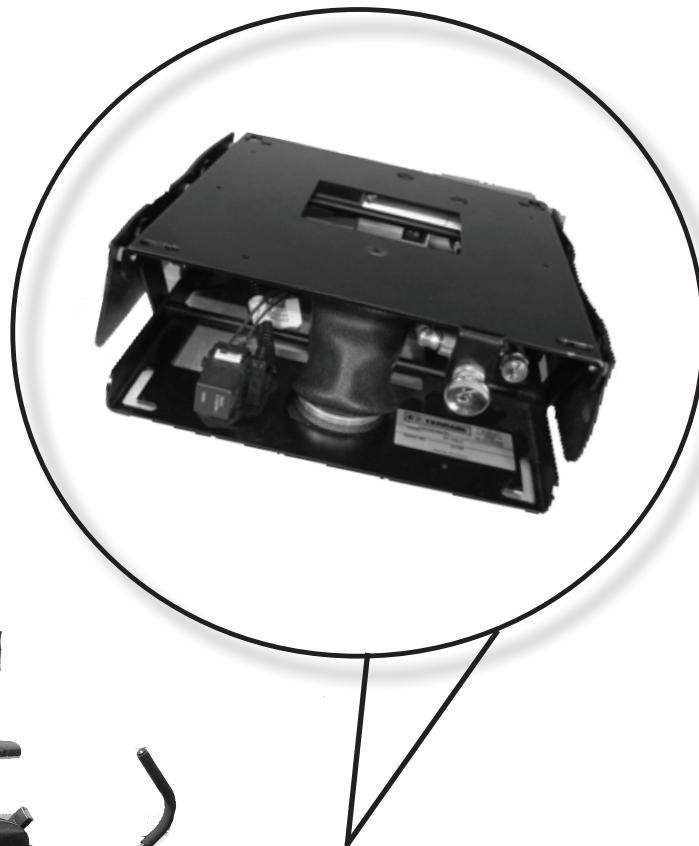




FLOAT OVER LAWNS

INSTALLATION GUIDE



Universal System for Zero Turn Mowers

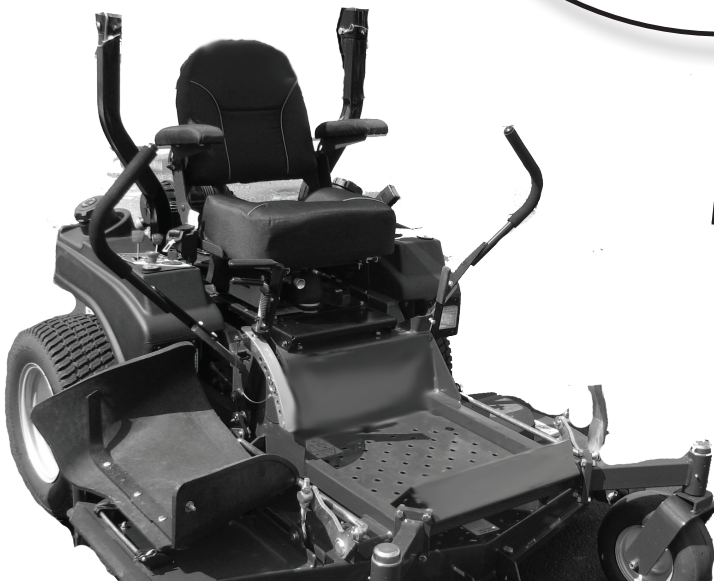


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General Information

NOTE: *Always give Model and Serial Number when ordering service parts.*

Make / Model No.: _____ Serial No.: _____ Hours of Operation: _____

Date of Purchase: Month: _____ Day: _____ Year: _____

Dealer: _____ Phone: (____) ____ - _____

Manufactured By

ET Air Ride, Inc.
01748 Quellhorst Rd.
New Bremen, OH 45869
Phone: 419 629-2825 Fax: 419 629-3306
Visit online at: www.ztrpuffer.com

IMPORTANT NOTICE TO PURCHASER:

The following is made in lieu of all warranties, express or implied. Except for personal injury resulting from use as directed, seller’s and manufacturer’s only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable to the user or any other person under any legal theory, including but not limited to negligence or strict liability, for any direct or consequential damages sustained or incurred by reason of the use of the product or otherwise. Before using, user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith. The foregoing may not be altered except by an agreement signed by officers of the seller and manufacturer.

Specifications

Weight	17 lbs. (7.71 kg)
Width (Overall).....	12.5 in. (31.75 cm)
Length (Overall).....	12 in. (30.5 cm)
Height (Overall)	
Fully Extended	4.5 in. (11.4 cm)
Fully Retracted	3.0 in. (7.6 cm)
Maximum Load Capacity	300 lbs. (136 kg)
Supply Voltage (Regulated).....	12 VDC
Amperage (Operating).....	7.5 Amps, Automotive Style
Maximum Operating Pressure.....	40 – 45 PSI (2.76 – 3.0 Bar)

Intended Usage

The ZTR Puffer Seat Suspension System is a 12 VDC powered system intended to be used as a universal system with most Zero Turn Mowers, both commercial and residential.

The system provides a reliable means to add an adjustable, cushioned, air ride to the seat of an existing zero turn mower for operator comfort. It is not designed to alleviate, cure or prevent any physical condition or extend limitations of the operator.

It is recommended that the ZTR Puffer Seat Suspension System be installed by qualified service personnel.

Check with your mower dealer to assure installation of the ZTR Puffer Seat Suspension System will not void your mower manufacturer’s warranty.

Important Information

General Safety

- ▣ READ AND UNDERSTAND THIS MANUAL BEFORE ATTEMPTING TO OPERATE OR SERVICE THIS EQUIPMENT.
- ▣ NEVER ALLOW OTHER INDIVIDUALS TO RIDE ON THE MOWER WITH THE OPERATOR DURING OPERATION OF THIS EQUIPMENT AND OBEY ALL SAFETY INSTRUCTIONS AS OUTLINED BY THE ORIGINAL MANUFACTURER.
- ▣ KEEP ALL GUARDS, SHIELDS, SAFETY SWITCHES, AND RESTRAINTS IN PLACE.
- ▣ NEVER OVERRIDE SAFETY INTERLOCK SYSTEMS. CHECK OPERATION DAILY TO ASSURE THEY FUNCTION CORRECTLY.
- ▣ ASSURE THE MOWER AND RELATED ACCESSORIES ARE IN SAFE OPERATING CONDITION BEFORE USE.
- ▣ SERVICE AND INSTALLATION SHOULD ONLY BE PERFORMED BY A QUALIFIED SERVICE PERSONNEL.
- ▣ DO NOT ALLOW MINORS OR INEXPERIENCED PERSONNEL TO OPERATE THE EQUIPMENT.
- ▣ DO NOT PLACE HANDS OR FINGERS BENEATH SEAT SUSPENSION SYSTEM DURING OPERATION. SHIELDS ARE IN PLACE FOR OPERATOR PROTECTION.

Safety Symbolisms

Personnel that perform installation or service on this product must be aware of the following safety symbolisms that may be used throughout the manual. These safety symbols and related paragraphs call attention to particular procedures.

NOTE

A note is used to amplify a procedure, practice or condition.



EQUIPMENT ALERT

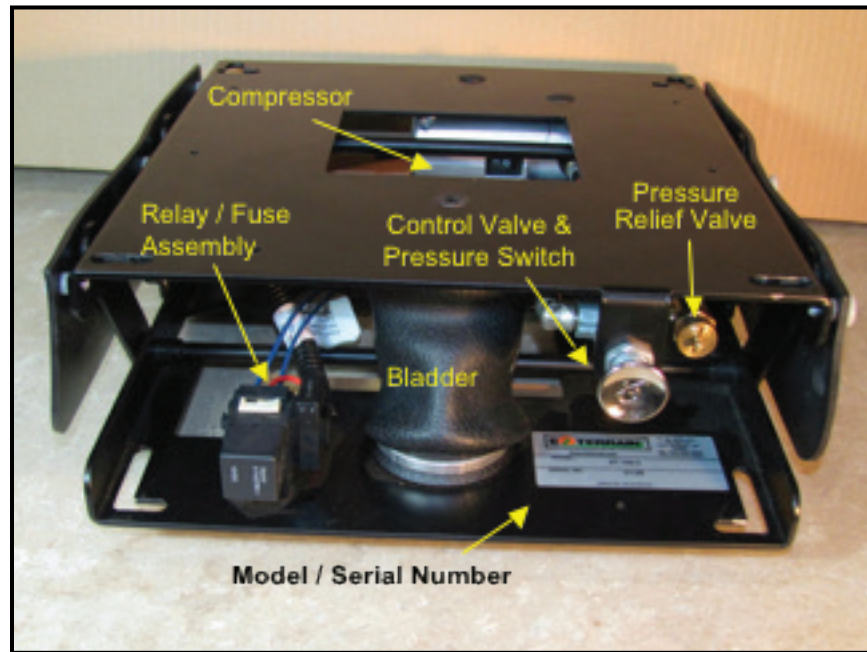
Indicates an imminently or potentially hazardous situation which, if not avoided, will or may result in serious, moderate or minor equipment damage.



CAUTION

Indicates an operating procedure, practice or condition which, if not correctly followed, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Operational Features of Components



Compressor	Supplies air pressure to the bladder assembly. Contains an On – Off Power Switch. The switch is ON at all times for proper operation.
Bladder	When air is supplied to the bladder from the compressor through the control valve the seat suspension will elevate to a maximum of 4.5 inches (11.4 cm) from a retracted position of 3 inches (7.6 cm).
Control Valve	Allows manual control by pushing control knob in or out to add or release air to and from the bladder raising and lowering the seat.
Pressure Switch	The pressure switch is located on the back of the Control Valve. It maintains and regulates 40 – 45 PSI (2.76 – 3.0 Bar) to the system.
Pressure Relief Valve	Protects the system from a higher than normal pressure. Opens to the atmosphere when pressure exceeds limits.
Relay / Fuse Assembly	Protects system from power overload. It contains a 7.5 amp replaceable fuse. Access by lifting hinged cap on side of relay.



Installation Procedures (*Qualified Service Personnel Only*)

Existing Seat Removal



Determine the location of the seat safety start switch.

If attached to the seat or seat mounting hardware, temporarily disconnect the two (2) wire electrical connector from the seat switch.

It may be necessary to detach the wiring harness from the seat mounting hardware as needed.

Remove the seat from the mower and set it aside.

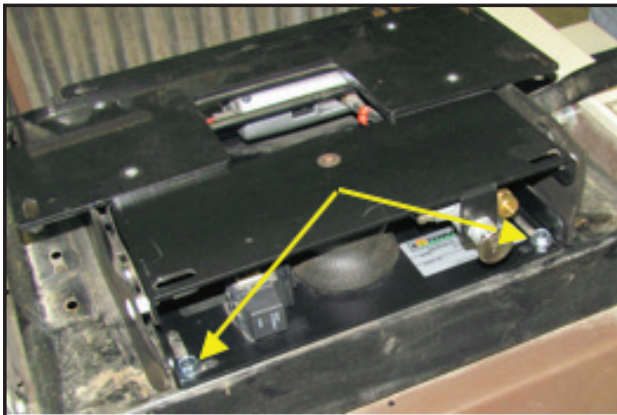
Align bottom mounting holes of seat suspension system with existing holes in the mounting base or slide rails if equipped.



EQUIPMENT ALERT

The Seat Suspension System should be mounted on TOP of existing adjustable seat mechanism on mowers so equipped with this style.

NOTE It may require drilling additional holes in the existing mounting base. Assure, before drilling, that there is clear access to prevent damage to existing mower. Do **NOT** alter the Seat Suspension System.



Insert the 5/16" x 3/4" bolts through the Seat Suspension System and mower mounting base and secure with 5/16" self, locking nuts. Adjust Seat Suspension System to desired position than tighten securely.

Electrical Connections



⚠ CAUTION

Always take precautions to prevent physical injuries due to electrical shock or shorting of electrical components.

⚠ CAUTION

Disconnect the terminals from the battery.

Remove covers or panels if required to access the mower's key ignition switch electrical connections.

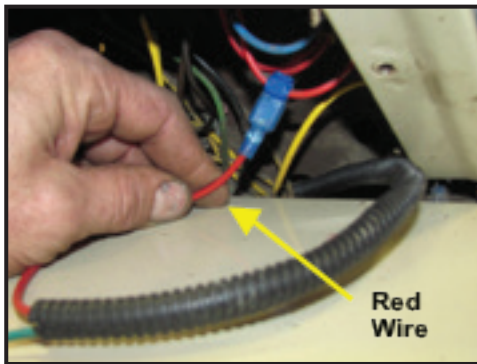
Temporarily connect the battery terminals then, with care, use a 12V circuit tester to locate the accessory (AC) feed wire.



⚠ CAUTION

Disconnect the terminals from the battery.

Carefully route the **RED** power wire from the Seat Suspension System to the **ACCESSORY FEED** wire on the mower.

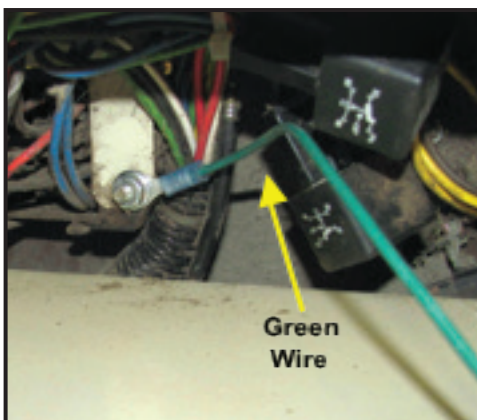


⚠ EQUIPMENT ALERT

Use care to avoid pinching wires.

Use the supplied wire ties to secure wires, preventing loose or dangling that could result in wires being damaged by moving parts.

Use the electrical clasp connector (supplied) to attach the **RED** Seat Suspension power wire to the **ACCESSORY FEED** wire.



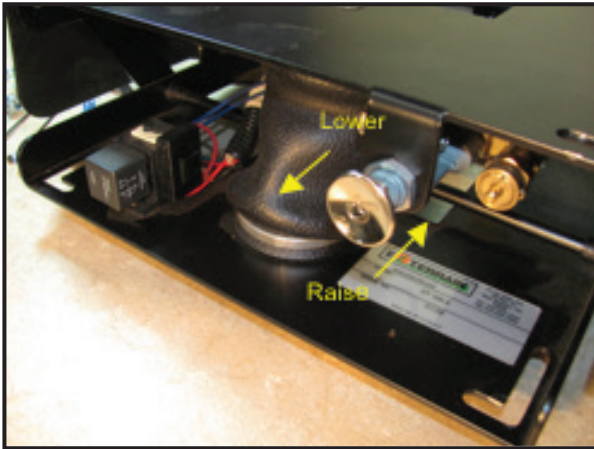
Many seat mounting plates do not provide an adequate ground and the **GREEN** ground wire **MUST** be attached to a suitable chassis ground.

Use the supplied wire ties to secure wires, preventing loose or dangling that could result in wires being damaged by moving parts.

Testing Electrical System Operation

CAUTION

Always take precautions to prevent physical injuries due to electrical shock or shorting of electrical components.



Temporarily reconnect the battery terminals.

Turn the Mower ignition switch to the **ON** position.

Depress (raise seat system) the Control Valve.

The seat system compressor should start extending the seat system. The compressor will turn OFF when the control valve is released or the preset maximum system pressure is reached sensed by the pressure switch.

Release (lower seat system) system pressure by **pulling outward** on the Control Valve.

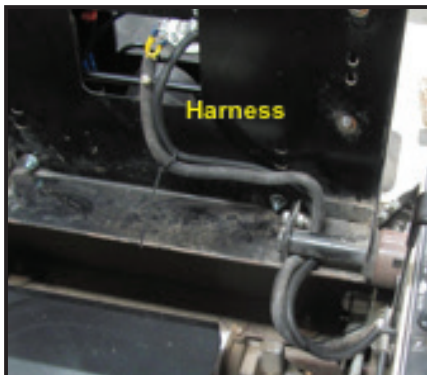
NOTE If wired correctly, the seat system compressor will not run if the Mower ignition switch is in the OFF Position.

CAUTION

Disconnect the terminals from the battery.

Reassemble covers or panels previously removed to access ignition key switch electrical connections.

Attaching Seat and Safety Switch



Attach seat and tighten securely.

Route the seat safety switch harness up through the ZTR Puffer Seat Suspension and attach it to the seat safety switch. If necessary use the harness extension provided.



EQUIPMENT ALERT

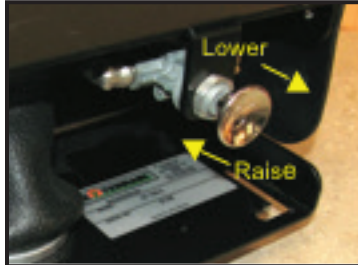
Use care to avoid pinching wires.

Reconnect battery terminals.



Checking Operation with Seat Installed

1. Sit on the seat.
2. Turn the Mower Ignition switch to **ON**
3. Use the Control Valve on ZTR Puffer Seat Suspension System to adjust (raise or lower) the seat.



- A. To **Raise** (adding pressure) **Depress** the Control Valve knob **Inward**.
When the knob is released the seat should remain at the present level.
- B. To **Lower** (releasing pressure) **Pull** the Control Valve knob **Outward**.
When knob is released the seat should remain at the present level.

CAUTION

Assure mower seat safety switch is working correctly per the Mower manufacturer's instructions.

4. If operation is correct the installation is now complete.

Troubleshooting

(Always consult a Qualified Service Personnel for any repairs)

Problem

Compressor does not run.

Compressor runs, seat does not inflate (raise)

Compressor does not shut off.

Compressor shuts off prematurely

Possible Cause

Blown fuse
Compressor switch is OFF.

Leak in air system.

Leak in air system.
Pressure switch malfunctioning

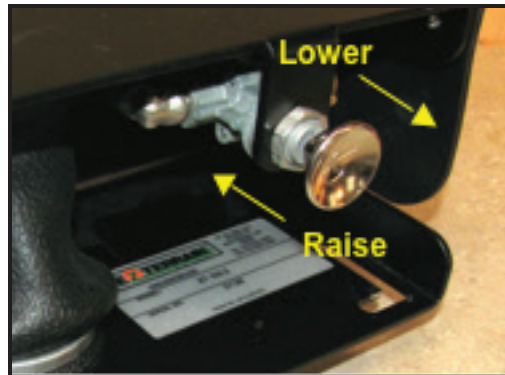
Pressure switch malfunctioning

Proper Operating Procedures

- ▣ Adjustments to the ZTR Puffer Seat Suspension System must be made only while the operator is seated.
- ▣ The mower ignition key switch must be in the **ON** position to perform any inflation adjustments.
- ▣ Depress the control valve knob, inflating the system or Raising the seat.
The system should be inflated enough to provide adequate support for the operator.
- ▣ Pull Out on the control valve knob to deflate, lower or decrease, the seat system pressure.

NOTE: Under-inflation will result in the suspension '**Bottoming Out**' when the operator bounces, causing a jarring sensation

Over-inflation will result in the suspension being '**Too Firm**' which will have no cushioning affect for the operator.



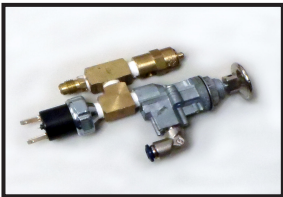

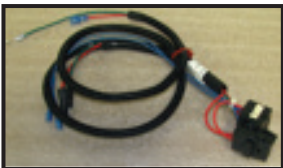





The system provides a reliable means to add an adjustable, cushioned, air ride to the seat of an existing zero turn mower for operator comfort. It is not designed to alleviate, cure or prevent any physical condition or extend limitations of the operator.

- ▣ NEVER allow other individuals to ride on the mower with the operator during operation of this equipment.
- ▣ Obey all safety instructions as outline in sections '**Important Information, General Safety**' located in this manual.

Replacement Parts

(Always consult a Qualified Service Personnel for any repairs)

Description	Part Number
	Bladder Assembly (w/ mounting hardware)..... BOS-622
	Side Skirt SS-375-12-125
	Control Valve / Pressure Switch Assembly..... GT-134
	Compressor Assembly (with mounting hardware)..... 1210-212-02
	Fuse / Relay (female) Harness Assembly QT-FRH07
	Relay (male) SPVF4-15F11-CO11
	Fuse (7.5 Amp, automotive type)..... ATO 7.5
	Air Line 250-24

Statement of Limited Warranty

ET Air Ride, Inc. warrants its equipment to be free from defects in material and factory workmanship under normal use and service for a period of 12 months or 500 hours of operation from date of installation and delivery to the original purchaser whichever comes first, as noted by the dealer.

REPLACEMENT PARTS carry a 90 day replacement warranty and are reimbursed to the purchaser, net of the prompt payment. All parts are limited by this policy and will only be covered upon approval by the service department after the inspection of the part.

The installation and removal of a part will automatically place that part under the replacement parts warranty. This guarantee is limited exclusively to equipment manufactured or supplied by ET Air Ride, Inc. and is subject to the inspection and analysis by the company to conclusively identify or confirm the nature and cause of failure.

PRODUCT REGISTRATION FORM must be completely filled out, signed by the customer, and returned to ET Air Ride, Inc. before any warranty claims will be considered.

ET Air Ride, Inc. reserves the right to incorporate improvements in material and design of its products without notice and is not obligated to make the same improvements to equipment previously manufactured.

ET Air Ride, Inc. is not obligated under any warranty different from the warranty as published above. THIS WARRANTY IS ET AIR RIDE, INC. ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

ET AIR RIDE, INC. RESPONSIBILITIES

ET Air Ride, Inc. obligation under the terms of this warranty is limited to the repair, replacement, or credit at its option, or the equipment, parts or supply items that conform to this warranty.

ET Air Ride, Inc. will pay for the parts and the cost of surface transportation for the parts that conform to this warranty.

DEALER'S RESPONSIBILITIES

1. Only qualified service personnel will be permitted to perform warranty service on ET Air Ride, Inc. equipment.
2. All major warranty claims such as overhauls-rebuilds must be authorized by ET Air Ride, Inc. before work is performed.
3. All replacement parts used in warranty situations must be furnished by ET Air Ride, Inc. or approved by ET Air Ride Inc. service personnel. The use of non-recommended parts may void the warranty.

OWNER'S RESPONSIBILITIES

The owner is obligated to operate and maintain the equipment in accordance with the recommendations published by ET Air Ride, Inc. in the owner's / operator's manual for the unit. The owner is responsible for the costs associated with such maintenance and operating adjustments which may be required on a regularly scheduled basis. The owner is responsible for transportation to and from the dealership or service calls made by the dealer.

CONDITIONS WHICH VOID THE WARRANTY

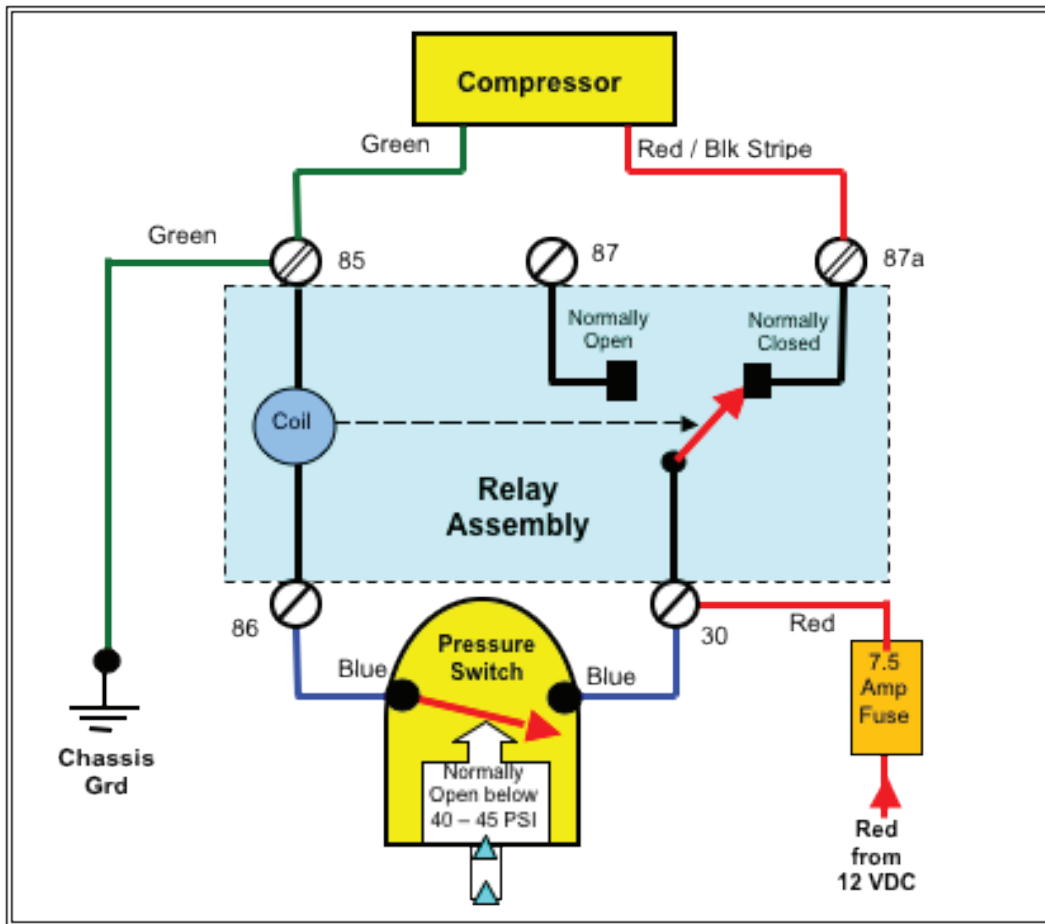
This warranty shall not apply to equipment which:

1. Has had repairs or modifications not authorized by ET Air Ride Inc.
2. Has been subject to abuse, improper maintenance, or improper applications.

FREIGHT CARRIER DAMAGE

Claims for equipment damaged in transit should be referred to the freight carrier. Visible damage should be reported immediately, and concealed damage as soon as possible, in accordance with freight carrier regulation.

Component Wiring Diagram



Theory of Operation

1. Power is supplied from the 12 volt DC power source through the fuse assembly to terminal #30 of the Relay .
2. Current continues on through the Normally Closed relay contacts to terminal #87a to the compressor windings.
3. The other side of the compressor windings is connected to Chassis Ground completing the circuit. The compressor runs providing air to the system.
4. The Pressure Switch has Normally Open contacts that are operated by the pressure in the system. When the pressure reaches the factory setting the contacts close.

The current now comes from the 12 VDC power source to terminal #30 through the Closed contacts of the Pressure Switch to terminal #86 to the coil in the relay.

Chassis Ground is provided at terminal #85 on the other side of the relay coil and it energizes. The relay's Normally Closed contacts OPEN removing power at terminal #87a stopping the compressor.

These cycles continues during operation to regulated and maintain 40 -45 PSI pressure in the system.



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