



Motorcycle Air Suspension

Kit # 9047-BS/BL

Harley-Davidson®

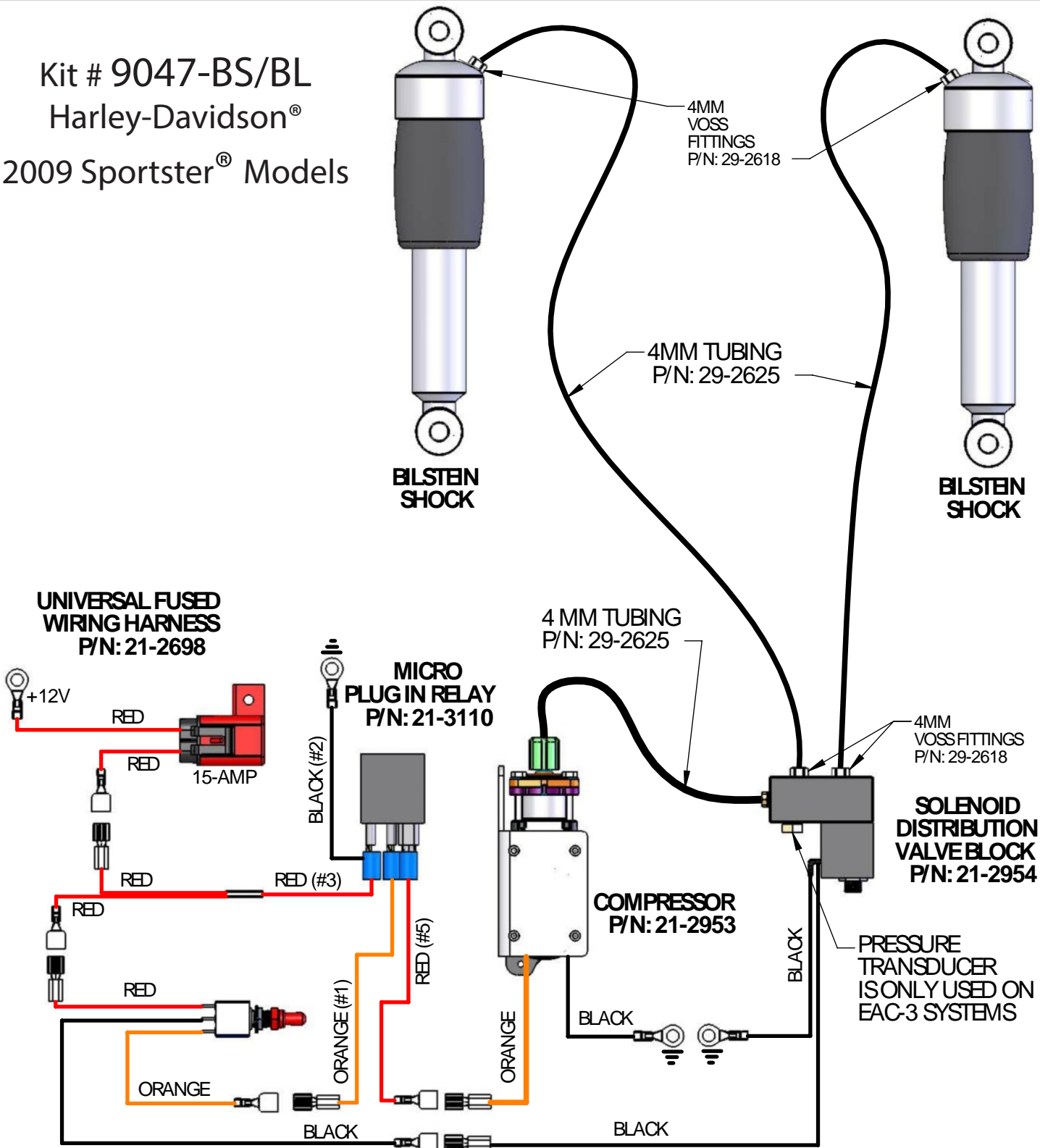
2009 Sportster® Models




“Engineered to Ride, Built to Last”

| PARTS LIST | PART NUMBER | PART NUMBER | QUANTITY |
|-------------------------------|--------------|--------------|----------|
| REAR AIR SUSPENSION SHOCKS | 21-2712 (BS) | 21-2864 (BL) | 2 |
| COMPRESSOR W/BRACKET ASSEMBLY | 21-2953 | | 1 |
| DISTRIBUTION VALVE BLOCK | 21-2954 | | 1 |
| SPEED REDUCING MUFFLER | 29-2710 | | 1 |
| MANIFOLD BRACKET W/ FASTNERS | 14-2849 | | 1 |
| FUSED WIRING HARNESS | 21-2698 | | 1 |
| RELAY ASSEMBLY | 21-3110 | | 1 |
| MICRO-TOGGLE SWITCH | 20-2592 | | 1 |
| 1/2" X 3.25" SHCS (BOTTOM) | 29- | 2 | |
| 1/2" x 3" SHCS (TOP) | 29-2736 | | 2 |
| 1/2"-13 JAM NUTS | 29-3387 | | 2 |
| 1/2" S.S. FLAT WASHERS | 29-2631 | | 4 |
| CHROME SHOCK SPACERS | 14-2554 | | 4 |
| CHROME BOLT COVERS | 14-2680 | | 4 |
| 4 MM VOSS® AIR FITTING | 29-2618 | | 6 |
| 4 MM NYLON TUBING | 29-2625 | | 10-FT |
| HARNESS CABLE TIES | 29-2617 | | 8 |
| 3/8" SPLIT LOOM | 29-3000 | | 3-FT |

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NOTE:
BL = 13" BILSTEIN SHOCK ASSEMBLY (21-2864)
BS = 12" BILSTEIN SHOCK ASSEMBLY (21-2712)

| | | | | | |
|---|--|--|--|--------------------------------------|--------------|
|  | | DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ± | | NAME | DATE |
| | | | | DRAWN | KMD 04/21/08 |
| | | | | CHECKED | |
| | | | | ENG APPR. | |
| | | | | MFG APPR. | |
| | | | | Q.A. | |
| | | | | COMMENTS: | |
| PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ARNOTT, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ARNOTT, INC. IS PROHIBITED. | | MATERIAL | | 9047-BL/BS SPORTSTER SCHEMATIC | |
| | | FINISH | | | |
| NEXT ASSY | | USED ON | | | |
| APPLICATION | | DO NOT SCALE DRAWING | | | |
| | | | | SIZE | DWG. NO. |
| | | | | A | 35-2959 |
| | | | | SCALE: NONE | WEIGHT: |
| | | | | REV. 0 | |
| | | | | SHEET 1 OF 1 | |



THANK YOU!

Thank you for purchasing the Arnott Cycle Air System! This system provides you with the ability to maintain your bike at a constant level regardless of load, resulting in enhanced vehicle ride, handling, and performance.

Proper installation is essential to experience and appreciate the benefits of this system. Please take a moment to review these installation instructions before you begin to install this system on your bike. Reviewing the components and the parts list below will familiarize you with the system.

It is equally important to be aware of and take all necessary safety measures while installing your new Air Ride System. This includes proper lifting and immobilizing of the bike, and isolation of any stored energy to prevent personal injury or property damage.



SAFETY WARNING:

Do not inflate the air spring assembly unless it is supported on both ends by the vehicle frame and suspension system, or by another adequate means. Doing so may result in serious injury and damage to the air spring assembly and surrounding environment.

The maximum recommended inflation pressure of the air spring is 100 psi. Over-inflation of the air spring, as well as improper use or installation of the assembly, may result in serious injury and damage to the air spring assembly and the surrounding environment.

Take precautions not to exceed the Gross Vehicle Weight Rating (GVWR, or the maximum load) recommended by the manufacturer. The air springs are rated for a maximum pressure of 100 psi. This pressure may, however, allow too great a load to be carried on most vehicles. For best results, load the vehicle and have it weighed, then compare the vehicle weight with the maximum allowed. Consult your recommended load. It is important that all vehicle's Owner Manual recommendations are followed for your own safety and to prevent damage to the vehicle. Air Springs DO NOT increase the GVWR set by the manufacturer.



WARNING

NEVER MAKE ADJUSTMENTS TO THE AIR RIDE SYSTEM WHILE THE VEHICLE IS IN MOTION. ADJUSTING THE AIR SUSPENSION WHILE VEHICLE IS IN MOTION CAN AFFECT THE STABILITY AND HANDLING, WHICH COULD RESULT IN DEATH OR SERIOUS INJURY.

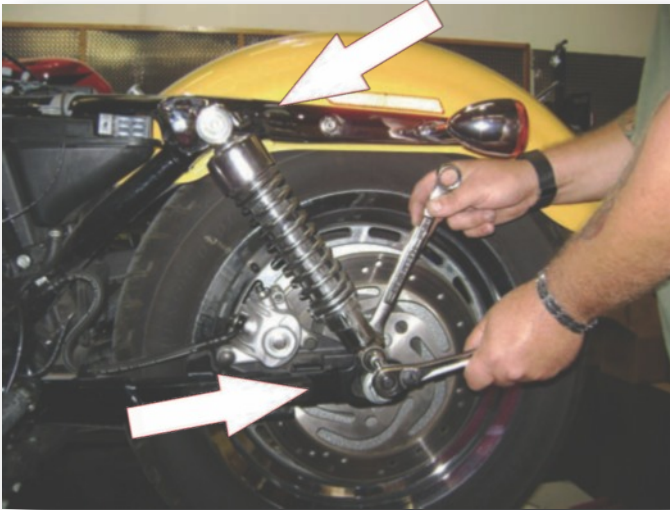


(A.) PREPARING THE BIKE:

On a solid level surface, position the bike on a motorcycle lift and use all the recommended safety techniques. Lift the bike so the rear wheel is just slightly off the ground. Be sure to refer to the Owner's Manual for the bike and the motorcycle lift for all correct lifting instructions. It is also recommended that you protect any chrome or painted surfaces that may be damaged during lifting or installation procedure.

REMOVE THE SEAT BEFORE STARTING THE INSTALLATION

(B.) REMOVING THE FACTORY SHOCKS:



1. Loosen and remove the upper and lower shock bolts.



2. Carefully remove factory shock absorbers from the rear suspension.

(C.) INSTALLING THE REAR AIR SHOCKS:



1. Install the new air suspension shocks one at a time. Start with the lower 3 1/4" bolts first. Then raise or lower the bike to line up the upper bolt holes.



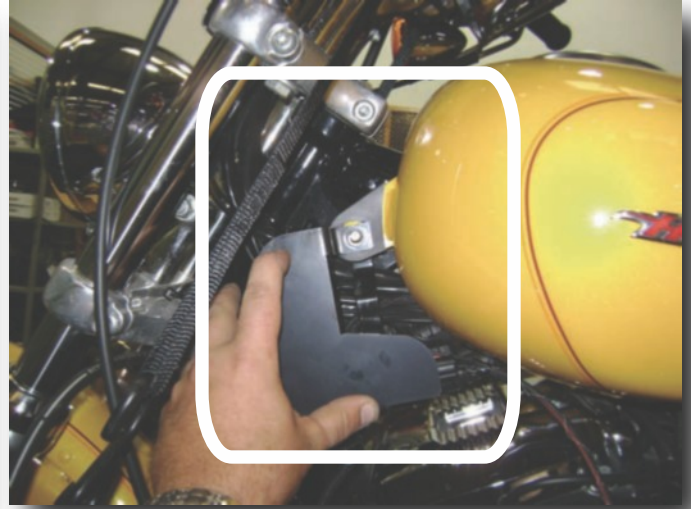
2. Install the 1/2 X 3" upper shock bolts and washers from the kit. Apply 2-3 drops of Loctite® 243 (blue) to the threads of each bolt. Torque all shock bolts to 45-50 ft lbs (61.1-67.9 Nm).

(D.) INSTALLING THE INFLATION SYSTEM:

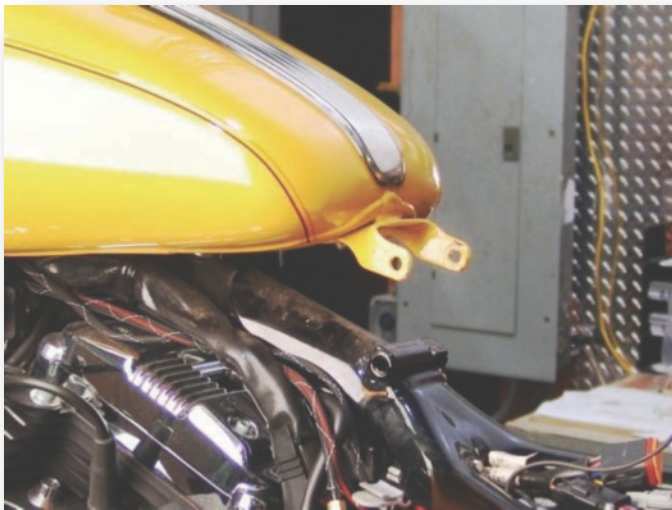
The inflation system consists of a compressor with a remote solenoid vent valve. The compressor assembly is designed to fit on the left side of the gas tank. The basic system comes with a toggle switch that can be installed in a location of your choice.



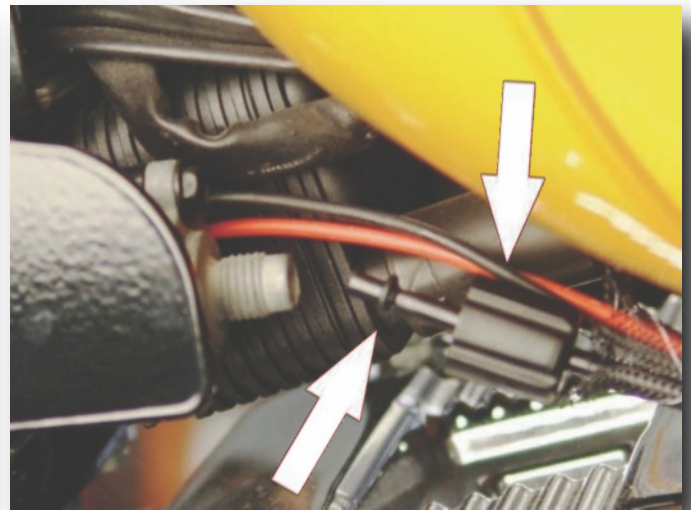
3. Locate and remove the nut located on the right front side of the gas tank.



4. Place the compressor assembly over the front mounting bolt. Replace the mounting nut but leave loose for now.



5. Remove the rear fuel tank mounting bolt and lift the tank slightly.



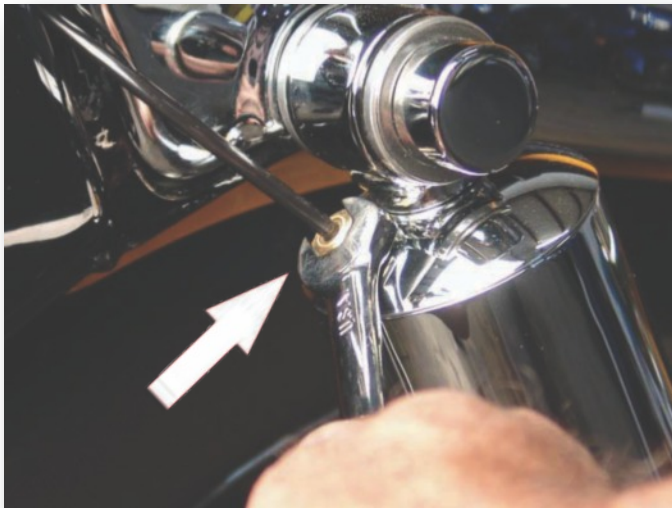
6. Locate the 4mm air line, the small o-ring and the retention cap that are supplied in the kit. Install the retention cap first, then the small o-ring onto the line. Insert the line into the compressor in the order shown above and tighten the cap.



7. After connecting the 4mm air tubing to the compressor, route it beneath the left side of the fuel tank and along the frame toward the rear of the bike. Step #8 will cover connection to the distribution block using one of the 4mm VOSS® fittings supplied in the kit.



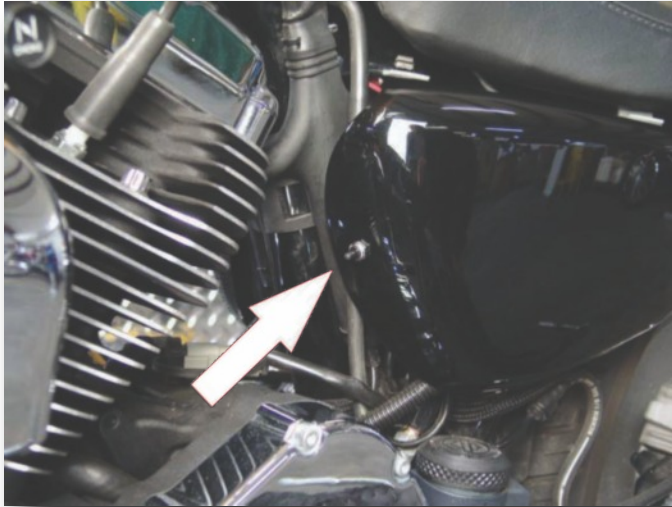
8. A preferred location for the solenoid vent valve/distribution block is under the seat.



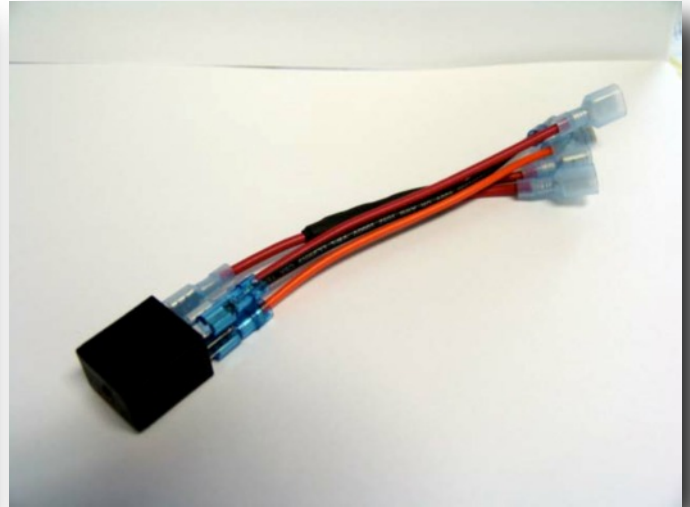
9. Connect each shock absorber to the distribution block with the 4mm line and VOSS® fittings supplied in the kit. Be careful to route the air line so that it does not kink. Instructions for assembly of the 4mm VOSS® fittings are enclosed in the kit. **NOTE: Fittings seal with an o-ring, DO NOT OVERTIGHTEN!**



10. Remove the battery cover located on the left side of the bike. Disconnect the battery, negative cable (-) first.



11. The preferred location for mounting the toggle switch is on the left side cover of the bike. Please refer to the system schematic on the back of the cover for a wiring diagram.



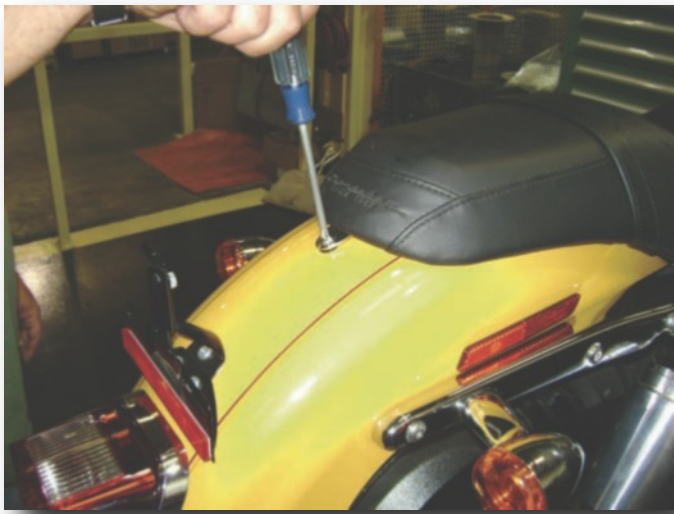
12. Included in the kit is a micro relay assembly, refer to the system schematic on the back of the cover for a wiring diagram.



13. The preferred location for the fuse assembly is under the seat, near the battery. Connect the red wire with the ring terminal to 12V battery positive. Connect the other red wire from the fuse to the red wire of the switch.



14. Reinstall the bike's side cover and the rear fuel tank mounting bolt. Torque the rear mounting bolt and the front bolt /nut previously loosened to 15-20 ft-lbs (20.4-27.1 Nm) Reconnect the battery, torque battery terminals to 60-96 in-lbs. (6.8-10.9 Nm).



15. Reinstall the side cover and seat, make sure the seat tang is securely locked in the frame. Power up the system and use soapy water in a spray bottle to check for leaks.



16. Make sure that there is adequate tire to rear fender clearance. Check both the center of the tire and the sides with the system in the lowered position, with zero air pressure.

Thank you for purchasing an Arnott Air Ride Suspension Product!

Each owner or installer is unique, therefore installation of this system can be done many different ways. The mounting locations of the compressor and inflation switch are suggestions by our engineers. If proper wiring guidelines and instructions are followed, relocation of the compressor or switch will neither affect the system operation nor void your warranty.

Adjust air spring pressure as required for desired ride quality to maximize the benefits of your system. Excess pressure will result in a firmer ride, too little pressure will allow the suspension to bottom out.



DO NOT ADJUST THE AIR RIDE SYSTEM WHILE THE BIKE IS IN MOTION, DOING SO CAN AFFECT STABILITY AND HANDLING, THIS COULD RESULT IN DEATH OR SERIOUS INJURY.

DISCLAIMER

The terms Harley-Davidson®, Harley®, H-D®, Buell®, Softail®, Dyna®, V-Rod® and Sportster® are used for reference only. Arnott Air Suspension products are in no way authorized by nor associated with the Harley-Davidson Motor Company. All references to Harley-Davidson terms and models are for reference and identification purposes only.

The use and installation of any Arnott Air Suspension product or kit may adversely affect or void your Harley-Davidson® factory warranty. It is the responsibility of the motorcycle owner to check federal, state and local laws and ordinances before modifying or customizing his or her motorcycle. It is the exclusive and total responsibility motorcycle owner to determine the suitability of this product for his or her use. The user shall assume all legal obligations, personal injury risk and all liability duties and risk associated with the use of this product. Arnott Air Suspension products are designed and intended for the experienced off-road motorcyclists only and intended for closed course operation.

Arnott Air Suspension products and kits are designed exclusively for OEM manufactured and equipped motorcycles with no modifications. Any installation of aftermarket or customized components may adversely affect the operation and performance of Arnott Air suspension kits and components and may void the manufacturers warranty. These directions are accurate at time of publication. Arnott Inc. reserves the right to revise specifications without notice.

