



Motorcycle Air Suspension

Kit # 9008-BS/BL

Harley-Davidson®

1991-2007 DYNA® MODELS



“Engineered to Ride, Built to Last”

PARTS LIST

PART NUMBER

PART NUMBER

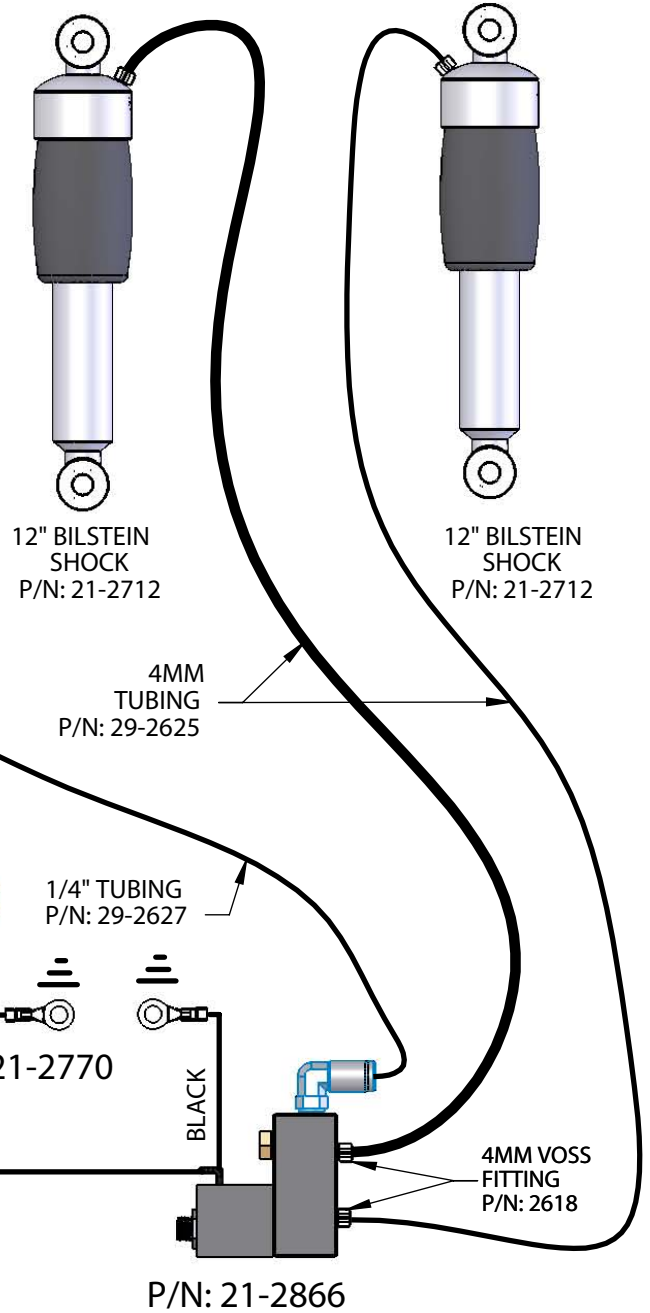
QUANTITY

REAR AIR SUSPENSION SHOCKS	21-2712 (BS)	21-2864 (BL)	2
COMPRESSOR W/BRACKET ASSEMBLY	21-2770		1
DISTRIBUTION MANIFOLD	21-2866		1
SPEED REDUCING MUFFLER	29-2710		1
MANIFOLD BRACKET W/ FASTENERS	14-2849		1
FUSED WIRING HARNESS	21-2698		1
MICRO-TOGGLE SWITCH	20-2592		1
RELAY ASSEMBLY	21-3110		1
1/2" X 4.5" SOCKET HEAD BOLTS	29-2857		2
1/2" X 2.5" SOCKET HEAD BOLTS	29-2632		2
1/2" S.S. FLAT WASHERS	29-2631		4
CHROME UPPER SHOCK SPACERS	14-2819		2
CHROME BOLT COVERS	14-2680		4
1/4" NYLON TUBING	29-2627		6-FT
4 MM VOSS AIR FITTING	29-2618		5
4 MM NYLON TUBING	29-2625		6-FT
HARNESS CABLE TIES	29-2617		8
SPLIT LOOM	29-3000		3-FT

BL = 13" BILSTEIN SHOCK ASSEMBLY (21-2864)
BS = 12" BILSTEIN SHOCK ASSEMBLY (SHOWN)

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MICRO TOGGLE SWITCH
P/N: 21-2636

FUSED WIRING HARNESS
P/N: 21-2698



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DRAWING IS THE SOLE PROPERTY OF
ARNOTT, INC. ANY
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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

MATERIAL

FINISH

NEXT ASSY

USED ON

APPLICATION

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	KMD	07/14/08
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

9008/9030 - BL&BS
DYNA
1991 - 2008

SIZE A	DWG. NO. 35-2907	REV. 0
SCALE: NONE WEIGHT:		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.

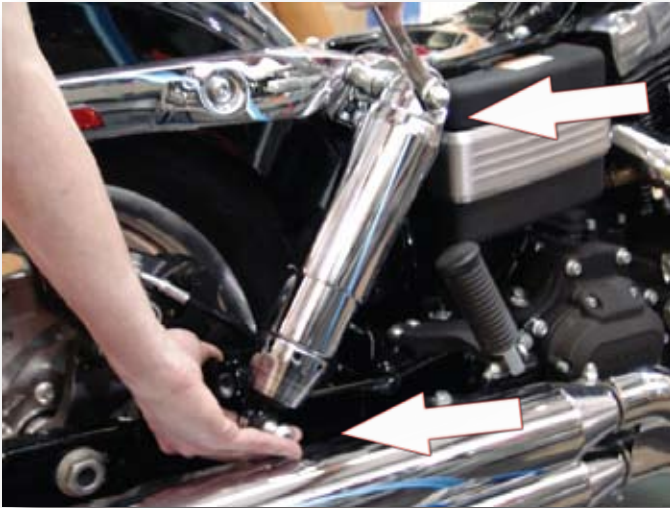


(A.) PREPARING THE BIKE:

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 the installation procedure.

REMOVE THE SEAT BEFORE STARTING THE INSTALLATION

(B.) REMOVING THE FACTORY SHOCKS:



1. Loosen and remove the upper and lower shock hardware. Nuts are used on the lower mounting points. Keep these for installation.



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



3. Loosen and remove the upper mounting studs.

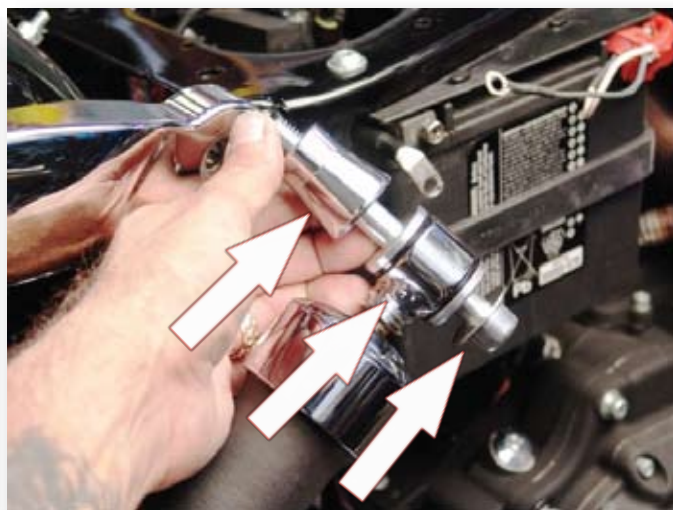


4. Replacement hardware for installation of new shocks is provided in your new Air Ride Suspension kit.

(C.) INSTALLING THE REAR AIR SHOCKS:



1. Locate and remove the two lower $\frac{1}{2}$ " X 2.5" socket head bolts from the bolt pack. Apply two or three drops of blue (243) thread lock to the new shock bolts. Tighten both lower shock bolts to 30-40 ft-lbs (40.7-54.2 Nm). NOTE: **Nuts will have to be reused on the bottom.**



2. Locate and remove the two upper $\frac{1}{2}$ " X 4.5" socket head bolts from the kit. To install the upper shock bolt, install the washer on the bolt first, then slide the bolt through the top shock eyelet. Next, place the upper shock spacer bushing over the bolt. The larger diameter end of the bushing goes against the shock eyelet.



3. Install the upper shock bolt, it may be necessary to adjust the height of the bike to line up the upper shock bolt mounting hole. Apply two or three drops of blue (243) thread lock to the new shock bolts. Torque the upper shock bolts to 30-40 ft-lbs. (40.7-54.2 Nm)



4. Install the bolt covers onto the shock absorber bolts. Lubricate the inside with a lube appropriate for o-rings. Gently press the cover on with a slight twisting motion until you feel it drawn solidly onto the bolt head and firmly seated.

(D.) INSTALLING THE INFLATION SYSTEM:

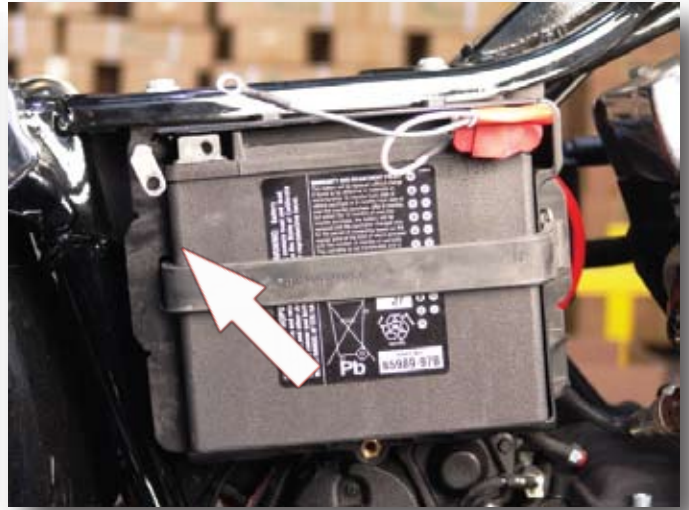
The inflation system consists of a compressor with a separate distribution manifold along with an inflation switch and compressor relay.

Split loom is provided to cover the air hose as well as protect and hide any exposed wiring.



1. Remove the battery cover on the right side of the bike.

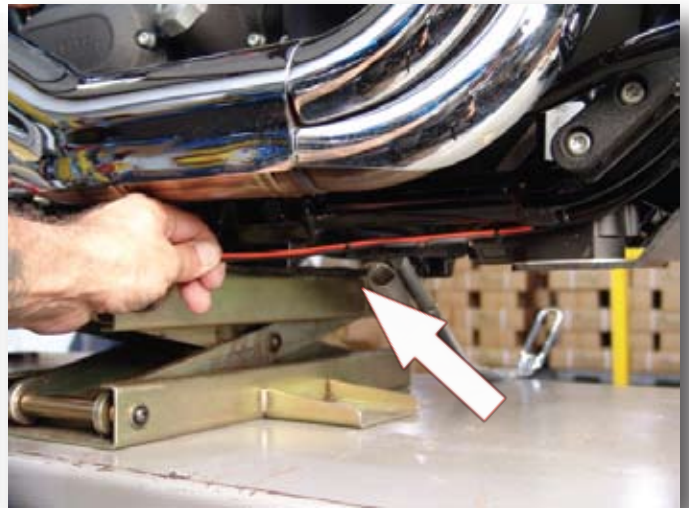
NOTE: Battery covers operate several different ways between 1991 - 2007. Consult the service manual for your particular model year for removal and replacement.



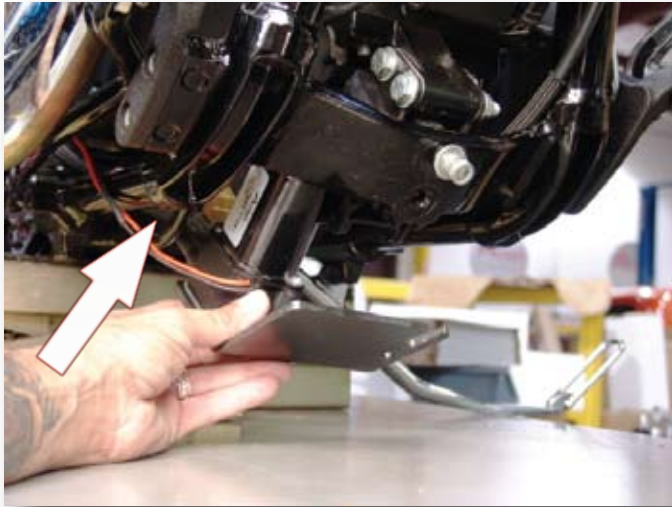
2. Use a 10mm wrench to disconnect the battery. **ALWAYS DISCONNECT THE NEGATIVE (-) CABLE FIRST.**



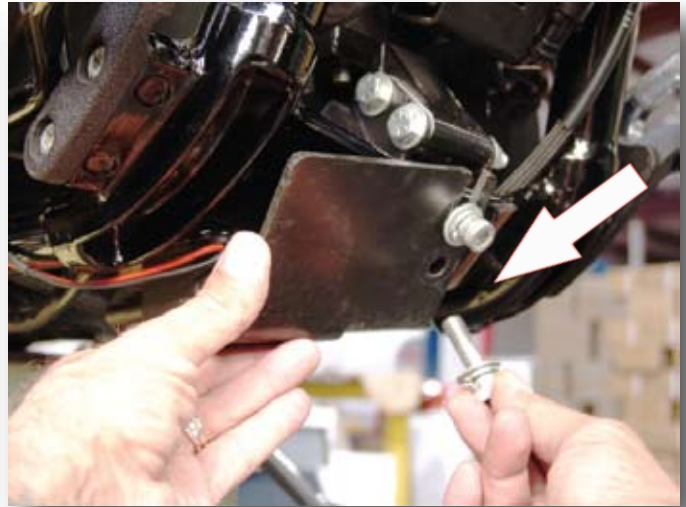
3. Preassemble the 1/4" air line to the compressor by pushing one end of the tubing into the fitting leading from the air compressor. Route the air line along the lower right side of the frame to the rear of the transmission and up to the inboard side of the battery box.



4. Route the orange power feed wire for the compressor along the same path that was used for the air line. Find a suitable ground for the black wire with the ring terminal.



5. Slip the compressor up into the area just to the right of the motor, inside the frame rails.



6. Install the compressor mounting plate by removing the lower motor mount bolt and loosening the upper one. Use the slot in the plate and slide mount underneath. Re-install the lower bolt through the hole provided and torque both bolts to 21-27 ft-lbs (28-36 Nm).



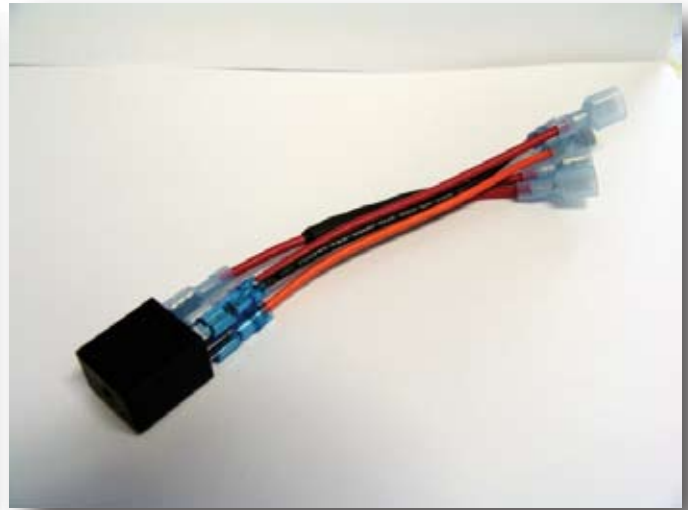
7. Install distribution manifold in the area under the seat and inboard of the battery and trim the $\frac{1}{4}$ " line to appropriate length.. Connect the $\frac{1}{4}$ " air line to the **push to connect** fitting. The manifold will distribute air to both shocks.



8. Use the smaller, 4mm air line and 4mm VOSS® fittings provided in the kit to connect the shock absorbers to the distribution manifold. Assembly instructions for the fittings are provided in the kit. VOSS® fittings use a o-ring to seal, use a 10mm wrench to snug the fittings, do not overtighten. **NOTE: Fittings seal with an o-ring, DO NOT OVERTIGHTEN!**



9. Location of the toggle switch is up to the installer. For example here, it is mounted in the left side cover. Refer to the system schematic on the back of the cover for a wiring diagram.



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



11. The preferred location for the fuse assembly is under the seat. Locate the universal fuse wiring assembly near the battery. Connect the red wire, (with the ring terminal), to 12 volt battery positive. Reconnect the battery cables, torque to 60-96 in-lbs. (6.8-10.9 Nm).



12. Reinstall the battery cover and seat, make sure the front tang is securely locked in the frame. With the system operational, check clearances around the tire and fender area and between the shock and belt guard, shim as needed.

NOTE: A system schematic is included for reference.





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.



WARNING

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

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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 of the 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.

