Arnott®
Motorcycle Suspension

INSTALLATION MANUAL

MC-2973
Arnott Smooth Ride Kit
09-Current Harley-Davidson® Touring Series

ELEVATE YOUR RIDE.®

CONGRATULATIONS ON YOUR PURCHASE OF AN ARNOTT® MOTORCYCLE SUSPENSION 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. We at Arnott LLC are proud to offer a high quality product with all the technical support you need. Thank you for your confidence in us and our product.

GENERAL INFORMATION

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 these components on your motorcycle. The removal and installation of air suspension products should only be performed by a fully qualified, certified motorcycle professional.

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

Reading this manual signifies your agreement to the terms of the general release, waiver of liability, and hold harmless agreement, the full text of which is available at www.arnottcycles.com and www.arnottcycles.eu.

WARNING:

DO NOT inflate the air suspension system until it is installed. Inflation of the air suspension system before both ends are supported by the motorcycle's frame and/or appropriate suspension components may result in serious personal injury and/or damage to the air suspension system. The maximum recommended air spring inflation pressure is 100 psi.

- Avoid damage to air lines and electrical components.
- Removal and installation is only to be performed by fully qualified personnel.

CAUTION:

This manual is meant to provide basic installation guidelines which can help prevent damage to the motorcycle and air suspension system. 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.

To avoid the possibility of short circuits while working with electric components consult your owner's manual on how to disconnect your battery.

Refer to the Owner's Manual for the bike and instructions for the motorcycle lift for all correct lifting procedures. It is also recommended that you protect any chrome or painted surfaces that may be damaged during lifting, removal or installation process.

Adjust air shock 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.

COMPONENTS

MC-2973 — 09-CURRENT HARLEY-DAVIDSON TOURING SERIES — BLACK

20-10550 INFLATION KIT		
PART NO.	**DESCRIPTION**	**QTY**
21-9753	FLT PUMP ASSEMBLY	1
21-9761	90 DEGREE PUSH CONNECT MANIFOLD ASSY	1
29-13435	POTTED RELAY	1
21-7267	1/4" NYLON TUBING ACCESSORY KIT	1
21-7268	4MM AIRLINE X 6FT. ACCESSORY KIT	1
21-7269	4MM VOSS AIR FITTING ACCESSORY KIT	1
21-7271	HARNESS CABLE TIES ACCESSORY KIT	1
21-7272	SPLIT LOOM- 1 FT LENGTHS ACCESSORY KIT	1
K-2632	BLACK PUSHBUTTON HANDLEBAR SWITCH	1
21-2698	UNIVERSAL FUSE HOLDER ASSEMBLY KIT	1
21-7262	MANIFOLD BRACKET W/ FASTENER ACCY KIT	1
21-7282	COMPRESSOR WIRE EXTENSION ACCESSORY KIT	1
11-MC-FLT-SR	INSTALL MANUAL	1
20-9983	FLT MOUNTING KIT	1
20-12358	FLT BAG SPACER KIT	1
21-7266	BLACK BOLT COVERS ACCESSORY KIT	1
21-8034	MOTORCYCLE HARDWARE INFLATION ACCY KIT	1

21-10551 SHOCK KIT		
PART NO.	**DESCRIPTION**	**QTY**
21-13498	SHOCK ASSY, BLACK, SMOOTH RIDE	2

The use and installation of any Arnott Air Suspension product or kit may adversely affect or void your 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 on-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 manufacturer's warranty. These directions are accurate at time of publication. Arnott Inc. reserves the right to revise specifications without notice.

Use a solid, level surface to position the bike on a motorcycle lift and use all recommended safety techniques. Lift the bike so the rear wheel is just slightly off the ground.

1. Support the motorcycle under its frame. Remove the saddle bags, right side cover and seat. (Figures 1, 2, 3)

FIGURE 1

FIGURE 2

FIGURE 3

2. Remove both OE shocks. (Figures 4, 5)

FIGURE 4

FIGURE 5

3. If the motorcycle is a model year 2009-2013 go to step #6. For a model year 2014-present remove the two bolts at the rear of the right saddle bag support. You will need to reuse the larger bolt and nut on the far right of the motorcycle. Locate the included 5/16 bolt & lock nut. (Figures 6, 7, 8)

FIGURE 6

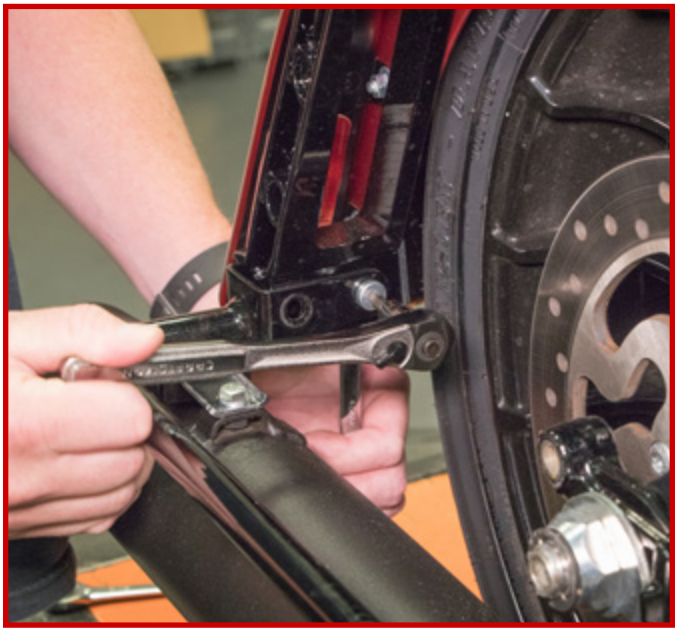


FIGURE 7

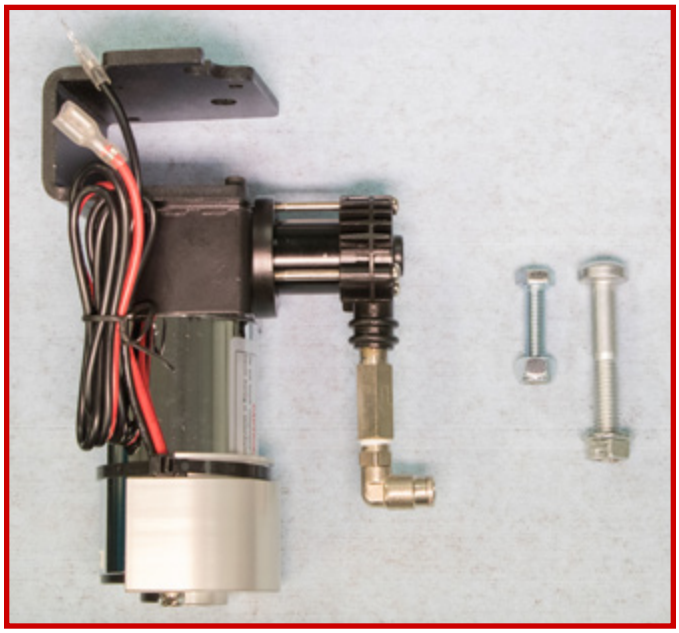


FIGURE 8

NOTE: The Arnott accessory kit K-2850 is necessary when installing Arnott Ultimate Ride Kits MC-2904, MC-2905, MC-2906 and MC-2907 or Smooth Ride Kit 9048 kit for 2014-Present Harley-Davidson® Touring motorcycles equipped with Harley-Davidson's Saddle Bag Guard Rails (P/N 90200561) or 2014-present CVOTM Touring motorcycles with O.E. speakers in the saddle bags. This kit includes CNC Machined aluminum spacers and additional hardware that was designed to securely adjust the placement of the air suspension compressor so that it will not interfere with the Bag Rails or touch the CVO Speaker connection harness. To order this kit call 1-877-900-0247 or visit www.arnottcycles.com

4. Mount the compressor to the frame with the 5/16 bolt, lock nut, the larger OE bolt, and OE nut. Tighten both bolts. (Figures 9, 10, 11, 12)

FIGURE 9

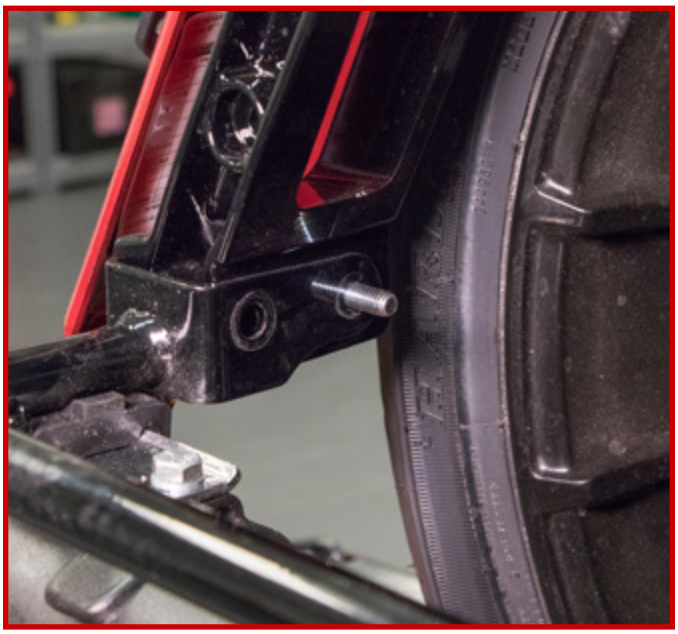


FIGURE 10

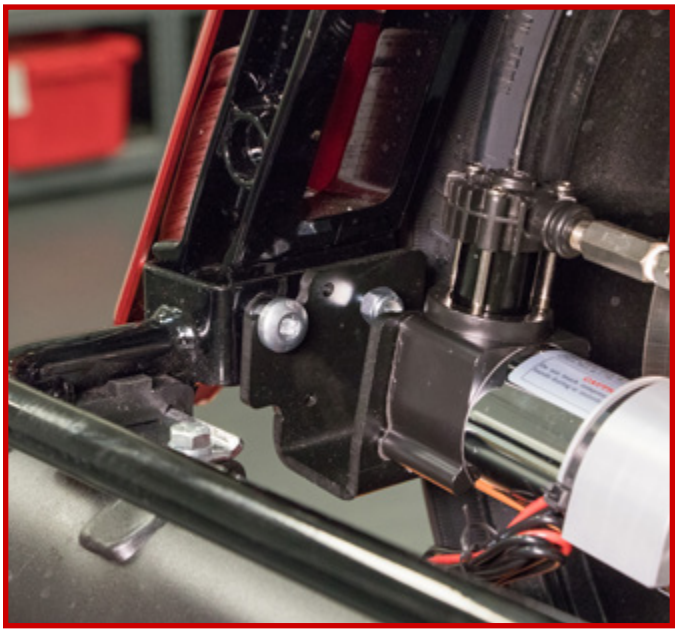


FIGURE 11

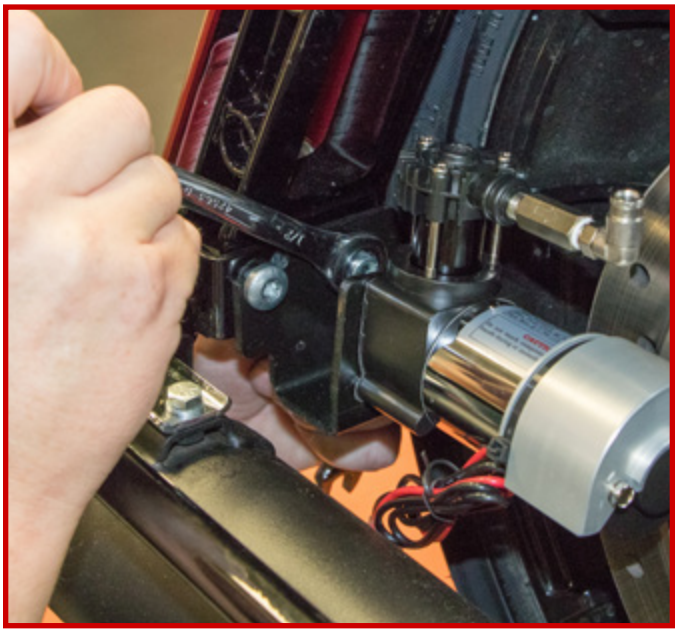


FIGURE 12

5. Check the clearance between the compressor assembly and the rear brake rotor. If the clearance is less than ¼" remove the compressor assembly. Add the included lock washer to the 5/16 bolt and reinstall the compressor assembly. Adding the lock washer will only be necessary in some cases to increase clearance between the compressor and the brake rotor. (Figures 13, 14, 15, 16)

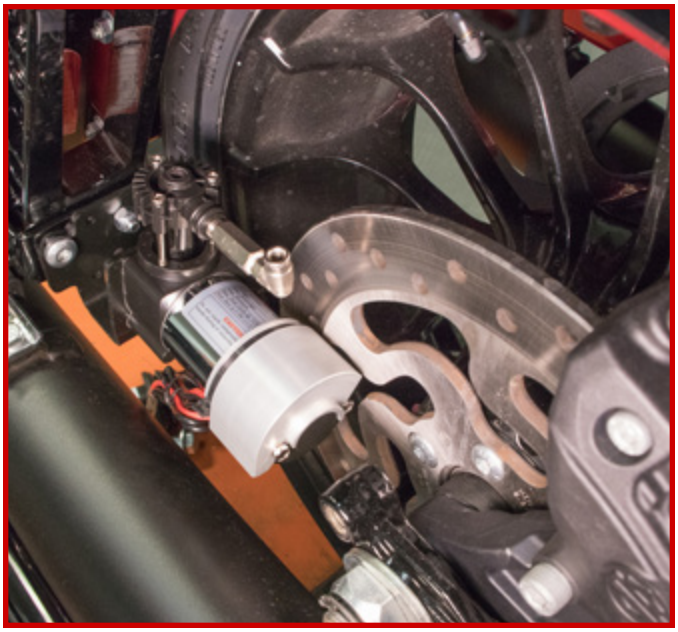


FIGURE 13

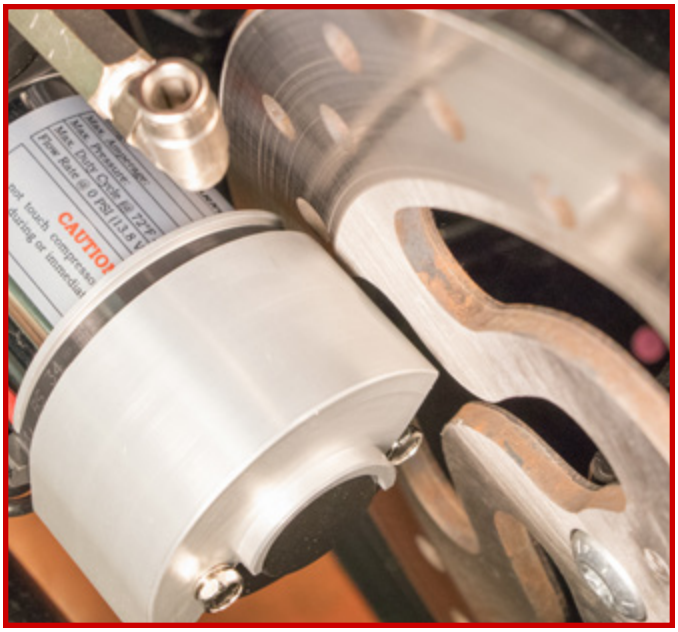


FIGURE 14

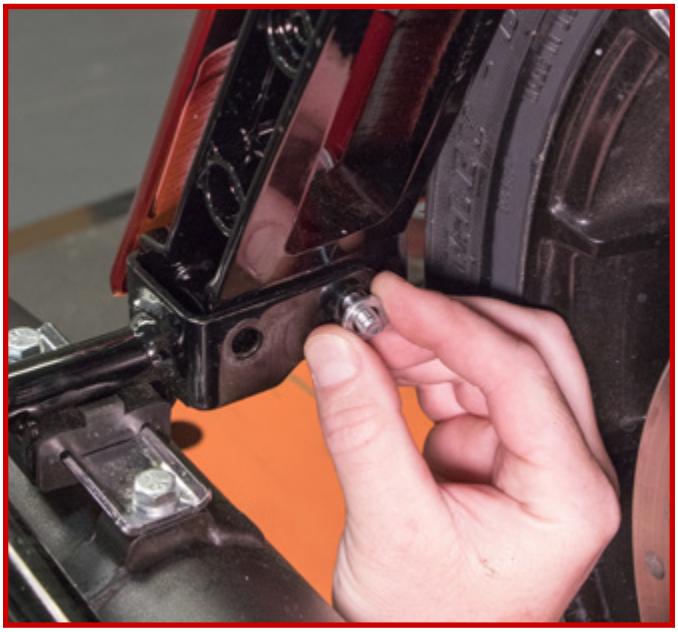


FIGURE 15

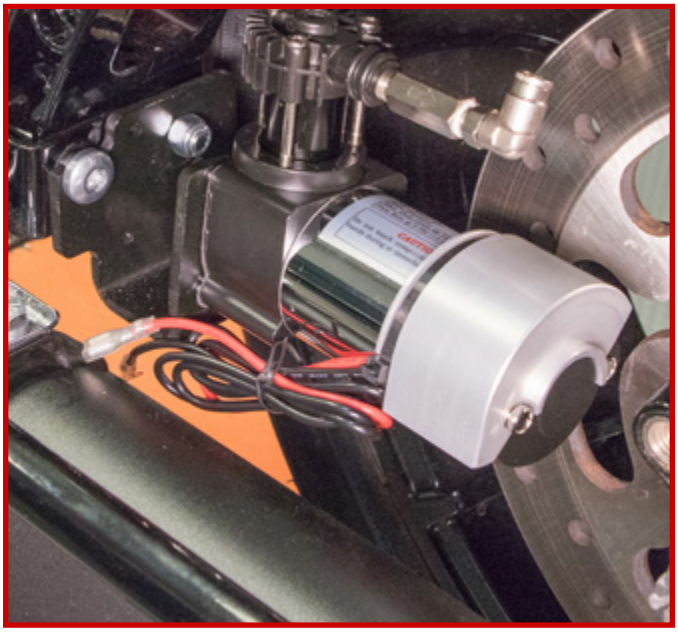


FIGURE 16

6. If the motorcycle is a model year 2014-present go to step #8. For a model year 2009-2013 you will need to install then tighten the supplied hex bolt and non-lock nut onto the air compressor bracket as shown below. (Figure 17)

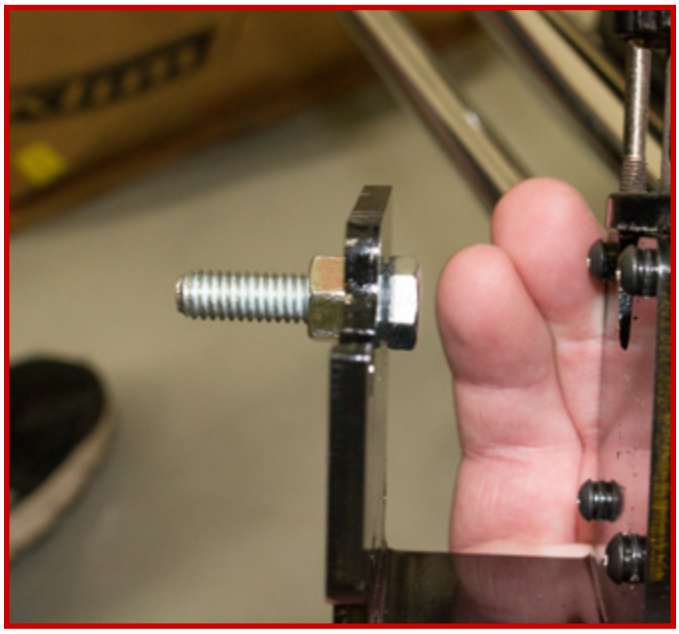


FIGURE 17

7. Remove the factory bag support bolt on the right side of the motorcycle and install the pump bracket bolt through the hole. Tighten the supplied lock nut on the back side. The previously installed hex nut acts as a spacer to properly align the compressor assembly. (Figures 18, 19)

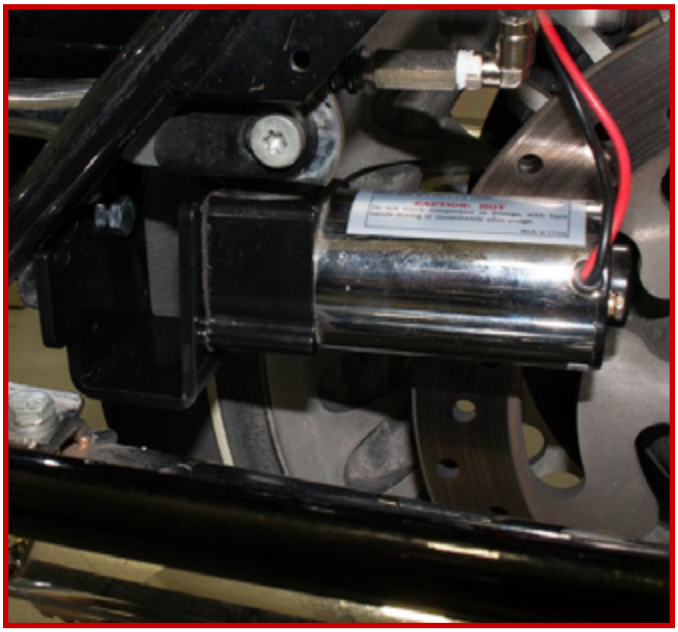


FIGURE 18

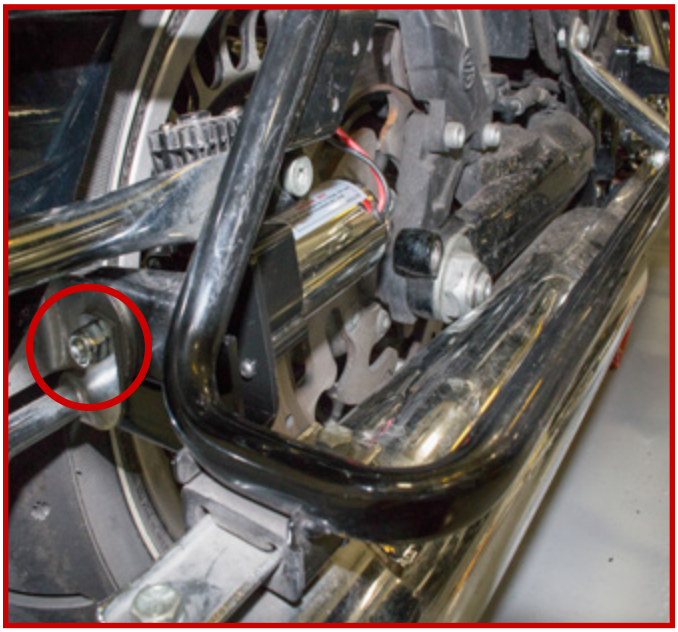


FIGURE 19

8. Attach the included wire extension to the compressor and wrap the wires with the included split loom. Insert the included ¼" air hose into the push-to-connect fitting on the compressor. Route the wires and air hose toward the right side battery cover attaching them to the frame with the included zip ties. (Figures 20, 21, 22, 23)

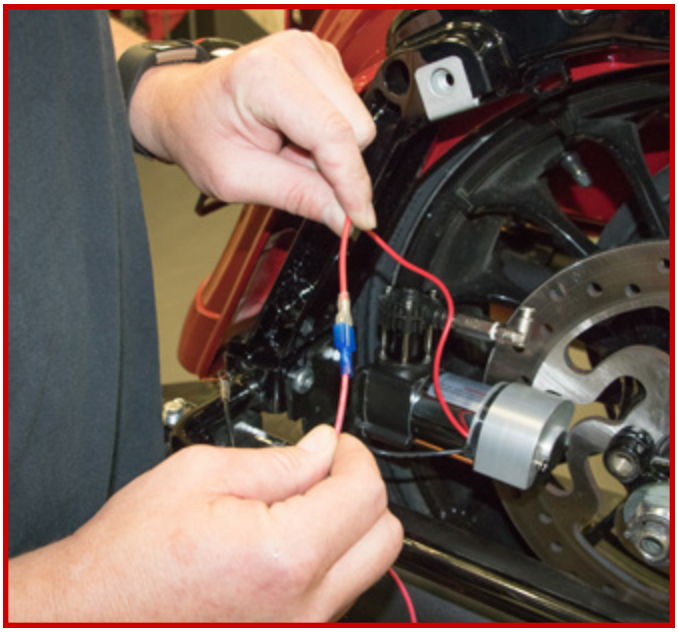


FIGURE 20

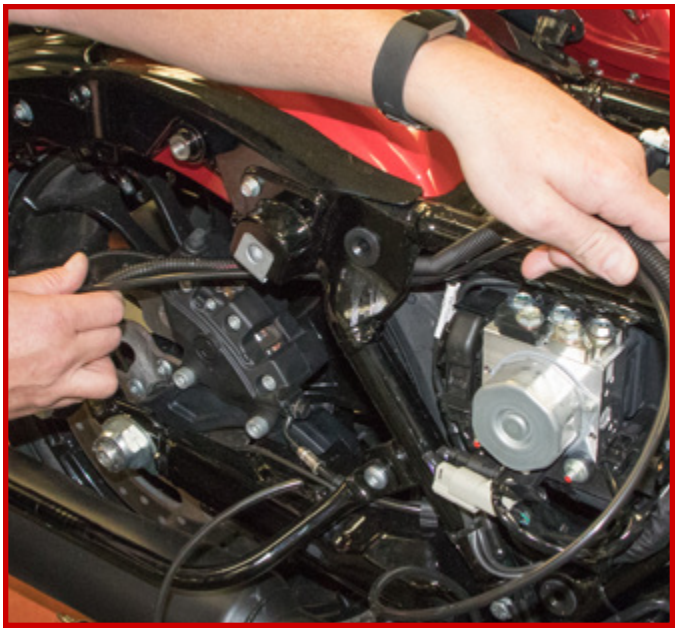


FIGURE 21

FIGURE 22

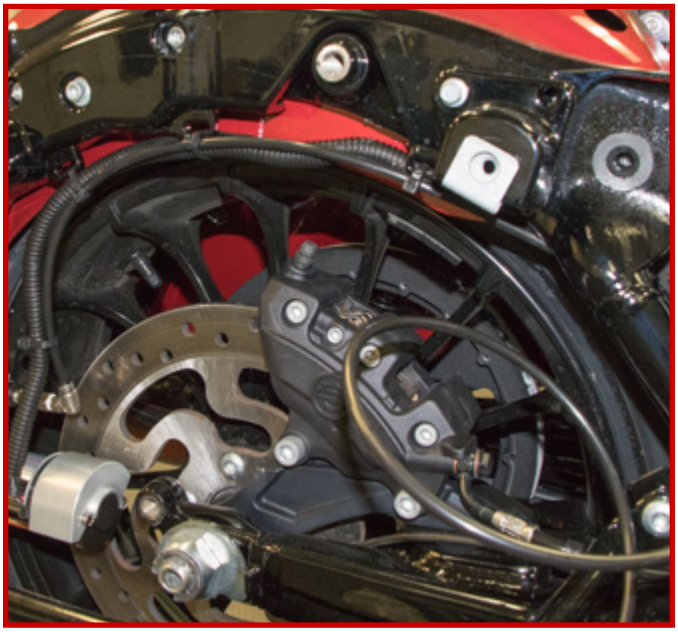


FIGURE 23

9. Screw a VOSS fitting into one of the air shocks. Pull out the white plug and insert the 4mm air hose until you feel it seat. Unscrew the VOSS fitting from the shock and verify that the keeper is attached to the hose. Screw the fitting back into the shock and snug tight with a 10mm wrench. (Figures 24, 25, 26)

FIGURE 24

FIGURE 25

FIGURE 26

10. Apply blue thread lock to the included ½" cap screws. Mount the right shock to the motorcycle with the VOSS fitting pointing toward the motorcycle. Route the air line toward the right-side battery cover. Trim the air line & repeat with the left shock. Route the air line to the right-side battery cover. Make sure the air line will not be pinched when the seat is placed back on the motorcycle. Apply some soapy water to the o-rings inside the included bolt covers and slide them over the heads of the bolts. (Figures 27, 28, 29)

FIGURE 27

FIGURE 28

FIGURE 29

11. Mount the included air manifold under the right-side battery cover. The images below show some options with the included mounting hardware. Trim the ¼" compressor hose and insert it into the push-to-connect fitting on the air manifold. Screw the 2 VOSS fittings into the manifold and following the same procedure as in step #9 attach the 4mm air lines. (Figures 30, 31)

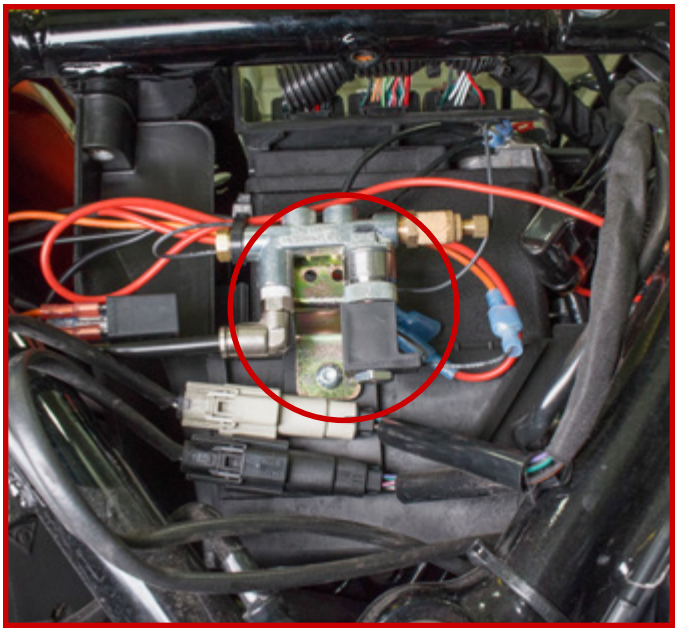


FIGURE 30

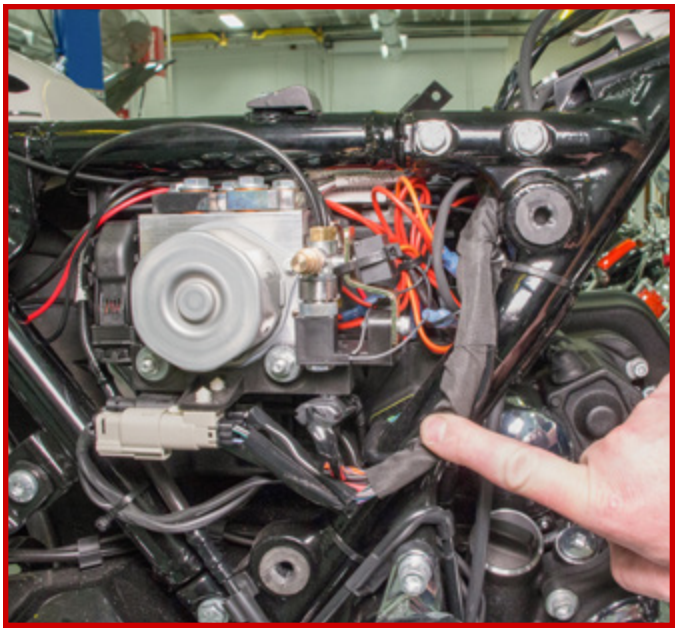


FIGURE 31

12. Remove the lower clutch lever perch bolt. Reusing the same bolt mount, the handle bar switch to the handlebar. Route the switch wires down the handle bars, under the fuel tank to the manifold. Using the wiring diagram in the back of this manual complete the electrical connections. (Figures 32, 33)

FIGURE 32

FIGURE 33

13. Before putting the motorcycle completely back together, it is recommended that you air up the system. Spray all the hose connections and fittings with soapy water. If there are any air leaks in the system bubbles will form at these locations.
14. For model year 2014-present motorcycles bag spacers must be added to keep the bags from touching the shocks. Insert the included quarter turn fastener with included washer through the grommet in the bag. Slide included spacer over the fastener on the other side of the bag. Install the included o-ring into the groove in the fastener. The o-ring will keep the spacer from falling off the fastener when the bags are removed. (Figures 34, 35, 36, 37)

FIGURE 34

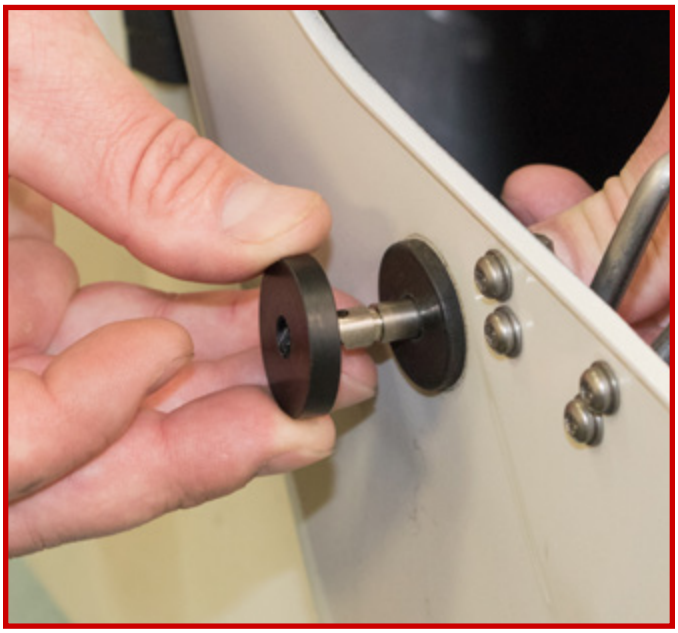


FIGURE 35

FIGURE 36

FIGURE 37

15. The quarter turn fasteners are not needed if the bags are held in place with screw style mounts from the factory. Simply slide the spacer over the screw and use the o-ring to keep the spacer in place. (Figures 38, 39, 40, 41)

FIGURE 38

FIGURE 39

FIGURE 40

FIGURE 41

16. The orientation of the VOSS fill port can be changed in relation to the shock mounting eyelets. Unscrew and remove the shock can. Snug the lower shock eye in a vise. Grasping the lower portion of the air spring and twist it on the shock body until the desired clocking is reached. Flip the shock in the vise. This time gripping the other end of the air spring. Twist to realign the shock eyes. (Figures 42, 43, 44, 45)

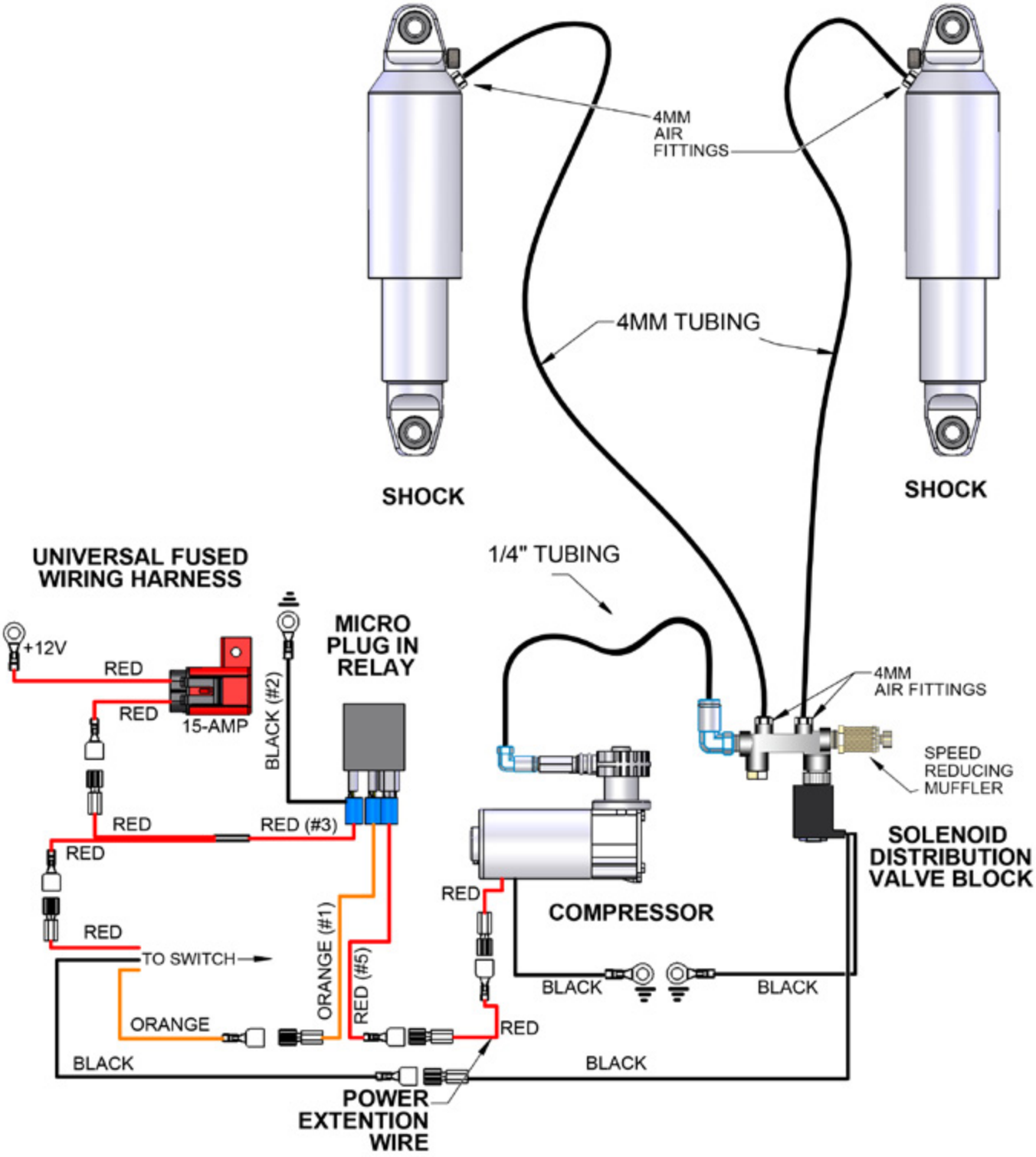
FIGURE 42

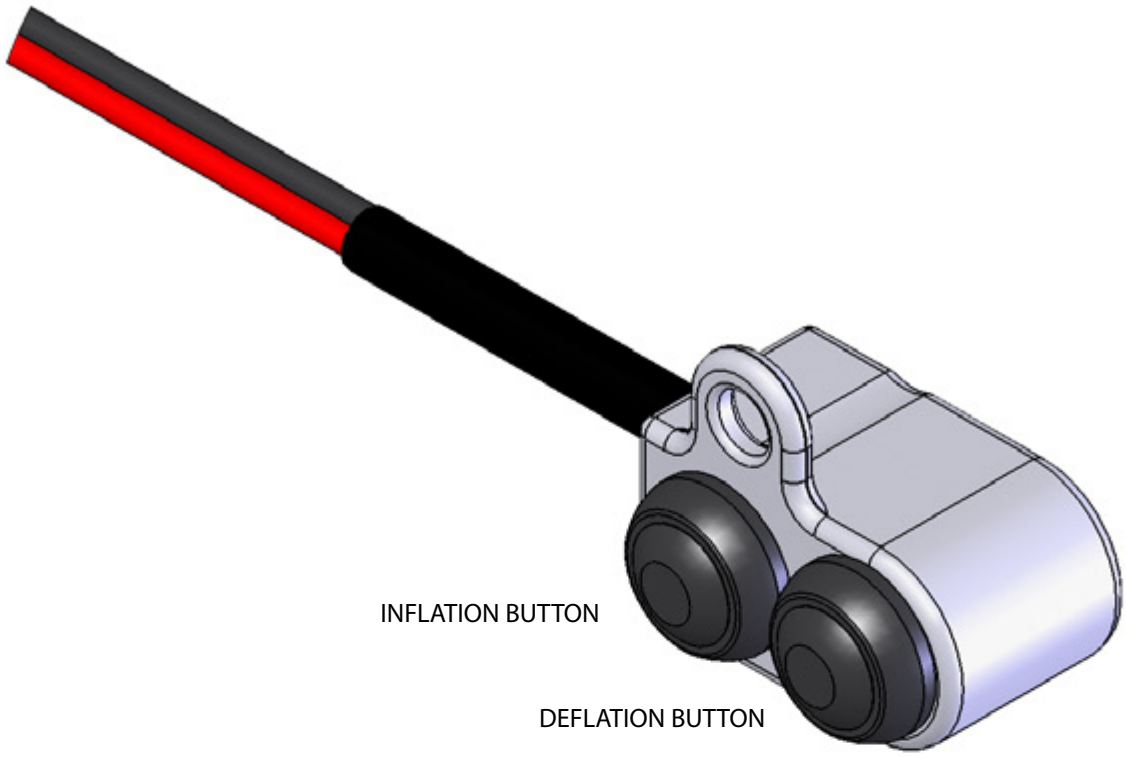
FIGURE 43

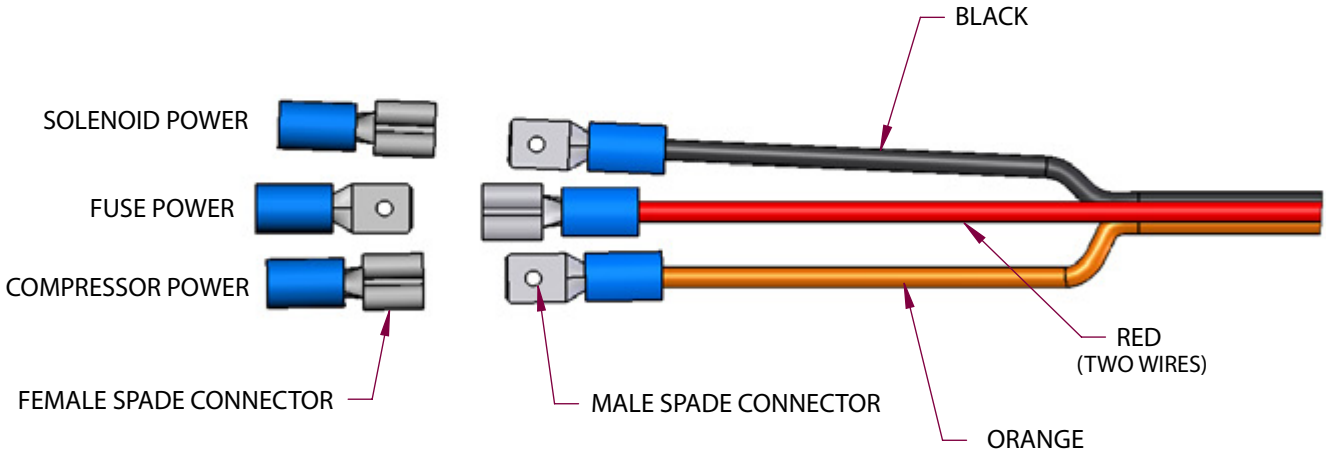
FIGURE 44

FIGURE 45

The terms Harley-Davidson®, Harley®, H-D®, Buell®, Softail®, Dyna®, V-Rod®, Tri-Glide®, 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 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 on-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 manufacturer's warranty. These directions are accurate at time of publication. Arnott Inc. reserves the right to revise specifications without notice.


4MM
AIR
FITTINGS
4MM TUBING
SHOCK
SHOCK
UNIVERSAL FUSED
WIRING HARNESS
1/4" TUBING
+12V
RED
RED
15-AMP
BLACK (#2)
MICRO
PLUG IN
RELAY
4MM
AIR FITTINGS
SPEED
REDUCING
MUFFLER
RED
RED (#3)
RED
SOLENOID
DISTRIBUTION
VALVE BLOCK
RED
COMPRESSOR
RED
TO SWITCH
ORANGE (#1)
RED (#5)
BLACK
BLACK
ORANGE
RED
BLACK
BLACK
POWER
EXTENTION
WIRE





AS SHOWN IN ILLUSTRATION ABOVE;
1. CUT SWITCH WIRING TO APPROPRIATE LENGTH.
2. CRIMP THE TWO MALE SPADE CONNECTORS TO THE ORANGE WIRE AND TO THE BLACK WIRE.
3. CRIMP THE FEMALE SPADE CONNECTOR TO THE DOUBLE RED WIRE.

Arnott®
Motorcycle Suspension

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