

# HOGKIT-1 INSTALLATION MANUAL

REV: BETA (2/11/2020)



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## HOGKIT-1 Installation and Operation Manual

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### Installation and Operation Manual

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### **Installation and Operation Manual**

### 2. How to Use this Manual

### 2.1. Interactive Manual using Adobe Reader

It is recommended to open this digital PDF using Adobe Reader ® to take advantage of following key features:

- Hyperlinks (blue underlined text) allow access to additional content via internet; click/tap to activate
- Includes <u>Installation Figures</u> and "<u>Figure xx</u>"
- Table of Contents page allows easily navigating this manual; click/tap any section line to go to it
- Bookmarks allow quickly navigating to any section; click/tap
- Zoom IN on pictures by pressing "CTRL and +" at same time on PC, or pinch in on smart devices
- Zoom OUT on pictures by pressing "CTRL and -" at same time on PC, or pinch out on smart devices

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On Android, iPhone/iPad, and Windows devices,

visit <u>https://acrobat.adobe.com/us/en/acrobat/mobile-app.html</u>

### 2.2. Your Kit SKU Number and this Manual

This manual covers installation, testing, and operation of following SKU part numbers

### 2.2.1. HOGKIT-1 (i.e., Dual Train Horn with Electric Air Pump)

NOTE: Illustrations and pictures contained herein may represent only one kit part number. Where critical differences exist between kits (i.e., different parts, orientation, mounting points, etc.), additional text, or necessary graphics are provided to minimize confusion.

Parts list explicitly state kit differences with (BOLD TEXT) inside parenthesis, shown below part number.

### 2.3. Illustration/Photo Details and Orientation

This manual may use digitally created illustrations, and/or actual photos of example vehicle. These graphics may not include exact items found on your vehicle (i.e., electrical wiring, fuel lines, body panels, etc.). Illustrations typically will be missing details and are for clarity to show critical mounting locations and orientation on vehicle.



Throughout manual yellow arrows with text reading "FRONT", may be present over illustrations and pictures. These arrows specify direction toward front of vehicle and provide clarity to how illustration is viewed.



### **Installation and Operation Manual**

### 3. Safety First

Read manual thoroughly before starting installation of this kit. Verify you have all parts listed and that you clearly understand this installation procedure. Contact Kleinn technical support for any questions.

Installation of this kit requires **moderate mechanical aptitude**; seek professional help if you're not competent using hand tools in tight uncomfortable spaces, and around possibly rusted and sharp vehicle parts.

Before starting, obtain proper tools required to perform installation correctly, adequate lighting, eye protection, hearing protection for operating train horns, and hand protection to guard against sharp edges and metal burrs, which may be present on kit parts and vehicle parts.

Throughout this manual the following words may be used; be aware of their meaning and application.

CAUTION: means damage could occur to vehicle, or kit parts during, or after installation

WARNING: means injury could occur to you or others, including damage to vehicle, or kit parts

DANGER: means serious injury or death could occur to you or others during installation



### **Installation and Operation Manual**

### 4. Application Chart

### 4.1. 100% Direct Bolt-On Vehicle List

HOGKIT-1 is a 100% direct bolt-on aftermarket product for Harley-Davidson vehicles listed in below chart; every effort has been made to verify correct fitment on these vehicles in their factory, non-modified conditions.

MODEL YR	MODEL	DRIVE	ENGINE	BODY	TRIM
SEE ONLINE					

NOTE: All vehicles listed <u>may require drilling holes for ground wires and installing switches</u>, based on preference of installed switch locations and wire grounding points.

#### 4.2. **\*\***Excluded Vehicles

- 4.2.1. Does not fit Sportster Models
- 4.2.2. Does not fit V-Rod
- 4.3. Aftermarket Product Compatibility
- 4.3.1. This kit has been designed to be compatible with following products from leading manufacturers:
  - N/A
- 4.3.2. This kit has NOT been designed to be compatible with any of the following products:
  - N/A

NOTE: <u>Review this manual in full before unpacking items and verify correct space and mounting locations</u> <u>exist with your aftermarket product(s)</u>. To install this kit alongside your other aftermarket product(s), modification to included parts, your vehicle, or aftermarket product(s) may be required.



### **Installation and Operation Manual**

### 5. Installation Overview

### 5.1. QUICK INSTALL OUTLINE

For person(s) with experience installing Kleinn bolt-on kits, HOGKIT-1 can be quickly installed following below:

- 1. Remove Original Horn Assembly from motorcycle and disassemble Horn Cover
- 2. Layout and organize all parts on bench
- 3. Modify Original Horn Cover by increasing size of upper hole
- 4. Disassemble Train Horn by unthreading Trumpets
- 5. Assemble Rubber Washers, Hex Bolts, and Steel Plate to Train Horn
- 6. Assemble Train Horn onto Bracket
- 7. Assemble Air Compressor, Steel Clamp, Wide Rubber U-Strip, and Square Head Bolt to OE Horn Cover
- 8. Assemble Air Compressor and OE Horn Cover onto Bracket
- 9. Connect Air Tubing from Air Compressor to Train Horn
- 10. Re-install Trumpets onto Air Horn
- 11. Install Train Horn Assembly onto motorcycle
- 12. Connect Relay and route Wiring to Original Location
- 13. Connect Wiring to Air Compressor
- 14. Test System and Enjoy!



### **Installation and Operation Manual**

#### 5.2. Kit Layout and Locations

HOGKIT-1 consists of following sub-systems, located on vehicle, as follows:

ITEM	DESCRIPTION	MOUNTING LOCATION	APPROX.
			INSTALL TIME
1	Train Horn Assembly	Left Side of Engine	2-4 Hours

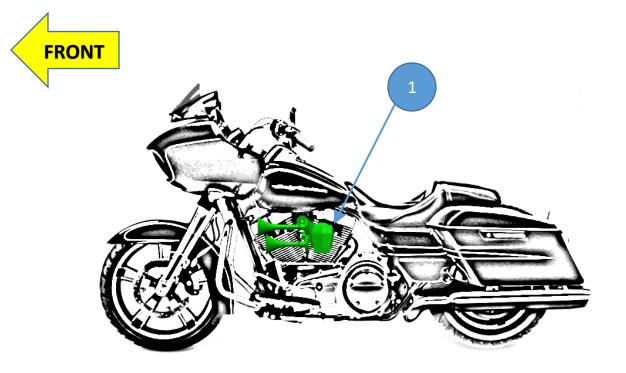


Figure 1 – Left View Showing Kit Layout (2016 Street Glide Shown)

#### 5.3. Approximate Installation Time

HOGKIT-1 is a quick installation product consisting of a single electro-mechanical assembly.

For a typical home mechanic, auto enthusiast, or technician installing a Kleinn Bolt-On kit for first time, a professional installation job with setup and testing of final product, is estimated to take:

### • 2-4 Hours



### **Installation and Operation Manual**

### 6. List of Tools and Supplies

### 6.1. Standard Tool List (Required)

- 6.1.1. Basic mechanic's 3/8" drive socket sets with extensions
  - Inch Size Sockets (1/4" 1" Hex)
  - Metric Size Sockets (6mm 20mm Hex)
- 6.1.2. Basic mechanic's combination wrenches (box/open-end)
  - Inch Size Wrenches (1/4" 1" Hex)
  - Metric Size Wrenches (6mm 20mm Hex)
- 6.1.3. Basic mechanic's screwdriver set (Philips, Flat Head)
- 6.1.4. Diagonal Cutter/Wire Cutter Pliers
- 6.1.5. Wire Strippers
- 6.1.6. Wire Terminal Crimpers
- 6.1.7. Slip-Joint Pliers
- 6.1.8. Utility Knife, or Utility Razor blade
- 6.1.9. Magnetic retrieval tool

#### 6.2. Special Tool List (Recommended)

- 6.2.1. 10-100 ft.-lb. torque wrench
- 6.2.2. 20-150 in.-lb. torque wrench
- 6.2.3. Multi-Meter for 12V DC electrical systems, or equivalent
- 6.2.4. 12V DC Test Light, or equivalent
- 6.2.5. Metal round smooth file (3/8" diameter max), or Die Grinder/Dremel with Metal Cutting Bit
- 6.2.6. Trim Panel Tool, for removing wiring and body clips, when needed

#### 6.3. Shop Consumables List (Recommended)

- 6.3.1. Quality Electrical tape
- 6.3.2. Di-electric grease for electrical connections
- 6.3.3. Heat Shrink tubing for electrical connections
- 6.3.4. Blue Loctite (i.e., Loctite PN 242), or equivalent
- 6.3.5. Sand Paper, or Wire Brushes for installing ground wires
- 6.3.6. Extra plastic zip ties > 6" long
- 6.3.7. Touch-up paint for frame/chassis
- 6.3.8. Typical cleanup supplies



### **Installation and Operation Manual**

### 7. Parts List

### 7.1. Before Starting, Review Parts List

Unpackage and organize Kit across a large work area and verify all parts are included, as listed below. Contact Kleinn support if any questions arise.

- 7.1.1. Review pre-packaged Kit items (i.e., K1, K2, etc.)
- 7.1.2. Review Wiring and Accessories (i.e., E1, E2, etc.)
- 7.1.3. Review Bolt-On Mounting Brackets (i.e., M1, M2, etc.)
- 7.1.4. Review Hardware/Fasteners (i.e., H1, H2, etc.)
- 7.1.5. Familiarize yourself with how parts assemble

#### 7.2. Pre-Packaged Electro-Mechanical Kit Items

NOTE: Items in this section come in their own packages and may include additional items inside package

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
K1	1	COMPRESSOR	12V AIR COMPERSSOR WITH INCLUDED AIR SUPPLY TUBING	
К2	1	DUAL HORN	DUAL CHROME AIR HORN	

#### 7.3. Electrical Small Components and Related Items

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
E1	1	WIRE KIT	FULL WIRE KIT, WITH ELECTRICAL CONNECTORS AND ZIPTIES	



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#### 7.4. Bolt-On Mounting Brackets & Special Hardware

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
M1	1	HOGKIT-1-BRKT	HORN BRACKET, WELDMENT	
M2	1	HOGKIT-1-PLATE	HORN BRACKET, CLAMP PLATE	<b>f</b>

### 7.5. Hardware, Fasteners and Soft Parts

### NOTE: Pictures only indicative, not to scale and may not represent exact item

ITEM	QTY.	PART NUMBER/SIZE	DESCRIPTION	PICTURE
H1	1	1/4"-20 X 1"	HEX BOLT, GRADE 2, ZINC- PLATED	
H2	2	1/4"-20 X 1.25"	HEX BOLT, GRADE 2, ZINC- PLATED	
H3	5	1/4" ID X 0.63" OD	FLAT WASHER, SAE, ZINC- PLATED	
H4	3	1/4"	LOCK WASHER, SPLIT, ZINC- PLATED	
H5	3	1/4"-20	ACORN NUT, GRADE 2, ZINC- PLATED	



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H6	1	5/16"-18 X .75" LONG	SQUARE HEAD BOLT, GRADE 5, BLACK-OXIDE	
H7	1	5/16" ID X 0.69" OD	FLAT WASHER, SAE, ZINC- PLATED	
H8	1	5/16"	LOCK WASHER, SPLIT, ZINC- PLATED	P
H9	1	5/16"-18	ACORN NUT, GRADE 2, ZINC- PLATED	
H10	4	1/4" ID X 3/4" OD X 1/8" THICK	RUBBER WASHER	
H11	1	1/4" ID X 5/8" OD X 3/8" THICK	ALUMINUM SPACER	
H12	1	2″ ID	STEEL LOOP CLAMP, VINYL COATED	
H13	1	1" W X 6" L	RUBBER TRIM (WIDE "U")	



### **Installation and Operation Manual**

### 8. Mechanical Assembly Steps

For steps and information not covered below, or any questions, please contact Kleinn Technical Support.

### 8.1. Remove Original Horn from Motorcycle

- 8.1.1. Locate original Horn on left side of engine
- 8.1.2. Remove Chrome Acorn Nut and Washer holding Horn Assembly onto engine/frame Bracket (i.e., rubber isolator), as shown below

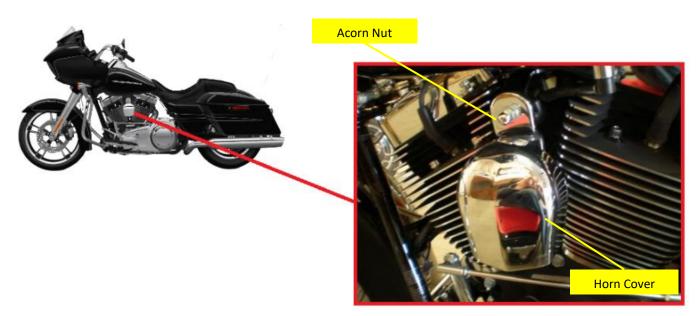


Figure 2 – Typical original Horn Assembly mounting Nut (i.e., Acorn Nut)

8.1.3. Disconnect original electrical wiring from back of Horn Assembly, as shown below

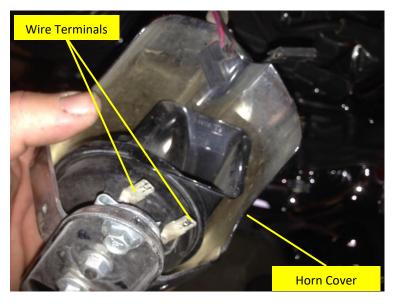


Figure 3 – Typical original Horn Assembly wire removal (back view shown)





### **Installation and Operation Manual**

#### 8.2. Disassemble Original Horn Cover & Modify Upper Hole

8.2.1. Remove original Chrome Horn Cover from Horn Assembly and remove all sheet metal nuts attached to back side, as shown below.

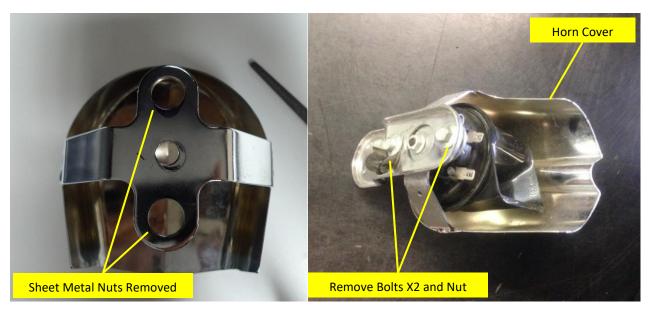
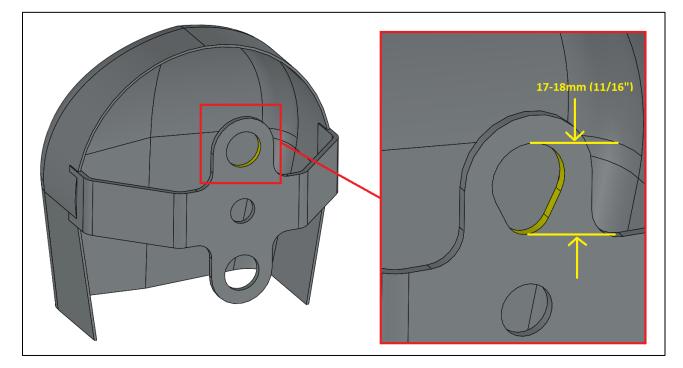


Figure 4 – Typical Horn Cover with sheet metal nuts removed (back view)

8.2.2. Using a metal round smooth file, or Die Grinder/Dremel Cutting Bit, cut bottom side of upper hole until hole is oval shaped and measures between 17-18mm (11/16") long, as shown below



NOTE: It is advised to touch up Horn Cover finish after modifying by using Primer, or Enamel.

Figure 5 – Horn Cover upper hole modification (back view shown of typical Horn Cover)



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Disassemble Air Horn

#### 8.3. Disassemble Air Horn

- 8.3.1. Remove Air Horn from packaging
- 8.3.2. Grasp Horn Driver in one hand and unscrew each Trumpet, then set aside. During final step, Trumpets will be re-installed based on fitment of Motorcycle (i.e., Motorcycles with lower front fairings, or highway bars may require long Trumpet on bottom).

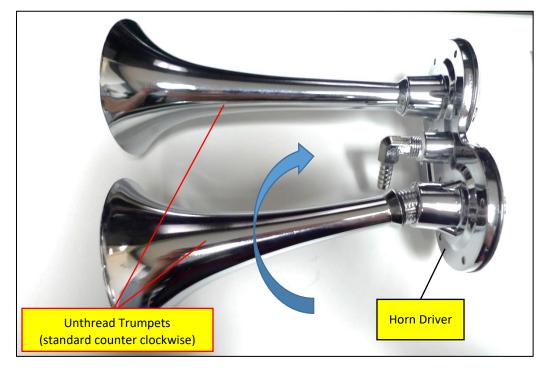


Figure 6 – Air Horn Disassembly



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#### 8.4. Air Horn Assembly – Exploded View

8.4.1. During assembly process, reference below diagram and see <u>hardware</u> list above.

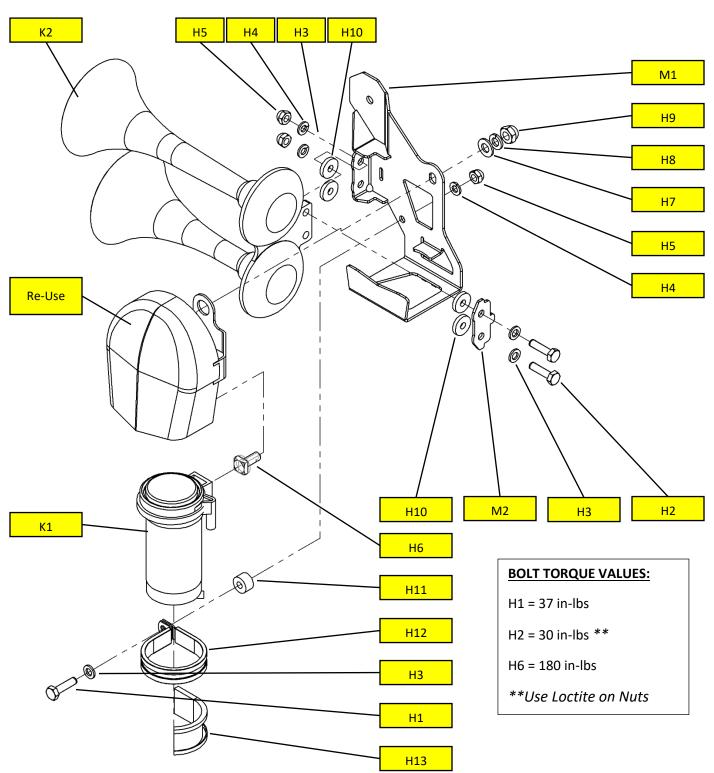


Figure 7 – Air Horn Assembly, Exploded View



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#### 8.5. Assemble Horn Driver to Bracket

8.5.1. Gather <u>Bracket</u> (#M2), Air Horn Driver and <u>hardware</u> #H2, H3, H4, H5, and H10. Loosely assemble, as shown below.



Figure 8 – Air Horn Driver, Partial Assembly

8.5.2. Grasp Air Horn Driver partial assembly and insert tab of Plate into slot of Bracket (#M1), as shown below. Use <u>hardware</u> #H3, H4, and H5 then tighten to Torque spec shown in <u>exploded view diagram</u> above.



Figure 9 – Air Horn Driver Assembly to Bracket



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#### 8.6. Assemble Air Compressor to Bracket

- 8.6.1. Remove Air Compressor from packaging
- 8.6.2. Insert Square Head Bolt hardware #H6 into slot on back of Compressor, as shown below.



*Figure 10 – Square Head Bolt insertion into Air Compressor* 

8.6.3. Gather <u>hardware</u> #H12 and H13. Using scissors or utility knife, trim Rubber U-Trim to 3.5" long then insert over Loop Clamp and hold in place temporarily using tape, as shown below



Figure 11 – Rubber U-Trim over Loop Clamp



### **Installation and Operation Manual**

8.6.4. Slide Loop Clamp over Air Compressor and hold in place using <u>hardware</u> #H1 and H3, as shown below. Ensure Clamp is correctly oriented; compare to <u>exploded view diagram</u> if necessary.



8.6.5. Insert Air Compressor into OE Horn Cover, as shown below. This is accomplished by inserting Air Compressor at an angle and rotating into place.

NOTE: If Square Head Bolt does not fit, remove additional material from upper hole in Horn Cover



Figure 13 – Air Compressor inserted into Horn Cover



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8.6.6. Assemble Air Compressor and Horn Cover onto Bracket using <u>hardware</u> #H4, H5, H6, H7, H8, H9, and H11, as shown below. Tighten fasteners to Torque spec shown in <u>exploded view diagram</u> above.

NOTE: U-Trim must line up with and sit directly over Bracket Support Flange

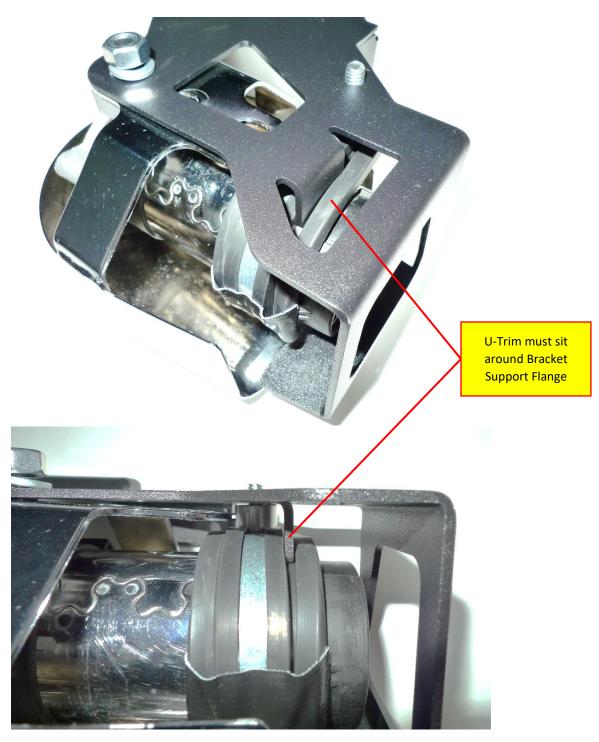


Figure 14 – Air Compressor assembled to Bracket



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#### 8.7. Connect Air Compressor to Air Horn

8.7.1. Use supplied clear Air Tubing and connect Air Compressor to Air Horn Driver fitting, as shown below.



Figure 15 – Air Compressor to Air Horn Tubing (back view shown with Trumpets)

8.7.2. Re-install Trumpets into Air Horn Driver and tighten firmly. Check fitment on Motorcycle first to determine if Long Trumpet should be in top or bottom position.



Figure 16 – Air Horn Assembly completed



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#### 8.8. Air Horn Assembly - Installation

- 8.8.1. Place completed Air Horn assembly over OE Horn Mount Stud and hand tighten original washer and nut.
- 8.8.2. While holding Air Horn assembly in place, torque OE Horn Mounting Nut to correct value.

NOTE: It may be necessary hold Air Horn assembly at a slight upwards angle while tightening to maintain a level look once torqued in place.

Example HD Dyna Glide Horn Mounting Nut Torques (Model Year 2016)

- All models EXCEPT FXDL: 120-180 in-lbs
- FXDL models: 80-100 in-lbs

**WARNING**: Above values are reference only. Verify actual OE Horn Mounting Nut torque value for your exact model; consult dealership or your HD Factory Service Manual.

<u>It is mandatory to thoroughly inspect OE Rubber Isolator</u> (i.e., Horn Mounting Stud) for any cracking, tears, abrasions, heat deformation, or other damage before installing this kit. *REPLACE OE isolator if any damage is present*.



Figure 17 – Air Horn assembly installed



### **Installation and Operation Manual**

### 9. On-Vehicle Electrical Installation

**CAUTION:** Follow all recommended safety precautions for working on vehicle's electrical system; consult vehicle owner's manual for further instruction.

- 9.1. Disconnect Vehicle Battery(s)
- 9.1.1. Consult Owner's Manual for battery location and disconnect procedure.

#### 9.2. Attach Wiring and Relay(s) to Vehicle

- 9.2.1. Included relay is prewired to fit under seat; wiring instructions are as follows:
  - Fused red wire connects to positive battery terminal
  - Heavy gauge black wire connects to negative battery terminal
  - Yellow wire connects to factory (+) positive horn wire. Cut off original wire end and use supplied blue butt connector to connect yellow wire from Kleinn relay.
  - Wires in black sheath are new horn wires; route as desired to horn location

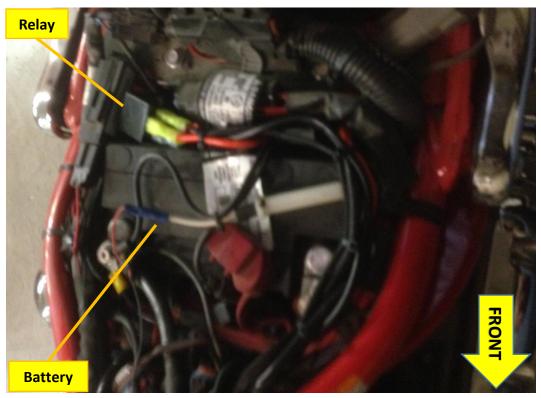


Figure 18 – Relay and location example under seat

#### 9.3. Connect Air Compressor

Route wiring, as desired using zip ties to attach Wire Loom to back of Bracket. Connect Air Compressor by inserting End Connectors through bottom opening in Bracket.



### 10. Initial Testing of Kit

### 10.1. Reconnect Vehicle Battery(s)

**CAUTION:** Before connecting vehicle battery(s), verify all wiring is properly connected and no shorts exists. Use of Multi-Meter, or Test Light is recommended to check continuity of all connections.

#### 10.2. Test Train Horns

- 10.2.1. Turn Motorcycle Ignition to on and depress OE Horn Button; Horn should sound within one second.
- 10.2.2. Verify all tubing and electrical wire is securely fastened; if necessary, use extra zip ties to hold tubing and wiring in place
- 10.2.3. Ensure all nearby persons have adequate hearing protection and provide courtesy warning to neighbors or others in vicinity

**WARNING:** NEVER operate train horns with ears close to trumpets or in an enclosed space without <u>substantial hearing protection</u> (i.e., > Ear Plugs and Ear Muffs) for all persons closer than 100 feet from vehicle. Never operate train horns outdoors when persons are near vehicle without adequate hearing protection.

- 10.2.4. Briefly activate Horns by pressing Horn Button for one (1) second; repeat three (3) times with a short rest period between (i.e., 1-3 seconds)
- 10.2.5. Horns should sound as expected and be loud;

End of Section

### 11. General Operation of Kit

11.1. Air Horn functions by OE Horn Button sending electric power to Air Pump, which near immediately produces air pressure through Air Hose and into Air Horn Body

#### 11.2. Press OE Horn Button to activate Horns

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11.3. Horn sound/loudness may taper based on duration that Horn Button is pressed.

### 12. Routine Maintenance

Perform following steps at least once during recommended intervals.

- 12.1. Monthly, or every 1000 miles verify mounting fasteners are properly torqued; applying witness marks across fasteners and mounting parts is good practice to quickly ensure fasteners have not moved.
- 12.2. Monthly, or every 1000 miles verify <u>rubber</u> washers are not cracked, missing, or <u>otherwise damaged</u>; gently grasp Air Horn Trumpet and move assembly to check for excessive movement
- 12.3. Monthly, or every 1000 miles verify OE rubber Horn Isolator that Horn Assembly is attached to <u>does not show any cracks, abrasion, or otherwise is damaged</u>. Gently grasp Horn Assembly and verify it moves smoothly when engine is shut-off and returns back to its resting spot when let go.
- Yearly, or every 12000 miles inspect OE wiring, tubing, cables, etc. where Kit parts may touch, to <u>verify no abrasion or rubbing</u>.
- 12.5. Yearly, or every 12000 miles remove all road grime and mud from mounting brackets and kit parts using clean water from a garden hose. Touch up all paint chips using automotive grade enamel.
- NOTE: High-pressure washers may damage part finishes and *must* be used with care. Do this more frequently if traveling regularly offroad, or in winter climates with road salts.
- 12.6. Yearly, or every 12000 miles check electrical and air fitting connections and wires for abrasion, corrosion, or other damage. Replace damaged components.



### **Installation and Operation Manual**

### 13. Warranty Information

Thank you for purchasing this HOGKIT-1. Shall you experience any unexpected problems during installation or have problems with any part at any time please contact Kleinn support.

#### KLEINN MANUFACTURER LIMITED DEFECT WARRANTY:

Kleinn Automotive Air Horns warrants this product to the end-user, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from the provided date of purchase, to the original purchaser of the product. This warranty does not cover abuse, operation in a manner inconsistent with the product's design, or damage resulting from exposure to the elements. If the defect is considered "under warranty", Kleinn will, at its option, repair or replace the product free of charge to the original purchaser. Kleinn is not liable for any installation charges, loss or damage of any kind incurred in the replacement or repair of any warranted product.

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