



Corporate Office: PerTronix Inc. 440 E. Arrow Highway, San Dimas, California 91773 * Phone 909.599.5955 * FAX 909.599.6424 * www.patriopipest.com

MOTORCYCLE EXHAUST SYSTEM INSTALLATION INSTRUCTIONS

Harley Davidson[®]
Part Number: M131410S, B, X Dyna[®] Models 1991-2005

WARNING:

*Not legal for use on catalyst-equipped vehicles except for racing vehicles which may not be operated on a highway.
This exhaust may not meet State or Federal Noise Emissions standards and may not be used on any vehicle
if such use is in violation of State or Federal Noise Emission standards.
Not Legal for Sale or Use in California on Emissions controlled Vehicles.*

**Your New Patriot Exhaust is Unique in the Industry with the SFI Valve Technology^{Pat Pend}
that allows you to tailor the sound to your riding style.**

**Please read and understand these instructions completely prior to attempting installation.
Check the parts list and tools required to be sure all you have all the necessary items.**

REMOVAL OF STOCK EXHAUST

**Make sure the motorcycle is completely cool before starting
*Hot Exhaust can, and will, burn you***

1. If you are not familiar with the basic mechanical workings of your motorcycle, please refer to a Factory Shop Manual or consult a Professional Mechanic
2. *Oxygen Sensor equipped models*; unplug the sensors from the wiring harness and remove any cable ties to free the wiring. The rear sensor is plugged in under seat and will require seat removal. The front sensor is plugged in inside of the plastic box above the voltage regulator. See Shop Manual for details if you are unsure of how or where to unplug the sensors.
3. Remove the two nuts that attach each exhaust flange to the cylinder head. Save these nuts for installation. It may be easier to loosen or remove the stock heat shields for better access.
4. Remove clamps that hold front and rear pipes to the bike.
5. Remove the stock exhaust system from the motorcycle. Depending on the year and model of your bike it may be easier to separate the front and rear pipes before removing.
6. If your bike has Oxygen Sensors, use a 22mm (or 7/8") wrench to remove them from the exhaust, being careful not to damage them. Set sensors aside for re-installation.
7. Remove the stock bracket from the transmission.
8. Remove the two Allen Head bolts from the transmission trap door, below the transmission side cover. See Photo 1.

INSTALLATION

Notice: Chrome and Stainless can be easily scratched during installation if you are not careful.
Warranty does NOT cover this type of damage.

1. Check the condition of the Exhaust gaskets and Replace as necessary. Patriot™ recommends Harley® part #17048-98 or equivalent.
2. Using a pair of Lock Ring Pliers, remove the Snap Rings and Flanges from your original exhaust. Check that the snap rings and flanges are in good condition and flat. Replace any parts that are bent or corroded.
3. Install the flanges and snap rings onto your new Patriot™ Exhaust.
4. If your motorcycle is equipped with Oxygen Sensors, Install them into the bungs on the Patriot Exhaust using Anti Seize on the threads (Note: Apply Anti Seize to threads only, contamination of the sensor probe can harm the Oxygen Sensor and affect engine performance). If you do not have Oxygen Sensors, install the supplied plugs into the bungs.
5. Slip the Patriot™ Exhaust up to the cylinder heads, carefully placing the pipes in the exhaust ports without damaging the exhaust gaskets.
6. Slide the flanges over the exhaust studs and *Loosely* install the original exhaust flange nuts, DO NOT tighten at this time.
7. Check the alignment of the exhaust to support bracket and shift the pipe as necessary to allow installation of the bolts through the brackets, into the transmission. Do not tighten at this time.
8. Tighten all flange bolts evenly to a final torque of approximately 18-22 ft. lbs. You will notice as you tighten the flange nuts that the exhaust will tend to move one way or another. Tightening them evenly will allow the pipes to seat square to the gasket and remain flush with the support bracket. Tighten the bracket bolts to 15 ft. lbs.
9. Reconnect the oxygen sensor wiring in the opposite manner to which it was removed.
10. Insert the straight end of the lock cable through the adjuster on the SFI Valve. The SFI Adjustment cable mounts to the muffler using the included 10-32 Stainless Allen Screw, lock washer, and a drop of Loctite. See photo.
11. Carefully clean all Dirt, Oil, and Fingerprints from your Patriot™ Exhaust. These things can permanently discolor your exhaust and are not covered by warranty.
12. Check over the installation to make sure that all fasteners are properly tightened.

The Patriot Defender™ exhaust will increase the performance of your motorcycle, however due to increased efficiency it will be necessary to re-jet your Carburetor or recalibrate your Fuel Injection. Failure to do so can cause improper performance, overheating, and/or discoloration of your exhaust. Patriot's *Top Fueler* is pre programmed for use with your Defender Exhaust System and is user adjustable to accommodate other changes to your motorcycle. Fuel injected Harley-Davidson's® are equipped with an ECU (computer) that's programmed to deliver proper fuel/air mixture for a stock bike. The Patriot Defender™ changes the flow characteristics of the motor, requiring a change to the fuel requirements. The Patriot Top Fueler adjusts the fuel flow by sensing the load being placed on the motor for proper and accurate fuel mixture at all times.

Visit www.patriotpipes.com for more information on the

Patriot **TOP FUELER**

STARTING THE ENGINE

Start the engine and allow it to warm up to operating temperature, but do not allow idling for an excessive period of time as this can cause overheating and discoloration of the



exhaust. Check for any unusual noises or exhaust leaks.

NOTE: On carbureted bikes DO NOT run with the choke on for any longer than necessary as this can cause discoloration to the exhaust.

For the first few miles you may see an abnormal amount of smoke from your exhaust, especially if riding with the SFI™ Valve in the closed position. **Do Not Panic**, this is normal as the silencing material breaks in. This will usually stop after the first couple of miles. During this time the cable may also be a little harder to operate than normal. Riding with SFI™ valve In the Open (Loudest) position it will create the most Horsepower. It is possible to ride with the valve at any position between Open & Closed to suit the sound preferred and your riding style.

NOTE: Re-tighten all hardware after the first 20 miles and then again at each scheduled service.

PARTS LIST

Qty	Description
1	2 into1 Header System
1	Front Heat Shield (Installed)
1	Rear Heat Shield (Installed)
2	Oxygen Sensor Plugs (Installed)
1	10-32 X 3/8" Stainless Steel Allen Head Cap Screws
1	Stainless Steel Lock Washer
1	Adjustment Lock Rod

TOOLS REQUIRED

Flat Blade Screwdriver
5/16" Nut Driver
1/2" Combination Wrench
Loctite® 222 or Equivalent Anti Seize
22mm or 7/8" Wrench for Oxygen Sensors
5/32" Allen Wrench
Lock Ring Pliers
1/4" or 3/8" Drive Ratchet and Extension
1/2" Socket

LIMITED ONE YEAR WARRANTY

All Patriot Defender™ Exhaust are guaranteed, to the original purchaser, to be free of defects in materials and workmanship for one year. This warranty covers the replacement or repair of the product only and does not cover the cost of removal and installation. **Discoloration or "Bluing" is caused by Excessive Heat or Improper Tuning and IS NOT covered by this warranty.** Your Defender Exhaust is made from Stainless Steel and therefore can turn a gold color from heat. This is normal and can be returned to a bright and shiny finish using a stainless steel polish. The Heat Shields are chrome plated and should only be polished with Chrome Polish. Damage or product failure resulting from collision, improper installation, off-road use, road hazards, the use of exhaust insulating wrap or like products or rust occurring after installation, is not covered by the warranty. Should a part become defective it should be returned to the original selling retailer and must be accompanied with the sales receipt. If there is no retailer in your area, call the factory for a return authorization and return your part prepaid to the factory for inspection. Patriot reserves the right to replace or repair the alleged defective part at our discretion and return the part freight collect.

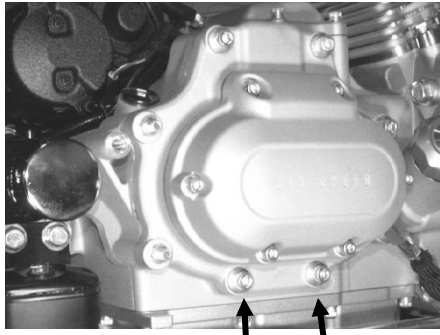


Photo 1: Remove Trans Bolts



Photo 2: Support Bracket

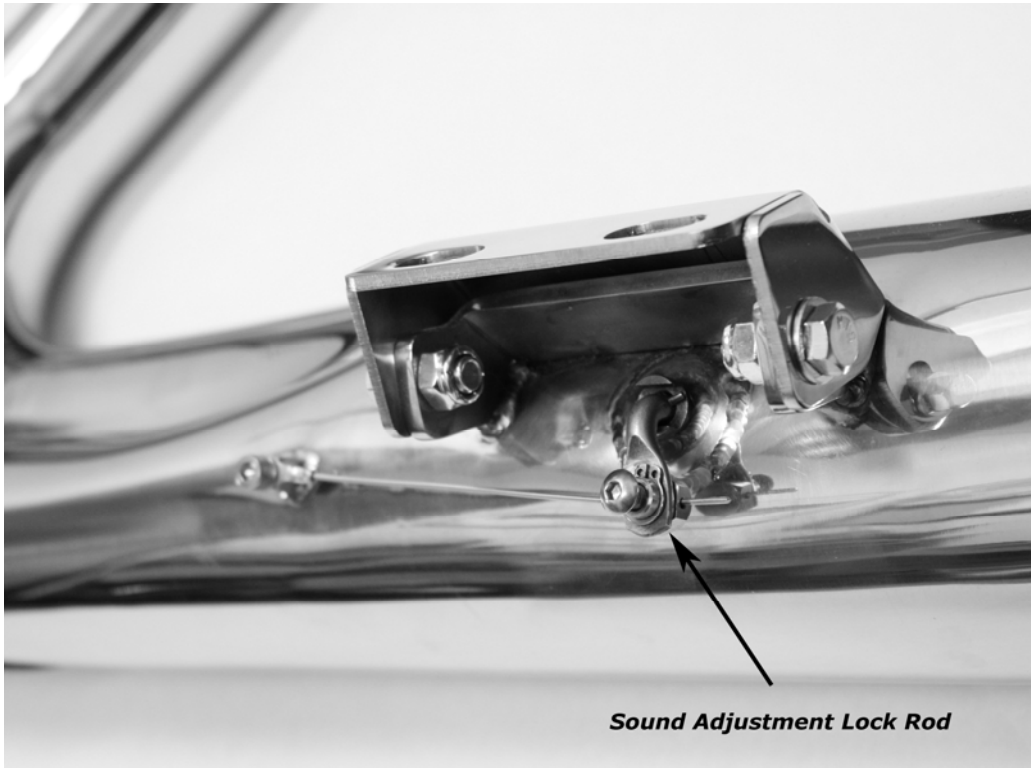


Photo 3: Sound Adjustment Lock Rod