



HARDWARE



BRACKETS

PACKER #: _____



EXHAUST SYSTEM # HD00232 (2-1) RACING UNION

Congratulations, you have acquired the finest aftermarket performance exhaust system available for your motorcycle! Your FREEDOM PERFORMANCE exhaust system was designed to perform, fit, and give the optimum sound and style at a very affordable price.

Please follow the installation instructions, and please do not hesitate to call us for any technical questions at (951) 898-4733.



Parts List

FL230-F1 FRONT PIPE COLLECTOR	1	MFL210-CT-F5 UNION MUFFLER DRESSER	1	
FL230-F2 FRONT HEAT SHIELD	1	HD00232-HW SYSTEM HARDWARE	1	
FL231-F2 REAR HEAT SHIELD	1	A105-F2 COLLECTOR HEAT SHIELD	1	

Hardware

HOSE CLAMPS # 24	8	MBK-FL110-F4 TRANSMISSION BRACKET	1	3/8"-16 X 3-1/4" ALLEN BOLT ZINC PLATED	1
HOSE CLAMP # 40	1	1/4"-20X3/8" BUTTON HEAD BOLT ZINC PLATED	3	3/8"-16 X 2" ALLEN BOLT ZINC PLATED	1
3/8-16 X 1" CARRIAGE BOLTS	1	A115-O2-F14 18MM X 1.5MM PLUG	2	3/8" ID FLAT WASHER SMALL DIAMETER	2
3/8-16 SERRATED FLANGE LOCK NUTS	1	A110-O2-F14 12MM X 1.25MM PLUG	2	1/2" SPLIT WASHER	2
A100SP (0.75"x0.122"WX.750" ALUMINUM SPACER	2	PLASTIC TIE SMALL 7"	1	HD0232-INS INSTALLATION INSTRUCTIONS	1
A101SP 0.625"ODX0.123WX0.750" ALUMINUM SPACER	2	1/2"-13 X 1-3/4 ALLEN BOLT ZINC PLATED	2	20" X 6" X 44" BOX	1
A120PC-F7 P-CLAMP 2.000" I.D.	1	T-BOLT #69	1	1/4" SPLIT LOCK WASHER	3
5/16"-18X5/8" SERRATED FLANGE BOLT	2				

REMOVING THE STOCK EXHAUST SYSTEM

1. Place motorcycle on side stand or motorcycle ramp; if a ramp is used for installation, make sure a motorcycle jack is used under the motorcycle to prevent it from tilting and the front tire is held securely. Remove both left and right saddlebags.
2. Remove the 2 bolts on each muffler securing each muffler from the saddlebag support using a 1/2" socket or wrench. Using a 9/16" deep socket, locate and loosen the two muffler clamps in front of each muffler. Remove mufflers, and set aside. NOTE: it may be necessary to use penetrating lubricant oil on slip joints between the muffler and the head pipe to help with removal.
3. Models without O2 sensors, skip this step. For models equipped with O2 sensors, locate oxygen sensor wires and unplug from harness; remove the cable tie holding the front sensor to the frame. Make sure to remember the route of each sensor wire so that they stay the same way when re-installing your new system.
4. Remove the right side passenger floor board using a 5/16" allen wrench. This is to allow more space needed when installing your new system.

Note: use good and safe practices when removing and installing your new exhaust system to prevent injuries; that includes, but is not limited to, equipment such as safety glasses and gloves. When installing make sure gloves are not abrasive, or damage may occur like scratching parts. Always secure motorcycle before any work is done.

5. Loosen heat shield clamps on both front and rear head pipes.
6. Loosen the left rear head pipe mounting clamp located behind the rear cylinder. Remove the section of head pipe that connects to left side muffler. NOTE: it may be necessary to use penetrating lubricant oil on slip joints between the crossover and the left side head pipe to help with removal.
7. Remove bolt and clamp from the head pipe clamp that secures front head pipe to the transmission bracket. Again, it may be necessary to use penetrating lubricant oil.
8. Remove right hand floorboard; use a 3/8" allen wrench to remove the two bolts holding the right side floorboard.
9. Remove flange nuts that secure each head pipe to cylinder head using a 1/2" socket. Carefully remove the head pipes. Some assistance may be necessary, as improper handling may scratch parts on your motorcycle.
10. Remove starter bracket. Locate and remove the 2 bolts holding the starter bracket using a 1/4" allen wrench. Save bolts for re-use with the new starter bracket. **IMPORTANT: make sure not to touch live power cables, as this may cause a short circuit on the starter.**
11. Remove flanges and circlips from the stock exhaust system using snap ring pliers. If circlips are bent or damaged, replace them. If equipped with oxygen sensors, use a 7/8" or a 22mm wrench to remove the oxygen sensor from both rear and front head pipes. Newer models use a 14mm wrench.
12. 2007-up models: Use a 1/4" allen wrench to remove the bracket located on the transmission housing, as this will be replaced with a supplied mounting bracket. Save bolts, as they will be re-used.
13. 1995-2006 models: Remove stock transmission bracket. To access standard transmission bracket, first remove oil dip stick cover and clutch release cover. **Note:** If motorcycle is resting in a vertical position, engine/transmission oil must be drained completely before removing covers.
14. After installing your new system, check oil level and add if necessary.

FREEDOM PERFORMANCE EXHAUST SYSTEM INSTALLATION

1. Remove exhaust system from protective packaging; it has been pre-assembled for easy installation. Place them on a non-abrasive surface, such as a blanket or carpet. By doing this, you can avoid scratching the parts during the installation process. We recommend using painter's tape to cover parts and accessories on areas where damage can occur during installation.
2. If equipped, install oxygen sensors. Apply a small amount of anti-seize compound to the threads of the sensor, and install them into the new set of pipes. Be sure **not** to apply anti-seize compound on the sensor tip, as this may affect the sensors' functionality. This exhaust system is designed to fit models with or without oxygen sensors; this means that if your motorcycle is not equipped with oxygen sensors, a plug must be installed and included in this system. Note: plugs may be factory installed but not tightened; if the plug is needed, tighten.
3. Install circlips and flanges. Using snapping pliers, carefully insert flange and circlips onto your new set of pipes. Be very careful when inserting circlips onto headers; wear some type of safety glasses, as the circlips may spring back and cause injuries.
4. Install transmission mounting bracket marked as **(MBK-FL110)**. Reuse stock bolts. This bracket is located under the transmission housing. Consult your owner's manual for proper torque.
5. Install collector assembly. Make sure exhaust gaskets are in good condition before installation can proceed; if gaskets are damaged, replace them. Using a 1/2" socket or nut driver and stock flange nuts, install header onto motorcycle, but do not tighten at this time (it may be a good idea to place a cotton cloth between head pipe and motorcycle accessories to avoid scratching). Some assistance may be required. Do not tighten at this time.
6. Install T-Bolt clamp #69 over inner slip joint tube at the front of rolled edge muffler with the t-bolt facing downwards.
7. Slip rolled edge muffler onto header collector (do this carefully to prevent scratches).
8. Install two bolts through saddlebag support into rear rolled edge muffler bracket (use 5/16-18 serrated flange bolts included in the hardware kit bolts). Rotate T-Bolt clamp to the least visible position.
9. Tighten muffler clamp and install hose clamp #40 to secure the rear side of the collector. Be very careful not to scratch heat shields when installing this clamp.
10. Align header with rolled edge muffler and tighten securely.
11. Tighten head pipe flange nuts evenly, securing front and rear head pipes to cylinder heads. Now tighten header P-clamp to transmission bracket using a 9/16" socket or wrench.
12. Align front, rear, and collector heat shields so ends meet; flush and tighten heat shield clamps.

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13. Re-install right hand floor board using spacers, washer, and bolt supplied. **Note:** the spacers are used to space floorboard and gain clearance to header. There are two different spacers provided; choose the right one according to your model. The 1/2"-13 bolts and bigger spacers are usually for older models, and the rest are for models 09-up.
14. Check engine/transmission oil levels and refill if needed.
15. Remove oil and finger prints from chrome using a soft cotton cloth and chrome polish before starting engine.
16. Check for adequate clearance between all exhaust system components and motorcycle accessories prone to heat damage.
17. Plug oxygen sensors back to wire harness, and tie down cable from front oxygen sensor to the frame as it was before using supplied nylon cable. Cut tail for a clean look.
18. Re-install right hand floorboard back in place. Use the 3/4" spacers and 1/2-13" x 1-3/4" allen bolts (supplied) to clear heat shield from floorboard.
19. Re-install passenger floorboard back in its place.
20. Line up heat shields, and tighten all worm clamps and hardware. Adjust left side heat shield as needed, making sure it is **not** rubbing against the muffler and that it has an even gap all around the nose of the muffler.
21. Re-install saddle bags back in place.

Note: Be sure to tighten all hardware before starting your engine. Retighten after the first 100 miles. Clean your new exhaust system before starting the motorcycle.

Re-mapping or re-jetting is recommended by FREEDOM PERFORMANCE.

At Freedom Performance Inc., attempts have been made *to provide enhanced concerning Clearances. However, due to some designs and space boundaries, ground and cornering clearance may not be improved, and in some cases, may even be reduced.*

For accessories for your new exhaust system, please visit www.freedomperform.com and choose from a variety of slip-ons to complement the new look of your bike.

WARNING!

FREEDOM PERFORMANCE DOES NOT WARRANTY ANY CHROME OR PAINTED PRODUCTS AGAINST DISCOLORATION.



left side ghost pipe available

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