EXHAUST SYSTEM # HD00458 AMERICAN OUTLAW (2-1) COLLECTOR

Feel the Power of Freedom

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 (310) 324-0415

Packaging list: HD00458

PART#	DESCRIPTION	QTY:	PART#	DESCRIPTION	QTY:
S275-F1	HEADER/MUFFLER ASSEMBLY (2-1)	1	**HWC0002**	WORM CLAMP # 24	6
S275-F2	FRONT SHIELD	1	**HWC0004**	WORM CLAMP # 40	1
S276-F2	REAR SHIELD # 1	1	**HWC0005**	WORM CLAMP # 56	1
S277-F2	REAR SHIELD # 2	1	**HWB0004**	5/16-24 12 POINT BOLT	6
HS100-F2	MEGAPHONE SHIELD	1	**HWB0051**	1/4-20" X 1/2" BUTTON HEAD SCREW ZINC PLATED	6
A145-LCB-F8	SYSTEM LOUVER BAFFLE	1	**HWB0010**	3/8-16" X 3/4" SERRATED FLANGE SCREWS ZINC PLATED	2
MBK-S160-F4	MOUNTING BRACKET	1	**HWB0007**	5/16"-18 X 5/8" SERRATED FLANGE SCREW ZINC PLATED	2
A185ECA-F10	SYSTEM END CAP	1	**HWW0003**	1/4" SPLIT WASHER ZINC PLATED	6
MBK-M115-F7	BACK PLATE BRACKET	1	**HWM0002**	7" BLACK PLASTIC TIE	1
A125-O2-F14	18-12MM SENSOR ADAPTER	2	**HD00458-HW**	HARDWARE BOX	1
			HD00458-INS	INSTALLATION MANUAL	1

REMOVING THE STOCK EXHAUST SYSTEM

1. Models (08-11) underneath the oil tank on the right hand side, find the rear oxygen sensor harness. Now unplug sensor at the end of the wire through the frame releasing it from the motorcycle. NOTE: make sure to remember the correct way for wiring routing for reinstallation. (13-up) Remove seat and find the O2 sensor cable it may be necessary to remove the battery. (Refer to owner's manual for proper procedure) disengage from harness and route cable out.
2. (08-11) unlock the plastic cover above the rectifier right in front of the frame of the motorcycle to get access to the front oxygen sensor connector. Unplug sensor from harness. Now remove cable tie which is holding sensor wire to the motorcycle frame and feed it the end of the wire through releasing it from the motorcycle. (13-up) under the frame front end find O2 sensor cable and disengage from harness.
3. If equipped, loosen the floor boards to gain clearance for exhaust removal and installation.
4. Loosen heat shield clamps on both the front and rear head pipes.
5. If equipped, loosen crossover pipe clamp, located between front and rear head pipes.
6. Remove two cylinder exhaust port flange nuts from each head pipe, located at the cylinder head.
7. Remove the bolts that attach mufflers to the frame.
8. Remove the complete exhaust system and set aside. Assistance may be required.
9. (08-11) using a 7/8" or 22mm wrench, carefully remove the O^2 sensors from the stock head pipes and save for re-use with the new Freedom Performance exhaust system. (13-up) use a 14mm wrench.
10. Now remove exhaust port flanges and circlips from the stock exhaust system using snapring pliers.
11. Lastly remove the two lower mounting studs from the frame

Note: use good and safe practices when removing and installing your new exhaust system to prevent injuries that includes but is not limited to such 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.

FREEDOM PERFORMANCE EXHAUST SYSTEM INSTALLATION

1. Remove exhaust system from protective packaging it has been pre-assembled for easy installation. Place them in a non-abrasive surface such as a blanket or carpet. By doing this you can avoid scratching the parts in the in installation process. We recommend using painters tape to cover parts and accessories on areas where damage can occur during installation.
2. Install mounting bracket marked as **MBK-S160-F4** using two serrated flange bolts 3/8-16 x 3/4" using a 9/16" socket or wrench.
3. Install exhaust port flanges and retaining rings (from stock system) onto head pipes. (FREEDOM PERFORMANCE recommends replacement of exhaust port gaskets if damaged or worn out, Harley part number.
4. If equipped Install oxygen sensor (from stock), apply a small amount of anti-seize compound to the threads of the O2 sensors and install them into the new head pipes. NOTE: Be careful not to get anti-seize on sensor tip, it may affect sensor functionality. Models (08-11) use a 7/8" or 22mm wrench, (13-up) install an adaptor to reduce thread size from 18mm to 12mm. now install O2 sensor using a 14mm wrench. Models without sensors install adapter then install bung plugs ***(sold separately)*** follow the same installation directions as the O2 sensor.
5. Carefully install the header system assembly, use stock head pipe flange nuts (bring nuts all the way but do not tighten yet) use a ½" socket.
6. Secure muffler with a back plate bracket **MBK-M115-F7** and two 5/16"-18 serrated flange screws. Insert the back plate into the welded bracket on the muffler section now secure it with the screws. ***NOTE: (flat side of back plate bracket will face towards the screws)***
7. Install Heat shields. If heat shields are pre-assembled skip this step. Match each heat shield to its pipe and place shield over the pipes, secure shields with hose clamps use **#24** hose clamps for pipe shields. Make sure the head of the screws are accessible to be tightened. Install muffler shield use clamp **# 40** on the narrower end and **# 56** in the back using a 5/16" nut driver or flat screw driver.
8. Align entire system, tighten mounting to frame using a 9/16" socket or wrench if adjustment is needed do in this step. Tighten bracket to pipe/muffler assembly using a ½" socket or wrench. Tighten head pipe flange nuts evenly in this order securing front and rear head pipes to cylinder heads with a a1/2" socket
9. Align heat shields if shields are pre-assembled they are not tightened, once the heat shields and collector heat shield are aligned tighten all worm clamps. Use a 5/16" nut driver or flat screw driver.
10. Route and engage Oxygen sensor cables to harness as they were prior to removal.
11. If seat was removed install it back in its place.
12. If floorboard was removed install it back in its place.
13. Remove oil and finger prints from chrome using a soft cotton cloth and chrome polish before starting engine.
14. Check for adequate clearance between all exhaust system components and motorcycle accessories prone to heat damage.

Note: Be sure to tighten all hardware before starting your engine. Retighten after the first 100 miles.

Re-mapping or re-jetting carburetor is strongly recommended by FREEDOM PERFORMANCE

Every attempt has been made *to provide improved cornering Clearance. However, due to design and space boundaries on some motorcycle models, ground and cornering clearance may not be improved and in some cases may even be reduced.*

WARNING!

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

There are accessories for your new exhaust system, contact your local dealer or contact us for details.

(310) 324-0415 www.freedomperform.com

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