



HARDWARE



BRACKETS

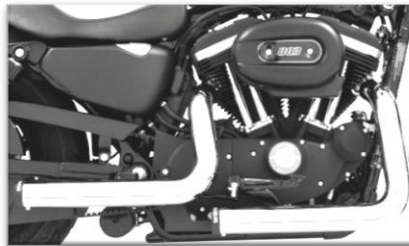
PACKER #: _____

EXHAUST SYSTEM # HD00382 STAGGERED SYSTEM (2-2)

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.

PACKAGING HD00382-HW (*) =ASSEMBLED

PART NUMBER	DESCRIPTION	QTY	PART NUMBER	DESCRIPTION	QTY
SP195-F1	FRONT HEAD PIPE	1	A110-O2-F14	12MM X 1.25 OXYGEN SENSOR PLUG	2
SP196-F1	REAR HEAD PIPE	1	A125-O2-F14	18X1.50MM TO 12X1.25MM O2 ADAPTOR	2
SP195-F2	FRONT HEAT SHIELD	1	HWB0007	5/16"-18 X 5/8 SERRATED FLANGE HEX SCREW ZINC PLATED	4
SP196-F2	REAR HEAT SHIELD	1	MBK-M115-F7	BACK PLATE BRACKET	2
MBK-SP135-F4	MOUNTING BRACKET	1	HWB0001	1/4"-20 BUTTON HEAD SCREW ZINC PLATED	4
A100ECA-F10	STAR END CAP	2	HWW0003	1/4" THIN SPLIT WASHER ZINC PLATED	4
A141-LCB-F8	SYSTEM BAFFLE	2	HWM0002	PLASTIC TIE DOWN 7" LONG BLACK	1
HWC0002	HOSE CLAMP # 24 STAINLESS STEEL	3	HD00382-HW	HARDWARE BOX	1
HWC0003	HOSE CLAMP # 28 STAINLESS STEEL	4	HD00382-INS	INSTRUCTION MANUAL	1



REMOVAL INSTRUCCIONS STOCK (04-06) (07-13) (14-UP)

- Models without oxygen sensors skip step 2.
- (07-13)** unplug front oxygen sensor from harness. Carefully cut the cable tie holding the wiring now remove the rear oxygen sensor connector, unplug the oxygen sensor from harness and guide the wiring out carefully. Make sure to remember the route of the cable for re-installation. **(14-UP)** these models have a smaller sensor 12mm x 1.25 locate the front sensor disengage from harness, pull the clamps holding the cables and route the sensor cable out. The rear sensor harness is located on the left side of the motorcycle, pull out and fold down the side cover (below the seat) disengage sensor from harness and cable clips. **(See fig 1.1, 1.2 and 1.3)**
- (04-13)** remove cylinder exhaust port flange nuts from each head pipe using a 1/2" socket positioned at the cylinder head and save for re-installation.
- If equipped, remove rear carriage bolt, acorn nut and clamp holding the rear head pipe to the belt cover bracket using a 9/16" deep socket or wrench. **(See fig. 1.4)**
- Remove bolts holding mufflers to the transmission mounting bracket. Most cases a 1/2" socket or wrench is used. Loosen clamps in front of each muffler using a 9/16" socket or wrench. **(04-13)** remove mufflers carefully as these models have a crossover system which connects the front of the muffler to the stock crossover mounting bar. **(14-UP)** don't have the crossover bar remove mufflers and set them aside. **(See fig. 1.5)**
- (04-13)**, remove front and rear headers **(14-UP)** remove entire system together as the headers is connected as one assembly. Note: some assistance may be required.
- If equipped remove oxygen sensors from head pipes **(07-13)** use a 7/8" or 22mm wrench, models **(14-UP)** use a 14mm open wrench and save for re-use on your new Freedom Performance exhaust system.
- Remove drive belt cover to gain access to remove stock mounting bar. You will need two hex keys a 3/16" and a 5/16", remove the three screws 2 of them 1/4" with the 3/16" hex key and the last screw 3/8" with the 5/16" hex key wrench. **(See fig. 1.6 and 1.7)**
- (04-13)** using a T30 Torx driver, loosen and remove the brake rod from the rear eyelet section. Models **(14-UP)** remove retaining clip located on the brake rod pin (be careful not to lose the ring as this part is too small) now pull the pin out. Use two open wrenches to remove the rod from the brake system assembly a 9/16" and a 1/2". It may be necessary to remove

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peg assembly especially on mid control systems, if you decide to remove them use a 5/16" hex key wrench and remove the 2 screws holding assembly together this will make the installation way easier. **(See fig. 1.8 and 1.9)**

10. **(14-UP)** remove the stock mounting bar and set aside using a 1/2" wrench. **(04-UP)** using a 5/16" hex key wrench remove stock mounting bracket by removing the three 3/8" screws.
11. Remove both retaining rings and flanges from stock exhaust system using snapping pliers. Inspect retaining rings prior to installation and if they are damaged, replace them. Inspect gaskets if damaged or worn replace them. Exhaust port gaskets.

FREEDOM PERFORMANCE INSTALLATION INSTRUCTION

1. Remove exhaust system from protective packaging, it has been pre-assembled for easy installation. Place it 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 exhaust port flanges and circlips (from stock system) onto head pipes. (FREEDOM PERFORMANCE) recommends replacement of exhaust port gaskets if damaged or worn out.
3. If equipped Install O2 sensors (from stock) on head pipes using anti-seize compound apply it to the thread only. Be careful not to use too much or to make contact with the tip of the sensor as it may affect its functionality. Models **(86-03)** install an adaptor 18mm-12mm then use the 12mm plug. **(04-13)** install sensor in bong as it is with no adaptors. **(14-UP)** models install the adaptor to reduce from 18mm to 12mm bung now install the sensors in place.
4. Reinstall drive belt cover using the socket head cap screws from stock. Note: **3 washers (5/16")** are provided to space drive belt cover on the right lower 1/4" socket cap head screw, this is because when the stock bracket is removed there will be a gap so all three bolts will not be flush with each other, the washers will provide the necessary space to fill the gap install them between the cover and the transmission..
5. Install mounting bracket **MBK-SP135-F4** using stock head cap screws install mounting bracket. Two screws will be used here from stock to bolt bracket in place use the same screws that were holding stock bracket in the same order, once the belt cover is in place the third screw from stock 1/4"-20 will engage cover and bracket at the same time. **(See figure 2.2)**
6. **(04-13)** reinstall brake rod; it is recommended that some type of thread locking compound be used to hold it in place. **(See figure 2.3)** **(14-UP)** install brake pedal assembly the same way it was before removal, insert pin in brake rod secure it with retaining ring and tighten brake rod assembly using a 9/16" and 1/2" open wrenches. Tighten screws holding peg assembly to frame using a 5/16" hex key wrench. **(See figure 2.4)**
7. Inspect both gaskets on engine ports and replace if damaged or worn out.
8. Install headers into exhaust ports. Note: some assistance may be required and in some cases due to accessories it may be easier to install O2 sensors after the header system is installed.
9. Install front header first **(SP195-F1)** install flange and retaining ring, secure it with the stock flange nuts all the way but, **DO NOT TIGHTEN AT THIS TIME YET**. Secure front header with mounting bracket by inserting a back plate bracket inside the welded bracket over the muffler section. Now, use (2) 5/16"-18 x 5/8" serrated flanges screws to hold header from bracket do not tighten yet.
10. Repeat step with the rear header **(SP196-F1)** Make sure both pipes are aligned with each other otherwise the system will look crooked after installation.
11. Install heat shields. For these steps it is imperative to use caution, space is very tight and scratches may occur. We recommend to use painters tape, cut a piece and tape it to heat shield where the clips are located (these are the clips inside the heat shield) now mark the center of the clip with a pen or marker. Slide the rear shield.
12. Install front heat shield **(SP195-F2)** over the front pipe and muffler assembly carefully align shield. Now insert the worm clamps in a way that they can be accessed to be tightened. Use clamps as follow: **(#24)** over the header and **(#28)** over the muffler section.
13. Repeat step 14 with rear heat shield **(SP196-F2)** it's recommended that a non scratching rag is placed on top of the front shield to prevent scratches when installing and aligning rear heat shield.
14. Align heat shields and tighten worm clamps using a 5/16 nut driver. Tighten to the mounting bracket bolts first using a 1/2" wrench tighten barrel band clamps and with a hex key wrench tighten bolt clamps. Now tighten exhaust port flanges with a 1/2" socket wrench.
15. **Route oxygen sensors cables** and engage harness, **(04-13)** install a plastic tie down to hold sensor cables to frame and cut-off excess tail on the front sensor and the rear leave it as it was prior to removal. **(14-UP)** both sensors cables should be routed the same way as they were originally, close left side cover.
16. Install end caps. Use a 5/32" hex key wrench and provided 1/4"-20 screws with split washers. Note: use some type of locking glue to prevent end caps from falling off.
17. **Re-check all screws, bolts, nuts and clamps and make sure they are properly tightened.**
18. Check for adequate clearance between all exhaust system components and motorcycle accessories prone to heat damage.
19. Clean exhaust system with some chrome cleaner and remove painters tape (if used during installation) before turning on engine. Failure to follow this procedure may result in damages to the chrome finish as oils burn out leaving permanent marks.

Note: Be sure to tighten all hardware before starting your engine. Retighten after the first 100 miles
Re-mapping is strongly recommended by FREEDOM PERFORMANCE

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.

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 BLACK FINISH PRODUCTS AGAINST DISCOLORATION.



Fig. 1.1



Fig. 1.2



Fig. 1.3



Fig. 1.4



Fig. 1.5



Fig. 1.6

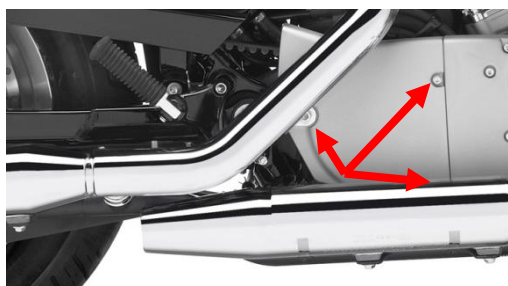


Fig. 1.7



Fig. 1.8

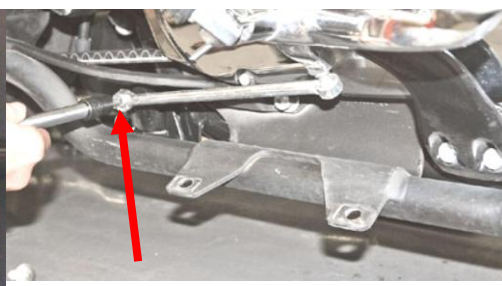


Fig. 1.9



Fig. 2.1 install bracket picture may be different but same process use two stock screws



Fig. 2.2 picture may be different but same process, bottom screw engages both cover & bracket



Fig. 2.3 (04-13) re-install rod



Fig. 2.4 (14-up) re-install pin

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