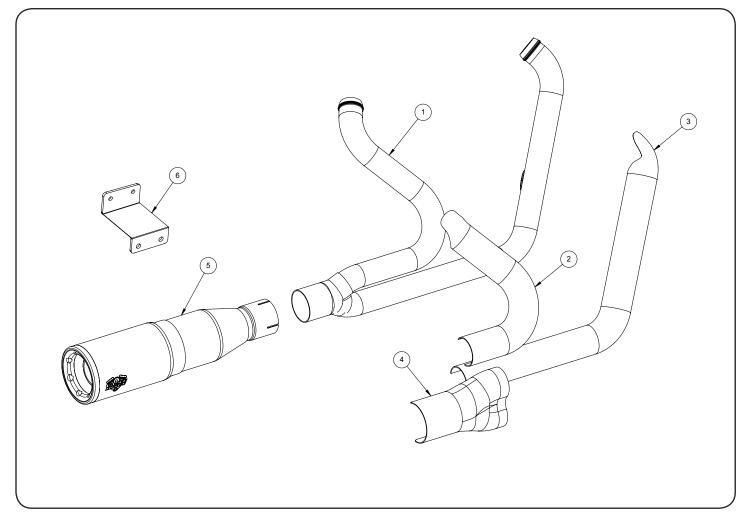


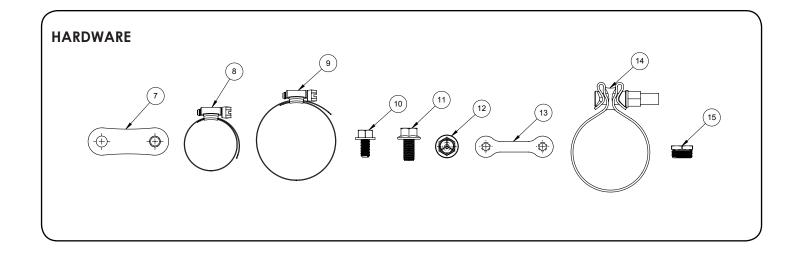
INSTALLATION INSTRUCTIONS HARLEY-DAVIDSON SOFTAIL BREAKOUT **HI-OUTPUT 2-1 SHORT** PART# 16545 / 46545

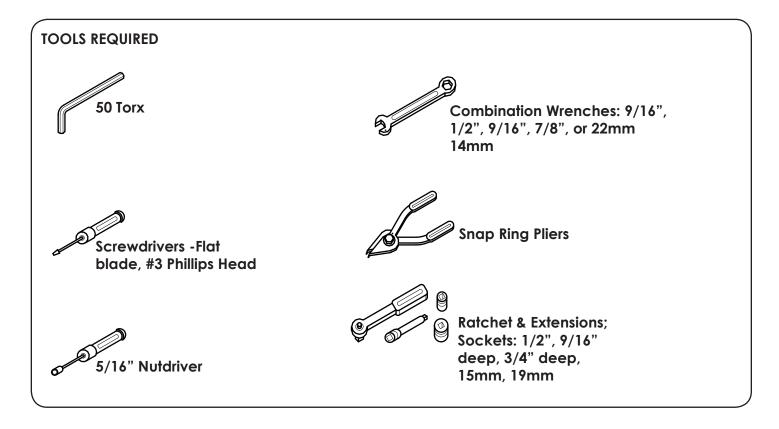
Congratulations, you have purchased the finest exhaust system available for your motorcycle. Your Vance & Hines exhaust is designed and crafted for performance, quality and style. Please follow the instructions below, check exhaust system for missing or damaged parts and if you need any assistance please contact our technical support line (562) 921-7461.



PAR	TS LIST		
NO.	PART NO.	Description	Qty.
1	D848FC	Header Assembly	1
2	D849HC/D851HP	Rear Heat Shield	1
3	D848HC/D850HP	Front Heat Shield	1
4	A360HC/A365HP	Collector Heat Shield	1
5	D628RC/D638RP	Muffler Assembly	1
6	994-P	Mounting Bracket	1
7	436-P	Foot Peg Relocator	1
8	A270HW	.81-1.75 Hose Clamp	7

9	A276HW	1.81-2.75 Hose Clamp	1
10	A240HW	5/16-18 X 5/8 Flange Bolt	2
11	A290HW	3/8-16 X 3/4 Flange Bolt	2
12	A302HW	3/8-16 X 1 1/4 Flange Bolt	1
13	A195HW	Dog Bone Nut Plate	1
14	A337HW	Torca Band Clamp	1
15	A644ST	18-12mm O2 Adaptor	2





STOCK EXHAUST SYSTEM REMOVAL

O2 SENSOR EQUIPPED MODELS (2008-PRESENT)

- 1. Rear O2 Sensor, Locate the O2 sensor connector, unplug the connector from the main harness and feed the wire through the frame to free it from the motorcycle. Pay attention to wire routing for re-installation. NOTE: For 2008 to 2011 Models the connector is located under the oil tank, on the right side. For 2013 & later Models the connector is located under the seat, remove both the seat and battery for access.
- 2. Front O2 sensor, locate the O2 sensor connector at the front of the motorcycle, unplug connector from harness, and free the sensor lead from the motorcycle. NOTE: For 2008 to 2011 Models, Open the plastic cover above the rectifier to gain access to the sensor plug, cut the cable ties holding the sensor wire to frame.
- **3.** Remove the right side passenger footpeg and hanger. Leave the footpeg and hanger off, additional reinstallation instructions to follow.
- 4. Loosen the heat shield clamps on both front and rear exhaust pipes.
- 5. Remove the two mounting nuts from each head pipe.
- 6. Remove the rear cylinder muffler assembly by first removing the two 1/4" flange head bolts from the underside of the rear muffler body. Next, lift the muffler assembly up to release it from the crossover pipe and carefully remove the assembly from the motorcycle. Repeat for front cylinder assembly.
- 7. Remove the nuts attaching the exhaust mounting bracket to the frame. Remove mounting bracket.
- 8. Remove the two lower mounting studs from the frame.9. Carefully remove the O2 sensors from the stock head pipes.
- **10.** Carefully remove exhaust port flanges and circlips from the stock exhaust system using snapring pliers. NOTE: Replace bent or damaged circlips.
- 11. Check exhaust port gasket condition and replace if damaged, replacement P/N 65324-83B.

VANCE & HINES EXHAUST INSTALLATION

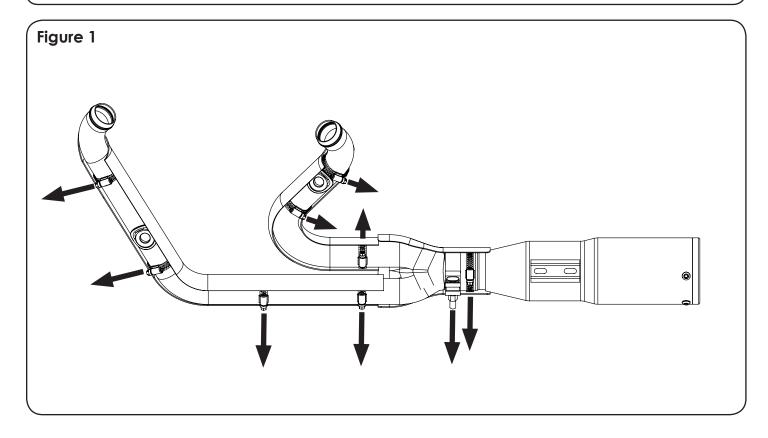
- 1. Replace the passenger footpeg and hanger using the supplied footpeg offset bracket, 3/8" x 1-1/4" flange head bolt. NOTE: The threaded insert on the footpeg offset bracket should rest firmly against the frame casting, be sure to tighten this bolt firmly and check from time to time. Repeat for left side passenger footpeg.
- 2. Attach mounting bracket 994-P to frame using two 3/8" x 3/4" flange head bolts (supplied).
- 3. Remove head pipes and heat shields from protective packaging. Place each heat shield on a nonabrasive surface such as a blanket or carpet. Using a a felt tip pen for chrome and pencil for black, lightly mark outside edge of each heat shield to show location of mounting clips that hose clamps will loop through.
- 4. Lay head pipes into their respective heat shields.
- 5. Install #20 hose clamps by feeding tail end of clamps into heat shield clips. Take note of clamp screw head direction (Figure 1). Screw head must be accessible when system is installed on motorcycle for adjustment purposes.
- 6. Apply a small amount of anti-seize compound to the threads of the oxgyen sensors and install them into the new head pipe. NOTE: 2008 to 2011 models or models using 18mm wideband oxygen sensors install sensor directly into head pipe. 2013 and later models install supplied 18mm to 12mm oxygen sensor adapter then install 12mm oxygen sensors (Grey connector into front head pipe, Black connector into rear head pipe.)
- 7. Install circlips and flanges from stock system onto both new head pipes (Figure 5).
- 8. Using stock flange nuts, carefully install head pipes onto motorcycle. Do not tighten at this time.
- 9. Slide Muffler Band clamp (supplied) onto inlet side of muffler assembly with bolt head to the inside and facing down. Install muffler assembly onto collector of header assembly. Use the nut plate and 5/16"x5/8" flange bolts (supplied) to attach the muffler to the bracket. Do not tighten at this time.
- 10. Install the collector heat shield onto the header by sliding it on from the rear. While engaging the alignment clips of the collector heat shield with the header heat shields. Secure with #36 Hose clamp (supplied). NOTE: Leave hose clamp loose at this time. Do not force heat shield on from the side as this may result in damage to the collector.
- Tighten the exhaust system nut, bolts and clamps in the following sequence: (1) Head flange nuts (x4), (2) Muffler body 5/16" flange head bolts, (3) Torca band clamp, (4) Front and rear heat shield hose clamps, (5) Set location and tighten the collector heat shield hose clamp.
- 12. Route O2 sensor wires away from hot areas of the motorcycle. Plug the O2 sensor wires back into the wiring harness: For 2013 & Later, feed wire for the rear O2 sensor (Black) around the frame and under the seat. Re-install battery, plug the sensor into the stock wiring connector. Feed connector for the front oxygen sensor (Gray) around the frame and into the holder on the frame behind rectifier. Plug the sensor into the stock wiring connector. For 2008 to 2011 models, feed wire for the front oxygen sensor around and into the plastic holder on the frame. Plug the sensor into the stock wiring connector. Snap the plastic holder closed to hold the connector in place. Feed connector for the rear oxygen sensor around the frame under the oil tank on the right hand side. Plug the sensor into the stock wiring connector.
- 13. Check for adequate clearance between all exhaust system components and motorcycle accessories prone to heat damage.
- 14. Be sure to tighten all hardware before starting your motorcycle.
- 15. After installation and before starting the motorcycle, completely clean pipes and mufflers with soap and water and a clean soft cloth. NOTE: Any residue, oil, or fingerprints will stain the finish when the exhaust heats up.

EXHAUST CARE

- 1. When installing a new set of chrome pipes, make sure your hands are clean and free of oil. After installation, thoroughly clean pipes with a soft cloth and cleaning solvent that will leave no residue (chrome wax/polish, glass cleasner, alcohol, ammonia, etc...) before starting the motorcycle.
- 2. Avoid long periods of idling as this can cause discoloration.
- 3. Intake leaks can cause the engine to run lean and overheat, this could lead to discoloration.
- 4. Make sure there are no exhaust leaks at the junchtion of the exhaust pipes and cylinder head. We recommend replacing gaskets if they are worn.

EXHAUST CARE (BLACK)

- 1. When installing a new set of black pipes, make sure your hands are clean and free of oil. After installation, throroughly clean pipes with warm soapy water and a soft cloth. Dry with a clean towel to remove any residue before starting the motorcycle. Do NOT use anything abrasive to clean pipes.
- 2. Avoid long periods of idling as this can cause discoloration.
- 3. Intake leaks can cause the engine to run lean and overheat, this could lead to discoloration.
- 4. Make sure there are no exhaust leaks at the junction of the exhaust pipes and cylinder head. We recommend replacing gaskets if they are worn.



THE NEXT GENERATION OF FUEL MANAGEMENT IS HERE

The Fuelpak FP3 will revolutionize fuel management for all new Harley-Davidson models now using the HDLAN (CAN Bus) system. Connecting wirelessly by Bluetooth to iPhone or Android Smartphones, Fuelpak FP3 uses Flash technology to recalibrate engine parameters and mapping for Vance & Hines exhaust systems downloaded from the expansive library of calibrations developed by Vance & Hines.

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- Recalibrates ECM by Flash Tuning
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FITMENT NOTES:

- FUELPAK FP3 IS COMPATIBLE WITH CAN BUS MODELS ONLY (TOURING, SOFTAIL, DYNA & SPORTSTER)
- FUELPAK FP3 IS NOT COMPATIBLE WITH V-ROD MODELS.
 MAPS ARE CURRENTLY AVAILABLE FOR: SPORTSTER, DYNA, SOFTAIL, TOURING AND TRIKE MODELS.
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EMISSIONS NOTICE:

FUELPAK IS INTENDED FOR RACING USE ONLY, AND IS NOT LEGAL FOR SALE OR USE IN CALIFORNIA ON POLLUTION-CONTROLLED VEHICLES.



Emissions Notice:

In California, in order to meet Air Resources Board emissions requirements, certain aftermarket part applications have been identified as replacements, and others have received ARB Executive Orders. All other emissions related aftermarket parts are for competition use only. A list of replacement parts and EO parts, and corresponding fitment is provided at vanceandhines. com/California.

Warranty:

All Vance & Hines products are warranted against defects in material and workmanship for a period of 90 days. This warranty does not cover discoloration or rust. This warranty shall be limited to the repair or replacement of the product, which may be proven defective under normal use. Vance & Hines will not warranty any system that has been abused, misused, improperly installed or modified.

Dealers or distributors are not authorized to make dispositions binding upon Vance & Hines. Vance & Hines will not be responsible for any labor charges incurred in removing or replacing any system under warranty. A return authorization number and a copy of the original purchase invoice must accompany all returns. Parts returned without a return authorization may be refused.

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