

## Installation Instructions Black Hole FLT/FLH Evo and Twin Cam

1. **Short Form Instructions:** Take off old system. Put on new system. If you cannot complete this without going to step #2 you failed the IQ Test.

### 2. Long Form Instructions (A-Z):

- a. Remove bolts holding on right floorboard, lowering it out of the way to facilitate exhaust removal and installation.
- b. If Closed Loop EFI loosen and unscrew front and rear O2 sensors.
- c. Loosen and remove the four exhaust flange nuts. Loosen bolts holding on mufflers, crossover tubes or any hardware affixing the exhaust to the bike.
- d. Remove nuts/bolts holding on mufflers, crossover tubes.
- e. Remove exhaust system.
- f. Remove all OEM mounting brackets from the right side of the bike. On some models there is a stamped steel bracket behind the rear cylinder for the crossover. This can be left as it does not interfere with the 2-1 system.
- g. Using a pick, sharp screwdriver etc. remove old OEM woven exhaust gaskets from the front and rear exhaust ports.
- h. Transmission Bracket:
  - (1) Pre 2007 models use a two bolt bracket: Remove two Allen Bolts below the transmission trap door. Using the two Grade 8 bolts, lock washers, powder coated bracket and spacers provided ( 1 3/8" for six speed; 1 7/8" for 5 speed) bolt bracket to this location. Use Blue Loctite on the bolts provided. Firmly tighten.
  - (2) 2007 Models and later use a three bolt bracket: Remove three Allen Bolts on the transmission trap door. Using the three Grade 8 bolts, lock washers, powder coated bracket and spacers provided ( 1 3/8") bolt bracket to this location. Use Blue Loctite on the bolts provided. Firmly tighten.
- i. Put Chrome Billet flanges and clips on front and rear primary tubes. Slip flange on exhaust with groove/step facing the exhaust port and put spring clips into machined groove. Use strong fingers and a set of pliers or a special set of spring clip expanding pliers from your friendly Snap-On Salesman. Pull Chrome Billet flanges seating them into the spring clips.
- j. Loosely install front heat shield on front primary tube using three # 24 worm drive clamps. Do not install the other heat shields at this time. You have to put on the front shield now as it can't be installed after the system is in place.
- k. Slip rear primary tube into its slip joint. You may use a light coat of Permatex 598B Black non-hardening gasket compound inside the female slip joint, not on the pipe itself.
- l. Put CNC machined Aluminum Billet Gasket into front primary tube with smaller step going into CNC machined Turbo Venturi. Put pipe into front port, placing the flange on the exhaust studs and seating the gasket and pipe in the exhaust port. The gasket will fall out a few times giving you additional practice. Use two special exhaust nuts provided to loosely secure the pipe to the front port. DO NOT TIGHTEN NUTS.

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- m. Have someone help you hold the rear of the exhaust system and slip the front pipe into the slip joint about 3/8". As with the rear pipe, you can put a light coat of Permatex 598B on the inside of the slip joint, not on the front pipe itself.
- n. Pivot the exhaust, working the rear primary tube towards the rear exhaust port so as to clear the cylinder fins. Put CNC machined Aluminum Billet Gasket into the rear Turbo Venturi and work the pipe into the port and loosely secure with the special exhaust nuts provided. DO NOT TIGHTEN NUTS.
- o. Work the front primary into its slip joint. Insure rear primary is seated into its slip joint.
- p. Using bolt/spacer/washer/lock washer/nut provided loosely secure pipe to transmission bracket. Slip head of hex bolt into slotted bracket on rear of exhaust and loosely secure exhaust to the powder coated bracket on the transmission.
- q. Using chrome flat bracket and the two 5/16" x 18 x 5/8" bolts and lock washers provided to affix the pipe to the rear bag mount.
- r. At this point the pipe is in place but nothing is tightened except the transmission bracket.
- s. Lightly tighten all fasteners. Pipe has to clear the bolts in the transmission bracket by about 1/8". Sneak up your tightening sequence. You can put a 1/8" spacer between the pipe and the transmission bracket bolts and remove it later.
- t. You have to tighten the four exhaust nuts, the transmission to pipe bolt and the two rear bag mount bolts.
- u. Replace the O2 sensors if your system is closed loop.
- v. Wipe the pipe clean to remove any oil from your hand and or grease.
- w. Install the remaining two heat shields. Tighten the worm drive clamps on all the heat shields.
- x. Replace the floorboards with the spacer kit provided. Tighten.
- y. Wipe entire system down with a soft rag and or if chrome use a cleaner/wax.
- z. Recheck all hardware for tightness.

There are no more steps.

Drink more beers as if we had to remind you. Pick up all your debris. Go ride when you sober up or take your chances.