

AND A

BOOST Takeover

Pics: Hahn Racing

The engine building team gives our soon-to-be turbocharged engine the innards to handle the load.

When we left off last month, we had a mostly stripped chassis staring at us forlornly. The stock Hayabusa engine was whisked off to surgery, to be performed by Alex at Fornarelli Racing. He boasts years of experience, and was happy to be our tour guide through the journey of durability and performance.

Alex and Bill Hahn conferred on the best approach, and in keeping with the affordable spirit of the project, placed emphasis on durability over exotica. Joey Hahn (no relation), of Orient Express Racing, was happy to come aboard and lend his expertise in crafting a serious 'Busa motor that will stay together.

Transmission

Orient Express is known for its transmission prowess, and was able to repair the motor's torn up second gear problem before teardown. Orient repaired the damage and undercut the transmission to keep it firmly engaged in every gear. Undercutting is a process whereby the same dogs have a slight reverse angle cut on them, which aids in keeping the gear engaged and not popping-out under extreme acceleration.

Bottom End

With all the parts cleaned up, it was time for Alex to reassemble the cases. In went the Orient-prepped transmission along with the new second-gear shift fork. The original low-mile main bearings were reused, as the stock crankshaft was still in perfect condition. The Hayabusa cranks are marvels of technology and hold up well at high power levels.

Certain areas cannot be compromised in a high horsepower engine, and this includes the bottom end. Stock pistons and connecting rods are amazing parts, but when we are turning up the wick to 450 horses, they just don't cut it. Here Bill called on some old friends.

MTC Engineering provided a set of its super-trick turbo pistons in a 10:1 compression ratio. The pistons have a unique feature in that they locate the wrist pins one millimeter lower as compared to stock. This millimeter allows for a much stronger piston ring package to be utilized, which is invaluable at the boost pressures this engine will see. By locating the wrist pin one millimeter lower, more material can be afforded to the ever-important ring lands that support the rings.

Because the engine had super-low miles when disassembled, the cylinder bores were in top-notch

