Livernois 5.0 Ford Modular Main Stud Kit

This stud kit is designed to work with the 2011-2015 Ford Mustang 5.0 Engine. It replaces the factory bolts with upgraded ARP studs. This stud kit allows for greater clamping force to keep the main caps in place under high loads typical of aftermarket performance Ford Modular engines.

The kit includes the following components-

9mm Studs (10)
9mm Nuts (10)
9mm Washers (10)

11mm Studs (10)
*11mm Nuts (9) (12 point)*
11mm Nut (1) (6 point)
11mm Washers (10)

Oil Pump Standoff Tube (1)

When installing studs in place of factory bolts please follow the directions listed to ensure proper performance and to prevent possible engine damage from incorrect procedures.

1. Remove all factory bolts

2. Clean all threads with a cleaner (solvent, brake clean, lacquer thinner, etc.) and a pipe cleaner style brush to ensure the threads are completely clean.

3. Thoroughly clean the new studs, nuts and washers to remove all the anti-corrosion film and debris from packing on them.

4. Install the studs into the block with a light amount of oil on the threads.

5. When screwing the studs in be sure to only screw them in until they just bottom out, then back them off about 1 turn.

6. After installing all the main caps proceed to installing all of the washers.

7. Using the supplied ARP lube apply the lube to the threads of the stud as well as the face of the washer.

8. Install all nuts hand tight (noting that the nut installed at number 15 is the hex style nut)

9. Starting with the outer studs (1-10) tighten them first tighten them in sequence to 20 ft lbs.

10. Moving to the inner studs (11-20) tighten them in sequence to 20 ft lbs

11. After all studs have been torqued to 20 ft lbs in sequence move to cap number 5 and seat thrust bearing by loosening the studs on cap number 5. Force end of crankshaft forward and re-tighten to 20 ft lbs, starting with outer 9mm studs first and then moving to inner 11mm studs. Be sure to keep load on the thrust the entire time until cap is torqued to 20 ft lbs again.

12. After checking thrust clearance torque the outer studs (1-10) to 45 ft lbs.

13. After outer studs are torqued move to inner studs (11-20) and torque to 75 ft lbs.

14. After all main studs are torqued install outer side bolts (21-30) with a small dab of RTV under head of bolt

15. Starting from the inside out following the sequence shown torque the outer side bolts (21-30) first to 10 ft lbs, then again following the same sequence starting from bolt number 21 torque the bolts to 22 ft lbs

16. The final step is rotating all of the side bolts in sequence again an additional 60 degrees
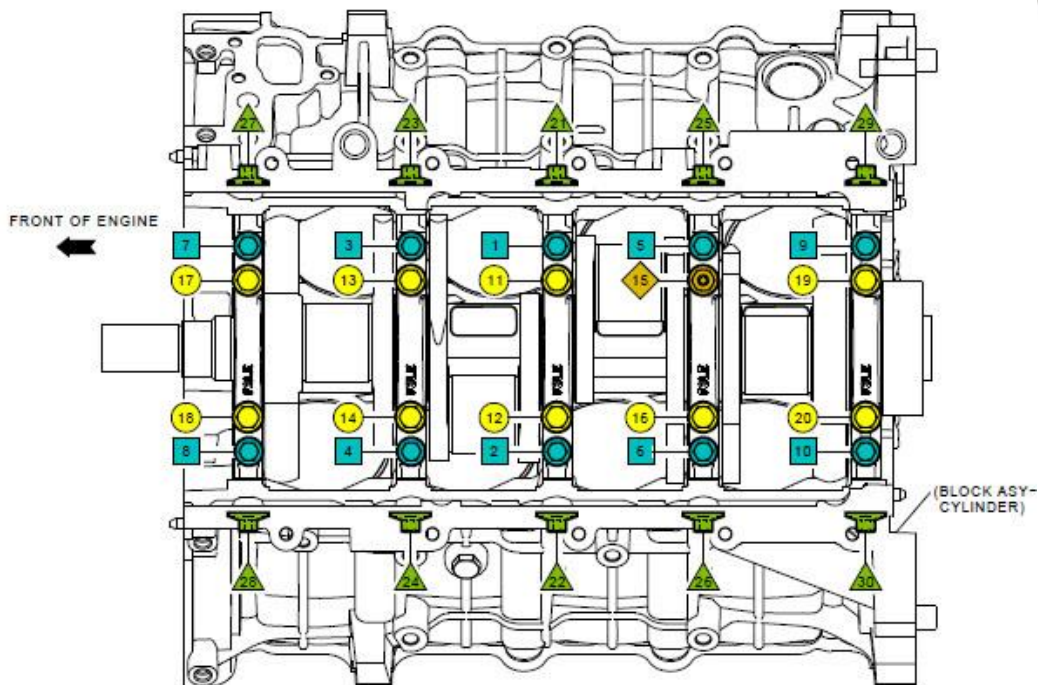
16. The standoff included in the kit is installed at bolt number 15.

17. Using a small amount of blue loctite on the threads of the stud and screw the standoff down onto the top of the nut face.

18. Torque the standoff down to 22 ft lbs

Notes-

We recommend "burnishing" in threads of the nuts and studs by torquing them slightly beneath their torque values 1-2 times before fully torquing them. This will yield a more accurate final torque value which better equalizes fastener preload.

While this kit can be installed without performing machine work we always recommend double checking your housing bores and bearing bores for round and concentricity. The increased clamping load offered by the studs can distort the bore out of round.

Always double check your main bearing clearance regardless of what style of fastener is used. With tolerances and stack up between parts it is essential to always ensure that the correct amount of clearance exists

We highly recommend mocking up and installing the oil pump pickup tube to ensure adequate clearance between the oil pan pickup and the bottom of the pan. Clay works well for this. Be sure to tighten the pan with gasket in place to simulate actual installed height. Pan to pickup clearance in the range of .300-.400 will provide the proper oil pickup.

The outer main bolts are TTY (torque to yield) fasteners and only allow for 5 total torques before they should be replaced. Since they were already torqued in both machining and assembly 4 times we recommend replacing them with new bolts after using them for your mockup.