

# INSTRUCTION MANUAL

## 5.9L DODGE CUMMINS 12V MAIN STUD KIT

PART NUMBER MP878 | 1989-1998

Xotic Performance is a leading manufacturer of high-performance main studs for internal combustion engines. Our main studs are designed to replace the factory main bolts and provide superior strength, durability, and performance.

Xotic Performance main studs are engineered using premium steel alloys that offer superior tensile strength and durability compared to bolts. They are designed to provide a consistent and uniform clamping force on the main caps and engine block, which helps to distribute the load more evenly and reduce the risk of main bearing failure.

Our main studs are an essential component of high-performance engines, especially those that are subjected to high loads, high RPMs, or extreme conditions such as racing or towing. They are often used in conjunction with other performance upgrades such as forged internals, high-performance bearings, and upgraded oiling systems to ensure the engine can withstand the demands placed on it.

reached (i.e. keep torqueing without stopping until the desired torque is achieved). If by accident, you stop short of the recommended torque, loosen the fastener and retorqued.

When upgrading from factory main bolts to high-strength main studs, the increased clamping force can alter the geometry of the main bearing bores. We strongly recommend checking the bores for size and roundness after installing the studs. If necessary, perform an align hone with the same fasteners and lubricant that will be used during final assembly at the specified torque. This ensures optimal bearing clearance and long-term engine reliability.





### VERIFY FIRST

Before installing any components, please verify whether this part number is compatible with the vehicle applications cited above. Inspect all package components, and clean as necessary to ensure accurate installation. Any obvious defects or shipping damages should be reported to us.

### A COMMON MISTAKE TO AVOID

When torqueing a fastener, do not stop short of the recommended torque until the desired torque is

#### KIT INCLUDES

-  **14 X** M14 MAIN STUDS
-  **14 X** NUTS
-  **14 X** HARDENED PARALLEL WASHERS
-  **1X** FASTENER ASSEMBLY LUBRICANT
-  **1X** SOCKET
-  **1X** ALLEN WRENCH

# GET TO ACTION!

1. Clean threads in the block with a thread chaser prior to installing the studs to ensure accurate fitment and precise torque readings.
2. Screw the main studs as tight as can be made by hand (no tool necessary). Do not apply torque. Loctite may be used for permanent stud installation, but the fasteners must be fully torqued before the Loctite sets.
3. Install the main caps, and ensure appropriate alignment.
4. Using the fastener assembly lubricant included in the package, lubricate the threads of the main studs and nuts.
5. Thread the nuts onto the main studs as tight as can be made by hand.
6. Using the torque sequence below, tighten the nuts in three equal steps:

**A. STEP 1: 55 ft-lbs**

**B. STEP 2: 110 ft-lbs**

**C. STEP 3: 175 ft-lbs**



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**NEED HELP?**

For technical support, please email:

[info@xotic-performance.com](mailto:info@xotic-performance.com)