

TT00009

Two Head Bolt Types For 2007-2011 Chrysler 2.4L VIN J Engines

S. B. International, Inc., offers the following information regarding the head bolts used on 2007-2011 Chrysler 2.4L VIN J engines. These engines used two different head bolts during factory assembly and the characteristics and torque values used are specific to each design. Using the correct design and torque values is critical to complete a successful repair.

CAUTION: This engine was built with two different style cylinder head bolts. Each style bolt requires a different torque value. The bolts can be identified by the short bolt head (1) and the long bolt head (2) as shown in **Figure 1**.

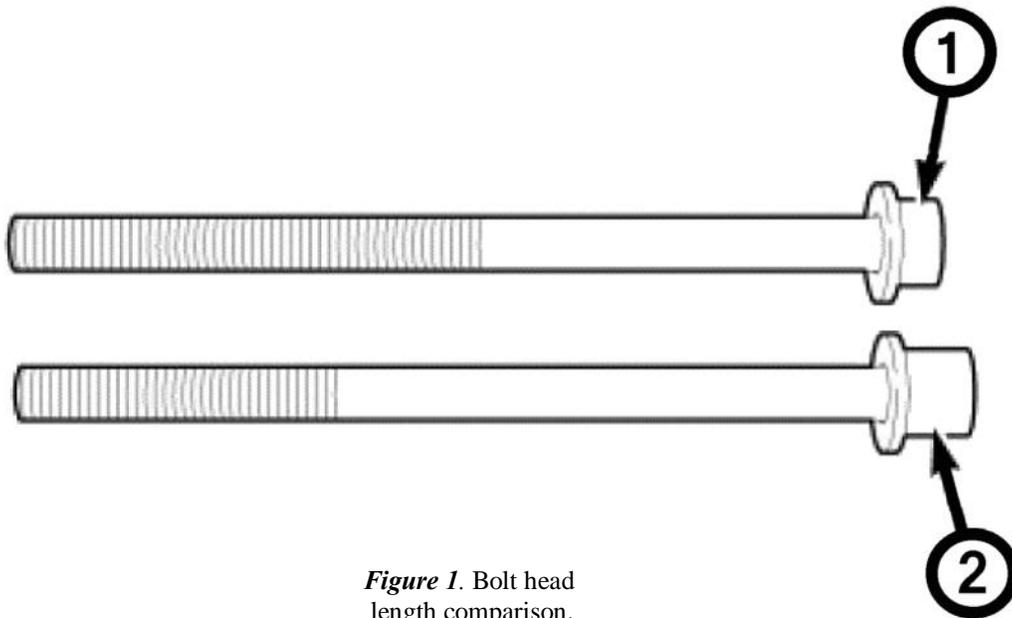


Figure 1. Bolt head length comparison.

Determine which bolts you're using by measuring the bolt top, which may also be done while the bolts are installed.

- Measure the bolt head from the washer to the top of the bolt head. The short bolt head (1) measures 8 mm (5/16") and the long bolt head (2) measures 13 mm (1/2").
- Identify whether your engine has the short head design (1) or the long head design (2).

NOTE: The front two cylinder head bolts do not have captured washers.

The head bolts used do not require mandatory replacement; however, replace any bolt that shows damage to the threaded areas of the bolt. Follow the steps below to install the cylinder head.

1. The front two cylinder head bolts do not have captured washers, so install the two separate washers with the bevel up towards the bolt head.
2. Before installing the bolts, oil the threads lightly with clean engine oil.
3. **SHORT HEAD BOLTS:** Install the cylinder head bolts and tighten in the sequence shown in **Figure 2**. If your bolt has the short head (1), use the following torque specifications:

First: All to 30 Nm (25 ft. lbs.)

Second: All to 61 Nm (45 ft. lbs.)

Third: All to 61 Nm (45 ft. lbs.)

Fourth: All an additional 90° Do Not Use A Torque Wrench

4. **LONG HEAD BOLTS:** If your bolt has the long head (2), use the following torque specifications and the sequence shown in **Figure 2**.

First: All to 30 Nm (25 ft. lbs.)

Second: All to 73 Nm (54 ft. lbs.)

Third: All to 73 Nm (54 ft. lbs.)

Fourth: All an additional 90° Do Not Use A Torque Wrench

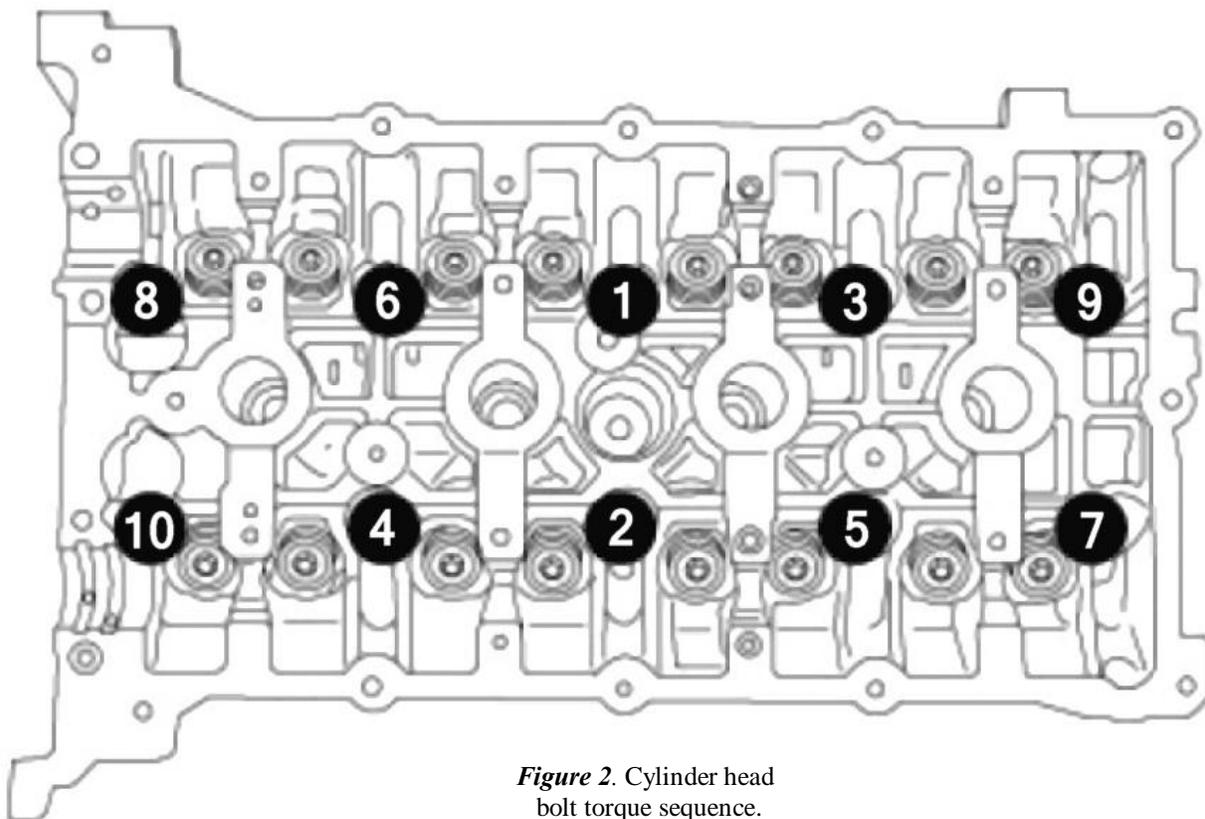


Figure 2. Cylinder head bolt torque sequence.

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