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Installation Manual v1.0:
Head Bolt Studs
Ford 7.3L Power Stroke

Please read all instructions before installation.

Torque Sequence

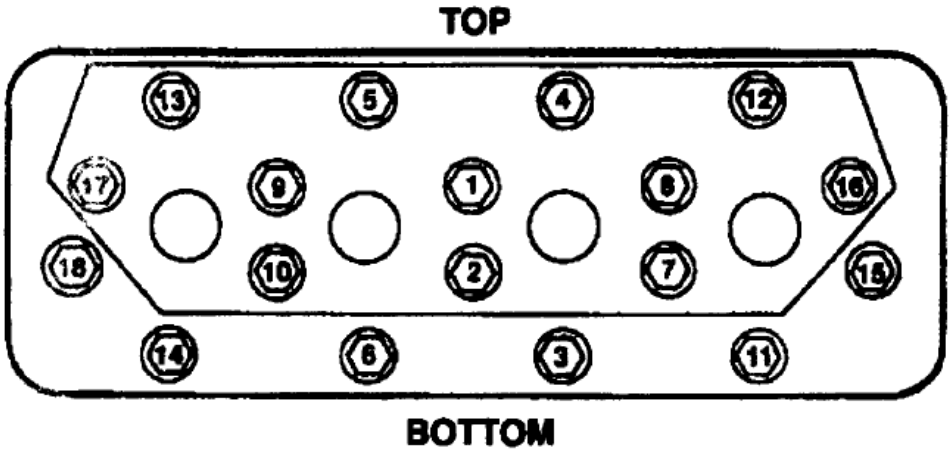

Figure 1 - First Torque Sequence Guide

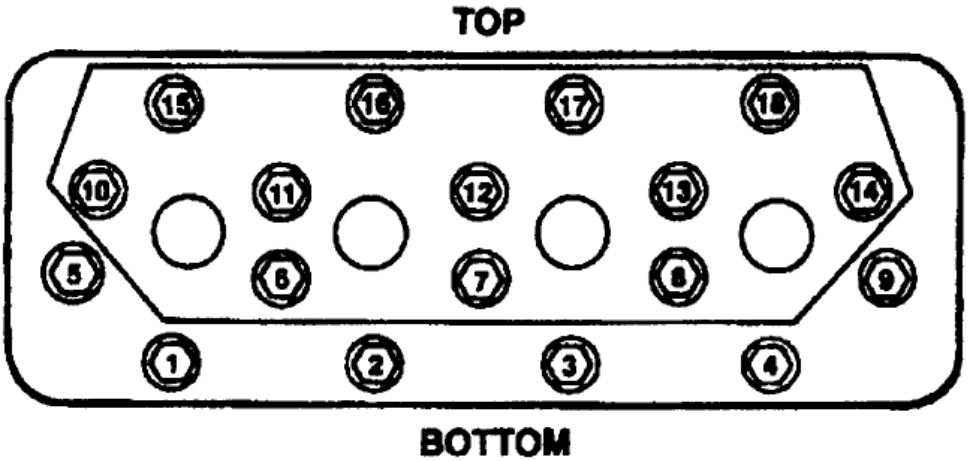

Figure 2 - Second Torque Sequence Guide

Note: ATS suggests using moly lube instead of engine oil for this installation. Using moly lube will give you the most holding force and greatest reliability. The torque specifications in this manual are only valid when using the moly lube. ATS recommends "International Compound #2" made by Detroit Diesel, part # 5198563.

If reusing the head gasket:

1. Reference the supplied diagram for head bolt removal and tightening. Find the bolt corresponding to #1 in *Figure 1*, and remove it.

2. Use an **M12-1.75** bottoming tap to clean the hole and *remove all debris* from the hole. Apply a small dab of engine oil to the stud threads that will go into the engine block and install the stud into the hole by hand and verify that the chamfered shoulder of the stud bottoms out in the block. If it doesn't, re-tap the hole. Only tighten the stud finger tight.

3. Apply a conservative amount of *Moly Assembly Lube* to the exposed stud threads, as well as both sides of the washer, and torque to **60 ft-lb**, loosen, tighten to **60 ft-lb**, loosen, torque to **90 ft-lb** and stop.

4. Perform steps 1-3 for bolt #2 in *Figure 1*. Continue in this order until all 18 head studs have been torqued to **90 ft-lb**.

5. Torque all studs to **125 ft-lb** in the proper sequence that is shown in *Figure 2*. **If using engine oil instead of moly lube, the final torque must be 160 ft-lb.**

If using a new head gasket:

1. Remove the existing bolts and head gasket.

2. Use an **M12-1.75** bottoming tap to clean the holes and *remove all debris* from the holes. Apply a small dab of engine oil to the stud threads that will go into the engine block and install a stud into the hole by hand and verify that the chamfered shoulder of the stud bottoms out in the block. If it doesn't, re-tap the hole. Only tighten the stud finger tight.

3. Apply a conservative amount of Moly Assembly Lube to the exposed stud threads, as well as both sides of the washer, and torque all studs to **60 ft-lb** using the proper sequence shown in *Figure 1*. Loosen them all, re-torque all to **60 ft-lb** in the same sequence. Again loosen them all, torque all to **90 ft-lb** in the same sequence and stop.

4. After all studs have been torqued to **90 ft-lb**, Torque them to 125 ft-lb in the proper sequence shown in *Figure 2*. **If using engine oil instead of moly lube, the final torque must be 160 ft-lb.**