

Cylinder Head Bolt Torque – 135 thru 220

Mariner and Mercury
Cylinder Head Bolt Torque

135 1986 and later
S/N A909997 and above

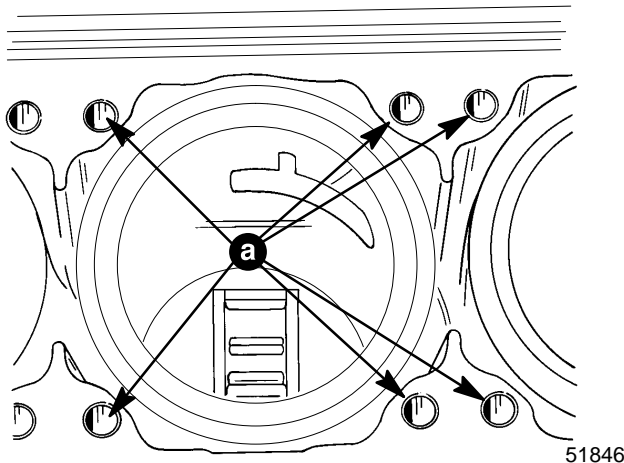
150 1982 and later
S/N 5944791 and above

175 1985 and later
S/N 6618751 and above

200 1983 and later
S/N 6203991 and above

1987 and later 220
S/N B116662 and above

The cylinder head bolt torque has been changed on ALL the models listed that have the bolts fastened to the outside of the cylinder block. Retorque of the head bolts has been eliminated when using this new specification. The new torque specification is 30 Ft. Lbs. (40.7 N·m) plus an additional 90° turn. Figure 1 identifies the cylinder blocks that require the new head bolt torque specification.



a - Cylinder Head Bolt Holes on Outside of Cylinder Block

Figure 1. Current Style Cylinder Block

1st – Torque all bolts to:
10 Ft. Lbs. (13.6 N·m)

2nd – Torque All Bolts To:
30 Ft. Lbs (40.7 N·m)

3rd – Turn All Bolts:
an additional 90° angle

IMPORTANT: DO NOT retorque the head bolts when using this new specification. The clamping force can not be improved by retorquing and the life of the bolt will be shortened.

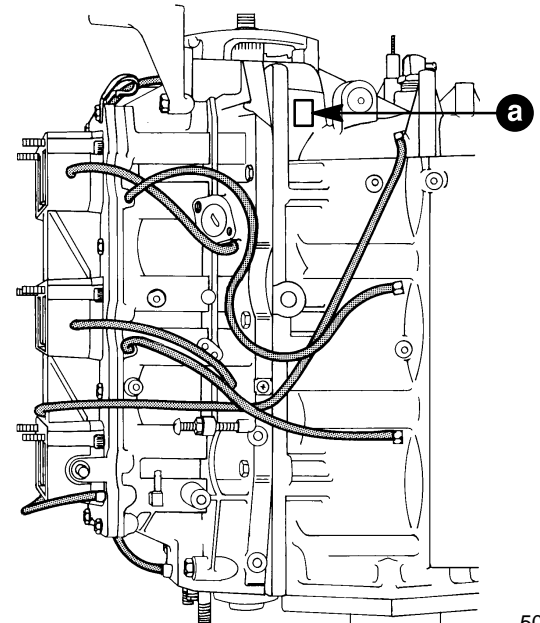
It is recommended to replace the cylinder head bolts when they have been torqued to this new specification 10 times.

PRODUCTION:

1993 135 thru 200 models starting with s/n 0D253906 have the head bolts torqued to the new specification.

REPLACEMENT POWERHEAD:

Service replacement powerheads produced since 1/14/93 have the cylinder head bolts torqued to the new specification and do not require a retorque. The date (month, day, and year) is stamped on the upper port side of the cylinder block aft of the crankcase split line (Figure 2).

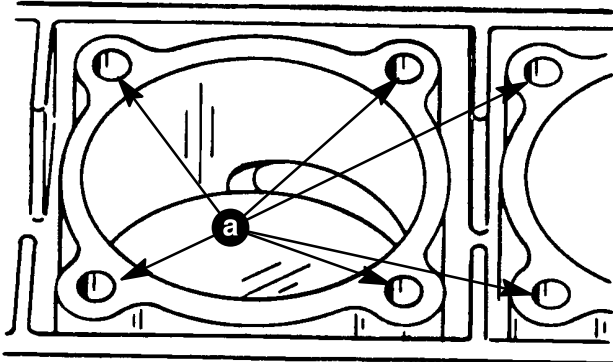


a - Date stamp

Figure 2. Port side

PREVIOUS STYLE CYLINDER BLOCK:

Cylinder head bolts that fasten on the cylinder liner (Figure 3) must continue to be torqued to 30 Ft. Lbs (40.7 N·m) specification. DO NOT turn the bolt an additional 90 degrees. If more torque is applied the cylinder bore may be distorted and a piston failure could occur.



52207

a - Cylinder Head Bolt Holes on Cylinder liner

Figure 3. Previous Style Cylinder Block

1st – Torque all bolts to:
10 Ft. Lbs. (13.6 N·m)

2nd – Torque All Bolts To:
20 Ft. Lbs.(27.1 N·m)

3rd – Turn All Bolts To:
30 Ft. Lbs. (40.7 N·m)

RETORQUE:

It is necessary to retorque the cylinder head bolts on the previous style blocks after the outboard has been run the first time.

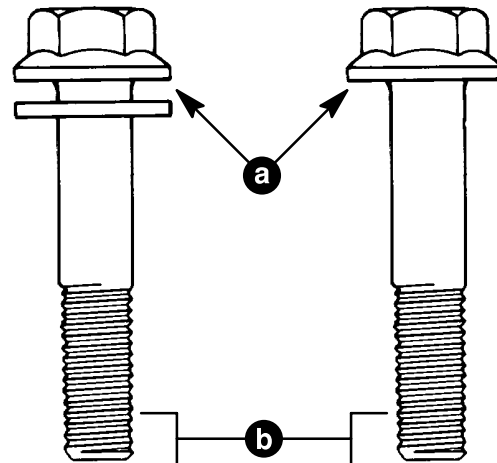
Warm the block completely by running the outboard 1/2 to 1 hour. Allow the block to cool for 2 hours. Retorque the cylinder head bolts when the engine is cold. Follow the torque sequence and do one bolt at a time. Loosen the bolt 1/4 turn and retorque it to 30 Ft. Lbs. (40.7 N·m).

HEAD BOLT LUBRICATION:

When replacing or installing the cylinder head bolt, apply 10W-30 or 2 cycle oil to the areas shown. The absence of lubrication may result in insufficient clamp load and possible head gasket failure.

**Cylinder Head
without
Cast in Washers**

**Cylinder Head
with
Cast in Washers**



51743

a - Oil Under the Washer or Head.

b - Oil First 4 Threads.

Figure 4. Cylinder Head Bolt

This replaces any cylinder head bolt torque information stated previously. Current service literature will be updated as quickly as possible.