

SECTION 2... SPECIFICATIONS

Note. Major changes and/or additions are in bold face font. Contributions by web members are underlined with dots and credit given when known. Minor changes, usually just wording, are not drawn attention to by any special font.

******* MISC. SPECIFICATIONS *******

Revised May 1, 2009

V8 FIRING ORDER: 1-5-4-8-6-3-7-2
6 CYLINDER FIRING ORDER: 1-5-3-6-2-4

MODEL NUMBERS.

'32 is model 18	'37 is model 78 (V8-60 is 74)
'33 is model 40	'38 is model 81A
'34 is model 40	'39 is model 91A
'35 is model 48	'40 is model 01A
'36 is model 68	

******* V8 TORQUE SPEC'S *******

HEADS: nuts on studs: **aluminum = 45-55 ft/lbs
cast iron = 55-60 ft/lbs

cap screws: **aluminum = 45-55 ft/lbs
cast iron = 65-70 ft/lbs

**NOTE: When using a solid(no asbestos sandwich) copper shim type head gasket, torque aluminum heads to 60-70 ft/lbs.

Head fasteners should be torqued in 3 stages. Divide the torque specification by 3. This is the recommended torque increase per stage. Example: Suppose a torque specification is 65 ft/lbs. Dividing 65 ft/lbs by 3 is roughly 22 ft/lbs. This rounds off to 20 ft/lbs. Stage 1 torque is 20 ft/lbs. Stage 2 torque is 40 ft/lbs. Stage 3 torque is 65 ft/lbs.

HEAD STUDS: 120 in/lbs (or 10 ft/lbs)

SPARK PLUG GAPS, V8 or SIX: '37-'41 is 0.025"
'42-'51 is 0.030"
'52 is 0.035"

SPARK PLUG TORQUE: 14mm in Aluminum heads, 20-24 ft/lbs.
14mm in Cast Iron heads, 24-28 ft/lbs.

INTAKE MANIFOLD: aluminum = 300-360 in/lbs (or 25-30 ft/lbs)
cast iron = 420-480 in/lbs (or 35-40 ft/lbs)
NOTE: Torque in two stages.

CLUTCH PRESSURE PLATE (COVER) = 240 in/lbs (or 20 ft/lbs)
NOTE: Torque in 4 stages.

FLYWHEEL = 65 ft/lbs
NOTE: Torque in 3 stages.

MAINS: nuts on studs = 80 ft/lbs ('48 and older)
bolts = 100 ft/lbs ('49 and newer)
NOTE: The tightening sequence is REAR, FRONT, and CENTER.
NOTE: The mains started using bolts beginning in '49. The two shouldered bolts (no lock washers) are used on the front main. The two remaining mains (center and rear) use lock washers on their cap screws.
NOTE: Torque stages to be in fourths (see head torque at the beginning of this page).

RODS NUTS: Self locking nuts torque to 40-45 ft/lbs. Torque in 2 stages.
Castellated nutm torque to 45-50 ft/lbs. Torque in 2 stages.

CAMSHAFT TIMING GEAR = 240 in/lbs (or 20 ft/lbs).
NOTE: Torque in 2 stages.

******* STOCK V8 CLEARANCES *******

ALLOWABLE CYLINDER COMPRESSION VARIATION: All cylinder compression is to be within 15%. This is comparing the highest reading to each of the other readings. None can exceed 15%.

Example: On a particular engine, the highest reading is 110psi. In this instance the lowest permissible reading is $(15\%)(110) = (0.15)(110) = 16.5$ psi. And $110 - 16.5 = 93.5$ psi. In this example, if any cylinder has less than 93.5 psi, there is a mechanical problem and the engine will not perform well.

VALVE & PISTON CLEARANCE TO HEAD = 0.060" minimum

FUEL PUMP LOBE LIFT: 2.000" lift with +0.180" Measure either the lobe or the fuel pump push rod.

CAM BEARING CLEARANCE = 0.002"

CAMSHAFT: Standard camshaft journal size is 1.796" to 1.797". Maximum wear limit for stock bearings is 1.795". Undersize journals are available 0.10", 0.020", and 0.030" under.

RING GROOVE CLEARANCE = '35 thru '48: 0.0015"-0.003"
'49 thru '53: top ring 0.0015"-0.003"
lower rings 0.001"-0.0025"

RING END GAP: All engines. 0.004" per inch of bore

ROD END PLAY = '35-'41: 0.006"-0.014"
'42-'48: 0.004"-0.008"
'49-'50: 0.006"-0.014"
'51-'53: 0.006"-0.020"

ROD BEARING CLEARANCE: `35-`48: 0.0017"-0.0036"
`49-`53: 0.0005"-0.003"

MAIN BEARING CLEARANCE: `35-`50: 0.000" thru 0.003"
`51-`53: 0.001"-0.002"

CRANKSHAFT END PLAY: `35-`53: 0.002"-0.006"

FAN BELT TIGHTNESS: Ford says to adjust so the belt has $+\frac{1}{2}$ ". My personal thought is this puts a lot of pressure on the water pump and generator bushings/bearings. I set mine to $+\frac{3}{4}$ ". Just my opinion.

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