



TClinic

SHOP NOTES—TORQUE SPECS. by Mike Goodman

It is quite important that the proper “torque”, or twist, is applied when assembling your engine. It insures an equal amount of pressure when tightening connecting rod caps, head studs and main bearing caps. As few of us posses that “feel”, a wrench calibrated to read in foot-pounds (sometimes inch-pounds) is a necessary part of your tool selection. An adequate one (0-100 ft. lbs.) may be purchased for about \$15.00 — I bought mine through the Sears Catalog.

There are several things to remember — heads should be torqued in sequence. Look for stretched head studs and connecting rod bolts — they will be narrower through the threaded section. It is also helpful if an anti-seize lubricant is applied to the

threads. Be sure and have your connecting rods and caps re-sized — they may have stretched over the years. Also use safety wire (no cotter keys) on the main bearing caps. Remember too, that most of the studs, nuts and bolts in your car are over 20 years old —metal (battle?) fatigue, crystallization, cracks — you name it — so don't be surprised if one occasionally breaks. Below is a list of torque specs.

- Head Studs — 55 ft. lbs.
- Rod Caps — 20-25 ft. lbs.
- Main Caps — 55 ft. lbs.
- Everything else — Very tight.

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2005 Update

First and foremost buy a decent torque wrench. One of our members had won a cheap one as a door prize and it was so far off that he stretched and damaged several bolts while tighnening to specs. And at todays prices you will have to spend more than \$15 for a decent torque wrench.

While said in jest to tighten everything else “very tight” one must be careful as very tight to one person may be 50 ft. lbs while someone else may define it closer to 200 ft. lbs. It all depends on thread size and grade of bolt. Use common sense. Here are some other torque values to add to the list. They were taken from the TABC web site. Please note the scale markings of ft. lbs. vs. in. lbs. If you need to convert, 12 inch lbs. equals one foot lb.

Remember too that these values are subject to going to the next split pin hole where castled nuts are used. Again use common sense. Going to self locking nuts can be done as well as shaving the washer under the nut down a tad can help stay close to listed values.

Engine

Gudgeon pin clamp bolt	25 ft. lbs.
Rod big end bolts	25 ft. lbs.
Main bearing cap nuts	63 ft. lbs.
Flywheel to crankshaft bolts	50 ft. lbs.
Clutch pressure plate bolts	19 ft. lbs.
Camshaft sprocket bolt	50 ft. lbs.
Sump to block bolts	19 ft. lbs.
Timing chain cover bolts	19 ft. lbs.
Crankshaft pulley bolt	50 ft. lbs.
Cylinder head nuts	50 ft. lbs.
Rocker tower bolts (8 mm)	16 ft. lbs.
Rocker tower bolts (10 mm)	43 ft. lbs.
Camshaft locating plate bolts	72 in. lbs.
Timing chain tensioner bolts	72 in. lbs.
Oil pickup pipe to sump bolts	72 in. lbs.
Oil pump to block bolts	72 in. lbs.

Other

Water pump pulley nut	120 in. lbs.
Generator pulley nut	35 ft. lbs.
Transmission output flange nut	65 ft. lbs.
Rear axel hub nut	170-200 ft. lbs.
Front axel hub nut	40-70 ft. lbs.
Wheel lug nuts	50 ft. lbs.