

TORQUE SPECIFICATIONS

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Application	Ft. Lbs. (N.m)
Connecting Rod Bolt ⁽¹⁾	
Step 1	30-33 (41-45)
Step 2	Additional 90-120 Degrees
Crankshaft Damper Bolt	
Step 1	66 (89)
Step 2	Loosen 360 Degrees
Step 3	35-39 (47-53)
Step 4	Additional 85-90 Degrees
Cylinder Head Bolt ⁽¹⁾ ⁽²⁾	
Van	
Step 1	27-32 (37-43)
Step 2	Additional 85-95 Degrees
Step 3	Additional 85-95 Degrees
Pickup	
Step 1	30 (40)
Step 2	Additional 85-95 Degrees
Step 3	Additional 85-95 Degrees
EGR Manifold Tube Fitting	
Step 1	Hand Tighten
Step 2	30-44 (40-60)
Engine Mount Through-Bolt	50-68 (68-92)
Engine Mount Nuts	66 (90)
Engine-To-Transmission Bolts	30-44 (41-60)
Exhaust Manifold Nut ⁽³⁾	17-19 (23-27)
Flexplate-To-Crankshaft Bolt	54-64 (73-87)
Front Cover Bolt/Stud ⁽⁴⁾	
Bolts 1-5	15-22 (20-30)
Bolts 6-15	30-41 (41-56)
Front Axle Housing Mount Bolts	66 (90)
Front Axle Housing Support Bolts	66 (90)
Heater Pipe-to-engine mounting studs (1998 Pickup)	30 (40)
Idler Pulley Bolt	15-22 (20-30)
Idler Support Bracket (Lightning Only)	18 (24)
Main Bearing Cap Bolt ⁽¹⁾ ⁽⁵⁾	
Step 1	27-32 (37-43)
Step 2	Additional 85-95 Degrees
Main Bearing Cap Side Bolt ⁽⁵⁾	
Step 1	20-24 (27-33)
Step 2	Additional 85-95 Degrees

Oil Pan Bolt ⁽⁶⁾	
Step 1	(7)
Step 2	15 (20)
Step 3	Additional 60 Degrees
Starter Bolts	15-20 (20-27)
Supercharger Pulley Adapter Bolt	35 (48)
Thermostat Housing Bolts	20 (27)
Timing Chain Tensioner Bolt	15-22 (20-30)
Torque Converter Nut	20-34 (27-46)
Water Pump Bolt	15-22 (20-30)
Water Pump Pulley Bolt	15-22 (20-30)
INCH Lbs. (N.m)	
Balance Shaft Bolt	71-106 (8-12)
Camshaft Cap Bolt ⁽⁸⁾	71-106 (8-12)
Camshaft Cover Bolt	71-106 (8-12)
Chain Guide Bolt	71-106 (8-12)
Charge Air Cooler (CAC) Bolts ⁽¹⁾	53 (6)
Crankshaft Seal Retainer Bolt	71-106 (8-12)
Intake Manifold	
All Others	
Step 1	18 (2)
Step 2	(9)
Lightning	
Step 1	18 (2)
Step 2	(10)
Oil Pump-To-Cylinder Block Bolt	71-106 (8-12)
Starter Solenoid Nuts	
Positive Battery Cable Retaining Nut	89-133 (10-15)
Starter Solenoid Wire Retaining Nut	44-62 (5-7)
Throttle Cable Bracket Bolts	71-106 (8-12)
Valve Cover Bolt	71-106 (8-12)

- (1) Use new bolts. DO NOT reuse bolts.
- (2) Tighten bolts in sequence. See **Fig. 4**.
- (3) Tighten bolts in sequence. See **Fig. 3**.
- (4) Tighten bolts in sequence. See **Fig. 6**.
- (5) Tighten bolts in sequence. See **Fig. 66**.
- (6) Tighten bolts in sequence. See **Fig. 29**.
- (7) Tighten bolts to 18 INCH lbs. (2 N.m)
- (8) Tighten bolts in sequence. See **Fig. 12**.
- (9) Tighten bolts to 18 ft. lbs. (25 N.m). See **Fig. 2**.

(10) Tighten bolts to 19 ft. lbs. (26 N.m).