

2005 Ford Pickup F150

2005 ENGINE Engine - 5.4L (3V) - F150 Pickup

Connecting rod maximum allowed twist ⁽²⁾	+/- 0.05 mm (0.0020 in)
Connecting rod bearing bore diameter (with assembled liners)	53.049-53.027 mm (2.0885-2.0877 in)
Connecting rod bearing-to-crankshaft clearance	0.064-0.026 mm (0.0025-0.0010 in)
Connecting rod side clearance	0.475-0.125 mm (0.0187-0.0049 in)
<p>(1) The time required for the plunger to leak down 1.6 mm (0.062 in) of travel with 222N force and leak-down fluid in the lash adjuster.</p> <p>(2) The pin bore and crank bearing bore must be parallel and in the same vertical plane within the specified total difference when measured at the ends of a 203-mm bar, 105.5 mm on each side of rod centerline.</p>	

TORQUE SPECIFICATIONS**TORQUE SPECIFICATIONS**

Description	Nm	lb-ft	lb-in
A/C compressor bolts	25	18	-
A/C manifold and tube assembly nut	25	18	-
A/C manifold and tube assembly support bracket nut	25	18	-
Accessory drive belt idler pulley bolt	25	18	-
Accessory drive belt tensioner bolts	25	18	-
Axle housing mounting bolts	89	66	-
Camshaft bearing cap bolts ⁽¹⁾	-	-	-
Camshaft position (CMP) sensor bolt	10	-	89
Camshaft phaser sprocket bolt ⁽¹⁾	-	-	-
Charge motion control valve (CMCV) stud and bolts	10	-	89
Connecting rod bolts ⁽¹⁾	-	-	-
Cooling fan shroud	10	-	89

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bolts			
Coolant pump bolts	25	18	-
Coolant pump pulley bolts	25	18	-
Coolant tube support stud	10	-	89
Crankshaft position (CKP) sensor bolt	10	-	89
Crankshaft damper pulley bolt ⁽¹⁾	-	-	-
Crankshaft main bearing cap bolts (cross-mounted) ⁽¹⁾	-	-	-
Crankshaft main bearing cap bolts (vertical) ⁽¹⁾	-	-	-
Cylinder head temperature sensor (CHT)	26	19	-
Cylinder heads bolts ⁽¹⁾	-	-	-
Engine front cover bolts ⁽¹⁾	-	-	-
Engine support insulator bracket-to-engine support insulator bolts	72	53	-
Engine support insulator bracket-to-cylinder block bolts	63	46	-
Engine support insulator through bolt (LH) ⁽¹⁾	-	-	-
Engine support insulator through nuts (RH)	250	184	-
Engine wiring harness retainer nut	10	-	89
Exhaust manifold-to-catalytic converter	40	30	-

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nuts			
Exhaust support bracket bolt	25	18	-
Exhaust system support bracket bolts	40	30	-
Exhaust manifold flange nuts	40	30	-
Exhaust manifold studs	12	9	-
Exhaust manifold nuts	25	18	-
Flexplate bolts ⁽¹⁾	-	-	-
Flexplate inspection cover bolts	34	25	-
Flywheel bolts ⁽¹⁾	-	-	-
Frame crossmember bolts	102	75	-
Fuel rail bolts	10	-	89
Generator support bracket bolts	10	-	89
Generator lower mounting bolts	25	18	-
Ground strap nut	10	-	89
Heated oxygen sensor (HO2S)	46	34	-
Ignition coil	6	-	53
Intake manifold bolts ⁽¹⁾	-	-	-
Knock sensor	20	15	-
Oil filter	16	12	-
Oil filter adapter bolts	25	18	-
Oil level indicator tube bolt (rear)	10	-	89
Oil level indicator tube bolt (front)	25	18	-
Oil pump screen and pickup tube-to-oil pump bolts	10	-	89
Oil pan bolts ⁽¹⁾	-	-	-
Oil pan drain plug	14	10	-

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Oil pressure switch	14	10	-
Oil pump bolts	10	-	89
Oil pump screen and pickup tube-to-spacer bolt	25	18	-
Oil pump screen and pickup tube spacer bolt	25	18	-
Positive crankcase ventilation (PCV) heater element bolts	6	-	53
Power steering reservoir support bracket bolt	25	18	-
Power steering reservoir support bracket nut	10	-	89
Power steering pump bolts	25	18	-
Power steering pressure tube fitting	65	48	-
Power steering pressure tube support bracket nut	10	-	89
Radio ignition interference capacitor nut	25	18	-
Rear main oil seal retainer bolts	10	-	89
Shift cable bracket bolts	25	18	-
Spark plugs	34	25	-
Sway bar nuts	30	22	-
Thermostat housing bolts	10	-	89
Throttle body bolts ⁽¹⁾	-	-	-
Timing chain guide bolts	10	-	89
Timing chain hydraulic tensioner bolts	25	18	-

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Transmission-to-engine bolts	60	44	-
Torque converter-to-flexplate nuts	36	27	-
Transmission mount nuts	103	76	-
Transmission filler tube bolt	20	15	-
Transmission cooler tube support bracket nut	10	-	89
Upper radiator hose support bracket bolt	10	-	89
Valve cover bolts ⁽¹⁾	-	-	-
Variable camshaft timing (VCT) sprocket assembly bolts ⁽¹⁾	-	-	-
(1) Refer to the procedure in this article.			

DESCRIPTION AND OPERATION

ENGINE

NOTE: Refer to the exploded view under the assembly procedure in this article.

The 5.4L (3V) is a V-8 engine with the following features:

- Single overhead camshafts
- Three valves per cylinder
- Sequential multiport fuel injection (SFI)
- Aluminum cylinder heads
- Cast iron, 60-degree V-cylinder block
- Variable camshaft timing (VCT)
- Individually chain-driven camshafts with a hydraulic timing chain tensioner on each timing chain
- Distributorless ignition system
- Electronic returnless fuel system

Identification