

## Harley Davidson Softail Series 2019 - Engine Fastener Torque Values

FASTENER	TORQUE VALUE	NOTES
Balancer bearing screw	9–12.4 N·m (80–110 in-lbs)	<a href="#">4.25 CRANKCASE, Repair Right Crankcase Half</a>
Balancer bearing screw	9–12.4 N·m (80–110 in-lbs)	<a href="#">4.25 CRANKCASE, Repair Left Crankcase Half</a>
Breather screw	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.15 BREATHERS, Install</a>
Cam chain tensioner fasteners	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a>
Cam needle bearing installation maximum torque	33.9 N·m (25 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Camshaft Needle Bearings</a>
Cam sprocket screw, alignment torque	20.3 N·m (15 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> <i>Used to check sprocket alignment</i>
Cam sprocket screw, final torque	46.1 N·m (34 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a>
Cam support plate screws	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> <i>Follow procedure for proper lightening sequence.</i>
Camshaft cover screws	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Remove and Install: Camshaft Cover</a>
Camshaft sprocket screw, 1st torque	20.3 N·m (15 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> <i>Apply LOCKTITE 262 HIGH STRENGTH THREAD LOCK AND SEALANT (red)</i>
Camshaft timer cover screws	2.8–4 N·m (25–35 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Remove and Install: Camshaft Cover</a>
Crankcase oil check valve or plug with O-ring	24.4–29.8 N·m (18–22 ft-lbs)	<a href="#">4.10 OIL CHECK VALVE, Install</a>
Crankcase oil check valve or plug with O-ring	24.4–29.8 N·m (18–22 ft-lbs)	<a href="#">4.25 CRANKCASE, Plugs and Oil Fittings</a>
Crankcase screws, first torque	13.6 N·m (10 in-lbs)	<a href="#">4.25 CRANKCASE, Assemble</a>
Crankcase screws, last torque	20.3–25.8 N·m (15–19 ft-lbs)	<a href="#">4.25 CRANKCASE, Assemble</a>
Crankcase tapered plugs	13.6–16.3 N·m (10–12 in-lbs)	<a href="#">4.25 CRANKCASE, Plugs and Oil Fittings</a>

Crankshaft sprocket screw, 1st torque	20.3 N·m (15 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> <i>Apply LOCKTITE 262 HIGH STRENGTH THREAD LOCK AND SEALANT (red)</i>
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Crankshaft sprocket screw, final torque	37.5 N·m (27 ft-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a>
Cylinder head nut torque step 1.	27.1–40.7 N·m (20–30 ft-lbs)	<a href="#">4.19 CYLINDER HEADS, Install</a> <i>Apply ENGINE OIL to cylinder head bolt washers and threaded portion of the cylinder head bolts. See procedure for torque sequence.</i>
Cylinder head nut torque step 2. Loosen one turn	360° (-360°)	<a href="#">4.19 CYLINDER HEADS, Install</a>
Cylinder head nut torque step 3.	12.2–14.9 N·m (9–11 ft-lbs)	<a href="#">4.19 CYLINDER HEADS, Install</a>
Cylinder head nut torque step 4	33.9–36.6 N·m (25–27 ft-lbs)	<a href="#">4.19 CYLINDER HEADS, Install</a>
Cylinder head nut torque step 5. Tighten additional degree value.	90° (90°)	<a href="#">4.19 CYLINDER HEADS, Install</a>
Cylinder stud	13.6–27.1 N·m (10–24 ft-lbs)	<a href="#">4.25 CRANKCASE, Cylinder Studs</a>
Cylinder temperature sensor	13.6–20.3 N·m (10–16 ft-lbs)	<a href="#">4.19 CYLINDER HEADS, Assemble</a>
Engine mount bolt, front, lower	67.8–74.5 N·m (50–55 ft-lbs)	<a href="#">4.12 FRONT ENGINE MOUNT, Remove and Install: Lower Front Engine Mount</a>
Engine mount pinch bolt, front, lower	10.7–12.7 N·m (8–9 ft-lbs)	<a href="#">4.12 FRONT ENGINE MOUNT, Remove and Install: Lower Front Engine Mount</a>
Engine mount screw, front, upper engine bracket	61–67.8 N·m (45–50 ft-lbs)	<a href="#">4.12 FRONT ENGINE MOUNT, Remove and Install: Upper Front Engine Mount</a>
Engine mount screw, front, upper frame bracket	61–67.8 N·m (45–50 ft-lbs)	<a href="#">4.12 FRONT ENGINE MOUNT, Remove and Install: Upper Front Engine Mount</a>
Engine mount screw, front, upper frame bracket to engine bracket	61–67.8 N·m (45–50 ft-lbs)	<a href="#">4.12 FRONT ENGINE MOUNT, Remove and Install: Upper Front Engine Mount</a>
Engine mount screw, left side, bracket-to-frame	61–67.8 N·m (45–50 ft-lbs)	<a href="#">4.13 LEFT SIDE ENGINE MOUNT, Install</a>
Engine mount screw, left side, bracket to head	38–44.7 N·m (28–33 ft-lbs)	<a href="#">4.13 LEFT SIDE ENGINE MOUNT, Install</a>
Engine oil drain plug	19–20.5 N·m (14–21 ft-lbs)	<a href="#">4.27 OIL PAN, Install</a>
Knock sensor screw	17.6–23 N·m (13–17 ft-lbs)	<a href="#">4.19 CYLINDER HEADS, Assemble</a>
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Lifter anti-rotation device screw	10.2–13.6 N·m (8–10 ft-lbs)	<a href="#">4.10 PUSHRODS, LIFTERS AND COVERS, Install</a>
Lifter cover screws	14.9–17.6 N·m (11–13 ft-lbs)	<a href="#">4.10 PUSHRODS, LIFTERS AND COVERS, Install</a>
Lower rocker cover screws	10.2–13.6 N·m (8–10 ft-lbs)	<a href="#">4.10 LOWER ROCKER COVERS, Install</a>

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Lower rocker cover stud	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.14 UPPER ROCKER COVERS, Install</a> Apply <b>LOCTITE 243 MEDIUM STRENGTH THREADLOCKER AND SEALANT (blue)</b> to screws
Oil cooler cover bracket screw, FXDRS	17.6–21.7 N·m (13–16 ft-lbs)	<a href="#">4.9 OIL COOLER, Install</a>
Oil cooler cover screw, all but FXDRS	9.5–11.5 N·m (7–8 ft-lbs)	<a href="#">4.9 OIL COOLER, Install</a>
Oil cooler cover screws, FXDRS	32.5–39.5 N·m (24–28 ft-lbs)	<a href="#">4.9 OIL COOLER, Install</a>
Oil cooler screw	9.5–11.3 N·m (84–100 in-lbs)	<a href="#">4.9 OIL COOLER, Install</a>
Oil line manifold screws	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.11 OIL COOLANT LINES, Install</a> Apply <b>LOCTITE 243 MEDIUM STRENGTH THREADLOCKER AND SEALANT (BLUE)</b>
Oil pan fasteners	14.0–17.6 N·m (132–156 in-lbs)	<a href="#">4.27 OIL PAN, Install</a> Torque sequence, <b>LOCTITE 243 MEDIUM STRENGTH THREADLOCKER AND SEALANT (blue)</b> with used fasteners
Oil pump screws, 1st torque	1.4–6.8 N·m (12–60 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> Follow procedure for proper tightening sequence.

Oil pump screws, final torque	10.2–13.6 N·m (90–120 in-lbs)	<a href="#">4.22 CAM COMPARTMENT AND COMPONENTS, Install</a> Follow procedure for proper tightening sequence.
Piston jet screws	2.8–3.0 N·m (25–35 in-lbs)	<a href="#">4.25 CRANKCASE, Repair Right Crankcase Half</a>
Rocker shaft screw	31.2–36.6 N·m (23–27 ft-lbs)	<a href="#">4.17 ROCKER ARMS, Install</a>
Spark plug	10–15 N·m (89–133 in-lbs)	<a href="#">4.7 TROUBLESHOOTING, Compression Test</a>
Transmission drain plug	19–28.5 N·m (14–21 ft-lbs)	<a href="#">4.27 OIL PAN, Install</a>

Upper rocker cover screws	13.6–15.8 N·m (120–140 in-lbs)	<a href="#">4.14 UPPER ROCKER COVERS, Install</a> Apply <b>LOCTITE 243 MEDIUM STRENGTH THREADLOCKER AND SEALANT (blue)</b> to screws
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