

Cylinder Head Area

•Cam Cover to Cylinder Head ...	10 Nm, 7 ft-lb
•Cam Chain Tensioner to Crankcase ...	9 Nm, 6 ft-lb
•Cam chain tensioner center bolt ...	23 Nm, 17 ft-lb
•Camshaft bearing caps to cylinder head ...	10 Nm, 7 ft-lb
•Camshaft sprocket to camshaft ...	15 Nm, 11 ft-lb
•Cam chain tensioner blade to crankcase ...	18 Nm, 13 ft-lb
•Cam chain top pad to cylinder head ...	10 Nm, 7 ft-lb
•Cylinder head to crankcase (M6 screws) ...	12 Nm, 8 ft-lb
•Cylinder head to crankcase bolts ...	20 Nm (14 ft-lb) in the proper sequence, then 35 Nm (25 ft-lb) in the proper sequence, then tighten each bolt an additional 90° in the proper sequence.

Clutch

•Clutch centre nut ...	105 Nm, 77 ft-lb
•Clutch pressure plate to centre ...	10 Nm, 7 ft-lb
•Clutch lever pivot pin ...	6 Nm, 4 ft-lb
•Clutch lever pivot pin locknut ...	3 Nm, 2 ft-lb

Balancer, Crankshaft, and Crankcase

•Crankcase upper to lower ...	see text in manual for special instructions
•Balancer retaining bolt ...	40 Nm, 29 ft-lb
•Crankshaft sensor mounting plate to crankcase ...	10 Nm, 7 ft-lb
•Connecting rod nuts...	see text in manual for special instructions

Engine Covers

•Crankshaft cover to crankcase ...	9 Nm, 6 ft-lb
•Sprocket cover to crankcase ...	9 Nm, 6 ft-lb
•Clutch cover to crankcase ...	9 Nm, 6 ft-lb
•Clutch cover sound suppression plate to cover ...	9 Nm, 6 ft-lb
•Water outlet cover to cylinder head ...	9 Nm, 6 ft-lb
•Plug, right-hand crankshaft cover ...	18 Nm, 13 ft-lb

Transmission

•Output sprocket to output shaft ...	132 Nm, 97 ft-lb
•Detent wheel to selector drum ...	12 Nm, 8 ft-lb
•Detent arm bolt ...	12 Nm, 8 ft-lb
•Selector drum bearing retainer screw ...	12 Nm, 8 ft-lb
•Selector shaft retainer ...	12 Nm, 8 ft-lb
•Spring abutment bolt ...	23 Nm, 17 ft-lb

Lubrication System

•Sump to crankcase ...	12 Nm, 8 ft-lb
•Sump drain plug to sump ...	25 Nm, 18 ft-lb

- Oil pressure relief valve to crankcase ... 15 Nm, 11 ft-lb
- Low oil pressure warning light switch to crankcase ... 13 Nm, 9 ft-lb
- Oil filter to adapter ... 10 Nm, 7 ft-lb
- Oil feed pipe to cylinder head (use new washers) ... 25 Nm, 18 ft-lb
- Oil cooler connections to sump (use new washers) ... 25 Nm, 18 ft-lb
- Oil cooler connections to cooler (use new washers) ... 25 Nm, 18 ft-lb
- Oil cooler to radiator mountings ... 9 Nm, 6 ft-lb
- Oil pump to crankcase ... 12 Nm, 8 ft-lb

Final Drive

- Rear sprocket to cush drive ... 85 Nm, 62 ft-lb
- Chain guard to swinging arm ... 7 Nm, 5 ft-lb
- Chain rubbing strip to swinging arm ... 9 Nm, 6 ft-lb

Cooling System

- Water pump to crankcase ... 10 Nm, 7 ft-lb
- Thermostat housing to frame ... 5 Nm, 3 ft-lb
- Thermostat front housing to rear housing ... 7 Nm, 5 ft-lb
- Radiator to frame ... 9 Nm, 6 ft-lb
- Water elbow to cylinder head ... 12 Nm, 8 ft-lb
- Coolant drain plug (use new washer) ... 13 Nm, 9 ft-lb
- Water elbow to crankcase ... 12 Nm, 8 ft-lb

Fuel System and Airbox

- Fuel tank to frame ... 9 Nm, 6 ft-lb
- Fuel cap to fuel tank ... 3 Nm, 2 ft-lb
- Fuel pump mounting plate to tank (never overtighten) ... 5 Nm, 3 ft-lb
- Fuel pump clamp screw ... 4 Nm, 3 ft-lb
- Fuel hose link pipe clamp screw ... 6 Nm, 4 ft-lb
- Throttle body to cylinder head ... 12 Nm, 8 ft-lb
- Throttle potentiometer to throttle body ... 2 Nm, 1 ft-lb
- Fuel feed / return pipe connections to fuel rail ... 5 Nm, 3 ft-lb
- Fuel rail to throttle bodies ... 5 Nm, 3 ft-lb
- Exhaust mounting bracket to frame ... 15 Nm, 11 ft-lb
- Airbox to bracket ... 5 Nm, 3 ft-lb
- Oxygen sensor to exhaust system ... 40 Nm, 29 ft-lb
- Fuel level sender to fuel tank ... 5 Nm, 3 ft-lb

Wheels

- Front wheel spindle / axle bolt ... 60 Nm, 44 ft-lb
- Rear wheel spindle / axle bolt ... 85 Nm, 62 ft-lb

Rear Suspension

- Swinging arm spindle bolt ... 85 Nm, 62 ft-lb
- Rear hub / eccentric adjuster clamp bolt <VIN 198874...35 Nm, 25 ft-lb
- Chain adjuster locknut, from VIN 198875 ... 27 Nm, 19 ft-lb
- Rear sprocket carrier studs ... 30 Nm, 22 ft-lb
- Rear sprocket nuts to cush-drive hub ... 55 Nm, 40 ft-lb
- Rear suspension unit upper mounting bolt ... 95 Nm, 70 ft-lb
- Rear suspension unit lower mounting bolt ... 48 Nm, 35 ft-lb
- Pre-load adjuster to frame ... 9 Nm, 6 ft-lb

Front Suspension

- Upper yoke pinch bolts ... 20 Nm, 14 ft-lb
- Lower yoke pinch bolts ... 20 Nm, 14 ft-lb
- Fork top cap to inner tube ... 30 Nm, 22 ft-lb
- Upper yoke centre nut . 65 Nm, 47 ft-lb
- Damping cylinder bolt ... 25 Nm, 18 ft-lb
- Handlebar to top yoke ... 26 Nm, 19 ft-lb
- Switch cube screws ... 4 Nm, 3 ft-lb

Brakes

- Front brake lever pivot screw / nut ... 6 Nm, 4 ft-lb
- Front brake caliper to fork ... 28 Nm, 20 ft-lb
- Front brake pad retaining pin ... 18 Nm, 13 ft-lb
- Front brake caliper bleed screw ... 5 Nm, 3 ft-lb
- Front brake hose to caliper (use new washers)... 25 Nm, 18 ft-lb
- Front brake master cylinder to handlebar ... 15 Nm, 11 ft-lb
- Front brake hose to master cylinder (use new washers) ... 25 Nm, 18 ft-lb
- Front brake disc to wheel ... 22 Nm, 16 ft-lb

- Rear brake caliper to carrier ... 28 Nm, 20 ft-lb
- Rear brake pad retaining pin ... 18 Nm, 13 ft-lb
- Rear brake caliper bleed screw ... 5 Nm, 3 ft-lb
- Rear brake hose to caliper (use new washers) ... 25 Nm, 18 ft-lb
- Rear brake master cylinder to frame ... 27 Nm, 20 ft-lb
- Rear brake master cylinder reservoir to mud guard ... 3 Nm, 2 ft-lb
- Rear brake hose to master cylinder (use new washers) ... 25 Nm, 18 ft-lb
- Rear brake disc to wheel ... 22 Nm, 16 ft-lb

Footrests, Control Plates, and Engine Mountings

- Upper crankcase to frame ... 80 Nm, 59 ft-lb
- Lower crankcase to frame ... 80 Nm, 59 ft-lb
- Cylinder head to frame ... 80 Nm, 59 ft-lb
- Right-hand control plate to frame ... 27 Nm, 20 ft-lb
- Left-hand control plate to frame ... 27 Nm, 20 ft-lb
- Sidestand mounting bracket ... 40 Nm, 29 ft-lb
- Sidestand pivot bolt ... 20 Nm, 14 ft-lb

Electrical

- Alternator rotor to crankshaft ... 105 Nm, 77 ft-lb
- Alternator windings to cover ... 12 Nm, 8 ft-lb
- Alternator rectifier to chassis ... 7 Nm, 5 ft-lb
- Starter motor to crankcase ... 10 Nm, 7 ft-lb
- Sidestand switch to bracket ... 5 Nm, 3 ft-lb
- Instruments housing to cockpit subframe ... 9 Nm, 6 ft-lb
- Neutral switch ... 10 Nm, 7 ft-lb

Bodywork

- Front mudguard to fork, front section ... 5 Nm, 3 ft-lb
- Front mudguard to fork, rear section ... 5 Nm, 3 ft-lb
- Front mudguard front section to rear section ... 3 Nm, 2 ft-lb
- Side panels to frame ... 5 Nm, 3 ft-lb
- Top rack to frame (M8 bolts) ... 27 Nm, 20 ft-lb
- Top rack to frame (M6 bolts) ... 10 Nm, 7 ft-lb
- Side panel ... 5 Nm, 3 ft-lb
- Cockpit to brackets ... 5 Nm, 3 ft-lb
- Rear mudguard to frame ... 4 Nm, 3 ft-lb

INSTALLATION

To install spark plugs in the engine, first tighten them by fingers, then retighten with the right tightening torques as shown below, using a plug wrench.

Either excessive tightness or looseness will cause troubles. Looseness sometimes causes pre-ignition because heat cannot disperse. On the other hand, excessive tightness can damage the threads of both the cylinder head and the spark plug.

●Tightening torques

Spark plug type (thread diameter)	Aluminium cylinder head
Flat seat type (with gasket)	ϕ 14mm 25~30N·m (2.5~3.0kg·m) (18.0~21.6 lb·ft)
	ϕ 12mm 15~20N·m (1.5~2.0kg·m) (10.8~14.5 lb·ft)
	ϕ 10mm 10~12N·m (1.0~1.2kg·m) (7.2~8.7 lb·ft)
	ϕ 8mm 8~10N·m (0.8~1.0kg·m) (5.8~7.2 lb·ft)

●Tightening angles

Thread size	New gasket	Used gasket
ϕ 14mm (except※)	$\frac{1}{2} \sim \frac{2}{3}$ of a turn (180°~240°)	$\frac{1}{12}$ of a turn (30°)
ϕ 12mm ϕ 10mm	$\frac{1}{2}$ of a turn (180°)	$\frac{1}{12}$ of a turn (30°)
ϕ 8mm	$\frac{1}{3}$ of a turn(120°)	$\frac{1}{12}$ of a turn(30°)
※ R6469-9 R6918C-9	$\frac{1}{3}$ of a turn (120°)	$\frac{1}{12}$ of a turn (30°)