

Kawasaki Ninja 650R (ER-6F) & ER-6N Torque Specification Sheet

Fastener	Torque				Remarks
	N-m	kgf-m	in-lb	ft-lb	
Fuel System (DFI)					
Water Temperature Sensor	12	1.2	106	8.8	
Speed Sensor Bolt	7.8	0.8	69	5.75	L
Fuel Pump Bolts	9.8	1.0	87	7.25	L, S
Oxygen Sensor (Europe Models)	44.1	4.5	390	32.5	
Cooling System					
Radiator Hose Clamp Screws	2	0.2	17	1.4	
Water Pump Impeller Bolt	9.8	1.0	87	7.25	
Water Pump Cover Bolts	9.8	1.0	87	7.25	
Water Pump Drain Bolt	7	0.7	62	5.2	
Thermostat Housing Bolts	9.8	1.0	87	7.25	
Water Temperature Sensor	12	1.2	106	8.8	
Baffle Plate Bolts	5.9	0.6	52	4.3	
Engine Top End					
Air Suction Valve Cover Bolts	9.8	1.0	87	7.25	
Cylinder Head Cover Bolts	9.8	1.0	87	7.25	
Camshaft Cap Bolts	12	1.2	106	8.8	S
Cylinder Head Bolts (M10 New Bolts)	54	5.5	480	40	MO, S
Cylinder Head Bolts (M10 Used Bolts)	49	5.0	432	36	MO, S
Cylinder Bolt (M8)	27.5	2.8	240	20	MO, S
Cylinder Nut (M10)	49	5.0	432	36	MO, S
Cylinder Head Bolts (M6)	12	1.2	106	8.8	S
Cylinder Bolts (M6)	12	1.2	106	8.8	S
Throttle Body Holder Bolts	12	1.2	106	8.8	
Rear Camshaft Chain Guide Bolt	20	2.0	180	15	L
Camshaft Chain Tensioner Mounting Bolts	9.8	1.0	87	7.25	
Camshaft Chain Tensioner Cap Bolt	20	2.0	180	15	
Camshaft Sprocket Bolts	15	1.5	132	11	L
Spark Plugs	15	1.5	132	11	
Exhaust Pipe Manifold Holder Nuts	17	1.7	144	12	
Muffler Body Mounting Bolt (Front)	20	2.0	180	15	
Muffler Body Mounting Bolt (Rear)	20	2.0	180	15	
Baffle Plate Bolts	5.9	0.6	52	4.3	
Clutch					
Upper Cap on Clutch Cover	3.9	0.4	35	2.9	
Lower Cap on Clutch Cover	-	-	-	-	Hand-tighten
Oil Filler Plug	-	-	-	-	Hand-tighten
Clutch Cover Mounting Bolts	9.8	1.0	87	7.25	
Clutch Spring Bolts	9.8	1.0	87	7.25	
Clutch Hub Nut	132	13.5	1176	98	R
Clutch Lever Clamp Bolts	7.8	0.8	69	5.75	S
Oil Pump Chain Guide Bolts	12	1.2	106	8.8	L
Clutch Cable Holder Bolts	9.8	1.0	87	7.25	L
Clutch Cable Clamp Bolt	9.8	1.0	87	7.25	
Engine Lubrication					
Engine Oil Drain Bolt	30	3.0	264	22	
Filter Plate Bolts	9.8	1.0	87	7.25	L
Oil Filter	17.2	1.75	156	13	EO, R
Holder Mounting Bolt	25	2.5	216	18	L
Oil Pan Bolts	12	1.2	106	8.8	
Oil Pump Chain Guide Bolts	12	1.2	106	8.8	L
Oil Pipe Plate Bolt	9.8	1.0	87	7.25	L
Oil Pressure Relief Valve	15	1.5	132	11	L
Oil Pressure Switch	15	1.5	132	11	SS
Oil Pump Cover Bolts	9.8	1.0	87	7.25	L
Lower Fairing Bracket Bolt	12	1.2	106	8.8	L
Oil Pump Sprocket Bolt	12	1.2	106	8.8	L, Lh
Oil Passage Plug	20	2.0	180	15	L
Oil Plate Bolts	9.8	1.0	89	7.4	L

Fastener	Torque				Remarks
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Engine Removal/Installation					
Rear Engine Mounting Nuts	44	4.5	384	32	S
Engine Mounting Bracket Bolts	25	2.5	216	18	S
Front Engine Mounting Bolts	44	4.5	384	32	S
Crankshaft/Transmission					
Oil Plate Bolts	9.8	1.0	87	7.25	L
Breather Plate Bolts	9.8	1.0	87	7.25	L
Crankcase Bolts (M9, L = 113 mm)	44	4.5	384	32	MO, S
Crankcase Bolts (M9, L = 83 mm)	44	4.5	384	32	MO, S
Crankcase Bolts (M8, L = 73 mm)	35	3.6	312	26	MO, S
Crankcase Bolts (M8, L = 60 mm)	35	3.6	312	26	MO, S
Crankcase Bolts (M8, L = 111 mm)	27.5	2.8	240	20	S
Crankcase Bolts (M8, L = 50 mm)	27.5	2.8	240	20	S
Crankcase Bolts (M6)	19.6	2.0	180	15	S
Upper Crankcase Bolts	27.5	2.8	240	20	S
Shift Drum Bearing Holder Screw	4.9	0.5	43	3.6	L
Connecting Rod Big End Nuts	See Text	-	-	-	MO
Timing Rotor Bolt	40	4.1	360	30	
Oil Pressure Switch	15	1.5	132	11	SS
Oil Pressure Plug	20	2.0	180	15	L
Gear Positioning Lever Bolt	12	1.2	106	8.8	L
Shift Shaft Return Spring Pin	29	2.9	264	22	L
Shift Drum Cam Bolt	12	1.2	106	8.8	L
Neutral Switch	15	1.5	132	11	
Transmission Case Bolts	20	2.0	180	15	
Shift Rod Plate Bolt	9.8	1.0	87	7.25	
Neutral Switch Holder Screw	4.9	0.5	43	3.6	L
Shift Shaft Cover Bolts	9.8	1.0	87	7.25	L (2)
Shift Shaft Cover Screw	4.9	0.5	43	3.6	L
Wheels/Tires					
Front Axle	108	11.0	960	80	
Front Axle Clamp Bolt	34	3.5	300	25	
Rear Axle Nut	108	11.0	960	80	
Final Drive					
Engine Sprocket Nut	125	12.7	1104	92	MO
Rear Axle Nut	108	11.0	960	80	
Rear Sprocket Nuts	59	6.0	528	44	
Speed Sensor Bolt	7.8	0.8	69	5.75	L
Speed Sensor Bracket Bolts	9.8	1.0	87	7.25	
Brakes					
Bleed Valve	7.8	0.8	69	5.75	
Brake Hose Banjo Bolts	25	2.5	216	18	
Brake Lever Pivot Bolt	1.0	0.1	9	0.75	Si
Brake Lever Pivot Bolt Locknut	5.9	0.6	52	4.3	
Brake Pedal Bolt	8.8	0.9	78	6.5	
Brake Pipe Joint Nuts (EX650B Models)	18	1.8	156	13	
Front Brake Disc Mounting Bolts	27	2.8	240	20	L
Front Brake Light Switch Screw	1.0	0.1	9	0.75	
Front Brake Reservoir Cap Screws	1.0	0.1	9	0.75	
Front Caliper Mounting Bolts	34	3.5	300	25	
Front Master Cylinder Clamp Bolts	8.8	0.9	78	6.5	S
Rear Brake Disc Mounting Bolts	27	2.8	240	20	L
Rear Caliper Mounting Bolts	25	2.5	216	18	
Rear Master Cylinder Mounting Bolts	25	2.5	216	18	
Rear Master Cylinder Push Rod Locknut	18	1.8	156	13	
Suspension					
Front Axle Clamp Bolt	34	3.5	300	25	
Front Fork Bottom Allen Bolts	30	3.1	264	22	L
Front Fork Clamp Bolts (Lower)	20	2.0	180	15	AL
Front Fork Clamp Bolts (Upper)	20	2.0	180	15	
Front Fork Top Plugs	25	2.5	216	18	
Rear Shock Absorber Bolt	59	6.0	528	44	
Rear Shock Absorber Nut	59	6.0	528	44	
Swingarm Pivot Shaft Nut	108	11.0	960	80	

Fastener	Torque				Remarks
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Steering					
Front Fork Clamp Bolts (Lower)	20	2.0	180	15	AL
Front Fork Clamp Bolts (Upper)	20	2.0	180	15	
Handlebar Holder Bolts	25	2.5	216	18	S
Left Switch Housing Screws	3.5	0.36	31	2.6	
Right Switch Housing Screws	3.5	0.36	31	2.6	
Steering Stem Head Bolt	108	11.0	960	80	
Steering Stem Nut	20	2.0	180	15	
Frame					
Footpeg Stay Bolts	34	3.5	300	25	
Front Fender Bolts	3.9	0.4	35	2.9	
Front Fender Bracket Bolts	8.8	0.9	78	6.5	L
Front Turn Signal Light Mounting Screws	1.2	0.12	11	0.9	
Grab Rail Mounting Bolts	25	2.5	216	18	
Seat Lock Mounting Screws	1.2	0.12	11	0.9	
Sidestand Bolt	44	4.5	384	32	
Sidestand Switch Bolt	8.8	0.9	78	6.5	L
Electrical System					
Alternator Cover Bolts	9.8	1.0	87	7.25	
Alternator Lead Holding Plate Bolt	9.8	1.0	87	7.25	L
Alternator Rotor Bolt	155	15.8	1368	114	MO
Crankshaft Sensor Bolts	6	0.60	53	4.4	
Engine Ground Cable Terminal Bolt	9.8	1.00	87	7.25	
Front Brake Light Switch Screw	1.2	0.12	11	0.9	
Front Turn Signal Light Mounting Screws	1.2	0.12	11	0.9	
Left Switch Housing Screws	3.5	0.36	31	2.6	
License Plate Light Cover Screws	0.9	0.09	8	0.6	
License Plate Light Mounting Screws	1.2	0.12	11	0.9	
Meter Screws	1.2	0.12	11	0.9	
Neutral Switch	15	1.5	132	11	
Oil Pressure Switch	15	1.5	132	11	SS
Oxygen Sensor	44.1	4.5	390	32.5	
Regulator/Rectifier Bolts	8.8	0.9	78	6.5	
Right Switch Housing Screws	3.5	0.36	31	2.6	
Sidestand Switch Bolt	8.8	0.9	78	6.5	L
Spark Plugs	15	1.5	132	11	
Speed Sensor Bolt	7.8	0.8	69	5.75	L
Starter Motor Cable Terminal Nut	6	0.6	53	4.4	
Starter Motor Clutch Bolts	34	3.5	300	25	L
Starter Motor Mounting Bolts	9.8	1.0	87	7.25	L
Starter Motor Terminal Locknut	11	1.1	97	8	
Starter Motor Through Bolts	4.9	0.5	43	3.6	
Stator Coil Bolts	12	1.2	106	8.8	L
Timing Rotor Bolt	40	4.1	360	30	
Water Temperature Sensor	12	1.2	106	8.8	
Basic Torque for General Fasteners					
5	3.4 - 4.9	0.35 - 0.5	30 - 43	2.5 - 3.6	
6	5.9 - 7.8	0.6 - 0.8	52 - 69	4.3 - 5.75	
8	14 - 19	1.4 - 1.9	120 - 162	10 - 13.5	
10	25 - 34	2.6 - 3.5	228 - 300	19 - 25	
12	44 - 61	4.5 - 6.2	396 - 540	33 - 45	
14	73 - 98	7.4 - 10.0	648 - 864	54 - 72	
16	115 - 155	11.5 - 16.0	996 - 1380	83 - 115	
18	165 - 225	17.0 - 23.0	1500 - 1980	125 - 165	
20	225 - 325	23.0 - 33.0	1980 - 2880	165 - 240	

Remarks Column Key

AL: Tighten the two clamp bolts alternately two times to ensure even tightening torque.

EO: Apply engine oil.

L: Apply a non-permanent locking agent to the threads.

Lh: Left-hand threads.

MO: Apply molybdenum disulfide oil solution.

(mixture of engine oil & molybdenum disulfide grease in a weight ratio 10:1)

R: Replacement Parts.

S: Follow the specified tightening sequence.

Si: Apply silicone grease (ex. PBC grease).

SS: Apply silicone sealant.