

TORQUE SPECIFICATIONS

Part Tightened		N*m	kgf*cm	ft.*lbf
No. 1 Engine under cover sub-assembly x Frame assembly		29	296	21
Camshaft bearing cap x Cylinder head sub-assembly	10 mm (0.39 in.) head	9.0	92	80 in.*lbf
	12 mm (0.47 in.) head	24	245	18
No. 1 chain tensioner x Cylinder head sub-assembly		10	102	7
No. 2 chain tensioner x Cylinder head sub-assembly		19	194	14
No. 3 chain tensioner x Cylinder head sub-assembly		19	194	14
Camshaft timing gear assembly x Camshaft		100	1,020	74
Camshaft timing gear or sprocket x Camshaft		100	1,020	74
Timing chain cover plate x Timing chain or belt cover sub-assembly		9.0	92	80 in.*lbf
Ignition coil assembly x Cylinder head cover sub-assembly		10	102	7
V-bank cover x Intake air surge tank		7.5	76	66 in.*lbf
Engine hanger No. 1 x Cylinder head sub-assembly RH		33	336	24
Engine hanger No. 2 x Cylinder head sub-assembly LH		33	336	24
Spark plug x Cylinder head sub-assembly		20	204	15
Oil filler cap housing x Cylinder head cover sub-assembly LH		9.0	92	80 in.*lbf
Camshaft timing oil control valve assembly x Cylinder head cover sub-assembly		9.0	92	80 in.*lbf
Oil filter bracket sub-assembly x Timing chain or belt cover sub-assembly		19	194	14
No. 1 engine mounting bracket front RH x Cylinder block sub-assembly		43	435	31
No. 1 engine mounting bracket front LH x Cylinder block sub-assembly		43	435	31
No. 1 engine mounting insulator front RH x Frame assembly		38	387	28
No. 1 engine mounting insulator front LH x Frame assembly		38	387	28
Engine wire No. 2 (ground cable) x Cylinder block sub-assembly		13	133	9
Hood sub-assembly x Hood hinge assembly RH and LH		18	184	13
Knock sensor x Cylinder block sub-assembly		20	204	15
No. 1 water outlet pipe x Cylinder block sub-assembly		10	102	7
Cylinder head sub-assembly RH x Cylinder block sub-assembly	1st	36	367	27
	2nd	Turn 180°	Turn 180°	Turn 180°
Cylinder head sub-assembly LH x Cylinder block sub-assembly	Recessed head 1st	36	367	27
	2nd	Turn 180°	Turn 180°	Turn 180°
	14 mm (0.55 in.) head	30	306	22
No. 1 chain vibration damper x Cylinder block sub-assembly		19	194	14
No. 1 idle gear x Cylinder block sub-assembly		60	612	44
Timing chain or belt cover sub-assembly x Cylinder head and block		23	235	17
Water pump assembly x Timing chain or belt cover sub-assembly	Bolt A	9.0	92	80 in.*lbf
	Bolt B	23	235	17
Oil pan stud bolt x Oil pan sub-assembly		4.0	41	35 in.*lbf
Oil pan sub-assembly x Cylinder block and timing chain or belt cover	10 mm (0.39 in.) head	10	102	7
	12 mm (0.47 in.) head	21	214	16
Oil strainer sub-assembly x Oil pan sub-assembly		9.0	92	80 in.*lbf

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No. 2 oil pan sub-assembly x Oil pan sub-assembly	Nut	1.0	102	7
	Bolt	9.0	92	80 in.*lbf
Oil pan drain plug x No. 2 oil pan sub-assembly		40	408	30
Crankshaft pulley x Crankshaft		250	2,549	185
Cylinder head cover sub-assembly x Cylinder head sub-assembly RH	Nut	9.0	92	80 in.*lbf
	Bolt A	10	102	7
	Bolt B	9.0	92	80 in.*lbf
Cylinder head cover sub-assembly LH x Cylinder head sub-assembly LH	Nut	9.0	92	80 in.*lbf
	Bolt A	10	102	7
	Bolt B	9.0	92	80 in.*lbf
Ventilation valve x Cylinder head cover sub-assembly LH		27	275	20
Oil control valve filter plug x Cylinder head sub-assembly		62	632	46
Crankshaft position sensor x Cylinder block sub-assembly		10	102	7.4
VVT sensor x Timing chain or belt cover sub-assembly		8.0	82	71 in.*lbf
Cylinder block water drain cock sub-assembly x Cylinder block sub-assembly		25	255	18
Oil level gauge guide x Cylinder head sub-assembly		9.0	92	80 in.*lbf
Oil pan sub-assembly x Transmission		37	377	27
No. 1 idler pulley sub-assembly x Timing chain or belt cover sub-assembly		54	551	40
No. 2 idler pulley sub-assembly x Timing chain or belt cover sub-assembly		39	398	29
V-ribbed belt tensioner assembly x Cylinder block sub-assembly		36	367	27
Vane pump assembly x Cylinder block sub-assembly		43	438	32
Intake air surge tank x Intake manifold		28	286	21
Surge tank stay x Intake air surge tank and cylinder head		21	214	15
Throttle body bracket x Throttle body with motor and cylinder head		21	214	15
Oil baffle plate x Surge tank stay No. 1		9.0	92	80 in.*lbf
Ground cable x Cylinder head sub-assembly		8.0	82	71 in.*lbf
Water by-pass joint RR x Cylinder head sub-assembly		9.0	92	80 in.*lbf
Intake manifold x Cylinder head sub-assembly		26	265	19
Exhaust manifold sub-assembly RH x Cylinder head sub-assembly RH		30	306	22
Exhaust manifold sub-assembly LH x Cylinder head sub-assembly LH		30	306	22
Manifold stay x Exhaust manifold sub-assembly RH and transmission		40	408	30
No. 2 manifold stay x Exhaust manifold sub-assembly LH and transmission		40	408	30
No. 1 cool air inlet x Body		12	122	9
Drive plate and ring gear sub-assembly x Crankshaft		83	846	61
Flywheel x Crankshaft		83	846	61
Stud bolt x Cylinder head sub-assembly and cylinder head LH	A	4.0	41	35 in.*lbf
	B	9.0	92	80 in.*lbf
	C	4.0	41	35 in.*lbf
Union x Cylinder head sub-assembly and cylinder head LH		15	150	11
With Head taper screw plug x Cylinder head sub-assembly and cylinder head LH		80	816	59
Connecting rod cap x Connecting rod	1st	25	250	18
	2nd	Turn 90°	urn 90°	urn 90°
Main bearing cap x Cylinder block sub-assembly	12 pointed head 1st	61	622	45
	2nd	urn 90°	urn 90°	urn 90°
	12 mm head	25	255	18

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Part Tightened		N*m	kgf*cm	ft.*lbf
Stud bolt x Cylinder block sub-assembly	A	11	112	8.1
	B	4.5	46	40 in.*lbf
	C	4.0	41	35 in.*lbf
	D	4.0	41	35 in.*lbf
No. 1 sub-assembly oil nozzle x Cylinder block sub-assembly		9.0	92	80 in.*lbf
Negative battery terminal		3.9	40	35 in.*lbf
Exhaust front pipe x Exhaust manifold		54	554	40
Exhaust center pipe x Exhaust front		43	438	32
No. 2 front exhaust pipe x Exhaust manifold	Nut	54	554	40
	Bolt	48	489	35
Exhaust pipe stopper bracket x Frame assembly		19	193	14
Ground wire x Body		8.4	85	74 in.*lbf
Rear engine oil seal retainer x Cylinder block sub-assembly	Nut	9.0	92	80 in.*lbf
	Bolt	10	102	7.4
Water inlet x Cylinder head sub-assembly		9.0	92	80 in.*lbf
Thermostat water inlet sub-assembly x Water inlet		9.0	92	80 in.*lbf
Engine oil pressure switch x Oil filter bracket sub-assembly		15	153	11
Oil filter union x Oil filter bracket		30	306	22
Oil filter sub-assembly x Oil filter bracket		18	184	13
Water temperature sensor x Water by-pass joint RR		20	200	14