

TORQUE SPECIFICATION

1AZ-FE

Part Tightened		N·m	kgf·cm	ft·lbf
Front wheel RH		103	1,050	76
Camshaft bearing cap No. 1 x Cylinder head		30	301	22
Camshaft bearing cap No. 3 x Cylinder head		9.0	92	80 in.·lbf
Camshaft bearing cap No. 2 x Cylinder head		30	301	22
Camshaft timing gear Assy x Camshaft		54	551	40
Chain tensioner Assy x Timing chain cover		9.0	92	80 in.·lbf
Cylinder head cover x Cylinder head (See page 14-6)	Bolt A	11	112	8
	Bolt B	14	143	10
	Nut	11	112	8
Ignition coil Assy x Cylinder head		9.0	92	80 in.·lbf
Drain plug (Automatic transaxle)		49	500	36
Drain plug (Transfer)		49	500	36
Engine hanger No.1 x Cylinder head		38	387	28 in.·lbf
Engine hanger No.2 x Cylinder head		38	387	28 in.·lbf
Water temperature sensor x Cylinder head		20	208	15
Knock control sensor x Cylinder block		39	398	29
Engine oil pressure switch Assy x Cylinder head		15	153	11
Oil cooler pipe (W/oil cooler) x Cylinder block		9.0	92	80 in.·lbf
Water by-pass pipe No.1 x Cylinder block		9.0	92	80 in.·lbf
Drive shaft bearing bracket x Cylinder block		64	653	47
V-ribbed belt tensioner Assy x Timing chain cover		60	607	44
Water inlet x Cylinder block		9.0	92	80 in.·lbf
Exhaust manifold converter x Cylinder head		37	378	27
Exhaust manifold stay		44	449	32
Manifold converter insulator No. 1 x Exhaust manifold converter		12	122	9
Oil level gauge guide x Water by-pass pipe No. 1		9.0	92	80 in.·lbf
Intake manifold x Cylinder head		30	306	22
Starter Assy x Automatic transaxle Assy		37	380	27
Manual transaxle Assy x Engine (See page 14-6)	Bolt A	64	650	47
	Bolt B	46	470	34
	Bolt C	44	449	32
Engine mounting insulator FR x Engine mounting bracket FR		52	530	38
Engine mounting insulator RR x Transverse engine engine mounting bracket		72	734	53
Rack & pinion power steering gear Assy x Front frame Assy		70	714	52
Stabilizer bar front x Front frame Assy		21	214	15
Vane pump Assy x Timing chain cover		43	439	31
Front suspension crossmember x Body		133	1,357	98
Engine mounting member x Body		45	459	33
Front suspension member brace LH x Body (See page 14-6)	Bolt A	133	1,357	98
	Bolt B	80	816	59
Engine mounting insulator LH x Engine mounting bracket LH		56	571	41
Drive plate & ring gear x Torque converter		41	418	30
Steering intermediate shaft		35	357	26
Tie rod Assy x Steering knuckle		49	500	36
Speed sensor front RH x Steering knuckle		8.0	82	71
Speed sensor front LH x Steering knuckle		8.0	82	71
Front axle hub LH nut x Front drive shaft		294	3,000	217
Front stabilizer link Assy LH x Front suspension		74	755	55
Return tube x body		20	204	15
Transverse engine engine mounting insulator x Body		52	531	38

Part Tightened		N·m	kgf·cm	ft·lbf
Engine mounting bracket No. 2 RH x Transverse engine mounting insulator (See page 14-6)	Bolt A	113	1,153	83
Engine mounting bracket No. 2 RH x Timing chain cover (See page 14-6)	Bolt B	52	531	38
	Nut	52	531	38
Clutch release cylinder assy x Manual transaxle assy	Bolt A	12	120	9
	Bolt B	25	255	18
	Bolt C	5.0	51	44 in.·lbf
	Bolt C	12	120	9
Heat insulator x Clutch release cylinder assy		12	120	9
Wire harness x Manual transaxle assy		10	102	7
Air cleaner assy x Body		5.0	51	44 in.·lbf
Oil pan drain plug x Oil pan		25	250	18
Engine hunger No. 1 x Cylinder block		38	387	28
Engine hunger No. 2 x Cylinder block		38	387	28
Chain tensioner plate x Stiffening crankcase assy		12	122	9
Oil pump drive sprocket x Oil pump		30	301	22
Timing chain guide x Cylinder block		9.0	92	80 in.·lbf
Chain vibration damper No. 1 x Cylinder block		9.0	92	80 in.·lbf
Timing chain cover (See page 14-40)	Bolt A	9.0	92	80 in.·lbf
	Bolt B	21	214	15
	Bolt C	43	438	32
	Nut	9.0	92	80 in.·lbf
Stud bolt		10	102	7
Oil pan x Stiffening crankcase assy		9.0	92	80 in.·lbf
Crank position sensor x Timing chain cover		9.0	92	80 in.·lbf
Crankshaft pulley x Crankshaft		170	1,733	125
Camshaft timing sprocket x Camshaft		54	551	40
Camshaft timing gear assy x Camshaft		54	551	40
Camshaft bearing cap No. 1 x Cylinder head		30	301	22
Camshaft bearing cap No. 2 x Cylinder head		30	301	22
Camshaft bearing cap No. 3 x Cylinder head		9.0	92	80 in.·lbf
Cylinder head x Cylinder block	1st	79	806	58
	2nd	Turn 90°	Turn 90°	Turn 90°
Camshaft timing oil valve assy x Cylinder head		9.0	92	80 in.·lbf
Crankshaft pulley x Crankshaft		170	1,733	125
Drive plate x Crankshaft		98	1,000	72
Flywheel x Crankshaft		130	1,327	96
Stiffening crankcase assy x Cylinder block		170	1,733	125
W/head taper screw plug No. 1 x Cylinder block		26	265	19
Oil control valve filter x Cylinder block		30	306	22
Cylinder block water drain cock x Stiffening crankcase assy		25	255	18
Union (W/oil cooler) x Stiffening crankcase assy		40	408	29
Oil pump assy x Stiffening crankcase assy		19	194	14
Chain tensioner plate x Stiffening crankcase assy		12	122	9
Oil pump drive sprocket x Oil pump		30	301	22
Chain tensioner slipper x Cylinder block		19	194	14
Oil pan x Stiffening crankcase assy		9.0	92	80 in.·lbf
Water pump assy x Cylinder block		9.0	92	80 in.·lbf
Water pump pulley x Water pump assy		26	265	19
Chain tensioner assy x Timing chain cover		9.0	92	80 in.·lbf
Camshaft position sensor x Cylinder head		9.0	92	80 in.·lbf
Oil filter union (W/oil cooler) x Stiffening crankcase assy		30	306	22

SERVICE SPECIFICATIONS - ENGINE MECHANICAL

Part Tightened	N·m	kgf·cm	ft·lbf
Oil cooler union bolt x Stiffening crankcase assy	79	800	58
Oil cooler flange nut x Stiffening crankcase assy	9.0	92	80 in·lbf
Spark plug x Cylinder head	19	194	14
Ventilation valve x Cylinder head cover	19	194	14
Front suspension brace x Body	80	816	59

1CD-FTV

Part Tightened		N·m	kgf·cm	ft·lbf
Idle pulley set nut		43	439	32
Engine cover Sub-assy x Clinder head cover	For bolt For nut	8.0 12	82 122	70 in·lbf 9
Front wheel		103	1,050	76
Drain plug (Manual trnsaxle)		49	500	36
Engine hanger No.1 x Cylinder head		37	387	28
Engine hanger No.2 x Cylinder head		37	387	28
Diesel engine engine coolant temperture sensor x Cylinder head		20	204	15
Crank position sensor x Cylinder block		7.5	76	66 in·lbf
Injection pump x Water pump		21	214	15
Injection pump stay x Clinder block, Injection pump		21	214	15
Oil level gage guide x Injection pump stay		18	185	13
Timing belt No.3 cover x Cylinder head		7.4	75	65 in·lbf
Intake manifold x Cylinder head		21	210	15
Common rail assy x Cylinder block		43	440	32
Injection pipe, Fuel inlet pipe x Common rail	For use with SST	37 41	377 418	27 30
Injection pipe x Injector	For use with SST	31 41	316 418	23 25
Injection pipe clamp x Intake manifold		5	51	44 in·lbf
Fuel inlet pipe clamp x Intake manifold		7.4	75	65 in·lbf
No.2 nozzle leakage pipe x Cylinder head	For use with SST For bolt	21 7.5	215 76	15 66 in·lbf
Vacuum pump x Cylinder head		28	280	20
EGR valve assy x Cylinder head		18	185	13
Intake air connector with diesel throttle body x intake manifold		21	210	15
Water outlet Sub-assy x Cylinder head		21	210	15
Exhaust manifold x Cylinder head		47	475	34
EGR pipe Sub-assy No.1 x Cylinder head		25	255	18
EGR pipe Sub-assy No.1 x Exhaust manifold		25	255	18
Oil fiter bracket x No.1 oil pan		34	347	25
		31	316	23
Generater bracket No.1 x Cylinder block		37	380	27
Idler pulley Sub-assy x Drive belt tensioner		37	380	27
Transverse engine engine mounting bracket x Engine mounting insulator RR		87	887	64
Transverse engine engine mounting bracket x Engine mounting insulator FR		52	530	38
Drive shaft bearing bracket x Cylinder block		64	653	47
Rear end plate x Cylinder block		8.0	82	71 in·lbf
Frywheel x Cranksaft		88	898	65
Clutch cover x Flywheel		19	195	14
Manual transaxle x engine	Bolt A Bolt B Bolt C Bolt D Bolt E	64 46 40 20 8.0	650 470 409 199 82	47 34 30 14 71 in·lbf

Part Tightened	N·m	kgf·cm	ft·lbf
Starter x Engine Bolt Terminal	39	398	29
	13	130	9 in. lbf
Front suspension crossmember x Body	133	1357	98
Engine mounting member x Body	45	459	33
Front suspension member brace LH x Body (See page 14-6)	Bolt A	133	1,357
	Bolt B	80	816
Engine mounting insulator RH x Body	52	530	38
Engine mounting bracket LH x Engine mounting insulator LH	56	571	41
Steering knuckle LH x Shock absorber	210	2140	154
Tie rod end Sub-assy x Steering knuckle LH	49	500	36
Speed sensor front LH x Steering knuckle LH	7.8	80	69 in. lbf
Speed sensor front RH x Steering knuckle RH	7.8	80	69 in. lbf
Front axle hub LH nut x Front drive shaft	216	2,204	159
Front stabilizer link assy x Front suspension	74	755	55
Steering intermediate shaft	36	367	27
Compressor and magnetic clutch x Cylinder block	25	250	18
Vane pump assy x Timing chain cover	Bolt A	39	398
	Bolt B	72	735
Vane pump pulley	43	439	32
Power steering idle pulley	39	398	29
Belt tensioner x Cylinder block	21	210	15
Timing chain cover plate x Cylinder block	9	92	80 in. lbf
Transverse engine engine mounting bracket x Cylinder block	For 14 mm head bolt	37	375
	For 17 mm head bolt	64	650
Idler pulley set bolt	40	408	30
Crankshaft pulley x Crankshaft	180	1,800	130
Engine mounting bracket No.2 RH x Transverse engine engine mounting bracket	52	530	38
Camshaft bearing cap x Cylinder head	20	200	15
Camshaft oil seal retainer x Cylinder head	8.8	90	78 in. lbf
Camshaft timing pulley x Camshaft	88	900	65
Cylinder head x Cylinder block	45	460	33
Drain plug (oil pan)	25	250	8
Rear end plate x Cylinder block	8.4	86	74 in. lbf
Flywheel Sub-assy x Crankshaft	88	900	65