030F5–03

TORQUE SPECIFICATION

1AZ–FE

Part Tightened		N·m	kgf·cm	ft·lbf
Engine mounting bracket No.2 RH x Timing chain cover		52	531	38
Engine moving control rod w/ bracket x Engine mounting bracket No.2 RH		64	653	47
Engine moving control rod w/ bracket x Fender apron RH		64	653	47
Engine mounting stay No.2 RH x Cylinder head		64	653	47
Engine mounting stay No.2 RH x Engine mounting bracket No.2 RH		64	653	47
Front wheel RH		103	1,050	76
Drain plug (Automatic transaxle)		49	500	36
Engine hanger No.1 x Cylinder head		38	387	28
Engine hanger No.2 x Cylinder head		38	387	28
E.F.I. Engine coolant 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
Water by–pass pipe No.1 x Cylinder block		9.0	92	80 in.·lbf
Transverse engine engine mounting bracket x Cylinder block		54	551	40
Drive shaft bearing bracket x Cylinder block		64	653	47
V–ribbed belt tensioner assy x Timing chain cover		59.5	607	44
Ignition coil assy x Cylinder head		9.0	92	80 in.·lbf
Water inlet x Cylinder block		9.0	92	80 in.·lbf
Exhaust manifold converter x Cylinder head		37	378	27
Exhaust manifold stay x Exhaust manifold converter		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
Drive plate & ring gear x Crankshaft		98	1,000	72
Starter assy x Automatic transaxle assy		39	398	29
Engine mounting insulator LH x Automatic transaxle assy		95	969	70
Engine mounting insulator RH x Transverse engine engine mounting bracket		95	969	70
Engine mounting insulator FR x Engine mounting bracket FR		87	888	64
Vane pump assy x Timing chain cover		43	439	31
Frame side plate x Front frame assy (See page 14–20)	Bolt A	85	867	63
Frame side plate x Body (See page 14–20)	Bolt B and nut	32	326	24
Front suspension member brace rear x Front frame assy (See page 14–20)	Bolt C	85	867	63
Front suspension member brace rear x Body (See page 14–20)	Bolt D and nut	32	326	24
Steering intermediate shaft		35	357	26
Drive plate & ring gear x Torque converter		41	418	30
Front suspension arm sub–assy lower No. 1 x Lower ball joint		127	1,296	94
Tie rod assy x Steering knuckle		49	500	36
Speed sensor front LH x Steering knuckle		8.0	82	71 in.·lbf
Speed sensor front RH x Steering knuckle		8.0	82	71 in.·lbf
Front axle hub LH nut x Front drive shaft		294	3,000	217
Front stabilizer link assy x Front suspension		74	755	55
Air cleaner assy x Body		5.0	51	44 in.·lbf
Cylinder head x Cylinder block	1st 2nd	79 Turn 90°	806 Turn 90°	58 Turn 90°
Camshaft timing control valve assy x Cylinder head		9.0	92	80 in.·lbf
Camshaft timing gear assy x Camshaft		54	551	40
Camshaft timing sprocket x Camshaft		54	551	40

Part Tightened		N·m	kgf·cm	ft·lbf
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
Chain tensioner plate x Stiffening crankcase assy		12	122	9
Oil pump drive sprocket x Oil pump		30	301	22
Chain vibration damper No. 1 x Cylinder head		9.0	92	80 in.·lbf
Chain vibration damper No. 1 x Cylinder block		9.0	92	80 in.·lbf
Chain tensioner slipper x Cylinder block		19	194	14
Timing chain cover (See page 14–36)	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
Oil pan x Stiffening crankcase assy		9.0	92	80 in.·lbf
Oil pan drain plug x Oil pan		25	255	18
Crank position sensor x Timing chain cover		9.0	92	80 in.·lbf
Crankshaft pulley x Crankshaft		170	1,733	125
Cylinder head cover x Cylinder head		11	110	8

2AZ–FE

Part Tightened	N·m	kgf·cm	ft·lbf
Engine mounting bracket No.2 RH x Timing chain cover	52	531	38
Engine moving control rod w/ bracket x Engine mounting bracket No.2 RH	64	653	47
Engine moving control rod w/ bracket x Fender apron RH	64	653	47
Engine mounting stay No.2 RH x Cylinder head	64	653	47
Engine mounting stay No.2 RH x Engine mounting bracket No.2 RH	64	653	47
Front wheel RH	103	1,050	76
Drain plug (Automatic transaxle)	49	500	36
Drain plug (Manual transaxle)	49	500	36
Engine hanger No.1 x Cylinder head	38	387	28
Engine hanger No.2 x Cylinder head	38	387	28
E.F.I. Engine coolant 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
Water by–pass pipe No.1 x Cylinder block	9.0	92	80 in.·lbf
Transverse engine engine mounting bracket x Cylinder block	54	551	40
Drive shaft bearing bracket x Cylinder block	64	653	47
V–ribbed belt tensioner assy x Timing chain cover	59.5	607	44
Ignition coil assy x Cylinder head	9.0	92	80 in.·lbf
Water inlet x Cylinder block	9.0	92	80 in.·lbf
Exhaust manifold converter x Cylinder head	37	378	27
Exhaust manifold stay x Exhaust manifold converter	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
Drive plate & ring gear (Automatic transaxle) x Crankshaft	98	1,000	72
Flywheel sub–assy (Manual transaxle) x Crankshaft	130	1,330	96
Starter assy x Automatic transaxle assy	39	398	29
Starter assy x Manual transaxle assy	39	398	29
Engine mounting insulator LH x Automatic transaxle assy	95	969	70
Engine mounting insulator LH x Manual transaxle assy	143	1,459	106
Engine mounting insulator RH x Transverse engine engine mounting bracket	95	969	70
Engine mounting insulator FR x Engine mounting bracket FR	87	888	64

Part Tightened		N·m	kgf·cm	ft·lbf
Engine mounting bracket rear No. 2 x Engine lateral control rod(Manual transaxle)		89	910	69
Vane pump assy x Timing chain cover		43	439	31
Frame side plate x Front frame assy (See page 14–87)	Bolt A	85	867	63
Frame side plate x Body (See page 14–87)	Bolt B and nut	32	326	24
Front suspension member brace rear x Front frame assy (See page 14–87)	Bolt C	85	867	63
Front suspension member brace rear x Body (See page 14–87)	Bolt D and nut	32	326	24
Steering intermediate shaft		35	357	26
Drive plate & ring gear x Torque converter		41	418	30
Front suspension arm sub–assy lower No. 1 x Lower ball joint		127	1,296	94
Tie rod assy x Steering knuckle		49	500	36
Speed sensor front LH x Steering knuckle		8.0	82	71 in.·lbf
Speed sensor front RH x Steering knuckle		8.0	82	71 in.·lbf
Front axle hub LH nut x Front drive shaft		294	3,000	217
Front stabilizer link assy x Front suspension		74	755	55
Air cleaner assy x Body		5.0	51	44 in.·lbf
Cylinder head x Cylinder block	1st 2nd	79 Turn 90°	806 Turn 90°	58 Turn 90°
Camshaft timing control valve assy x Cylinder head		9.0	92	80 in.·lbf
Camshaft timing gear assy x Camshaft		54	551	40
Camshaft timing sprocket 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
Chain tensioner plate x Stiffening crankcase assy		12	122	9
Oil pump drive sprocket x Oil pump		30	301	22
Chain vibration damper No. 1 x Cylinder head		9.0	92	80 in.·lbf
Chain vibration damper No. 1 x Cylinder block		9.0	92	80 in.·lbf
Chain tensioner slipper x Cylinder block		19	194	14
Timing chain cover (See page 14–105)	Bolt A Bolt B Bolt C Nut	9.0 21 43 9.0	92 214 438 92	80 in.·lbf 15 32 80 in.·lbf
Oil pan x Stiffening crankcase assy		9.0	92	80 in.·lbf
Oil pan drain plug x Oil pan		25	255	18
Crank position sensor x Timing chain cover		9.0	92	80 in.·lbf
Crankshaft pulley x Crankshaft		170	1,733	125
Cylinder head cover x Cylinder head		11	110	8

1MZ–FE

Part Tightened	N·m	kgf·cm	ft·lbf
Engine hanger No. 2 x Cylinder head	20	199	14
Knock control sensor x Cylinder block	39	398	29
Oil pressure switch assy x Cylinder block	15	152	11
Compressor mounting bracket No.1 x Cylinder block	25	255	18
Generator bracket No.1 x Cylinder block	58	591	43
Pump bracket x Cylinder head	32	326	24
Drive shaft bearing bracket x Cylinder block	64	653	47
Exhaust manifold LH x Cylinder head	49	500	36
Exhaust manifold RH x Cylinder head	49	500	36
Ignition coil assy x Cylinder head cover	8.0	82	71 in.·lbf

Part Tightened		N·m	kgf·cm	ft·lbf
Surge tank stay No.1 x Cylinder head		20	199	14
Surge tank stay No.1 x Intake air surge tank		20	199	14
Engine hanger No. 1 x Cylinder head		39	398	29
Engine hanger No. 1 x Intake air surge tank		39	398	29
Manifold stay No. 2 x Exhaust manifold LH		34	347	25
Manifold stay No. 2 x Automatic transaxle assy		34	347	25
Engine mounting insulator RH x Engine mounting bracket		95	969	70
Engine mounting insulator LH x Automatic transaxle assy		95	969	70
Engine mounting insulator FR x Automatic transaxle assy		87	887	64
Vane pump assy x Pump bracket		43	439	32
Vane pump assy x Engine mounting bracket		43	439	32
Frame side rail plate sub–assembly x Front frame assy (See page 14–156)	Bolt A	85	867	63
	Bolt B	32	326	24
	Nut	32	326	24
Front suspension member brace rear x Front frame assy (See page 14–156)	Bolt C	85	867	63
	Bolt D	32	326	24
	Nut	32	326	24
Compressor and magnetic clutch x Compressor mounting bracket No.1 (See page 14–156)	Bolt	25	250	18
	Nut	26	260	19
Generator belt adjusting bar x Cylinder block (See page 14–156)	Nut A	43	438	32
	Bolt B	18	184	13
	Bolt C	8.0	82	71 in.·lbf
Generator bracket No. 2 x Transverse engine engine mounting bracket		28	286	21
Intermediate shaft sub–assy		35	357	26
Drive plate & ring gear x Torque converter		41	418	30
Flywheel housing under cover x Automatic transaxle assy		7.8	80	69 in.·lbf
Front suspension arm x Lower ball joint		127	1,295	94
Tie rod end x Steering knuckle		49	500	36
Front axle hub nut x Front drive shaft		294	2,998	217
Front stabilizer link assy x Front suspension		74	755	55
V–bank cover x Cylinder head cover		7.9	81	70 in.·lbf
Engine mounting stay No. 2 RH x Transverse engine engine mounting bracket		64	653	47
Engine moving control rod (See page 14–156)	Bolt A	64	653	47
	Bolt B	23	235	17
Front wheel		103	1,050	76
Camshaft sub–gear x Main gear		5.4	55	48 in.·lbf
Engine rear oil seal retainer x Cylinder block		8.0	82	71 in.·lbf
Cylinder head x Cylinder block	12 pointed head 1st	54	551	40
	2nd	Turn 90°	Turn 90°	Turn 90°
	Recessed head	19	189	14
Camshaft bearing cap x Cylinder head		16	163	12
Timing belt plate x Oil pump assy		8.0	82	71 in.·lbf
Timing belt No. 3 cover x Cylinder head		8.5	87	76 in.·lbf
Camshaft timing pulley x Camshaft		125	1,275	92
Timing belt idler sub–assy No. 2 x Timing belt idler bracket		43	438	32
Chain tensioner assy No. 1 x Oil pump assy		27	280	20
Transverse engine engine mounting bracket x Cylinder block		28	286	21
Timing belt No. 2 cover x Timing belt No. 3 cover		8.5	87	76 in.·lbf
Timing belt No. 1 cover x OIl pump assy		8.5	87	76 in.·lbf

Part Tightened	N·m	kgf·cm	ft·lbf
Crankshaft pulley x Crankshaft	215	2,192	159
Cylinder head cover x Cylinder head	8.0	82	71 in.·lbf
Vane pump assy x Adjusting strut	43	439	32
Generator x Generator bracket	58	591	43
Generator x Adjusting bar	18	184	13
Intake air surge tank x Intake manifold	43	438	32
Front suspension brace upper x Body	80	816	59
Drive plate & ring gear sub–assy x Crankshaft	83	846	61
Water outlet x Cylinder head	15	153	11
Intake manifold x Cylinder head	15	153	11
EGR pipe No.2 x EGR valve	12	120	9
EGR pipe No.2 x EGR cooler No.1	12	120	9
Exhaust manifold heat insulator No.2 x Exhaust manifold LH	8.5	87	55 in.·lbf
EGR cooler No.1 x Cylinder block	9.0	92	80 in.·lbf
EGR pipe No.1 x EGR cooler No.1	12	120	9
EGR pipe No.1 x Exhaust manifold LH	12	120	9
Exhaust pipe support bracket No.1 x Automatic transaxle assy	21	214	15