

# TORQUE SPECIFICATION

## 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
Drain plug (A/T)	49	500	36
Drain plug (M/T)	49	500	36
Engine hanger No. 1 x Cylinder head	38	387	28
Engine hanger No. 2 x Cylinder head	38	387	28
ECT sensor x Cylinder head	20	204	15
Knock 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 gage 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 (A/T) x Crankshaft	98	1,000	72
Flywheel sub-Assy (M/T) 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	105
Engine mounting insulator RH x Engine mounting bracket RH	95	969	70
Engine mounting insulator FR x Engine mounting bracket FR	87	888	64
Engine mounting bracket rear No. 2 x Engine lateral control rod (M/T)	89	910	66
Vane pump Assy x Timing chain cover	43	439	32
Frame side plate x Front frame Assy Bolt A	85	867	63
Frame side plate x Body Bolt B	32	326	24
Front suspension member brace rear x Front frame Assy Bolt C	85	867	63
Front suspension member brace rear x Body Bolt D	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	75	764	55
Tie rod Assy x Steering knuckle	49	500	36
Speed sensor front LH (w/ ABS) x Steering knuckle	8.0	82	71 in.·lbf
Speed sensor front RH (w/ ABS) 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
Balanceshaft housing x Stiffening crankcase Assy 1st	22	220	16
2nd	Turn 90°	Turn 90°	Turn 90°
Stiffening crankcase Assy x Cylinder block	33	332	24

Part Tightened		N·m	kgf·cm	ft·lbf
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
Cylinder head x Cylinder block	1st	79	806	58
	2nd	Turn 90°	Turn 90°	Turn 90°
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
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 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 guide x Crankshaft bearing cap No. 1		9.0	92	80 in·lbf
Timing chain cover (See page 14-75)	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	250	18
Water pump assy x Cylinder block		9.0	92	80 in·lbf
Water pump pulley x Water pump assy		26	265	19
Crankshaft position sensor x Timing chain cover		9.0	92	80 in·lbf
Crankshaft pulley x Crankshaft		170	1,733	125
Chain tensioner assy No. 1 x Timing chain cover		9.0	92	80 in·lbf
Camshaft position sensor x Cylinder head		9.0	92	80 in·lbf
Cylinder head cover x Cylinder head		11	110	8
Oil filter union x Stiffening crankcase assy		30	306	22
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
Stud bolt (See page 14-108)	Bolt A	5	51	44 in·lbf
	Bolt B	5	51	44 in·lbf
	Bolt C	10	97	84 in·lbf
	Bolt D	10	97	84 in·lbf
Stud bolt (See page 14-120)	Stud bolt A	5.0	51	44 in·lbf
	Stud bolt B	10	97	84 in·lbf
	Stud bolt C	5.0	51	44 in·lbf
Crankshaft bearing cap x Cylinder block	1st	20	204	15
	2nd	40	408	29
Connecting rod cap x Connecting rod	1st	25	250	18
	2nd	Turn 90°	Turn 90°	Turn 90°

**1MZ-FE/3MZ-FE**

Part Tightened		N·m	kgf·cm	ft·lbf
Engine hanger No. 2 x Cylinder head		20	204	15
Knock sensor x Cylinder block	1MZ-FE	39	398	39
	3MZ-FE	20	204	15
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 converter sub-assy No. 2 x Cylinder head		49	500	36
Exhaust manifold heat insulator No. 2 x Cylinder head		8.5	87	75 in.·lbf
Exhaust manifold converter sub-assy RH x Cylinder head		49	500	36
Intake manifold x Cylinder head		15	153	11
Ignition coil assy x Cylinder head cover		8.0	82	71 in.·lbf
Intake air surge tank x Intake manifold		28	286	21
Surge tank stay bolt		20	204	15
Engine hanger No. 2 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 converter sub-assy		49	500	36
Manifold stay No. 2 x Automatic transaxle assy		49	500	36
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 14-164)	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 14-164)	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 14-164)	Bolt	25	250	18
	Nut	26	260	19
Generator belt adjusting bar x Cylinder block (See page 14-164)	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		75	764	55
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 Engine engine mounting bracket		64	653	47
Engine moving control rod (See page 14-164)	Bolt A	64	653	47
	Bolt B	23	235	17
Camshaft sub-gear x Main gear		5.4	55	48 in.·lbf

Part Tightened	N·m	kgf·cm	ft·lbf
Engine rear oil seal retainer x Cylinder block	8.0	82	71 in·lbf
Oil pump Assy x Cylinder block (See page 14-186)	10 mm head	8.0	71 in·lbf
	12 mm head	20	15
	14 mm head	43	32
Crank position sensor x Oil pump Assy	8.0	82	71 in·lbf
Oil pan baffle plate x Oil pan sub-assy	8.0	82	71 in·lbf
Oil pan sub-assy x Cylinder block (See page 14-186)	10 mm head	8.0	71 in·lbf
	12 mm head	20	15
Oil strainer sub-assy x Oil pan sub-assy	8.0	82	71 in·lbf
Oil pan sub-assy No. 2 x Oil pan sub-assy	8.0	82	71 in·lbf
Oil pan drain plug x Oil pan sub-assy No. 2	45	459	33
Water inlet housing x Cylinder block	8.0	82	71 in·lbf
Cylinder head x Cylinder block	12 pointed head 1st	54	40
	2nd	Turn 90°	Turn 90°
	Recessed head	19	14
Camshaft bearing cap x Cylinder head	16	163	12
Timing belt plate x Oil pump Assy	8.0	82	71 in·lbf
Water pump Assy x Cylinder block	8.0	82	71 in·lbf
Oil level gage guide x Cylinder block	8.0	82	71 in·lbf
Oil filter union x Cylinder block	30	306	22
Timing belt idler bracket x Cylinder block	28	286	21
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
Timing belt idler sub-assy No. 1 x Cylinder block	34	347	25
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
Crankshaft pulley x Crankshaft	215	2,192	159
Camshaft position sensor x Cylinder head	8.0	82	71 in·lbf
Cylinder head cover x Cylinder head	8.0	82	71 in·lbf
Spark plug x Cylinder head	18	184	13
Vane pump Assy x Adjusting strut	43	439	32
Generator x Generator bracket	58	591	43
Generator x Adjusting bar	18	184	13
Front suspension brace upper x Body	80	816	59
Water outlet x Cylinder head	15	153	11
Exhaust manifold heat insulator No. 2 x Exhaust manifold LH	8.5	87	55 in·lbf
Exhaust pipe support bracket No. 1 x Automatic transaxle Assy	21	214	15
Drive plate & ring gear sub-assy x Crankshaft	83	846	61
w/ head straight screw plug No. 1 x Cylinder head	44	449	32
w/ head straight screw plug No. 2 x Cylinder head	44	449	32
Main bearing cap x Cylinder block	12 pointed head 1st	22	16
	2nd	Turn 90°	Turn 90°
	6 pointed head	27	20
Connecting rod cap x Connecting rod	1st	25	18
	2nd	Turn 90°	Turn 90°
Cylinder block w/ head straight screw No. 1 plug x Cylinder block	30	306	22
Cylinder block w/ head straight screw No. 2 plug x Cylinder block	50	510	37
Cylinder block w/head straight screw No. 3 plug x Cylinder block	30	306	22

**SERVICE SPECIFICATIONS – ENGINE MECHANICAL**

Part Tightened	N·m	kgf·cm	ft·lbf
Water seal plate x Cylinder block	18	184	13
Cylinder block water drain cock sub-assy x Cylinder block	39	398	29