ENGINE MECHANICAL PREPARATION

0230N-0

SST

	09032-00100	Oil Pan Seal Cutter	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003)
	09201-01055	Valve Guide Bushing Remover & Replacer 5.5	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE)
	09201-10000	Valve Guide Bushing Remover & Replacer Set	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)
	(09201-01050)	Valve Guide Bushing Remover & Replacer 5	CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)
O XXXXXX	09201–41020	Valve Stem Oil Seal Replacer	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)
	09202-70020	Valve Spring Compressor	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)
	(09202-00010)	Attachment	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)
	09213-54015	Crankshaft Pulley Holding Tool	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)

(91651–60855)	Bolt	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)
09222-30010	Connecting Rod Bushing Remover & Replacer	CYLINDER BLOCK ASSY(1MZ–FE/3MZ–FE)
09223-00010	Cover & Seal Replacer	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) OIL PUMP SEAL(1MZ-FE/3MZ-FE)
09223-15030	Oil Seal & Bearing Replacer	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)
09223–22010	Crankshaft Front Oil Seal Replacer	PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
09228-06501	Oil Filter Wrench	PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
09228-07501	Oil Filter Wrench	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
09248-55040	Valve Clearance Adjust Tool Set	VALVE CLEARANCE(1MZ-FE/3MZ-FE)
(09248-05410)	Valve Lifter Press	VALVE CLEARANCE(1MZ-FE/3MZ-FE)
(09248-05420)	Valve Lifter Stopper	VALVE CLEARANCE(1MZ-FE/3MZ-FE)

a	09249–63010	Torque Wrench Adaptor	CAMSHAFT (RH BANK)(1MZ-FE/3MZ-FE) DRIVE BELT(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003)
	09308-10010	Oil Seal Puller	TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	09309-37010	Transmission Bearing Replacer	PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003)
	09330-00021	Companion Flange Holding Tool	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)
	09628-62011	Boll Joint Puller	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
	09816-30010	Oil Pressure Switch Socket	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
	09843-18030	Tacho-pulse Pickup Wire No.2	ENGINE(1MZ-FE/3MZ-FE) ENGINE(2AZ-FE)(From July, 2003)
	09843-18040	Diagnosis Check Wire No.2	ENGINE(1MZ-FE/3MZ-FE) ENGINE(2AZ-FE)(From July, 2003)
	09930-00010	Drive Shaft Nut Chisel	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
	09950-40011	Puller B Set	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09951-04010)	Hanger 150	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)

	(09952–04010)	Slide Arm	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09953-04030)	Center Bolt 200	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09954-04010)	Arm 25	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09955-04041)	Claw No.4	CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
<u> </u>	(09957–04010)	Attachment	CHAIN(2AZ–FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ–FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ–FE)(From July, 2003)
	09950-50013	Puller C Set	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) OIL PUMP SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09951-05010)	Hanger 150	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) OIL PUMP SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09952-05010)	Slide Arm	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) OIL PUMP SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)

	(000 = 2	0 1 0 11 100	TIMBLE DELTAMA
	(09953-05010)	Center Bolt 100	TIMING BELT(1MZ-FE/3MZ-FE)
	(09953-05020)	Center Bolt 150	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) OIL PUMP SEAL(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09954-05010)	Claw No.1	OIL PUMP SEAL(1MZ-FE/3MZ-FE)
OI O	(09954–05011)	Claw No.1	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
OFFI	(09954–05021)	Claw No.2	PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
	(09954–05030)	Claw No.3	TIMING BELT(1MZ-FE/3MZ-FE)
OFF	(09954-05031)	Claw No.3	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
	(09957–04010)	Attachment	CHAIN(2AZ-FE)(From July, 2003) CYLINDER HEAD GASKET(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003)
# SESSON P	09950-60010	Replacer Set	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) CYLINDER BLOCK ASSY(2AZ-FE)(From July, 2003)
©	(09951–00200)	Replacer 20	TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) CYLINDER BLOCK ASSY(2AZ-FE)(From July, 2003)

			T
9	(09951-00430)	Replacer 43	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
	09950-70010	Handle Set	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003) CYLINDER BLOCK ASSY(2AZ-FE)(From July, 2003)
	(09951-07100)	Handle 100	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) ENGINE REAR OIL SEAL(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003) CYLINDER BLOCK ASSY(2AZ-FE)(From July, 2003)
	09960-10010	Variable Pin Wrench Set	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) CAMSHAFT (RH BANK)(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)
	(09962–01000)	Variable Pin Wrench Arm Assy	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ-FE) CAMSHAFT (RH BANK)(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003) CHAIN(2AZ-FE)(From July, 2003) TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL(2AZ-FE)(From July, 2003) ENGINE REAR OIL SEAL(2AZ-FE)(From July, 2003)

E	(09963-00500)	Pin 5	PARTIAL ASSY(1MZ-FE/3MZ-FE) CAMSHAFT BANK)(1MZ-FE/3MZ-FE)	ENGINE (RH
5	(09963-00700)	Pin 7	PARTIAL ASSY(2AZ-FE)(From July	ENGINE , 2003)
	(09963–01000)	Pin 10	PARTIAL ASSY(1MZ-FE/3MZ-FE) TIMING BELT(1MZ-FE/3MZ CAMSHAFT BANK)(1MZ-FE/3MZ-FE) PARTIAL ASSY(2AZ-FE)(From July CHAIN(2AZ-FE)(From July TIMING GEAR CASE OF CHAIN CASE SEAL(2AZ-FE)(From July ENGINE REAR SEAL(2AZ-FE)(From July	(RH ENGINE , 2003) y, 2003) or TIMING OIL , 2003)
	09992-00500	Compression Gauge Attachment	ENGINE(1MZ-FE/3MZ-FE	Ξ)

Recomended Tools

09011-12301 Socket Wrench 30 mm	PARTIAL ENGINE ASSY(2AZ–FE)(From July, 2003) PARTIAL ENGINE ASSY(1MZ–FE/3MZ–FE)
09031-00040 Pin Punch .	CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
09040-00011 Hexagon Wrench Set	VALVE CLEARANCE(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET NO.2(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER BLOCK ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
(09043–20050) Socket Hexagon Wrench 5	VALVE CLEARANCE(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
(09043–20060) Socket Hexagon Wrench 6	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)

(09043–20080) Socket Hexagon Wrench 8	VALVE CLEARANCE(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET NO.2(1MZ-FE/3MZ-FE)
(09043–20100) Socket Hexagon Wrench 10	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CYLINDER BLOCK ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
(09043–20120) Socket Hexagon Wrench 12	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
(09043-20050) Socket Hexagon Wrench 5	VALVE CLEARANCE(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE)
(09043-20060) Socket Hexagon Wrench 6	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
(09043–20080) Socket Hexagon Wrench 8	VALVE CLEARANCE(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET(1MZ-FE/3MZ-FE) CYLINDER HEAD GASKET NO.2(1MZ-FE/3MZ-FE)
(09043–20100) Socket Hexagon Wrench 10	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CYLINDER BLOCK ASSY(1MZ-FE/3MZ-FE) PARTIAL ENGINE ASSY(2AZ-FE)(From July, 2003)
(09043-30140) Straight Hexagon Wrench 14	CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE)
09090-04020 Engine Sling Device	PARTIAL ENGINE ASSY(1MZ-FE/3MZ-FE) CHAIN(2AZ-FE)(From July, 2003)
09200–00010 Engine Adjust Kit	VALVE CLEARANCE(1MZ-FE/3MZ-FE) CYLINDER HEAD ASSY(1MZ-FE/3MZ-FE) CYLINDER BLOCK ASSY(1MZ-FE/3MZ-FE) VALVE CLEARANCE(2AZ-FE)(From July, 2003) CYLINDER HEAD ASSY(2AZ-FE)(From July, 2003)

	09904-00010	Expander Set	PARTIAL	ENGINE
Walnut I			ASSY(1MZ-FE/3MZ-FE)	
			CAMSHAFT	(RH
			BANK)(1MZ-FE/3MZ-FE)	
	(09904-00040)	No. 3 Claw	PARTIAL	ENGINE
			ASSY(1MZ-FE/3MZ-FE)	
			CAMSHAFT	(RH
			BANK)(1MZ-FE/3MZ-FE)	

Equipment

-qaipinont	
Abrasive compound	Valve
Brush	Piston
Caliper gauge	
Carbide cutter	
CO/HC meter	
Compression gauge	
Connecting rod aligner	
Cylinder gauge	
Dial indicator	
Dye penetrant	
Engine tune–up tester	
Groove cleaning tool	Piston ring groove
Heater	
Hexagon wrench (1.5 mm)	Timing belt tensioner
Micrometer	
Pin hole grinder	Connecting rod bushing
Piston ring compressor	
Piston ring expander	
Plastigage	
Precision straight edge	
Press	
Reamer	Cylinder
Ridge reamer	Cylinder
Soft brush	Cylinder head Cylinder block
Solvent	
Spring tester	Valve spring
Steel square	Valve spring
Thermometer	
Torque wrench	
Valve seat cutter	
Valve guide bushing brush	
V-block	
Vernier caliper	
Wire brush	Valve Cylinder head

SSM

08826-00080	Seal Packing Black or equivalent	VALVE
00020 00000	(FIPG)	CLEARANCE(1MZ-FE/3MZ-FE)
	/	PARTIAL ENGINE
		ASSY(1MZ-FE/3MZ-FE)
		CAMSHAFT (RH
		BANK)(1MZ-FE/3MZ-FE)
		CAMSHAFT (LH
		BANK)(1MZ-FE/3MZ-FE)
		CYLINDER HEAD GASKET
		NO.2(1MZ-FE/3MZ-FE)
		CYLINDER HEAD
		ASSY(1MZ-FE/3MZ-FE)
		VALVE CLEARANCE(2AZ-FE)(From
		July, 2003)
		PARTIAL ENGINE
		ASSY(2AZ-FE)(From July, 2003)
		CHAIN(2AZ-FE)(From July, 2003)
		CAMSHAFT(2AZ-FE)(From July,
		2003)
		CYLINDER HEAD
		GASKET(2AZ-FE)(From July, 2003)
08826-00100	"Seal Packing 1282B,"	PARTIAL ENGINE
	THREE BOND 1282B or equivalent	ASSY(1MZ-FE/3MZ-FE)
	(FIPG)	CYLINDER BLOCK
, in the second		ASSY(1MZ-FE/3MZ-FE)
		PARTIAL ENGINE
		ASSY(2AZ-FE)(From July, 2003)
08833-00070	"Adhesive 1324,"	PARTIAL ENGINE
	THREE BOND 1324 or equivalent	ASSY(1MZ-FE/3MZ-FE)
		ENGINE REAR OIL
		SEAL(1MZ-FE/3MZ-FE)
		CYLINDER HEAD
		ASSY(1MZ-FE/3MZ-FE)
		CYLINDER BLOCK
		ASSY(1MZ-FE/3MZ-FE)
		PARTIAL ENGINE
		ASSY(2AZ-FE)(From July, 2003)
		ENGINE REAR OIL
		SEAL(2AZ-FE)(From July, 2003)
		CYLINDER BLOCK
		ASSY(2AZ-FE)(From July, 2003)