TECHNICAL DATA

76F30X-001

30 TECHNICAL DATA

0. MEASUREMENT

Item \ Model			Sedan	Hatchback
Overall length		mm (in)	4,515 (177.8)	4,515 (177.8)
Overall width		mm (in)	1,690 (66.5)	1,690 (66.5)
Overall height (14 inch/13 inch)		mm (in)	1,410 (55.5)/1,395 (54.9)	1,375 (54.1)/1,360 (53.5)
Wheel base		mm (in)	2,575 (101.4)	2,575 (101.4)
Tread (14 inch/13 inch)	mm (in)	Front	1,455 (57.3)/1,460 (57.5)	1,455 (57.3)/1,460 (57.5)
		Rear	1,465 (57.7)/1,455 (57.3)	1,465 (57.7)/1,455 (57.3)

1A. ENGINE (F6,F8,FE SOHC) 12-valve

Item \ Engine model				FE 12-valve
Type				Gasoline, 4-cycle
Cylinder arrangement and number				In-line, 4-cylinders
Type of combustion chamber				Pentroof
Valve system				OHC, belt-driven
Bore x Stroke			mm (in)	86.0 x 86.0 (3.39 x 3.39)
Total piston displacement			cc (cu in)	1,998 (121.9)
Compression ratio				9.5 : 1
Compression pressure kPa (kg/cm^2, psi)-rpm	Standard			1,422 (14.5, 206)—280
	Minimum			996 (10.2, 144)—280
	Maximum difference between cylinders			196 (2.0, 28)
Valve timing	IN	Open	BTDC	14°
		Close	ABDC	56°
	EX	Open	BBDC	69°
		Close	ATDC	13°
Valve clearance			mm (in)	IN: 0; Maintenance free
				EX: 0; Maintenance free
Cylinder head				
Height			mm (in)	91.95—92.05 (3.620—3.624)
Distortion			mm (in)	Maximum: 0.15 (0.006)
Grinding limit			mm (in)	Maximum: 0.20 (0.008)
Valve and valve guide				
Valve head diameter			mm (in)	IN: 32.4—32.6 (1.276—1.283)
				EX: 33.9—34.1 (1.335—1.343)
Valve head thickness (margin)			mm (in)	IN: 0.8—1.2 (0.031—0.047)
				EX: 1.3—1.7 (0.051—0.067)
Valve face angle				IN: 45°
				EX: 45°
Valve length mm (in)	IN			Standard: 115.81 (4.5594)
				Minimum: 115.31 (4.5398)
	EX			Standard: 116.21 (4.5752)
				Minimum: 115.71 (4.5555)
Valve stem diameter			mm (in)	IN: 6.970—6.985 (0.2744—0.2750)
				EX: 6.965—6.980 (0.2742—0.2748)
Guide inner diameter			mm (in)	IN: 7.01—7.03 (0.2760—0.2768)
				EX: 7.01—7.03 (0.2760—0.2768)
Valve stem to guide clearance			mm (in)	IN: 0.025—0.060 (0.0010—0.0024)
				EX: 0.030—0.065 (0.0012—0.0026)
				Maximum: 0.20 (0.0079)
Guide projection (Height "A")			mm (in)	19.8—20.3 (0.780—0.799)

Item \ Engine model			FE 12-valve
Valve seat			
Seat angle		IN	45°
		EX	45°
Seat contact width mm (in)		IN	1.2—1.6 (0.047—0.063)
		EX	1.2—1.6 (0.047—0.063)
Seat sinking (Measure valve protruding length) mm (in)	IN	Standard	50.2 (1.976)
		Maximum	51.0 (2.008)
	EX	Standard	50.2 (1.976)
		Maximum	51.0 (2.008)
Valve spring			
Free length mm (in)	IN	Standard	49.5 (1.949)
		Minimum	49.0 (1.929)
	EX	Standard	50.4 (1.984)
		Minimum	48.7 (1.917)
Out-of-square mm (in)		Maximum	1.8 (0.071)
Setting load/height N (kg, lb)/mm (in)		IN	203—230 (20.7—23.4, 45.5—51.5)/41 (1.614)
		EX	240—272 (24.5—27.7, 53.9—60.9)/41 (1.614)
Camshaft			
Cam lobe height mm (in)	IN	Standard	41.290—41.390 (1.6256—1.6295)
		Minimum	41.140 (1.6197)
	EX	Standard	41.797—41.897 (1.6455—1.6495)
		Minimum	41.647 (1.6396)
Journal diameter mm (in)	Front and Rear (No. 1,5)		31.940—31.965 (1.2575—1.2585)
	Center (No. 2,3,4)		31.910—31.935 (1.2563—1.2573)
	Out-of-round	Maximum	0.05 (0.002)
Camshaft bearing oil clearance mm (in)	Front and Rear (No. 1,5)		0.035—0.085 (0.0014—0.0033)
	Center (No. 2,3,4)		0.065—0.115 (0.0026—0.0045)
		Maximum	0.15 (0.0059)
Camshaft runout mm (in)		Maximum	0.03 (0.0012)
Camshaft end play mm (in)		Standard	0.08—0.16 (0.003—0.006)
		Maximum	0.20 (0.008)
Rocker arm and rocker arm shaft			
Rocker arm inner diameter mm (in)			19.000—19.033 (0.748—0.749)
Rocker arm shaft diameter mm (in)			18.959—18.980 (0.746—0.747)
Rocker arm to shaft clearance mm (in)		Standard	0.020—0.074 (0.0008—0.0029)
		Maximum	0.10 (0.004)
Cylinder block			
Height mm (in)			289.0 (11.38)
Distortion mm (in)		Maximum	0.15 (0.006)
Grinding limit mm (in)			0.20 (0.008)
Cylinder bore diameter mm (in)	Standard		86.000—86.019 (3.3858—3.3866)
	0.25 (0.010) oversize		86.250—86.269 (3.3957—3.3964)
	0.50 (0.020) oversize		86.500—86.519 (3.4055—3.4062)
Cylinder bore taper and out-of-round mm (in)		Maximum	0.019 (0.0007)
Piston			
Piston diameter measured at 90° to pin bore axis and 18.0 mm (0.709 in) below oil ring groove mm (in)	Standard		85.944—85.964 (3.3836—3.3844)
	0.25 (0.010) oversize		86.194—86.214 (3.3935—3.3942)
	0.50 (0.020) oversize		86.444—86.464 (3.4033—3.4041)
Piston to cylinder clearance mm (in)		Standard	0.036—0.075 (0.0014—0.0030)
		Maximum	0.15 (0.0059)
Piston ring			
Thickness mm (in)		Top	1.47—1.49 (0.0579—0.0587)
		Second	1.47—1.49 (0.0579—0.0587)

Item \ Engine model			FE 12-valve
End gap measured in cylinder mm (in)		Top	0.20—0.35 (0.008—0.0138)
		Second	0.15—0.30 (0.006—0.012)
		Oil (rail)	0.20—0.70 (0.008—0.0276)
		Maximum	1.0 (0.039)
Ring groove width in piston mm (in)		Top	1.52—1.54 (0.0598—0.0606)
		Second	1.52—1.54 (0.0598—0.0606)
		Oil	4.02—4.04 (0.1583—0.1591)
Clearance of piston ring to ring groove mm (in)		Top	0.03—0.07 (0.0012—0.0028)
		Second	0.03—0.07 (0.0012—0.0028)
		Maximum	0.15 (0.006)
Piston pin			
Diameter mm (in)			21.974—21.980 (0.8651—0.8654)
Interference in connecting rod mm (in)			0.013—0.037 (0.0005—0.0015)
Piston to piston pin clearance mm (in)			0.008—0.024 (0.0003—0.0009)
Installation pressure N (kg, lb)			4,900—14,700 (500—1,500, 1,100—3,300)
Connecting rod and connecting rod bearing			
Length (Center to center) mm (in)			151.95—152.05 (5.982—5.986)
Twisting mm (in)			0.57 (0.0224) max.
Bending mm (in)			0.24 (0.0094) max.
Small end bore mm (in)			21.943—21.961 (0.8640—0.8646)
Big end bore mm (in)			54.002—54.017 (2.1261—2.1266)
Big end width mm (in)			26.838—26.890 (1.0566—1.0587)
Connecting rod side clearance mm (in)		Standard	0.110—0.262 (0.004—0.010)
		Maximum	0.30 (0.012)
Crankshaft			
Crankshaft runout mm (in)		Maximum	0.03 (0.0012)
Main journal diameter mm (in)	Standard size		59.937—59.955 (2.3597—2.3604)
	0.25 (0.010) undersize	Standard	59.693—59.711 (2.3501—2.3508)
		No.3	59.687—59.705 (2.3499—2.3506)
	0.50 (0.020) undersize	No. 1,2,4,5	59.443—59.461 (2.3403—2.3410)
		No. 3	59.437—59.455 (2.3400—2.3407)
	0.75 (0.030) undersize	No. 1,2,4,5	59.193—59.211 (2.3304—2.3311)
		No. 3	59.187—59.205 (2.3302—2.3309)
Main journal taper and out-of-round mm (in)		Maximum	0.05 (0.0020)
Crankpin diameter mm (in)	Standard		50.940—50.955 (2.0055—2.0061)
	0.25 (0.010) undersize		50.690—50.705 (1.9957—1.9963)
	0.50 (0.020) undersize		50.440—50.455 (1.9858—1.9864)
	0.75 (0.030) undersize		50.190—50.205 (1.9760—1.9766)
Crankpin taper and out-of-round mm (in)		Maximum	0.05 (0.0020)
Main bearing			
Main journal bearing oil clearance mm (in)	No. 1,2,4,5	Standard	0.025—0.043 (0.0010—0.0017)
		Maximum	0.08 (0.0031)
	No. 3	Standard	0.031—0.049 (0.0012—0.0019)
		Maximum	0.08 (0.0031)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020), 0.75 (0.030)
Crankpin bearing			
Crankpin bearing oil clearance mm (in)		Standard	0.027—0.067 (0.0011—0.0026)
		Maximum	0.10 (0.0039)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020), 0.75 (0.030)
Thrust bearing (center main bearing)			
Crankshaft end play mm (in)		Standard	0.08—0.18 (0.0031—0.0071)
		Maximum	0.30 (0.0118)
Bearing width mm (in)	Standard		27.94—27.99 (1.100—1.102)
	0.25 (0.010) oversize		28.04—28.09 (1.104—1.106)
	0.50 (0.020) oversize		28.12—28.17 (1.107—1.109)
	0.75 (0.030) oversize		28.20—28.25 (1.110—1.112)

Item \ Engine model	FE 12-valve
Timing belt	
Belt deflection mm (in)/98 N (10 kg, 22 lb)	5.5—6.5 (0.22—0.26)

8-valve

Item \ Engine model			FE 8-valve	F8	F6
Type			Gasoline, 4-cycle		
Cylinder arrangement and number			In-line, 4-cylinders		
Type of combustion chamber			Multispherical		
Valve system			OHC, belt-driven		
Bore x Stroke mm (in)			86.0 x 86.0 (3.39 x 3.39)	86.0 x 77.0 (3.39 x 3.03)	81.0 x 77.0 (3.19 x 3.03)
Total piston displacement cc (cu in)			1,998 (121.9)	1,789 (109.1)	1,587 (96.8)
Compression ratio			8.6 : 1		9.0 : 1
Compression pressure kPa (kg/cm², psi)-rpm	Standard		1,275 (13.0, 185)—270		1,128 (11.5, 164)—270
	Minimum		893 (9.1, 129)—270		790 (8.1, 114)—270
	Maximum difference between cylinders		196 (2.0, 28)		
Valve timing	IN	Open BTDC	20°	17°	
		Close ABDC	65°	56°	
	EX	Open BBDC	65°	64°	
		Close ATDC	20°	15°	
Valve clearance mm (in)		IN	0.30 (0.012)		
		EX	0.30 (0.012)		
Cylinder head					
Height mm (in)			91.95—92.05 (3.620—3.624)		
Distortion mm (in)		Maximum	0.15 (0.006)		
Grinding limit mm (in)		Maximum	0.20 (0.008)		
Valve and valve guide					
Valve head diameter mm (in)		IN	43.9—44.1 (1.728—1.736)		
		EX	35.9—36.1 (1.413—1.421)		
Valve head thickness (margin) mm (in)		IN	0.8—1.2 (0.031—0.047)		
		EX	1.3—1.7 (0.051—0.067)		
Valve face angle		IN	45°		
		EX	45°		
Valve length mm (in)	IN	Standard	111.89 (4.4051)		
		Minimum	111.39 (4.3854)		
	EX	Standard	111.69 (4.3972)		
		Minimum	111.19 (4.3776)		
Valve stem diameter mm (in)		IN	8.030—8.045 (0.3161—0.3167)		
		EX	8.025—8.040 (0.3159—0.3165)		
Guide inner diameter mm (in)		IN	8.07—8.09 (0.3177—0.3185)		
		EX	8.07—8.09 (0.3177—0.3185)		
Valve stem to guide clearance mm (in)		IN	0.025—0.060 (0.0010—0.0024)		
		EX	0.030—0.065 (0.0012—0.0026)		
		Maximum	0.20 (0.0079)		
Guide projection (Height "A") mm (in)			19.1—19.6 (0.752—0.772)		

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Item \ Engine model				FE 8-valve	F8	F6
Valve seat						
Seat angle			IN	45°		
			EX	45°		
Seat contact width mm (in)			IN	1.2—1.6 (0.047—0.063)		
			EX	1.2—1.6 (0.047—0.063)		
Seat sinking (Measure valve protruding length) mm (in)	IN		Standard	46.5 (1.831)		
			Maximum	48.0 (1.890)		
	EX		Standard	46.5 (1.831)		
			Maximum	48.0 (1.890)		
Valve spring						
Free length mm (in)	Outer		Standard	51.2 (2.016)	52.0 (2.047)	
			Minimum	50.6 (1.992)	51.5 (2.028)	
	Inner		Standard	45.7 (1.799)	44.0 (1.732)	
			Minimum	43.7 (1.720)	43.3 (1.705)	
Out-of-square mm (in)			Maximum	1.8 (0.071)		
Setting load/height N (kg, lb)/mm (in)			Outer	124 (12.7, 28) /36.5 (1.44)	128 (13.1, 29)/36.5 (1.44)	
			Inner	193 (19.6, 43) /41 (1.61)	189 (19.2, 42)/41 (1.61)	
Camshaft						
Cam lobe height mm (in)	IN		Standard	38.107—38.207 (1.5003—1.5042)		
			Minimum	37.957 (1.4944)		
	EX		Standard	38.110—38.210 (1.5004—1.5043)		
			Minimum	37.960 (1.4945)		
Journal diameter mm (in)	Front and Rear (No. 1,5)			31.940—32.035 (1.2575—1.2612)		
	Center (No. 2,3,4)			31.910—32.065 (1.2563—1.2624)		
	Out-of-round		Maximum	0.05 (0.002)		
Camshaft bearing oil clearance mm (in)	Front and Rear (No. 1,5)			0.035—0.085 (0.0014—0.0033)		
	Center (No. 2,3,4)			0.065—0.115 (0.0026—0.0045)		
			Maximum	0.15 (0.0059)		
Camshaft runout mm (in)			Maximum	0.03 (0.0012)		
Camshaft end play mm (in)			Standard	0.08—0.16 (0.003—0.006)		
			Maximum	0.20 (0.008)		
Rocker arm and rocker arm shaft						
Rocker arm inner diameter mm (in)				16.000—16.027 (0.6299—0.6310)		
Rocker arm shaft diameter mm (in)				15.966—15.984 (0.6286—0.6293)		
Rocker arm to shaft clearance mm (in)			Standard	0.016—0.061 (0.0006—0.0024)		
			Maximum	0.10 (0.004)		
Cylinder block						
Height mm (in)				289.0 (11.38)	268.5 (10.57)	
Distortion mm (in)			Maximum	0.15 (0.006)		
Grinding limit mm (in)				0.20 (0.008)		
Cylinder bore diameter mm (in)	Standard			86.000—86.019 (3.3858—3.3866)		81.000—81.019 (3.1890—3.1897)
	0.25 (0.010) oversize			86.250—86.269 (3.3957—3.3964)		81.250—81.269 (3.1988—3.1996)
	0.50 (0.020) oversize			86.500—86.519 (3.4055—3.4062)		81.500—81.519 (3.2087—3.2094)
	0.75 (0.030) oversize			—		81.750—81.769 (3.2185—3.2192)
	1.00 (0.039) oversize			—		82.000—82.019 (3.2283—3.2291)
Cylinder bore taper and out-of-round mm (in)			Maximum	0.019 (0.0007)		
Piston						
Piston diameter measured at 90° to pin bore axis and 18.0 mm (0.709 in) below oil ring groove mm (in)	Standard			85.944—85.964 (3.3836—3.3844)		80.944—80.964 (3.1868—3.1876)
	0.25 (0.010) oversize			86.194—86.214 (3.3935—3.3942)		81.194—81.214 (3.1966—3.1974)
	0.50 (0.020) oversize			86.444—86.464 (3.4033—3.4041)		81.444—81.464 (3.2065—3.2072)

Item	Engine model	FE 8-valve	F8	F6
0.75 (0.030) oversize		—		81.694—81.714 (3.2163—3.2171)
1.00 (0.039) oversize		—		81.944—81.964 (3.2261—3.2269)
Piston and cylinder clearance mm (in)	Standard	0.036—0.075 (0.0014—0.0030)		
	Maximum	0.15 (0.0059)		
Piston ring				
Thickness mm (in)	Top	1.47—1.49 (0.0579—0.0587)		
	Second	1.47—1.49 (0.0579—0.0587)		
End gap measured in cylinder mm (in)	Top	0.20—0.35 (0.008—0.0138)		
	Second	0.15—0.30 (0.006—0.012)		
	Oil (rail)	0.20—0.70 (0.008—0.0276)		
	Maximum	1.0 (0.039)		
Ring groove width in piston mm (in)	Top	1.52—1.54 (0.0598—0.0606)		
	Second	1.52—1.54 (0.0598—0.0606)		
	Oil	4.02—4.04 (0.1583—0.1591)		
Clearance of piston ring to ring groove mm (in)	Top	0.03—0.07 (0.0012—0.0028)		
	Second	0.03—0.07 (0.0012—0.0028)		
	Maximum	0.15 (0.006)		
Piston pin				
Diameter mm (in)		21.974—21.980 (0.8651—0.8654)		
Interference in connecting rod mm (in)		0.013—0.037 (0.0005—0.0015)		
Piston to piston pin clearance mm (in)		0.008—0.024 (0.0003—0.0009)		
Installation pressure N (kg, lb)		4,900—14,700 (500—1,500, 1,100—3,300)		
Connecting rod and connecting rod bearing				
Length (Center to center) mm (in)		151.95—152.05 (5.982—5.986)		135.95—136.05 (5.352—5.356)
Twisting mm (in)		0.57 (0.0224) max.		
Bending mm (in)		0.24 (0.0094) max.		
Small end bore mm (in)		21.943—21.961 (0.8640—0.8646)		
Big end bore mm (in)		54.002—54.017 (2.1261—2.1266)		
Big end width mm (in)		26.838—26.890 (1.0566—1.0587)		
Connecting rod side clearance mm (in)	Standard	0.110—0.262 (0.004—0.010)		
	Maximum	0.30 (0.012)		
Crankshaft				
Crankshaft runout mm (in)	Maximum	0.03 (0.0012)		
Main journal diameter mm (in)	Standard size	59.937—59.955 (2.3597—2.3604)		
	0.25 (0.010) undersize Standard	59.693—59.711 (2.3051—2.3508)		
	0.25 (0.010) undersize No. 3	59.687—59.705 (2.3499—2.3506)		
	0.50 (0.020) undersize No. 1,2,4,5	59.443—59.461 (2.3403—2.3410)		
	0.50 (0.020) undersize No. 3	59.437—59.455 (2.3400—2.3407)		
	0.75 (0.030) undersize No. 1,2,4,5	59.193—59.211 (2.3304—2.3311)		
	0.75 (0.030) undersize No. 3	59.187—59.205 (2.3302—2.3309)		
Main journal taper and out-of-round mm (in)	Maximum	0.05 (0.0020)		
Crankpin diameter mm (in)	Standard	50.940—50.955 (2.0055—2.0061)		
	0.25 (0.010) undersize	50.690—50.705 (1.9957—1.9963)		
	0.50 (0.020) undersize	50.440—50.455 (1.9858—1.9864)		
	0.75 (0.030) undersize	50.190—50.205 (1.9760—1.9766)		
Crankpin taper and out-of-round mm (in)	Maximum	0.05 (0.0020)		
Main bearing				
Main journal bearing oil clearance mm (in)	No. 1,2,4,5 Standard	0.025—0.043 (0.0010—0.0017)		
	No. 1,2,4,5 Maximum	0.08 (0.0031)		
	No. 3 Standard	0.031—0.049 (0.0012—0.0019)		
	No. 3 Maximum	0.08 (0.0031)		
Available undersize bearing mm (in)		0.25 (0.010), 0.50 (0.020), 0.75 (0.030)		
Crankpin bearing				
Crankpin bearing oil clearance mm (in)	Standard	0.027—0.067(0.0011—0.0026)		
	Maximum	0.10 (0.0039)		
Available undersize bearing mm (in)		0.25 (0.010), 0.50 (0.020), 0.75 (0.030)		

Item	Engine model	FE 8-valve	F8	F6
Thrust bearing (center main bearing)				
Crankshaft end play mm (in)	Standard	0.08—0.18 (0.0031—0.0071)		
	Maximum	0.30 (0.0118)		
Bearing width mm (in)	Standard	27.94—27.99 (1.100—1.102)		
	0.25 (0.010) oversize	28.04—28.09 (1.104—1.106)		
	0.05 (0.020) oversize	28.12—28.17 (1.107—1.109)		
	0.75 (0.030) oversize	28.20—28.25 (1.110—1.112)		
Timing belt				
Belt deflection mm (in)/98 N (10 kg, 22 lb)		5.5—6.5 (0.22—0.26)	4.0—5.0 (0.16—0.20)	

1B. ENGINE (FE DOHC)

Item	Engine model	FE DOHC
Type		Gasoline, 4-cycle
Cylinder arrangement and number		In-line, 4-cylinders
Type of combustion chamber		Pentroof
Valve system		OHC, belt-driven
Bore x Stroke mm (in)		86.0 x 86.0 (3.39 x 3.39)
Total piston displacement cc (cu in)		1,998 (121.9)
Compression ratio		10.0 : 1
Compression pressure kPa (kg/cm², psi)-rpm	Standard	1,422 (14.5, 206)—290
	Minimum	996 (10.2, 144)—290
	Maximum difference between cylinders	196 (2.0, 28)
Valve timing IN	Open BTDC	10°
	Close ABDC	60°
Valve timing EX	Open BBDC	60°
	Close ATDC	10°
Valve clearance mm (in)	IN	0; Maintenance free
	EX	0; Maintenance free
Cylinder head		
Height mm (in)		133.95—134.05 (5.274—5.278)
Distortion mm (in)	Maximum	0.15 (0.006)
Grinding mm (in)	Maximum	0.20 (0.008)
HLA to cylinder head clearance mm (in)	Standard	0.025—0.066 (0.0010—0.0026)
	Maximum	0.18 (0.0071)
Valve and valve guide		
Valve head diameter mm (in)	IN	33.6—33.8 (1.323—1.331)
	EX	28.8—29.0 (1.134—1.142)
Valve head thickness (margin) mm (in)	IN	1.0—1.7 (0.039—0.067)
	EX	1.1—1.7 (0.043—0.067)
Valve face angle	IN	45°
	EX	45°
Valve length mm (in) IN	Standard	103.18 (4.0622)
	Minimum	102.68 (4.0425)
Valve length mm (in) EX	Standard	103.94 (4.0921)
	Minimum	103.44 (4.0724)
Valve stem diameter mm (in)	IN	5.970—5.985 (0.2350—0.2356)
	EX	5.965—5.980 (0.2348—0.2354)
Guide inner diameter mm (in)	IN	6.01—6.03 (0.2366—0.2374)
	EX	6.01—6.03 (0.2366—0.2374)
Valve stem to guide clearance mm (in)	IN	0.025—0.060 (0.0010—0.0024)
	EX	0.030—0.065 (0.0012—0.0026)
	Maximum	0.20 (0.0079)
Guide projection (Height "A") mm (in)		11.4—11.9 (0.449—0.469)

Item \ Engine model			FE DOHC
Valve seat			
Seat angle		IN	45°
		EX	45°
Seat contact width mm (in)		IN	1.2—1.6 (0.047—0.063)
		EX	1.2—1.6 (0.047—0.063)
Seat sinking (Measure valve protruding length) mm (in)	IN	Standard	36.8 (1.449)
		Maximum	37.8 (1.488)
	EX	Standard	36.8 (1.449)
		Maximum	37.8 (1.488)
Valve spring			
Free length mm (in)	Outer	Standard	39.1 (1.539)
		Minimum	38.7 (1.524)
	Inner	Standard	38.0 (1.496)
		Minimum	37.7 (1.484)
Out-of-square mm (in)		Maximum	Outer.....1.4 (0.055), Inner.....1.3 (0.051)
Setting load/height N (kg, lb)/mm (in)		Outer	78 (8.0, 17.6)/31.5 (1.240)
		Inner	123 (12.5, 27.5)/33.0 (1.299)
Camshaft			
Cam lobe height mm (in)	IN	Standard	45.005—45.105 (1.772—1.776)
		Minimum	44.855 (1.7659)
	EX	Standard	45.005—.45.105 (1.772—1.776)
		Minimum	44.855 (1.7659)
Journal diameter mm (in)			29.940—29.965 (1:1787—1.1797)
	Out-of-round	Maximum	0.05 (0.002)
Camshaft bearing oil clearance mm (in)			0.035—0.085 (0.0014—0.0033)
		Maximum	0.15 (0.0059)
Camshaft runout mm (in)		Maximum	0.03 (0.0012)
Camshaft end play mm (in)		Standard	0.08—0.10 (0.003—0.004)
		Maximum	0.20 (0.008)
Cylinder block			
Height mm (in)			289.0 (11.38)
Distortion mm (in)		Maximum	0.15 (0.006)
Grinding limit mm (in)			0.20 (0.008)
Cylinder bore diameter mm (in)	Standard		86.000—86.019 (3.3858—3.3866)
	0.25 (0.010) oversize		86.250—86.269 (3.3957—3.3964)
	0.50 (0.020) oversize		86.500—86.519 (3.4055—3.4062)
Cylinder bore taper and out-of-round mm (in)		Maximum	0.019 (0.0007)
Piston			
Piston diameter measured at 90° to pin bore axis and 18.0 mm (0.709 in) below oil ring groove mm (in)	Standard		85.944—85.964 (3.3836—3.3834)
	0.25 (0.010) oversize		86.194—86.214 (3.3935—3.3942)
	0.50 (0.020) oversize		86.444—86.464 (3.4033—3.4041)
Piston to cylinder clearance mm (in)		Standard	0.036—0.075 (0.0014—0.0030)
		Maximum	0.15 (0.0059)
Piston ring			
Thickness mm (in)		Top	1.47—1.49 (0.0579—0.0587)
		Second	1.47—1.49 (0.0579—0.0587)

30 TECHNICAL DATA

Item			Engine model: FE DOHC
End gap measured in cylinder mm (in)		Top	0.20—0.35 (0.008—0.0138)
		Second	0.15—0.30 (0.006—0.012)
		Oil (rail)	0.20—0.70 (0.008—0.0276)
		Maximum	1.0 (0.039)
Ring groove width in piston mm (in)		Top	1.52—1.54 (0.0598—0.0606)
		Second	1.52—1.54 (0.0598—0.0606)
		Oil	4.02—4.04 (0.1583—0.1591)
Clearance of piston ring to ring groove mm (in)		Top	0.03—0.07 (0.0012—0.0028)
		Second	0.03—0.07 (0.0012—0.0028)
		Maximum	0.15 (0.006)
Piston pin			
Diameter mm (in)			21.987—21.993 (0.8656—0.8659)
Connecting rod to piston pin clearance mm (in)			0.010—0.027 (0.0004—0.0011)
Piston to piston pin clearance mm (in)			−0.005—0.011 (−0.0002—0.0004)
Connecting rod and connecting rod bearing			
Length (Center and center) mm (in)			149.95—150.05 (5.904—5.907)
Twisting mm (in)			0.57 (0.0224) max.
Bending mm (in)			0.24 (0.0094) max.
Small end bore mm (in)			22.003—22.014 (0.8663—0.8667)
Big end bore mm (in)			54.002—54.017 (2.1261—2.1266)
Big end width mm (in)			26.838—26.890 (1.0566—1.0587)
Connecting rod side clearance mm (in)		Standard	0.110—0.262 (0.004—0.010)
		Maximum	0.30 (0.012)
Crankshaft			
Crankshaft runout mm (in)		Maximum	0.03 (0.0012)
Main journal diameter mm (in)	Standard size		59.937—59.955 (2.3597—2.3604)
	0.25 (0.010) undersize	Standard	59.693—59.711 (2.3051—2.3508)
		No. 3	59.687—59.705 (2.3499—2.3506)
	0.50 (0.020) undersize	No. 1,2,4,5	59.443—59.461 (2.3403—2.3410)
		No. 3	59.437—59.455 (2.3400—2.3407)
	0.75 (0.030) undersize	No. 1,2,4,5	59.193—59.211 (2.3304—2.3311)
		No. 3	59.187—59.205 (2.3302—2.3309)
Main journal taper and out-of-round mm (in)		Maximum	0.05 (0.0020)
Crankpin diameter mm (in)	Standard		50.940—50.955 (2.0055—2.0061)
	0.25 (0.010) undersize		50.690—50.705 (1.9957—1.9963)
	0.50 (0.020) undersize		50.440—50.455 (1.9858—1.9864)
	0.75 (0.030) undersize		50.190—50.205 (1.9760—1.9766)
Crankpin taper and out-of-round mm (in)		Maximum	0.05 (0.0020)
Main bearing			
Main journal bearing oil clearance mm (in)	No. 1,2,4,5	Standard	0.025—0.043 (0.0010—0.0017)
		Maximum	0.08 (0.0031)
	No. 3	Standard	0.031—0.049 (0.0012—0.0019)
		Maximum	0.08 (0.0031)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020), 0.75 (0.030)
Crankpin bearing			
Crankpin bearing oil clearance mm (in)		Standard	0.027—0.067 (0.0011—0.0026)
		Maximum	0.10 (0.0039)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020), 0.75 (0.030)
Thrust bearing (center main bearing)			
Crankshaft end play mm (in)		Standard	0.08—0.18 (0.0031—0.0071)
		Maximum	0.30 (0.0118)
Bearing width mm (in)	Standard		27.94—27.99 (1.100—1.102)
	0.25 (0.010) oversize		28.04—28.09 (1.104—1.106)
	0.50 (0.020) oversize		28.12—28.17 (1.107—1.109)
	0.75 (0.030) oversize		28.20—28.25 (1.110—1.112)
Timing belt			
Belt deflection mm (in)/98 N (10 kg, 22 lb)			8.5—9.5 (0.33—0.37)

1C. ENGINE (F2)

Item \ Engine model			F2	
			Turbo	Non-Turbo
Type			Gasoline, 4 cycle	
Cylinder arrangement and number			In-line, 4 cylinders	
Type of combustion chamber			Pentroof	
Valve system			OHC, belt driven	
Bore x Stroke mm (in)			86.0 x 94.0 (3.39 x 3.70)	
Total piston displacement cc (cu in)			2,184 (133.2)	
Compression ratio			7.8 : 1	8.6 : 1
Compression pressure kPa (kg/cm^2, psi)-rpm	Standard		960 (9.8, 139)-260	1,120 (11.4, 162)-270
	Minimum		680 (6.9, 98)-260	780 (8.0, 114)-270
	Maximum difference between cylinders		196 (2.0, 28)	
Valve timing	IN	Open BTDC	10°	
		Close ABDC	49°	
	EX	Open BBDC	55°	
		Close ATDC	12°	
Valve clearance mm (in)		IN	0; Maintenance free	
		EX	0; Maintenance free	
Cylinder head				
Height mm (in)			91.95—92.05 (3.620—3.624)	
Distortion mm (in)		Maximum	0.15 (0.006)	
Grinding limit mm (in)		Maximum	0.20 (0.008)	
Valve and valve guide				
Valve head diameter mm (in)		IN	32.4—32.6 (1.276—1.283)	
		EX	33.9—34.1 (1.335—1.343)	
Valve head thickness (margin) mm (in)		IN	0.8—1.2 (0.031—0.047)	
		EX	1.3—1.7 (0.051—0.067)	
Valve face angle		IN	45°	
		EX	45°	
Valve length mm (in)	IN	Standard	115.81 (4.5594)	
		Minimum	115.31 (4.5398)	
	EX	Standard	116.21 (4.5752)	
		Minimum	115.71 (4.5555)	
Valve stem diameter mm (in)		IN	6.970—6.985 (0.2744—0.2750)	
		EX	6.965—6.980 (0.2742—0.2748)	
Guide inner diameter mm (in)		IN	7.01—7.03 (0.2760—0.2768)	
		EX	7.01—7.03 (0.2760—0.2768)	
Valve stem to guide clearance mm (in)		IN	0.025—0.060 (0.0010—0.0024)	
		EX	0.030—0.065 (0.0012—0.0026)	
		Maximum	0.20 (0.0079)	
Guide projection (Height "A") mm (in)			19.8—20.3 (0.780—0.799)	
Valve seat				
Seat angle		IN	45°	
		EX	45°	
Seat contact width mm (in)		IN	1.2—1.6 (0.047—0.063)	
		EX	1.2—1.6 (0.047—0.063)	
Seat sinking (Measure valve protruding length) mm (in)	IN	Standard	50.2 (1.976)	
		Maximum	51.0 (2.008)	
	EX	Standard	50.2 (1.976)	
		Maximum	51.0 (2.008)	

30 TECHNICAL DATA

Item \ Engine model			F2	
			Turbo	Non-Turbo
Valve spring				
Free length mm (in)	IN	Standard	49.5 (1.949)	
		Minimum	48.3 (1.902)	
	EX	Standard	50.4 (1.984)	
		Minimum	49.2 (1.937)	
Out-of-square mm (in)		Maximum	1.7 (0.067)	
Setting load/height N (kg, lb)/mm (in)		IN	203—230 (20.7—23.4, 45.5—51.5)/41 (1.614)	
		EX	240—272 (24.5—27.7, 53.9—60.9)/41 (1.614)	
Camshaft				
Camlobe height mm (in)	IN	Standard	41.290—41.390 (1.6256—1.6295)	
		Minimum	41.140 (1.6197)	
	EX	Standard	41.797—41.897 (1.6455—1.6495)	
		Minimum	41.647 (1.6396)	
Journal diameter mm (in)	Front and Rear (No. 1,5)		31.940—31.965 (1.2575—1.2585)	
	Center (No. 2,3,4)		31.910—31.935 (1.2563—1.2573)	
	Out-of-round	Maximum	0.05 (0.002)	
Camshaft bearing oil clearance mm (in)	Front and Rear (No. 1,5)		0.035—0.085 (0.0014—0.0033)	
	Center (No. 2,3,4)		0.065—0.115 (0.0026—0.0045)	
		Maximum	0.15 (0.0059)	
Camshaft runout mm (in)		Maximum	0.03 (0.0012)	
Camshaft end play mm (in)		Standard	0.08—0.16 (0.003—0.006)	
		Maximum	0.20 (0.008)	
Rocker arm and rocker arm shaft				
Rocker arm inner diameter mm (in)			19.000—19.033 (0.748—0.749)	
Rocker arm shaft diameter mm (in)			18.959—18.980 (0.746—0.747)	
Rocker arm to shaft clearance mm (in)		Standard	0.020—0.074 (0.0008—0.0029)	
		Maximum	0.10 (0.004)	
Cylinder block				
Height mm (in)			301.5 (11.87)	
Distortion mm (in)		Maximum	0.15 (0.006)	
Grinding limit mm (in)			0.20 (0.008)	
Cylinder bore diameter mm (in)	Standard		86.000—86.019 (3.3858—3.3866)	
	0.25 (0.010) oversize		86.250—86.269 (3.3957—3.3964)	
	0.50 (0.020) oversize		86.500—86.519 (3.4055—3.4062)	
Cylinder bore taper and out-of-round mm (in)		Maximum	0.019 (0.0007)	
Piston				
Piston diameter measured at 90° to pin bore axis and 18.0 mm (0.709 in) below oil ring groove mm (in)	Standard		85.944—85.964 (3.3836—3.3844)	
	0.25 (0.010) oversize		86.194—86.214 (3.3935—3.3942)	
	0.50 (0.020) oversize		86.444—86.464 (3.4033—3.4041)	
Piston and cylinder clearance mm (in)		Standard	0.036—0.075 (0.0014—0.0030)	
		Maximum	0.15 (0.0059)	
Piston ring				
Thickness mm (in)		Top	1.47—1.49 (0.0579—0.0587)	
		Second	1.47—1.49 (0.0579—0.0587)	
End gap measured in cylinder mm (in)		Top	0.20—0.35 (0.008—0.0138)	
		Second	0.15—0.30 (0.006—0.012)	
		Oil (rail)	0.20—0.70 (0.008—0.0276)	
		Maximum	1.0 (0.039)	
Ring groove width in piston mm (in)		Top	1.52—1.54 (0.0598—0.0606)	
		Second	1.52—1.54 (0.0598—0.0606)	
		Oil	4.02—4.04 (0.1583—0.1591)	

Item			Engine model	F2	
				Turbo	Non-Turbo
Clearance of piston ring to ring groove mm (in)			Top	0.03—0.07 (0.0012—0.0028)	
			Second	0.03—0.07 (0.0012—0.0028)	
			Maximum	0.15 (0.006)	
Piston pin					
Diameter mm (in)				21.974—21.980 (0.8651—0.8654)	
Interference in connecting rod mm (in)				0.013—0.037 (0.0005—0.0015)	
Piston to piston pin clearance mm (in)				0.008—0.024 (0.0003—0.0009)	
Installtion pressure N (kg, lb)				4,900—14,700 (500—1,500, 1,100—3,300)	
Connecting rod and connecting rod bearing					
Length (Center to center) mm (in)				158.45—158.55 (6.238—6.242)	
Twisting mm (in)				0.57 (0.0224) max.	
Bending mm (in)				0.24 (0.0094) max.	
Small end bore mm (in)				21.943—21.961 (0.8640—0.8646)	
Big end bore mm (in)				54.002—54.017 (2.1261—2.1266)	
Big end width mm (in)				26.838—26.890 (1.0566—1.0587)	
Connecting rod side clearance mm (in)			Standard	0.110—0.262 (0.004—0.010)	
			Maximum	0.30 (0.012)	
Crankshaft					
Crankshaft runout mm (in)			Maximum	0.03 (0.0012)	
Main journal diameter mm (in)	Standard size			59.937—59.955 (2.3597—2.3604)	
	0.25 (0.010) undersize		Standard	59.693—59.711 (2.3051—2.3508)	
			No. 3	59.687—59.705 (2.3499—2.3506)	
	0.50 (0.020) undersize		No. 1,2,4,5	59.443—59.461 (2.3403—2.3410)	
			No. 3	59.437—59.455 (2.3400—2.3407)	
	0.75 (0.030) undersize		No. 1,2,4,5	59.193—59.211 (2.3304—2.3311)	
			No. 3	59.187—59.205 (2.3302—2.3309)	
Main journal taper and out-of-round mm (in)			Maximum	0.05 (0.0020)	
Crank pin diameter mm (in)	Standard			50.940—50.955 (2.0055—2.0061)	
	0.25 (0.010) undersize			50.690—50.705 (1.9957—1.9963)	
	0.50 (0.020) undersize			50.440—50.455 (1.9858—1.9864)	
	0.75 (0.030) undersize			50.190—50.205 (1.9760—1.9766)	
Crank pin taper and out-of-round mm (in)			Maximum	0.05 (0.0020)	
Main bearing					
Main journal bearing oil clearance mm (in)	No. 1,2,4,5		Standard	0.025—0.043 (0.0010—0.0017)	
			Maximum	0.08 (0.0031)	
	No. 3		Standard	0.031—0.049 (0.0012—0.0019)	
			Maximum	0.08 (0.0031)	
Available undersize bearing mm (in)				0.25 (0.010), 0.50 (0.020), 0.75 (0.030)	
Crank pin bearing					
Crank pin bearing oil clearance mm (in)			Standard	0.027—0.067 (0.0011—0.0026)	
			Maximum	0.10 (0.0039)	
Available undersize bearing mm (in)				0.25 (0.010), 0.50 (0.020), 0.75 (0.030)	
Thrust bearing (center main bearing)					
Crankshaft end play mm (in)			Standard	0.08—0.18 (0.0031—0.0071)	
			Maximum	0.30 (0.0118)	
Bearing width mm (in)	Standard			27.94—27.99 (1.100—1.102)	
	0.25 (0.010) oversize			28.04—28.09 (1.104—1.106)	
	0.50 (0.020) oversize			28.12—28.17 (1.107—1.109)	
	0.75 (0.030) oversize			28.20—28.25 (1.110—1.112)	
Timing belt					
Belt deflection mm (in)/98 N (10 kg, 22 lb)				8.0—9.0 (0.31—0.35)	

2. LUBRICATION SYSTEM

Item \ Engine model			F2		FE DOHC	F6,F8,FE SOHC
			Turbo	Non-Turbo		
Lubrication system			Force-fed			
Oil pump						
Type			Trochoid gear			Crescent gear
Regulated pressure	kPa (kg/cm², psi)		392 (4.0, 57)		490 (5.0, 71)	392 (4.0, 57)
Oil pressure	kPa (kg/cm², psi)	1,000 rpm	147—245 (1.5—2.5, 21—36)			
		3,000 rpm	294—392 (3.0—4.0, 43—57)		343—441 (3.5—4.5, 50—64)	294—392 (3.0—4.0, 43—57)
Inner rotor tooth tip to outer rotor clearance	mm (in)	Standard	0.044—0.084 (0.0017—0.0033)			—
		Maximum	0.18 (0.0071)			
Outer rotor to body clearance	mm (in)	Standard	0.09—0.176 (0.0035—0.0069			
		Maximum	0.20 (0.008)			
Side clearance	mm (in)	Standard	0.03—0.09 (0.0012—0.0035)			
		Maximum	0.10 (0.004)			
Inner gear tooth tip to crescent clearance	mm (in)	Standard	—			0.267—0.38 (0.011—0.015)
		Maximum				0.40 (0.016)
Outer gear tooth tip to crescent clearance	mm (in)	Standard				0.20—0.32 (0.008—0.0126)
		Maximum				0.35 (0.0138)
Outer gear to body clearance	mm (in)	Standard				0.09—0.184 (0.0035—0.0072)
		Maximum				0.20 (0.008)
Side clearance	mm (in)	Standard				0.03—0.063 (0.0012—0.0025)
		Maximum				0.10 (0.004)
Oil filter						
Type			Full flow, paper element			
Relief pressure differential	kPa (kg/cm², psi)		78—118 (0.8—1.2, 11—17)			
Oil cooler						
Type			Water cooled			
Oil pressure switch						
Activation pressure	kPa (kg/cm², psi)		29 (0.3, 4.3)			
Engine oil						
Capacity	liters (US qt, Imp qt)	Total (dry engine)	4.6 (4.9, 4.0)		4.3 (4.5, 3.8)	
		Oil pan	3.9 (4.1, 3.4)		3.6 (3.8, 3.2)	
		Oil filter	0.3 (0.32, 0.26)		0.2 (0.21, 0.18)	0.3 (0.32, 0.26)
Grade (API service)			SF	SD, SE, or SF		
Viscosity number	30°C (86°F) or over		SAE 40			
	0°C—40°C (32°F—104°F)		SAE 30			
	−10°C—20°C (14°F—68°F)		SAE 20W-20			
	−10°C—50°C (14°F—122°F) or over		SAE 20W-40 or 20W-50			
	−25°C—30°C (−13°F—86°F)		SAE 10W-30			
	−25°C—50°C (−13°F—122°F) or over		SAE 10W-40 or 10W-50			
	0°C—30°C (32°F—−22°F) or below		SAE 5W-30			
	−20°C (−4°F) or below		SAE 5W-20			

COOLING SYSTEM

Item \ Engine model			FE DOHC	FE 12-valve	F6,F8, FE 8-valve, F2
ɔoling system			Water-cooled, forced circulation		
ater pump					
ɾpe			Centrifugal, timing belt driven		
ıpeller diameter		mm (in)	70 (2.76)		
ɹmber of impeller blades			6		
ɔeed ratio			1 : 1.00	1 : 1.05	
ater seal type			Unified mechanical seal		
ıermostat					
ɾpe			Wax, 2-stage	Wax	
art to open		°C (°F)	Sub: 83.5—86.5 (182—188) Main: 86.5—89.5 (188—193)	86.5—89.5 (188—193)	80.5—83.5 (177—182)
ıll open		°C (°F)	100 (212)		95 (203)
t		mm (in)	Sub: 1.5 (0.06) min. Main: 8.0 (0.31) min.	8.5 (0.33) min.	
ıdiator					
pe			Corrugated fin		
ıp opening valve pressure		kPa (kg/cm², psi)	74—103 (0.75—1.05, 11—15)		
ɔoling system pressure		kPa (kg/cm², psi)	103 (1.05, 15)		
ɔoling fan					
pe			Electric		
ıpacity	W	MTX	80		
		ATX	—	120 (160 ...only F2 Turbo)	
ırrent	A	MTX	5.6—7.6		
		ATX	—	8.0—11.0 (10.6—16.6 ...only F2 Turbo)	
ɹmber of blades			4		
ıter diameter		mm (in)	MTX	320 (12.6)	
			ATX	—	340 (13.4)
ɣitching temperature OFF → ON		°C(°F)	97 (207)		91 (196)
ɔolant					
ıpacity	liters (US qt, Imp qt)	With heater	7.5 (7.9, 6.6)		
		Without heater	7.0 (7.4, 6.2)		

	Protection	Mixture percentage (volume) %		Specific gravity of mixture at 20°C (68°F)
		Water	Solution	
ıtifreeze solution	Above −16°C (3°F)	65	35	1.054
	Above −26°C (−15°F)	55	45	1.066
	Above −40°C (−40°F)	45	55	1.078

30 TECHNICAL DATA

4A. FUEL AND EMISSION CONTROL SYSTEMS (CARBURETOR)
F6 and F8 Engine

Engine				F6		F8	
Specification				**New Zealand**	**RHD**	**RHD**	**LHD**
Idle speed rpm	MTX			800 $^{+50}_{0}$			
	ATX (in N range)				950 $^{+50}_{0}$	900 $^{+50}_{0}$	
CO concentration %				2.0 ± 0.5 (Without secondary air injection)			
Carburetor							
Type				Down draft, two barrel			
Throat diameter mm (in)	Primary			30 (1.18)			
	Secondary			34 (1.34)			
Venturi diameter mm (in)	Primary			23.5 (0.93)			
	Secondary			29.0 (1.14)			
Main nozzle mm (in)	Primary			2.6 (0.10)			
	Secondary			2.8 (0.11)			
Main jet mm (in)	Primary	MTX		1.10 (0.0433)	1.09 (0.0429)	1.14 (0.045)	1.09 (0.0429)
		ATX			1.08 (0.0425)	1.12 (0.044)	
	Secondary			1.50 (0.059)			
Main air bleed mm (in)	Primary	MTX		0.60 (0.024)	0.60 (0.024)	0.55 (0.022)	0.60 (0.024)
		ATX			0.80 (0.031)	0.60 (0.024)	
	Secondary			0.50 (0.020)			
Slow jet mm (in)	Primary			0.48 (0.019)	0.46 (0.018)		
	Secondary			1.00 (0.039)			
Slow air bleed mm (in)	Primary		No. 1	0.80 (0.031)			
			No. 2	1.90 (0.075)			
	Secondary		No. 1	1.00 (0.039)		0.80 (0.031)	1.00 (0.039)
			No. 2	0.50 (0.020)			
Power jet mm (in)				0.50 (0.020)			
Fast idle adjustment mm (in) Clearance between primary throttle valve and bore				1.40—1.76(0.055—0.069)		MTX: 0.48—0.64 (0.019—0.025) ATX: 0.56—0.72 (0.022—0.028)	1.40—1.73 (0.055—0.063)
Float level adjustment mm (in)	Max. fuel flow "L" Clearance between float and air horn without gasket			44 (1.73)			
	Fuel stop "H" Clearance between float and air horn/without gasket; float lowered by own weight			12.5 (0.49)			
Choke breaker diaphragm mmHg (in Hg)	Start			180—240 (7.1—9.5)		100—160 (3.9—6.3)	180—240 (7.1—9.5)
	Stop			290—350 (11.4—13.8)		220—280 (8.7—11.0)	290—350 (114—13.8)
Choke opener mmHg (in Hg)	Start				35—65 (1.4—2.6)		35—65 (1.4—2.6)
	Stop				130—190 (5.1—7.5)		130—190 (5.1—7.5)
Accelerator linkage							
Free play of cable at carburetor mm (in)				1—3 (0.039—0.118)			
Fuel tank capacity Liters (US gal, Imp gal)				60 (15.9, 13.2)			
Fuel pump							
Type				Mechanical pump			
Delivery pressure kPa (kg/cm^2, psi)				20—26 (0.20—0.27, 2.8—3.8)			
Feeding capacity cc/min (cu in/min)				More than 860 (52.5) at idle			
Fuel filter							
Type				Paper element with magnet			
Air cleaner							
Fresh-Hot switching				Manual	Diaphragm type		
Element type				Oil permeated paper			
Fuel specification				Leaded regular			

FE Engine

Engine			FE		
Specification			**LHD**	**RHD and New Zealand**	**Australia**
Idle speed	rpm	MTX	800 $^{+50}_{0}$		850 $^{+50}_{0}$
		ATX	900 $^{+50}_{0}$ (in N range)		
CO concentration	%		2.0 ± 0.5 (Without secondary air injection)		
Carburetor					
Type			Down draft, two barrel		
Throat diameter	mm (in)	Primary	30 (1.18)		
		Secondary	34 (1.34)		
Venturi diameter	mm (in)	Primary	23.5 (0.93)		
		Secondary	29.0 (1.14)		
Main nozzle	mm (in)	Primary	2.6 (0.10)		
		Secondary	2.8 (0.11)		
Main jet	mm (in)	Primary MTX	1.09 (0.0429)	1.14 (0.045)	1.10 (0.0433)
		Primary ATX	1.08 (0.0425)	1.12 (0.044)	1.09 (0.0429)
		Secondary	1.50 (0.059)	1.55 (0.061)	1.50 (0.059)
Main air bleed	mm (in)	Primary MTX	0.60 (0.024)	0.50 (0.020)	0.50 (0.020)
		Primary ATX	0.80 (0.031)	0.55 (0.022)	
		Secondary	0.50 (0.020)		
Slow jet	mm (in)	Primary	0.46 (0.018)		
		Secondary MTX	1.00 (0.039)	1.10 (0.043)	1.20 (0.047)
		Secondary ATX			
Slow air bleed	mm (in)	Primary No. 1	0.80 (0.031)		
		Primary No. 2	1.90 (0.075)		
		Secondary No. 1	1.00 (0.039)	0.80 (0.031)	
		Secondary No. 2	0.50 (0.020)		
Power jet	mm (in)		0.50 (0.020)		
Fast idle adjustment Clearance between primary throttle valve and bore	mm (in)	MTX	1.40—1.76 (0.055—0.069)	0.48—0.64 (0.019—0.025)	
		ATX		0.56—0.72 (0.022—0.028)	
Float level adjustment	mm (in)	Max. fuel flow "L" Clearance between float and air horn without gasket	44 (1.73)		49 (1.93)
		Fuel stop "H" Clearance between float and air horn without gasket float lowered by own weight	12.5 (0.49)		13.5 (0.53)
Choke breaker diaphragm	mmHg (in Hg)	Start	180—240 (7.1—9.5)	100—160 (3.9—6.3)	80 (3.1)
		Stop	290—350 (11.4—13.8)	220—280 (8.7—11.0)	220 (8.7)
Choke opener	mmHg (in Hg)	Start	35—65 (1.4—2.6)	30—70 (1.2—2.8)	
		Stop	130—190 (5.1—7.5)	130—190 (5.1—7.5)	
Accelerator linkage					
Free play of cable at carburetor	mm (in)		1—3 (0.039—0.118)		
Fuel tank capacity	Liters (US gal, Imp gal)		60 (15.9, 13.2)		
Fuel pump					
Type			Mechanical pump		
Delivery pressure	kPa (kg/cm^2, psi)		20—26 (0.20—0.27, 2.8—3.8)	20—29 (0.20—0.30, 2.8—4.3)	20—26 (0.20—0.27, 2.8—3.8)
Feeding capacity	cc/min (cu in/min)		More than 860 (52.5) at idle		
Fuel filter					
Type			Paper element with magnet		
Air cleaner					
Fresh-Hot switching			Diaphragm		Manual
Element type			Oil permeated paper		
Fuel specification			Leaded regular	Leaded super Unleaded super	Unleaded regular

4B. FUEL AND EMISSION CONTROL SYSTEM (FE DOHC)

Item			Specification
Idle speed		rpm	With test connector grounded 750 ± 50
Throttle body			Horizotal draft (2-barrel)
Type			46 (1.8)
Throat diameter	mm (in)	No.1	40 (1.6)
		No. 2	
Fuel pump			Impeller (in tank)
Type			441—588 (4.5—6.0, 64—85)
Output pressure		kPa (kg/cm^2, psi)	220 (13.4) min.
Feeding capacity		cc (cu in)/10 seconds	
Fuel filter			Nylon element
Type	Low-pressure side		Paper element
	High-pressure side		
Pressure regulator			Diaphragm
Type			235—275 (2.4—2.8, 34—40)
Regulating pressure		kPa (kg/cm^2, psi)	
Injector			High-ohmic
Type			Voltage
Type of drive			12—16
Resistance		Ω	66—91 (4.03—5.55)
Injection amount		cc (cu in)/15 seconds	
Idle speed control valve			6.3—9.9
Solenoid resistance		Ω	
Fuel tank			60 (15.9, 13.2)
Capacity		liters (US gal, Imp gal)	
Air cleaner			Dry
Element type			
Fuel			Leaded or unleaded premium
Specification			

4C, 4D FUEL AND EMISSION CONTROL SYSTEM (F2)

Item \ Engine model			Non-Turbo	Turbo
Idle speed		rpm	With test connector grounded 750 ± 25 (ATX: P range)	
Throttle body				
Type			Horizontal draft (2-barrel)	
Throat diameter	mm (in)	No. 1	MTX: 40 (1.6), ATX: 46 (1.8)	
		No. 2	MTX: 46 (1.8), ATX: 40 (1.6)	
Air flow meter				
Resistor	Ω	E_2—Vs	Fully closed: 20—400 Fully open: 20—1,000	
		E_2—Vc	100—400	
		E_2—V_B	200—400	
		E_2—THA	−20°C (−4°F) 13,600—18,400 20°C (68°F) 2,210— 2,690 60°C (140°F) 493— 667	
Fuel pump				
Type			Impeller (in tank)	
Output pressure	kPa (kg/cm², psi)		441—588 (4.5—6.0, 64—85)	
Feeding capacity	cc (cu in)/10 seconds		220 (13.4) min.	
Fuel filter				
Type	Low-pressure side		Nylon element	
	High-pressure side		Paper element	
Pressure regulator				
Type			Diaphragm	
Regulating pressure	kPa (kg/cm², psi)		235—275 (2.4—2.8, 34—40)	
Injector				
Type			High-ohmic	
Type of drive			Voltage	
Resistance	Ω		12—16	11—15
Injection amount	cc (cu in)/15 seconds		44—61 (2.68—3.72)	73—90 (4.45—5.49)
Idle speed control valve				
Solenoid resistance	Ω		6.3—9.9	
Turbocharger				
Cooling method			Engine coolant	
Lubrication method			Engine oil	
Boost pressure (Maximum)	kPa (kg/cm², psi)		60 (0.61, 8.7): Solenoid duty value 100% 45 (0.46, 6.5): Solenoid duty value 0%	
Fuel tank				
Capacity	liters (US gal, Imp gal)		60 (15.9, 13.2)	
Air cleaner				
Element type			Oil permeated	
Fuel				
Specification			Unleaded regular	Unleaded premium (Unleaded regular)

5. ENGINE ELECTRICAL SYSTEM

Item \ Engine			F6	F8	FE (8 VALVE)	FE (12 VALVE)	FE (DOHC)
Battery	Voltage V		12, Negative ground				
	Type and capacity (20 hour rate)		34B19L(S): (33 Ah)				
Alternator	Type		A.C.				
	Output V—A		12—70				
	Regulator type		Transistorized (built-in IC regulator)				
	Regulated voltage V		14.1—14.7				
	Brush length mm (in)	Standard	16.5 (0.650)				
		Minimum	8.0 (0.315)				
	Drive belt tension mm (in)/98 N (10 kg, 22 lb)		New: 6—8 (0.24—0.32), Used: 7—9 (0.28—0.35)				
Starter	Type		Coaxial reduction: FE (12 VALVE) and F2 Non-reduction: Others				
	Output V—kW		12—0.85	12—0.95		12—1.4	12—0.95
	Brush length mm (in)	Standard	17.0 (0.669)				
		Minimum	11.5 (0.453)				
Ignition timing			6 ± 1° BTDC (Vacuum hose disconnected)				12 ± 1° BTDC (Test connector grounded)
Distributor	Type		Fully transistorized (HEI)				Electronic spark advance
	Centrifugal spark advance (crank angle/engine speed) degree/rpm		**F6** –2—2/1,000 6—10/2,100 14—18/6,100 **F8** –2—2/1,000 10—14/2,100 18—22/6,100 **FE (8 VALVE)** Unleaded fuel (MTX) –2—2/1,760 12—16/3,360 22—26/5,320 (ATX) –2—2/1,300 12—16/3,360 22—26/5,320 **Others** –2—2/1,460 10—14/2,540 22—26/5,540 **FE (12 VALVE)** –2—2/1,200 10—14/2,400 10—14/4,000 16—20/5,000				
	Vacuum spark advance (Crank angle/Vacuum) degree/mmHg (inHg)		**F6 and F8** –2—2/100 (3.9) 6—10/300 (11.8) **FE (8 VALVE)** Unleade fuel –2—2/120 (4.7) 8—12/245 (9.6) **Others** (MTX) –2—2/100 (3.9) 16—20/250 (9.8) (ATX) –2—2/100 (3.9) 10—14/200 (7.9) **FE (12 VALVE)** –2—2/120 (4.7) 11—15/300 (11.8)				
Spark plug	Type		**FE (8 VALVE)*** NGK: BPR5ES-11, BPR6ES-11 Nippon Denso: W16EXR-U11, W20EXR-U11 **Others** NGK: BPR5ES, BPR6ES Nippon Denso: W16EXR-U, W20EXR-U Motorcaft: AGR44CU, AGR34CU		NGK: BCPR5E, BCPR6E BCPR7E Nippon Denso: Q16PR-U, Q20PR-U, Q22PR-U		NGK: BCPR5E BCPR6E BCPR7E
	Plug gap mm (in)		**FE (8 VALVE)*** 1.0—1.1 (0.039—0.043) **Others** 0.75—0.85 (0.030—0.033)		0.7—0.8 (0.028—0.031)		0.7—0.8 (0.028—0.031)
Firing order			1—3—4—2				

* Australia

Item	Engine	F2	
		Non-Turbo	Turbo
Battery	Voltage V	12, Negative ground	
	Type and capacity (20 hour rate)	34B 19L(S): (33 Ah)	
Alternator	Type	A.C.	
	Output V—A	12—70	
	Regulator type	Transistorized (built-in IC regulator)	
	Regulated voltage V	14.1—14.7	
	Brush length mm (in) Standard	16.5 (0.650)	
	Brush length mm (in) Minimum	8 (0.315)	
	Drive belt tension mm (in)/98 N (10 kg, 22 lb)	New: 6—8 (0.24—0.32), Used: 7—9 (0.28—0.35)	
Starter	Type	Coaxial reduction: FE (12 VALVE) and F2 Non-reduction: Others	
	Output V-kW	12—1.4	
	Brush length mm (in) Standard	17.5 (0.689)	
	Brush length mm (in) Minimum	10.0 (0.394)	
Ignition timing		6° ± 1° BTDC (Vacuum hose disconnected)	9° ± 1° BTDC (Test connector ground)
Distributor	Type	Fully transistorized (HEI)	Electronic spark advance
	Centrifugal spark advance (crank angle/engine speed) degree/rpm	**F2—Non-Turbo** –1.2—2/1,200 9.8—16/2,400 12—16/3,500 16—20/4,500	
	Vacuum spark advance (crank angle/vacuum) degree/mmHg (in Hg)	**F2—Non-Turbo** [A chamber] –2—2/110 (4.3) 18—22/275 (10.8) [B chamber] –2.8—0/110 (4.3) –8—–2.8/200 (7.9)	
Spark plug	Type	NGK: ZFR5A-11 ZFR6A-11 ZFR7A-11 Nippon Denso: QJ16CR11 QJ20CR11 QJ22CR11	
	Plug gap mm (in)	1.0—1.1 (0.039—0.043)	
Firing order		1—3—4—2	

6. CLUTCH

Item \ Engine model		F6	F8	FE	FE DOHC	F2 Non-Turbo	F2 Turbo
Clutch control							
Type		Hydraulic					
Master cylinder inner diameter	mm (in)	15.87 (0.625)					
Release cylinder inner diameter	mm (in)	19.05 (0.750)					
Clutch fluid type		DOT-3 or DOT-4, FMVSS 116, or SAE J1703					
Clutch pedal							
Type		Suspended					
Pedal ratio	LHD	6.00					
	RHD	5.96					
Full stroke	mm (in)	135 (5.31)					
Height	mm (in)	216.5—221.5 (8.524—8.720)					
Free play	mm (in)	5—13 (0.20—0.51)					
Distance to floor when clutch fully disengaged mm (in)	LHD	68 (2.7) or more					
	RHD	85 (3.3) or more					
Flywheel							
Deflection	mm (in)	0.2 (0.008) max.					
Grinding limit	mm (in)	0.5 (0.020) max.					
Clutch disc							
Type		Single dry plate					
Set load	N (kg, lb)	3434 (350, 770)	3846 (392, 862)	4316 (440, 968)			5499 (560, 1235)
Runout	mm (in)	1.0 (0.039) max.					
Wear limit	mm (in)	0.3 (0.012) from rivet head					
Outer diameter	mm (in)	200 (7.874)	215 (8.465)	225 (8.858)			240 (9.449)
Inner diameter	mm (in)	130 (5.118)	150 (5.906)				160 (6.299)
Facing thickness mm (in)	Flywheel side	3.5 (0.14)					
	Pressure plate side	4.1 (0.16)					3.5 (0.14)
Clutch cover							
Type		Diaphragm spring					
Runout	mm (in)	0.05 (0.0020) max.					
Grinding limit	mm (in)	0.5 (0.020)					

7A. MANUAL TRANSAXLE

Item \ Engine model / MTX model			F6	F8	FE	F2 Non-Turbo	F2 Turbo
			G Type				H Type
Transmission							
Shift lever position			Floor shift				
Gear ratio	First		3.307				3.250
	Second		1.833				1.772
	Third		1.310	1.233			1.194
	Fourth		1.030	0.970		0.914	0.926
	Fifth		0.837	0.795		0.717	0.711
	Reverse		3.166				3.461
Oil capacity liters (US qt, Imp qt)			3.35 (3.6, 3.0)				3.65 (3.9, 3.3)
Fluid type			ATF: DEXRON-II Above 0°F: API GL-4 or GL-5 SAE80W—90 or SAE90				
Clearance							
Clearance of lever and reverse idle gear mm (in)	Standard		0.1—0.32 (0.004—0.013)				
	Wear limit		0.37 (0.015)				
Clearance of shift fork and clutch hub sleeve mm (in)	Standard	1st/2nd	0.2—0.4 (0.008—0.016)				0.05—0.408 (0.002—0.016)
		Others					0.1—0.408 (0.004—0.016)
	Wear limit		0.458 (0.018)				
Clearance of synchronizer ring and gear mm (in)	Standard		1.5 (0.059)				
	Wear limit		0.8 (0.021)				
Gear thrust clearance mm (in)	First		0.05—0.28 (0.002—0.011)				0.130—0.354 (0.0051—0.0139)
	Second		0.18—0.46 (0.007—0.018)				0.150—0.262 (0.0059—0.0103)
	Third		0.05—0.20 (0.002—0.008)				0.150—0.262 (0.0059—0.0103)
	Fourth		0.17—0.37 (0.0064—0.014)				0.150—0.262 (0.0059—0.0103)
Bearing preload of primary shaft gear N·m (cm-kg, in-lb)			Primary shaft: 0.1—0.25 (1.0—2.5, 0.86—2.18) Secondary shaft: 0.2—0.4 (2.0—4.0, 1.7—3.4)				
Bearing preload adjust shim mm (in)			0.25 (0.010), 0.30 (0.012), 0.35 (0.014), 0.40 (0.016), 0.45 (0.018), 0.50 (0.020), 0.55 (0.022), 0.60 (0.024), 0.65 (0.026), 0.70 (0.028), 0.75 (0.030), 0.80 (0.031)				
Differential							
Final gear	Type		Helical gear				
	Reduction ratio		3.850		4.105		
Side bearing preload			1.4—2.0 N·m (14—20 cm-kg, 12—17 in-lb)				
Bearing preload adjust shim mm (in)			0.10 (0.004), 0.15 (0.006), 0.20 (0.008), 0.25 (0.010), 0.30 (0.012), 0.35 (0.014), 0.40 (0.016), 0.45 (0.018), 0.50 (0.020), 0.55 (0.022), 0.60 (0.024), 0.65 (0.026), 0.70 (0.028), 0.75 (0.030), 0.80 (0.031), 0.85 (0.033), 0.90 (0.035), 0.95 (0.037), 1.00 (0.039), 1.05 (0.041), 1.10 (0.043), 1.15 (0.045), 1.20 (0.047)				
Backlash of side gear and pinion gear mm (in)			0—0.1 (0—0.004)				

7B. AUTOMATIC TRANSAXLE (ELECTRONICALLY CONTROLLED AND 4-SPEED)

Item	Model	G4A-EL (EC-AT)		G4A-HL (4-Speed)	
		Turbo	Non-Turbo	FE engine	F8 engine
Gear ratio	1st	2.800			
	2nd	1.540			
	3rd	1.000			
	4th (OD)	0.700			
	Reverse	2.333			
Oil capacity liters (US qt, Imp qt)		6.8 (7.2, 6.0)			
Fluid type		ATF Dexron II or M III			
Fluid level with the engine idling in P		Between F and L marks on gauge			
Stall speed					
After brake-in	D, S, L rpm	2120—2420		2430—2530	2180—2280
	R rpm	2080—2380		2390—2490	2140—2240
Time lag					
N → D sec		0.5—1.0		0.4—1.2	
N → R sec		0.5—1.0		0.4—1.5	
Line pressure					
D, S, L	Idle kPa (kg/cm², psi)	353—432 (3.6—4.4, 51—63)		350—490 (3.6—5.0, 51—71)	
	Stall kPa (kg/cm², psi)	873—1,040 (8.4—10.6, 127—151)		980—1230 (10.0—12.5, 142—178)	
R	Idle kPa (kg/cm², psi)	598—942 (6.1—9.6, 87—137)		600—830 (6.1—8.5, 87—121)	
	Stall kPa (kg/cm², psi)	1,668—2,011 (17.0—20.5, 242—292)		1470—1960 (15.0—20.0, 213—284)	
Throttle pressure					
D	Idle kPa (kg/cm², psi)	39—88 (0.4—0.9, 6—13)		83—113 (0.85—1.15, 12—16)	
	Stall kPa (kg/cm², psi)	471—589 (4.8—6.0, 68—85)		540—610 (5.5—6.2, 78—88)	
Governor pressure					
D	30 km/h (19 mph) kPa (kg/cm², psi)	—		79—114 (0.81—1.16, 12—16)	82—117 (0.84—1.19, 12—17)
	55 km/h (34 mph) kPa (kg/cm², psi)	—		146—190 (1.49—1.94, 21—28)	157—201 (1.60—2.05, 23—29)
	85 km/h (53 mph) kPa (kg/cm², psi)	—		276—339 (2.81—3.46, 40—49)	302—366 (3.08—3.73, 44—53)

ft point (G4A-EL)

Throttle condition (Throttle sensor voltage)	Shift	Drum speed rpm		Vehicle speed km/h (mph)	
		Non-Turbo	Turbo	Non-Turbo	Turbo
Fully opened (4.3 volt)	D1→D2	5,000—5,500	4,900—5,500	54—56 (33—35)	53—59 (33—37)
	D2→D3	5,300—5,700	5,100—5,500	105—113 (65—70)	100—108 (62—67)
	D3→OD	5,400—5,700	5,450—5,800	165—175 (102—109)	
Half throttle (1.6—2.2 volt)	D1→D2	3,500—4,050	3,550—4,150	38—44 (24—27)	
	D2→D3	3,750—4,250	3,850—4,350	75—85 (47—53)	
	D3→OD	3,600—4,250	3,650—4,300	110—130 (68—81)	
	Lock-up ON (OD)	2,500—3,000	2,800—3,000	110—130 (68—81)	
	Lock-up OFF (OD)	2,400—2,850	2,400—2,900	104—124 (64—77)	
	OD→D3	1,950—2,450	1,800—2,300	85—107 (53—66)	77—99 (48—61)
	D3→D2	1,750—2,300	1,700—2,100	54—70 (33—43)	51—63 (32—39)
Kick-down	OD→D3	3,500—3,700	3,550—3,800	153—163 (95—101)	
	OD→D2	2,150—2,350	2,150—2,300	94—102 (58—63)	92—100 (57—62)
	OD→D1	950—1,100	1,000—1,150	42—48 (26—30)	44—50 (27—31)
	D3→D2	3,050—3,350	3,050—3,300	94—102 (40—63)	92—100 (57—62)
	D3→D1	1,350—1,550	1,450—1,650	42—48 (26—30)	44—50 (27—31)
	D2→D1	2,200—2,400	2,250—2,550	42—48 (26—30)	44—50 (27—31)
Fully opened (4.3 volt)	D1→D2	4,900—5,450	4,750—5,300	54—60 (33—37)	51—57 (32—35)
	D2→D3	5,100—5,500	4,900—5,300	102—110 (63—68)	96—104 (60—64)
	D3→OD	5,400—5,700	5,450—5,800	165—175 (102—109)	
Half throttle (1.6—2.2 volt)	D1→D2	2,800—3,350	3,200—3,850	31—37 (19—23)	
	D2→D3	3,000—3,400	3,450—3,900	60—68 (37—42)	
	D3→OD	2,900—3,450	3,350—4,000	89—107 (55—66)	
	Lock-up ON (OD)	2,050—2,500	2,400—2,850	91—109 (56—68)	
	Lock-up OFF (OD)	1,950—2,350	2,250—2,700	85—103 (53—64)	
	OD→D3	1,600—1,950	1,400—1,850	70—86 (43—53)	54—70 (33—43)
	D3→D2	1,200—1,550	1,250—1,550	38—48 (24—30)	34—42 (21—26)
Kick-down	OD→D3	3,500—3,700	3,550—3,800	153—163 (95—101)	
	OD→D2	2,050—2,250		90—98 (56—61)	89—97 (55—60)
	OD→D1	950—1,100	1,000—1,150	42—48 (26—30)	44—50 (27—31)
	D3→D2	2,950—3,200		90—98 (56—61)	89—97 (55—60)
	D3→D1	1,350—1,550	1,450—1,650	42—48 (26—30)	44—50 (27—31)
	D2→D1	2,100—2,400	2,250—2,550	42—48 (26—30)	44—50 (27—31)
Fully opened (4.3 volt)	S1→S2	5,000—5,500	4,900—5,500	54—56 (33—35)	53—59 (33—37)
	S2→S3	5,300—5,700	5,100—5,500	105—113 (65—70)	100—108 (62—67)
	S4→S3	3,750—4,000	3,850—4,050	165—175 (102—109)	
	S3→S2	3,050—3,350	3,050—3,300	94—102 (40—63)	92—100 (57—62)
	S2→S1	2,200—2,400	2,250—2,550	42—48 (26—30)	44—50 (27—31)
Half throttle (1.6—2.2 volt)	S1→S2	3,500—4,050	3,350—4,150	38—44 (24—27)	
	S2→S3	3,750—4,250	3,850—4,350	75—85 (47—53)	
	S4→S3	1,950—2,450	1,800—2,300	85—107 (53—66)	77—99 (48—61)
	S3→S2	1,750—2,300	1,700—2,100	54—70 (33—43)	51—63 (32—39)
Fully opened (4.3 volt)	L1→L2	5,000—5,500	4,900—5,500	54—56 (33—35)	53—59 (33—37)
	L2→L1	2,200—2,400	2,250—2,550	42—48 (26—30)	44—50 (27—31)
Half throttle (1.6—2.2 volt)	L1→L2	3,500—4,050	3,350—4,150	38—44 (24—27)	
—	D2→D3	850—1,150	1,000—1,350	17—23 (11—14)	
	D3→D2	250—400	250—500	7—13 (4—8)	
Fully closed (0.5 volt)	OD→D3	3,750—4,000	4,350—4,600	165—175 (102—109)	
	S3→S2	3,600—3,850	4,100—4,400	110—118 (68—73)	108—116 (67—72)
	L2→L1	2,150—2,450	2,200—2,500	43—49 (27—30)	

Shift point (G4A-HL)

Range	Throttle condition	Shifting	Vehicle speed km/h (mph)	
			FE engine	F8 engine
D	Fully opened	1st → 2nd	50—65 (31—40)	47—62 (29—38)
		2nd → 3rd	100—115 (62—71)	94—109 (58—68)
	Half throttle (1/2)	1st → 2nd	17—32 (11—20)	16—31 (10—19)
		2nd → 3rd	42—57 (26—35)	
		3rd → OD	79—94 (49—58)	74—89 (46—55)
		Lock-up	74—89 (46—55)	
	Kick-down	OD → 3rd	More than 88 (55)	More than 82 (51)
		OD → 2nd	34—103 (21—64)	33—97 (20—60)
		OD → 1st	27—49 (17—30)	26—48 (16—30)
		3rd → 2nd	34—103 (21—64)	33—97 (20—60)
		3rd → 1st	11—49 (7—30)	10—48 (6—30)
		2nd → 1st	4—49 (2—30)	3—48 (2—30)
1	Fully opened	1st → 2nd	56—71 (35—44)	52—67 (32—42)
	Half throttle	1st → 2nd	56—71 (35—44)	52—67 (32—42)
	Kick-down	2nd → 1st	46—61 (29—38)	43—58 (27—36)

Item \ Model			G4A-EL (EC-AT)		G4A-HL (4-speed)	
			Turbo	Non-Turbo	FE engine	F8 engine
Torque converter						
Stall torque ratio			1.600—1.800 : 1	1.700—1.900 : 1	1.900—2.100 : 1	
Bushing diameter	mm (in)	Standard	53.030 (2.088)			
		Maximum	53.076 (2.090)			
Oil pump						
Clearance						
Cam ring to oil pump cover	mm (in)	Standard	0.005—0.020 (0.0002—0.0008)			
		Maximum	0.080 (0.003)			
Rotor to oil pump cover	mm (in)	Standard	0.005—0.020 (0.0002—0.0008)			
		Maximum	0.030 (0.0012)			
Vane to oil pump cover	mm (in)	Standard	0.015—0.050 (0.0006—0.0020)			
		Maximum	0.080 (0.003)			
Seal pin to oil pump cover	mm (in)	Standard	0.005—0.020 (0.0002—0.0008)			
		Maximum	0.060 (0.002)			
Vane to rotor groove	mm (in)	Standard	0.010—0.045 (0.0004—0.0018)			
		Maximum	0.065 (0.0026)			
Sleeve outer diameter	mm (in)	Standard	28.00 (0.102)			
Rotor bushing in inner diameter	mm (in)	Standard	28.00 (1.102)			
		Maximum	28.05 (1.104)			
Seal pin outer diameter	mm (in)	Standard	5.00 (0.197)			
		Minimum	4.90 (0.193)			
Guide ring outer diameter	mm (in)	Standard	57.85 (2.278)			
		Minimum	57.70 (2.272)			
Valve outer diameter	mm (in)	Standard	12.00 (0.472)			
		Minimum	11.86 (0.467)			

Item		Model	G4A-EL (EC-AT)		G4A-HL (4-speed)	
			Turbo	Non-Turbo	FE engine	F8 engine
Forward clutch						
Number of drive/driven plate			4/4	3/3		
Drive plate thickness	mm (in)	Standard	1.6 (0.063)			
		Minimum	1.4 (0.055)			
Forward clutch clearance		mm (in)	1.0—1.2 (0.040—0.047)			
Retaining plate sizes		mm (in)	5.9 (0.232), 6.1 (0.240), 6.3 (0.248), 6.5 (0.256), 6.7 (0.264), 8.9 (0.350)			
Coasting clutch						
Number of drive/driven plates			2/2			
Drive plate thickness	mm (in)	Standard	1.6 (0.063)			
		Minimum	1.4 (0.055)			
Coasting clutch clearance		mm (in)	1.0—1.2 (0.040—0.047)			
Retaining plate sizes		mm (in)	4.6 (0.181), 4.8 (0.189), 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.220)			
Return spring free length		mm (in)	29.8 (1.173)			
Reverse clutch						
Number of drive/driven plates			2/2			
Driven plate thickness	mm (in)	Standard	1.6 (0.063)			
		Minimum	1.4 (0.055)			
Reverse clutch clearance		mm (in)	2.1—2.4 (0.083—0.094)			
Retaining plate sizes		mm (in)	6.6 (0.260), 6.8 (0.268), 7.0 (0.276), 7.2 (0.283), 7.4 (0.291), 7.6 (0.299)			
2-4 clutch						
Number of drive/driven plates			5/5		4/4	
Drive plate thickness	mm (in)	Standard	1.6 (0.063)			
		Minimum	1.4 (0.055)			
2-4 clutch clearance		mm (in)	1.3—1.5 (0.051—0.059)			
Retaining plate sizes		mm (in)	3.8 (0.150), 4.0 (0.157), 4.2 (0.165), 4.4 (0.173), 4.6 (0.181), 4.8 (0.189)		4.8 (0.819), 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.220)	
Return spring free length		mm (in)	33.2 (1.307)			
Low and reverse brake						
Number of drive/driven plates			5/5	4/4		
Drive plate thickness	mm (in)	Standard	1.6 (0.063)			
		Minimum	1.4 (0.055)			
Low and reverse brake clearance		mm (in)	2.1—2.4 (0.083—0.094)			
Retaining plate sizes		mm (in)	6.8 (0.268), 7.0 (0.276), 7.2 (0.283), 7.4 (0.291), 7.6 (0.299), 7.8 (0.307)			
Return spring free length		mm (in)	20.5 (0.807)			
Sun gear drum bushing	mm (in)	Maximum	33.425 (1.316)			
Small sun gear bushing	mm (in)	Maximum	24.021 (0.946)			
Carrier hub						
Clearance between pinion washer and planet carrier	mm (in)	Maximum	0.2—0.7 (0.008—0.028)			
Servo						
Free length of return spring	mm (in)	Standard	42.0 (1.654)	43.25 (1.703)	42.0 (1.654)	43.25 (1.703)
2-3 accumulator valve						
2-3 accumulator valve spring	mm (in)	Standard	75.4 (2.968)	83.3 (3.280)	76.0 (2.992)	

Control valve spring (G4A-EL)

Spring name		Outer dia. mm (in)	Free length mm (in)	Wire dia. mm (in)	Spring color
1-2 accumulator small spring	Non-Turbo	10.8 (0.425)	96.1 (3.788)	1.3 (0.051)	Light green
1-2 accumulator large spring	Non-Turbo	16.0 (0.630)	87.1 (3.429)	2.1 (0.083)	Red
	Turbo	12.8 (0.504)	83.6 (3.291)	1.7 (0.067)	White
Bypass, servo control spring	Non-Turbo	5.0 (0.197)	33.4 (1.315)	0.55 (0.022)	Maroon
	Turbo	5.0 (0.197)	37.1 (1.461)	0.55 (0.022)	White
2-3 timing spring		8.3 (0.327)	26.5 (1.043)	0.8 (0.031)	—
N/R accumulator rear spring		11.1 (0.437)	62.0 (2.441)	1.2 (0.047)	Light green
N/D accumulator front spring	Non-Turbo	9.8 (0.386)	52.9 (2.083)	1.0 (0.039)	Brown
	Turbo	9.8 (0.386)	68.0 (2.677)	1.1 (0.043)	Orange
Coasting bypass spring		5.8 (0.228)	37.7 (1.484)	0.6 (0.024)	Dark blue
3-2 timing spring		8.2 (0.323)	28.6 (1.126)	0.8 (0.031)	Red
3-2 capacity spring		5.4 (0.213)	30.6 (1.205)	0.5 (0.020)	White
Throttle relief ball spring		6.6 (0.260)	21.6 (0.850)	0.8 (0.031)	—
Pressure modifier spring		8.3 (0.327)	26.5 (1.043)	0.8 (0.031)	—
Low reducing spring		8.7 (0.343)	38.3 (1.508)	0.9 (0.035)	Black
1-2 shift spring		8.7 (0.343)	41.3 (1.626)	1.0 (0.039)	Yellow
2-3, 3-4 shift spring		7.4 (0.291)	36.6 (1.441)	0.8 (0.031)	Gray
Throttle backup spring		9.65 (0.380)	26.9 (1.060)	0.55 (0.022)	Red
Throttle modulator spring		6.3 (0.248)	47.9 (1.886)	0.8 (0.031)	—
Throttle assist spring		5.15 (0.203)	32.3 (1.272)	0.55 (0.022)	Dark green
Throttle spring		5.4 (0.213)	47.2 (1.858)	0.8 (0.031)	Pink
Converter relief ball spring		6.9 (0.272)	24.1 (0.949)	0.9 (0.035)	Maroon
Orifice check valve spring		5.0 (0.197)	12.5 (0.492)	0.23 (0.009)	—
Pressure regulator spring		11.5 (0.453)	26.5 (1.043)	1.0 (0.039)	Maroon
Lock-up control spring		5.0 (0.197)	35.2 (1.386)	0.6 (0.024)	Purple

Control valve springs (G4A-HL)

Spring name		Outer dia. mm (in)	Free length mm (in)	Wire dia. mm (in)	Spring color
1-2 accumulator small spring	F8 engine	9.9 (0.400)	84.7 (3.335)	1.2 (0.047)	Red
1-2 accumulator large spring	FE engine	13.0 (0.512)	73.2 (2.881)	1.8 (0.071)	Pink
	F8 engine	16.0 (0.630)	84.7 (3.335)	2.0 (0.079)	White
Bypass spring		5.0 (0.197)	25.1 (0.988)	0.7 (0.028)	Yellow
Servo control spring		4.9 (0.193)	27.1 (1.067)	0.5 (0.020)	Light blue
2-3 timing spring		8.3 (0.327)	26.5 (1.043)	0.8 (0.031)	—
N-R accumulator rear spring		11.1 (0.437)	68.2 (2.685)	1.0 (0.039)	Blue
N-D accumulator front spring		9.8 (0.386)	60.9 (2.398)	1.1 (0.043)	Yellow
Low reducing spring		8.7 (0.343)	38.3 (1.508)	0.9 (0.035)	Black
OD release spring		6.0 (0.236)	32.6 (1.283)	0.6 (0.024)	Orange
Coasting bypass spring		5.8 (0.228)	31.3 (1.232)	0.6 (0.024)	Yellow
3-2 timing spring		8.2 (0.323)	28.55 (1.124)	0.8 (0.031)	Maroon
3-2 capacity spring		5.55 (0.219)	30.5 (1.201)	0.55 (0.022)	Light green
Throttle relief ball spring		6.6 (0.260)	20.3 (0.799)	0.8 (0.031)	Light green
1-2 shift control spring		5.5 (0.217)	46.0 (1.811)	0.5 (0.020)	Light green
1-2 shift spring		5.0 (0.197)	24.9 (0.980)	0.5 (0.020)	Gray
2-3 shift spring		6.1 (0.240)	39.7 (1.563)	0.65 (0.026)	Pink
3-4 shift spring		6.4 (0.252)	37.0 (1.457)	0.6 (0.024)	—
Throttle backup spring		6.4 (0.252)	33.5 (1.319)	0.6 (0.024)	Pink
Throttle modulator front spring		5.0 (0.197)	27.8 (1.094)	0.6 (0.024)	Red
Throttle modulator rear spring		7.15 (0.281)	30.8 (1.213)	0.85 (0.033)	Red
1 range control spring		6.15 (0.242)	39.2 (1.543)	0.65 (0.026)	White
2 range control spring		3.95 (0.156)	32.1 (1.264)	0.45 (0.018)	—
Kick-down spring		5.4 (0.213)	38.1 (1.500)	0.8 (0.031)	—
Throttle assist spring		5.15 (0.203)	32.3 (1.272)	0.55 (0.022)	Dark green
Throttle spring		5.4 (0.213)	48.3 (1.902)	0.8 (0.031)	—

Spring name	Outer dia. mm (in)	Free length mm (in)	Wire dia. mm (in)	Spring color
Converter relief ball spring	6.9 (0.272)	24.1 (0.949)	0.9 (0.035)	Maroon
Orifice check valve spring	5.0 (0.197)	12.5 (0.492)	0.23 (0.009)	—
Pressure regulator spring	9.5 (0.374)	30.7 (1.209)	0.7 (0.028)	—
Lock-up control spring	7.3 (0.287)	46.2 (1.819)	0.8 (0.031)	Blue
Lock-up support spring	6.1 (0.240)	43.5 (1.713)	0.65 (0.026)	Blue
OD lock-up spring	7.1 (0.280)	66.5 (2.618)	0.8 (0.031)	Red

Item \ Model		G4A-EL (EC-AT)		G4A-HL (4-speed)	
		Turbo	Non-Turbo	FE engine	F8 engine
Gear assembly					
Total end play	mm (in)	0.25—0.50 (0.010—0.020)			
End play adjust race	mm (in)	1.2 (0.047), 1.4 (0.055), 1.6 (0.063), 1.8 (0.071), 2.0 (0.079), 2.2 (0.087)			
Idle gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.8)			
Preload adjust shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008)			
Output gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.8)			
Preload adjust shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.50 (0.020)			
Drive and differential					
Final gear	Type	Helical gear			
	Reduction ratio	3,700 : 1			
Side bearing preload	N·m (cm-kg, in-lb)	2.9—3.9 (30—40, 26—35)			
Preload adjust shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.50 (0.020), 0.70 (0.028), 1.00 (0.039)			
Backlash of side gear and pinion	mm (in) Standard	0.025—0.1 (0.001—0.004)			
	Maximum	0.5 (0.020)			
Torque converter distance "A" (Refer to page 7B—214)	mm (in)	25 (0.984)			

7C. AUTOMATIC TRANSAXLE (3-SPEED)

Item \ Engine model			FE engine	F6 engine
Model			F3A	
Gear ratio		1st	2.841	
		2nd	1.541	
		3rd	1.000	
		Reverse	2.400	
Oil capacity		Liters (US qt, Imp qt)	6.2 (6.6, 5.5)	
Fluid type			ATF Dexron-II or M-III	
Fluid level with the engine idling at P			Between F and L marks on gauge	
Stall revolution				
After brake in		rpm	2050—2150	1800—2050
Line pressure				
D, 1	Idle	kPa (kg/cm², psi)	294—392 (3—4, 43—57)	
	Stall	kPa (kg/cm², psi)	883—1079 (9—11, 128—156)	
2	Idle	kPa (kg/cm², psi)	785—1177 (8—12, 114—171)	
	Stall	kPa (kg/cm², psi)	785—1177 (8—12, 114—171)	
R	Idle	kPa (kg/cm², psi)	392—687 (4—7, 57—100)	
	Stall	kPa (kg/cm², psi)	1570—1864 (16—19, 228—270)	
Governor pressure				
D	30 km/h (19 mph)	kPa (kg/cm², psi)	78—137 (0.8—1.4, 11—20)	
	50 km/h (31 mph)	kPa (kg/cm², psi)	157—226 (1.6—2.3, 23—33)	
	85 km/h (53 mph)	kPa (kg/cm², psi)	314—402 (3.2—4.1, 46—58)	
Line pressure cut back				
Vacuum of vacuum pump			Governor pressure kPa (kg/cm², psi)	
0 mmHg (0 inHg)			98—157 (1.0—1.6, 14—23)	
200 mmHg (7.87 inHg)			39—98 (0.4 —1.0, 6—14)	
Shift point				
Range	Throttle condition (manifold vacuum)	Shifting	Shift point speed km/h (mph)	
D	Fully opened 0—100 mmHg (0—3.94 inHg)	1st → 2nd	47—57 (29—35)	44—54 (27—33)
		2nd → 3rd	106—119 (66—74)	95—108 (59—67)
		3rd → 2nd	95—103 (59—64)	86—94 (53—58)
		2nd → 1st	35—39 (22—24)	34—38 (21—24)
	Half throttle 130 mmHg (5.12 inHg)	1st → 2nd	18—31 (11—19)	18—31 (11—19)
		2nd → 3rd	39—68 (24—42)	44—73 (27—45)
	Fully closed	2nd → 1st	10—15 (6—9)	10—15 (6—9)
1	Fully closed	2nd → 1st	32—39 (20—24)	33—40 (20—25)
Torque converter				
Stall torque ratio			1.800—2.100 : 1	
Bushing inner diameter		mm (in) Standard	33.000—33.025 (1.299—1.300)	
		mm (in) Maximum	33.075 (1.302)	
Oil pump				
Clearance				
Gear and pump cover		mm (in) Standard	0.02—0.04 (0.0008—0.0016)	
		mm (in) Maximum	0.08 (0.0031)	
Outer gear and crescent		mm (in) Standard	0.14—0.21 (0.0055—0.0083)	
		mm (in) Maximum	0.25 (0.0098)	
Outer gear and housing		mm (in) Standard	0.05—0.20 (0.002—0.0079)	
		mm (in) Maximum	0.25 (0.0098)	
Oil seal ring and ring groove		mm (in) Standard	0.04—0.16 (0.0016—0.0063)	
		mm (in) Maximum	0.40 (0.0157)	
Pump housing sleeve diameter		mm (in) Standard	37.950—37.975 (1.494—1.495)	
		mm (in) Maximum	37.900 (1.492)	
Inner gear bushing inner diameter		mm (in) Standard	38.0—38.025 (1.496—1.497)	
		mm (in) Maximum	38.075 (1.499)	

Item \ Engine model			FE engine	F6 engine
Front clutch				
Number of driven and drive plates			3	
Drive plate thickness	mm (in)	Standard	1.6 (0.063)	
		Minimum	1.4 (0.055)	
Front clutch clearance		mm (in)	1.6—1.8 (0.063—0.071)	
Retaining plate sizes		mm (in)	5.2 (0.205), 5.4 (0.213), 5.6 (0.220), 5.8 (0.228), 6.0 (0.236), 6.2 (0.244)	
Return spring free length		mm (in)	26.2 (1.031)	
Drum bushing inner diameter	mm (in)	Standard	44.000—44.025 (1.732—1.733)	
		Maximum	44.075 (1.735)	
Front clutch drum end play		mm (in)	0.5—0.8 (0.197—0.0315)	
End play adjust shims		mm (in)	1.3 (0.0512), 1.5 (0.0591), 1.7 (0.0669), 1.9 (0.0748), 2.1 (0.0827), 2.3 (0.0906), 2.5 (0.0984), 2.7 (0.1063)	
Rear clutch				
Number of driven and drive plates			4	
Drive plate thickness	mm (in)	Standard	1.6 (0.063)	
		Minimum	1.4 (0.055)	
Rear clutch clearance		mm (in)	0.8—1.0 (0.0315— 0.0394)	
Retaining plate sizes		mm (in)	4.8 (0.189), 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.220), 5.8 (0.228), 6.0 (0.236), 6.2 (0.244)	
Return spring free length		mm (in)	26.2 (1.031)	
Low and reverse brake				
Number of low and reverse brake plates			4	
Drive plate thickness	mm (in)	Standard	1.6 (0.063)	
		Minimum	1.4 (0.055)	
Low and reverse brake clearance		mm (in)	0.8—1.05 (0.032—0.041)	
Retaining plate sizes		mm (in)	4.6 (0.181), 4.8 (0.189), 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.220)	
Return spring free length		mm (in)	27.7 (1.091)	
Servo				
Return spring free length		mm (in)	48.0 (1.89)	45.5 (1.79)
Governor				
Primary spring	mm (in)	Outer diameter	9.0 (0.354)	
		Free length	17.2 (0.667)	
Secondary spring	mm (in)	Outer diameter	9.25 (0.364)	
		Free length	13.2 (0.520)	
One-way clutch				
Bushing diameter	mm (in)	Standard	129.987—130.013 (5.118—5.119)	
		Maximum	130.063 (5.121)	

Control valve springs

Spring name	Outer dia. mm (in)	Free length mm (in)	Wire dia. mm (in)
Throttle backup spring	7.3 (0.287)	36.0 (1.417)	0.8 (0.031)
Downshift spring	5.55 (0.219)	21.9 (0.862)	0.55 (0.022)
2-3 shift spring	6.9 (0.272)	41.0 (1.614)	0.7 (0.028)
1-2 shift spring	6.4 (0.252)	31.63 (1.245)	0.4 (0.016)
Second lock spring	5.55 (0.219)	33.5 (1.319)	0.55 (0.022)
Pressure regulator spring	11.7 (0.461)	43.0 (1.693)	1.2 (0.047)
Throttle relief ball spring	7.0 (0.276)	11.2 (0.441)	0.9 (0.035)
Orifice check valve spring	5.0 (0.197)	15.5 (0.610)	0.23 (0.009)

Item \ Engine model		FE engine	F6 engine
Gear assembly			
Total end play	mm (in)	0.25—0.50 (0.010—0.0196)	
End play adjust races	mm (in)	1.2 (0.047), 1.4 (0.055), 1.6 (0.063), 1.8 (0.071), 2.0 (0.079), 2.2 (0.087)	
Idle gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.81)	
Preload adjust shims	mm (in)	0.10 (0.0039), 0.12 (0.0047), 0.14 (0.0055), 0.16 (0.0063), 0.20 (0.0078), 0.50 (0.0196)	
Output gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.81)	
Preload adjust shims	mm (in)	0.10 (0.0039), 0.12 (0.0047), 0.14 (0.0055), 0.16 (0.0063), 0.20 (0.0078), 0.50 (0.0196)	
Drive and differential			
Final gear	Type	Helical gear	
	Reduction ratio	3.450 : 1	3.631 : 1
Side bearing preload	N·m (cm-kg, in-lb)	2.1— 3.0 (21—31, 18—27)	
Preload adjust shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.50 (0.020), 0.70 (0.028), 1.00 (0.039)	
Backlash of side gear and pinion	mm (in) Standard	0.025—0.1 (0.001— 0.004)	
	mm (in) Maximum	0.5 (0.020)	
Torque converter distance A (Refer to 7C—118)	mm (in)	20 (0.787)	

9. FRONT AND REAR AXLES

Item \ Engine model		F6, F8	FE, F2 Non-Turbo	F2 Turbo
Driveshaft				
Length of joint (between centers of joints)	mm (in) MTX	368.5 (14.51)	360.0 (14.17)	355.5 (14.00)
	mm (in) ATX	359.5 (14.15)	355.5 (14.00)	348.8 (13.73)
Shaft diameter	mm (in) MTX	23.0 (0.91)	24.0 (0.94)	26.0 (1.02)
	mm (in) ATX	23.0 (0.91)	24.0 (0.94)	26.0 (1.02)
Front axle				
Front wheel bearing end play	mm (in)	0.2 (0.0079) max.		
Rear axle				
Rear wheel bearing end play	mm (in)	0.2 (0.0079) max.		

10. STEERING SYSTEM

Item \ Type		Manual steering	Power steering
Steering wheel	Outer diameter mm (in)	380 (15.0)	
	Turns lock to lock	4.32	2.93
Steering shaft and joints	Shaft type	Collapsible	
	Joint type	Cross joints (2)	
	Tilt stroke mm (in)	40 (1.6)	
Front steering gear	Type	Rack and pinion	
	Gear ratio	∞ (infinite)	
Power steering fluid	Capacity liter (US quarts, Imp quarts)	—	0.9 (0.95, 0.79)
	Type	—	Dexron II or M III

I. BRAKING SYSTEM

Item			Specifications
Brake pedal	Height	mm (in)	LHD & RHD 222 $^{+5}_{-0}$ (8.74 $^{+0.2}_{-0}$)
	Free play	mm (in)	4—7 (0.16—0.28)
	Reserve travel (Clearance when pedal is depressed at 589 N (60 kg, 132 lb))	mm (in)	95 (3.74) min.
	Lever ratio		4.2
	Max. stroke	mm (in)	LHD: 136.5 (5.37) RHD: 135 (5.31)
Master cylinder	Type		Tandem
	Bore	mm (in)	22.22 (0.875)
	Fluid type		DOT-3 or 4, or SAE J1703
Front disc brake	Type		Disc (ventilated)
	Thickness of pad mm (in)	Standard	10.0 (0.39)
		Minimum	2.0 (0.08)
	Area of pad	mm^2 (in^2)	4,800 (7.44)
	Outer diameter of disc plate	mm (in)	(a): 242 (9.53) (b): 264 (10.39)
	Thickness of disc plate mm (in)	Standard	(a): 20.0 (0.79) (b): 24.0 (0.94)
		Minimum	(a): 18.0 (0.71) (b): 22.0 (0.87)
	Disc plate runout mm (in)	Maximum	0.1 (0.004)
	Wheel cylinder bore	mm (in)	53.97 (2.125)
Rear drum brake	Type		Leading-trailing
	Clearance between shoe and drum		Self-adjusting
	Thickness of lining mm (in)	Standard	(a): 5.0 (0.20) (b): 4.5 (0.18)
		Minimum	1.0 (0.04)
	Width of lining	mm (in)	(a): 25 (0.98) (b): 30 (1.18)
	Length of lining	mm (in)	(a): 191.9 (7.56) (b): 219.3 (8.63)
	Inner diameter of drum mm (in)	Standard	(a): 200.0 (7.87) (b): 228.6 (9.00)
		Maximum	(a): 201.5 (7.93) (b): 230.1 (9.06)
	Wheel cylinder bore	mm (in)	17.46 (0.687)
Rear disc brake	Type		Disc (solid)
	Thickness of pad mm (in)	Standard	8.0 (0.31)
		Minimum	1.0 (0.04)
	Area of pad	mm^2 (in^2)	2,900 (4.5)
	Outer diameter of disc plate	mm (in)	259 (10.2)
	Thickness of disc plate mm (in)	Standard	10.0 (0.40)
		Minimum	8.0 (0.31)
	Disc plate runout mm (in)	Maximum	0.1 (0.04)
	Wheel cylinder bore	mm (in)	30.2 (1.19)
Parking brake	Type		Center lever
	Lever notches (Pulled at 98N (10 kg, 22 lb))		5—7
Power brake unit	Diameter	mm (in)	238 (9.37)
	Clearance between master cylinder piston and push rod	mm (in)	0 (0)
	Fluid pressure per treading force kPa (kg/cm^2, psi)/N (kg, lb)		1,177 (12,171)/196 (20, 44) min. when no vacuum is applied 7,063 (72, 1,024)/196 (20, 44) min. when 500 mmHg (19.7 in Hg) vacuum is applied
Rear wheel hydraulic control devise (system)	Type		Dual proportioning valve (Non-ABS) or ABS
	Break point kPa (kg/cm^2, psi)		Australia: 1,962 (20, 284) General LHD and RHD: 2,942 (30, 427)

): General RHD 13 inch-wheel
): Except General RHD 13 inch-wheel

12. WHEEL AND TIRE

Item		Type	Standard
Wheel	Size		5-Jx13
			5-Jx14, 5 1/2-JJx14
			6JJx15
	Offset mm (in)		42 (1.65)
	Diameter of pitch circle mm (in)		114.3 (4.5)
	Material		Steel or aluminum alloy
	Number of fixing nuts	13 inch-wheel	4
		14 inch-wheel	5
		15 inch-wheel	
Tire	Size	13 inch-wheel	6.45-13-6PR 165SR13 165/80R13 82S 185/70HR13 185/70R13 85H
		14 inch-wheel	165SR14 165/80R14 84S 185/70HR14 185/70R14 87H 185/70R14 88H
		15 inch-wheel	195/60R15 86H
	Air pressure kPa (kg/cm^2, psi)	Front	216 (2.2, 31) or 196 (2.0, 28) Refer to tire labels for applications.
		Rear	177 (1.8, 26)
Wheel and tire	Runout mm (in)	Horizontal	Steel wheel: 2.5 (0.098), Alminum alloy wheel: 2.0 (0.079) max.
		Vertical	2.0 (0.079) max.
	Unbalance g (oz)	13 inch-wheel	11 (0.39) max.
		14 inch-wheel	10 (0.35) max.
		15 inch-wheel	9 (0.32) max.

13. SUSPENSION

Item		Specification								
Front suspension										
Type		Strut								
Front wheel alignment	Toe-in mm (in)	3 ± 3 (0.12 ± 0.12)								
	Camber angle	0°17' ± 45'								
	Caster angle	1°13' ± 45'								
	King pin angle	12°47'								
Maximum front steering angle	Inner	36°26'33" (a) 34°00' ± 2°								
	Outer	30°59'15" (a) 29°00' ± 2°								
Stabilizer	Type	Torsion bar								
	Diameter mm (in)	20.0 (0.79)								
Coil springs*	Identification color	Orange	Green	Light green	Pink	Brown	Purple	Gray	Blue	Cream
	Wire diameter mm (in)	12.5 (0.49)	12.6 (0.49)	12.8 (0.50)	12.9 (0.51)	13.1 (0.52)	13.3 (0.53)	13.6 (0.54)	13.7 (0.54)	14.0 (0.55)
	Coil inner diameter mm (in)	147.5 (5.8)								
	Free length mm (in)	344 (13.5)	353 (13.9)	362 (14.3)	370 (14.6)	372 (14.6)	365 (14.4)	350 (13.8)	358 (14.1)	345 (13.6)
	Coil number	4.99	5.09	5.31	5.42	5.53	5.46	5.34	5.45	5.35

* Refer to pages 13—4 for coil-spring applications.
(a) F2 Turbo EC-AT vehicles

Item		Specification				
Rear suspension						
Type		Strut				
Rear wheel alignment	Toe-in mm (in)	0 ± 3 (0 ± 0.12)				
	Camber angle	–0°30' ± 45'				
Stabilizer	Type	Torsion bar				
	Diameter mm (in)	16 (0.63)				
Coil springs*	Identification color	Yellow	Brown	Blue	Green	Red
	Wire diameter mm (in)	11.8 (0.46)	11.9 (0.47)	12.1 (0.48)	12.2 (0.48)	12.4 (0.49)
	Coil inner diameter mm (in)	127.5 (5.0)				
	Free length mm (in)	314 (12.4)	323 (12.7)	327 (12.9)	332 (13.1)	336 (13.2)
	Coil number	5.72	5.87	6.03	6.04	6.21

* Refer to pages 13—5 for coil spring applications.

15. BODY ELECTRICAL SYSTEM

Item		Specification (W)
Front exterior lights	Halogen headlight	60/55
	Side turn and turn signal light	21
	Position light	5
Rear exterior lights	Back-up light	23
	License plate light	6
	Stop/Tail light	21/5
	Turn signal light	23

Item		Specification (W)
Indicator and warning lights	Brake	1.4
	Oil pressure	1.4
	Fuel	1.4
	Washer level	1.4
	Rear	1.4
	Door	1.4
	ABS	1.4
	Alternator	1.4
	High beam	3.4
	Turn signal	3.4
	O/D OFF	0.8
	A/T mode	0.8
	A/T position	0.8
Interior lights	Glove compartment light	3.4
	Interior light	10
	Luggage compartment light	5
Illumination lights	Motor	4.8
	Hazard switch	1.4
	Cigar lighter	3.4
	AAS switch	1.4
	Rear defroster switch	1.4
	A/T switch	1.4
	A/T	3.4
	IG switch	1.4

STANDARD BOLT AND NUT TIGHTENING TORQUE

Diameter mm (in)	Pitch mm (in)	4T			6T			8T		
		N·m	m-kg	ft-lb	N·m	m-kg	ft-lb	N·m	m-kg	ft-lb
6 (0.236)	1 (0.039)	4.2—6.2	0.43—0.63	3.1—4.6	6.9—9.8	0.7—1.0	5.0—7.2	7.8—11.8	0.8—1.2	5.8—8.8
8 (0.315)	1.25 (0.049)	9.8—14.7	1.0—1.5	7.2—10.8	16—23	1.6—2.3	12—17	18—26	1.8—2.7	13—20
10 (0.394)	1.25 (0.049)	20—28	2.0—2.9	14—21	31—46	3.2—4.1	23—34	36—54	3.7—5.5	27—40
12 (0.472)	1.5 (0.059)	34—50	3.5—5.1	25—37	55—80	5.6—8.2	41—59	63—93	6.4—9.5	46—69
14 (0.551)	1.5 (0.059)	—	—	—	75—103	7.7—10.5	56—76	102—137	10—14	75—101
16 (0.630)	1.5 (0.059)	—	—	—	116—157	12—16	85—116	156—211	16—22	115—156
18 (0.709)	1.5 (0.059)	—	—	—	167—225	17—23	123—166	221—299	23—31	163—221
20 (0.787)	1.5 (0.059)	—	—	—	231—314	24—32	171—231	308—417	31—43	227—307
22 (0.866)	1.5 (0.059)	—	—	—	314—423	32—43	231—312	417—564	43—58	307—416
24 (0.945)	1.5 (0.059)	—	—	—	475—546	41—56	298—403	536—726	55—74	396—536