

TECHNICAL DATA

MEASUREMENTS.....	TD- 2
ENGINE.....	TD- 2
LUBRICATING SYSTEM.....	TD- 4
COOLING SYSTEM.....	TD- 5
FUEL AND EMISSION CONTROL SYSTEMS	TD- 6
ENGINE ELECTRICAL SYSTEM	TD- 7
CLUTCH.....	TD- 7
MANUAL TRANSMISSION.....	TD- 8
PROPELLER SHAFT.....	TD- 8
FRONT AND REAR AXLES.....	TD- 9
STEERING SYSTEM	TD- 9
BRAKING SYSTEM.....	TD- 9
WHEELS AND TIRES.....	TD-10
SUSPENSION	TD-10
BODY ELECTRICAL SYSTEM.....	TD-11
HEATER AND AIR CONDITIONING SYSTEM.....	TD-12
STANDARD BOLT AND NUT TIGHTENING TORQUE	TD-12

05UTDX-001

A. MEASUREMENTS

Item		Measurements	
Overall length	mm (in)	3,948 (155.4)	
Overall width	mm (in)	1,676 (65.9)	
Overall height	mm (in)	1,224 (48.2)	
Wheelbase	mm (in)	2,266 (89.2)	
Tread	Front	mm (in)	1,410 (55.5)
	Rear	mm (in)	1,428 (56.2)

B. ENGINE

Item		Engine	B6 DOHC
Type			Gasoline, 4-cycle
Cylinder arrangement and number			In-line, 4-cylinders
Combustion chamber			Pentroof
Valve system			DOHC, belt-driven 16 valves
Bore x Stroke		mm (in)	78.0 x 83.6 (3.07 x 3.29)
Total piston displacement		cc (cu in)	1,597 (97.42)
Compression ratio			9.4
Compression pressure kPa (kg/cm ² , psi)-rpm	Standard		1,324 (13.5, 192)-300
	Minimum		932 (9.5, 135)-300
	Maximum difference between each cylinder		196 (2.0, 28)
Valve timing	IN	Open BTDC	5°
		Close ABDC	51°
	EX	Open BBDC	53°
		Close ATDC	15°
Valve clearance	mm (in)	IN	0: Maintenance-free
		EX	0: Maintenance-free
Cylinder head			
Height		mm (in)	133.8—134.0 (5.268—5.276)
Distortion		mm (in)	0.15 (0.006) max.
Grinding		mm (in)	0.20 (0.008) max.
Cylinder head-to-HLA 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	30.9—31.1 (1.217—1.224)
		EX	26.1—26.3 (1.028—1.035)
Valve head margin thickness	mm (in)	IN	1.0 (0.039)
		EX	1.0 (0.039)
Valve face angle		IN	45°
		EX	45°
Valve length	IN	Standard	105.29 (4.1452)
		Minimum	104.79 (4.1256)
	EX	Standard	105.39 (4.1492)
		Minimum	104.89 (4.1295)
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)	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 (0.008)
Guide projection (Height "A")	mm (in)	IN	16.8—17.4 (0.661—0.685)
		EX	16.8—17.4 (0.661—0.685)
Valve seat			
Seat angle		IN	45°
		EX	45°

Item		Engine	B6 DOHC		
Seat contact width		mm (in)	0.8—1.4 (0.031—0.055)		
Seat sinking		mm (in)	Standard	43.5 (1.713)	
			Maximum	45.0 (1.772)	
Valve spring					
Free length		mm (in)	IN	Standard	48.0 (1.890)
				Minimum	47.0 (1.850)
		EX	Standard	48.3 (1.902)	
			Minimum	47.3 (1.862)	
Out-of-square		mm (in)	IN	1.68 (0.0661) max.	
			EX	1.69 (0.0665) max.	
Setting load/height		N (kg, lb)/mm (in)	IN	217—246 (22.1—25.1, 48.6—55.2)/40.0 (1.575)	
			EX	174—196 (17.7—20.0, 38.9—44.0)/40.0 (1.575)	
Camshaft					
Cam height		mm (in)	IN	Standard	40.888 (1.6098)
				Minimum	40.688 (1.6019)
		EX	Standard	40.889 (1.6098)	
			Minimum	40.689 (1.6019)	
Journal diameter		mm (in)	Standard (No.1—No.5)	25.940—25.965 (1.0213—1.0222)	
			Out-of-round	0.05 (0.002) max.	
Camshaft bearing oil clearance		mm (in)	Standard (No.1—No.5)	0.035—0.081 (0.0014—0.0032)	
			Maximum	0.15 (0.006)	
Camshaft runout		mm (in)	0.03 (0.0012) max.		
Camshaft end play		mm (in)	Standard	0.07—0.19 (0.0028—0.0075)	
			Maximum	0.20 (0.008)	
Cylinder block					
Height		mm (in)	221.5 (8.720)		
Distortion		mm (in)	0.15 (0.006) max.		
Grinding		mm (in)	0.20 (0.008) max.		
Cylinder bore diameter		mm (in)	Standard size	78.006—78.013 (3.0711—3.0714)	
			0.25 (0.010) oversize	78.256—78.263 (3.0809—3.0812)	
			0.50 (0.020) oversize	78.506—78.513 (3.0908—3.0911)	
Cylinder bore taper and out-of-round		mm (in)	0.019 (0.0007) max.		
Piston					
Piston diameter Measured at 90° to pin bore axis and 16.5mm (0.650 in) below oil ring groove		mm (in)	Standard size	77.954—77.974 (3.0690—3.0698)	
			0.25 (0.010) oversize	78.211—78.217 (3.0792—3.0794)	
			0.50 (0.020) oversize	78.461—78.467 (3.0890—3.0892)	
Piston-to-cylinder clearance		mm (in)	Standard	0.039—0.052 (0.0015—0.0020)	
			Maximum	0.15 (0.006)	
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	0.15—0.30 (0.006—0.012)	
			Second	0.15—0.30 (0.006—0.012)	
			Oil (rail)	0.20—0.70 (0.008—0.028)	
			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)	
Piston ring-to-ring groove clearance		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)	19.987—19.993 (0.7869—0.7871)		
Piston-to-piston pin clearance		mm (in)	-0.005—0.013 (-0.0002—0.0005)		
Connecting rod bush-to-piston pin clearance		mm (in)	0.010—0.027 (0.0004—0.0011)		

Item		Engine	B6 DOHC
Inner rotor tooth tip to outer rotor clearance	mm (in)	Standard	0.02—0.16 (0.0008—0.0063)
		Maximum	0.20 (0.0079)
Outer rotor to body clearance	mm (in)	Standard	0.09—0.18 (0.0035—0.0071)
		Maximum	0.22 (0.0087)
Side clearance	mm (in)	Standard	0.03—0.11 (0.0012—0.0043)
		Maximum	0.14 (0.0055)
Oil filter			
Type		Full-flow, paper element	
Relief pressure differential		kPa (kg/cm ² , psi)	78—118 (0.8—1.2, 11—17)
Engine oil			
Capacity liters (US qt, Imp qt)	Total (dry engine)		3.6 (3.8, 3.2)
	Oil pan		3.2 (3.4, 2.8)
	Oil filter		0.17 (0.18, 0.15)
Grade		API Service SF or SG	
Viscosity number	Above 30°C (86°F)		SAE 40
	0°C—40°C (32°F—104°F)		SAE 30
	-10°C—20°C (14°F—68°F)		SAE 20W-20
	Above -10°C (14°F)		SAE 20W-40 or 20W-50
	-25°C—30°C (-13°F—86°F)		SAE 10W-30
	Above -25°C (-13°F)		SAE 10W-40 or 10W-50
	Below 0°C (32°F)		SAE 5W-30
Below -20°C (-4°F)		SAE 5W-20	

E. COOLING SYSTEM

Item		Engine	B6 DOHC
Cooling method		Water-cooled, forced circulation	
Water pump			
Type		Centrifugal, V-belt driven	
Impeller diameter	mm (in)	75 (2.95)	
Number of impeller blades		6	
Speed ratio		1 : 1.05	
Water seal type		Unified mechanical seal	
Thermostat			
Type		Wax, two-stage	
Opening temperature	°C (°F)	Sub: 83.5—86.5 (182—188), Main: 86.5—89.5 (188—193)	
Full-open temperature		100 (212)	
Full-open lift	mm (in)	Sub: 1.5 (0.06) min., Main: 8.0 (0.31) min.	
Radiator			
Type		Corrugated fin	
Cap valve opening pressure	kPa (kg/cm ² , psi)	74—103 (0.75—1.05, 11—15)	
Cooling circuit checking pressure		103 (1.05, 15)	
Cooling fan			
Type		Electric	
Number of blades		5	
Outer diameter	mm (in)	320 (12.6)	
Switching temperature OFF → ON		97 (207)	
Capacity	W—V	70—12	
Current	A	5.3—6.5	
Coolant			
Capacity	liters (US qt, Imp qt)	6.0 (6.3, 5.3)	

Item		Engine	B6 DOHC		
Antifreeze solution	Coolant protection		Volume percentage %		Specific gravity at 20°C (68°F)
			Water	Coolant	
	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

F. FUEL AND EMISSION CONTROL SYSTEMS

Item		Specification	
Idle speed	rpm	850 ± 50 *	
Ignition timing	BTDC	10° ± 1° *	
Throttle body			
Type		Horizontal draft	
Throat diameter	mm (in)	55 (2.2)	
Dashpot			
Adjustment speed	rpm	2,500 ± 150	
Airflow meter			
Resistance	E2 ↔ Vs	Fully closed	200—600
		Fully open	20—1,000
	E2 ↔ Vc		200—400
	E2 ↔ THAA (Intake air thermosensor)	-20°C (-4°F)	13,600—18,400
		20°C (68°F)	2,210—26,90
		60°C (140°F)	493—667
E1 ↔ Fc	Fully closed	∞	
	Fully open	0	
Fuel pump			
Type		Impeller (in-tank)	
Output pressure	kPa (kg/cm ² , psi)	441—589 (4.5—6.0, 64—85)	
Fuel filter			
Type	Low-pressure side	Nylon element	
	High-pressure side	Paper element	
Pressure regulator			
Type		Diaphragm	
Regulating pressure	kPa (kg/cm ² , psi)	265—314 (2.7—3.2, 38—46)	
Injector			
Type		High-ohmic	
Type of drive		Voltage	
Resistance	Ω	12—16 (at 20°C, 68°F)	
ISC valve (Solenoid valve [Idle speed control])			
Solenoid resistance	Ω	11—13 (at 20°C, 68°F)	
Circuit opening relay			
Resistance	Ω	STA — E1	21—43
		B — Fc	109—226
		B — Fp	∞
Solenoid valve (Purge control)			
Solenoid resistance	Ω	23—27 (at 20°C, 68°F)	
Crank angle sensor			
Type		Optical pickup	
Water thermosensor			
Resistance	kΩ	-20°C (-4°F)	14.6—17.8
		20°C (68°F)	2.2—2.7
		80°C (176°F)	0.29—0.35
Air valve			
Opening temperature	°C (°F)	Below 40 (104)	
Fuel tank			
Capacity	liters (US gal, Imp gal)	45 (11.9, 9.9)	

*...with system selector (49 B019 9A0) test switch at SELF TEST

Item	Specification
Air cleaner	
Element type	Oil permeated
Accelerator cable	
Free play	mm (in) 1—3 (0.039—0.118)
Fuel	
Specification	Unleaded regular (RON 87 or higher)

G. ENGINE ELECTRICAL SYSTEM

Item	Engine model	B6 DOHC	
Battery	Voltage	V 12, Negative ground	
	Type and capacity (5-hour rate)	S46A24L(S) (32Ah) Maintenance-free	
Dark current *	mA	20.0	
Alternator	Type	A.C.	
	Output	V-A 12-60	
	Regulator type	Transistorized (built-in IC regulator)	
	Regulated voltage	14.1—14.7	
	Brush length	mm (in)	Standard 21.5 (0.85)
			Minimum 8 (0.31)
Drive belt tension	mm (in)	New 8—9 (0.31—0.35)	
		Used 9—10 (0.35—0.39)	
Starter	Type	Conventional	
	Output	V-kW 12-0.95 (Others)	
	Brush length	mm (in)	Standard 17.0 (0.67)
		Minimum 11.5 (0.45)	
Ignition system	Type	Electronic spark advance (ESA)	
	Spark advance control	Engine control unit controls sparks advance	
Ignition timing	BTDC	10° ± 1° (Test connector grounded)	
Ignition coil	Type	Molded	
	Primary coil winding	kΩ 0.78—0.94	
	Secondary coil winding	kΩ 11.2—15.2	
Spark plug	Type	NGK: BKR5E-11 NIPPON DENSO: K16PR-U11 BKR6E-11 K20PR-U11 BKR7E-11 K22PR-U11	
	Plug gap	mm (in) 1.0—1.1 (0.039—0.043)	
	Firing order	1—3—4—2	

* Dark current is the constant flow of current while the ignition switch is OFF. (i.e. engine control unit, audio etc.)

H. CLUTCH

Item	Engine model	B6 DOHC
Clutch control		Hydraulic
Clutch pedal		
Type		Suspended
Pedal ratio		6.13
Full stroke	mm (in)	120 (4.72)
Height (with carpet)	mm (in)	175—185 (6.89—7.28)
Free play	mm (in)	0.6—3.1 (0.02—0.12)
Distance to carpet when clutch fully disengaged	mm (in) Minimum	68 (2.68)
Flywheel		
Runout limit	mm (in)	0.2 (0.008)
Clutch disc		
Type		Single dry plate

Item		Engine model	B6 DOHC
Runout limit		mm (in)	0.7 (0.028)
Wear limit		mm (in)	0.3 (0.012) from rivet head
Outer diameter		mm (in)	200 (7.87)
Inner diameter		mm (in)	130 (5.12)
Facing thickness	mm (in)	Flywheel side	3.5 (0.14)
		Pressure plate side	3.5 (0.14)
Clutch cover			
Type			Diaphragm spring
Set load		N (kg, lb)	4,022 (410, 902)

J. MANUAL TRANSMISSION

Item		Transmission model		M-type (M5M-D)
Gear ratio	1st			3.136
	2nd			1.888
	3rd			1.330
	4th			1.000
	5th			0.814
	Reverse			3.758
Oil capacity		liters (US qt, Imp qt)		2.0 (2.1, 1.8)
Mainshaft	Runout	mm (in)	Maximun	0.03 (0.0012)
	Clearance between mainshaft and gear (or bush)	mm (in)	Wear limit	0.15 (0.006)
Reverse idle gear	Clearance between reverse idle gear bushing and shaft	mm (in)	Wear limit	0.15 (0.006)
Shift fork and rod	Clearance between shift fork and clutch sleeve	mm (in)	Wear limit	0.5 (0.020)
	Clearance between shift rod gate and control lever	mm (in)	Wear limit	0.8 (0.031)
Synchronizer ring	Clearance between synchronizer ring and side of gear when fitted	mm (in)	Standard	1.5 (0.059)
			Wear limit	0.8 (0.031)
Shift rod (5th/Reverse) spring	Free length	mm (in)		75 (2.953)
Detent ball spring (1st/2nd)	Free length	mm (in)		22.5 (0.886)
Detent ball spring (3rd/4th)	Free length	mm (in)		22.5 (0.886)
Detent ball spring (5th/Reverse)	Free length	mm (in)		17.0 (0.669)
Lubricant	Above 10°C (50°F)			API Service GL-4 or GL-5 SAE 80W-90
	All seasons			API Service GL-4 or GL-5 SAE 75W-90

L. PROPELLER SHAFT

Item	Specification
Max. permissible run-out	mm (in) 0.4 (0.016)

Item		Specifications	
Rear suspension			
Type		Double-wishbone	
Stabilizer	Type	Torsion bar	
	Diameter	12 (0.47) mm (in)	
Shock absorbers		Cylindrical double-acting, low-pressure gas charged	
Coil springs	Identification color	Blue	
	Wire diameter	10.1 (0.40) mm (in)	
	Coil inner diameter	83 (3.27) mm (in)	
	Free length	339.5 (13.37) mm (in)	
	Coil number	7.68	
Wheel alignment			
Front wheel alignment (Unladen* ¹)	Total toe-in	mm (in)	3 ± 3 (0.12 ± 0.12)
		degree	0°18' ± 18'
	Maximum steering angle	Inner	37°23' ± 2°
		Outer	32°32' ± 2°
	Camber angle		0°24' ± 45' ^{*2}
	Caster angle		4°30' ± 45'
King pin angle		11°20'	
Rear wheel alignment (Unladen* ¹)	Total toe-in	mm (in)	3 ± 3 (0.12 ± 0.12)
		degree	0°18' ± 18'
	Camber angle		-0°43' ± 30'

*¹ Fuel tank full; radiator coolant and engine oil at specified level, and spare tire, jack, and tools in designated position.

*² Difference between left and right must not exceed 1°.

T. BODY ELECTRICAL SYSTEM

Item	Wattage (Bulb trade number)
Instrument cluster lamps	
Beam	3.4
Turn (LH and RH)	3.4
Illumination	3.4
Engine check	1.4
Brake	1.4
Charge	1.4
Belts	1.4
Air bag	1.4
Retractor	1.4
Exterior lights	
Head lights	60/40
Front turn signal/parking lights	27/8 (1157 NA)
Front side marker lights	3.8 (194)
License plate lights	7.5
Rear turn signal lights	27 (1156)
Rear side marker lights	3.8 (194)
Stop/taillights	27/8 (1157)
Back-up lights	27 (1156)
High-mount stoplight	18.4 (921)
Interior lamps	5
Illumination lamps	
Ash tray	3.4
Heater control switch panel	1.4
A/C switch	1.4
Hazard switch	1.4
Cruise control main switch	1.4

U. HEATER AND AIR CONDITIONING SYSTEM

Item	Specifications
Refrigerant amount g (oz)	800 (28.24)
Compressor oil amount cc (cc in)	80—100 (4.88—6.1)
Refrigerant normal pressure kPa (kg/cm ² , psi)	Low pressure: 147—294 (1.5—3.0, 21—43) High pressure: 1,177—1,619 (12.0—16.5, 171—235)

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—4.7	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