

Specifications

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Standards and Service Limits

Cylinder Head/Valve Train — Sections 6

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	200 rpm and wide open throttle kPa (kg/cm ² , psi)	Nominal Minimum Maximum variation	1,373 (14.0, 199) 981 (10.0, 142) 196 (2, 28)	
Cylinder head	Warpage Height		150.95-1 51.05 (5.9429-5.9468)	0.05 (0.002)
Camshaft	End play		0.05-0.15 (0.002-0.006)	0.5 (0.02)
	Oil clearance		0.050-0.089 (0.002-0.004)	0.15 (0.006)
	Runout		0.015 (0.0006)	0.03 (0.0012)
	Cam lobe Height	M/T IN Primary	37.086 (1.4601)	—
		Mid	38.037 (1.4975)	—
		Secondary	37.326 (1.4695)	—
		EX Primary	36.559 (1.4393)	—
		Mid	37.398 (1.4724)	—
		Secondary	36.741 (1.4465)	—
		A/T IN Primary	37.266 (1.4672)	—
		Mid	37.665 (1.4825)	—
		Secondary	37.504 (1.4765)	—
		EX Primary	36.559 (1.4393)	—
		Mid	37.398 (1.4724)	—
		Secondary	36.741 (1.4465)	—
Valve	Valve clearance	IN	0.15-0.19 (0.006-0.007)	—
		EX	0.17-0.21 (0.007-0.008)	—
	Valve stem O.D.	IN	5.475-5.485 (0.2156-0.2159)	5.445 (0.2144)
		EX	5.45-5.46 (0.2146-0.2159)	5.42 (0.2134)
	Stem-to-guide clearance	IN	0.025-0.055 (0.001-0.002)	0.008 (0.003)
		EX	0.05-0.08 10.002-0.0031	0.11 (0.04)
Valve seat	Width	IN	0.80-1.00 (0.031-0.039)	1.5 (0.059)
		EX	1.25-1.55 (0.049-0.061)	2.0 (0.079)
	Stem installed height	IN	41.55-42.35 (1.6358-1.6673)	42.435 (1.6707)
		EX	41.55-42.35 (1.6358-1.6673)	42.435 (1.6707)
Valve spring	Free length	M/T IN Outer	43.23 (1.7020) *1	42.40 (1.6693)
			43.24 (1.7024) *2	
		Inner	39.79 (1.5665) *1	39.02 (1.5362)
			39.82 (1.5667) *2	
		EX	46.00 (1.8110) *1	45.12 (1.7763)
			45.98 (1.8102) *2	
		A/T IN	44.59 (1.7555) *1	43.73 (1.7217)
			44.60 (1.7559) *2	
		EX	47.40 (1.8661) *1	46.69 (1.8303)
			47.43 (1.8673) *2	
Valve guide	I.D.	IN and EX	5.51-5.53 (0.2169-0.2177)	5.53 (1.5610)
	Installed height	IN and EX	13.75-14.25 (0.5413-1.5610)	14.50 (0.5709)
Rocker arm	Arm-to-shaft Primary and Secondary	IN and EX	0.025-0.052 (0.001 0-0.0020)	0.008 (0.003)
	clearance Mid	IN and EX	0.024-0.053 (0.0009-0.0021)	0.008 (0.003)

*1: NIPPON HATSUJO made, *2: CHUO HATSUJO made.

M/T: Manual Transmission A/T: Automatic Transmission

Unit of length: mm (in)

Engine Block — Section 7

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Wapage of deck surface Bore diameter Bore taper Reboring limit	0.07 (0.003) max. 90.00-90.02 (3.5433-3.5441) — —	0.10 (0.004) 90.07 (3.5461) 0.05 (0.002) 0.5 (0.02)
Piston	Skirt O.D. (at 17 mm (0.67 in) from bottom of skirt) Clearance in cylinder Groove width (for ring) Top Second Oil	89.986-90.004 (3.5427-3.5434) 89.976-89.994 (3.5424-3.5431) 1.22-1.23 (0.0480-0.0484) 1.22-1.23 (0.0480-0.0484) 2.805-2.820 (0.1104-0.1110)	89.97 (3.5421) 89.96 (3.5417) 0.0825 (0.0032) 1.25 (0.0492) 1.25 (0.0492) 2.84 (0.11181)
Connecting rod	End play installed on crankshaft	0.15-0.30 (0.006-0.012)	0.40 (0.018)
Piston ring	Ring-to-groove clearance Top Second Ring end gap Top Second Oil	0.030-0.055 (0.001-0.002) 0.030-0.055 (0.001-0.002) 0.25-0.40 (0.010-0.016) 0.35-0.50 (0.014-0.020) 0.20-0.70 (0.008-0.028)	0.13 (0.005) 0.13 (0.005) 0.60 (0.024) 0.75 (0.03) 0.80 (0.03)
Crankshaft	Main journal diameter Taper/out-of-round, main journal Rod journal diameter Taper/out-of-round, rod journal End play Runout	63.976-64.000 (2.5187-2.5197) 0.005 (0.0002) max. 49.976-50.000 (1.9676-1.9685) 0.004 (0.0002) max. 0.01 o-o.35 (0.004-0.014) 0.015 (0.0006) max.	0.01 (0.0004) 0.006 (0.0002) 0.45 (0.018) 0.03 (0.0012)
Bearings	Main bearing-to-journal oil clearance Rod bearing-to-journal oil clearance	0.024-0.048 (0.0009-0.0019) 0.04-0.06 (0.0016-0.0024)	0.05 (0.002) 0.06 (0.0036)

Standards and Service Limits

Engine Lubrication — Section 8

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt)	6.3 (6.7, 5.5) for engine overhaul 5.0 (5.3, 4.4) for oil-change, including filter	
Oil pump	Displacement ℓ (US gal, Imp gal)/min @rpm	68 (18.0, 15.0) @6,000	
	Inner-to-outer rotor radial clearance	0.02-o. 18 (0.0008-.00070)	0.2 (0.008)
	Pump body-to-outer rotor radial clearance	0.1 o-o. 19 (0.0040-0.0075)	0.2 (0.008)
	Pump body-to-outer rotor side clearance	0.02-0.07 (0.001-0.003)	0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F) at idle kPa (kg/cm ² , psi) at 3,000 rpm	69 (0.7, 10) min. 343 (3.5, 50) min.	

Cooling — Section 10

	MEASUREMENT	STANDARD (NEW)
Radiator	Coolant capacity ℓ (US qt, Imp qt) (including engine, heater, cooling) line and expansion tank expansion tank capacity 2.1 ℓ (2.2 US qt, 1.8 Imp qt)	M/T: 16.0 (17.0, 14.1) for overhaul 12.0 (12.7, 10.6) for coolant change A/T: 16.5 (17.4, 14.5) for overhaul 12.0 (12.7, 10.6) for coolant change
Expansion tank cap	Opening pressure kPa (kg/cm ² , psi)	93-I 23 (0.95-I .25, 14-18)
Thermostat	Start to open °C (°F) Fully open °C (°F) Valve lift at fully open	76-80 (1 69-I 76) 90 (194) 10 (0.39) min.
Water pump	Displacement ℓ (US gal, Imp gal)/min @rpm	150 (39.6, 33.0) @6,000
Cooling fan	Thermoswitch "ON" temperature (LOW) °C (°F) Thermoswitch "OFF" temoerature (LOW) °C (°F) Thermoswitch "ON" temperature (HIGH) °C (°F) Thermoswitch "OFF" temperature (HIGH) °C (°F)	84 ± 1.2 (183 ± 2) Subtract 6 ± 2 (11 ± 3) from the actual "ON" temperature (LOW) 90 ± 1.2 (194 ± 2) Subtract 6 ± 2 (11 ± 3) from the actual "ON" temperature (HIGH)

M/T: Manual Transmission A/T: Automatic Transmission

Unit of length: mm (in)

- Fuel and Emission — Section 11

	MEASUREMENT	STANDARD (NEW)
Fuel pump	Delivery pressure kPa (kg/cm ² , psi)	343 (3.5, 50)
	Displacement cc (US oz, Imp oz)/minimum in 10 seconds	333 (11.3, 9.4)
	Relief valve opening pressure kPa (kg/cm ² , psi)	490-637 (5.0-6.5, 71-92) @ 12 V
Pressure regulator	Pressure kPa (kg/cm ² , psi)	323-363 (3.30-3.70, 47-53)
Fuel tank	Capacity ℓ (US gal, Imp gal)	70 (18.5, 15.4)
Engine	Fast idle rpm	1,100-1,900
	Idle speed rpm (with headlight and cooling fan off)	M/T 800±50 A/T 750±50 fin gear
	Idle CO % min.	0.1%

- Clutch — Section 12

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height to floor	186.4 (7.32)	
	Stroke	130-135 (5.12-5.32)	
	Pedal play	9-15 (0.35-0.59)	
	Disengagement height to floor	92 (3.62) min.	
Pressure plate	Disc surface runout	0.03 (0.001) max.	0.15 (0.006)
1st clutch disc	Thickness	8.3-9.0 (0.33-0.35)	5.9 (0.23)
	Rivet head depth	1.1 (0.04) min.	0.5 (0.02)
2nd clutch disc	Thickness	7.6-8.3 (0.30-0.33)	5.4 (0.21)
	Rivet head depth	1.1 (0.04) min.	0.5 (0.02)
Mid plate	Disc surface runout	0.05 (0.002)	0.15 (0.006)
Flywheel	Clutch surface runout	0.05 (0.002)	0.15 (0.006)

Standards and Service Limits

Manual Transmission — Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity l (US qt, Imp qt)	2.8 (3.0, 2.5) for overhaul 2.7 (2.9, 2.4) for oil change	
Mainshaft	Diameter of ball bearing contact area (transmission housing side) Diameter of needle bearing contact area Diameter of ball bearing contact area (clutch housing side) Runout End play	30.984-31.000 (1.2198-1.2205) 42.984-43.000 (1.692-1.693) 32.002-32.018 (1.260-1.261) 0.02 (0.001) min. 0.14-0.21 (0.006-0.008)	30.93 (1.2177) 42.93 (1.690) 31.95 (1.258) 0.05 (0.002) Adjust with a shim.
Mainshaft 3rd gear	I.D. End play Thickness	49.009-49.025 (1.9295-1.9301) 0.06-0.23 (0.002-0.009) 35.92-35.97 (1.414-1.416)	49.08 (1.9323) 0.3 (0.012) 35.80 (1.409)
Mainshaft 4th gear	I.D. End play Thickness	49.009-49.025 (1.9295-1.9301) 0.06-0.21 (0.002-0.009) 35.92-35.97 (1.414-1.416)	49.08 (1.9323) 0.3 (0.012) 35.80 (1.409)
Mainshaft 5th gear	I.D. End play Thickness	47.009-47.025 (1.8507-1.8513) 0.06-0.21 (0.002-0.009) 34.92-34.97 (1.375-1.377)	47.08 (1.8535) 0.3 (0.012) 34.80 (1.370)
Spacer collar (Mainshaft)	I.D. O.D. 4th gear side 5th gear side L e n g t h 4th gear side 5th gear side	36.002-36.012 (1.417-1.418) 42.989-43.000 (1.692-1.693) 41.989-42.000 (1.653-1.654) 29.53-29.58 (1.163-1.165) 28.53-28.58 (1.123-1.125)	36.06 (1.420) 42.94 (1.691) 41.94 (1.652) 29.51 (1.162) 28.51 (1.122)
Countershaft	Diameter of needle bearing contact area (clutch housing side) Diameter of needle and ball bearing contact area (transmission housing side) Runout	43.974-43.990 (1.731-1.732) 33.984-34.000 (1.338-1.339) 0.02 (0.001) min.	43.92 (1.729) 33.93 (1.336) 0.05 (0.002)
Countershaft 1 st gear	I.D. End play (when tightened by the specified torque)	60.510-60.529 (2.382-2.383) 0.04-0.10 (0.002-0.004)	60.58 (2.385) Adjust with a washer.
Countershaft 2nd gear	I.D. End play (when tightened by the specified torque)	57.010-57.029 (2.244-2.245) 0.04-0.10 (0.002-0.004)	57.08 (2.247) Adjust with a collar.
Countershaft reverse gear	Diameter of needle bearing contact area	54.487-54.500 (2.145-2.146)	54.43 (2.143)
Spacer collar (Countershaft)	I.D. O.D.	43.046-43.056 (1.6947-1.6951) 51.087-52.000 (2.011-2.047)	43.10 (1.697) 51.03 (2.009)
Reverse idler gear shaft	I.D.	21.987-22.000 (0.8656-0.8661)	21.93 (0.8634)
Reverse driven gear and reverse drive gear	I.D.	28.007-28.020 (1.1026-1.1031)	28.07 11.1051)

Manual Transmission — Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Oil pump	Driven gear boss-to-transmission housing clearance	0.3-0.8 (0.01-0.03)	0.9 (0.04)
	Driven gear thickness	17.0-17.1 (0.669-0.673)	16.9 (0.665)
	Inner-to-outer rotor radial clearance	0.14 (0.006)	0.20 (0.008)
	Pump body-to-outer rotor radial clearance	0.1-0.2 (0.004-0.008)	0.22 (0.009)
	Pump body-to-outer rotor side clearance	0.03-0.10 (0.001-0.004)	0.15 (0.006)
Synchrom ring	Ring-to-gear clearance (ring pushed against gear)	0.85-1.10 (0.034-0.043)	0.4 (0.016)
Shift fork	Finger thickness	1st/2nd shift fork 3rd/4th shift fork 5th shift fork Reverse shift fork	8.9-9.0 (0.350-0.354) 7.4-7.5 (0.29-0.30) 6.4-6.5 (0.25-0.26) 6.4-6.5 (0.25-0.26)
	Finger-to-synchrom sleeve clearance	0-45-0.65 (0.018-0.026)	— — — 1.0 (0.039)
	Arm-to-5th/reverse shift piece clearance	0.05-0.30 (0.002-0.012)	0.5 (0.02)
	Groove width	7.05-7.20 (0.278-0.283)	—
	Arm-to-reverse shift fork clearance	0.05-0.35 (0.002-0.014)	0.5 (0.02)
Reverse shift arm	Diameter (at the contact point with the reverse shift fork)	12.8-13.0 (0.504-0.512)	—
	Arm-to-shift piece clearance	0.05-0.25 (0.002-0.010)	0.5 (0.02)
Shift arm	Diameter (at the contact point with the shift piece)	12.9-13.0 (0.508-0.512)	—
	Interlock-to-select arm clearance	0.03-0.15 (0.001-0.006)	—
Interlock	Diameter (at the contact point with the select arm)	11.95-12.00 (0.470-0.472)	—
	Shift piece-to-shift forks and 5th/reverse shift piece clearance	0.2-0.5 (0.008-0.020)	0.6 (0.024)
Shift piece	Diameter (at the contact point with the shift forks and 5th/reverse shift piece)	11.9-12.0 (0.460-0.472)	—

Standards and Service Limits

- Automatic Transmission —Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	7.0 (7.4, 6.2) for overhaul 2.9 (3.1, 2.6) for fluid change	
Hydraulic pressure kPa (kg/cm ² , psi)	Line pressure at 2,000 rpm D or 1	834-883 (8.5-9.0, 121-128)	785 (8.0, 114)
	1st clutch pressure at 2,000 rpm D or 1		
	2nd clutch pressure at 2,000 rpm D	490 (5.0, 71) throttle fully closed	441 (4.5, 64) throttle fully closed
	3rd clutch pressure at 2,000 rpm D	883 (9.0-129) throttle' more than 1.5/8 opened	785 (8.0-114) throttle' more than 1.5/8 opened
	4th clutch pressure at 2,000 rpm D		
	1st hold clutch pressure at 2,000 rpm 1	834-883 (8.5-9.0, 121-128)	785 (8.0, 114)
	2nd clutch pressure at 2,000 rpm 2		
	3rd clutch pressure at 2,000 rpm 3		
	4th clutch pressure at 2,000 rpm R		
	Throttle pressure Throttle fully closed Throttle fully open	0-1.5 (0-0.15, 0-2) 590-657 (6.1-6.7, 87-95)	— —
Stall speed rpm	Check with car on level ground	1,950-2,250	—
Clutch	Clutch initial clearance 1st hold	0.7-0.9 (0.028-0.035)	—
	1st	0.65-0.85 (0.026-0.033)	—
	2nd, 3rd, 4th	0.075-0.95 (0.030-0.037)	—
	Clutch return spring free length		
	1st	41.4 (1.630)	39.4 (1.551)
	2nd, 3rd, 4th	33.0 (1.299)	31.0 (1.220)
	Clutch disc thickness 1st hold, 1st, 2nd, 3rd	1.88-2.00 (0.074-0.079)	Until grooves wone out.
	4th	2.28-2.40 (0.090-0.094)	Until grooves wone out.
	Clutch plate thickness 1st hold, 1st	1.95-2.05 (0.077-0.081)	Discoloration
	2nd, 3rd, 4th	2.25-2.35 (0.089-0.093)	
	Clutch end plate thickness" Mark 1	2.05-2.10 (0.081-0.083)	
	Mark 2	2.15-2.20 (0.085-0.087)	
	Mark 3	2.25-2.30 (0.089-0.091)	
	Mark 4	2.35-2.40 (0.093-0.094)	
	Mark 5	2.45-2.50 (0.096-0.098)	
	Mark 6	2.55-2.60 (0.100-0.102)	
	Mark 7	2.65-2.70 (0.104-0.106)	
	Mark 8	2.75-2.80 (0.108-0.110)	
	Mark 9	2.85-2.90 (0.112-0.114)	Discoloration
Valve body	Stator shaft needle bearing contact I.D. (torque converter side)	28.000-28.021 (1.102-1.103)	Wear or damage
	Stator shaft needle bearing contact I.D. foil pump side)	31.000-31.013 (1.220-1.221)	—
	Oil pump driven gear I.D.	14.016-14.034 (0.552-0.553)	Wear or damage
	Oil pump shaft O.D.	13.980-13.990 (0.550-0.551)	wear of damage
	Oil pump gear side clearance	0.03-0.05 (0.001-0.002)	0.07 (0.003)
	Oil pump gear-to-body clearance Drive Driven	0.210-0.265 (0.008-0.010) 0.070-0.125 (0.003-0.005)	— —
Regulator valve body	Sealing ring contact I.D.	37.000-37.025 (1.457-1.458)	37.05 (1.459)

* Clutch end plate diameter: 1st 116 mm
1st hold, 2nd, 3rd and 4th 120 mm

— Automatic Transmission (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
2nd accumulator body	Sealing ring contact I.D.	35.000-35.025 (1.378-1.379)	35.05 (1.380)
Shifting device and parking brake control	Reverse shift fork finger thickness	5.90-6.00 (0.232-0.236)	5.40 (0.213)
	Parking brake racher pawl Parking brake gear	— —	Wear or other defect Wear or other defect
Servo body	Shift fork shaft bore I.D.	14.000-14.005 (0.5512-0.5513)	—
		14.006-14.010 (0.5514-0.5516)	—
		14.011-14.015 (0.5516-0.5518)	—
	Shift fork shaft valve bore I.D.	37.000-37.039 (1.457-1.458)	37.045 (1.4459)
Transmission	Diameter of needle bearing contact area		
	On mainshaft and stator shaft	23.980-23.993 (0.944-0.945)	Wear or damage
	On mainshaft 4th gear collar	33.975-33.991 (1.3376-1.3382)	
	On mainshaft 1st gear collar	32.975-32.991 (1.298-1.299)	
	On countershaft (right side)	41.005-41.015 (1.614-1.615)	
	On countershaft 3rd gear collar	43.975-43.991 (1.731-1.732)	
	On countershaft 4th gear	34.975-34.991 (1.377-1.378)	
	On countershaft reverse gear collar	36.975-36.991 (1.4557-1.4567)	
	On countershaft 1st gear collar	33.975-33.991 (1.3376-1.3382)	
	On secondaryshaft 2nd gear	36.975-36.991 (1.4557-1.4567)	
	On reverse idler gear shaft	13.990-14.000 (0.5507-0.5512)	
	Reverse idler shaft holder I.D.	14.416-14.434 (0.5676-0.5683)	Wear or damage
	Inside diameter		
	Mainshaft 1st gear	38.000-38.016 (1.496-1.497)	Wear or damage
	Mainshaft 4th gear	40.000-40.016 (1.5748-1.5754)	
	Countershaft 1st gear	40.000-40.016 (1.5748-1.5754)	
	Countershaft reverse gear	43.000-43.016 (1.693-1.694)	
	Countershaft 4th gear	41.000-41.016 (1.614-1.615)	
	Countershaft 2nd gear	Involuted spline	
	Countershaft 3rd gear	52.000-52.019 (2.0472-2.0480)	
	Secondary shaft 2nd gear	43.000-43.016 (1.693-1.694)	
	Reverse idler gear	18.007-18.020 (0.7089-0.7094)	Wear or damage
	Mainshaft 1st gear collar length	35.00-35.05 (1.358-1.380)	—
	Mainshaft 1st gear collar flange thickness	2.95-3.10 (0.116-0.122)	Wear or damage
	Countershaft reverse gear collar length	16.00-16.05 (0.630-0.632)	—
	Countershaft reverse gear collar flange thickness	2.95-3.05 (0.116-0.120)	Wear or damage
	Diameter of countershaft one-way clutch contact area	88.869-88.895 (3.499-3.410)	Wear or damage
	Diameter of parking gear one-way clutch contact area	72.212-72.225 (2.8429-2.8435)	Wear or damage
	Mainshaft feed pipe O.D.	11.47-11.48 (0.4516-0.4520)	11.45 (0.451)
	Mainshaft feed pipe O.D.	5.97-5.98 (0.2350-0.2354)	5.95 (0.2343)
	Mainshaft sealing ring 37 mm thickness	1.980-1.995 (0.078-0.079)	1.80 (0.071)
	Mainshaft bushing I.D.	6.018-6.030 (0.2369-0.2374)	6.045 (0.238)
	Countershaft feed pipe O.D.	11.500-11.518 (0.4528-0.4535)	11.53 (0.454)
	Countershaft feed pipe O.D.	11.47-11.48 (0.4516-0.4520)	11.45 (0.451)
	Countershaft feed pipe O.D.	7.97-7.98 (0.3138-0.3142)	7.95 (0.313)
	Countershaft bushing I.D.	8.000-8.015 (0.315-0.316)	8.03 (0.316)
	Countershaft bushing I.D.	11.500-11.518 (0.4528-0.4535)	11.53 (0.454)
	Secondary shaft sealing ring 35 mm thickness	1.980-1.995 (0.078-0.079)	1.80 (0.071)
	Mainshaft sealing ring groove width	2.025-2.060 (0.080-0.081)	2.08 (0.082)
	Secondary shaft sealing ring groove width	2.025-2.060 (0.080-0.081)	2.08 (0.082)

(cont'd)

Standards and Service Limits

Automatic Transmission (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Selector hub O.D.	55.67-55.70 (2.192-Z. 193)	Wear or damage
	Thrust washer thickness		
	Mainshaft 4th gear right side	4.45-4.55 (0.175-O. 179)	Wear or damage
	Mainshaft 4th gear left side	3.45-3.55 (0.136-o. 140)	Wear or damage
	Mainshaft 1st gear right side	1.45-1.50 (0.057-0.059)	1.40 (0.055)
	Mainshaft 1st gear left side	2.43-2.50 (0.096-0.098)	Wear or damage
	Countershaft 3rd gear collar length	1 35.425-35.440 (1.3947-I .3952)	—
		2 35.440-35.455 (1.3952-1.3959)	—
		3 35.455-35.470 (1.3959-1.3965)	—
		4 35.470-35.485 (1.3965-1.3970)	—
		5 35.485-35.500 (1.3970-I .3976)	—
		6 35.500-35.515 (1.3976-I .3982)	—
	Countershaft spacer length	17.90-I 7.95 (0.705-0.707)	—
	Cotter thickness	1 1.975-2.000 (0.078-0.079)	—
		2 2.000-2.025 (0.078-0.080)	—
		3 2.025-2.050 (0.080-0.081)	—
		4 2.050-2.075 (0.081-0.082)	—
		5 2.075-Z. 100 (0.082-0.083)	—
		6 2.100-Z. 125 (0.083-0.084)	—
		7 2.125-Z. 150 (0.084-0.085)	—
		8 2.150-Z. 175 (0.085-0.086)	—
		9 2.175-2.200 (0.086-0.087)	—
		10 2.200-2.225 (0.087-0.088)	—
		11 2.225-2.250 (0.088-0.089)	—
		12 2.250-2.275 (0.089-0.090)	—
		13 2.275-2.300 (0.090-0.091)	—
		14 2.300-2.325 (0.091-0.092)	—
		15 2.325-2.350 (0.092-0.093)	—
		16 2.350-2.375 (0.093-0.094)	—
	Cotter retainer thickness	1 3.00-3.03 (0.118-O. 119)	—
		2 3.03-3.06 (0.119-O. 120)	—
		3 3.06-3.09 (0.120-O. 122)	—
		4 3.09-3.12 (0.122-0.123)	—
	Countershaft reverse gear thrust washer thickness	1.45-1.50 (0.057-0.059)	1.40 (0.055)
	Countershaft 1st gear spacer length	62.50-62.55 (2.461-2.463)	—
	Thrust washer thickness		
	Countershaft 1st gear right side	3.43-3.50 (0.135-o. 138)	Wear or damage
	Secondary shaft 2nd gear	4.45-4.55 (0.175-O. 179)	Wear or damage
	Secondary shaft spacer length	33.00-33.05 (1.299-1.301)	—
	End play		
	Mainshaft 4th gear	0.10-0.22 (0.004-0.009)	—
	Mainshaft 1st gear	0.08-0.33 (0.003-0.013)	—
	Countershaft 3rd gear	o-0.03 (0-0.001)	Adjust with a 3rd gear collar or a cotter
	Countershaft 2nd gear	o-0.05 (0-0.002)	Adjust with a cotter retainer
	Countershaft 4th gear	0.05-o. 16 (0.002-0.006)	—
	Countershaft reverse gear	0.10-0.25 (0.004-0.010)	—
	Countershaft 1st gear	0.10-0.31 (0.004-0.012)	—
	Secondary shaft 2nd gear	0.01-0.11 (0.0004-0.0043)	—
	Reverse idler gear	0.05-o. 18 (0.002-0.007)	—

Unit of length: mm (in)

Automatic Transmission (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O.D.	Free Length	No. of Coils
Spring	Idle shaft spring A	0.7 (0.028)	5.7 (0.224)	14.6 (0.575)	7.0
	Servo detent spring	1.0 (0.039)	7.6 (0.299)	14.8 (0.583)	5.5
	Regulator valve spring A	1.58 x 2.0 (0.062 x 0.079)	14.7 (0.579)	88.6 (3.488)	20.9
	Regulator valve spring B	1.8 (0.071)	9.6 (0.378)	44.0 (1.732)	14.7
	Stator reaction spring	6.0 (0.236)	38.4 (1.512)	30.3 (1.193)	2.0
	Torque converter check valve spring	1.1 (0.043)	8.4 (0.331)	41.8 (1.646)	15.7
	Relief valve spring	1.1 (0.043)	8.4 (0.331)	44.4 (1.748)	19.5
	Cooler relief valve spring	1.2 (0.0471)	8.4 (0.331)	35.7 (1.406)	16.5
	Oneway relief valve spring	0.9 (0.035)	6.4 (0.252)	25.1 (0.988)	11.9
	LSD relief valve spring	0.8 (0.031)	8.4 (0.331)	37.3 (1.469)	12.1
	2nd orifice control valve spring	0.8 (0.031)	8.1 (0.319)	47.9 (1.886)	16.0
	3rd orifice control valve spring	0.9 (0.035)	8.6 (0.339)	48.3 (1.902)	16.6
	4th exhaust valve spring	0.6 (0.024)	7.6 (0.299)	24.4 (0.961)	7.9
	Throttle valve spring A/B/C/D	0.9 (0.035)	7.1 (0.280)	29.0 (1.1421)	12.6
	1-2 shift valve spring	0.9 (0.035)	8.6 (0.339)	40.4 (1.591)	14.5
	2-3 shift valve spring	0.8 (0.031)	7.0 (0.276)	43.7 (1.720)	21.2
	1 st-hold accumulator spring	3.4 (0.134)	24.3 (0.957)	64.7 (2.547)	6.7
	1 st accumulator spring	2.3 (0.091)	20.0 (0.787)	104.6 (4.118)	14.8
	4th accumulator spring	3.0 (0.118)	18.0 (0.709)	84.5 (3.327)	12.8
	2nd accumulator spring	3.3 (0.130)	20.2 (0.795)	78.0 (3.071)	11.8
	3rd accumulator spring	3.2 (0.126)	19.0 (0.748)	88.6 (3.488)	14.3
	Lock-up shift valve spring	1.0 (0.039)	8.6 (0.339)	51.3 (2.020)	19.8
	Lock-up timing B spring	0.8 (0.031)	5.6 (0.220)	27.8 (1.094)	16.4
	Lock-up control valve spring A/B/C	0.8 (0.031)	6.6 (0.260)	38.3 (1.508)	25.0
	Servo control valve spring	1.0 (0.039)	8.1 (0.319)	53.5 (2.106)	20.8
	Modulator valve spring A/B	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
	CPC valve spring A/B/C	1.0 (0.039)	6.8 (0.268)	32.1 (1.264)	15.6
	4-3 kick down valve spring	0.9 (0.035)	6.6 (0.260)	30.7 (1.2091)	12.9
	3-2 kick down valve spring	1.0 (0.039)	6.1 (0.240)	27.1 (1.067)	13.4
	2nd exhaust valve spring	1.0 (0.039)	6.1 (0.240)	27.1 (1.067)	13.4

Differential — Section 15

Differential — Section 15						
	MEASUREMENT			STANDARD (NEW)		SERVICE LIMIT
Differential carrier	Preset Torque N·m (kg-cm, lb-ft)			0.6-l .4 (6-14, 0.43-l .01)		0.3 (3, 0.3)
Taper roller bearing	Preload N·m (kg-cm, lb-ft)	MIT	Reused	2.0-3.0 (20-30, 1.45-2.17)		Adjust with a shim
		A / T	New	3.3-4.5 (33-45, 0.73-0.99)		Adjust with a shim
			Reused	3.0-4.2 (30-42, 0.66-0.93)		Adjust with a shim
Clutch disc	Thickness			1.68-1.80 (0.061-0.071)		0.25 (0.01)
Clutch plate	Thickness			2 . 5 5 - 2 . 6 5 (0.100-0.104)		—
Distance between final driven gear and 112mm shim				41.7-41.9 (1.64-1.65)		

M/T: Manual Transmission A/T: Automatic Transmission

Standards and Service Limits

Steering — Section 17

	MEASUREMENT	STANDARD (NEW)
Steering wheel	Play Starting force MIS N (kg, lb) P/S engine stopped P/S engine running	5.0 (0.2) max. 20 (2, 4) min. wheels off the ground 118 (12, 26) min. } wheels on the ground 41 (4.2, 9.3) min. }
Gearbox	Angle of rack guide screw loosened from locked position ° MIS Pinion starting preload N·m (kg-cm, lb-ft) M/S M/S P/S	15° 20° ^{+5°} 0.69-1 .67 (7-17, 0.51-1 .23) 0.15-0.25 (1.5-2.5, 0.11-o. 18) (without rack) 2.94 (30, 2.17)

M/S: Manual Steering P/S: Power Steering

Suspension — Section 18

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Camber ° ' Front at inspection at adjustment Rear at inspection at adjustment Caster ° ' Front at inspection at adjustment Total toe Front Rear Front wheel turning angle Inward wheel Outward wheel Side slip Front Rear	-0° 20' ± 30' -0° 20' ± 10' -1° 30' ± 30' -1° 30' ± 10' +8° 00' ± 45' +8° 00' ± 15' out 3.5 ± 1 In 6.0 ± 1 33° 06' ± 2° 26° 34' Out 6.0 ± 1 In 9.0 ± 1	— — — — — — — — — — — —
Wheel	Rim runout Axial Radial	O-0.7 (O-0.028) O-0.7 (O-0.028)	— —
Wheel bearing	End Play Front Rear	0 0	0.05 (0.002) 0.05 (0.002)

Brakes — Section 19

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lb)	To be locked when pulled 1 O-l 4notches	—
Foot brake pedal	Pedal height (with floor mat removed) M/T A/T	218 (8.58) 218 (8.58)	— —
Master cylinder	Piston-to-oushrod clearance	1-0.4 (O-0.01 6)	—
Disc brake	Disc thickness Front Rear Disc runout Front Rear Disc parallelism Front and rear Pad thickness Front Rear	28.0 (1.10) 21 .0 (0.83) — — — 11.0 (0.43) 9.5 (0.37)	26.0 (1.02) 19.0 (0.75) 0.10 (0.004) 0.10 (0.004) 0.015 (0.0006) 1.6 (0.06) 1.6 (0.06)

M/T: Manual Transmission A/T: Automatic Transmission

Air Conditioner — Section 22

	MEASUREMENT	STANDARD (NEW)
Air conditioner system	Lubricant capacity cc (US oz, Imp oz) Condenser Evaporator Line or hose Reservoir	10 (0.34, 0.28) 10 (0.34, 0.28) 10 (0.34, 0.28) 20 (0.88, 0.56)
Compressor	Lubricant capacity cc (US oz, Imp oz) Stator coil resistance at 20°C (68°F) Ω Pulley-to-pressure plate clearance	60-100 (2.03-3.38, 1.96-2.82) 3.4-3.8 0.35-0.65 (0.014-0.026)
Compressor belt	Deflection with 98 N (10 kg, 22 lb) between the pulleys	10-12 (0.39-0.47) with used belt 5.5-7.5 (0.22-0.30) with new belt

Electrical — Section 23

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ignition coil	Rated voltage V Primary winding resistance Ω	12 1.0 $\pm$ 10%	
Spark Plug	Type Gap	See Section 23 1.0-1.1 (0.039-0.043)	
Ignition timing	At idling $^{\circ}$ BTDC	15 $^{\circ}$ $\pm$ 2 $^{\circ}$ (Red) BTDC	
Battery	Lighting capacity (5-hour ratio) V-AH Starting capacity (5-second ratio) V at -15°C (5°F), 300 A draw	MIT A K M/T A/T 12-52 12-55 9.2 min. 9.4 min./8.8 min.	
Alternator belt	Deflection with 98 N (10 kg, 22 lb-ft) between pulleys	12-14 (0.47-0.55) with used belt 7-9 (0.28-0.35) with new belt	
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Alternator	Output 13.5 V at hot A @6,000 rpm Coil resistance (rotor) Ω Slip ring O.D. Brush length Brush spring tension g (oz)	110 2.7-3.1 14.2-14.4 10.5 300-360 (10.6-12.7)	102 — 12.8 3.5
Starting motor	Type/Output kW Mica depth Commutator runout Commutator O.D. Brush length Brush spring tension N (kg, lb)	Reduction/1.6 0.5-0.8 (0.020-0.031) 0-0.02 (0-0.001) 29.9-30.0 (1.177-1.181) 15.0-15.5 (0.590-0.610) 18.1-23.9 (1.85-2.44, 4.1-5.4)	— 0.2 (0.008) 0.05 (0.002) 29.0 (1.142) 10.0 (0.394) —

M/T: Manual Transmission A/T: Automatic Transmission

Design Specification

	ITEM	METRIC	ENGLISH	NOTES	
Dimentions	Overall Length	4,425 mm	174.0 in		
	Overall Width	1,810 mm	71.3 in		
	Overall Height	1,175 mm	48.3 in		
	Wheelbase	2,530 mm	99.6 in		
	Track F/R	1,510/1,530 mm	59.4/60.2 in		
	Ground Clearance	135 mm	5.3 in		
	Seating Capacity	2			
Weight (USA)	Gross Vehicle Weight Rating (GVWR)	1,610 kg	3,550 lb		
Weight (CANADA)	Gross Vehicle Weight Rating (GVWR)	1,610 kg	3,550 lb		
ENGINE	Type Cylinder Arrangement Bore and Stroke Displacement Compression Ratio Valve Train Lubrication System Fuel Required	Water cooled, 4-stroke DOHC with VTEC gasoline engine 90° V6-cylinder, transverse 90.0 x 78.0 mm 3.54 x 3.07 in 2,977 cm ³ (cc) 181.6 cu in 10.2 Belt driven, double (41 overhead camshafts Forced and wet sump Premium UNLEADED grade gasoline with 91 Pump Octane Number (96 R.O.N.) or higher			
STARTER	Type/Makes Normal Output Nominal Voltage Hour Rating Direction of Rotation Weight	Gear reduction/NIPPON DENS0 1.6 kW 12 v 30 seconds Counterclockwise as viewed from gear end 4.6 kg 10 lb			
CLUTCH	Clutch Clutch Lining Area	M/T A/T M/T	Double plates dry, diaphragm spring Torque converter 587.6 cm ² 22.7 sq in		
TRANSMISSION	Transmission	M/T A/T	Synchronized 5-speed forward 1 reverse Electronically controlled 4-speed automatic; 1 reverse Direct 1 : 1		
	Primary Reduction				
	Type		Manual	Automatic	
	Gear Ratio	1st	3.071	2.611	
		2nd	1.727	1.551	
		3rd	1.230	1.025	
		4th	0.967	0.684	
		5th	0.771	---	
Reverse	3.186	1.909			
Final Reduction	Gear type Gear ratio	Single helical gear 4.062 4.428			

	ITEM	METRIC	ENGLISH	NOTES
AIR CONDITIONER	Cooling Capacity — Conditions: Compressor RPM Outside Air Temperature Outside Air Humidity Condenser Air Temperature Condenser Air Velocity Blower Capacity	4,000 Kcal/h 27 °C 35 °C 4.5 m/sec 420 m ³ /h	15,872 BTU/h 1,800 rpm 81 °F 50 % 95 °F 14.8 ft/sec 15,540 cu ft/h	at 12 V
	Compressor Type/Makes No. of Cylinder Capacity Max. Speed Lubricant Capacity	Swash-plate type 10 155.3 cc/rev 7,600 rpm 80 cc	NIPPON DENS0 94.7 cu in/rev 2.7 US oz	
	Condenser Type	Corruated fin type		
	Evaporator Type Air Temperature	Corrugated fin type 19.5 °C 67 °F		
	Blower Type Motor Input Speed Control Max. Capacity	Sirocco fan 178 W/12 V Infinity variable 460 m ³ /h 16,247 cu ft/h		at 13.5 V
	Temp. control	Air-mix type		
	Comp. clutch Type Power Consumption	Dry, single plate, V-belt drive 40 W/12 V		
	Refrigerant Type Quantity	R 12 9505.8 g 77.9 ^{±1.0} lb		
STEERING SYSTEM	Type Overall Ratio Turns, Lock-to-Lock Steering Wheel Dia.	MIT A/T M/T A/T	Rack and pinion Electric, power assisted, rack and pinion 20.8 (18.2-20.8) (Manual variable) 18.6 (Power steering) 3.24 368 mm 14.5 in	
SUSPENSION	Type, Front Type, Rear Shock Absorber, Front and Rear	Independent double wishbone with compliance pivot, coil spring with stabilizer Independent double wishbone, coil spring with stabilizer Telescopic, hydraulic nitroaen gas-filled		

M/T: Manual Transmission A/T: Automatic Transmission

(cont'd)

Design Specification

— (Cont'd) —

	ITEM	METRIC	ENGLISH	NOTES
WHEEL ALIGNMENT	Camber Front	— 0° 20'		
	Caster Rear	— 1° 30'		
	Toe Front	8°		
	Toe Rear	Out 3.5 mm In 8.0 mm	Out 0.14 in In 0.24 in	
BRAKE SYSTEM	Type, Front and Rear	Power assisted self-adjusting ventilated disc		
	Pad and Lining Surface Area: Front/Rear	58.0/38.8 cm ²	8.99/6.01 sq in	
	Parking Brake Kind and Type	Mechanical expanding, rear two wheel brakes		
TIRE	Size	Front: 205150 ZR 15 Rear: 225150 ZR 16 165/80 D 15 (Folding spare tire)		
ELECTRICAL	Battery	MIT: 12 V-52AH/5HR A/T: 12 V-55AH/5HR		
	Starter	12 V-1.6 kW		
	Alternator	12 V-110 A		
	Fuses	7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 50 A		
	In The Fuse Box	7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 120A		
	In The Relay Box	12 V-65 W, 5 5 W		
	In The Main Fuse Box	12 V-32 CP		(SAE 1156)
	Headlights, High, Low	12 v-5 w		(SAE 3652)
	Front Turn Signal Lights	12 v-45 CP		(SAE 3497)
	Front Position Light	12 V-3212 CP		(SAE 2057)
	Rear Turn Signal Lights	12 v-2 CP		(SAE 194)
	Stop/Tail Lights	12 v-3 CP		(SAE 168)
	Tail Lights	12 v-3 CP		(SAE 168)
	Side Marker Lights Front	12 V-32 W		(SAE 1156)
	Side Marker Lights Rear	12 V-8 W		
	Back-up Lights	12 v-3.0 w, 1.4 w		
	License Plate Lights	12 V-1.4W		
	Gauge Lights	12 v-3.4 w		
	Indicator Lights	12 v-5 w		
	Glove Box and Fuse Lights	12 v-3.4 w		
	Dome Lights	12 v-3.4 w		
	Trunk Lights	12 v-3.4 w		
	Door Courtesy Lights	12 v-3.4 w		
	Footlight	12 V-1.4 W, 0.84 W		
	Illumination and Pilot Lights	12 V-0.91 W, LED		
	Day Time Running Lights	12 V-32 CP		Canada model only

Body Specifications

Unit: mm (in)

