

5. Engine/Cylinder Head, Valve Train

1. F20A2: 2.0 ℓ CARB with CATA	7. F22A3: 2.2 ℓ PGM-FI with CATA
2. F20A3: 2.0 ℓ CARB	8. F22A6: 2.2 ℓ PGM-FI with CATA for 5D KQ
3. F20A5: 2.0 ℓ PGM-FI	9. F22A7: 2.2 ℓ PGM-FI with CATA for 5D EC M/T
4. F20A6: 2.0 ℓ CARB with CATA	10. F22A8: 2.2 ℓ PGM-FI with CATA for 5D EC A/T
5. F20A8: 2.0 ℓ PGM-FI with CATA	11. F22A9: 2.2 ℓ PGM-FI with CATA for KQ
6. F22A2: 2.2 ℓ PGM-FI	

*1: 2.0 l CARB
*2: 2.0 l PGM-FI and 2.2 l

5. Engine/Cylinder Head, Valve Train

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Valve spring	Free length	EX (AS): (NH): (CH):	56.28 (2.2157)* ¹ 55.78 (2.1960)* ² 55.80 (2.1968)* ²	— — —
Valve guide	I.D. Valve guide installed height	IN and EX IN EX	5.515—5.530 (0.2171—0.2177) 23.75—24.25 (0.9148—0.9547) 15.05—15.55 (0.5925—0.6122)	5.53 (0.2177) — —
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.080 (0.0031) 0.080 (0.0031)

*1: 2.0 ℓ CARB

*2: 2.0 ℓ PGM-FI and 2.2 ℓ

AS: ASSOCIATED SPRING

NH: NIHON HATSUJO

CH: CHUO HATSUJO

5. Engine/Engine Block

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface Bore diameter Bore taper Reboring limit		0.07 (0.003) max. 85.00—85.02 (3.3464—3.3472) — —	0.10 (0.004) 85.07 (3.3492) 0.05 (0.002) 0.5 (0.02)
Piston	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt) Clearance in cylinder	A B	84.98—84.99 (3.3456—3.4605) 84.97—84.98 (3.3452—3.3456) 0.02—0.04 (0.0008—0.0016)	84.97 (3.3452) 84.96 (3.3448) 0.05 (0.0020)
Piston ring	Piston-to-ring clearance Ring end gap	Top Second Top Second Oil	0.035—0.060 (0.0014—0.0024) 0.030—0.055 (0.0011—0.0022) 0.20—0.35 (0.0079—0.0138) 0.40—0.55 (0.0157—0.0217) 0.20—0.70 (0.0079—0.0276)	0.130 (0.0051) 0.130 (0.0051) 0.60 (0.0236) 0.70 (0.0276) 0.80 (0.0315)
Connecting rod	Pin-to rod interference Small end bore diameter Large end bore diameter End play installed on crankshaft	2.0 ℓ 2.2 ℓ	0.013—0.032 (0.0005—0.0013) 21.968—21.981 (0.8649—0.8654) Nominal 48 (1.890) Nominal 51 (2.008) 0.15—0.30 (0.006—0.012)	— — — — 0.40 (0.016)
Crankshaft	Main journal diameter Taper/out-of-round, main journal Rod journal diameter Taper/out-of-round, rod journal End play Runout	No. 1, 2 Journals No. 3 Journal No. 4 Journal No. 5 Journal 2.0 ℓ 2.2 ℓ 2.0 ℓ 2.2 ℓ	49.976—50.000 (1.9676—1.9685) 49.972—49.996 (1.9674—1.9683) 49.984—50.008 (1.9679—1.9688) 49.984—50.008 (1.9679—1.9688) 49.988—50.012 (1.9680—1.9690) 0.005 (0.0002) max. 44.976—45.000 (1.7710—1.7717) 47.976—48.000 (1.8888—1.8898) 0.005 (0.0002) max. 0.10—0.35 (0.004—0.014) 0.015 max. (0.0006)	— — — — — 0.010 (0.0004) — — 0.010 (0.0004) 0.45 (0.018) 0.020 (0.0008)
Bearings	Main bearing-to journal oil clearance Rod bearing-to journal oil clearance	No. 1, 2 Journals No. 3 Journal No. 4 Journal No. 5 Journal 2.2 ℓ 2.0 ℓ	0.021—0.045 (0.0009—0.0018) 0.025—0.049 (0.0001—0.0019) 0.013—0.037 (0.0005—0.0015) 0.009—0.033 (0.0004—0.0013) 0.021—0.049 (0.0008—0.0019) 0.015—0.043 (0.0006—0.0017)	0.05 (0.002) 0.054 (0.0021) 0.05 (0.002) 0.05 (0.002) 0.05 (0.002) 0.05 (0.002)

Standards and Service Limits

5. Engine/Engine Block

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Balancer Shaft	Journal diameter	No.1 journal (Front)	42.722—42.734 (1.6820—1.6824)	—
		(Rear)	20.938—20.950 (0.8243—0.8248)	—
	No.2 journal		38.712—38.724 (1.5241—1.5246)	—
		No.3 journal	34.722—34.734 (1.3670—1.3674)	—
	Journal taper		0.005 (0.0002)	—
	End play	(Front)	0.100—0.350 (0.0040—0.0138)	—
		(Rear)	0.060—0.180 (0.0024—0.0070)	—
	Runout		0.020 (0.0008)	—
Balancer Shaft Bearing	Oil Clearance	No.1 journal (Rear)	0.050—0.075 (0.0020—0.0030)	—
		No.1, 3 journal	0.066—0.118 (0.0026—0.0046)	—
	No.2, journal		0.076—0.128 (0.0030—0.0050)	—
				—
	I.D	No.1 journal (Front)	42.800—42.820 (1.6850—1.6858)	—
		(Rear)	21.000—21.013 (0.8268—0.8273)	—
		No.2 journal	38.800—38.820 (1.5276—1.5283)	—
		No.3 journal	34.800—34.820 (1.3701—1.3710)	—

5. Engine/Engine Lubrication

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)		4.9 (5.2, 4.3) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter 3.5 (3.7, 3.1) After oil change, without oil filter	
Oil pump	Displacement		43.9 ℓ (11.6 US. gal., 9.7 Imp. gal.)/6,000 min ⁻¹ (rpm)	
	Inner-to-outer rotor radial clearance		0.02—0.16 (0.0008—0.0063)	0.2 (0.008)
	Pump body-to-rotor radial clearance		0.10—0.19 (0.0040—0.0075)	0.21 (0.0083)
	Pump body-to-rotor side clearance		0.02—0.07 (0.001—0.003)	0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F)	Idle	69 kPa (0.7 kg/cm ² , 10 psi) min.	
		3,000 min ⁻¹ (rpm)	3431 kPa (3.5 kg/cm ² , 50 psi)	

Unit of length: mm (in.)

1. F20A2: 2.0 l CARB with CATA
2. F20A3: 2.0 l CARB
3. F20A5: 2.0 l PGM-FI
4. F20A6: 2.0 l CARB with CATA
5. F20A8: 2.0 l PGM-FI with CATA
6. F22A2: 2.2 l PGM-FI
7. F22A3: 2.2 l PGM-FI with CATA
8. F22A6: 2.2 l PGM-FI with CATA for 5D KQ
9. F22A7: 2.2 l PGM-FI with CATA for 5D EC M/T
10. F22A8: 2.2 l PGM-FI with CATA for 5D EC A/T
11. F22A9: 2.2 l PGM-FI with CATA

*Except KQ, KY types

Standards and Service Limits

6. Fuel and Emissions

	MEASUREMENT		STANDARD (NEW)
Fuel pump (PGM-FI)	Delivery pressure		240–279 kPa (2.45–2.85 kg/cm ² , 35–41 psi)
	Displacement (minimum in 10 seconds)		230 cc (7.8 US oz, 8.1 Imp oz)
Fuel pump (CARB)	Relief valve opening pressure		441–588 kPa (4.5–6.0 kg/cm ² , 64–85 psi)
	Delivery pressure		9–12 kPa (0.09–0.12 kg/cm ² , 1.3–1.7 psi)
Pressure regulator (PGM-FI)	Displacement (minimum in minute at 12V)		700 cc (23.7 US oz, 19.7 Imp oz)
	Pressure with regulator vacuum hose disconnected		240–279 kPa (2.45–2.85 kg/cm ² , 34–41 psi)* ¹ 275–324 kPa (2.80–3.30 kg/cm ² , 40–47 psi)* ²
Fuel tank	Capacity	2WS: 4WS:	65 ℓ (17.2 US gal, 14.3 Imp gal) 60 ℓ (15.9 US gal, 13.2 Imp gal)
	Fast idle		PGM-FI: 1,400 ± 400 min ⁻¹ (rpm) CARB: 3,400 ± 500 min ⁻¹ (rpm)
Engine	Idle speed (with headlights and cooling fan OFF)	MT with carbureted engine: MT with PGM-FI engine: AT with carbureted engine: AT with PGM-FI engine:	800 ± 50 min ⁻¹ (rpm) 770 ± 50 min ⁻¹ (rpm) 750 ± 50 min ⁻¹ (rpm) in [N] or [P] positions 770 ± 50 min ⁻¹ (rpm) in [N] or [P] positions
	Idle CO	With CATA: Without CATA:	0.1% maximum 1.0 ± 1.0%

*1: F20A5, F22A2, F22A3, F22A7, F22A8 engine

*2: Except F20A5, F22A2, F22A3, F22A7, F22A8 engine

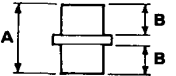
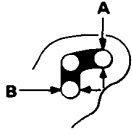
7. Clutch

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	RHD: LHD:	210 (8.3) to floor 184 (7.2) to floor	— —
	Stroke		142.0 (5.6)	—
	Pedal play		9–15 (0.4–0.6)	—
	Disengagement height		90 (3.5) min. to floor 80 (3.1) min. to carpet	— —
Flywheel	Clutch surface runout		0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth		1.3 (0.05) min.	0.2 (0.008)
	Surface runout		0.6 (0.02) max.	1.0 (0.04)
	Thickness		8.4–9.1 (0.33–0.36)	6.0 (0.24)
Clutch cover	Unevenness of diaphragm spring		0.6 (0.02) max.	0.8 (0.03)

8. Manual Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US. qt., Imp. qt.)		1.9 (2.0, 1.7) at assembly 2.0 (2.1, 1.8) at oil change	
Mainshaft	End play		0.10–0.16 (0.0039–0.0063)	Adjust with a shim.
	Diameter of ball bearing contact area		27.977–27.990 (1.1015–1.1020)	27.940 (1.1000)
	Diameter of third gear contact area		37.984–38.000 (1.4954–1.4961)	37.930 (1.4933)
	Diameter of ball bearing contact area		27.987–28.000 (1.1018–1.1024)	27.940 (1.1000)
Mainshaft third and fourth gears	Runout		0.02 (0.0008) max.	0.05 (0.002)
	I.D.		43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play		0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness 3rd gear		32.42–32.47 (1.276–1.278)	32.3 (1.27)
Mainshaft fifth gear	4th gear		30.92–30.97 (1.217–1.219)	30.8 (1.21)
	I.D.		43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play		0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
Countershaft	Thickness		30.92–30.97 (1.217–1.219)	30.8 (1.21)
	End play		0.05–0.40 (0.0019–0.0157)	0.50 (0.02)
	Diameter of needle bearing contact area		38.000–38.015 (1.4961–1.4967)	37.95 (1.4941)
	Diameter of ball bearing needle bearing contact area		24.987–25.000 (0.9837–0.9845)	24.94 (0.982)
Countershaft	Diameter of low gear contact area		39.984–40.000 (1.5742–1.5748)	39.93 (1.572)
	Runout		0.02 (0.0008) max.	0.05 (0.002)

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.04–0.10 (0.002–0.004)	46.08 (1.814) Adjust with a washer.
Countershaft second gear	I.D. End play Thickness	47.009–47.025 (1.8507–1.8514) 0.04–0.10 (0.002–0.004) 34.62–34.67 (1.3630–1.3650)	47.08 (1.8535) Adjust with a collar. 33.5 (1.3189)
Spacer collar (Countershaft second gear)	I.D. O.D. Length	36.48–36.49 (1.4362–1.4366) 41.989–42.000 (1.6531–1.6535) 29.02–29.04 (1.1425–1.1433) 29.07–29.09 (1.1445–1.1453)	36.50 (1.437) 41.94 (1.651) — —
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length 	31.002–31.012 (1.2205–1.2209) 37.989–38.000 (1.4956–1.4961) 56.45–56.55 (2.222–2.226) 26.03–26.08 (1.0248–1.0268)	31.06 (1.223) 37.94 (1.494) — 26.01 (1.024)
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.7909) 0.160 (0.0006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.0335–0.0433)	0.40 (0.016)
Shift fork	Synchronizer sleeve groove width Fork-to-synchronizer sleeve clearance	6.75–6.85 (0.266–0.270) 0.35–0.65 (0.014–0.026)	— 1.0 (0.039)
Reverse shift fork	Pawl groove width Fork-to-reverse idle gear clearance Groove width Fork-to fifth/reverse shift Shaft clearance 	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.02–0.43) 7.05–7.25 (0.278–0.2854) 7.4–7.7 (0.29–0.30) 0.05–0.35 (0.002–0.014) 0.4–0.8 (0.02–0.03)	— 1.8 (0.07) — — 0.5 (0.02) 1.0 (0.04)
Shift arm	I.D. Shift arm-to-shaft clearance Shift fork diameter at contact area Shift-arm-to-shift fork shaft clearance	15.973–16.000 (0.6289–0.6299) 0.005–0.059 (0.0002–0.0023) 12.9–13.0 (0.508–0.512) 0.2–0.5 (0.01–0.02)	— — — 0.6 (0.02)
Select lever	Pin size of contact area Shaft outer diameter Shift arm cover clearance	7.9–8.0 (0.311–0.315) 15.41–15.68 (0.607–0.617) 0.032–0.102 (0.0013–0.0040)	— — —
Shift arm lever	O.D. Transmission housing clearance	15.941–15.968 (0.6276–0.6287) 0.027–0.139 (0.0011–0.0055)	— —
Inter lock	Bore diameter Shift arm lever clearance	16.00–16.05 (0.630–0.632) 0.032–0.109 (0.0013–0.0043)	— —
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to-driveshaft clearance R L	18.000–18.018 (0.7087–0.7094) 0.017–0.047 (0.0007–0.0019) 28.005–28.025 (1.1026–1.1033) 0.025–0.066 (0.0009–0.0026) 0.055–0.091 (0.0022–0.0036)	— 0.100 (0.0039) — 0.120 0.150
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to-pinion shaft clearance	0.05–0.15 (0.002–0.006) 18.042–18.066 (0.7103–0.7113) 0.059–0.095 (0.0023–0.0037)	Selection with 7 types of washers. — 0.150 (0.0059)
Differential taper roller bearing	Preload	1.4–2.6 N·m (14–26 kg·cm, 1.0–1.9 lb·ft)	Selection with 20 types of shims.

Standards and Service Limits

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)		2.4 (2.5, 2.1) at oil change 6.0 (6.4, 5.2) at assembly	
Hydraulic pressure	Line pressure at 2,000 min ⁻¹ (rpm)	Carburetor	760 kPa (7.75 kg/cm ² , 110 psi) Throttle valve full- closed 808 kPa (8.25 kg/cm ² , 117 psi) Throttle valve more than 2/8 open	710 kPa (7.25kg/cm ² , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	784 kPa (8.0 kg/cm ² , 113 psi) Throttle valve full-closed 833 kPa (8.5 kg/cm ² , 120psi) Throttle valve more than 2/8 open	735 kPa (7.5 kg/cm ² , 106 psi) Throttle valve more than 2/8 open
	4th clutch pressure at 2,000 min ⁻¹ (rpm)	Carburetor	411 kPa (4.2 kg/cm ² , 59 psi) Throttle valve full-closed 808 kPa (8.25 kg/cm ² , 117 psi) Throttle Valve more than 2/8 open	352 kPa (3.6 kg/cm ² , 51 spi) Throttle valve full-closed 710 kPa (7.25 kg/cm ² , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	520 kPa (5.3 kg/cm ² , 75 psi) Throttle valve full-closed 833 kPa (8.5 kg/cm ² , 120 psi) Throttle valve more than 2/8 open	460 kPa (4.7 kg/cm ² , 66 psi) Throttle valve full-closed 735 kPa (7.5 kg/cm ² , 106 psi) Throttle valve more than 2/8 open
	3rd clutch pressure at 2,000 min ⁻¹ (rpm)	Carburetor	392 kPa (4.0 kg/cm ² , 57 psi) Throttle valve full-closed 808 kPa (8.25 kg/cm ² , 117 psi) Throttle valve more than 2/8 open	352 kPa (3.6 kg/cm ² , 51 psi) Throttle volve full-closed 710 kPa (7.25 kg/cm ² , 103 psi) Throttle volve more than 2/8 open
		PGM-FI	490 kPa (5.0 kg/cm ² , 71 psi) Throttle valve full-closed 833 kPa (8.5 kg/cm ² , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm ² , 64 psi) Throttle valve full-closed 735 kPa (7.5 kg/cm ² , 106 psi) Throttle valve more than 2/8 open
	2nd clutch pressure at 2,000 min ⁻¹ (rpm)	Carburetor	392 kPa (4.0 kg/cm ² , 57 psi) Throttle valve full-closed 808 kPa (8.25 kg/cm ² , 117 psi) Throttle valve more than 2/8 open	352 kPa (3.6 kg/cm ² , 51 psi) Throttle valve full-closed 710 kPa (7.25 kg/cm ² , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	490 kPa (5.0 kg/cm ² , 71 psi) Throttle valve full-closed 833 kPa (8.5 kg/cm ² , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm ² , 64 psi) Throttle valve full-closed 735 kPa (7.5 kg/cm ² , 106 psi) Throttle valve more than 2/8 open
	1st clutch pressure at 2,000 min ⁻¹ (rpm)	Carburetor	750—808 kPa (7.75—8.25 kg/cm ² , 110—117 psi)	710 kPa (7.25 kg/cm ² , 103 psi)
		PGM-FI	784—833 kPa (8.0—8.5 kg/cm ² , 113—120 psi)	735 kPa (7.5 kg/cm ² , 106 psi)

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Hydraulic pressure	Governor pressure at (37.5 mph) 60 km/h	Carburetor with CATA	225—235 kPa (2.30—2.40 kg/cm ² , 32—34 psi)	220 kPa (2.25 kg/cm ² , 32 psi)
		Carburetor without CATA	166—176 kPa (1.70—1.80 kg/cm ² , 24—25 psi)	162 kPa (1.65 kg/cm ² , 23 psi)
	Throttle pressure A	Carburetor with CATA	closed 0	—
			open 514—530 kPa (5.25—5.4 kg/cm ² , 74—76 psi)	509 kPa (5.2 kg/cm ² , 73 psi)
		Carburetor with CATA	closed 0	—
			open 485—500 kPa (4.95—5.10 kg/cm ² , 70—72 psi)	480 kPa (4.9 kg/cm ² , 69 psi)
	Throttle pressure B	Carburetor	closed 0	—
			open 760—808 kPa (7.75—8.25 kg/cm ² , 110—117 psi)	710 kPa (7.25 kg/cm ² , 103 psi)
		PGM-FI	closed 0	—
			open 784—833 kPa (8.0—8.5 kg/cm ² , 113—120 psi)	735 kPa (7.5 kg/cm ² , 106 psi)
Stall speed	Check with car on level ground		2.350—2.650 min ⁻¹ (rpm)	
Clutch	Clutch initial clearance	1st-hold	0.8—1.0 (0.031—0.039)	—
		1st, 2nd	0.65—0.85 (0.026—0.033)	—
		3rd, 4th	0.4—0.6 (0.016—0.024)	—
	Clutch return spring free length	Carburetor	1st, 2nd, 3rd: 33.9 (1.33) 4th: 30.2 (1.189)	31.9 (1.256) 28.2 (1.110)
		PGM-FI	1st, 2nd, 3rd, 4th: 33.5 (1.318)	31.5 (1.240)
	Clutch disc thickness		1.88—2.0 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness	Carburetor	1st, 2nd: 2.25—2.35 (0.089—0.093)	Discoloration ↑
			3rd, 4th, 1.95—2.05 1st-hold: (0.077—0.081)	
			1st: 1.95—2.05 (0.0767—0.0807)	
		PGM-FI	2nd: 2.55—2.65 (0.1003—0.1043)	
			3rd, 4th: 2.25—2.35 (0.0885—0.0925)	
	Clutch end plate thickness	Mark 1	2.05—2.10 (0.081—0.83)	Discoloration ↓
		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)		
* Mark 10		2.95—3.00 (0.116—0.118)		

*Carbureted engine only.

Standards and Service Limits

9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Valve body	Stator camshaft needle bearing contact area I.D. (torque converter side)	27.000–27.021 (1.0630–1.0638)	Wear or damage
	Stator camshaft needle bearing contact area I.D. (oil pump side)	29.000–29.013 (1.417–1.1422)	—
	Oil pump driven gear I.D.	14.016–14.034 (0.5518–0.5525)	Wear or damage
	Oil pump gear shaft O.D.	13.980–13.990 (0.5504–0.5508)	Wear or damage
	Oil pump gear side clearance	0.03–0.05 (0.0012–0.0020)	0.07 (0.0028)
	Oil pump gear-to-body clearance	0.21–0.265 (0.0083–0.0104)	—
	Drive Driven	0.07–0.125 (0.0027–0.0049)	—
Regulator valve body	Sealing ring contact area diameter	35.000–35.025 (1.3780–1.3789)	35.050 (1.3799)
Accumulator body	Sealing ring contact area diameter	32.000–32.013 (1.2598–1.2600)	32.05 (1.2618)
Stator camshaft	Sealing ring contact area diameter	29.000–29.013 (1.1417–1.1422)	29.05 (1.1436)
Shifting device and parking brake control	Reverse shift fork thickness	5.90–6.00 (0.232–0.236)	5.40 (0.213)
	Parking brake ratchet pawl	—	Wear or other defect
	Parking gear	—	Wear or other defect
	Throttle cam stopper	18.5–18.6 (0.7283–0.7322)	—
Servo body	Shift fork shaft I.D.	Carburetor PGM-FI	17.0–17.1 (0.6692–0.6732)
		A	14.000–14.005 (0.5512–0.5514)
		B	14.006–14.010 (0.5514–0.5516)
	Shift fork shaft valve bore I.D.	C	14.011–14.015 (0.5516–0.5518)
Transmission	Diameter of needle bearing contact area	Carburetor PGM-FI	37.000–37.039 (1.4567–1.4582)
			37.045 (1.4585)
			—
	On mainshaft and stator shaft	Carburetor PGM-FI	22.984–23.000 (0.9049–0.9055)
	On mainshaft 4th gear collar		31.984–32.000 (1.2592–1.2598)
	On mainshaft 3rd gear collar		41.984–42.000 (1.6529–1.6535)
	On counter shaft 1st gear collar	Carburetor PGM-FI	45.984–46.000 (1.8103–1.8110)
	On counter shaft 4th gear		40.984–41.000 (1.6142–1.6535)
	On counter shaft reverse gear		31.975–31.991 (1.2589–1.2595)
	On counter shaft parking gear	Carburetor PGM-FI	35.979–36.000 (1.4165–1.4173)
	On secondary shaft 1st gear		39.984–40.000 (1.5741–1.5748)
	On secondary shaft 2nd gear		31.975–31.991 (1.2588–1.2594)
	Reverse idler gear shaft holder I.D.	Carburetor PGM-FI	31.975–31.991 (1.2588–1.2594)
	Mainshaft 3rd gear I.D.		14.416–14.434 (0.5675–0.5682)
	4th gear I.D.		48.000–48.019 (1.8898–1.8905)
			52.000–52.019 (2.0472–2.0479)
			38.005–38.021 (1.4963–1.4969)
			Wear or damage

9. Automatic Transmission

Unit of length: mm (in.)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission	Countershaft 1st gear I.D.	47.000—47.016 (1.8504—1.8510)	Wear or damage ↑ ↓
	4th gear I.D.	38.000—38.016 (1.4961—1.4967)	
	reverse gear I.D.	42.000—42.016 (1.6535—1.6541)	
	idler gear I.D.	48.000—48.016 (1.8897—1.8903)	
	Secondary shaft 1st gear I.D.	37.000—37.016 (1.4566—1.4573)	
	2nd gear I.D.	37.000—37.016 (1.4566—1.4573)	
	Mainshaft 3rd gear collar length	20.000—20.050 (0.7874—0.7893)	
	Carburetor PGM-FI	19.500—19.550 (0.7677—0.7697)	
	4th gear collar length	47.500—47.550 (1.8700—1.8720)	
	Countershaft 1st gear collar length	27.500—27.550 (1.0826—1.0846)	
	Secondary shaft distance collar length	4.95—5.00 (0.1948—0.1968)	
	Secondary shaft 2nd gear thrust washer thickness	4.35—4.45 (0.1713—0.1752)	
	Countershaft 1st gear thrust washer thickness	1.45—1.50 (0.0570—0.0590)	
	Countershaft idler gear thrust washer thickness	3.45—3.55 (0.1358—0.1398)	
	Countershaft parking gear length	25.030—25.048 (0.9854—0.9861)	Wear or damage

Standards and Service Limits

9. Automatic Transmission (cont'd)

Unit of length: mm (in.)

		MEASUREMENT	STANDARD (NEW)			
			WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
Spring (Carburetor)	One way ball spring		0.29 (0.0114)	4.0 (0.1574)	14.0 (0.5511)	13.0
	Regulator valve spring A		1.80 (0.0708)	14.7 (0.5787)	86.5 (3.4055)	16.5
	Regulator valve spring B		1.80 (0.0708)	9.6 (0.3779)	44.0 (1.7328)	7.5
	Stator reaction spring		5.50 (0.2165)	37.4 (1.4724)	30.3 (1.1929)	2.1
	Throttle modulator spring	with CATA	1.20 (0.0472)	9.4 (0.3700)	27.2 (1.0708)	8.0
		without CATA	1.20 (0.0472)	9.4 (0.3700)	26.3 (1.0354)	8.0
	Torque convertor check valve spring		1.10 (0.0433)	8.4 (0.3307)	36.4 (1.4331)	12.0
	Relife valve spring		1.00 (0.0393)	8.4 (0.3307)	39.1 (1.5393)	15.1
	Cooler check valve spring		1.10 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0
	Governor spring A	with CATA	1.0 (0.0393)	18.8 (0.7401)	25.8 (1.0157)	4.0
		without CATA	1.0 (0.0393)	18.8 (0.7401)	41.2 (1.6220)	4.0
			1.0 (0.0393)	18.8 (0.7401)	44.3 (1.7440)	4.0
	Governor spring B	with CATA	0.8 (0.0314)	11.8 (0.4645)	22.9 (0.9016)	7.0
			0.9 (0.0354)	11.8 (0.4645)	18.4 (0.7244)	6.2
		without CATA	0.9 (0.0354)	11.8 (0.4645)	21.4 (0.8425)	6.2
	Second orifice control spring		0.7 (0.0275)	6.6 (0.2598)	53.3 (2.0984)	20.5
	Servo orifice spring		0.9 (0.0354)	7.1 (0.2795)	61.2 (2.4094)	28.2
	Throttle spring A		1.0 (0.0393)	8.5 (0.3346)	21.0 (0.8267)	5.8
			1.0 (0.0393)	8.5 (0.3346)	21.0 (0.8267)	5.4
			1.0 (0.9393)	8.5 (0.3346)	22.2 (0.8740)	6.0
			1.0 (0.0393)	8.5 (0.3346)	22.1 (0.8701)	5.5
	Throttle adjust spring A		0.8 (0.0314)	6.2 (0.2440)	27.0 (1.0630)	23.0
	Throttle adjust spring B		0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0
	Throttle spring B		1.4 (0.0551)	8.5 (0.3346)	41.6 (1.6378)	14.0
	1-2 shift spring	with CATA	0.5 (0.0196)	4.6 (0.1811)	42.3 (1.6653)	25.0
		without CATA	0.6 (0.0236)	6.1 (0.2401)	42.3 (1.6653)	21.1
	1-2 shift ball spring	with CATA	0.4 (0.0157)	4.5 (0.1771)	13.0 (0.5118)	8.7
		without CATA	0.4 (0.0157)	4.5 (0.1771)	12.6 (0.4960)	8.7
	2-3 shift spring	with CATA	0.9 (0.0354)	7.6 (0.2992)	70.0 (2.7559)	28.2
		without CATA	0.8 (0.0314)	7.6 (0.2992)	58.9 (2.3188)	16.8
	2-3 shift ball spring	with CATA	0.5 (0.0196)	4.5 (0.1771)	11.7 (0.4606)	10.5
		without CATA	0.5 (0.0196)	4.5 (0.1771)	14.1 (0.5551)	10.5
	3-4 shift spring	with CATA	0.9 (0.0354)	9.6 (0.3779)	35.8 (1.4094)	10.3
		without CATA	0.9 (0.0354)	9.6 (0.3779)	27.7 (1.0905)	10.3
	3-4 shift ball spring	with CATA	0.5 (0.0196)	4.5 (0.1771)	11.5 (0.4527)	7.4
		without CATA	0.5 (0.0196)	4.5 (0.1771)	11.3 (0.4448)	7.4
	1st-hold accumulator spring		4.0 (0.1574)	21.5 (0.8464)	71.7 (2.8228)	8.3
	1st accumulator spring		1.8 (0.0709)	16.3 (0.6417)	115.4 (4.5433)	18.6
	4th accumulator spring		2.6 (0.1023)	16.0 (0.6292)	84.6 (3.3307)	14.3
	2nd accumulator spring		3.2 (0.1378)	22.0 (0.8661)	77.1 (3.0354)	10.0
	3rd accumulator spring		2.6 (0.1023)	17.5 (0.6889)	78.6 (3.0944)	11.0
	L/C shift spring		0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9015)	32.0
	L/C timing spring B	with CATA	1.0 (0.0393)	6.6 (0.2598)	84.0 (3.3070)	42.4
		without CATA	1.0 (0.0393)	6.6 (0.2598)	79.1 (3.1141)	42.4
	L/C timing spring A	with CATA	0.9 (0.0354)	6.6 (0.2598)	55.9 (2.2007)	27.3
		without CATA	0.9 (0.0354)	6.6 (0.2598)	50.0 (1.9685)	27.3
	Governor cut spring		0.8 (0.0314)	7.6 (0.2992)	44.5 (1.7519)	17.0
	L/C control spring		0.7 (0.0275)	6.6 (0.2598)	42.9 (1.6889)	14.1
	CPC valve spring		1.4 (0.0551)	9.4 (0.3700)	31.2 (1.2283)	10.9
	3rd kick down spring		0.9 (0.0354)	7.6 (0.2992)	62.7 (2.4684)	27.5
	Reverse control spring		0.7 (0.0275)	7.1 (0.2795)	40.0 (1.5748)	20.8
	L/C cut spring		0.7 (0.0275)	7.6 (0.2992)	31.0 (1.2204)	12.7
	Accumulator control spring		1.2 (0.0472)	7.7 (0.3031)	45.6 (1.7952)	21.8
	2nd kick down spring		1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6
	Servo control spring		0.9 (0.0354)	6.4 (0.2519)	32.5 (1.2795)	17.5
	2-1 timing spring		0.7 (0.0275)	5.6 (0.2204)	33.0 (1.2992)	21.7
	4th exhaust spring		0.8 (0.0314)	6.1 (0.2401)	51.1 (2.0118)	26.6

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)			
			WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
Spring (PGM-FI)	Regulator valve spring	A	1.8 (0.0709)	14.7 (0.5887)	86.5 (3.4055)	16.5
		B	1.8 (0.0709)	9.6 (0.3779)	44.0 (1.7323)	12.7
	Stator reaction spring		4.5 (0.1772)	35.4 (1.3937)	30.3 (1.1929)	1.92
	Torque converter check valve spring		1.1 (0.0433)	8.4 (0.3307)	36.4 (1.4331)	12.0
	Relief valve spring		1.0 (0.0394)	8.4 (0.3307)	39.1 (1.5393)	15.1
	Cooler check valve spring		1.1 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0
	2nd orifice spring		0.6 (0.0236)	6.6 (0.2598)	55.8 (2.1968)	15.8
	Servo orifice spring		0.8 (0.0315)	6.6 (0.2598)	52.5 (2.0669)	33.0
	4th exhaust spring		0.9 (0.0354)	7.1 (0.2795)	60.8 (2.3936)	28.9
	1-2 shift spring		1.0 (0.0393)	8.6 (0.3386)	41.3 (1.6259)	16.9
	2-3 shift spring		0.9 (0.0354)	7.6 (0.2992)	57.0 (2.2440)	26.8
	1st accumulator spring		1.8 (0.0709)	16.3 (0.6417)	115.4 (4.5433)	18.6
	4th accumulator spring		2.9 (0.1142)	22.0 (0.8661)	90.1 (3.5472)	10.9
	2nd accumulator spring		3.5 (0.1378)	22.0 (0.8661)	77.1 (3.0354)	10.0
	3rd accumulator spring		2.8 (0.1102)	17.5 (0.6889)	94.2 (3.7086)	16.1
	L/C shift spring		0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9016)	32.0
	L/C timing spring		0.8 (0.0314)	6.6 (0.2598)	51.1 (2.0118)	14.7
	Servo control spring		1.0 (0.0394)	8.1 (0.3188)	52.6 (2.0708)	22.4
	3rd kick-down spring		1.1 (0.0433)	7.6 (0.2992)	48.3 (1.9015)	23.3
	2nd kick-down spring		1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6
	Throttle adjust spring		0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0
	Throttle B spring		1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	10.5
			1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	11.2
			1.4 (0.0551)	8.5 (0.3346)	41.6 (1.6378)	12.4
	1st-hold accumulator spring		4.0 (0.1574)	25.0 (0.9842)	64.7 (2.5472)	7.3
	CPC valve spring		1.4 (0.0551)	9.4 (0.3700)	33.0 (1.2992)	10.5
	L/C control spring		0.7 (0.0276)	6.6 (0.2598)	38.0 (1.4961)	14.1

Standards and Service Limits

9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Rign gear	Backlash	0.085–0.142 (0.003–0.006)	0.200 (0.008)
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to driveshaft clearance	18.000–18.018 (0.7087–0.7094) 0.017–0.047 (0.001–0.002) 28.005–28.025 (1.1026–1.1033) 0.025–0.066 (0.001–0.003)	— 0.100 (0.004) — 0.120 (0.005)
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to pinion shaft clearance	0.05–0.15 (0.02–0.006) 18.042–18.066 (0.710–0.711) 0.059–0.095 (0.002–0.004)	Adjust with a washer — 0.120 (0.005)
Differential tapered roller bearing preload	For used bearing After replacement of bearing	2.5–3.7 N·m (25–37 kg·cm, 1.8–2.7 lb·ft) 2.8–4.0 N·m (28–48 kg·cm, 2.0–2.9 lb·ft)	Adjust with a washer Adjust with a washer

11. Steering

	MEASUREMENT	STANDARD (NEW)
Steering wheel	Play	10 (0.39) maximum
Gearbox	Pinion starting torque Angle of rack guide screw loosend from locked position	Below 1.0N·m (10 kg·cm, 0.72 lb·ft) 20° + 5° – 0
Pump	Pump pressure with valve closed (oil temperature: 40°C/104°F minimum) Do not run for more than 5 seconds	7,845–8,826 kPa (80–90 kg/cm², 1,138–1,280 psi) at idle
Power steering fluid	Capacity Reservoir At change (approx.)	0.5 ℓ (0.53 US qt, 0.44 Imp qt) 1.8 ℓ (1.90 US qt, 1.58 Imp qt)
Power steering belt	Deflection between pulleys with 98 N (10 kg, 22 lbs) force Belt tension between pulleys (measured with belt tension gauge)	For used belt For new belt 13.0–16.0 (0.51–0.62)* 9.5–11.5 (0.37–0.45) 343–490 N (35–50 kg, 77–110 lb)* 686–882 N (70–90 kg, 154–198 lb)

*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

12. Suspension

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Total toe Camber Caster	Front Rear 2WS: 4WS: Front Rear 2WS: 4WS: Front	0±2 (0±0.08) IN 2±2 (0.08±0.08) IN 3±2 (0.12±0.08) 0° 00' ± 1' –0° 30' ± 1' –0° 20' ± 1' 3° 00' ± 1'
	Front Wheel turning angle Rear Wheel turning angle (4WS only)	Inward wheel Outward wheel wheel (reference) Inward wheel Outward wheel wheel (reference)	2WS: 39°05' ± 2° 4WS: 38°50' ± 2° 2WS: 29°30' 4WS: 29°30' 5° 50' ± 1' 6° 10' ± 1'
Wheel	Rim runout Steel wheel Aluminum wheel	Axial Radial Axial Radial	Below 1.0 (0.04) Below 1.0 (0.04) Below 0.7 (0.03) Below 0.7 (0.03)
Wheel bearing	End play Front Rear	0–0.05 (0–0.002) 0–0.05 (0–0.002)	— —

Unit of length: mm (in.)

13. Brakes

13. Brakes				
	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lbs)		To be locked when pulled 4–8 notches	—
Foot brake pedal	Pedal height (from floor)	LHD: MT	165 ± 0.5 (6.5 ± 0.02)	—
		AT	170 ± 0.5 (6.7 ± 0.02)	—
	RHD: MT	190 (7.5) minimum	—	
		AT	195 (7.7) minimum	—
	Free play		1–5 (0.04–0.20)	5 (0.20)
Master cylinder	Piston-to-push rod clearance		0–0.4 (0–0.016)	—
Brake drum	I.D.		220 (8.66)	221 (8.70)
Lining	Thickness		4.5 (0.18)	2.0 (0.08)
Disc brake	Disc thickness	Front	23.0 (0.91)	21.0 (0.83)
		Rear	10.0 (0.39)	8.0 (0.32)
	Disc runout	Front	—	0.10 (0.004)
		Rear	—	0.10 (0.004)
	Disc parallelism	Front and rear	—	0.015 (0.0006)
	Pad thickness	Front	2.0 ℓ model: 12.5 (0.49)	1.6 (0.06)
			2.2 ℓ model: 12.0 (0.47)	1.6 (0.06)
		Rear	9.0 (0.35)	1.6 (0.06)
Brake booster	Characteristics at 20 kg (44 lbs) pedal pressure		Line pressure Unit: kPa (kg/cm ² /psi)	
	Vacuum	Brakes	Conventional type	with anti-lock-brake system
		0 mm (0 in) Hg	922 (9.4/134) minimum	813 (8.3/118) minimum
		300 mm (11.8 in) Hg	5,494 (56/796) minimum	6,076 (62/882) minimum
		500 mm (19.7 in) Hg	8,535 (87/1,237) minimum	8,134 (83/1,180) minimum

15. Air Conditioner

	MEASUREMENT		STANDARD (NEW)
Air conditioner system	Lubricant capacity	Condenser	10 cc (0.3 US oz, 0.4 Imp oz)
		Evaporator	25 cc (0.8 US oz, 0.9 Imp oz)
		Line or hose	10 cc (0.3 US oz, 0.4 Imp oz)
		Reservoir	10 cc (0.3 US oz, 0.4 Imp oz)
Compressor	Lubricant capacity		800–850 g (28.2–30.0 oz)
	Stator coil resistance at 20°C (68°F)		3.4–3.8 Ω
Compressor belt	Pulley-to pressure plate clearance		0.35–0.65 (0.014–0.026)
	Deflection between pulleys with 98 N (10 kg, 22 lbs) force	For used belt	10–12 (0.4–0.5)*
		For new belt	4.5–7.0 (0.18–0.28)
	Belt tension between pulleys (measured with belt tension gauge)	For used belt	441–588 N (45–60 kg, 99–132 lbs)
		For new belt	931–1,127 N (95–115 kg, 209–254 lbs)

*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

Standards and Service Limits

Unit of length: mm (in.)

16. Electrical

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Ignition coil	Rated voltage	12 Volts	
	Winding resistance	Primary	0.6—0.8 Ω <0.5—0.7 Ω >
	< >: Carbureted engine	Secondary	12.8—19.2 k Ω <14.4—21.6 k Ω >
Ignition wire	Resistance	25 k Ω maximum	
Spark plug	Type (): Manufacturer	Standard	ZFR5F-11 (NGK) or KJ16CR-L11 (ND)* ¹ ZFR6F-11 (NGK) or KJ20CR-L11 (ND)* ²
		Option	ZFR5F-11 (NGK) or KJ16CR-L11 (ND)* ³ ZFR6F-11 (NGK) or KJ20CR-L11 (ND)* ⁴ ZFR7F-11 (NGK) or KJ22CR-L11 (ND)* ⁵
	Gap	1.0—1.1 (0.039—0.043)	
Ignition timing	At idling	PGM-FI engine: 15° ± 2° BTDC Carbureted engine: F20A2, F20A3-MT, F20A6: 15° ± 2° BTDC F20A3-AT (KY): 0° ± 2° BTDC F20A3-AT (others): 10° ± 2° BTDC	
Battery	Lighting capacity (20-hours ratio) < >: KY, KQ (except 5D), KP, KT	65Ah <47Ah>	
	Starting capacity (voltage after 5 sec.)	8.4 V minimum/300 ampere draw at -15°C (59°F)	
Alternator	Output < >: Carbureted engine (except KS, KU, KW, KY)	80A <70A>	
	Rotor coil resistance	2.8—3.0 Ω	—
	Slip ring O.D.	14.4 (0.57)	14.0 (0.55)
Alternator belt	Brush length	10.5 (0.41)	5.5 (0.22)
	Brush spring tension	300—360 g (10.6—12.7 oz)	—
	Deflection at midway between pulleys with 98 N (10 kg, 22 lb) force	Model without A/C	Used belt* 10—12 (0.39—0.47) New belt 8.5—11 (0.33—0.43)
	Belt tension between pulleys (measured with belt tension gauge)	Model with A/C	Used belt* 10—12 (0.39—0.47) New belt 4.5—7.0 (0.18—0.28)
		Model without A/C	Used belt* 294—441 N (30—45 kg, 66—99 lb) New belt 441—637 N (45—65 kg, 99—143 lb)
		Model with A/C	Used belt* 441—637 N (45—65 kg, 99—143 lb) New belt 931—1,128 N (95—115 kg, 209—154 lb)
Starting motor	Output	4D European except KE Except European and KE 5D KE Except KE	MT: 1.4 kW (2.2 t: 1.6 kW) AT: 1.6 kW MT: 1.4 kW AT: 1.4 kW MT: 1.4 kW AT: 1.4 kW MT: 1.6 kW AT: 1.6 kW
	Manufacturer: Mitsuba	Mica depth Commutator runout Commutator O.D. Brush length Brush spring tension	0.4—0.5 (0.016—0.02) 0—0.02 (0—0.001) 28.0—28.1 (1.10—1.11) 15.8—16.2 (0.62—0.64) 16—18 N (1.6—1.8 kg, 3.5—4.0 lbs)
	Manufacturer: ND	Mica depth Commutator runout Commutator O.D. Brush length Brush spring tension	0.5—0.8 (0.02—0.03) 0—0.02 (0—0.001) 29.9—30.0 (1.18—1.18) 15.0—15.5 (0.59—0.61) 19—24 N (1.9—2.4 kg, 4.2—5.3 lbs)

*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

*1: Except the European and GULF model of Engine type F20A3.

*2: European and GULF model of Engine type F20A3.
All fuel injection type.

*3: Engine type F20A8, F22A2, F22A6 and F22A9.
European and GULF model of Engine type F20A3.
European model of Engine type F20A5.

*4: Except the European and GULF model of Engine type F20A3.
Except the European and Hong Kong model of Engine type F20A5.

*5: Engine type F20A2, F20A6, F20A8, F22A2, F22A3, F22A6, F22A7, F22A8 and F22A9.
European and GULF model of Engine type F20A3.
European model of Engine type F20A5.