

# Standards and Service Limits

## Cylinder Head/Valve Train — Section 6

\*1300 and 1200

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Compression	300 min <sup>-1</sup> (rpm) and wide-open throttle	Nominal PGM-FI	1,274 kPa (13.0 kg/cm <sup>2</sup> , 185 psi)
		Carburetor	1,176 kPa (12.0 kg/cm <sup>2</sup> , 171 psi)
		Minimum PGM-FI	1,078 kPa (11.0 kg/cm <sup>2</sup> , 156 psi)
		Carburetor	980 kPa (10.0 kg/cm <sup>2</sup> , 142 psi)
		Maximum variation	196 kPa ( 2 kg/cm <sup>2</sup> , 28 psi)
Cylinder head	Warpage	—	0.05 (0.002)
	Height	90 (3.54)	89.8 (3.53)
Camshaft	End play	0.05–0.15 (0.002–0.006)	0.5 (0.02)
	Oil clearance	0.050–0.093 (0.002–0.004)	0.15 (0.006)
	Runout	0.03 (0.001) max.	0.06 (0.002)
	Cam lobe height	PGM-FI IN	40.865 (1.6089)
		EX	40.884 (1.6096)
		1500 IN	40.370 (1.5894)
		EX	40.391 (1.5902)
		1300 IN	40.056 (1.5770)
		EX	40.078 (1.5779)
		1200 IN	39.095 (1.5392)
		EX	39.120 (1.5402)
Valve	Valve clearance	IN	0.17–0.22 (0.007–0.009)
		EX	0.22–0.27 (0.009–0.011)
	Valve stem O.D.	IN	6.58–6.59 (0.2591–0.2594)
		EX	6.55–6.56 (0.2579–0.2583)
	Stem-to-guide clearance	IN	0.02–0.05 (0.001–0.002)
		EX	0.05–0.08 (0.002–0.003)
	Stem installed height	IN	48.16 (1.896)
		EX	48.16 (1.896)
Valve seat	Width	IN and EX	1.25–1.55 (0.049–0.061)
Valve spring	Free length	IN and EX	47.6 (1.87)
		Squareness Inner and Outer	—
Valve guide	I.D.	IN	6.61–6.63 (0.260–0.261)
		EX	6.61–6.63 (0.260–0.261)
Rocker arm	Arm-to-shaft clearance		0.018–0.054 (0.0007–0.0021)

## Engine Block — Section 7

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	74.00–74.02 (2.9133–2.9142)	74.10 (2.9173)
	Bore taper	0.07–0.012 (0.0003–0.0005)	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O.D. At 16 mm (0.63 in) from bottom of skirt	73.97–73.99 (2.9122–2.9133)	73.96 (2.912)
	Clearance in cylinder	0.01–0.05 (0.0004–0.0020)	0.07 (0.003)
	Piston-to-ring clearance	(Top)	0.03–0.06 (0.0012–0.0024)
		(Second)	0.030–0.055 (0.0012–0.0022)
Piston ring	Ring end gap (Top and second)	0.15–0.35 (0.006–0.014)	0.6 (0.024)
	Ring end gap (Oil)	0.30–0.90 (0.012–0.035)	1.1 (0.043)
Connecting rod	Pin-to-rod interference	0.02–0.04 (0.0008–0.0016)	0.02 (0.0008)
	Large end bore diameter	Nominal 45 (1.77) *43 (1.69)	—
	End play installed on crankshaft	0.15–0.30 (0.006–0.012)	0.40 (0.016)
Crankshaft	Main journal diameter	49.976–50.000 (1.9676–1.9685)	—
	Taper/out-of-round, main journal	0.005 (0.0002) max.	0.010 (0.0004)
	Rod journal diameter	41.976–42.000 (1.6526–1.6535)	—
		*39.976–40.000 (1.5739–1.5748)	—
	Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)
	End play	0.10–0.35 (0.004–0.014)	0.45 (0.018)
	Runout	0.03 (0.0012) max.	0.06 (0.0024)
Bearings	Main bearing-to-journal oil clearance	0.024–0.042 (0.0009–0.0017)	0.07 (0.003)
	Rod bearing-to-journal oil clearance	0.020–0.038 (0.0008–0.0015)	0.07 (0.003)

**Engine Lubrication — Section 8**

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)	4.0 (4.2, 3.4) After engine disassembly 3.5 (3.7, 3.1) After oil change, including oil filter 3.0 (3.2, 2.6) After oil change, without oil filter	
Oil pump	Displacement Inner-to-outer rotor radial clearance Pump body-to-rotor radial clearance Pump body-to-rotor side clearance	35ℓ (9.2 US gal., 7.7 Imp gal.) 3,000 min <sup>-1</sup> (rpm) 0.14 (0.006) max. 0.10–0.175 (0.004–0.007) 0.03–0.08 (0.001–0.003)	0.2 (0.008) 0.2 (0.008) 0.15 (0.006)
Relief valve	Pressure setting	333–340 kPa (3.4–4.2 kg/cm <sup>2</sup> , 48–60 psi)	

HM: Automatic or Hondamatic

**Cooling — Section 10**

	MEASUREMENT	STANDARD (NEW)
Radiator	Capacity (incl. heater) ℓ (US. Gal., Imp. Gal.) Includes reservoir tank 0.4 (0.11, 0.09)	PGM-FI 5.1 (1.3, 1.1) 1200 4MT 4.4 (1.4, 1.2) KG, KW only 4MT 5.2 (1.4, 1.1) Other models HM 4.9 (1.3, 1.1)  1300 4MT 5.2 (1.4, 1.1) 5MT 4.9 (1.3, 1.1) KT only 5MT 4.4 (1.2, 1.0) Other models HM 4.9 (1.3, 1.1) EC models HM 5.2 (1.4, 1.1) Other models  1500 5.2 (1.4, 1.1) EC models 5.5 (1.5, 1.2) Other models Subtract 1ℓ (0.26 US Gal., 0.22 Imp. Gal.) from capacities at replacement
	Pressure cap opening pressure	74–103 kPa (0.75–1.05 kg/cm <sup>2</sup> , 11–15 psi)
Thermostat	Starts to open Full open Valve lift at full open	76–78°C (169–173°F) 91°C (196°F) 8 (0.31) max.
Cooling fan	Fan-to-core clearance Thermoswitch "ON" temperature Thermoswitch "OFF" temperature	ND 22 mm (0.87 in.) TOYO 17.5 mm (0.69 in.) 88.5–91.5°C (191–197°F) 85.5–86.5°C (186–188°F)

HM: Automatic or Hondamatic

**Carburetor — Section 11**

	MEASUREMENT	STANDARD (NEW)
Carburetor	Choke fast idle	1,500–2,500 min <sup>-1</sup> (rpm)
	Idle speed with headlights and cooling fan off (On Swedish model: on)	Manual 700–800 min <sup>-1</sup> (rpm) HM 650–750 min <sup>-1</sup> (rpm)
	Idle CO	KS and KQ below 2.0% KX 0.5–2.0% Other models below 3.0%
	Float level	35.4–37.4 (13.9–14.7 in.)
PGM-FI	Choke fast idle	1,200–2,000 min <sup>-1</sup> (rpm)
	Idle speed with headlights and cooling fan off (on Swedish model: on)	700–800 min <sup>-1</sup> (rpm)
	Idle CO	KS below 1.5% KX 0.5–2%

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# Standards and Service Limits(cont'd)

## Fuel — Section 12

	MEASUREMENT		STANDARD (NEW)
Fuel pump	Delivery pressure		17.7—26.5 kPa (0.18—0.27 kg/cm <sup>2</sup> , 27—38 psi)
	Displacement		170 cc/min at camshaft rpm 300 min <sup>-1</sup> (rpm)
Fuel pump (PGM-FI)	Delivery pressure		230—270 kPa (2.35—2.75 kg/cm <sup>2</sup> , 33—39 psi)
	Displacement		230 cc/min in 10 seconds
Fuel tank	Capacity	2D H/B	45 ℓ (11.9 US. Gal., 9.9 Imp. Gal.)
		4D, 4D H/B	46 ℓ (12.1 US. Gal., 10.1 Imp. Gal.)

## Clutch — Section 13

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height		179 (7.05) to floor	—
	Stroke		135—140 (5.3—5.5)	—
	Pedal play		10—30 (0.39—1.18)	—
	Disengagement height	2D H/B, 4D 4D H/B	83 (3.3) min. to floor 53 (2.1) min. to carpet 78 (3.1) min. to floor 48 (1.9) min. to carpet	
Clutch arm	Release arm adjustment		4.0—5.0 (0.16—0.20)	—
Flywheel	Clutch surface runout		0.05 (0.002) max.	0.15 (0.006)
Clutch plate	Rivet head depth		1.3 (0.05) min.	0.2 (0.008)
	Surface runout		0.8 (0.03) max.	1.0 (0.04)
	Radial play in splines		0.036—0.112 (0.0014—0.0044)	0.5 (0.02)
	Thickness		8.1—8.8 (0.32—0.35)	5.7 (0.22)
Clutch release bearing holder	I.D.		29.000—29.059 (1.142—1.144)	29.20 (1.150)
	Holder-to-guide sleeve clearance		0.040—0.132 (0.0016—0.0052)	0.2 (0.008)
Clutch cover	Unevenness of diaphragm spring		0.8 (0.03) max.	1.0 (0.04)

**Manual Transmission — Section 14 and 15**

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity 2 (US. qt., Imp. qt)		2.5 (2.6, 2.2) at assembly 2.3 (2.4, 2.0) at oil change	
Mainshaft	End play Diameter of needle bearing contact area Diameter of fifth gear contact area Diameter of 62/22 ball bearing contact area Diameter of 6304 ball bearing contact area Runout		0.11–0.25 (0.004–0.010) 27.997–28.010 (1.1022–1.1028) 24.987–25.000 (0.9837–0.9843) 21.987–22.000 (0.8656–0.8661) 19.983–19.996 (0.7867–0.7872) 0.02 (0.0008) max.	— 27.94 (1.100) 24.93 (0.981) 21.93 (0.863) 19.93 (0.7846) 0.05 (0.0019)
Mainshaft fifth gear	I.D. End play		30.007–30.020 (1.1814–1.1819) 0.05–0.35 (0.0020–0.0138)	30.07 (1.184) —
Countershaft	End play Diameter of needle bearing contact area Diameter of ball bearing contact area Diameter of low gear contact area Runout		0.35 (0.0138) 30.004–30.017 (1.1813–1.1818) 24.9935–25.0065 (0.9840–0.9845) 31.984–32.000 (1.2592–1.2598) 0.04 (0.0016)	0.65 (0.026) 29.94 (1.179) 24.94 (0.982) 31.93 (1.257) 0.10 (0.004)
Countershaft low gear	I.D. End play		37.009–37.025 (1.4570–1.4577) 0.03–0.08 (0.0012–0.0031)	37.08 (1.460) 0.18 (0.007)
Countershaft second, third/fourth gear	I.D. End play		37.009–37.025 (1.4570–1.4577) 0.05–0.12 (0.0020–0.0047)	37.08 (1.460) 0.18 (0.007)
Spacer collar	Second, Third	I.D. O.D. Length	25.980–25.991 (1.0228–1.0233) 31.989–32.000 (1.2594–1.2598) 28.01–28.13 (1.1028–1.1074)	26.04 (1.025) 31.93 (1.257) —
	Fourth	I.D. O.D. Length	25.007–25.037 (0.9845–0.9857) 31.989–32.000 (1.2594–1.2598) 28.01–28.13 (1.1028–1.1074)	25.08 (0.987) 31.93 (1.257) —
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance		15.016–15.043 (0.5912–0.5922) 0.032–0.077 (0.0013–0.0030)	15.08 (0.594) 0.14 (0.006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)		0.85–1.10 (0.033–0.043)	0.4 (0.016)
Shift fork	Synchronizer sleeve gear Fork-to-synchronizer sleeve clearance		6.95–7.05 (0.2736–0.2776) 0.45–0.65 (0.018–0.026)	— 1.0 (0.039)
Reverse shift fork	End gap Fork-to-reverse idler gear clearance Groove width Fork-to-fifth/reverse shift shaft clearance		6.9–7.0 (0.27–0.28) 0.1–0.3 (0.004–0.012) 7.05–7.25 (0.278–0.285) 0.05–0.35 (0.002–0.014)	— 0.7 (0.028) — 0.5 (0.020)
Shift arm B	I.D. Shift arm-to-shift guide clearance		14.016–14.043 (0.5518–0.5529) 0.022–0.067 (0.0009–0.0026)	— 0.15 (0.006)

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## Standards and Service Limits(cont'd)

## Hondamatic Transmission (AV) – Section 16

Hondamatic Transmission (AV) — Section 16			
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US. qt., Imp. qt)	2.4 (2.5, 2.1) at oil change 5.0 (5.3, 4.4) at assembly	
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm) 1500 1200, 1300	735—784 kPa (7.5—8.0 kg/cm <sup>2</sup> , 107—114 psi) 637—686 kPa (6.5—7.0 kg/cm <sup>2</sup> , 92—100 psi)	686 kPa (7.0 kg/cm <sup>2</sup> , 100 psi) 588 kPa (6.0 kg/cm <sup>2</sup> , 85 psi)
	OD clutch pressure at 2,000 min <sup>-1</sup> (rpm) 1500 1200, 1300	686—784 kPa (7.0—8.0 kg/cm <sup>2</sup> , 100—114 psi) 588—686 kPa (6.0—7.0 kg/cm <sup>2</sup> , 85—100 psi)	637 kPa (6.5 kg/cm <sup>2</sup> , 92 psi) 539 kPa (5.5 kg/cm <sup>2</sup> , 78 psi)
	☆clutch pressure at 2,000 min <sup>-1</sup> (rpm) 1500 1200, 1300	686—784 kPa (7.0—8.0 kg/cm <sup>2</sup> , 100—114 psi) 588—686 kPa (6.0—7.0 kg/cm <sup>2</sup> , 85—100 psi)	637 kPa (6.5 kg/cm <sup>2</sup> , 92 psi) 539 kPa (5.5 kg/cm <sup>2</sup> , 78 psi)
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm) 1500 1200, 1300	686—784 kPa (7.0—8.0 kg/cm <sup>2</sup> , 100—114 psi) 588—686 kPa (6.0—7.0 kg/cm <sup>2</sup> , 85—100 psi)	637 kPa (6.5 kg/cm <sup>2</sup> , 92 psi) 539 kPa (5.5 kg/cm <sup>2</sup> , 78 psi)
	Governor pressure at 60 km/h	221—230 kPa (2.25—2.35 kg/cm <sup>2</sup> , 32—33 psi)	216 kPa (2.2 kg/cm <sup>2</sup> , 31 psi)
	Throttle pressure 1500 1200, 1300	735—784 kPa (7.5—8.0 kg/cm <sup>2</sup> , 107—114 psi) 637—686 kPa (6.5—7.0 kg/cm <sup>2</sup> , 92—100 psi)	686 kPa (7.0 kg/cm <sup>2</sup> , 100 psi) 588 kPa (6.0 kg/cm <sup>2</sup> , 85 psi)
Stall speed	Check with car on level ground	2,700 min <sup>-1</sup> (rpm)	2,300—2,900 min <sup>-1</sup> (rpm)
Clutch	Clutch initial clearance 1st	0.4—0.7 (0.016—0.028)	—
	2nd	0.65—0.80 (0.026—0.031)	—
	3rd	0.4—0.6 (0.016—0.024)	—
	Clutch return spring free length	30.5 (1.20)	28.5 (1.12)
	Clutch disc thickness	1.83—2.0 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness	1.95—2.05 (0.077—0.079)	Discoloration
	Clutch end plate thickness Mark 1	2.3—2.4 (0.091—0.094)	↑ ↓ Discoloration
	Mark 2	2.4—2.5 (0.094—0.098)	
	Mark 3	2.5—2.6 (0.098—0.102)	
	Mark 4	2.6—2.7 (0.102—0.106)	
	Mark 5	2.7—2.8 (0.106—0.110)	
	Mark 6	2.8—2.9 (0.110—0.114)	
	Mark 7	2.9—3.0 (0.114—0.118)	
	Mark 8	3.0—3.1 (0.118—0.122)	
	Mark 9	3.1—3.2 (0.122—0.126)	
	Mark 10	3.2—3.3 (0.126—0.130)	
Transmission	Diameter of needle bearing contact area on main and stator shaft	19.980—19.993 (0.7866—0.7871)	Wear or damage ↑ ↓ Wear or damage
	Diameter of needle bearing contact area on main 2nd gear collar	31.975—31.991 (1.2588—1.2594)	
	Diameter of needle bearing contact area on mainshaft 1st gear collar	30.975—30.991 (1.2195—1.2201)	
	Diameter of needle bearing contact area on countershaft (L side)	32.984—33.000 (1.2986—1.2993)	
	Diameter of needle bearing contact area on countershaft 3rd gear	31.975—31.991 (1.2589—1.2595)	
	Diameter of needle bearing contact area on countershaft 2nd gear	27.980—27.993 (1.1016—1.1021)	
	Diameter of needle bearing contact area on countershaft reverse gear collar	29.980—29.993 (1.1803—1.1808)	
	Diameter of needle bearing contact area on reverse idle gear	13.994—14.000 (0.5509—0.5512)	
	Reverse idler shaft holder diameter	14.016—14.034 (0.5518—0.5525)	
	Mainshaft 2nd gear I.D.	38.000—38.016 (1.4961—1.4967)	
	Mainshaft 1st gear I.D.	36.000—36.016 (1.4173—1.4179)	
	Countershaft 3rd gear I.D.	38.000—38.016 (1.4966—1.4966)	
	Countershaft 2nd gear I.D.	33.000—33.016 (1.4173—1.4179)	
	Countershaft 1st gear I.D.	35.000—35.016 (1.3779—1.3785)	
	Countershaft reverse gear I.D.	36.000—36.016 (1.4173—1.4179)	
	Reverse idler gear I.D.	18.007—18.020 (0.7086—0.7094)	

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Mainshaft 2nd gear end play	0.07–0.15 (0.003–0.006)	—
	Mainshaft 1st gear end play	0.08–0.20 (0.003–0.008)	—
	Countershaft 3rd gear end play	0.07–0.15 (0.003–0.006)	—
	Countershaft 2nd gear end play	0.07–0.15 (0.003–0.006)	—
	Reverse idle gear end play	0.05–0.18 (0.0020–0.0071)	—
	Countershaft reverse gear end play	0.10–0.20 (0.004–0.008)	—
	Reverse gear hub O.D.	51.87–51.90 (2.0421–2.0433)	Wear or damage
	Thrust washer thickness		
	Mainshaft 2nd gear, Countershaft 3rd gear	A 2.97–3.00 (0.1169–0.1181)	—
		B 3.02–3.05 (0.1189–0.1201)	—
		C 3.07–3.10 (0.1209–0.1220)	—
		D 3.12–3.15 (0.1228–0.1240)	—
		E 3.17–3.20 (0.1248–0.1260)	—
		F 3.22–3.25 (0.1268–0.1280)	—
		G 3.27–3.30 (0.1287–0.1299)	—
		H 3.32–3.35 (0.1307–0.1319)	—
		I 3.37–3.40 (0.1327–0.1339)	—
	Mainshaft R side bearing	3.95–4.05 (0.1555–0.1594)	Wear or damage
	Mainshaft 1st gear	2.43–2.50 (0.0957–0.0984)	Wear or damage
	Countershaft 2nd gear thickness	A 2.27–2.30 (0.0894–0.0906)	—
		B 2.32–2.35 (0.0913–0.0925)	—
		C 2.37–2.40 (0.0933–0.0945)	—
		D 2.42–2.45 (0.0953–0.0965)	—
		E 2.47–2.50 (0.0972–0.0984)	—
		F 2.50–2.55 (0.0972–0.1004)	—
		G 2.52–2.60 (0.0992–0.1024)	—
Regulator valve body	Mainshaft 1st gear collar length	22.50–22.55 (0.8858–0.8878)	—
	Mainshaft 1st gear collar flange thickness	2.5–2.6 (0.098–0.102)	Wear or damage
	Countershaft reverse gear collar length	14.0–14.1 (0.551–0.555)	—
	Countershaft reverse gear collar flange thickness	2.45–2.50 (0.096–0.098)	Wear or damage
	Mainshaft and countershaft feed pipe O.D. (at 20 mm from end)	7.97–7.98 (0.3138–0.3142)	7.95 (0.31)
	Mainshaft sealing ring 32 mm thickness	1.980–1.995 (0.0780–0.0785)	—
	Mainshaft bushing I.D.	8.000–8.015 (0.3150–0.3156)	8.03 (0.316)
	Countershaft bushing I.D.	8.000–8.015 (0.3150–0.3156)	8.03 (0.316)
	Mainshaft sealing ring groove width	2.025–2.060 (0.0797–0.0811)	2.08 (0.082)
	Sealing ring contact area diameter	32.000–32.025 (1.2598–1.2608)	32.05 (1.26)
Shifting device and parking brake control	Reverse shift fork thickness	5.9–6.0 (0.232–0.236)	5.4 (0.21)
	Parking brake ratchet pawl	—	Wear or other defect
	Parking gear	—	Wear or other defect
	Throttle cam stopper	18.5–18.6 (0.7283–0.7323)	—
Servo body	Shift fork shaft bore I.D.	A 14.000–14.005 (0.5512–0.5514)	—
		B 14.006–14.010 (0.5514–0.5516)	—
		C 14.011–14.015 (0.5516–0.5518)	—
	Shift fork shaft valve bore I.D.	37.000–37.039 (1.4567–1.4582)	37.045 (1.4583)
Valve body	Oil pump gear side clearance	0.03–0.05 (0.0012–0.0020)	0.07 (0.003)
	Oil pump gear-to-body clearance	Drive: 0.21–0.27 (0.0083–0.0106)	—
		Driven: 0.05–0.09 (0.0020–0.0035)	—
	Stator camshaft needle bearing bore I.D.	24.000–24.021 (0.9449–0.9457)	Wear or damage
	Stator camshaft needle bearing contact and O.D.	26.000–26.013 (1.0236–1.0241)	Wear or damage
	Oil pump driven gear I.D.	14.016–14.034 (0.5518–0.5525)	Wear or damage
	Oil pump shaft O.D.	13.980–13.990 (0.5503–0.5507)	Wear or damage

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## Standards and Service Limits (cont'd)

### Automatic Transmission (CA) – Section 16

[illegible]

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Countershaft 4th gear thickness	A 33.97–34.00 (1.337–1.339) B 34.02–34.05 (1.339–1.341) C 34.07–34.10 (1.341–1.343) D 34.12–34.15 (1.343–1.344) E 34.17–34.20 (1.345–1.346) F 34.72–34.25 (1.347–1.348) G 34.27–34.30 (1.349–1.350)	— — — — — — —
	Mainshaft R side bearing	3.95–4.05 (0.1555–0.1594)	Wear or damage
	Mainshaft 1st gear	2.43–2.50 (0.0957–0.0984)	Wear or damage
	Thrust washer thickness (mainshaft 1st gear L side)	1.45–1.50 (0.057–0.059)	1.4 (0.055)
	Mainshaft 1st gear collar length	25.0–25.15 (0.984–0.990)	—
	Mainshaft 1st gear collar flange thickness	2.5–2.6 (0.098–0.102)	Wear or damage
	Countershaft reverse gear collar length	14.50–14.55 (0.531–0.535)	—
	Countershaft reverse gear collar flange thickness	2.45–2.55 (0.096–0.100)	Wear or damage
	Countershaft 1st gear collar length	13.5–13.6 (0.0020–0.0035)	—
	Countershaft 1st gear collar flange thickness	2.4–2.6 (0.095–0.102)	Wear or damage
	Diameter of countershaft one-way clutch contact area	74.414–74.440 (2.9297–2.9307)	Wear or damage
	Diameter of parking gear one-way clutch contact area	57.755–57.768 (2.2738–2.2743)	Wear or damage
	Mainshaft feed pipe: A O.D. (at 15 mm from end)	8.970–8.980 (0.353–0.354)	8.95 (0.352)
	Mainshaft feed pipe B: O.D. (at 12 mm from end)	5.97–5.98 (0.2350–0.2354)	5.95 (0.234)
	Countershaft feed pipe O.D. (at 20 mm from end)	5.97–5.98 (0.2350–0.2354)	5.95 (0.234)
	Mainshaft sealing ring 32 mm thickness	1.980–1.995 (0.0780–0.0785)	—
	Mainshaft bushing I.D.	6.018–6.030 (0.2369–0.2374)	6.045 (0.238)
	Mainshaft bushing I.D.	9.000–9.015 (0.3543–0.3549)	9.03 (0.356)
	Countershaft bushing I.D.	8.000–8.015 (0.3150–0.3156)	8.03 (0.316)
	Mainshaft sealing ring groove width	2.025–2.060 (0.0797–0.0811)	2.08 (0.082)
Regulator valve body	Sealing ring contact area diameter	32.000–32.025 (1.2598–1.2608)	32.05 (1.26)
Shifting device and parking brake control	Reverse shift fork thickness	5.9–6.0 (0.232–0.236)	5.4 (0.21)
	Parking brake ratchet pawl Parking gear Throttle cam stopper	— — 18.5–18.6 (0.7283–0.7323)	Wear or other defect Wear or other defect —
Servo body	Shift fork shaft bore I.D.	A 14.000–14.005 (0.5512–0.5514) B 14.006–14.010 (0.5514–0.5516) C 14.011–14.015 (0.5516–0.5518)	— — —
	Shift fork shaft valve bore I.D.	37.000–37.039 (1.4567–1.4582)	37.045 (1.4585)
Valve body	Oil pump gear side clearance	0.03–0.05 (0.0012–0.0020)	0.07 (0.003)
	Oil pump gear-to-body clearance	Drive: 0.105–0.133 (0.0041–0.0052) Driven: 0.050–0.088 (0.0020–0.0035)	— —
	Stator camshaft needle bearing bore I.D. (R. side)	26.000–26.013 (1.0236–1.0241)	Wear or damage
	Stator camshaft needle bearing contact and I.D. (Stator side)	24.000–24.021 (0.9449–0.9457)	Wear or damage
	Oil pump driven gear I.D.	14.016–14.034 (0.5518–0.5525)	Wear or damage
	Oil pump shaft O.D.	13.980–13.990 (0.5504–0.5508)	Wear or damage

### Differential – Section 17

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ring gear	Backlash	0.073–0.132 (0.0029–0.0052)	0.25 (0.010)
Differential carrier	Pinion shaft bore diameter	18.000–18.018 (0.7087–0.7094)	18.1 (0.71)
	Carrier-to-pinion shaft clearance	0.016–0.052 (0.0006–0.0020)	0.1 (0.004)
	Driveshaft bore diameter	Manual. 26.005–26.025 (1.0238–1.0246) HM 28.000–28.021 (1.1024–1.1032)	— —
	Carrier-to-driveshaft clearance	0.025–0.066 (0.0010–0.0026)	0.12 (0.005)
	Side clearance	0.10–0.20 (0.004–0.008)	0.15 (0.006)
Differential pinion gear	Backlash	0.05–0.15 (0.002–0.006)	—
	Pinion gear bore diameter	18.041–18.061 (0.7103–0.7111)	—
	Pinion gear-to-pinion shaft clearance	0.057–0.095 (0.0022–0.0037)	0.15 (0.006)

### Driveshaft – Section 18

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot	As installed	—
	Left boot	As installed	—

(cont'd)



# Standards and Service Limits(cont'd)

## Steering – Section 19

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Steering wheel	Play	10.0 (0.39) Max.	—
	Pinion-starting torque N·m (kg-m, lb-ft) Without P/S	0.5–1.3 (0.05–0.13, 0.36–0.94)	—
	With P/S	1.2 (0.12, 0.87) Max.	—
	Pump pressure with valve closed (Oil temp./speed: 40°C (104°F) min/idle. Do not run for more than 5 seconds) kPa (kg/cm <sup>2</sup> , Psi)	6,370–7,056 (65–72, 924–1,014)	—
	Fluid capacity Reservoir At change	0.3 ℓ (0.32 U.S. qt., 0.26 Imp.qt.) 1.0 ℓ (1.1 U.S. qt., 0.9 Imp. qt.)	— —
Power Steering pump belt	Deflection midway between pulleys/load	18–22 (0.7–0.9)/98N (10kg, 22lb) four used belt 18–20 (0.7–0.8)/98N (10kg, 22lb) after replacement of belt	— —

## Suspension – Section 20

Suspension — Section 20					
	MEASUREMENT			STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Front camber		2D H/B	$-0^{\circ}10' \pm 1^{\circ}$	*with P/S
			4D	$-0^{\circ}10' \pm 1^{\circ}$ KY: $0^{\circ}20' \pm 1^{\circ}$	
	Rear camber		4D H/B	$0^{\circ}20' \pm 1^{\circ}$ EC: $0^{\circ}16' \pm 1^{\circ}$	
				$-0^{\circ}45' \pm 15'$	
	Caster		2D H/B	$2^{\circ}20' \pm 1^{\circ}$ KY: $2^{\circ}10' \pm 1^{\circ}$	
			4D	$*2^{\circ}55' \pm 1^{\circ}$ KY: $*2^{\circ}55' \pm 1^{\circ}$	
		4D H/B	$2^{\circ}25' \pm 1^{\circ}$ $*3^{\circ}55' \pm 1^{\circ}$		
			$2^{\circ}00' \pm 1^{\circ}$ EC: $1^{\circ}49' \pm 1^{\circ}$		
	Front toe		$*2^{\circ}35' \pm 1^{\circ}$ EC: $*2^{\circ}25' \pm 1^{\circ}$		
	Rear toe		$0 \pm 3\text{mm}$ ( $0 \pm 0.118$ in.)		
	Kingpin inclination	2D H/B	$\text{IN } 2 \pm 2\text{mm}$ ( $0.079 \pm 0.079$ in.)		
		4D	$12^{\circ}55' \pm 30'$ KY: $12^{\circ}30' \pm 30'$		
	4D H/B	$12^{\circ}45' \pm 30'$ KY: $12^{\circ}15' \pm 30'$			
			$12^{\circ}00' \pm 30'$ EC: $11^{\circ}54' \pm 30'$		
	Steering angle	R/L	Inside Outside	$41^{\circ}30' \pm 2^{\circ}$ $34^{\circ}30' \pm 2^{\circ}$	
Wheel	Rim runout	Steel	Axial	$0-1.0$ ( $0-0.039$ )	—
			Radial	$0-1.0$ ( $0-0.039$ )	—
		Aluminum	Axial	$0-0.7$ ( $0-0.028$ )	—
			Radial	$0-0.7$ ( $0-0.028$ )	—

## Brake – Section 21

Brake – Section 21				
	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200N (20 kg, 44 lbs)		To be locked when pulled 4–8 notches	
Foot brake pedal	Pedal height Free play		174 (6.8) 4D H/B:168 (6.6) to floor 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.  4D H/B		180 (7.09) 200 (7.87)	181 (7.13) 201 (7.91)
Lining	Thickness		4.5 (0.18)	2.0 (0.08)
Disc brake	Disc thickness	Ventilated	17.0 (0.67)	15.0 (0.59)
		Solid	12.0 (0.47)	10.0 (0.39)
	Disc runout		—	0.10 (0.004)
	Disc parallelism		0.007 (0.0003)	0.015 (0.0006)
	Pad thickness	4D H/B EC and KX Other models	10.0 (0.39) 9.5 (0.37)	3.0 (0.12) 3.0 (0.12)
Brake Booster	Characteristic	Vacuum (mmHg)	Pedal Pressure kg (lbs)	Line Pressure kg/cm <sup>2</sup> (psi)
		0	20 (44)	16 (227) min
		300	20 (44)	46 (654) min
		500	20 (44)	66 (939) min

**Engine Electrical — Section 25, 26 and 27**

Unit: mm (in.)

		MEASUREMENT		STANDARD (NEW)					
Ignition coil	Rated voltage				12 Volts				
	Insulation resistance				10,000 ohms min.				
	Performance: Make sure strong sparks jump across electrodes (3-point tester)								
	Voltage	Camshaft	Secondary Voltage	3-point gap	Condition				
	12V	3,000 min <sup>-1</sup> (rpm)		17 ± 4 kV	13–19 (0.51–0.75)	At 80°C (176°F)			
Ignition wire	Resistance				25,000 ohms max.				
Spark plug	Type	Standard	EC	NGK: BPR6EY-11, ND: W20EXR-U11					
			Other models	NGK: BP6EY-11, ND: W20EX-U11					
	Gap				1.0–1.1 (0.039–0.043)				
Ignition timing	At idling	1200		17±2° BTDC					
		1300		12±2° BTDC					
	1500	European model		14±2° BTDC					
		PGM-FI model		16°±2° BTDC					
		General export model		16°±2° BTDC					
Battery	Lighting capacity (20-hour ratio)		40, 45, 47 Ampere Hours						
	Starting capacity (5-second ratio)		8.4V minimum at 300 Ampere draw						
Alternator	Output at no-load Output	ND		MITSUBISHI					
		STANDARD (NEW)		SERVICE LIMIT	STANDARD (NEW)		SERVICE LIMIT		
		14V at 1,090 min <sup>-1</sup> (rpm) 14V/55A at 6,000 min <sup>-1</sup> (rpm)		14V at 1,400 min <sup>-1</sup> (rpm) 50A at 5,000 min <sup>-1</sup> (rpm)	14V at 1,100 min <sup>-1</sup> (rpm) 14V/55A at 6,000 min <sup>-1</sup> (rpm)		14V at 1,400 min <sup>-1</sup> (rpm) 50A at 5,000 min <sup>-1</sup> (rpm)		
	Coil resistance (rotor) Slip ring O.D. Brush length Brush spring tension	2.9 ohm 14.4 (0.57) 13.5 (0.53) 330g (11.6 oz)		2.8–3.0 ohms 13.5 (0.53) 5.0 (0.20) 200g (7.05 oz)	3 ohm 23.0 (0.91) 18.0 (0.71) 370g (13.05 oz)		22.5 (0.89) 8.0 (0.31) 210g (7.41 oz)		
Alternator belt	Deflection midway between pulleys/load		7–10 (0.28–0.39)/98 (10 kg, 22 lb) for used belt 4–6.5 (0.16–0.26)/98 (10 kg, 22 lb) after replacement of belt						
Starting motor	MEASUREMENT	ND 0.8kW		HITACHI 0.8kW		ND 1.0kW, 1.4kW		MITSUBA 1.0kW, 1.4kW	
		STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT
	Mica depth	0.5–0.8 (0.020–0.031)	0.2 (0.008)	0.5–0.8 (0.020–0.031)	0.2 (0.008)	0.5–0.8 (0.020–0.031)	0.2 (0.008)	0.4–0.5 (0.016–0.020)	0.15 (0.006)
	Commutator runout	0–0.5 (0.020)	0.3 (0.012)	0–0.1 (0.004)	0.4 (0.016)	0–0.02 (0.0008)	0.05 (0.020)	0–0.02 (0.008)	0.05 (0.020)
	Commutator O.D.	28.0 (1.10)	27.0 (1.06)		39.0 (1.54)	30.0 (1.18)	29.0 (1.14)	28.0 (1.10)	27.5 (1.08)
	Brush length	15.5–16.5 (0.61–0.65)	10.0 (0.39)	14.5–15.5 (0.61–0.65)	12.0 (0.47)	12.5–13.5 (0.49–0.53)	8.5 (0.33)	14.3–14.7 (0.56–0.58)	9.3 (0.37)
	Spring pressure (new)	1.2 kg (2.6 lb)	—	1.6 kg (3.5 lb)	—	1.75 kg (3.8 lb)	—	2.1 kg (4.6 lb)	—