Cylinder sleeve I.D. mm (in.)

Item / Model	Standard	Servie limit
L40AE	68.000–68.030 (2.6771–2.6783)	68.16 (2.6835)
L48AE	70.000–70.030 (2.7559–2.7571)	70.16 (2.7622)
L60AE	75.000–75.030 (2.9528–2.9539)	75.18 (2.9598)
L70AE	78.000–78.030 (3.0709–3.0720)	78.18 (3.0779)

1. Lubricating oil pump

1) Measure the clearance between the outer rotor and body (crankcase cover). Replace the pump if the clearance exceeds the allowable limit.
2) Measure the clearance between the outer rotor and the inner rotor with a thickness guage. Replace the pump as a set if the clearance exceeds the allowable limit.
3) Installing the lubricating oil pump

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Unit: mm (in.)

Parts		Model	Standard	Service limit	Remarks
Oil pump (Trochoid pump)					
Outer	Outer rotor O.D.	L40AE~ L100AE	28.96–28.98 (1.1402–1.1409)	28.90 (1.1378)	
	Housing I.D. (Crankcase over)	L40AE~ L100AE	29.100–29.121 (1.1457–1.1465)	29.18 (1.1488)	
	Clearance between housing ID and outer rotor O.D.	L40AE~ L100AE	0.120–0.161 (0.0047–0.0063)	—	
Width	Outer and Inner rotor width	L40AE~ L100AE	7.97–8.00 (0.3138–0.3150)	7.90 (0.3110)	
	Housing depth	L40AE~ L100AE	8.02–8.05 (0.3157–0.3169)	8.10 (0.3189)	
	Clearance between housing and inner/outer rotors	L40AE~ L100AE	0.02–0.08 (0.0008–0.0031)	—	
Clearance between the inner and outer rotor		L40AE~ L100AE	<0.14 (0.0055)	0.25 (0.0098)	
Cylinder compression pressure at 3000 rpm engine speed (turn the starter motor)		L40AE~ L100AE	2942 kPa (30 kgf/cm²) [427 psi]	2452 kPa (25 kgf/cm²) [356 psi]	
Cylinder compression pressure at 500 rpm engine speed (pull the recoil starter)		L40AE~ L100AE	2452 kPa (25 kgf/cm²) [356 psi]	1961 kPa (20 kgf/cm²) [284 psi]	

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Unit: mm (in.)

Parts		Model	Standard	Service limit	Remarks
Crankcase cover					
Crankshaft bearing part	I.D.	L40AE, L48AE	34.000–34.025 (1.3386–1.3396)	—	
		L60AE, L70AE	39.000–39.025 (1.5354–1.5364)	—	
		L75AE~ L100AE	44.000–44.025 (1.7323–1.7333)	—	
	Bearing O.D (Plain)	L40AE, L48AE	34.070–34.105 (1.3413–1.3427)	—	
		L60AE, L70AE	39.070–39.105 (1.5382–1.5396)	—	
		L75AE L100AE	44.085–44.120 (1.7356–1.7370)	—	
	Fitting	L40AE~ L70AE	0.045–0.105 (0.0018–0.0041)	—	Tight fit
		L75AE~ L100AE	0.060–0.120 (0.0024–0.0047)	—	
	Bearing metal I.D. (Plain metal)	L40AE, L48AE	30 (1.1811)	30.13 (1.1862)	
		L60AE, L70AE	35 (1.3780)	35.13 (1.3831)	
		L75AE~ L100AE	40 (1.5748)	40.13 (1.5800)	
Camshaft bearing part	I.D.	L40AE~ L48AE	51.945–51.965 (2.0451–2.0455)	—	
		L60AE, L70AE	61.940–61.960 (2.4386–2.4394)	—	
		L75AE~ L100AE	71.935–71.955 (2.8321–2.8329)	—	
	Ball bearing O.D.	L40AE, L48AE	51.987–52.000 (2.0467–2.0472)	—	Tight fit
		L60AE~ L70AE	61.987–62.000 (2.4404–2.4409)	—	
		L75AE~ L100AE	71.987–72.000 (2.8341–2.8346)	—	
	Fitting	L40AE, L48AE	0.022–0.055 (0.0009–0.0022)	—	
		L60AE, L70AE	0.027–0.060 (0.0011–0.0024)	—	
		L75AE~ L100AE	0.032–0.065 (0.0013–0.0026)	—	

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④ Inspection of discrete regulator (simplified inspection)

Check the continuity between the terminals on a discrete regulator listed the table below. The continuity between the regulator case and each terminal must also be checked. The values in the table were obtained in the normal condition. Note that this simplified inspection is not intended to detect all failures and trouble in the regulator.

Notes:

1. *Use a tester at a range of 1Ω.*
   ON: The pointer moves
   OFF: The pointer does not move
2. *Be sure to inspect a desired regulator while checking it agaunst a normal one.*

RS5112

Tester	Red lead wire (+)

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Unit: mm (in.)

Parts		Model	Standard	Service limit	Remarks
Cylinder block					
	I.D.	L40AE, L48AE	71.9905–72.0095 (2.8343–2.8350)	—	
		L60AE, L70AE	79.980–79.996 (3.1488–3.1494)	—	
		L75AE~ L100AE	89.984–90.000 (3.5427–3.5433)	—	
		L40AE,	71.987–72.000	—	

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Item \ Model		L60AE				L70AE			
		D	S	DE	SE	D	S	DE	SE
Type		Single-cylinder, vertical-4 cycle air-cooled diesel							
Cooling system		Forced air cooling by flywheel fan							
Combustion system		Direct injection system							
Starting system		Recoil starter		Starting motor with recoil starter		Recoil starter		Starting motor with recoil starter	
Number of cylinders - Bore × Stroke	mm (in.)	1-75 × 62 (2.953 × 2.441)				1-78 × 62 (3.071 × 2.441)			
Displacement	ℓ (cu.in.)	0.273 (16.66)				0.296 (18.06)			

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Unit: mm (in.)

Parts	Model	Standard	Service limit	Remarks
Valve spring				
Inclination	L40AE, L48AE	<0.75 (0.030)	—	
	L60AE, L70AE	<0.6 (0.024)	—	
	L75AE~ L100AE	<1.0 (0.039)	—	
	L40AE,	1.14~1.4kg	—	

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Service Information

1. GENERAL SAFETY

WARNING

STOP THE ENGINE BEFORE SERVICING

1) PREVENTING FIRES

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1. Specifications

1.1 Specifications

Item \ Model		L40AE –				L48AE –			
		D	S	DE	SE	D	S	DE	SE
Type		Single-cylinder, vertical-4 cycle air-cooled diesel							
Cooling system		Forced air cooling by flywheel fan							
Combustion system		Direct injection system							
Starting system		Recoil starter		Starting motor		Recoil starter		Starting motor	

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Oil pump

mm (in.)

Item		Model: L40AE–L100AE	
		Standard	Service limit
Outer	Outer rotor O.D.	28.96–28.98 (1.1402–1.1409)	28.90 (1.1378)
	Housing I.D. (Crankcase cover)	29.100–29.121 (1.1457–1.1465)	29.18 (1.1488)
	Clearance between housing I.D. and outer rotor O.D.	0.120–0.161 (0.0047–0.0063)	—
	Outer and Inner rotor width	7.97–8.00	7.90

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