

**GENERAL SPECIFICATION**

Item	Unit	Model		
		60TR	70TR	90TR
Dimension:				
Overall length	mm (in)	713 (28.1)		726 (28.6)
Overall width	mm (in)	364 (14.3)		374 (14.7)
Overall height (L)	mm (in)	1,374 (54.1)		1,413 (55.6)
Boat transom height (L)	mm (in)	508 (20.0)		
Weight: (without propeller) (L)	kg (lb)	104 (229)		119 (262)
Performance:				
Maximum output	kW (hp)	44.1 (60) @ 5,000	51.5 (70) @ 5,500	66.2 (90) @ 5,000
Full throttle operating range	r/min	4,500 ~ 5,500	5,000 ~ 6,000	4,500 ~ 5,500
Maximum fuel consumption	L (US gal, Imp gal)/hr	23.0 (6.1, 5.1) @ 5,500	26.0 (6.9, 5.7) @ 5,500	34.5 (9.1, 7.6) @ 5,500
Power unit:		2-stroke, L		
Type				
Total displacement	cm <sup>3</sup> (cu. in)	849 (51.81)		1,140 (69.56)
Bore × stroke	mm (in)	72.0 (2.83) × 69.5 (2.74)		82.0 (3.23) × 72.0 (2.83)
Compression ratio		6.10		5.76
Control system		Remote control		
Starting system		Electric starter		
Starting carburetion system		Prime start		
Fuel system		Carburetor		
Intake system		Reed valve		
Induction system		Loop charge		
Advance type		Microcomputer		
Ignition system		CDI (microcomputer)		
Alternator output	V, A	12, 6		12, 10
Spark plug		B8HS-10 (NGK)		
Cooling system		Water		
Exhaust system		Propeller boss		
Lubrication system		Oil injection		



Item	Unit	Model		
		60TR	70TR	90TR
Fuel and oil:				
Fuel type		Regular unleaded gasoline		
Fuel minimum rating	RON <sup>(*1)</sup>	90		
Engine oil	PON	86		
Engine oil tank capacity		2-stroke outboard motor oil		
Oil tank	L (US qt, Imp qt)	2.8 (2.96, 2.46)		3.3 (3.49, 2.90)
Gear oil type		GEAR CASE LUBE		
Gear oil grade	SAE	90		
Gear oil quantity	cm <sup>3</sup> (US oz, Imp oz)	610 (20.62, 21.51)		
Bracket unit:				
Trim angle (at 12° boat transom)	Degree	-4 ~ 15		-4 ~ 16
Tilt-up angle	Degree	67		
Steering angle	Degree	35 + 35		30 + 30
Drive unit:				
Gear shift positions		F-N-R		
Gear ratio		2.33 (28/12)		2.00 (26/13)
Reduction gear type		Spiral bevel gear		
Clutch type		Dog clutch		
Propeller shaft type		Spline		
Propeller direction (rear view)		Clockwise		
Propeller mark		K		
Electrical:				
Battery minimum capacity <sup>(*2)</sup>				
CCA/SAE	A	380		
MCA/ABYC	A	502		
RC/SAE	Minute	124		

(\*1) RON: Research Octane Number  
 PON: Pump Octane Number = (RON + Motor Octane Number)/2

(\*2) CCA: Cold Cranking Ampere  
 MCA: Marine Cranking Ampere  
 ABYC: American Boat and Yacht Council  
 SAE: Society of Automotive Engineers  
 RC: Reserve Capacity

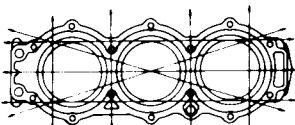
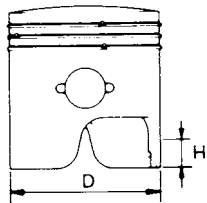
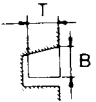


Item	Unit	Model	
		60TR	70TR
Propeller: No. of blades × diameter × pitch  P: High performance propeller	in	K type (aluminum) 3 × 13-1/4 × 17 3 × 13 × 23 3 × 12-5/8 × 21 3 × 13 × 19 3 × 13-1/2 × 15 3 × 13-5/8 × 13	K type (stainless) 3 × 13 × 17 3 × 13 × 19 3 × 13 × 21 3 × 13 × 23 3 × 13 × 25 3 × 13-1/2 × 14 3 × 13-1/2 × 16
	in	P type (stainless) 3 × 14 × 20 3 × 14 × 24 3 × 14 × 28	

Item	Unit	Model	
		90TR	
Propeller: No. of blades × diameter × pitch  P: High performance propeller	in	K type (aluminum) 3 × 12-5/8 × 21 3 × 13 × 19 3 × 13 × 23 3 × 13-1/4 × 17 3 × 13-1/2 × 15 3 × 13-1/2 × 17 3 × 13-5/8 × 13 3 × 14 × 11	K type (stainless) 3 × 13 × 17 3 × 13 × 19 3 × 13 × 21 3 × 13 × 23 3 × 13 × 25 3 × 13-1/2 × 14 3 × 13-1/2 × 16
	in	P type (stainless) 3 × 14 × 20 3 × 14 × 22 3 × 14 × 24 3 × 14 × 26 3 × 14 × 28	

C31000-0\*

**MAINTENANCE SPECIFICATIONS  
ENGINE**

Item	Unit	Model		
		60TR	70TR	90TR
Compression pressure <sup>(*1)</sup> :	kPa (kgf/cm <sup>2</sup> , psi)	853 (8.53, 123.7)		922 (9.22, 133.7)
Cylinder head: Warpage limit  (Lines indicate straight measurement)	mm (in)	0.1 (0.004)		
Cylinder: Bore size	mm (in)	72.00 ~ 72.02 (2.834 ~ 2.835)		82.00 ~ 82.02 (3.228 ~ 3.229)
Taper limit	mm (in)	0.08 (0.003)		
Out of round limit	mm (in)	0.05 (0.002)		
Piston: Piston to cylinder clearance	mm (in)	0.050 ~ 0.055 (0.0020 ~ 0.0022)		0.060 ~ 0.065 (0.0024 ~ 0.0026)
<Limit>	mm (in)	0.10 (0.0041)		0.11 (0.0045)
Piston size "D"	mm (in)	71.945 ~ 71.970 (2.8325 ~ 2.8335)		81.935 ~ 81.960 (3.2258 ~ 3.2268)
Measuring point "H" 	mm (in)	10 (0.4)		
Oversize 1st	mm (in)	72.25 (2.844)		82.25 (3.238)
2nd	mm (in)	72.50 (2.854)		82.50 (3.248)
Offset [direction]	mm (in)	0.5 (0.0197) [Exhaust side]		1.0 (0.039) [Exhaust side]
Piston ring: Sectional sketch Top ring and 2nd ring Type		Keystone		
 B	mm (in)	1.97 ~ 1.99 (0.0776 ~ 0.0783)		1.96 ~ 1.98 (0.0774 ~ 0.0780)
T	mm (in)	2.90 ~ 3.10 (0.1142 ~ 0.1220)		3.10 ~ 3.30 (0.1220 ~ 0.1299)

(\*1) The figures are for reference only.