

Engine Specifications	GCV520
Model	GCV520 (vertical shaft)
Type	4-stroke, OHC, V-twin 90°
Displacement	530 cm ³ (32.3 cu-in)
Max. horsepower	14 HP (10.4 kW) at 3,600 rpm
Max. torque (crank PTO)	35.9 N·m (3.66 kg·m, 26.5 ft·lb) at 2,500 rpm
Carburetor	Horizontal type, two barrels, butterfly valve
Cooling system	Forced-air
Ignition system	Transistorized magneto ignition
Lubricating system	Splash
Starting system	Recoil or electric starter
Stopping system	Ignition primary circuit ground
Fuel used	Unleaded gasoline (octane number 86 or higher)
Fuel consumption	230 g/HPh
PTO shaft rotation	Counterclockwise (from PTO shaft side)
DIMENSIONS AND WEIGHT	GCV520
Length, mm (in)	456 (18.0)
Width, mm (in)	427 (16.8)
Height, mm (in)	331 (13.0)

Dry weight, kg (lb)	30.5 (67.2)
Operating weight, kg (lb)	31.5 (69.4)
CYLINDER BLOCK AND HEAD	
Compression ratio	8.0:1
Bore x Stroke	77 mm X 57 mm (3.0 x 2.2 in)
Sleeve internal diameter	77.00 mm (3.031 in)
Piston skirt outer diameter	76.985 mm (3.1096 in)
Number of piston rings	(compression / oil): 2 / 1
Ring side clearance	Top: 0.050-0.080 mm (0.0020-0.0031 in) Second: 0.030-0.060 mm (0.0012-0.0024 in)
Ring end gap	Top/Second: 0.20-0.40 mm (0.008-0.016 in)
Ring width	Top/second: 1.990 mm (0.0783 in)
Connecting rod small end ID	18.005 mm (0.7089 in)
Connecting rod big end ID	35.025 mm (1.3789 in)
Crankpin outer diameter	34.985 mm (1.3774 in)
Main journal outer diameter	PTO side: 30.993 mm (1.2202 in) Flywheel side: 34.993 mm (1.3777 in)
Cylinder Head	
Warpage (limit)	0.10 mm (0.004 in)
Valve Arrangement	OHC

Valves	4 (2 per cylinder)
Stem outer diameter (standard)	INTAKE: 5.485 mm (0.2159 in) EXHAUST: 5.440 mm (0.214 in)
Guide internal diameter	INTAKE / EXHAUST: 5.5 mm (0.2165 in)
Spring free length	34.0 mm (1.34 in)
Cam height	40.251 mm (1.5847 in)
Cam pulley shaft outer diameter	9.987 mm (0.3932 in)
Rocker arm internal diameter	6.000 mm (0.2362 in)
Rocker arm shaft outer diameter	5.990 mm (0.2358 in)
TIGHTENING TORQUE SPECS	
Cylinder nut	32 Nm; 3.3 kg·m; 24 ft·lb
Connecting rod bolt	12 Nm; 1.2 kg·m; 8.6 ft·lb
Oil drain bolt	44 Nm; 4.5 kg·m; 33 ft·lb
Oil filter holder	18 Nm; 1.8 kg·m; 13 ft·lb
Oil filter	12 Nm; 1.2 kg·m; 8.6 ft·lb
Valve adjusting lock nut	7.5 Nm; 0.75 kg·m; 5.4 ft·lb
Governor fork screw	5.5 Nm; 0.55 kg·m; 4.0 ft·lb
Flywheel bolt	157 Nm; 16.0 kg·m; 116 ft·lb
Ignition coil stud bolt	12 Nm; 1.2 kg·m; 8.6 ft·lb

Fuel pump screw	3 Nm; 0.3 kg·m; 2.2 ft·lb
Breather valve bolt	5.5 Nm; 0.55 kg·m; 4.0 ft·lb
Oil pan bolt	24 Nm; 2.4 kg·m; 17 ft·lb
Starter solenoid nut	12 Nm; 1.2 kg·m; 8.6 ft·lb
Starter solenoid terminal nut	9 Nm; 0.9 kg·m; 6.5 ft·lb
Through bolt	7 Nm; 0.7 kg·m; 5.1 ft·lb
Fuel drain screw	4 Nm; 0.4 kg·m; 2.9 ft·lb
Air vent cover screw	2 Nm; 0.2 kg·m; 1.4 ft·lb
Others	
5 mm bolts, nuts	5.5 Nm; 0.55 kg·m; 4.0 ft·lb
6 mm bolts, nuts	10 Nm; 1.0 kg·m; 7 ft·lb
8 mm bolts, nuts	24 Nm; 2.4 kg·m; 17 ft·lb
10 mm bolts, nuts	37 Nm; 3.7 kg·m; 27 ft·lb
12 mm bolts, nuts	55 Nm; 5.5 kg·m; 39.5 ft·lb
SERVICE INFORMATION	GCV520
Engine	
Maximum speed	3,000 ± 150 rpm
Idle speed	1,400 ± 150 rpm
Cylinder compression	6.0-8.0 kg/cm ² (85-114 psi) at 600 rpm

Valve clearance	Intake valve: 0.10 ± 0.04 mm (0.004 ± 0.002 in) Exhaust valve: 0.15 ± 0.04 mm (0.006 ± 0.002 in)
Oil system	
Oil type	Honda 4-stroke or an equivalent (SE or SF)
Recommended oil	SAE 10W-30
Oil capacity	1.3 l (1.37 US. qt, 1.14 Imp. qt.)
Ignition system	
Ignition timing	20° B.T.D.C.
Spark plug	NGK: BPR5ES DENSO: W16EPR-U
Spark plug gap	0.7-0.8 mm (0.028-0.031 in)
Primary ignition coil resistance	1.0-1.2 k Ω
Secondary ignition coil N1 resistance	9.2-14.0 k Ω
Secondary ignition coil N2 resistance	9.8-14.8 k Ω
Ignition coil air gap	0.2-0.6 mm (0.008-0.024 in)
Carburetor	
Main jet	N.1 #76.2, N.2 #78.8
Pilot jet	N.1,2 #35
Float height	18.5 mm (0.73 in)
Pilot screw opening	N.1 1-3/8 turns out N.2 1-9/16 turns out

