



YAMAHA

RZ350L

Service Manual

SPECIFICATIONS

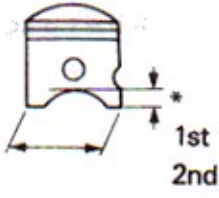
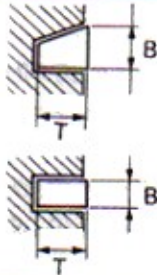
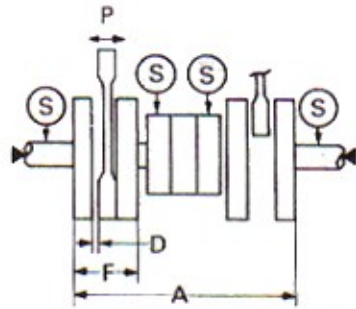
1. GENERAL SPECIFICATIONS

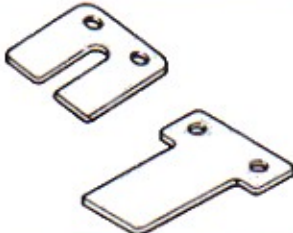
Model	RZ350L
Model code number	48H
Federal V.I.N. number	JYA48H00*EA000101
Engine starting number	48H-000101
Dimension:	
Overall length	2,120 mm (83.5 in)
Overall width	710 mm (28.0 in)
Overall height	1,175 mm (46.3 in)
Seat height	800 mm (31.5 in)
Wheelbase	1,385 mm (54.5 in)
Minimum ground clearance	175 mm (6.9 in)
Weight:	
With oil and full fuel tank	168 kg (370.6 lb)
Minimum turning radius	2,400 mm (94.5 in)
Engine:	
Type	Liquid cooled 2-stroke, gasoline, torque induction with catalytic converters
Cylinder arrangement	Twin, forward inclined
Displacement	347 cm ³
Bore × Stroke	64.0 × 54.0 mm (2.52 × 2.13 in)
Compression ratio	6.0 : 1
Starting system	Primary kick starter
Lubrication system	Separate lubrication (Yamaha Autolube)
Engine oil:	
Type	Yamalube 2-cycle oil or 2-stroke engine oil with "BIA certified for service TC-W"
Tank capacity	1.6 L (1.41 Imp qt, 1.69 US qt)
Transmission oil:	
Type	Yamalube 4-cycle oil or SAE10W30 type SE motor oil or "GL" gear oil
Oil capacity Total	1.7 L (1.5 Imp, qt, 1.8 US qt)
Exchange	1.5 L (1.3 Imp qt, 1.6 US qt)
Radiator capacity (Including all routes)	1.5 L (1.32 Imp qt, 1.59 US qt)
Spark plug:	
Type	Standard: BR8ES (NGK), For high speed riding: BR9ES (NGK)
Gap	0.7 ~ 0.8 mm (0.02 ~ 0.03 in)
Carburetor × Quantity	VM26SS × 2
Air cleaner	Wet type element
Clutch type	Wet, multiple-disc
Transmission:	
Primary reduction system	Helical gear
Primary reduction ratio	66/23 (2.869)
Secondary reduction system	Chain
Secondary reduction ratio	40/17 (2.352)
Transmission type	Constant mesh 6-speed
Operation system	Left foot operation

Model	RZ350L
Gear ratio 1st 2nd 3rd 4th 5th 6th	36/ 14 (2.571) 32/ 18 (1.778) 29/ 22 (1.318) 26/ 24 (1.083) 25/ 26 (0.962) 24/ 27 (0.888)
Chassis: Frame type Caster Trail	Tubular, double-cradle 26° 96 mm (3.8 in)
Fuel: Type Tank capacity, Total Reserve	Regular gasoline (Unleaded fuel only) 20.0 L (4.3 Imp gal, 5.3 US gal) 2.0 L (0.4 Imp gal, 0.5 US gal)
Tire size: Front Rear	90/90-18 51H 110/80-18 58H
Brake: System/operation Front Rear	Double disc brake/ Right hand operation Single disk brake/ Right foot operation
Suspension: Front Rear	Telescopic fork Swingarm (New monocross suspension)
Shock absorber: Front Rear	Coil spring/air, oil damper Coil spring, gas, oil damper
Wheel Travel: Front Rear	140 mm (5.51 in) 100 mm (3.94 in)
Electrical: Ignition system Generator system	C.D.I. A.C. magneto
Battery: Type/ Capacity	12N5.5-3B/ 12V, 5.5AH
Bulb wattage × Quantity: Headlight Tail/ brake light Flasher light Meter light	60W/55W (Quartz bulb) 12V 8W/27W × 2 12V 27W × 4 3.4W × 3
Indicator light: NEUTRAL HIGH BEAM OIL CATALYZER TURN	3.4W 3.4W 3.4W 3.4W 3.4W × 2

MAINTENANCE SPECIFICATION

Engine

Model	RZ350L
Cylinder head: Combustion chamber volume Warp limit	21.3 ~ 21.9 cm ³ 0.03 mm (0.0012 in)
Cylinder: Material Bore size/ Limit Taper limit Warp limit Out of round limit	Aluminum alloy with cast iron sleeve (Cast in) 64 ^{+0.02} ₋₀ mm (2.52 ^{+0.0008} ₋₀ in) / 64.1 mm (2.524 in) 0.05 mm (0.0020 in) 0.03 mm (0.0012 in) 0.01 mm (0.0004 in)
Piston:  Piston size/ Measuring point* Piston clearance Piston oversize Piston offset	64.0 mm (2.520 in) / 10 mm (0.39 in) 0.060 ~ 0.065 mm (0.0024 ~ 0.0026 in) 64.25 mm (2.53 in) 64.50 mm (2.54 in) 0 mm (0 in)
Piston ring:  Piston ring design/ B × T (Top) Piston ring design/ B × T (2nd) Ring end gap (installed) (Top) Ring end gap (installed) (2nd) Ring groove side clearance (Top) Ring groove side clearance (2nd)	Keystone/ 1.2 × 2.6 mm (0.047 × 0.102 in) Plain (With expander)/ 1.5 × 2.15 mm (0.059 × 0.085 in) 0.30 ~ 0.45 mm (0.012 ~ 0.018 in) 0.35 ~ 0.50 mm (0.014 ~ 0.020 in) 0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in) 0.03 ~ 0.07 mm (0.0012 ~ 0.0028 in)
Crankshaft: Crankshaft assembly width (F) (A) Crankshaft runout limit (S) Connecting rod big end side clearance (D) Connecting rod small end deflection (P)	54.00 ⁺⁰ _{-0.05} mm (2.13 ⁺⁰ _{-0.002} in) 156 ^{+0.05} _{-0.10} mm (6.14 ^{+0.002} _{-0.004} in) 0.05 mm (0.002 in) 0.25 ~ 0.75 mm (0.01 ~ 0.03 in) 0.36 ~ 0.98 mm (0.014 ~ 0.039 in)
	
Clutch: Friction plate — Thickness/ Quantity — Wear limit Clutch plate — Thickness/ Quantity — Warp limit Clutch spring — Free length/ Quantity <Limit>	3.0 mm (0.12 in) × 7 2.7 mm (0.106 in) 1.2 mm (0.047 in) × 6 0.05 mm (0.002 in) 36.4 mm (1.43 in) × 6 <34.4 mm (1.35 in)>

Model	RZ350L
Clutch housing -- Thrust clearance — Radial clearance Clutch release method Push rod bending limit Primary reduction gear back lash tolerance Primary drive gear back lash number Primary driven gear back lash number	0.07 ~ 0.12 mm (0.003 ~ 0.005 in) 0.011 ~ 0.048 mm (0.0004 ~ 0.0019 in) Inner push, Cam push 0.2 mm (0.008 in) 154 ~ 156 90 ~ 98 57 ~ 65
Shifter: Type Guide bar bending limit	Cam drum 0.025 mm (0.001 in)
Kick starter: Type Kick clip friction force 	Kick and mesh type $P = 0.8 \sim 1.3 \text{ kg (1.76} \sim 2.90 \text{ lb)}$
Air filter — Oil grade	Yamaha 2-stroke engine oil or equivalent
Reed valve: (Engine) Bending limit Valve lift  Reed valve: (catalyzer) Bending limit Valve lift	0.5 mm (0.02 in) $10.3 \pm 0.2 \text{ mm (} 0.41 \pm 0.008 \text{ in)}$ 0.5 mm (0.02 in) 1.2 mm (0.05 in)
Carburetor: Type/Manufacturer/Quantity I.D. mark Main jet (M.J.) Main air jet (M.A.J.) Jet needle - Clip position (J.N.) Needle jet (N.J.) Cutaway (C.A.) left and right Pilot jet (P.J.) Air screw (turns out) (A.S.) Starter jet (G.S.) left and right Valve seat (V.S.) Float height (F.H.) Fuel level Engine idling speed Vacuum pressure	VM26SS/MIKUNI/2 48H00 # 230 # 85 5CK1-1 0-8 2.0 # 20 Preset # 80 $\phi 2.8$ $21 \pm 0.5 \text{ mm (} 0.83 \pm 0.02 \text{ in)}$ $2 \pm 1 \text{ mm (} 0.08 \pm 0.04 \text{ in)}$ $1,200 \pm 50 \text{ r/min}$ $12 \text{ kPa (} 90 \text{ mmHg, } 3.5 \text{ inHg)}$
Lubrication: Autolube pump — Color code — Minimum stroke — Maximum stroke — Minimum output/ 200 stroke	Yellow 0.10 ~ 0.15 mm (0.004 ~ 0.006 in) 2.05 ~ 2.27 mm (0.08 ~ 0.09 in) $0.12 \sim 0.19 \text{ cm}^3$ $(0.004 \sim 0.007 \text{ Imp oz, } 0.004 \sim 0.006 \text{ US oz})$

Model

RZ350L

— Maximum output

2.58 ~ 2.85 cm³

(0.091 ~ 0.101 Imp oz, 0.087 ~ 0.096 US oz)

Pulley adjusting position (Adjusting mark)

(At idle)



Cooling:

Radiator core size

— Width

290.6 mm (11.44 in)

— Height

180 mm (7.08 in)

— Thickness

16 mm (0.63 in)

Radiator cap opening pressure

89.3 ± 14.7 kPa (0.9 ± 0.15 kg/cm², 12.8 ± 2.13 psi)

Coolant capacity (Total)

1.5 L (1.32 Imp qt, 1.59 US qt)

Water pump

— Type

Single-suction centrifugal pump

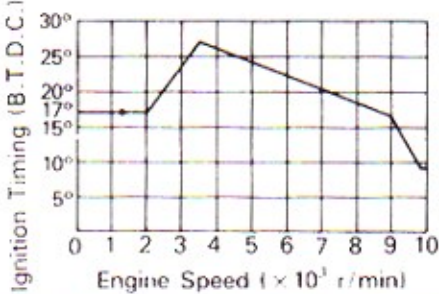
— Reduction ratio

32/20 (1.60)

Chassis

Model	RZ350L
Steering system:	
Steering bearing type	Ball bearing
No./ Size of balls	
Upper	19 pcs. 1/4 in
Lower	19 pcs. 1/4 in
Lock to lock angle	80°
Front suspension:	
Front fork travel	140 mm (5.51 in)
Front fork spring	
<Limit>	506.2 mm (19.9 in)
— Free length	<501.2 mm (19.73 in)>
— Spring rate	$K_1 = 3.33 \text{ N/mm}$ (0.34 kg/mm, 19.0 lb/in) 0 ~ 140 mm (0 ~ 5.51 in)
Oil capacity	253 cm ³ (8.91 Imp oz, 8.55 US oz)
Oil level	120 mm (4.72 in)
Oil grade	SAE 10W30 SE motor oil
Air pressure (STD)	39 kPa (0.4 kg/cm ² , 5.7 psi)
(Min. ~ Max.)	0 ~ 118 kPa (0 ~ 1.2 kg/cm ² , 0 ~ 17 psi)
Rear suspension:	
Shock absorber travel	40 mm (1.57 in)
Rear wheel travel	100 mm (3.94 in)
Rear absorber spring	
— Free length	184 mm (7.24 in)
— Spring rate	$K_1 = 103.0 \text{ N/mm}$ (10.5 kg/mm, 588 lb/in) 0 ~ 40 mm (0 ~ 1.57 in)
Gas properties	Nitrogen gas
Gas pressure	1,177 kPa (12 kg/cm ² , 171 psi)
Rear arm:	
Swing arm free play	
End	1 mm (0.04 in)
Side	0.2 ~ 0.4 mm (0.008 ~ 0.016 in)
Wheel:	
Type	Cast wheel
Rim size (Front)/ Material	MT2.15 × 18/ Aluminum
Rim size (Rear)/ Material	MT2.50 × 18/ Aluminum
Rim run out limit	
Vertical	2 mm (0.08 in)
Lateral	2 mm (0.08 in)
Drive chain:	
Type/ Manufacturer	520V-SR/DAIDO
Number of links	108
Chain free play	30 ~ 40 mm (1.2 ~ 1.6 in)

Electrical

Model	RZ350L
Ignition system: Model/ Manufacturer Pickup coil resistance Source coil resistance Ignition timing: (B.T.D.C.) Advanced timing: (B.T.D.C.)	AVCC58/NIPPONDENSO W/ R-W/ G: $115\Omega \pm 20\%$ Br- G: $225\Omega \pm 20\%$ (Low speed) Br- R: $5.3\Omega \pm 20\%$ (High speed) 17° at 1,200 r/min 27° at 3,500 r/min
 Ignition Timing (B.T.D.C.) Engine Speed ($\times 10^3$ r/min)	
Ignition coil: Model/ Manufacturer Minimum spark gap Primary winding resistance Secondary winding resistance	12900-027/NIPPONDENSO 6 mm (0.24 in) $0.33\Omega \pm 10\%$ at 20°C (68°F) $3.5k\Omega \pm 20\%$ at 20°C (68°F)
Spark plug: Type/ Manufacturer	Standard: BR8ES/ (NGK), For high speed riding: BR9ES/ (NGK)
C.D.I. Unit: Type/ Manufacturer	AQAB06/NIPPONDENSO
A.C. Generator: Model/ Manufacturer Charging output Charging coil resistance	AVCC58/NIPPONDENSO 14V14A/5,000 r/min (W-W) $0.4\Omega \pm 20\%$ at 20°C (68°F)
Voltage regulator: Model/ Manufacturer Regulating voltage	Short circuit type SH235-12C/ SHINDENGEN/ KOUGYOU 14.5 $\pm$ 0.5V
Rectifier: Model/ Manufacturer Capacity Withstand voltage	Three phase, Full wave SH235-12C/ SHINDENGEN KOUGYOU 15A 200V
Battery: Model/ Manufacturer Charging rate Specific gravity	12N5.5-3B/NIPPONDENSO 0.55A $\times$ 10 hour 1.260
Horn: Model Maximum amperage	SF12/ NIKKO 2.5A or less
Flasher relay: Type Model/ Manufacturer Flasher frequency Capacity	Semi transistor type FU257CD/NIPPONDENSO 85 cycle/min 12V, 27W $\times$ 2 + 3.4W

Model	RZ350L
Disc brake:	
Type	
Front	Dual
Rear	Single
Disc size-outside dia × Thickness	267 × 5 mm (10.5 × 0.19 in)
Disc wear limit	4.5 mm (0.18 in)
Pad thickness	6.8 mm (0.27 in)
Pad wear limit	0.8 mm (0.03 in)
Master cylinder inside diameter	
Front	15.87 mm (0.62 in)
Rear	12.70 mm (0.51 in)
Caliper cylinder inside diameter	
Front	38.18 mm (1.5 in)
Rear	38.18 mm (1.5 in)
Brake fluid type	DOT #3

Model	RZ350L
Catalyzer thermo sensor: Model/Manufacturer Sensor resistance	48H/NTK $4\Omega \pm 20\%$ at 20°C (68°F)
Catalyzer warning buzzer: Model/Manufacturer	48H/YAMAHA
Circuit breaker: Type Amperage for individual circuit/ quantity Main Headlight Signal Ignition Reserve	Fuse 20A × 1 10A × 1 15A × 1 5A × 1 10A × 2
Thermo-unit: Model/ Manufacturer	YA55901NO/ NISSEI