YAMAHA

RZ350N
RZ350NC

N

Supplementary

Service Manual

LIT-11616-04-70

NOTICE

This manual has been written by Yamaha Motor Company for use by Authorized Yamaha Dealers and their qualified mechanics. In light of this purpose it has been assumed that certain basic mechanical precepts and procedures inherent to our products are already known and understood by the reader.

Without such basic knowledge, repairs or service to this model may render the motorcycle unsafe, and for this reason we must advise that all repairs and/or service be performed by an Authorized Yamaha Dealer who is in possession of the requisite basic product knowledge.

This Research, Engineering and Overseas Service Department of Yamaha are continually striving to further improve all models manufactured by the company. Modifications are therefore inevitable and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha Dealers and will, where applicable, appear in future editions of this manual.

Particularly important information is distinguished in this manual by the following notations:

NOTE: A NOTE provides key information to make procedures easier or clearer.

CAUTION: A CAUTION indicates special procedures that must be followed to avoid damage to the machine.

WARNING: A WARNING indicates special procedures that must be followed to avoid injury to a machine operator or person inspecting or repairing the machine.

RZ 350 N/NC
SERVICE MANUAL

1st Edition
1st Printing February 1985

LIT-11616-04-70

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and new data for the RZ350N/NC. For complete information on service procedures, it is necessary to use this Supplementary Service Manual together with following manual:

RZ350L Service Manual (LIT-11616-04-12)

TECHNICAL PUBLICATIONS
SERVICE DIVISION
MOTORCYCLE OPERATIONS
YAMAHA MOTOR CO., LTD.

NOTICE

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha motorcycles have a basic understanding of the mechanical concepts and procedures inherent in motorcycle repair technology. Without such knowledge, atempted repairs or service to this model may render it unfit to use and/or unsafe.

Yamaha Motor Company, Ltd. is continually striving to improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

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SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	RZ350N	RZ350NC
Model Code Number	48H	1EL
Federal V.I.N. Number	JYA48H00*FA010101	JYA1EL00*FA000101
Engine Starting Number	48H-010101	1EL-000101
Dimensions:		
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 SAE 10W30 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)	

Model	RZ350N/NC
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
Gear Ratio 1st	36/14 (2.571)
2nd	32/18 (1.778)
3rd	29/22 (1.318)
4th	26/24 (1.083)
5th	25/26 (0.962)
6th	24/27 (0.888)
Chassis:	
Frame Type	Tubular, double-cradle
Caster	26°
Trail	96 mm (3.8 in)
Fuel:	
Type	Regular gasoline (Unleaded fuel only)
Tank Capacity, Total	RZ350N: 20.0 L (4.3 Imp gal, 5.3 US gal) RZ350NC: 18L (4.0 Imp gal, 4.8 US gal)
Reserve	2.0 L (0.4 Imp gal, 0.5 US gal)
Tire size:	
Front	90/90-18 51H
Rear	110/80-18 58H
Brake:	
System/Operation	
Front	Double disc brake/Right hand operation
Rear	Single disk brake/Right foot operation
Suspension:	
Front	Telescopic fork
Rear	Swingarm (New monocross suspension)
Shock Absorber:	
Front	Coil spring/air, oil damper
Rear	Coil spring, gas, oil damper
Wheel Travel:	
Front	140 mm (5.51 in)
Rear	100 mm (3.94 in)

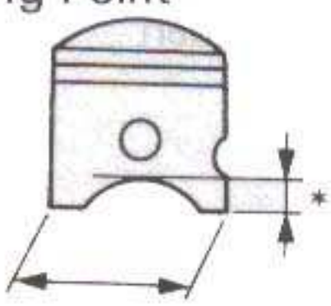
SPECIFICATIONS

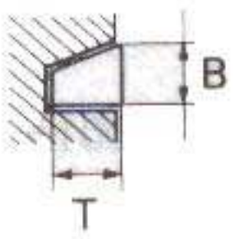
Model	RZ350N/NC
Electrical:	
Ignition System	C.D.I.
Generator System	A.C. magneto
Battery:	
Type/ Capacity	12N5.5-3B/ 12V, 5.5AH
Bulb Wattage × Quantity:	
Headlight	60W/ 55W (Quartz bulb)
Tail/ Brake Light	12V, 8W/ 27W × 2
Flasher Light	12V, 27W × 4
Meter Light	3.4W × 3
Indicator Light:	
NEUTRAL	3.4W × 1
HIGH BEAM	3.4W × 1
OIL	3.4W × 1
CATALIZER	3.4W × 1
TURN	3.4W × 2

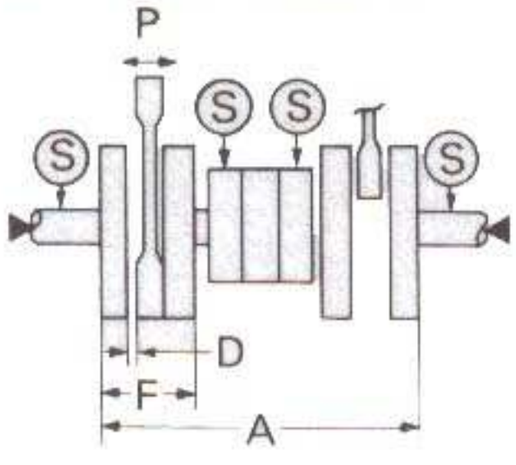
MAINTENANCE SPECIFICATIONS

Engine

Model	RZ350N/NC
Cylinder Head:	
Combustion Chamber Volume	21.3 ~ 21.9 cm^3
Warp Limit	0.03 mm (0.0012 in)
Cylinder:	
Material	Aluminum alloy with cast iron sleeve (Cast in)
Bore Size / Limit	$64^{+0.02}_{-0}$ mm ($2.52^{+0.0008}_{-0}$ in) / 64.1 mm (2.524 in)
Taper Limit	0.05 mm (0.0020 in)
Warp Limit	0.03 mm (0.0012 in)
Out of Round Limit	0.01 mm (0.0004 in)
Piston:	
Piston Size/ Measuring Point*	64.0 mm (2.520 in) / 10 mm (0.39 in)
Piston Clearance	0.060 ~ 0.065 mm (0.0024 ~ 0.0026 in)
Piston Oversize	1st 64.25 mm (2.53 in)
	2nd 64.50 mm (2.54 in)
Piston Offset	0 mm (0 in)
Piston Ring:	
Piston Ring Design/ B × T	
(Top)	Keystone/ 1.2 × 2.6 mm (0.047 × 0.102 in)
(2nd)	Plain (With expander)/ 1.5 × 2.15 mm (0.059 × 0.085 in)
Ring End Gap (Installed)	
(Top)	0.30 ~ 0.45 mm (0.012 ~ 0.018 in)
(2nd)	0.35 ~ 0.50 mm (0.014 ~ 0.020 in)
Ring Groove Side Clearance	
(Top)	0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in)
(2nd)	0.03 ~ 0.07 mm (0.0012 ~ 0.0028 in)
Crankshaft:	
Crakshaft Assembly Width	
(F)	$54.00^{+0}_{-0.05}$ mm ($2.13^{+0}_{-0.002}$ in)
(A)	$156^{+0.05}_{-0.10}$ mm ($6.14^{+0.002}_{-0.004}$ in)
Crankshaft Runout Limit (S)	0.05 mm (0.002 in)
Connecting Rod Big End	
Side Clearance (D)	0.25 ~ 0.75 mm (0.01 ~ 0.03 in)
Connecting Rod Small End Deflection (P)	0.36 ~ 0.98 mm (0.014 ~ 0.039 in)

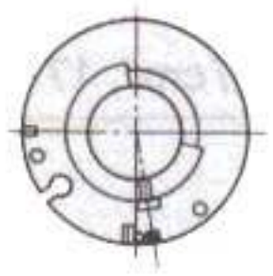






SPECIFICATIONS

Model	RZ350N/NC
Clutch:	
Friction Plate	
Thickness/Quantity	3.0 mm (0.12 in) × 7
Wear Limit	2.7 mm (0.106 in)
Clutch Plate	
Thickness/Quantity	1.2 mm (0.047 in) × 6
Warp Limit	0.05 mm (0.002 in)
Clutch Spring	
Free Length/Quantity	36.4 mm (1.43 in) × 6
<Limit>	<34.4 mm (1.35 in)>
Clutch Housing	
Thrust Clearance	0.07 ~ 0.12 mm (0.003 ~ 0.005 in)
Radial Clearance	0.011 ~ 0.048 mm (0.0004 ~ 0.0019 in)
Clutch Release Method	Inner push, Cam push
Push Rod Bending Limit	0.2 mm (0.008 in)
Primary Reduction Gear Back Lash Tolerance	154 ~ 156
Primary Drive Gear Back Lash Number	90 ~ 98
Primary Driven Gear Back Lash Number	57 ~ 65
Shifter:	
Type	Cam drum
Guide Bar Bending Limit	0.025 mm (0.001 in)
Kick Starter:	
Type	Kick and mesh type
Kick Clip Friction Force 	P = 0.8 ~ 1.3 kg (1.76 ~ 2.90 lb)
Air Filter — Oil Grade	Yamaha 2-stroke engine oil or equivalent
Reed Valve: (Engine) 	
Bending Limit	0.5 mm (0.02 in)
Valve Lift	10.3 ± 0.2 mm (0.41 ± 0.008 in)
Reed Valve: (Catalyzer)	
Bending Limit	0.5 mm (0.02 in)
Valve Lift	1.2 mm (0.05 in)

Model	RZ350N/NC	
Carburetor:		
Type/Manufacturer/Quantity	VM26SS/MIKUNI/2	
I.D. Mark	48H00 (RZ350N)	1EL00 (RZ350NC)
Main Jet (M.J.)	#230	
Main Air Jet (M.A.J.)	#85	
Jet Needle - Clip Position (J.N.)	5CK1-1	
Needle Jet (N.J.)	0-8	
Cutaway (C.A.) Left And Right	2.0	
Pilot Jet (P.J.)	#20	
Air Screw (Turns Out)(A.S.)	Preset	
Starter Jet (G.S.) Left And Right	#80	
Valve Seat (V.S.)	ø2.8	
Float Height (F.H.)	21 ± 0.5 mm (0.83 ± 0.02 in)	
Fuel Level	2 ± 1 mm (0.08 ± 0.04 in)	
Engine Idling Speed	1,200 ± 50 r/min	
Vacuum Pressure	12 kPa (90 mmHg, 3.5 inHg)	
Lubrication:		
Autolube Pump		
Color Code	Yellow	
Minimum Stroke	0.10 ~ 0.15 mm (0.004 ~ 0.006 in)	
Maximum Stroke	2.05 ~ 2.27 mm (0.08 ~ 0.09 in)	
Minimum Output/200 Stroke	0.12 ~ 0.19 cm^3	
	(0.004 ~ 0.007 Imp oz, 0.004 ~ 0.006 US oz)	
Maximum Output	2.58 ~ 2.85 cm^3	
	(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/cm^2, 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)	

SPECIFICATIONS

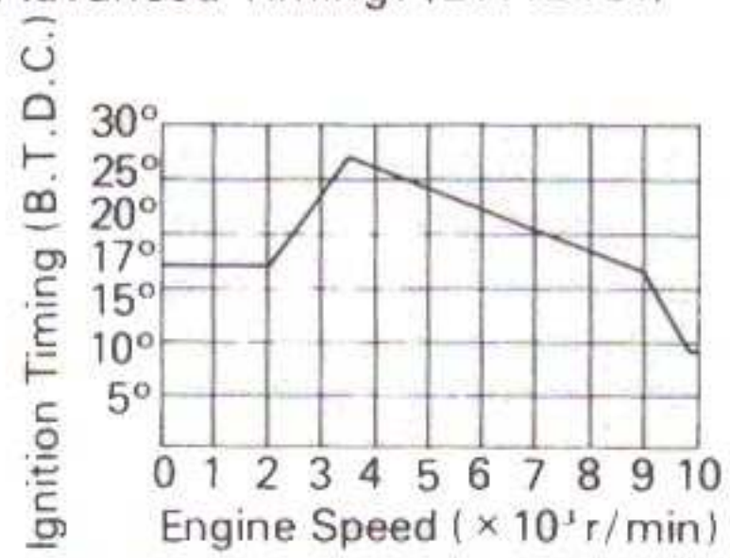
Chassis

Model	RZ350N/NC
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	
Free Length	506.2 mm (19.9 in)
<Limit>	<501.2 mm (19.73 in)>
Spring Rate	K_1 = 3.33 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 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)

Model		RZ350N/NC
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

SPECIFICATIONS

Electrical

Model	RZ350N/NC
Ignition System: Model/Manufacturer	AVCC58/NIPPONDENSO W/R-W/G: RZ350N: 115Ω ± 20% RZ350NC: 117Ω ± 20% Br-G: RZ350N: 225Ω ± 20% (Low speed) RZ350NC: 133Ω ± 20% Br-R: 5.3Ω ± 20% (High speed)
Ignition Timing: (B.T.D.C.)	17° at 1,200 r/min
Advanced Timing: (B.T.D.C.)	27° at 3,500 r/min
	
Ignition Coil: Model/Manufacturer Minimum Spark Gap Primary Winding Resistance Secondary Winding Resistance	 12900-027/NIPPONDENSO 6 mm (0.24 in) 0.33Ω ± 10% at 20°C (68°F) 3.5kΩ ± 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	 RZ350N: AQAB06/ND RZ350NC: 52Y-50/ND
A.C. Generator: Model/Manufacturer Charging Output Charging Coil Resistance	 RZ350N: AVCC58/ND RZ350NC: 51L-50/ND 14V14A/5,000 r/min RZ350N: (W-W) 0.4Ω ± 20% at 20°C (68°F) RZ350NC: (W-W) 0.5Ω ± 20% at 20°C (68°F)
Voltage Regulator: Model/Manufacturer Regulating Voltage	Short circuit type SH235-12C/SHINDENGEN KOUGYOU 14.5 ± 0.5V

Model	RZ350N/NC
Rectifier:	Three phase, Full wave
Model/Manufacturer	SH235-12C/SHINDENGEN KOUGYOU
Capacity	15A
Withstand Voltage	200V
Battery:	
Model/Manufacturer	12N5.5-3B/NIPPONDENSO
Charging Rate	0.55A × 10 hours
Specific Gravity	1.260
Horn:	
Model	SF12/NIKKO
Maximum Amperage	2.5A or less
Flasher Relay:	
Type	Semi transistor type
Model/Manufacturer	FU257CD/NIPPONDENSO
Flasher Frequency	85 cycle/min
Capacity	12V, 27W × 2 + 3.4W
Catalyzer Thermo Sensor:	
Model/Manufacturer	48H/NTK
Sensor Resistance	4Ω ± 20% at 20°C (68°F)
Catalyzer Warning Buzzer:	
Model/Manufacturer	48H/YAMAHA
Circuit Breaker:	
Type	Fuse
Amperage For Individual Circuit/Quantity	
Main	20A × 1
Headlight	10A × 1
Signal	15A × 1
Ignition	5A × 1
Reserve	10A × 1
	15A × 1
	20A × 1
Thermo-Unit:	
Model/Manufacturer	YH55901NO/NISSEI

CONSUMER INFORMATION

NOTICE

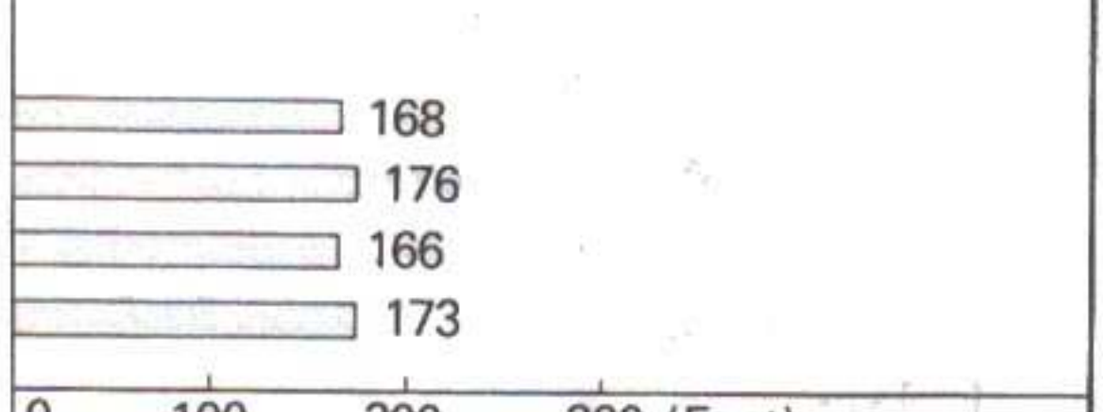
The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Stopping distance

These figures indicate braking performance that can be met or exceeded by the vehicles to which they apply, without locking the wheels, under different conditions of loading and with partial failures of the braking system. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions and the information may not be correct under other conditions.

Description of vehicles to which this table applies.: Yamaha motorcycle RZ350N/NC

A. Fully Operational Service Brake



Stopping distance in feet from 60 mi/h

NOTE:
The statement above is required by U.S. Federal law. "Partial failures" of the braking system do not apply to this chart.

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

A (Nut)	B (Bolt)	General torque specifications		
		Nm	m·kg	ft·lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94

