

# RF600RT ('96-MODEL)

*This chapter describes service data and service information which differ from those of the RF600RS ('95-model).*

**NOTE:**

- Any differences between RF600RS ('95-model) and RF600RT ('96-model) in service data are clearly indicated with the asterisk marks (\*).
- Please refer to the chapters 1 through 10 for details which are not given in this chapter.

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**11-1 RF600RT ('96-MODEL)****SPECIFICATIONS****DIMENSIONS AND DRY MASS**

Overall length.....	2 160 mm (85.0 in)..... E18, 22
	2 110 mm (83.1 in)..... Others
Overall width.....	710 mm (28.0 in)
Overall height.....	1 175 mm (46.3 in)
Wheelbase.....	1 430 mm (56.3 in)
Ground clearance.....	120 mm ( 4.7 in)
Seat height.....	790 mm (31.1 in)
Dry mass.....	195 kg (429 lbs)..... Others
	198 kg (436 lbs)..... E33

**ENGINE**

Type.....	Four-stroke, liquid-cooled, DOHC, TSCC
Valve clearance, IN.....	0.10—0.20 mm (0.004—0.008 in)
EX.....	0.20—0.30 mm (0.008—0.012 in)
Number of cylinders.....	4
Bore.....	65.0 mm (2.559 in)
Stroke.....	45.2 mm (1.780 in)
Piston displacement.....	599 cm <sup>3</sup> (36.6 cu. in)
Corrected compression ratio.....	12.0 : 1
Carburetor.....	BDST33, four . . . E18,33
	BDST36, four . . . Others
Air cleaner.....	Non-woven fabric element
Starter system.....	Starter motor
Lubrication system.....	Wet sump

**TRANSMISSION**

Clutch.....	Wet multi-plate type
Transmission.....	6-speed constant mesh
Gearshift pattern.....	1-down, 5-up
Primary reduction ratio.....	1.744 (75/43)
Gear ratios, Low.....	3.142 (44/14)
2nd.....	2.058 (35/17)
3rd.....	1.650 (33/20)
4th.....	1.428 (30/21)
5th.....	1.260 (29/23)
Top.....	1.120 (28/25)
Final reduction ratio.....	3.071 (43/14) . . . E03, 18, 33
	3.000 (42/14) . . . Others
Drive chain.....	RK50MFOZ1, 108 links

**CHASSIS**

Front suspension.....	Telescopic, coil spring, oil damped, spring preload adjustable
Rear suspension.....	Link type, spring preload 7-way adjustable, damping force 4-way adjustable
Front suspension stroke.....	120 mm (4.7 in)
Rear suspension travel.....	130 mm (5.1 in)
Caster.....	65°
Trail.....	103 mm (4.06 in)
Steering angle.....	30°
Turning radius.....	3.2 m (10.5 ft)
Front brake.....	Disk brake, twin, hydraulically operated
Rear brake.....	Disk brake, hydraulically operated
Front tire size.....	120/70ZR17
Rear tire size.....	160/60ZR17

**ELECTRICAL**

Ignition type.....	Electronic ignition (Transistorized)
Ignition timing.....	4° B.T.D.C. below 1500 r/min . . . E18,33
	7° B.T.D.C. below 1500 r/min . . . Others
Spark plug.....	NGK CR9E or NIPPONDENSO U27ESR-N
Battery.....	12V 28.8kC (8 Ah)/10 HR
Generator.....	Three-phase A.C. generator
Circuit breaker.....	30A
Fuse.....	15/15/10/15/10A
Headlight.....	12V 60/55W
Position light.....	12V 4W . . . except E24,28
Turn signal light.....	12V 21W x 4
Taillight.....	12V 5W
Brake light.....	12V 21W x 2
License plate light.....	12V 5W
Speedometer light.....	12V 1.7W x 2
Tachometer light.....	12V 1.7W x 2
Neutral indicator light.....	12V 3.4W
High beam indicator light.....	12V 3.4W
Turn signal indicator light.....	12V 3.4W
Oil pressure indicator light.....	12V 3.4W
Fuel indicator light.....	12V 3.4W

**CAPACITIES**

Fuel tank, including reserve.....	16.0 L (4.2/3.5 US/Imp gal) . . . E33
	17.0 L (4.5/3.7 US/Imp gal) . . . Others
Reserve.....	4.0 L (1.1/0.9 US/Imp gal)
Engine oil, oil change.....	3 000 ml (3.2/2.6 US/Imp qt)
with filter change.....	3 300 ml (3.5/2.9 US/Imp qt)
overhaul.....	3 900 ml (4.1/3.4 US/Imp qt)
Engine coolant.....	2 450 ml (2.6/2.2 US/Imp qt)
Front fork oil.....	503 ml (17.0/17.7 US/Imp oz)

## SERVICE DATA

### VALVE + GUIDE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	25.5 (1.00)	—
	EX.	22.5 (0.89)	—
Valve lift	IN.	E-04 and others	8.3 (0.33)
		E-18	6.6 (0.26)
	EX.	E-04 and others	7.9 (0.31)
		E-18	6.1 (0.24)
Tappet clearance (when cold)	IN.	0.10–0.20 (0.004–0.008)	—
	EX.	0.20–0.30 (0.008–0.010)	—
Valve guide to valve stem clearance	IN.	0.020–0.047 (0.0008–0.0019)	—
	EX.	0.030–0.057 (0.0012–0.0022)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve guide I.D.	IN. & EX.	4.500–4.512 (0.1772–0.1776)	—
Valve stem O.D.	IN.	4.465–4.480 (0.1758–0.1764)	—
	EX.	4.455–4.470 (0.1754–0.1760)	—
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve seat width	IN. & EX.	0.9–1.1 (0.035–0.043)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length (IN. & EX.)		—	43.0 (1.69)
Valve spring tension (IN. & EX.)		18.6–21.4 kg (41.0–47.2 lbs) at length 38 mm (1.5 in)	—

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## CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM	STANDARD		LIMIT	
Cam height	IN.	E-04	36.312–36.368 (1.4296–1.4318)	36.02 (1.418)
		E-18,33	34.542–34.598 (1.3599–1.3621)	34.25 (1.348)
		Others	36.312–36.368 (1.4296–1.4318)	36.02 (1.418)
	EX.	E-04	35.902–35.958 (1.4135–1.4157)	35.61 (1.402)
		E-18,33	34.122–34.178 (1.3433–1.3456)	33.83 (1.332)
		Others	35.902–35.958 (1.4135–1.4157)	35.61 (1.402)
Camshaft journal oil clearance	IN. & EX.	0.032–0.066 (0.0013–0.0026)	0.150 (0.0059)	
Camshaft journal holder I.D.	IN. & EX.	22.012–22.025 (0.8666–0.8671)	—	
Camshaft journal O.D.	IN. & EX.	21.959–21.980 (0.8645–0.8654)	—	
Camshaft runout	IN. & EX.	—	0.10 (0.004)	
Cam chain pin (at arrow "3")	13th pin		—	
Cylinder head distortion	—		0.20 (0.008)	

## CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT	
Compression pressure	1 000–1 500 kPa (10–15 kg/cm <sup>2</sup> ) (142–213 psi)		800 kPa (8 kg/cm <sup>2</sup> ) (114psi)	
Compression pressure difference	—		200 kPa (2 kg/cm <sup>2</sup> ) (28 psi)	
Piston to cylinder clearance	0.040–0.060 (0.0016–0.0024)		0.120 (0.0047)	
Cylinder bore	65.000–65.015 (2.5591–2.5596)		65.090 (2.5626)	
Piston diam.	64.945–64.970 (2.5569–2.5579) Measure at 15 mm (0.6 in) from the skirt end.		64.880 (2.5543)	
Cylinder distortion	—		0.20 (0.008)	
Piston ring free end gap	1st	R	Approx. 7.5 (0.29)	6.0 (0.24)
	2nd	R	Approx. 8.0 (0.31)	6.4 (0.25)
Piston ring end gap	1st		0.25–0.40 (0.010–0.016)	0.5 (0.02)
	2nd		0.25–0.40 (0.010–0.016)	0.5 (0.02)

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ITEM	STANDARD		LIMIT
Piston ring to groove clearance	1st	—	0.18 (0.007)
	2nd	—	0.18 (0.007)
Piston ring groove width	1st	0.83—0.85 (0.032—0.033)	—
	2nd	0.82—0.84 (0.032—0.033)	—
	Oil	1.51—1.53 (0.059—0.060)	—
Piston ring thickness	1st	0.77—0.79 (0.030—0.031)	—
	2nd	0.77—0.79 (0.030—0.031)	—
Piston pin bore	16.002—16.008 (0.6210—0.6302)		16.030 (0.6311)
Piston pin O.D.	15.996—16.000 (0.6298—0.6299)		15.980 (0.6291)

## CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD		LIMIT
Conrod small end I.D.	16.010—16.018 (0.6303—0.6306)		16.040 (0.6315)
Conrod big end side clearance	0.10—0.20 (0.004—0.008)		0.30 (0.010)
Conrod big end width	20.95—21.00 (0.825—0.827)		—
Crank pin width	21.10—21.15 (0.831—0.833)		—
Conrod big end oil clearance	0.032—0.056 (0.0013—0.0022)		0.080 (0.0031)
Crank pin O.D.	33.976—34.000 (1.3376—1.3386)		—
Crankshaft journal oil clearance	0.020—0.044 (0.0008—0.0017)		0.080 (0.0031)
Crankshaft journal O.D.	33.976—34.000 (1.3376—1.3386)		—
Crankshaft thrust clearance	0.055—0.110 (0.0022—0.0043)		—
Crankshaft thrust bearing thickness	Right side	2.425—2.450 (0.0955—0.0965)	—
	Left side	2.350—2.500 (0.0925—0.0984)	—
Crankshaft runout	—		0.05 (0.002)

**11-5 RF600RT ('96-MODEL)****OIL PUMP**

ITEM	STANDARD	LIMIT
Oil pump reduction ratio	1.898 (75/43 x 37/34)	—
Oil pressure (at 60°C, 140°F)	Above 300 kPa (3.0 kg/cm <sup>2</sup> , 43 psi) Below 600 kPa (6.0 kg/cm <sup>2</sup> , 85 psi) at 3 000 r/min.	—

**CLUTCH**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch lever play	10–15 (0.4–0.6)	—
Drive plate thickness	2.12–2.28 (0.083–0.090)	1.82 (0.072)
Driven plate distortion	—	0.10 (0.004)
Clutch spring free length	—	47.5 (1.87)

**THERMOSTAT + RADIATOR + FAN**

ITEM	STANDARD	LIMIT	
Thermostat valve opening temperature	74.5–78.5°C (166.1–173.3°F)	—	
Thermostat valve lift	Over 7 mm (0.28 in) at 90°C (194°F)	—	
Radiator cap valve opening pressure	110 kPa (1.1 kg/cm <sup>2</sup> , 15.6 psi)	—	
Cooling fan thermo-switch operating temperature	ON	Approx. 105°C (221°F)	—
	OFF	Approx. 100°C (212°F)	—
Engine coolant temperature gauge resistance	50°C (122°F)	Approx. 153.9 Ω	—
	80°C (176°F)	Approx. 51.9 Ω	—
	100°C (212°F)	Approx. 27.4 Ω	—
	120°C (248°F)	Approx. 16.1 Ω	—

**TRANSMISSION + DRIVE CHAIN**

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT	
Primary reduction ratio	1.744 (75/43)	—	
Final reduction ratio	E-03,18,33	3.071 (43/14)	—
	The others	3.000 (42/14)	—
Gear ratios	Low	3.142 (44/14)	—
	2nd	2.058 (35/17)	—
	3rd	1.650 (33/20)	—
	4th	1.428 (30/21)	—
	5th	1.260 (29/23)	—
	Top	1.120 (28/25)	—

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ITEM	STANDARD		LIMIT
Shift fork to groove clearance	0.10–0.30 (0.004–0.012)		0.50 (0.020)
Shift fork groove width	5.00–5.10 (0.197–0.201)		—
Shift fork thickness	4.80–4.90 (0.189–0.193)		—
Drive chain	Type	RK50MFOZ1	
	Links	108 links, ENDLESS	
	20-pitch length	—	
Drive chain slack	30–40 (1.2–1.6)		—
Gearshift lever height	70 (2.8)		—

## CARBURETOR

ITEM	SPECIFICATION		
	E-03, U.S.A.	E-33, U.S.A. (Calif. model)	E-37
Carburetor type	MIKUNI BDST36SS	MIKUNI BDST33SS	MIKUNI BDST36SS
Bore size	36 mm	33 mm	36 mm
I.D. No.	21EG	21EH	21EN
Idle r/min.	1 300 ± 100 r/min	1 350 ± 100 r/min	1 200 ± 100 r/min
Float height	6.9 ± 1.0 mm (0.27 ± 0.04 in)		
Main jet (M.J.)	#112.5	#107.5	#112.5
Main air jet (M.A.J.)	0.7 mm	0.6 mm	*1&4: 0.6 mm, *2&3: 1.0 mm
Jet needle (J.N.)	5E97	5E99	5D44-3rd
Needle jet (N.J.)	D-9	D-B	O-9
Throttle valve (Th.V.)	#120	←	#125
Pilot jet (P.J.)	#15	#10	#12.5
Starter jet (G.S.)	#47.5	←	←
Pilot screw (P.S.)	PRE-SET	←	PRE-SET (1-½ turns out)
Throttle cable play	0.5–1.0 mm (0.02–0.04 in)		

## CARBURETOR

ITEM	SPECIFICATION			
	E-02 and others	E-22,24	E-18	E-22-U type
Carburetor type	MIKUNI BDST36SS	←	MIKUNI BDST33SS	MIKUNI BDST36SS
Bore size	36 mm	←	33 mm	36 mm
I.D. No.	21EF	21EJ	21EL	21EK
Idle r/min.	1 200 ± 100 r/min	1 300 ± 100 r/min	←	←
Float height	6.9 ± 1.0 mm (0.27 ± 0.04 in)			

## 11-7 RF600RT ('96-MODEL)

ITEM	SPECIFICATION			
	E-02 and others	E-22,24	E-18	E-22-U type
Main jet (M.J.)	# 112.5	←	# 110	# 120
Main air jet (M.A.J.)	# 1&4: 0.6 mm, # 2&3: 1.0 mm	←	0.6 mm	0.7 mm
Jet needle (J.N.)	5D44-3rd	←	5E93-4th	5D44-2nd
Needle jet (N.J.)	O-9	←	O-8	←
Throttle valve (Th.V.)	# 125	←	# 120	# 125
Pilot jet (P.J.)	# 12.5	←	# 10	# 12.5
Starter jet (G.S.)	# 47.5	←	←	←
Pilot screw (P.S.)	PRE-SET (1-1/2 turns out)	←	←	PRE-SET (1 turn out)
Throttle cable play	0.5-1.0 mm (0.02-0.04 in)			

## ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	4° B.T.D.C. below 1 500 r/min.		E-18,33
	7° B.T.D.C. below 1 500 r/min.		Others
Firing order	1-2-4-3		
Spark plug	Type	NGK: CR9E ND: U27ESR-N	
	Gap	0.7-0.8 (0.028-0.032)	
Spark performance	Over 8 (0.3) at 1 atm.		
Signal coil resistance	(Black-Green) Approx. 135-200 Ω		Tester range: (x 100 Ω)
Ignition coil resistance	Primary	⊕ tap - ⊖ tap Approx. 2.4-3.2 Ω	Tester range: (x 1 Ω)
	Secondary	Plug cap - Plug cap Approx. 30-40 kΩ	Tester range: (x 1 kΩ)
Generator	Slip ring O.D.	Limit: 14.0 (0.55)	ND
	Brush length	Limit: 4.5 (0.18)	
Generator Max. output	Approx. 405 W at 5 000 r/min		The rotation of the generator
Regulated voltage	Above 13.5 V at 5 000 r/min.		
Starter motor	Commutator under-cut	Limit: 0.2 (0.008)	ND
Starter relay resistance	3-5 Ω		
Battery	Type designation	YTX9-BS	
	Capacity	12 V 28.8 kC (8 Ah)/10 HR	
	Standard electrolyte S.G.	1.320 at 20°C (68°F)	
Fuse size	Headlight	HI	15 A
		LO	15 A
	Turn signal	15 A	
	Ignition	10 A	
	Taillight	10 A	
	Main	30 A	

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## WATTAGE

Unit: W

ITEM		SPECIFICATION	
		E-03,24,28,33	The others
Headlight	HI	60	←
	LO	55	←
Position light			4
Taillight		5	←
Brake light		21 × 2	←
Turn signal light		21 × 4	←
Tachometer light		1.7 × 2	←
Speedometer light		1.7 × 2	←
Turn signal indicator light		3.4	←
High beam indicator light		3.4	←
Neutral indicator light		3.4	←
Oil pressure indicator light		3.4	←
Fuel level indicator light		3.4	←
License light		5	←
Engine coolant temp. meter light		1.7	←

## BRAKE + WHEEL

Unit: mm (in)

ITEM		STANDARD		LIMIT	
Rear brake pedal height		55 (2.2)		—	
Brake disc thickness	Front	4.5 ± 0.2 (0.177 ± 0.008)		4.0 (0.16)	
	Rear	5.0 ± 0.2 (0.197 ± 0.008)		4.5 (0.18)	
Brake disc runout (Front & Rear)		—		0.30 (0.012)	
Master cylinder bore	Front	12.700–12.743 (0.5000–0.5017)		—	
	Rear	12.700–12.743 (0.5000–0.5017)		—	
Master cylinder piston diam.	Front	12.657–12.684 (0.4983–0.4993)		—	
	Rear	12.657–12.684 (0.4983–0.4993)		—	
Brake caliper cylinder bore	Leading	Front	25.400–25.450 (1.0000–1.0020)		—
			25.400–25.450 (1.0000–1.0020)		—
	Trailing	Rear	38.180–38.256 (1.5031–1.5061)		—
Brake drum diam.	..	Front	25.335–25.368 (1.0000–1.0019)		—
	Trailing		25.335–25.368 (1.0000–1.0019)		—

**11-9 RF600RT ('96-MODEL)**

ITEM	STANDARD		LIMIT
Wheel rim runout (Front & Rear)	Axial	—	2.0 (0.08)
	Radial	—	2.0 (0.08)
Wheel axle runout	Front	—	0.25 (0.010)
	Rear	—	0.25 (0.010)
Tire size	Front	120/70 ZR17	—
	Rear	160/60 ZR17	—
Tire tread depth	Front	—	1.6 (0.06)
	Rear	—	2.0 (0.08)

**SUSPENSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	120 (4.7)	—	
Front fork spring free length	—	390 (15.4)	
Front fork oil level	92 (3.6)	—	
Rear wheel travel	130 (5.1)	—	
Swingarm pivot shaft runout	—	0.3 (0.01)	

**FUEL + OIL + ENGINE COOLANT**

ITEM	SPECIFICATION	NOTE
Fuel type	Use only unleaded gasoline of at least 85 pump octane ( $\frac{R+M}{2}$ ) or 91 octane or higher rated by the research method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.	E-03,33
	Use only unleaded gasoline of at least 87 pump octane ( $\frac{R+M}{2}$ method) or 91 octane or higher rated by the Research Method.	E-28
	Gasoline used should be graded 85-95 octane or higher. An unleaded gasoline is recommended.	The others
Fuel tank including reserve	16.0 L (4.2/3.5 US/lmp gal)	E-33
	17.0 L (4.5/3.7 US/lmp gal)	The others
	reserve 4.0 L (1.1/0.9 US/lmp gal)	

**RF600RT ('96-MODEL) 11-10**

ITEM	SPECIFICATION		NOTE
Engine oil type	SAE 10W/40, API SE, SF or SG		
Engine oil capacity	Change	3 000 ml (3.2/2.6 US/lmp qt)	
	Filter change	3 300 ml (3.5/2.9 US/lmp qt)	
	Overhaul	3 900 ml (4.1/3.4 US/lmp qt)	
Front fork oil type	Frok oil # 10		
Front fork oil capacity (each leg)	503 ml (17.0/17.7 US/lmp oz)		
Brake fluid type	DOT 4		
Engine coolant type	Use an anti-freeze/coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50:50.		
Engine coolant including reserve	2 450 ml (2.6/2.2 US/lmp qt)		

**TIRE PRESSURE [E-03.33 markets]**

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm <sup>2</sup>	psi	kPa	kg/cm <sup>2</sup>	psi
FRONT	225	2.25	33	250	2.50	36
REAR	250	2.50	36	290	2.90	42

**TIRE PRESSURE [The other markets]**

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm <sup>2</sup>	psi	kPa	kg/cm <sup>2</sup>	psi
FRONT	250	2.50	36	250	2.50	36
REAR	250	2.50	36	290	2.90	42

## 11-11 RF600RT ('96-MODEL)

## SERVICE INFORMATION

## REAR BRAKE AND TORQUE LINK ROD

