90-96 VFR 750F

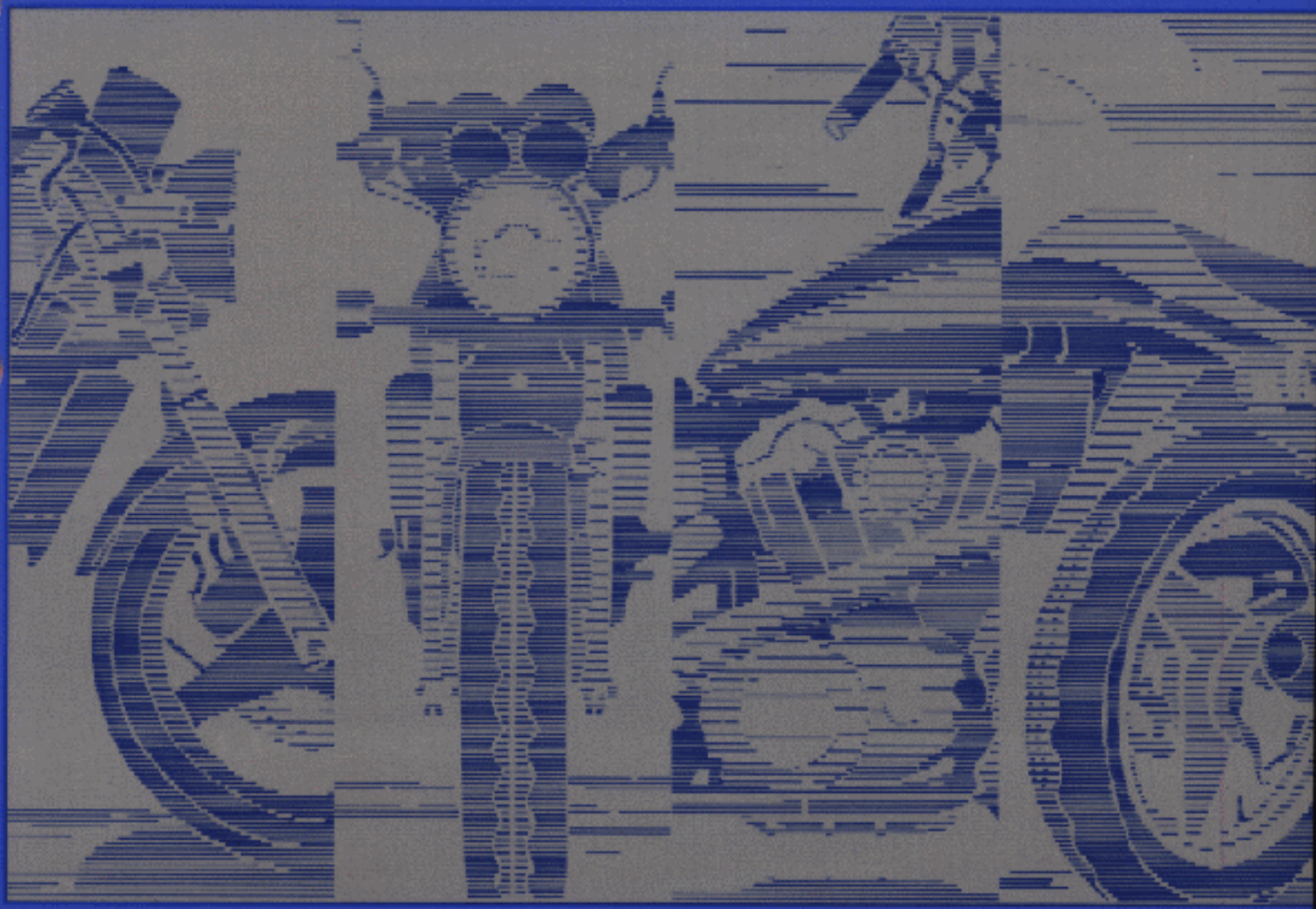
Service Manual

This manual is provided FREE of charge and should be distributed to as many VFR owners you know! I decided to scan this manual because, though most mechanics are very efficient, I found some to be incompetent, and wanted to be able to check their work. This manual cost me $60, which I know some people can't afford. I think human lives are worth more than $60. In my opinion, this manual should have come with the bike in the first place!!!

This is page is obviously not in the original service manual. All other pages are exactly as printed. Honda included several updated pages to this manual when I purchased it. These updates are included. If Honda has made any amendments/updates to this manual since November 1997.
They are not included in this digitized manual.

HONDA

SERVICE MANUAL



90-96
VFR750F

61MT406

Important Safety Notice

⚠WARNING **Indicates a strong possibility of severe personal injury or death if instructions are not followed.**

CAUTION: **Indicates a possibility of equipment damage if instructions are not followed.**

NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains *some* warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda, might be done or of the possibly hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service methods or tools selected.

Introduction

This service manual describes the service procedures for the VFR750F.
This Model Specific Manual includes every service procedure that is of a specific nature to this particular model. Basic service procedures that are common to other Honda Motorcycles/Motor Scooters/ATVs are covered in the Common Service Manual. This Model Specific Service Manual should be used together with the Common Service Manual in order to provide complete service information on all aspects of this motorcycle.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the U.S. Environmental Protection Agency and the California Air Resources Board.

Performing the first scheduled maintenance is very important. It helps compensate for the initial wear that occurs during the break-in period.

Sections 1 through 3 apply to the whole motorcycle, while sections 4 through 19 describe parts of the motorcycle, grouped according to locations.

Find the section you want on this page, then turn to the table of contents on the first page of that section.

Most sections describe the service procedures through a system illustration. Refer to the next page for details on how to use this manual.

If you don't know the source of the trouble, go to section 20 TROUBLESHOOTING.

Contents

HONDA MOTOR CO.,LTD.
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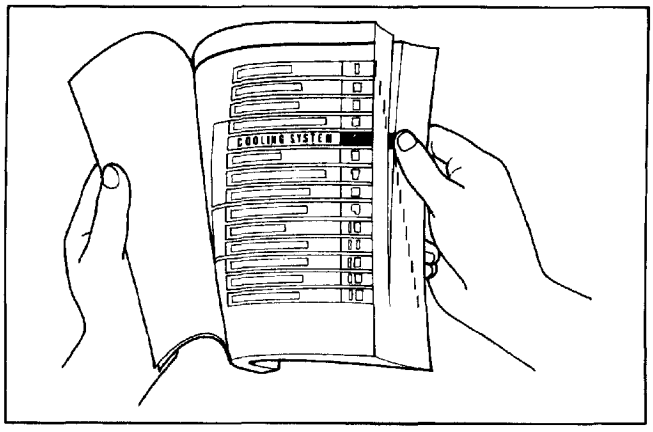
How to Use This Manual

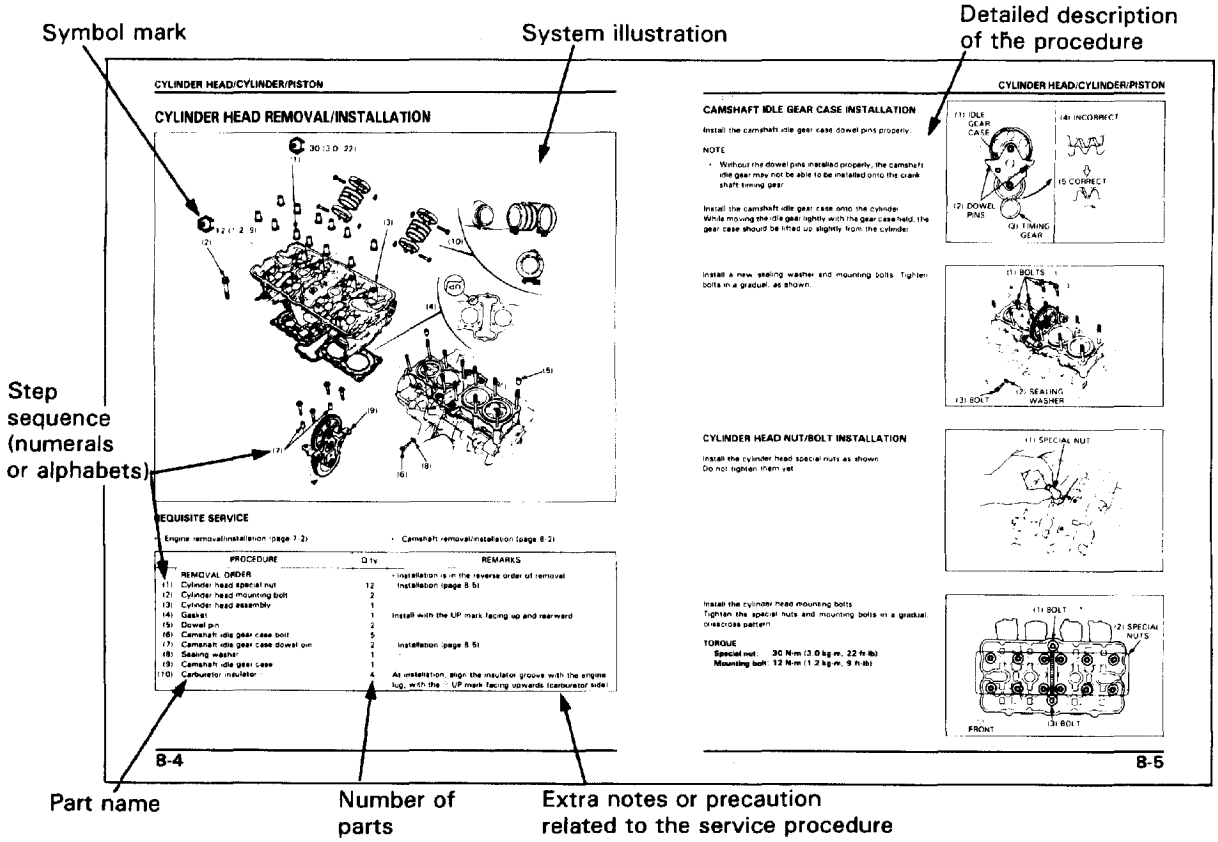


Finding Information You Need

- This manual is divided into sections which cover each of the major components of the motorcycle.
  To quickly find the section you are interested in, the first page of each section is marked with a black tab that lines up with one of the thumb index tabs before this page.
  The first page of each section lists the table of contents within the section.
  Read the service information and troubleshooting related to the section before you begin working.
- An index of the entire book is provided in the last chapter to directly locate the information you need.

Note on the Explanation Method of This Manual

- The removal and installation of parts are for the most part illustrated by large and clear illustrations that should provide the reader with visual aid in understanding the major point for servicing.
- The system illustrations are augmented by callouts whose numbers or letters indicate the order in which the parts should be removed or installed.
- The sequence of steps represented numerically are differentiated from the ones represented alphabetically to notify the reader that they must perform these steps seperately.
  For example, if the steps prior and up to camshaft removal are performed with the engine installed, but the subsequent steps like cylinder head removal require engine removal, the callouts are grouped in numerical and alphabetical orders.
- The illustrations may contain symbol marks to indicate necessary service procedures and precautions that need to be taken. Refer to the next page for the meaning of each symbol mark.
- Also in the illustration is a chart that lists information such as the order in which the part is removed/installed, the name of the part, and some extra notes that may be needed.
- Step by step instructions are provided to supplement the illustrations when detailed explanation of the procedure is necessary or illustrations alone would not suffice.
- Service procedures required before or after the procedure described on that particular page, or inspection/adjustment procedures required following the installation of parts, are described under the title Requisite Service.
- Standard workshop procedures and knowledge covered in the Common Service Manual are abbreviated in this manual.



Symbols

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	Replace the part(s) with new one(s) before assembly.
	Use special tool
	Use optional tool. Use the same procedure you use to order parts.
 10 (1.0, 7.2)	Torque specification. 10 N·m (1.0 kg-m, 7.2 ft-lb)
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1 : 1).
	Use multi-purpose grease (Lithium based multi-purpose grease NLGI #2 or equivalent)
	Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® BR-2 plus manufactured by Dow Corning, U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil Japan
	Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® G-n Paste manufactured by Dow Corning, U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan
	Use silicone grease
	Apply a locking agent. Use a middle strength locking agent unless otherwise specified.
	Apply sealant
	Use brake fluid, DOT 3 or DOT 4. Use the recommended brake fluid, unless otherwise specified.
	Use Fork or Suspension Fluid.

1. General Information

General Safety

Carbon Monoxide

If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area.

⚠ WARNING

- **The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death.**

Run the engine in an open area or with an exhaust evacuation system in an enclosed area.

Gasoline

Work in a well ventilated area. Keep cigarettes, flames or sparks away from the work area or where gasoline is stored.

⚠ WARNING

- **Gasoline is extremely flammable and is explosive under certain conditions. KEEP OUT OF REACH OF CHILDREN.**

Hot Components

⚠ WARNING

- **Engine and exhaust system parts become very hot and remain hot for some time after the engine is run. Wear insulated gloves or wait until the engine and exhaust system have cooled before handling these parts.**

Used Engine/Transmission Oil

⚠ WARNING

- **Used engine oil (or transmission oil in two-strokes) may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil. KEEP OUT OF REACH OF CHILDREN.**

Brake Dust

Never use an air hose or dry brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner or alternate method approved by OSHA, designed to minimize the hazard caused by airborne asbestos fibers.

⚠ WARNING

- **Inhaled asbestos fibers have been found to cause respiratory disease and cancer.**

Brake Fluid

CAUTION

- **Spilling fluid on painted, plastic or rubber parts will damage them. Place a clean shop towel over these parts whenever the system is serviced. KEEP OUT OF REACH OF CHILDREN.**

Coolant

Under some conditions, the ethylene glycol in engine coolant is combustible and its flame is not visible. If the ethylene glycol does ignite, you will not see any flame, but you can be burned.

⚠ WARNING

- **Avoid spilling engine coolant on the exhaust system or engine parts. They may be hot enough to cause the coolant to ignite and burn without a visible flame.**
- **Coolant (ethylene glycol) can cause some skin irritation and is poisonous if swallowed. KEEP OUT OF REACH OF CHILDREN.**
- **Do not remove the radiator cap when the engine is hot. The coolant is under pressure and could scald you.**
- **Keep hands and clothing away from the cooling fan, as it starts automatically.**

If it contacts your skin, wash the affected areas immediately with soap and water. If it contacts your eyes, flush them thoroughly with fresh water and get immediate medical attention. If it is swallowed, the victim must be forced to vomit then rinse mouth and throat with fresh water before obtaining medical attention. Because of these dangers, always store coolant in a safe place, away from the reach of children.

Nitrogen Pressure

For shock absorbers with a gas-filled reservoir:

⚠ WARNING

- **The shock absorber contains nitrogen under high pressure. Allowing fire or heat near the shock absorber could lead to an explosion that could result in serious injury.**
- **Failure to release the pressure from a shock absorber before disposing of it may lead to a possible explosion and serious injury if it is heated or pierced.**

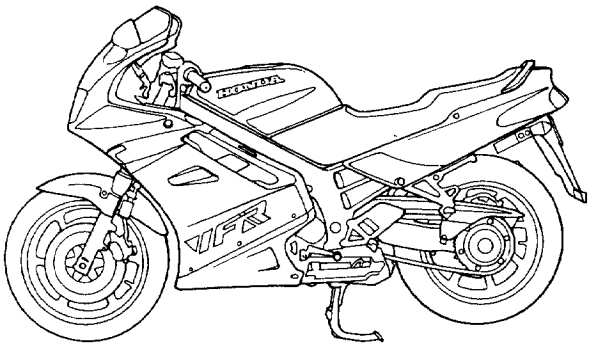
Battery Hydrogen Gas & Electrolyte

⚠ WARNING

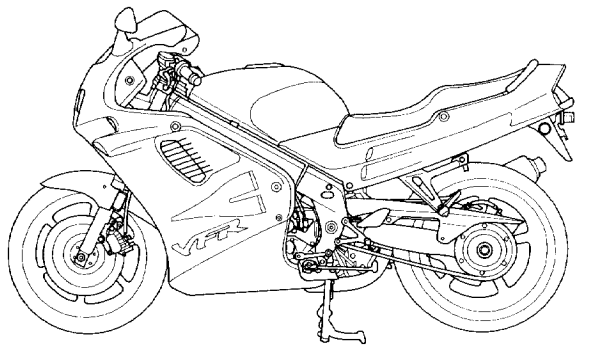
- **The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.**
- **The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.**
  - **If electrolyte gets on your skin, flush with water.**
  - **If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician.**
- **Electrolyte is poisonous.**
  - **If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician. KEEP OUT OF REACH OF CHILDREN.**

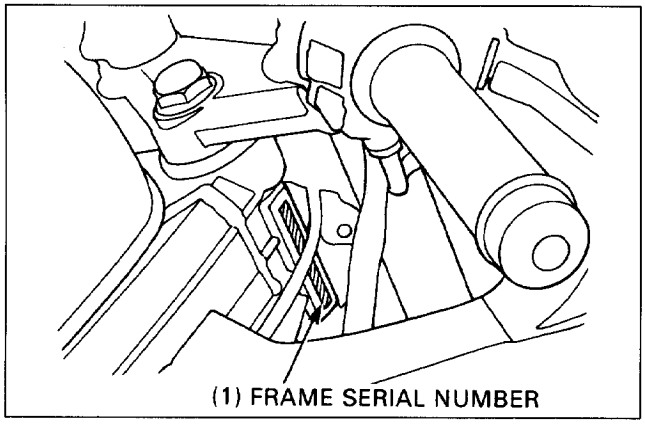
Model Identification

'90 Shown, '91, '92 and '93 Similar:

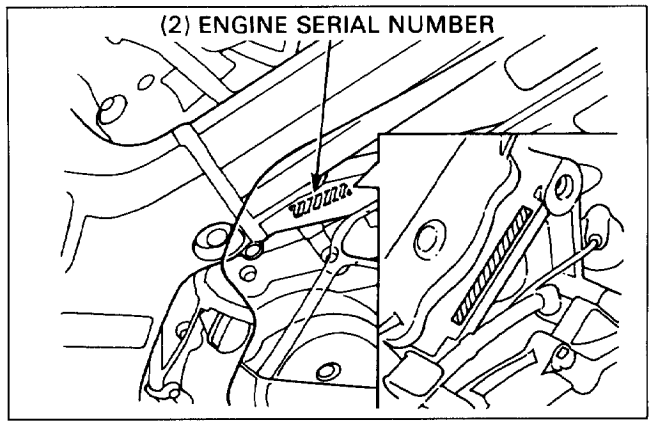


After '93:



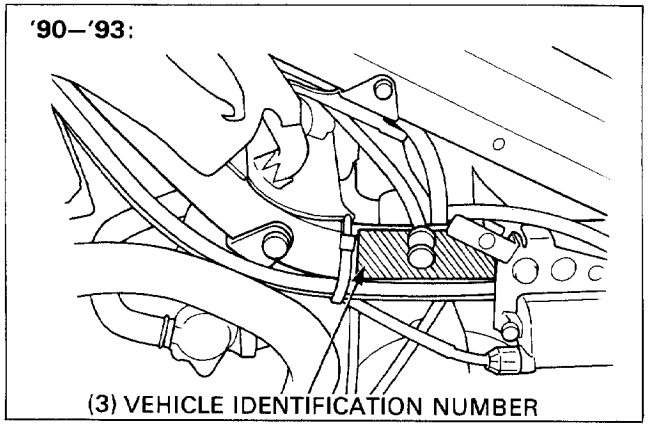


The frame serial number is stamped on the right side of the steering head.



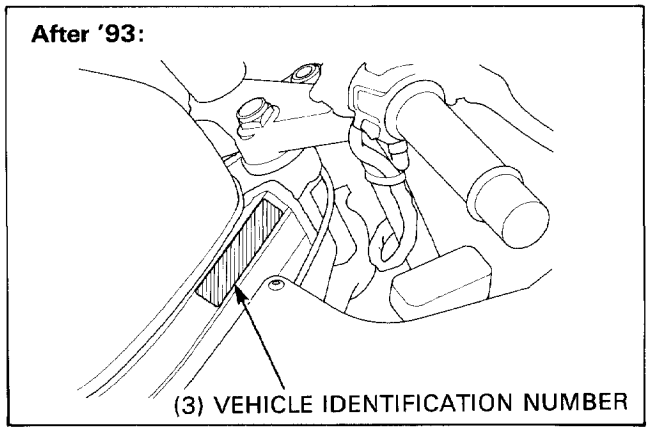
The engine serial number is stamped on the right side of the crankcase.

'90–'93:



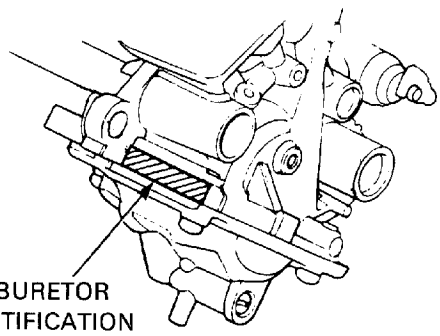
The Vehicle Identification Number (VIN) is located on the left side of the frame down tube.

After '93:



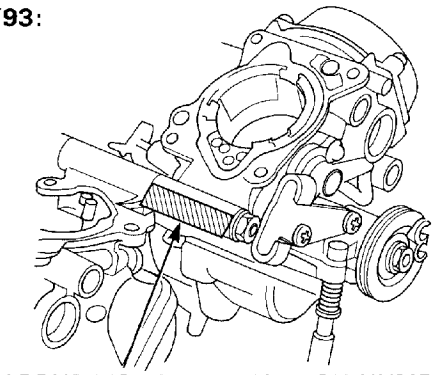
The Vehicle Identification Number (VIN) is located on the right side of the main frame.

'90–'93:



(4) CARBURETOR IDENTIFICATION NUMBER

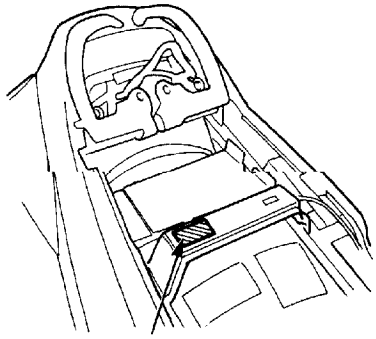
After '93:



(4) CARBURETOR IDENTIFICATION NUMBER

The carburetor identification number is stamped on the intake side of each carburetor body.

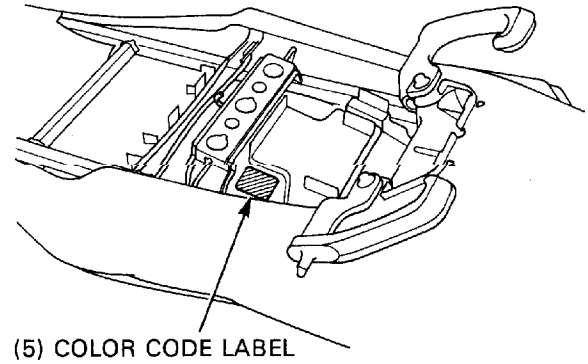
'90–'93:



(5) COLOR CODE LABEL

The color code label is attached on the upper rear sub frame tube cross member under the seat. When ordering a color coded part, always specify its designated color code.

After '93:



(5) COLOR CODE LABEL

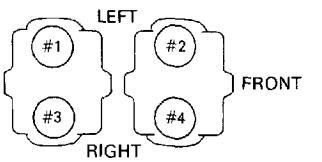
The color code label is attached on the rear fender under the seat. When ordering a color coded part, always specify its designated color code.

Specifications

General

Item		Specifications
Dimensions	Overall length '90–'93:	2,180 mm (85.8 in)
	After '93:	2,125 mm (83.7 in)
	Overall width '90–'93:	700 mm (27.6 in)
	After '93:	720 mm (28.3 in)
	Overall height	1,185mm (46,7 in)
	Wheelbase	1,470 mm (57.9 in)
	Seat height	800 mm (31.5 in)
	Footpeg height	350 mm (13.8 ih)
	Ground clearance	130 mm (5.1 in)
	Dry weight '90–'93:	216 kg (476 lbs)
	After '93: (49 state type)	211 kg (465 lbs)
	(California type)	212 kg (467 lbs)
	(Canada type)	210 kg (463 lbs)
	Curb weight '90–'93:	240 kg (529 lbs)
	After '93: (49 state type)	237 kg (523 lbs)
	(California type)	238 kg (525 lbs)
	(Canada type)	236kg (520 lbs)
	Maximum weight capacity '90–'93:	189 kg (417 lbs)
	After '93:	
	(49 state/California type)	175 kg (386 lbs)
	(Canada type)	179 kg (395 lbs)
Frame	Frame type	Diamond
	Front suspension	Telescopic fork
	Front wheel travel '90–'93:	140 mm (5.5 in)
	After '93:	130 mm (5.1 in)
	Rear suspension	Swingarm, Pro-link
	Rear wheel travel	130 mm (5.1 in)
	Rear damper	Gas-filled damper
	Front tire size	120/70 VR17-V250, 120/70 ZR17
	Rear tire size	170/60 VR17-V250, 170/60 ZR17
	Tire brand	
	(Bridgestone) FR/RR '90:	CYROX-19F/CYROX-16F
	After '93:	BT54F RADIAL G/BT54R RADIAL G
	(Dunlop) FR/RR '91–'93:	K510FC/K510C
	After '93:	D202FN/D202J
	(Michelin) FR/RR '90:	A59X (COO)/M59X (AOO)
	After '93:	A89X/M89X
	Front brake	Hydraulic disc brake
	Rear brake	Hydraulic disc brake
	Caster angle	26°
	Trail length '90–'93:	100 mm (3.9 in)
	After '93:	99 mm (3.9 in)
	Fuel tank capacity '90–'93:	19 lit. (5.0 US gal, 4.2 Imp gal)
	After '93:	21 lit. (5.5 US gal, 4.6 Imp gal)
	Fuel tank reserve capacity	3.5 lit. (0.92 US gal, 0.77 Imp gal)

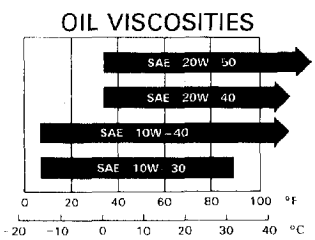
General (cont'd)

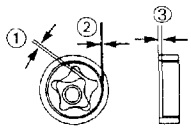
Item		Specifications
Engine	Bore and stroke	70.0 x 48.6 mm (2.76 x 1.91 in)
	Displacement	748 cm^3 (45.6 cu-in)
	Compression ratio	11.0 : 1
	Valve train	Gear driven DOHC, 4 valves per cylinder
	Intake valve opens at 1mm lift	
	'90–'93:	15° BTDC
	After '93: (49 state/Canada)	15° BTDC
	(California)	–5° BTDC
	Intake valve closes at 1mm lift	
	'90–'93:	35° ABDC
	After '93: (49 state/Canada)	37° ABDC
	(California)	35° ABDC
	Exhaust valve opens at 1mm lift	
	'90–'93:	40° BBDC
	After '93: (49 state/Canada)	35° BBDC
	(California)	45° BBDC
	Exhaust valve closes at 1mm lift	
	'90–'93:	10° ATDC
	After '93: (49 state/Canada)	10° ATDC
	(California)	–5° ATDC
	Lubrication system	Forced pressure and wet type
	Oil pump type	Trochoid
	Cooling system	Liquid cooling system with cooling fan
	Air filtration	Paper filter
	Crankshaft type	Unit-type, 4 main journals
	Engine weight (dry) '90–'93	79 kg (174 lbs)
	After '93:	76.5 kg (169 lbs)
	Firing order	#1-180° –#3-270° –#2-180° –#4-90° –#1
	Cylinder arrangement	4 cylinders, 90°V
	Cylinder number	
Carburetor	Carburetor type	Constant Venturi
	Throttle bore '90–'93:	36 mm (1.4 in)
	After '93:	34 mm (1.3 in)
Drive train	Clutch system	Wet, multi-plate
	Clutch operation system	Hydraulic
	Transmission	6-speeds, constant-mesh
	Primary reduction	1.939 (64/33)
	Secondary reduction	———
	Third reduction	———
	Final reduction	2.6875 (43/16)
	Gear ratio 1st	2.8461 (37/13)
	Gear ratio 2nd	2.0625 (33/16)
	Gear ratio 3rd	1.6315 (31/19)
	Gear ratio 4th	1.3333 (28/21)
	Gear ratio 5th	1.1538 (30/26)
	Gear ratio 6th	1.0357 (29/28)
	Gear ratio reverse	———
	Gearshift pattern	Left foot operated return system 1-N-2-3-4-5-6
Electrical	Ignition system	Full transistor ignition
	Starting system	Electric starter motor
	Charging system	Triple phase output alternator
	Regulator/rectifier	SCR shorted/triple phase, full-wave rectification
	Lighting system	Battery
	AC regulator type	———

Unit: mm (in)

Lubrication

Item			Standard	Service limit
Engine oil capacity at draining			2.9 ℓ (3.1 US qt, 2.6 Imp qt)	———
at disassembly		'90–'93:	4.0 ℓ (4.2 US qt, 3.5 Imp qt)	———
		After '93:	3.8 ℓ (4.0 US qt, 3.3 Imp qt)	———
at oil filter change			3.1 ℓ (3.3 US qt, 2.7 Imp qt)	———
Recommended engine oil			Use Honda 4-stroke oil an equivalent. API service classification SF or SG.	———
			The viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.	
Oil pressure at oil pressure switch			490–588 kPa (5.0–6.0 kg/cm², 71.1–85.3 psi)	———
Oil pump rotor tip clearance ①			0.10 (0.004)	0.15 (0.006)
body clearance ②			0.15–0.22 (0.006–0.009)	0.35 (0.014)
end clearance ③			0.02–0.07 (0.001–0.003)	0.10 (0.004)





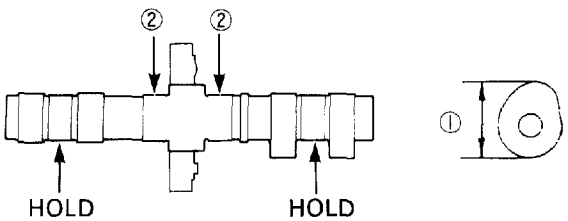
Fuel system

Item			Standard	Service limit
Carburetor identification number				
	(49 state type)	'90–'91:	VDJBA	———
		'92–'93:	VDJJA	———
		After '93:	VP34A	———
	(California type)	'90–'91:	VDJCA	———
		'92–'93:	VDJKA	———
		After '93:	VP33A	———
	(Canada type)	'90–'91:	VDJ1A	———
		'92–'93:	VDJ5A	———
		After '93:	VP35A	———
Main jet		'90–'93:	#130	———
		After '93:	#125 (49 state/Canada type)	———
			Front: #128/	———
			Rear: #125 (California type)	———
	(High altitude)		———	———
	(2,3)		———	———
	(1,4)		———	———
Slow jet	(49 state/Canada type)		#40	———
	(California type)	'90–'93:	#38	———
		After '93:	#40	———
Jet needle position			———	———
Pilot screw initial opening			See page 6-22	———
Pilot screw high altitude adjustment			See page 6-24	———
Pilot screw final opening			See page 6-22	———
Air screw initial opening			———	———
Air screw high altitude adjustment			———	———
Float level		'90–'93:	9.0 (0.35)	———
		After '93:	13.7 (0.54)	———
Carburetor vacuum difference			Within 20 mmHg (0.8 inHg)	40 mmHg (1.6 inHg)
Base carburetor (For carburetor synchronization)				
		'90–'93:	No.2 carburetor	———
		After '93:	No.1 carburetor	———
Idle speed	(49 state type)	'90–'93:	1,000 ± 100 rpm	———
		After '93:	1,100 ± 100 rpm	———
	(California type)		1,200 ± 100 rpm	———
	(Canada type)		1,000 ± 100 rpm	———
Throttle grip free play			2–6 (0.08–0.24)	———
Accelerator pump clearance			———	———
Pulse secondary air injection (PAIR) control valve vacuum pressure (U.S.A. only)			360 mmHg (14.2 inHg)	———

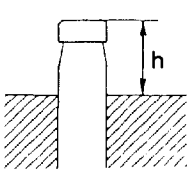
Unit: mm (in)

Cylinder head

Item			Standard	Service limit
Cylinder compression			1,373 kPa (14.0 kg/cm², 199 psi)/400 rpm	—
Cylinder compression difference			Within 30 mmHg (1.2 inHg) of each other	—
Valve clearance	IN		0.13–0.19 (0.005–0.007)	—
(cold)	EX		0.22–0.28 (0.009–0.011)	—
Cylinder head warpage			—	0.1 (0.004)
Cam lobe height ①	IN	(49 state/Canada type)	36.280–36.440 (1.4283–1.4346)	36.25 (1.427)
		(California type)	33.980–34.140 (1.3378–1.3441)	33.95(1.3366)
	EX	(49 state/Canada type) '90–'93:	36.370–36.530 (1.4319–1.4382)	36.34 (1.431)
		After '93:	36.070–36.230 (1.4201–1.4264)	36.04 (1.419)
		(California type) '90–'93:	35.270–35.430 (1.3886–1.3949)	35.24(1.3874)
		After '93:	35.470–35.630 (1.3965–1.4028)	35.44(1.3953)
Camshaft runout ②			—	0.05 (0.002)
Camshaft oil clearance			0.020–0.062 (0.0008–0.0024)	0.10 (0.004)



Camshaft journal O.D.		24.949–24.970 (0.9822–0.9831)	24.94 (0.982)
Camshaft holder – Cylinder head I.D.		25.000–25.021 (0.9843–0.9851)	—
Valve stem O.D.	IN	4.475–4.490 (0.1762–0.1767)	4.465 (0.1758)
	EX	4.465–4.480 (0.1758–0.1764)	4.455 (0.1754)
Valve guide I.D.	IN	4.500–4.512 (0.1772–0.1776)	4.562 (0.1796)
	EX	4.500–4.512 (0.1772–0.1776)	4.612 (0.1816)
Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.07 (0.0028)
	EX	0.020 – 0.047 (0.0008 – 0.0019)	0.10 (0.0039)
Valve guide projection above cylinder head (h)	IN	15.30–15.50 (0.602–0.610)	—
	EX	15.30–15.50 (0.602–0.610)	—



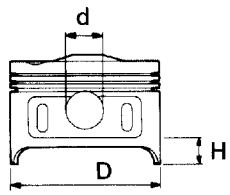
Before guide installation:
1. Chill the valve guides in the freezer section of a refrigerator for about an hour.
2. Heat the cylinder head to 100–150 °C (212–300°F).

Valve seat width	IN		1.0 (0.04)	1.5 (0.06)
	EX		1.0 (0.04)	1.5 (0.06)
Valve spring free length		Inner	34.2 (1.35)	32.5 (1.28)
		Outer	38.1 (1.50)	36.2 (1.43)
		inner IN	—	—
		inner EX	—	—
		outer IN	—	—
		outer EX	—	—
Rocker arm I.D.	IN		—	—
	EX		—	—
Rocker arm shaft O.D.	IN		—	—
	EX		—	—
Rocker arm-to-rocker arm shaft clearance			—	—
Valve lifter O.D.			25.978–25.993 (1.0228–1.0233)	25.968 (1.0224)
Valve lifter bore I.D.			26.010–26.026 (1.0240–1.0246)	26.04 (1.025)
Hydraulic lash adjuster assist spring free length			—	—
Hydraulic lash adjuster compression stroke with kerosene			—	—

Unit: mm (in)

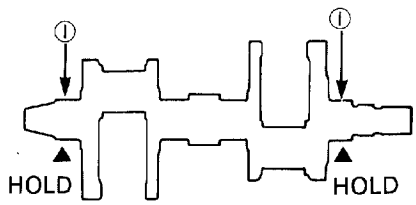
Cylinder/piston

Item	Standard	Service limit
Cylinder I.D.	70.000–70.015 (2.755–2.756)	70.10 (2.759)
Cylinder out of round	—	0.10 (0.004)
Cylinder taper	—	0.10 (0.004)
Cylinder warpage	—	0.10 (0.004)
Piston mark direction	With "IN" mark facing to the intake side	—
Piston O.D. (D)	69.970–69.990 (2.755–2.756)	69.85 (2.750)
Piston O.D. measurement point (H)	10 (0.4)	—
Piston pin hole I.D. (d)	17.002–17.008 (0.6694–0.6696)	17.02 (0.670)
Cylinder-to-piston clearance	—	—
Piston pin O.D.	16.994–17.000 (0.6691–0.6693)	16.98 (0.669)
Piston-to-piston pin clearance	0.002–0.014 (0.0001–0.0005)	—
Connecting rod-to-piston pin clearance	0.016–0.040 (0.0006–0.0020)	—
Top ring-to-ring groove clearance	0.015–0.050 (0.0006–0.0019)	0.10 (0.04)
Second ring-to-ring groove clearance	0.015–0.045 (0.0006–0.0018)	0.10 (0.004)
Top ring end gap	0.20–0.35 (0.008–0.014)	0.5 (0.02)
Second ring end gap	0.35–0.50 (0.014–0.020)	0.7 (0.03)
Oil ring (side rail) end gap	0.20–0.80 (0.008–0.031)	1.00 (0.039)
Top ring mark	Install with the marked side up	—
Second ring mark	Install with the marked side up	—



Crankshaft

Connecting and small end I.D.		17.016–17.034 (0.6699–0.6706)	17.04 (0.671)
Connecting rod big end side clearance		0.10–0.30 (0.004–0.012)	0.40 (0.016)
radial clearance		—	—
Crankshaft runout ①		—	0.05 (0.002)
Crankpin oil clearance		0.030–0.052 (0.0012–0.0020)	0.08 (0.003)
Connecting rod bearing selection		See page 11-9	—
Main journal oil clearance	'90–'93:	0.023–0.045 (0.0009–0.0018)	0.06 (0.002)
	After '93:	0.019–0.037 (0.0007–0.0015)	0.05 (0.002)
Main journal bearing selection		See page 11-8	—

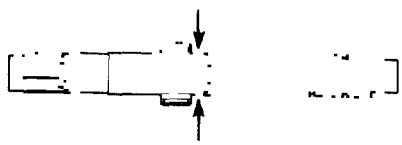
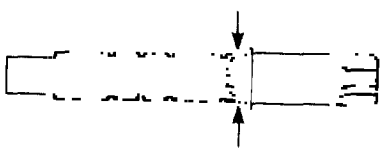


Starter system

Starter motor brush length	12.0–13.0 (0.47–0.51)	6.5 (0.26)
Starter clutch driven gear O.D.	47.175–47.200 (1.8573–1.8583)	47.16 (1.857)
Kickstarter pinion gear I.D.	—	—
Kickstarter spindle O.D.	—	—
Kickstarter idle gear I.D.	—	—
Countershaft O.D. at kickstarter idle gear	—	—
Kickstater idle gear bushing O.D.	—	—
I.D.		

Unit: mm (in)

Transmission

Item	Standard	Service limit
Transmission gear I.D. M5	28.000–28.021 (1.1024–1.1032)	28.04 (1.104)
M6	28.000–28.021 (1.1024–1.1032)	28.04 (1.104)
C2	31.000–31.016 (1.2205–1.2211)	31.04 (1.222)
C3	31.000–31.016 (1.2205–1.2211)	31.04 (1.222)
C4	31.000–31.016 (1.2205–1.2211)	31.04 (1.222)
Transmission gear bushing O.D. M5	27.959–27.980 (1.1007–1.1016)	27.94 (1.010)
M6	27.959–27.980 (1.1007–1.1016)	27.94 (1.010)
C2	30.970–30.995 (1.2193–1.2203)	30.95 (1.219)
C3	30.950–30.975 (1.2185–1.2195)	30.93 (1.218)
C4	30.950–30.975 (1.2185–1.2195)	30.93 (1.218)
Transmission gear bushing I.D. M5	24.985–25.006 (0.9834–0.9845)	27.94 (1.010)
C2	28.000–28.021 (1.1024–1.1032)	28.04 (1.104)
C3	27.995–28.016 (1.1022–1.1029)	28.04 (1.104)
C4		
Gear-to-bushing clearance at M5 gear	0.020–0.062 (0.0008–0.0024)	—
at M6 gear	0.020–0.062 (0.0008–0.0024)	—
at C2 gear	0.005–0.046 (0.0002–0.0018)	—
at C3 gear	0.025–0.066 (0.0001–0.0026)	—
at C4 gear	0.025–0.066 (0.0001–0.0026)	—
Mainshaft O.D. at M5 gear bushing	24.959–24.980 (0.9826–0.9835)	24.95 (0.982)
		
Countershaft O.D. at C2 gear bushing	27.967–27.980 (1.1011–1.1016)	27.96 (1.101)
		
Gear-to-shaft clearance	—	—
Gear bushing-to-shaft clearance at M5 gear	0.005–0.047 (0.0002–0.0019)	—
at C2 gear	0.020–0.054 (0.0008–0.0021)	—
at C3 gear	0.015–0.049 (0.0006–0.0019)	—
at C4 gear	0.015–0.049 (0.0006–0.0019)	—
Shift fork claw thickness L	6.43–6.50 (0.253–0.256)	6.40 (0.252)
C	6.43–6.50 (0.253–0.256)	6.40 (0.252)
R	6.43–6.50 (0.253–0.256)	6.40 (0.252)
Shift fork I.D. L	14.016–14.034 (0.5518–0.5525)	14.043 (0.5529)
C	14.016–14.034 (0.5518–0.5525)	14.043 (0.5529)
R	14.016–14.034 (0.5518–0.5525)	14.043 (0.5529)
Shift fork shaft O.D.	13.973–13.984 (0.5501–0.5506)	13.965 (0.5498)

Unit: mm (in)

Clutch system

Item	Standard	Service limit
Clutch lever free play	10–20 (0.4–0.8)	—
Recommended clutch fluid	DOT4	
Clutch master cylinder I.D.	14.000–14.043 (0.5512–0.5529)	14.06 (0.553)
Clutch master piston O.D.	13.957–13.984 (0.5495–0.5506)	13.94 (0.549)
Clutch slave cylinder I.D.	35.700–35.762 (1.4055–1.4079)	35.78 (1.409)
Clutch slave cylinder piston O.D.	35.650–35.675 (1.4035–1.4045)	35.63 (1.403)
Clutch outer guide I.D.	24.995–25.012 (0.9841–0.9847)	25.08 (0.987)
Clutch spring free length	44.4 (1.75)	41.2 (1.62)
Clutch disc thickness A	2.92–3.08 (0.115–0.121)	2.5 (0.10)
B (Judder spring side)	2.92–3.08 (0.115–0.121)	2.5 (0.10)
C	—	—
Clutch plate warpage	—	—
Centrifugal clutch drum I.D.	—	—
bushing O.D.	—	—
Centrifugal clutch center guide I.D.	—	—
O.D.	—	—
Centrifugal clutch center guide collar height	—	—
Centrifugal clutch weight lining thickness	—	—
Centrifugal clutch spring free length	—	—
Clutch lining thickness	—	—
Crankshaft O.D. at clutch center	—	—

Cooling system

Cooling capacity (Radiator and engine)	2.3 ℓ (0.61 US gal, 0.51 Imp gal)	—
(Reserve tank)	0.3 ℓ (0.08 US gal, 0.07 Imp gal)	—
Radiator cap relief pressure	93–123 kPa (0.95–1.25 kg/cm², 14–18 psi)	—
Thermostat begins to open	80–84°C (176–183°F)	—
Thermostat fully open	95°C (203°F)	—
Thermostat valve lift	8.0 (0.315) min.	—

Drive train

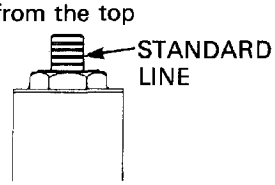
Recommended final drive oil	—	—
Final drive gear oil capacity at disassembly	—	—
at draining	—	—
Final drive gear backlash	—	—
Ring gear-to stop pin clearance (A)	—	—
Stop pin shim	—	—
Ring gear spacer	—	—
Pinion spacer	—	—
Output gear backlash	—	—
Output gear I.D.	—	—
Output gear bushing O.D.	—	—
I.D.	—	—
Output drive shaft O.D.	—	—
Output gear damper spring free length	—	—
Output shaft adjustment shim	—	—
Countershaft drive shaft adjustment shim	—	—

Unit: mm (in)

Wheels/tires

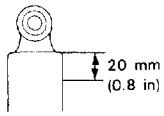
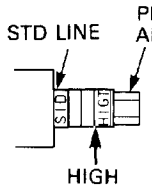
Item		Standard	Service limit
Minimum tire tread depth (FR)		———	1.5 (0.06)
(RR)		———	2.0 (0.08)
Cold tire pressure Rider only (FR)		250 kPa (2.50 kg/cm², 36 psi)	———
Rider only (RR)		290 kPa (2.90 kg/cm², 42 psi)	———
Rider and passenger (FR)		250 kPa (2.50 kg/cm², 36 psi)	———
Rider and passenger (RR)		290 kPa (2.90 kg/cm², 42 psi)	———
Front and rear axle runout		———	0.2 (0.01)
Front and rear wheel runout (Radial)		———	2.0 (0.08)
(Axial)		———	2.0 (0.08)
Front wheel hub-to-rim distance		———	———
Front wheel hub standard surface		———	———
Rear wheel hub-to-rim distance		———	———
Rear wheel hub standard surface		———	———
Wheel balance weight (FR/RR)		———	60 g (2.1 oz)
Drive chain slack		15–25 (0.6–1.0)	40 (1.6)
Drive chain size/link (DID)	'90–'93:	DID50VA6-122	———
	After '93:	DID50V4-122	———
(RK)	'90–'93:	RK50HFO-122	———
	After '93:	RK50MFOZ1-122	———

Front suspension

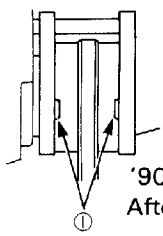
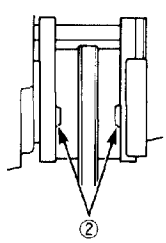
Front spring free length	'90–'91:	413.6 (16.28)	405.3 (15.96)
	'92–'93:	427.1 (16.81)	418.5 (16.48)
	After '93:	340.2 (13.39)	330.0 (13.0)
Front spring free length A		———	———
B		———	———
Fork spring direction		Tightly wound coil end facing down	———
Fork tube runout		———	0.2 (0.01)
Recommended fork oil		Pro Honda Suspension Fluid SS-7	———
Fork oil level (49 state/California type)	'90–'91:	175 (6.89)	———
	'92–'93:	178 (7.01)	———
	After '93:	177 (6.97)	———
(Canada type)	'90–'91:	187 (7.36)	———
	'92–'93:	178 (7.01)	———
	After '93:	177 (6.97)	———
Fork oil level (R)		———	———
(L)		———	———
Fork oil capacity (49 state/California type)	'90–'91:	383 cc (13.0 US oz, 13.4 Imp oz)	———
	'92–'93:	386 cc (13.1 US oz, 13.5 Imp oz)	———
	After '93:	412 cc (13.9 US oz, 14.5 Imp oz)	———
(Canada type)	'90–'91:	394 cc (13.3 US oz, 13.8 Imp oz)	———
	'92–'93:	386 cc (13.1 US oz, 13.5 Imp oz)	———
	After '93:	412 cc (13.9 US oz, 14.5 Imp oz)	———
Fork oil capacity (R)		———	———
(L)		———	———
Fork air pressure		———	———
Fork spring preload adjuster standard position (After '91)		3rd position from the top 	
Steering bearing preload		0.1–0.15 kg	

Unit: mm (in)

Rear suspension

Item		Standard	Service limit
Shock absorber spring free length	'90–'91:	195.3 (7.69)	191.4 (7.54)
	'92–'93:	184.8 (7.28)	181.1 (7.13)
	After '93:	———	———
Shock absorber spring free length (R)		———	———
(L)		———	———
Damper gas pressure		———	———
Damper compressed gas		———	———
Damper rod compressed force at 10mm (0.4 in) compressed		———	———
Damper drilling point for disposal		20 mm (0.8 in) from the top surface	———
Shock absorber spring installed length (Standard)			
	'90–'91:	181.9 (7.16)	———
	'92–'93:	171.4 (6.75)	———
	After '93:	———	———
Shock absorber spring compression adjuster range		LOW–STD–MIDDLE–HIGH POSITIONS	———
Shock absorber spring direction		With tapered end facing upper spring seat.	———
Recommended shock absorber oil		———	———
Shock absorber oil capacity		———	———
air pressure		———	———
Compression adjuster standard position		12 clicks from lowest position	———
Rebound adjuster standard position	'92–'93:	1-1/8 turn from hardest position	———
	After '93:	1 turn from hardest position	———

Brakes

			Standard	Service limit
Front	brake fluid		DOT4	———
	brake lever free play		———	———
	brake pad wear indicator		———	to the groove ①
	brake disc thickness	'90–'93:	5.0 (0.21)	4.0 (0.20)
		After '93:	4.5 (0.18)	3.5 (0.14)
	brake disc runout		———	0.3 (0.012)
	master cylinder I.D.		12.700–12.743 (0.5000–0.5017)	12.76 (0.502)
	master piston O.D.		12.657–12.684 (0.4983–0.04994)	12.65 (0.498)
	caliper cylinder I.D.		25.400–25.450 (1.0000–1.0020)	25.46 (1.002)
	caliper cylinder I.D. (Upper)		———	———
	(Lower)		———	———
	caliper piston O.D.		25.335–25.368 (0.9974–0.9987)	25.33
	caliper piston O.D. (Upper)		———	———
	(Lower)		———	———
	brake drum I.D.		———	———
	brake lining thickness		———	———
Rear	brake fluid		DOT4	———
	brake pedal height		———	———
	brake pedal free play		———	———
	brake pad wear indicator		———	to the groove ②
	brake disc thickness		6.0 (0.24)	5.0 (0.21)
	runout		———	0.3 (0.012)
	master cylinder I.D.		12.700–12.743 (0.5000–0.5017)	12.76 (0.502)
	master piston O.D.		12.657–12.684 (0.4983–0.4994)	12.65 (0.498)
	caliper cylinder I.D.		27.000–27.050 (1.0629–1.0632)	27.06 (1.065)
	caliper piston O.D.		26.918–26.968 (1.0598–1.0617)	26.91 (1.059)
	brake drum I.D.		———	———
	brake lining thickness		———	———