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SERVICE MANUAL

1998-2003

VTR1000F

SUPER HAWK®

61MBB05

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the VTR1000F.

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 California Air Resources Board.

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

Sections 1 and 3 apply to the whole motorcycle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections. Sections 4 through 19 describe parts of the motorcycle, grouped according to location.

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

Most sections have an assembly or system illustration, service information and troubleshooting for the section.

The subsequent pages give detailed procedures.

If you don't know the source of the trouble, go to section 21, Troubleshooting.

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1. GENERAL INFORMATION

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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 OIL

▲WARNING

Used engine oil 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.

GENERAL INFORMATION

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.

CAUTION:

Using coolant with silicate corrosion inhibitors may cause premature wear of water pump seals or blockage of radiator passages. Using tap water may cause engine damage.

BATTERY HYDROGEN GAS & ELECTROLYTE

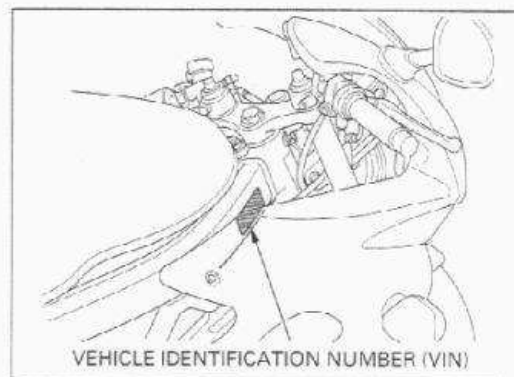
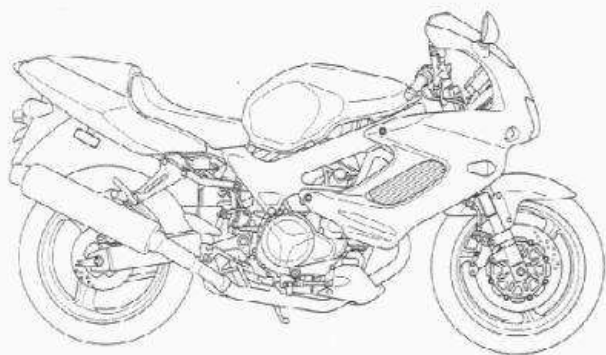
▲WARNING

- 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 immediately.
- 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.**

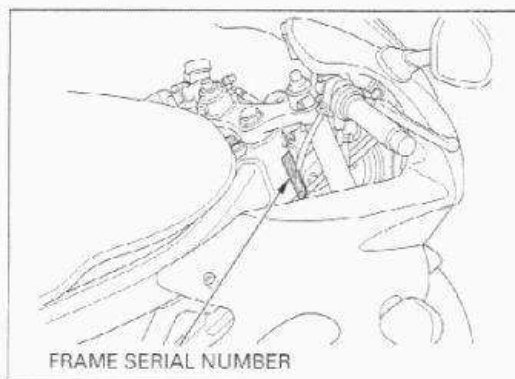
SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that do not meet HONDA's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing the motorcycle. Metric bolts, nuts and screws are not interchangeable with English fasteners.
4. Install new gaskets, O-rings, cotter pins, and lock plates when reassembling.
5. When tightening bolts or nuts, begin with the larger diameter or inner bolt first. Then tighten to the specified torque diagonally in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as shown on pages 1-18 through 1-29, Cable & Harness routing.

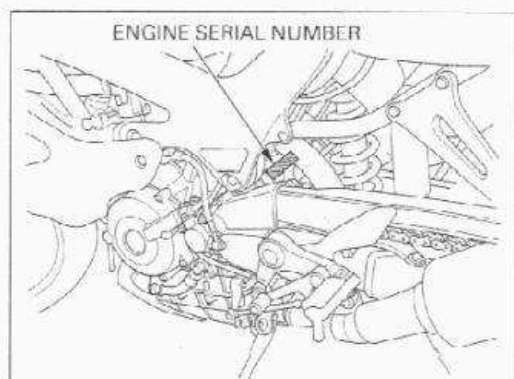
MODEL IDENTIFICATION



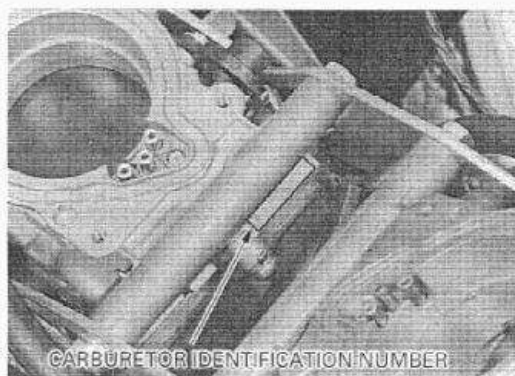
The Vehicle Identification Number (VIN) is located on right side of the frame near the steering head.



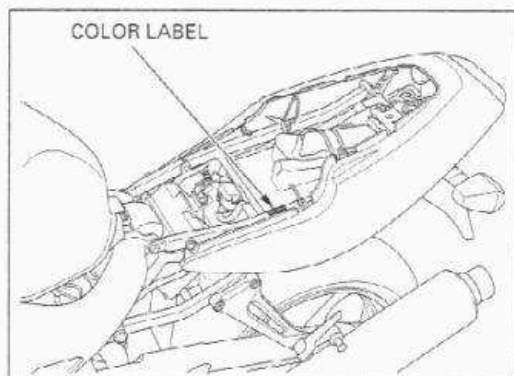
The frame serial number is stamped on the right side of the steering head.



The engine serial number is stamped on the rear of the upper crankcase.



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



The color label is attached on the seat rail under the seat. When ordering color-coded parts, always specify the designated color code.

GENERAL INFORMATION

SPECIFICATIONS

GENERAL		
	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	2,050 mm (80.7 in)
	Overall width	710 mm (28.0 in)
	Overall height	1,155 mm (45.5 in)
	Wheelbase	1,430 mm (56.3 in)
	Seat height	810 mm (31.9 in)
	Footpeg height	377 mm (14.8 in)
	Ground clearance	135 mm (5.3 in)
	Dry weight 49 states/Canada type	193 kg (425 lbs)
	California type	194 kg (428 lbs)
	Curb weight 49 states/Canada type	215 kg (474 lbs)
	California type	216 kg (476 lbs)
	Maximum weight capacity	178 kg (392 lbs)
FRAME	Frame type	Diamond
	Front suspension	Telescopic fork
	Front axle travel	109 mm (4.3 in)
	Front fork stroke	120 mm (4.7 in)
	Rear suspension	Swingarm
	Rear axle travel	124 mm (4.9 in)
	Front tire size	120/70ZR17 (58W)
	Rear tire size	180/55ZR17 (73W)
	Front tire brand	D204FK (DUNLOP), MACADAM 90X G (MICHELIN)
	Rear tire brand	D204K (DUNLOP), MACADAM 90X G (MICHELIN)
	Front brake	Hydraulic double disc
	Rear brake	Hydraulic single disc
	Caster angle	24°50'
	Trail length	97 mm (3.8 in)
ENGINE	Fuel tank capacity	16.0 L (4.23 US gal, 3.52 Imp gal)
	Cylinder arrangement	2 cylinders 90° V transverse
	Bore and stroke	98.0 × 66.0 mm (3.90 × 2.60 in)
	Displacement	995.7 cm ³ (60.74 cu-in)
	Compression ratio	9.4 : 1
	Valve train	Chain driven, DOHC
	Intake valve opens	20° BTDC (At 1 mm lift)
	Intake valve closes	45° ABDC (At 1 mm lift)
	Exhaust valve opens	50° BBDC (At 1 mm lift)
	Exhaust valve closes	15° ATDC (At 1 mm lift)
	Lubrication system	Forced pressure and wet sump
	Oil pump type	Trochoid
	Cooling system	Liquid cooled
	Air filtration	Viscous paper element
	Engine dry weight	74.2 kg (163.6 lbs)
	Firing order	Front - 270° - Rear - 450° - Front

GENERAL (Cont'd)		
	ITEM	SPECIFICATIONS
CARBURETOR	Carburetor type	CV semi-downdraft
	Throttle bore	48 mm (1.9 in)
DRIVE TRAIN	Clutch system	Multi-plate, wet
	Clutch operation system	Hydraulic operating
	Transmission	Constant mesh, 6-speeds
	Primary reduction	1.681 (74/44)
	Final reduction	2.562 (41/16)
	Gear ratio 1st	2.733 (41/15)
	2nd	1.812 (29/16)
	3rd	1.428 (30/21)
	4th	1.208 (35/29)
	5th	1.080 (27/25)
	6th	0.961 (25/26)
	Gearshift pattern	Left foot operated return system, 1-N-2-3-4-5-6
ELECTRICAL	Ignition system	DC-CDI
	Starting system	Electric starter motor
	Charging system	Triple phase output alternator
	Regulator/rectifier	SCR shorted, triple phase full wave rectification
	Lighting system	Battery

GENERAL INFORMATION

Unit: mm (in)

LUBRICATION SYSTEM			
ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	3.7 l (3.9 US qt, 3.3 Imp qt)	_____
	After draining/filter change	3.9 l (4.1 US qt, 3.4 Imp qt)	_____
	After disassembly	4.5 l (4.8 US qt, 4.0 Imp qt)	_____
Recommended engine oil		Honda GN4 4-stroke oil or equivalent motor oil API service classification SF or SG Viscosity: SAE 10W-40	_____
Oil pressure (at oil pressure switch)		588 kPa (6.0 kgf/cm ² , 85 psi) at 5,000 rpm/80 °C (176 °F)	_____
Oil pump	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 - 0.21 (0.006 - 0.008)	0.35 (0.014)
	Side clearance	0.02 - 0.09 (0.001 - 0.004)	0.12 (0.005)

FUEL SYSTEM			
ITEM		SPECIFICATIONS	
Carburetor identification number	49 state/Canada type	'98 - '00: VPT2A, After '00: VPT3B	
	California type	'98 - '00: VPT1A, After '00: VPT3C	
Main jet		Front: # 175, Rear: # 178	
Slow jet		# 45	
Jet needle number		Front: A1UF, Rear: A1UE	
Pilot screw opening		See page 5-21	
Float level		16.6 ± 0.5 mm (0.65 ± 0.02 in)	
Idle speed		1,200 ± 100 rpm	

COOLING SYSTEM			
ITEM		SPECIFICATIONS	
Coolant capacity	Radiator and engine	2.9 l (3.1 US qt, 2.6 Imp qt)	
	Reserve tank	0.71 l (0.188 US gal, 0.156 Imp gal)	
Radiator cap relief pressure		108 - 137 kPa (1.1 - 1.4 kgf/cm ² , 16 - 20 psi)	
Thermostat	Begins to open	73 - 77 °C (163 - 171 °F)	
	Fully open	90 °C (194 °F)	
	Valve lift	8 mm (0.3 in) minimum	
Recommended antifreeze		Pro Honda HP coolant or an equivalent high quality ethylene glycol antifreeze containing silicate-free corrosion inhibitors	