

## HOW TO USE THIS MANUAL

This service manual describes the service procedures for the VT600C/CD.

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 start with 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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HONDA MOTOR CO., LTD.  
SERVICE PUBLICATION OFFICE

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## 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 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® A-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 DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use Fork or Suspension Fluid.

NEW

# 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 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

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### 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.*
  - *Keep out of reach of pets and some pets are attracted to the smell and taste of coolant and can die if they drink it.*
  - *Do not remove the radiator cap when the engine is hot. The coolant is under pressure and could scald you.*
- 

If coolant contacts your skin, wash the affected areas immediately with soap and water. If coolant contacts your eyes, flush them thoroughly with fresh water and get immediate medical attention. If swallowed, the victim must be forced to vomit then rinse mouth and throat with fresh water before obtaining medical attention. Because of these dangers, keep out of the reach of children. Recycle used coolant in an ecologically correct manner.

## SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that don't 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 cable and harness routing as shown on pages 1-21 through 1-29, Cable and Harness Routing.

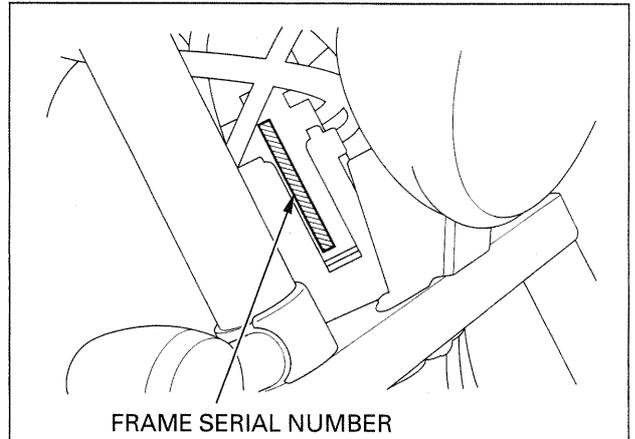
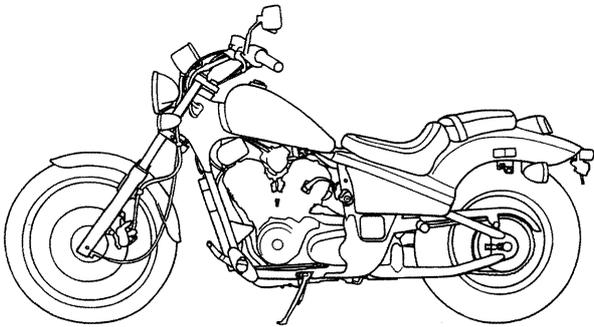
### BATTERY HYDROGEN GAS & ELECTROLYTE

#### **▲WARNING**

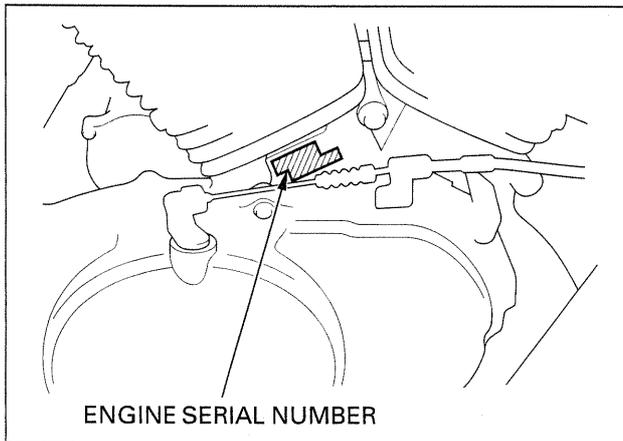
- *The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.*
  - *The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.*
    - *If electrolyte gets 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.*
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## MODEL IDENTIFICATION

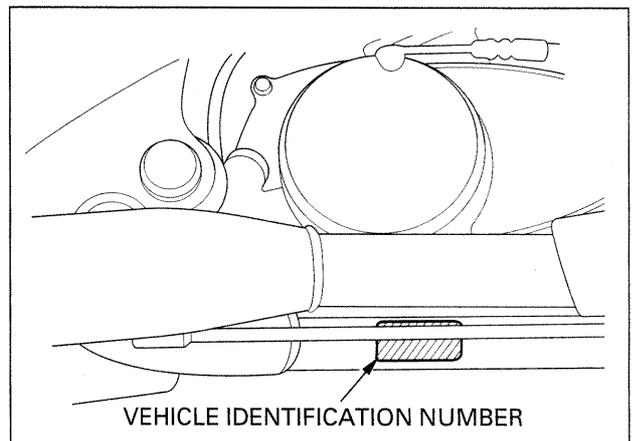
'97-'98:



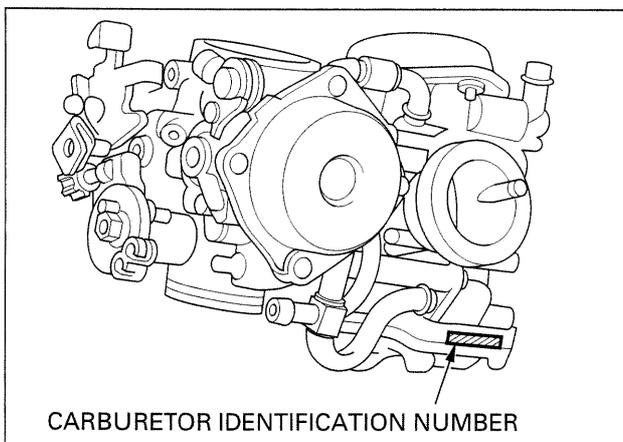
- (1) The frame serial number is stamped on the right side of the steering head.



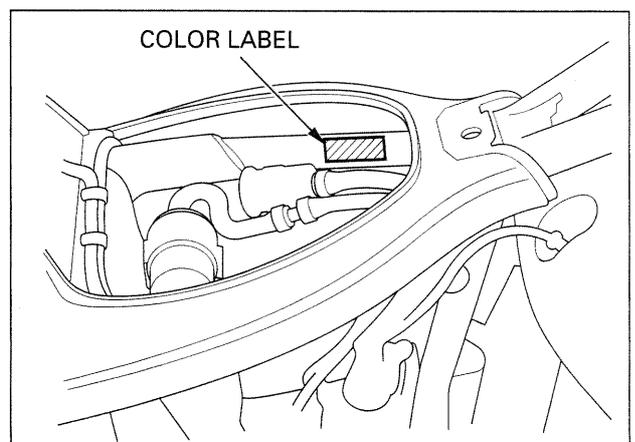
- (2) The engine serial number is stamped on the right side of the crankcase below the rear cylinder.



- (3) The Vehicle Identification Number (VIN) is located on the right side of the frame below the exhaust pipe.



- (4) The carburetor identification numbers are stamped on the intake side of the carburetor body as shown.

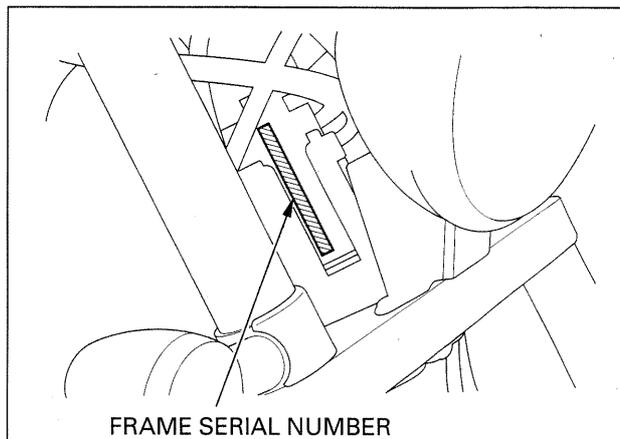
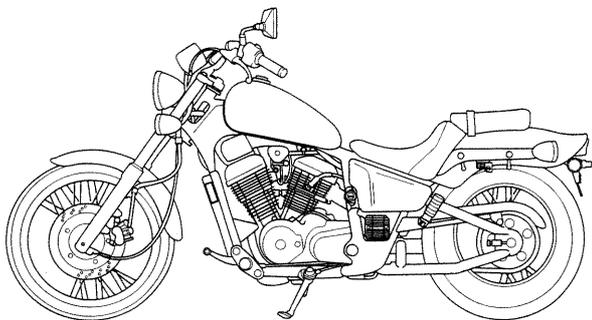


- (5) The color label is attached on the frame under the seat. When ordering color-coded parts, always specify the designated color code.

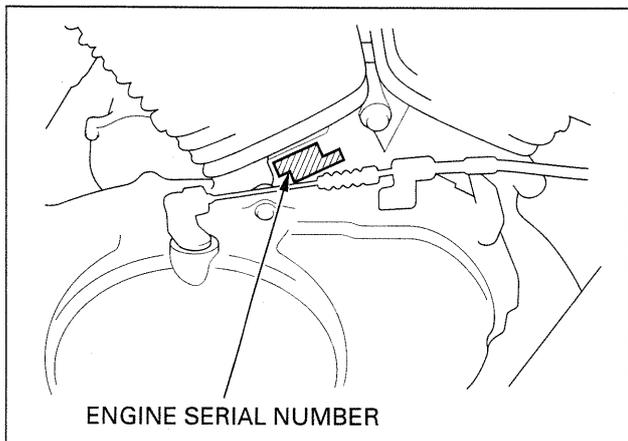
## GENERAL INFORMATION

### MODEL IDENTIFICATION

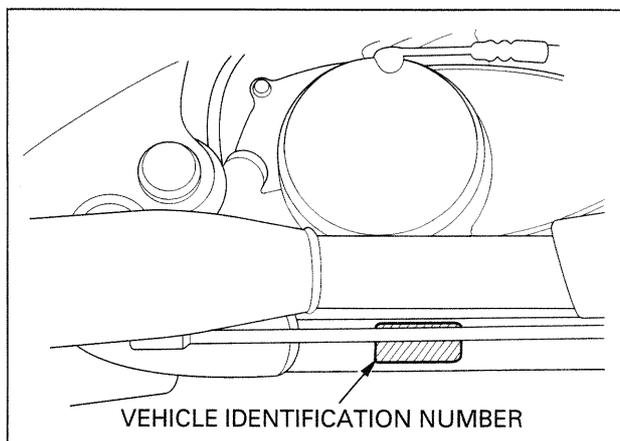
After '98:



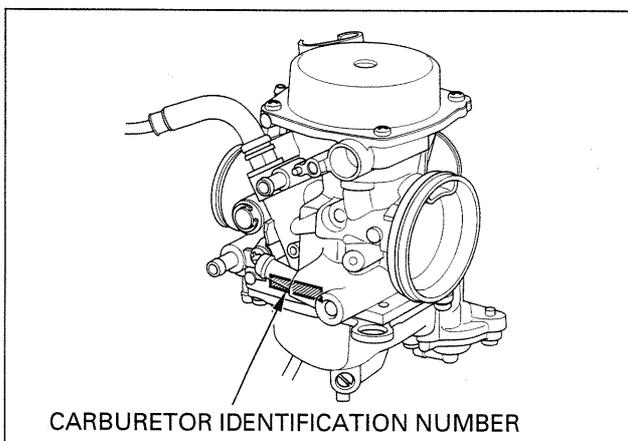
- (1) The frame serial number is stamped on the right side of the steering head.



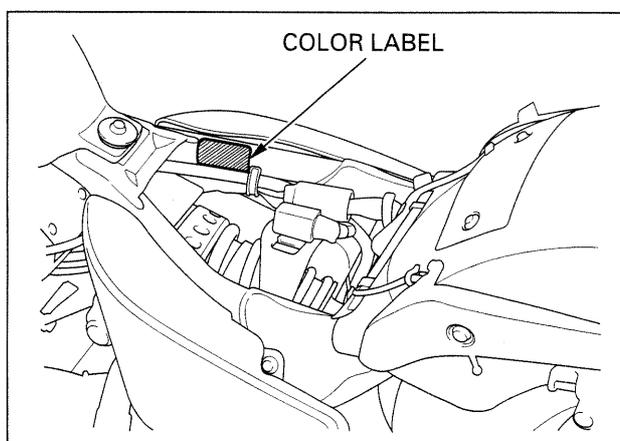
- (2) The engine serial number is stamped on the right side of the crankcase below the rear cylinder.



- (3) The Vehicle Identification Number (VIN) is located on the right side of the frame below the exhaust pipe.



- (4) The carburetor identification numbers are stamped on the fuel tube joint side of the carburetor body as shown.



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

**SPECIFICATIONS**

GENERAL		ITEM	SPECIFICATIONS	
DIMENSIONS		Overall length	2,310 mm (90.9 in)	
		Overall width	'97-'98: 890 mm (35.0 in) After '98: 880 mm (34.6 in)	
		Overall height	'97-'98: 1,125 mm (44.3 in) After '98: 1,120 mm (44.1 in)	
		Wheelbase	'97-'98: 1,605 mm (63.2 in) After '98: 1,600 mm (63.0 in)	
		Seat height	'97-'98: 690 mm (27.2 in) After '98: 650 mm (25.6 in)	
		Footpeg height	'97-'98: 285 mm (11.2 in) After '98: 283 mm (11.1 in)	
		Ground clearance	'97-'98: 140 mm (5.5 in) After '98: 135 mm (5.3 in)	
		Dry weight		
		VT600C		
		49 state/Canada type	'97-'98: 199 kg (439 lbs) After '98: 205 kg (452 lbs)	
		California type	'97-'98: 199 kg (439 lbs) After '98: 206 kg (454 lbs)	
		VT600CD		
		49 state/Canada type	'97-'98: 202 kg (445 lbs) After '98: 208 kg (459 lbs)	
		California type	'97-'98: 203 kg (448 lbs) After '98: 209 kg (461 lbs)	
		Curb weight		
		VT600C		
		49 state/Canada type	'97-'98: 213 kg (470 lbs) After '98: 214 kg (472 lbs)	
		California type	'97-'98: 214 kg (472 lbs) After '98: 215 kg (474 lbs)	
		VT600CD		
		49 state/Canada type	'97-'98: 216 kg (476 lbs) After '98: 217 kg (478 lbs)	
		California type	'97-'98: 217 kg (478 lbs) After '98: 218 kg (481 lbs)	
	FRAME		Frame type	Double cradle
			Front suspension	Telescopic fork
			Front wheel travel	120 mm (4.7 in)
			Rear suspension	Swingarm
			Rear wheel travel	90 mm (3.5 in)
			Front tire size	100/90-19 57S
		Rear tire size	170/80-15 M/C 77S	
		Tire brand	Front '97-'98: BRIDGESTONE L309 / DUNLOP F24 After '98: DUNLOP F24 Rear '97-'98: BRIDGESTONE G546 / DUNLOP K555 After '98: DUNLOP D404	
		Front brake	Hydraulic single disc brake	
		Rear brake	Internal expanding shoe	
		Caster angle	35°	
		Trail length	'97-'98: 164 mm (6.5 in) After '98: 161 mm (6.3 in)	
		Fuel tank capacity	11.0 ℓ (2.91 US gal , 2.42 Imp gal)	
		Fuel tank reserve capacity	3.4 ℓ (0.90 US gal , 0.75 Imp gal)	

NEW



## GENERAL INFORMATION

Unit: mm (in)

LUBRICATION SYSTEM ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	At draining	2.1 ℓ (2.2 US qt, 1.8 Imp qt)	_____
	At disassembly	2.8 ℓ (3.0 US qt, 2.5 Imp qt)	_____
	At oil filter change	2.25 ℓ (2.38 US qt, 1.98 Imp qt)	_____
Recommended engine oil		HONDA GN4 or HP4 4-stroke oil or equivalent motor oil API service classification SF or SG Viscosity: SAE 10W-40	_____
Oil pressure at oil pressure switch		441 kPa (4.5 kgf/cm <sup>2</sup> , 64 psi) at 6,000 rpm (80 °C/176 °F)	_____
Oil pump rotor	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 - 0.22 (0.006 - 0.009)	0.35 (0.014)
	Side clearance	0.02 - 0.07 (0.001 - 0.003)	0.10 (0.004)

FUEL SYSTEM ITEM		SPECIFICATIONS	
		49 state/Canada type	California type
Carburetor identification number	'97-'98	VDFDA	VDFEA
	After '98	VE5AC	VE5AB
Main jet	'97-'98	# 115	
	After '98	# 125	
Slow jet	'97-'98	# 40	
	After '98	# 45	
Pilot screw	Initial/opening	See page 5-30	
	High altitude adjustment	See page 5-37	
Float level	'97-'98	7.0 mm (0.28 in)	
	After '98	18.5 mm (0.73 in)	
Base carburetor (for synchronization, '97-'98 models)		Rear cylinder (# 1)	
Idle speed		1,200 ± 100 rpm	
Throttle grip free play		2-6 mm (1/12 - 1/4 in)	
Fuel pump flow capacity ('97-'98 models)		Minimum 800 cm <sup>3</sup> (27.1 US oz, 28.2 Imp oz) per minute at 13 V	

COOLING SYSTEM ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	1.6 ℓ (1.7 US qt, 1.4 Imp qt)
	Reserve tank	0.4 ℓ (0.4 US qt, 0.4 Imp qt)
Radiator cap relief pressure		88 - 127 kPa (0.9 - 1.3 kgf/cm <sup>2</sup> , 12.8 - 18 psi)
Thermostat	Begin to open	80 - 84 °C (176 - 183 °F)
	Fully open	95 °C (203 °F)
	Valve lift	8 mm (0.3 in) minimum
Standard coolant concentration		50 % mixture with soft water

## GENERAL INFORMATION

<b>CLUTCH SYSTEM</b>		Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT
Clutch lever free play		10 – 20 (3/8 – 3/4)	—
Clutch spring free length		43.2 (1.70)	41.6 (1.64)
Clutch disc thickness	A	2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
	B	2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
Clutch plate warpage		—	0.30 (0.012)
Clutch outer guide	I.D.	21.991 – 22.016 (0.8658 – 0.8668)	22.09 (0.870)
	O.D.	31.959 – 31.975 (1.2582 – 1.2589)	31.98 (1.259)
Clutch outer I.D.		32.000 – 32.025 (1.2598 – 1.2608)	32.10 (1.264)
Oil pump drive sprocket I.D.		32.000 – 32.025 (1.2598 – 1.2608)	32.10 (1.264)
Mainshaft O.D. at clutch outer guide		21.967 – 21.980 (0.8648 – 0.8654)	21.92 (0.863)

<b>ALTERNATOR/STARTER CLUTCH</b>		Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT
Starter driven gear	I.D.	37.000 – 37.025 (1.4567 – 1.4577)	37.10 (1.461)
	O.D.	57.749 – 57.768 (2.2736 – 2.2743)	57.73 (2.273)
Starter clutch outer I.D.		74.414 – 74.440 (2.9297 – 2.9307)	74.46 (2.931)

# GENERAL INFORMATION

Unit: mm (in)

CYLINDER HEAD/VALVES ITEM			STANDARD	SERVICE LIMIT	
Cylinder compression			1,324 ± 98 kPa (13.5 ± 1.0 kgf/cm <sup>2</sup> , 192 ± 14 psi) at 400 rpm		
Cylinder head warpage				0.10 (0.004)	
Valve, valve guide	Valve clearance	IN	0.15 (0.006)		
		EX	0.20 (0.008)		
	Valve stem O.D.	IN	5.475 – 5.490 (0.2156 – 0.2161)	5.45 (0.215)	
		EX	6.555 – 6.570 (0.2581 – 0.2587)	6.55 (0.258)	
	Valve guide I.D.	IN	5.500 – 5.512 (0.2165 – 0.2170)	5.56 (0.219)	
		EX	6.600 – 6.615 (0.2598 – 0.2604)	6.65 (0.262)	
	Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.10 (0.004)	
		EX	0.030 – 0.060 (0.0012 – 0.0024)	0.11 (0.004)	
	Valve guide projection above cylinder head	IN	19.4 – 19.6 (0.76 – 0.77)		
		EX	17.9 – 18.1 (0.70 – 0.71)		
Valve seat width	IN/EX	0.90 – 1.10 (0.035 – 0.043)	1.5 (0.06)		
Valve spring free length	Inner	IN	38.11 (1.500)	36.47 (1.436)	
		EX	38.81 (1.528)	37.51 (1.477)	
	Outer	IN	42.14 (1.659)	40.58 (1.598)	
		EX	42.83 (1.686)	41.25 (1.624)	
Camshaft	Cam lobe height	IN	'97 – '98	37.930 (1.4933)	37.73 (1.485)
			After '98	37.188 – 37.348 (1.4641 – 1.4704)	37.16 (1.463)
		EX	'97 – '98	37.950 (1.4941)	37.75 (1.486)
			After '98	37.605 – 37.765 (1.4805 – 1.4868)	37.58 (1.480)
	Journal O.D.		21.959 – 21.980 (0.8645 – 0.8654)	21.90 (0.862)	
	Runout		0.030 (0.0012)	0.05 (0.002)	
	Oil clearance		0.050 – 0.111 (0.0020 – 0.0044)	0.13 (0.005)	
	Identification marks		"F": Front, "R": Rear		
Rocker arm I.D.	IN/EX	12.000 – 12.018 (0.4724 – 0.4731)	12.05 (0.474)		
Rocker arm shaft O.D.	IN/EX	11.966 – 11.984 (0.4711 – 0.4718)	11.91 (0.469)		
Rocker arm-to-rocker arm shaft clearance		0.016 – 0.052 (0.0006 – 0.0020)	0.07 (0.003)		

## GENERAL INFORMATION

CYLINDER/PISTON			Unit: mm (in)		
ITEM		STANDARD	SERVICE LIMIT		
Cylinder	I.D.	75.000 – 75.015 (2.9528 – 2.9533)	75.10 (2.957)		
	Out of round	—	0.06 (0.002)		
	Taper	—	0.06 (0.002)		
	Warpage	—	0.10 (0.004)		
Piston, piston rings	Piston mark direction		"IN" mark facing toward the intake side		
	Piston O.D.		74.965 – 74.990 (2.9514 – 2.9524)		
	Piston O.D. measurement point		10 mm (0.4 in) from bottom of skirt		
	Piston pin bore I.D.		18.002 – 18.008 (0.7087 – 0.7090)		
	Piston pin O.D.		17.994 – 18.000 (0.7084 – 0.7087)		
	Piston-to-piston pin clearance		0.002 – 0.014 (0.0001 – 0.0006)		
	Piston ring-to-ring groove clearance	Top	0.015 – 0.045 (0.0006 – 0.0018)	0.10 (0.004)	
		Second	0.015 – 0.045 (0.0006 – 0.0018)	0.10 (0.004)	
	Piston ring end gap	Top	0.10 – 0.30 (0.004 – 0.012)	0.5 (0.02)	
		Second	0.10 – 0.30 (0.004 – 0.012)	0.5 (0.02)	
Oil (side rail)		0.20 – 0.70 (0.008 – 0.028)	0.9 (0.04)		
Piston ring mark	Top/second	"N" mark			
Cylinder-to-piston clearance		0.010 – 0.050 (0.0004 – 0.0020)		0.10 (0.004)	
Connecting rod small end I.D.		18.016 – 18.034 (0.7093 – 0.7100)		18.07 (0.711)	
Connecting rod-to-piston pin clearance		0.016 – 0.040 (0.0006 – 0.0016)		0.06 (0.002)	

CRANKSHAFT/TRANSMISSION			Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT	
Crankshaft	Side clearance		0.05 – 0.20 (0.002 – 0.008)	
	Runout		—	
	Crank pin oil clearance		0.028 – 0.052 (0.0011 – 0.0020)	
	Main journal oil clearance		0.025 – 0.041 (0.0010 – 0.0016)	
Transmission	Gear I.D.	M2, M4, C3	28.000 – 28.021 (1.1024 – 1.1032)	
		C1	24.000 – 24.021 (0.9449 – 0.9457)	
	Bushing O.D.	M2, M4, C3	27.959 – 27.980 (1.1007 – 1.1016)	
		C1	23.959 – 23.980 (0.9433 – 0.9441)	
	Bushing I.D.	M2	25.000 – 25.021 (0.9843 – 0.9851)	
		C1	20.016 – 20.037 (0.7880 – 0.7889)	
	Gear-to-bushing clearance	M2, M4	0.020 – 0.062 (0.0008 – 0.0024)	
		C1, C3	0.020 – 0.062 (0.0008 – 0.0024)	
	Mainshaft O.D.	M2 bushing	24.959 – 24.980 (0.9826 – 0.9835)	
	Countershaft O.D.	C1 bushing	19.980 – 19.993 (0.7866 – 0.7871)	
Bushing-to-shaft clearance	M2	0.020 – 0.062 (0.0008 – 0.0024)		
	C1	0.023 – 0.057 (0.0009 – 0.0022)		
Shift fork, fork shaft	Fork	I.D.	13.000 – 13.018 (0.5118 – 0.5125)	
		Claw thickness	5.93 – 6.00 (0.233 – 0.236)	
	Fork shaft O.D.		12.966 – 12.984 (0.5105 – 0.5112)	
Shift drum O.D. (at the left side journal)		11.966 – 11.984 (0.4711 – 0.4718)		11.94 (0.470)

## GENERAL INFORMATION

Unit: mm (in)

FRONT WHEEL/SUSPENSION/STEERING ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth			1.5 (0.06)
Cold tire pressure	Up to 90 kg (200 lb) load	200 kPa (2.00 kgf/cm <sup>2</sup> , 29 psi)	
	Up to maximum weight capacity	200 kPa (2.00 kgf/cm <sup>2</sup> , 29 psi)	
Axle runout			0.20 (0.008)
Wheel rim runout	Radial		2.0 (0.08)
	Axial		2.0 (0.08)
Wheel hub-to-rim distance		32.3 ± 0.8 (1.27 ± 0.03)	
Wheel balance weight		Max 70 g (2.5 oz)	
Fork	Spring free length	333.9 (13.15)	327.2 (12.88)
	Spring direction	Tightly wound coils should be at the top	
	Tube runout		0.20 (0.008)
	Recommended fork fluid	Pro-Honda Suspension Fluid SS-8	
	Fluid level	111 (4.4)	
	Fluid capacity	449 ± 0.25 cm <sup>3</sup> (15.2 ± 0.02 US oz, 15.8 ± 0.09 Imp oz)	
Steering head bearing preload		0.9–1.4 kgf (2.0 – 3.1 lbf)	

Unit: mm (in)

REAR WHEEL/BRAKE/SUSPENSION ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth			2.0 (0.08)
Cold tire pressure	Up to 90 kg (200 lb) load	200 kPa (2.00 kgf/cm <sup>2</sup> , 29 psi)	
	Up to maximum weight capacity	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	
Axle runout			0.20 (0.008)
Wheel rim runout	Radial		2.0 (0.08)
	Axial		2.0 (0.08)
Wheel hub-to-rim distance		32.3 ± 0.8 (1.27 ± 0.03)	
Wheel balance weight		Max 70 g (2.5 oz)	
Drive chain link		120L	
Drive chain slack		20–30 (3/4–1-1/4)	50 (2.0)
Drive chain size	DID	525 V8	
	RK	525 SM5	
Rear brake	Drum I.D.	160.0–160.3 (6.30–6.31)	161 (6.3)
	Lining thickness	5 (0.2)	2 (0.1)
Brake pedal free play		20–30 (3/4–1-1/4)	
Shock absorber spring preload adjuster setting		2nd position	

NEW

## GENERAL INFORMATION

Unit: mm (in)

HYDRAULIC BRAKE ITEM	STANDARD	SERVICE LIMIT
Specified brake fluid	DOT 4	—————
Brake pad wear indicator	—————	To groove
Brake disc thickness	5.0 (0.20)	4.0 (0.16)
Brake disc runout	—————	0.30 (0.012)
Master cylinder I.D.	11.000 – 11.043 (0.4331 – 0.4348)	11.05 (0.435)
Master piston O.D.	10.957 – 10.984 (0.4314 – 0.4324)	10.945 (0.4309)
Caliper cylinder I.D.	27.000 – 27.050 (1.0630 – 1.0650)	27.06 (1.065)
Caliper piston O.D.	26.935 – 26.968 (1.0604 – 1.0617)	26.93 (1.060)

BATTERY/CHARGING SYSTEM ITEM		SPECIFICATIONS	
Battery	Capacity	12V-8 AH	
	Current leakage	1.3 mA max.	
	Voltage (20 °C/68 °F)	Fully charged	13.0 – 13.2 V
		Needs charging	Below 12.3 V
	Charging current	Normal	0.8 A/10 h
Quick		4.0 A/1 h max	
Alternator	Capacity	345 W/5,000 rpm	
	Charging coil resistance (20 °C/68 °F)	0.1 – 1.0 Ω	
Regulator/rectifier regulated voltage		14 – 15 V/4,000 rpm	

IGNITION SYSTEM ITEM		SPECIFICATIONS	
Spark plug	Standard	DPR8EA-9 (NGK)	X24EPR-U9 (DENSO)
	For cold climate (below 5 °C/41 °F)	DPR7EA-9 (NGK)	X22EPR-U9 (DENSO)
	For extended high speed riding	DPR9EA-9 (NGK)	X27EPR-U9 (DENSO)
Spark plug gap		0.80 – 0.90 mm (0.031 – 0.035 in)	
Ignition coil primary peak voltage		100 V minimum	
Ignition pulse generator peak voltage		0.7 V minimum	
Ignition timing "F" mark		6.5° BTDC at idle	
Advance	Start	'97 – '98	2,000 ± 200 rpm
		After '98	1,800 ± 200 rpm
	Stop	6,000 ± 200 rpm	
Full advance		BTDC 30°	

## GENERAL INFORMATION

Unit: mm (in)

ELECTRIC STARTER ITEM	STANDARD	SERVICE LIMIT
Starter motor brush length	12.5 (0.49)	6.5 (0.26)

LIGHTS/METERS/SWITCHES ITEM		SPECIFICATIONS
Bulbs	Headlight (High/low beam)	12V-60/55W
	Brake/tail light	12V-32/3CP × 2
	Front turn signal/running light	12V-21/5W × 2
	Rear turn signal light	12V-21W × 2
	License light	12V-4CP
	Instrument light	12V-3.4W
	Turn signal indicator	12V-1.7W
	High beam indicator	12V-1.7W
	Neutral indicator	12V-1.7W
Fuse	Main fuse	30A
	Sub fuse	10A × 3, 15A × 1
Fuel pump flow capacity (min./minute) ('97 - '98 models)		800 cm <sup>3</sup> (27.1 US oz, 28.2 Imp oz)
Fan motor switch	Start to close (ON)	98 - 102°C (208 - 216°F)
	Start to open (OFF)	93 - 97°C (199 - 207°F)
Thermosensor resistance ('97 - '00)	50 °C/122 °F	130 - 180 Ω
	80 °C/176 °F	45 - 60 Ω
	120 °C/248 °F	10 - 20 Ω
Thermo switch (After '00)	Start to close (ON)	112 - 118°C (259 - 270°F)
	Start to open (OFF)	Below 108°C (252°F)

NEW

## GENERAL INFORMATION

### TORQUE VALUES

FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)	FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)
5 mm hex bolt and nut	5 (0.5, 3.6)	5 mm screw	4 (0.4, 2.9)
6 mm hex bolt and nut	10 (1.0, 7)	6 mm screw	9 (0.9, 6.5)
8 mm hex bolt and nut	22 (2.2, 16)	6 mm flange bolt (8 mm head)	9 (0.9, 6.5)
10 mm hex bolt and nut	35 (3.5, 25)	6 mm flange bolt (10 mm head)	12 (1.2, 9)
12 mm hex bolt and nut	54 (5.5, 40)	and nut	
		8 mm flange bolt and nut	26 (2.7, 20)
		10 mm flange bolt and nut	39 (4.0, 29)

- Torque specifications listed below are for important fasteners.
- Others should be tightened to standard torque values listed above.

- NOTES:
1. Apply sealant to the threads.
  2. Apply a locking agent to the threads.
  3. Apply molybdenum disulfide oil to the threads and flange surface.
  4. Apply grease to the threads.
  5. Stake.
  6. Apply oil to the threads and flange surface.
  7. Apply clean engine oil to the O-ring.
  8. U-nut.
  9. ALOC bolt: replace with a new one.

ENGINE	ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
<b>MAINTENANCE:</b>					
	Spark plug	4	12	14 (1.4, 10)	
	Crankshaft hole cap	1	30	15 (1.5, 11)	NOTE 3
	Timing hole cap	1	22	15 (1.5, 11)	NOTE 3
	Valve adjust cover	8	6	12 (1.2, 9)	
	Valve adjusting screw lock nut	6	7	23 (2.3, 17)	NOTE 6
	Drain bolt	'97-'98: 1	14	34 (3.5, 25)	
		After '98:		30 (3.1, 22)	
	Oil filter cartridge	1	20	10 (1.0, 7)	NOTE 2
	Vacuum plug ('97-'98)	2	5	3 (0.33, 2.4)	
<b>LUBRICATION SYSTEM:</b>					
	Oil pressure switch	'97-'98: 1	PT1/8	10 (1.0, 7)	NOTE 1
		After '98:		12 (1.2, 9)	
	Oil pressure switch cord	1	4	2 (0.23, 1.7)	
	Oil pump driven sprocket bolt	1	6	15 (1.5, 11)	NOTE 2
	Oil pump cover bolt (After '98)	3	6	13 (1.3, 9)	
<b>ENGINE MOUNTING:</b>					
	Drive sprocket plate bolt	2	10	10 (1.0, 7)	
<b>CLUTCH/GEARSHIFT LINKAGE:</b>					
	Right crankcase cover bolt	13	6	12 (1.2, 9)	
	Clutch cable holder bolt	1	6	12 (1.2, 9)	
	Clutch lifter plate bolt	4	6	12 (1.2, 9)	
	Clutch center lock nut	'97-'98: 1	18	127 (13.0, 94)	NOTE 5
		After '98:		128 (13.1, 95)	
	Primary drive gear bolt	1	12	88 (9.0, 65)	NOTE 6
	Gearshift cam plate bolt	1	8	12 (1.2, 9)	NOTE 2
	Left rear cover bolt	1	6	12 (1.2, 9)	
	Gearshift return spring pin	1	8	23 (2.3, 17)	

**GENERAL INFORMATION**

<b>ENGINE (Cont'd)</b>				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
<b>ALTERNATOR/STARTER CLUTCH:</b>				
Left crankcase cover bolt	10	6	12 (1.2, 9)	
Flywheel bolt	1	12	127 (13.0, 94)	NOTE 6
			128 (13.1, 95)	
Stator mounting socket bolt	4	6	12 (1.2, 9)	NOTE 2
Starter one-way clutch socket bolt	6	8	29 (3.0, 22)	NOTE 2
			30 (3.1, 22)	
Alternator cord clammer	2	6	12 (1.2, 9)	NOTE 2
Ignition pulse generator bolt	4	6	12 (1.2, 9)	NOTE 2
<b>CYLINDER HEAD:</b>				
Cylinder head cover bolt	4	6	10 (1.0, 7)	
Cam sprocket bolt	4	7	23 (2.3, 17)	NOTE 2
Camshaft holder 8 mm bolt	6	8	23 (2.3, 17)	
8 mm nut	4	8	23 (2.3, 17)	
Camshaft end holder bolt	4	6	9 (0.9, 6.5)	
			10 (1.0, 7)	
Cam chain tensioner mounting bolt	4	6	10 (1.0, 7)	NOTE 2
Cylinder head 8 mm bolt	4	8	23 (2.3, 17)	NOTE 6
6 mm bolt	2	6	12 (1.2, 9)	NOTE 6
10 mm nut	8	10	47 (4.8, 35)	NOTE 6
<b>CRANKSHAFT/TRANSMISSION:</b>				
Mainshaft bearing set plate bolt ('97-'98)	1	6	12 (1.2, 9)	NOTE 2
Countershaft bearing set plate bolt ('97-'98)	3	6	9 (0.9, 6.5)	NOTE 2
Bearing set plate bolt (After '98)	4	6	12 (1.2, 9)	NOTE 2
Cam chain tensioner set plate bolt	2	6	12 (1.2, 9)	NOTE 2
Crankcase 8 mm bolt	13	8	23 (2.3, 17)	
6 mm bolt	7	6	9 (0.9, 6.5)	
			12 (1.2, 9)	
Connecting rod bearing nut	4	8	33 (3.4, 25)	NOTE 6
Neutral switch	1	10	12 (1.2, 9)	NOTE 1
<b>ELECTRIC STARTER:</b>				
Starter motor cable nut	1	6	10 (1.0, 7)	

<b>FRAME</b>				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
<b>FRAME/BODY PANELS/EXHAUST SYSTEM:</b>				
Exhaust pipe joint nut	4	8	25 (2.5, 18)	
Exhaust cover bolt	3	6	12 (1.2, 9)	
Muffler bracket mounting bolt	1	8	20 (2.0, 14)	
nut	4	8	20 (2.0, 14)	
Sub-frame mounting bolt	2	6	12 (1.2, 9)	
nut	2	6	12 (1.2, 9)	
<b>MAINTENANCE:</b>				
Side stand pivot bolt	1	10	10 (1.0, 7)	
nut	1	10	29 (3.0, 22)	
			30 (3.1, 22)	
<b>FUEL SYSTEM:</b>				
Air cleaner housing cover bolt	1	6	10 (1.0, 7)	
Air cleaner housing mounting bolt	2	6	12 (1.2, 9)	
Fuel valve nut	1	22	23 (2.3, 17)	
			35 (3.6, 26)	
Fuel valve lever screw	1	5	4 (0.4, 2.9)	
Fuel tank mounting bolt	1	8	19 (1.9, 14)	
Throttle link cover screw	1	4	2 (0.21, 1.5)	

# GENERAL INFORMATION

FRAME (Cont'd)					
ITEM		Q'TY	THREAD DIA. (mm)	TORQUE N-m (kgf-m, lbf-ft)	REMARKS
<b>COOLING SYSTEM:</b>					
Radiator mounting bolt		1	6	9 (0.9, 6.5)	
Radiator grille mounting screw		1	6	9 (0.9, 6.5)	
Thermostat bracket bolt		1	6	10 (1.0, 7)	
Thermostat housing cover bolt		2	6	10 (1.0, 7)	
Thermosensor	'97-'00:	1	PT 1/8	10 (1.0, 7)	NOTE 1
Thermo switch <b>NEW</b>	After '00:	1	PT 1/8	8 (0.8, 5.8)	NOTE 1
Water hose band screw		4		7 (0.7, 5.1)	
Fan motor switch		1	16	18 (1.8, 13)	NOTE 1
<b>ENGINE MOUNTING:</b>					
Front engine mounting bolt (upper)	'97-'98:	1	10	54 (5.5, 40)	
	After '98:			55 (5.6, 41)	
(lower)	'97-'98:	1	10	54 (5.5, 40)	
	After '98:			55 (5.6, 41)	
Rear engine mounting bolt	'97-'98:	1	10	54 (5.5, 40)	
	After '98:			55 (5.6, 41)	
Engine bracket bolt (front)	'97-'98:	4	8	26 (2.7, 20)	
	After '98:			27 (2.8, 20)	
(rear)	'97-'98:	2	8	26 (2.7, 20)	
	After '98:			27 (2.8, 20)	
Gearshift pedal pinch bolt		1	6	12 (1.2, 9)	
Footpeg bracket bolt		4	10	39 (4.0, 29)	
<b>FRONT WHEEL/SUSPENSION/STEERING:</b>					
Steering stem nut		1	24	103 (10.5, 76)	See page 13-40
Top thread A		1	26		
Top thread B		1	26		
Fork top bridge pinch bolt		2	7	11 (1.1, 8)	
Fork bottom bridge pinch bolt		2	10	49 (5.0, 36)	
Handlebar upper holder		4	8	29 (3.0, 22)	
Handlebar lower holder		2	8	23 (2.3, 17)	
Handlebar switch screw		4	5	4 (0.4, 2.9)	
Front axle		1	18	74 (7.5, 54)	
Front axle pinch bolt		2	7	22 (2.2, 16)	
Front brake disc mounting bolt	'97-'98:	5	8	39 (4.0, 29)	NOTE 9
	After '98:			42 (4.3, 31)	
Fork cap		2	34	23 (2.3, 17)	
Fork socket bolt		2	10	29 (3.0, 22)	NOTE 2
Spoke		56	4	4 (0.4, 2.9)	
<b>REAR WHEEL/BRAKE/SUSPENSION:</b>					
Rear axle nut		1	16	88 (9.0, 65)	NOTE 8
Driven sprocket nut		5	10	64 (6.5, 47)	NOTE 8
Rear shock absorber mounting nut (upper)		1	10	44 (4.5, 33)	
(lower)		1	10	44 (4.5, 33)	
Swingarm pivot nut		1	14	88 (9.0, 65)	
Rear brake stopper arm bolt	'97-'98:	2	8	22 (2.2, 16)	
	After '98:			21 (2.1, 15)	
Rear brake arm pinch bolt	'97-'98:	2	8	26 (2.7, 20)	
	After '98:			21 (2.1, 15)	
Rear brake middle rod joint bolt		2	6	9 (0.9, 6.5)	
Spoke		52	4	4 (0.4, 2.9)	

## GENERAL INFORMATION

FRAME (Cont'd)				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N-m (kgf-m, lbf-ft)	REMARKS
<b>HYDRAULIC BRAKE:</b>				
Brake caliper mounting bolt	2	8	30 (3.1 , 22)	NOTE 9
Caliper pin bolt	1	8	23 (2.3 , 17)	
Bracket pin bolt	1	8	13 (1.3 , 9)	
Pad pin	1	10	18 (1.8 , 13)	
Pad pin plug	1	10	2 (0.25 , 1.8)	
Brake caliper bleeder	1	8	6 (0.65 , 4.7)	
Brake lever pivot bolt	1	6	1 (0.1 , 0.7)	
Brake lever pivot nut	1	6	6 (0.6 , 4.3)	
Master cylinder holder bolt	2	6	12 (1.2 , 9)	
Master cylinder cover screw	2	4	1 (0.15 , 1.1)	
Front brake light switch screw	1	4	1 (0.12 , 0.9)	
Brake hose oil bolt	2	10	34 (3.5 , 25)	
<b>LIGHTS/METERS/SWITCHES:</b>				
Side stand switch mounting bolt	1	6	9 (0.9 , 6.5)	NOTE 9
<b>OTHER FASTENERS:</b>				
Fuel pump stay mounting nut ('97-'98) / Turn signal relay stay mounting nut (After '98)	1	6	9 (0.9 , 6.5)	

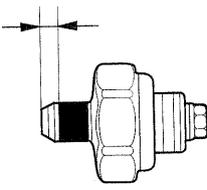
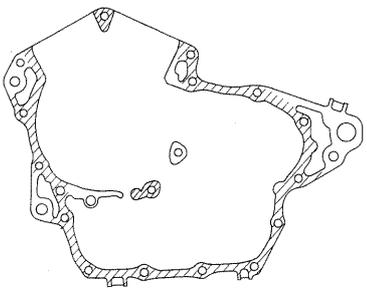
## TOOLS

- NOTES: 1. Equivalent commercially available in U.S.A.  
 2. Not available in U.S.A.  
 3. Alternative tool.  
 4. Newly provided tool.

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Carburetor float level gauge	07401-0010000		5
Pilot screw wrench	07LMA-MT8010A with 07PMA-MZ2011A		
Vacuum gauge	07404-0030000	NOTE 3: 07LMJ-001000A	4
Oil pressure gauge	07506-3000000	NOTE 1	4
Oil pressure gauge attachment	07510-4220100	NOTE 1	4
Lock nut wrench 17 × 27 mm	07716-0020300	NOTE 1	8
Gear holder	07724-0010100		8
Rotor puller	07733-0020001	NOTE 3: 07933-3290001	9
Valve guide driver, 5.5 mm	07742-0010100		10
Valve guide driver, 6.6 mm	07742-0010200	NOTE 2: 07942-6570100	10
Attachment, 32 × 35 mm	07746-0010100		14
Attachment, 42 × 47 mm	07746-0010300		12, 13, 14
Attachment, 52 × 55 mm	07746-0010400		12, 13
Pilot, 15 mm	07746-0040300		14
Pilot, 17 mm	07746-0040400		14
Pilot, 20 mm	07746-0040500		12, 13
Pilot, 22 mm	07746-0041000		12, 14
Pilot, 25 mm	07746-0040600		12
Bearing remover shaft	07746-0050100		13, 14
Bearing remover head, 17 mm	07746-0050500		14
Bearing remover head, 20 mm	07746-0050600		13
Attachment, 28 × 30 mm	07946-1870100		14
Driver	07749-0010000		12, 13, 14
Main bearing driver attachment	07HMF-MM90400		12
Valve spring compressor	07757-0010000	NOTE 3: 07957-3290001	10

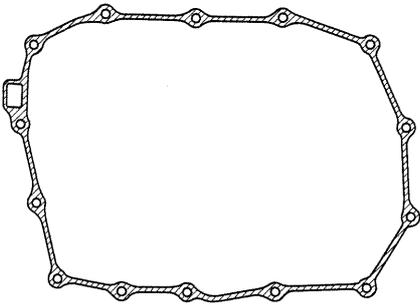
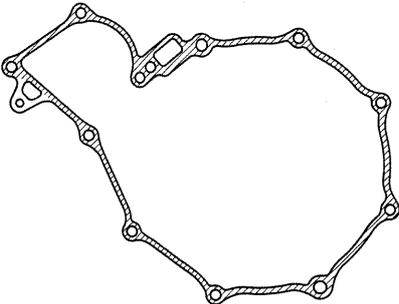
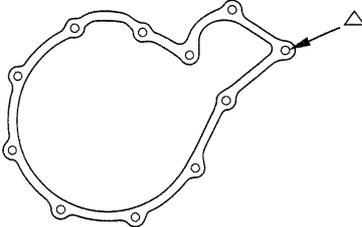


# LUBRICATION & SEAL POINTS

ENGINE	LOCATION	MATERIAL	REMARKS
<ul style="list-style-type: none"> <li>Camshaft lobes/journals</li> <li>Valve stem (valve guide sliding surface)</li> <li>Rocker arm slipper surface</li> <li>Rocker arm shaft sliding surface</li> <li>Connecting rod bearing surface</li> <li>Crankshaft journals</li> <li>Clutch outer guide outer surface</li> <li>Crankshaft hole cap threads</li> <li>Timing hole cap threads</li> <li>C2, M3 shifter gear (shift fork grooves)</li> <li>Transmission collars inner and outer surface</li> <li>Transmission spline collars outer surface</li> <li>Connecting rod small end inner surface</li> </ul>		Molybdenum disulfide oil (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)	
<ul style="list-style-type: none"> <li>Piston outer surface</li> <li>Piston ring outer surface</li> <li>Piston pin outer surface</li> <li>Primary drive gear bolt threads and seating surface</li> <li>Flywheel bolt threads and seating surface</li> <li>Starter reduction gear shaft outer surface</li> <li>Clutch disc outer surface</li> <li>Clutch center lock nut</li> <li>Cylinder stud bolt threads</li> <li>Cylinder head 8 × 187 mm mounting bolt threads</li> <li>Valve adjusting screw threads and seating surface</li> <li>Connecting rod bolt/nut threads and seating surface</li> <li>Cylinder head mounting bolt seating surface</li> <li>Each bearing rolling area</li> </ul>		Engine oil	
Each oil seal lip		Multi-purpose grease	
<ul style="list-style-type: none"> <li>Oil pressure switch threads</li> <li>3–4 mm (0.12–0.16 in)</li> </ul>  <ul style="list-style-type: none"> <li>Right and left crankcase mating surface</li> </ul>  <ul style="list-style-type: none"> <li>Fan motor switch threads</li> <li>Thermosensor threads ('97–'00)</li> <li>Thermo switch (Aftr '00)</li> </ul> <div style="text-align: right; margin-top: 10px;"> <span style="background-color: black; color: white; padding: 2px 5px;">NEW</span> </div>		Sealant	

# GENERAL INFORMATION

## ENGINE (Cont'd)

LOCATION	MATERIAL	REMARKS
<p>R. crankcase cover mating surface (After '98)</p>  <p>L. crankcase cover mating surface (After '98)</p>  <p>Fan motor switch threads Thermo sensor threads</p>	<p>Sealant</p>	<p>See page (8-21, 9-10)</p>
<p>Cam sprocket bolt threads Starter one-way clutch bolt threads Oil pump driven sprocket bolt threads Alternator cord clasper bolt threads Gearshift cam plate bolt threads Transmission bearing set plate bolt threads Countershaft oil seal set plate bolt threads Cam chain tensioner set plate bolt threads Stator mounting bolt threads Oil filter boss crankcase inside threads Ignition pulse generator bolt threads Left crankcase cover bolt threads (marked "△")</p> 	<p>Locking agent</p>	<p>Coating width: <math>6.5 \pm 1</math> mm</p> 

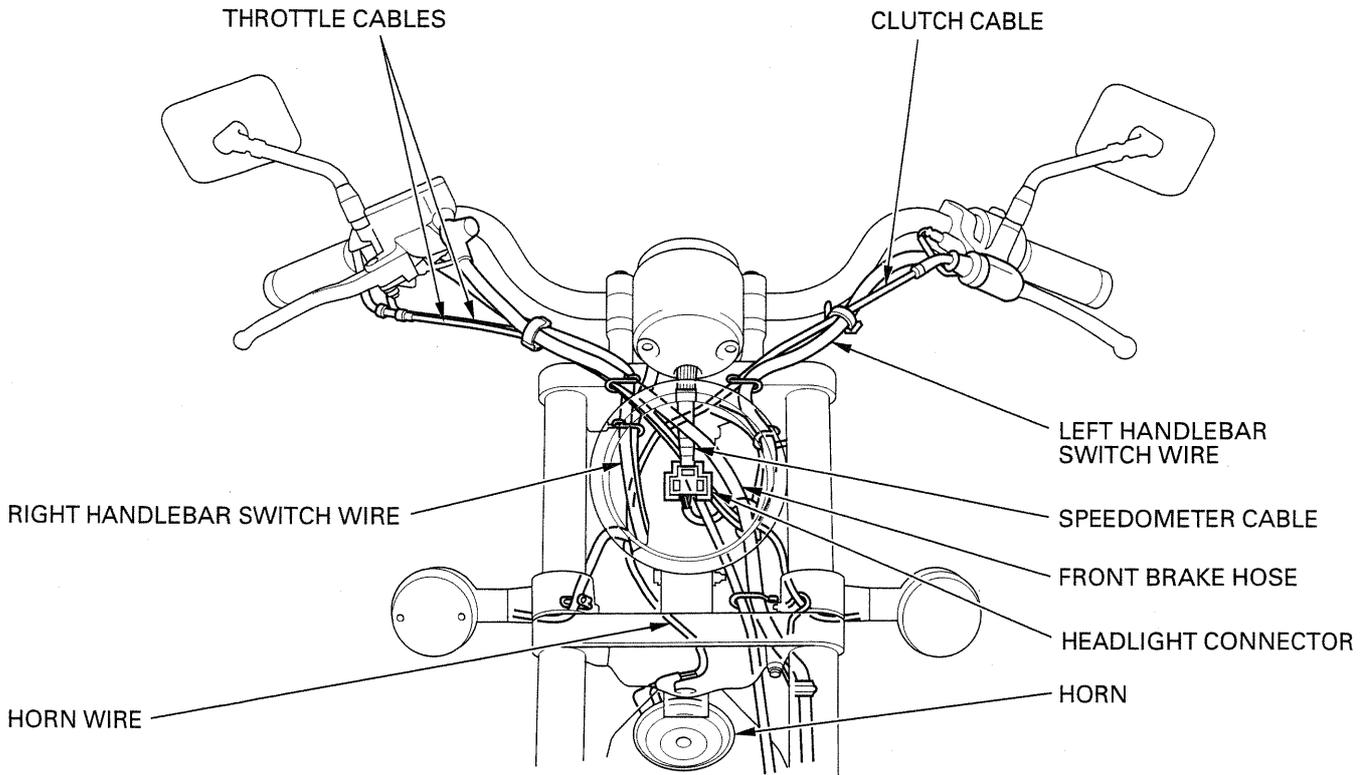
**FRAME**

LOCATION	MATERIAL	REMARKS
Steering head bearing sliding surface Steering head dust seal lips Swingarm pivot bearing and dust seal lips Wheel dust seal lips Rear wheel axle sliding surface Side stand pivot sliding area Main and pillion footpeg sliding area Throttle pipe inner sliding surface Throttle pipe rolled up portion Clutch lever pivot bolt sliding surface Rear brake middle arm sliding area Rear brake pivot collar sliding area Brake pedal dust seal rubber Gearshift pedal dust seal rubber	Multi-purpose grease	Spreading 1.0 g  Spreading 1.0 – 2.0 g Spreading 0.2 – 0.3 g
Wheel axle distance collar Swingarm pivot distance collar Steering top threads Steering bottom bridge threads and seating surface Crankcase breather tube entry end	Engine oil	
Brake master cylinder cups Brake master piston Brake caliper piston seals Brake caliper dust seals	DOT 4 brake fluid	
Brake lever pivot and piston tips Brake caliper slide pin surface	Silicone grease	
Final driven flange bolt threads Fork socket bolt threads	Locking agent	
Handle grip rubber inside	Honda Bond A or Honda Hand Grip Cement (U.S.A. only)	
Front fork cap O-ring Front fork oil seal lips Front fork spring Front fork rebound spring	Pro-Honda Suspension Fluid SS-8	
Each cable inside	Cable lubricant	
Drive chain	Pro Honda Chain Lube or equivalent	

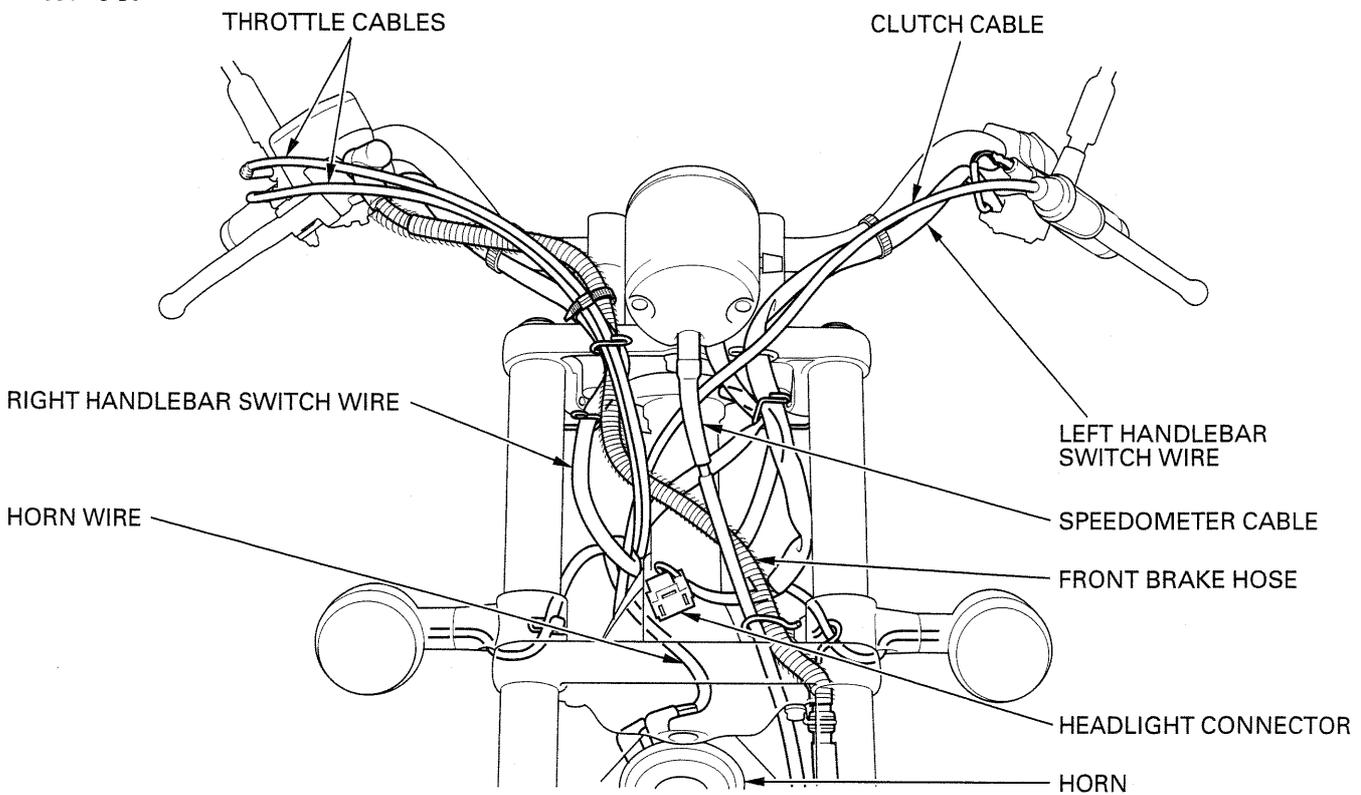
## GENERAL INFORMATION

### CABLE & HARNESS ROUTING

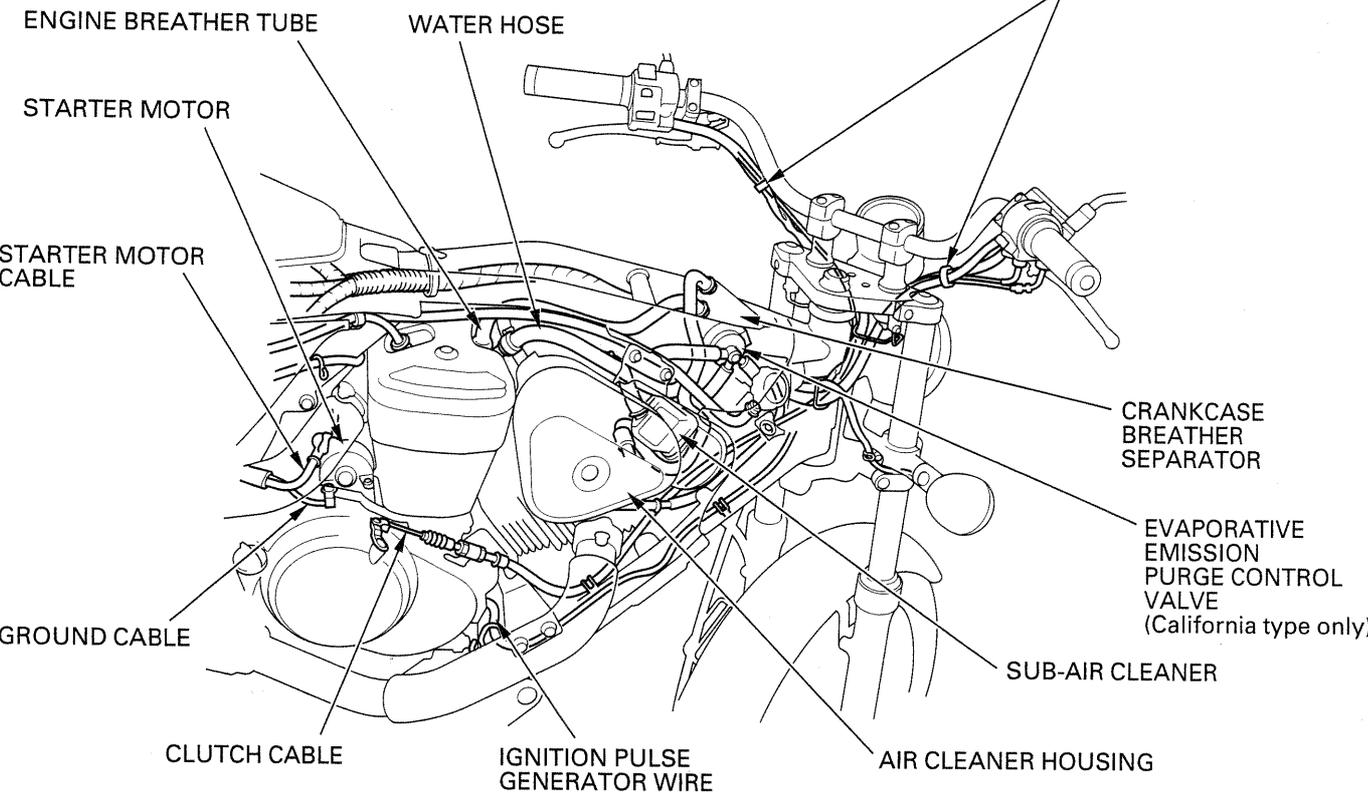
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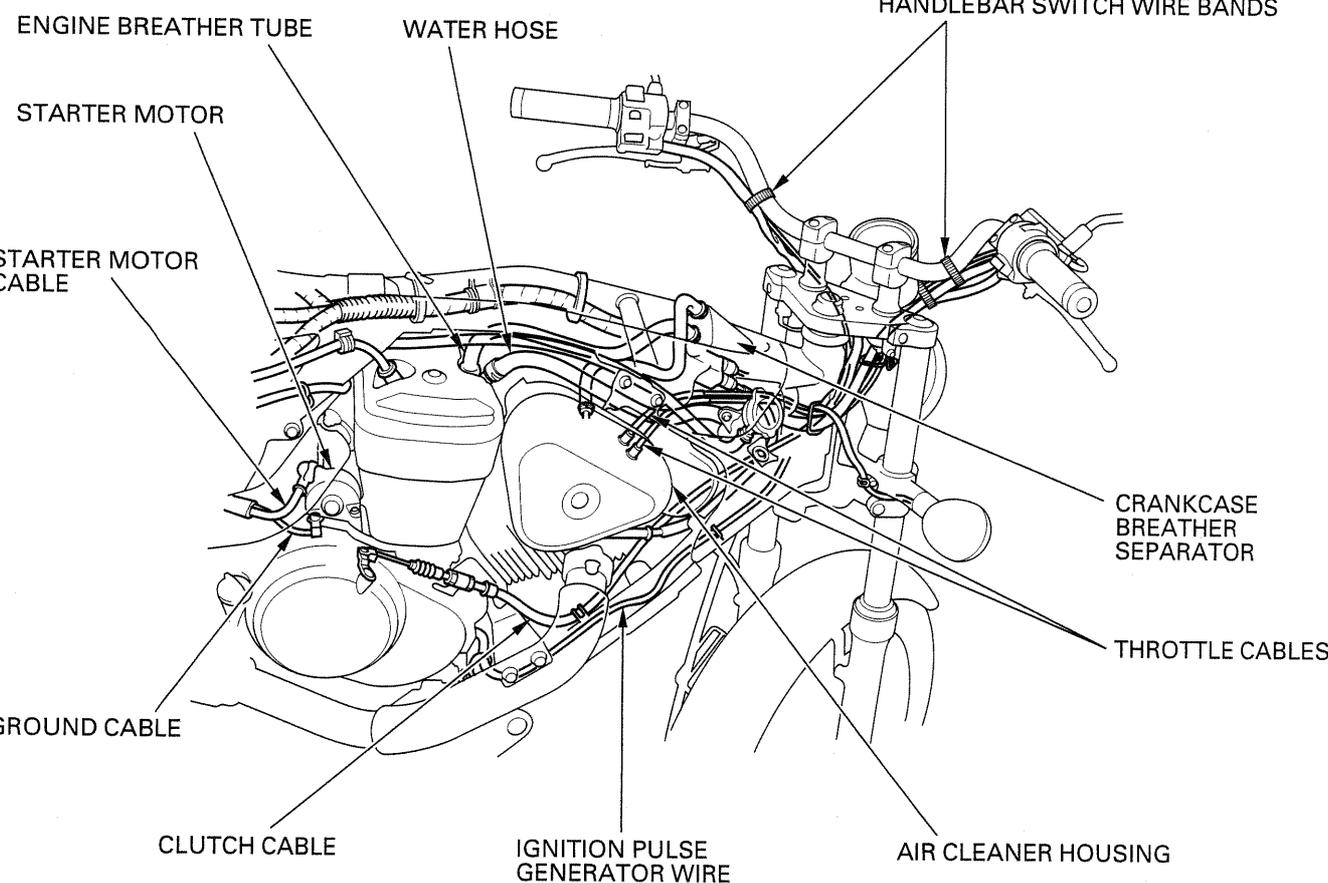
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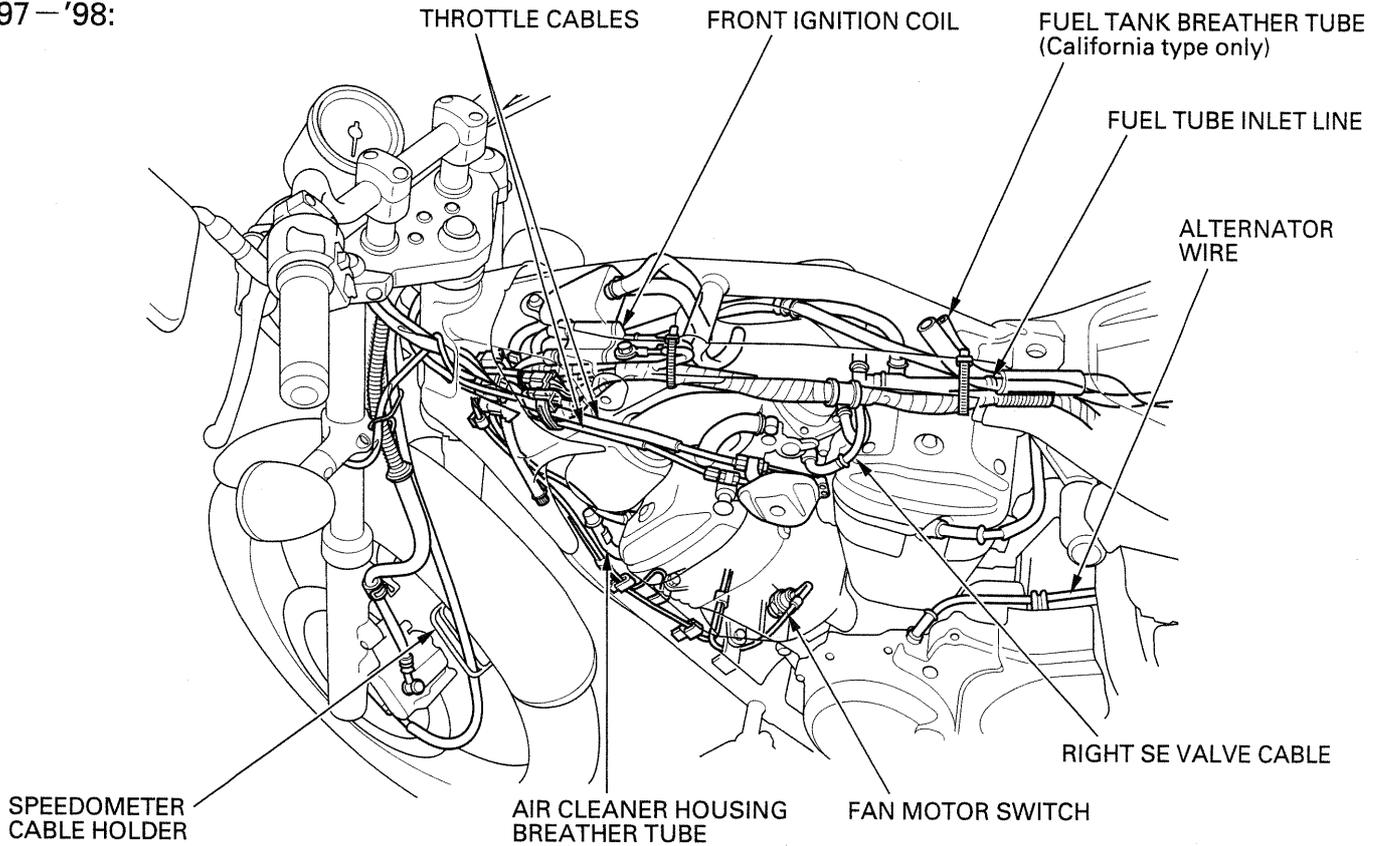


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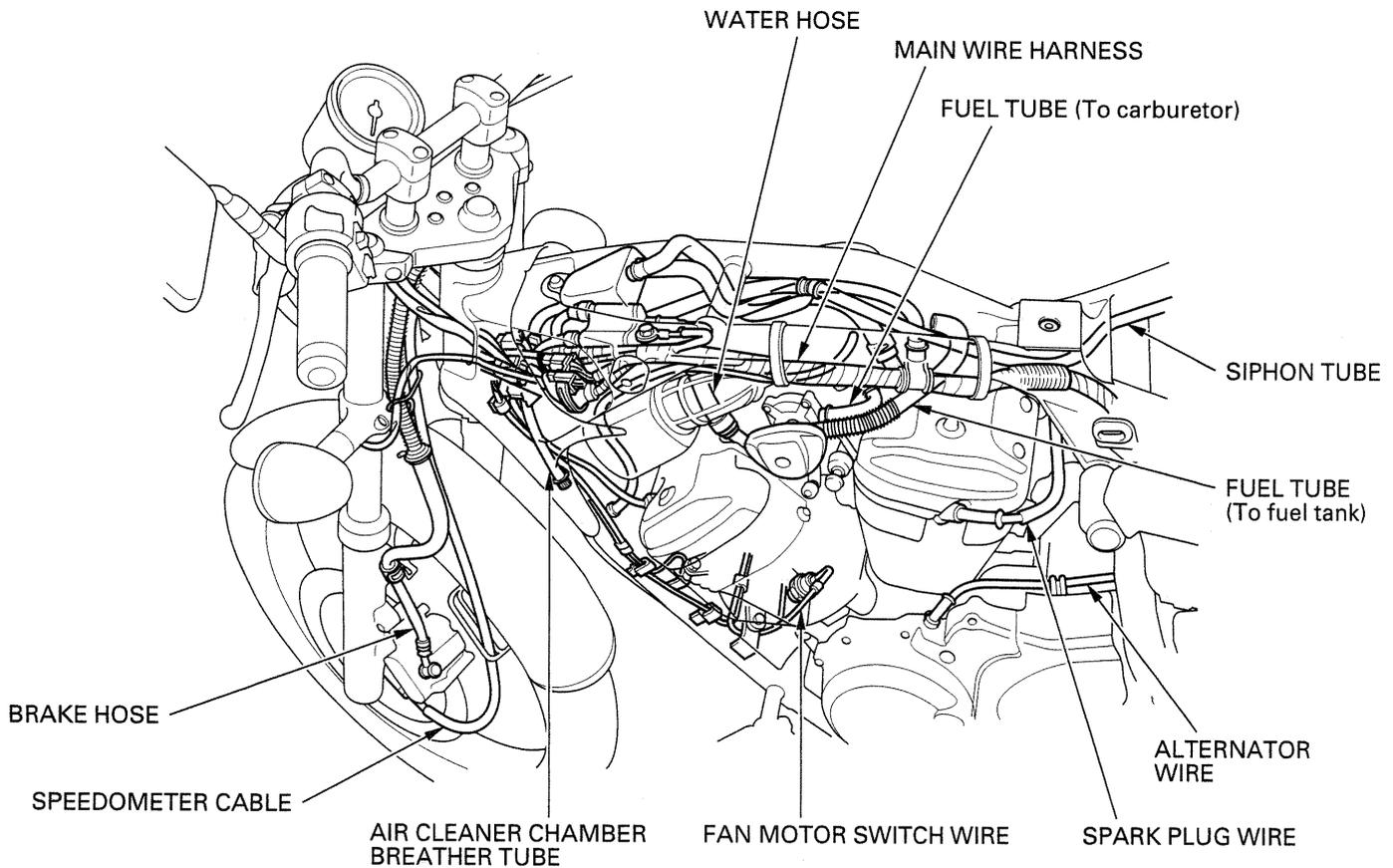


# GENERAL INFORMATION

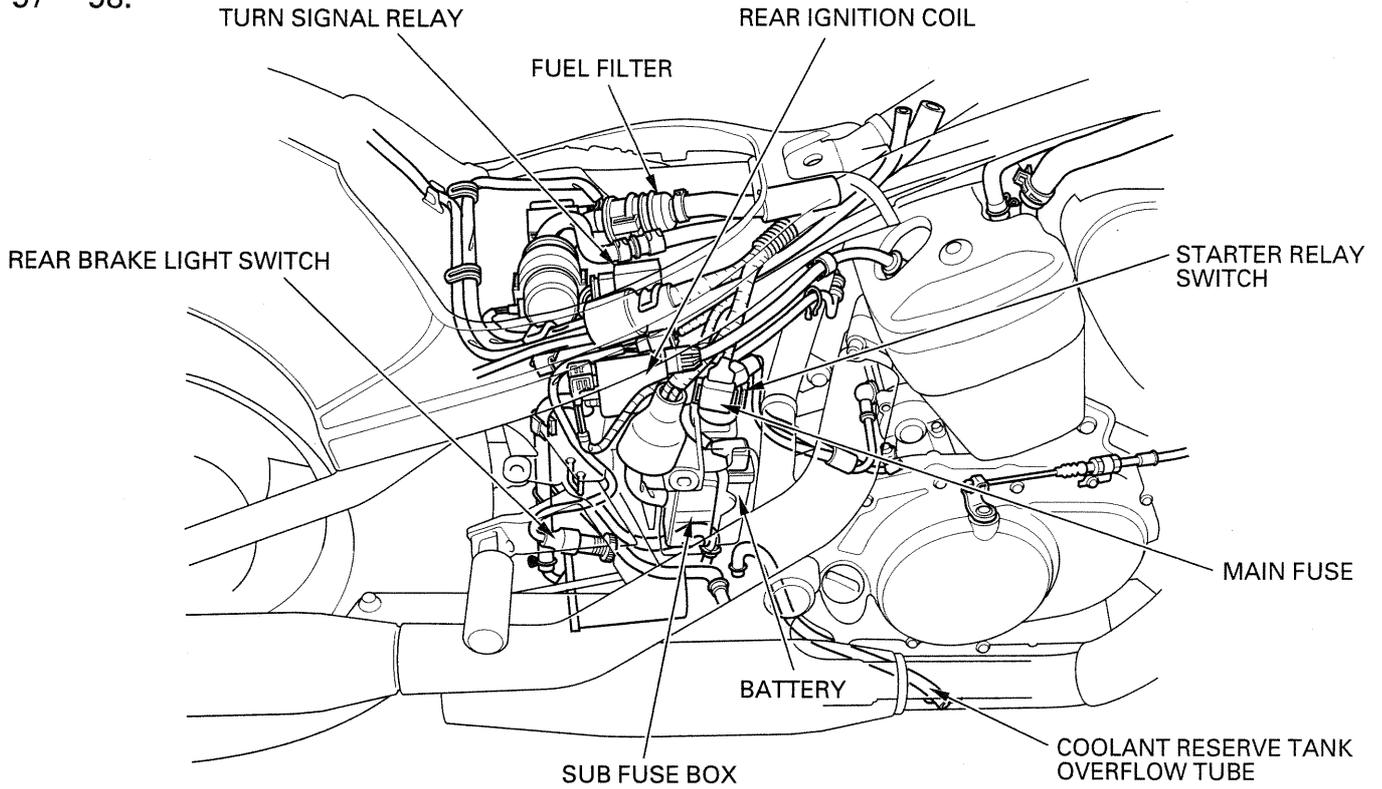
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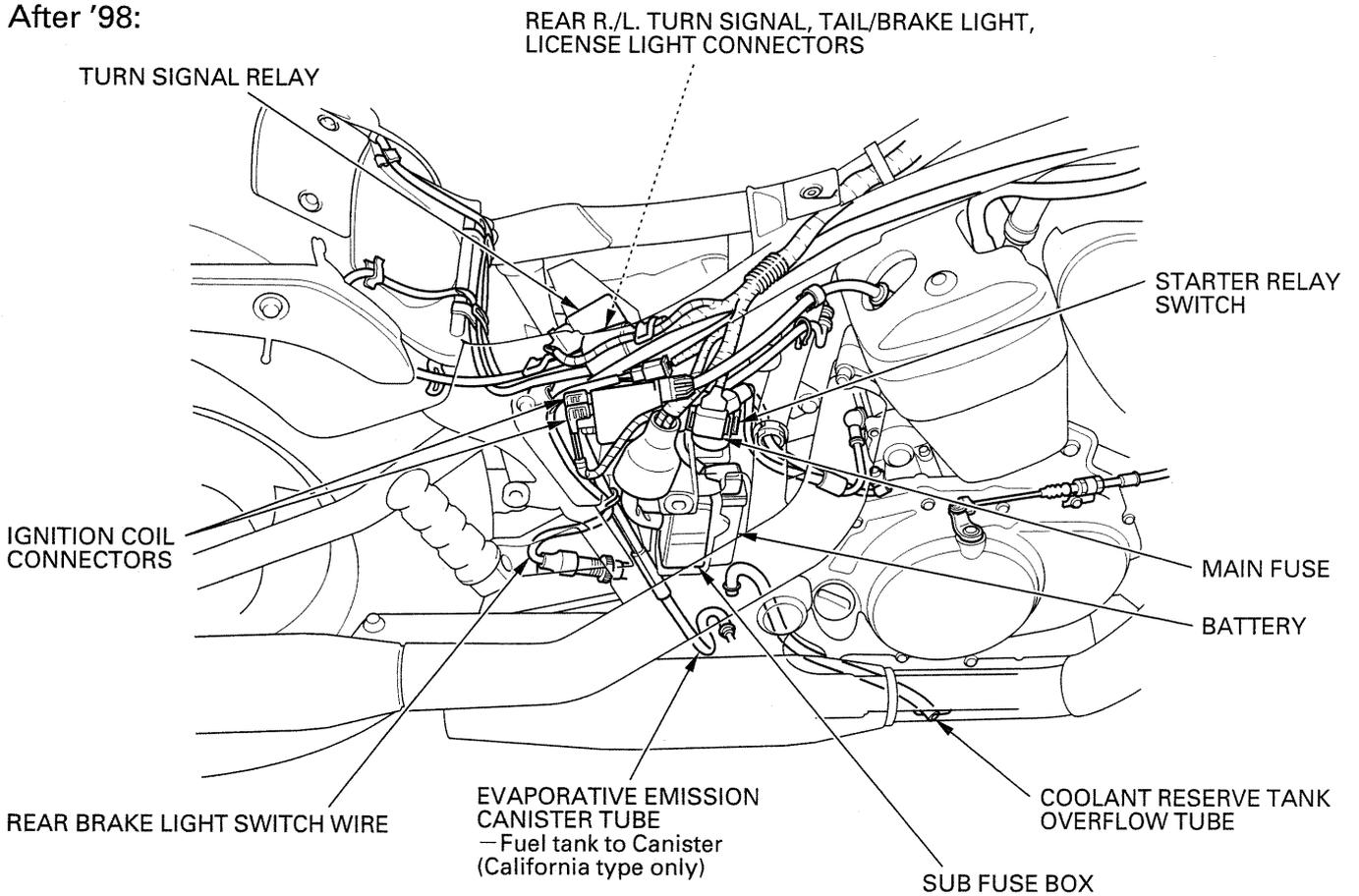
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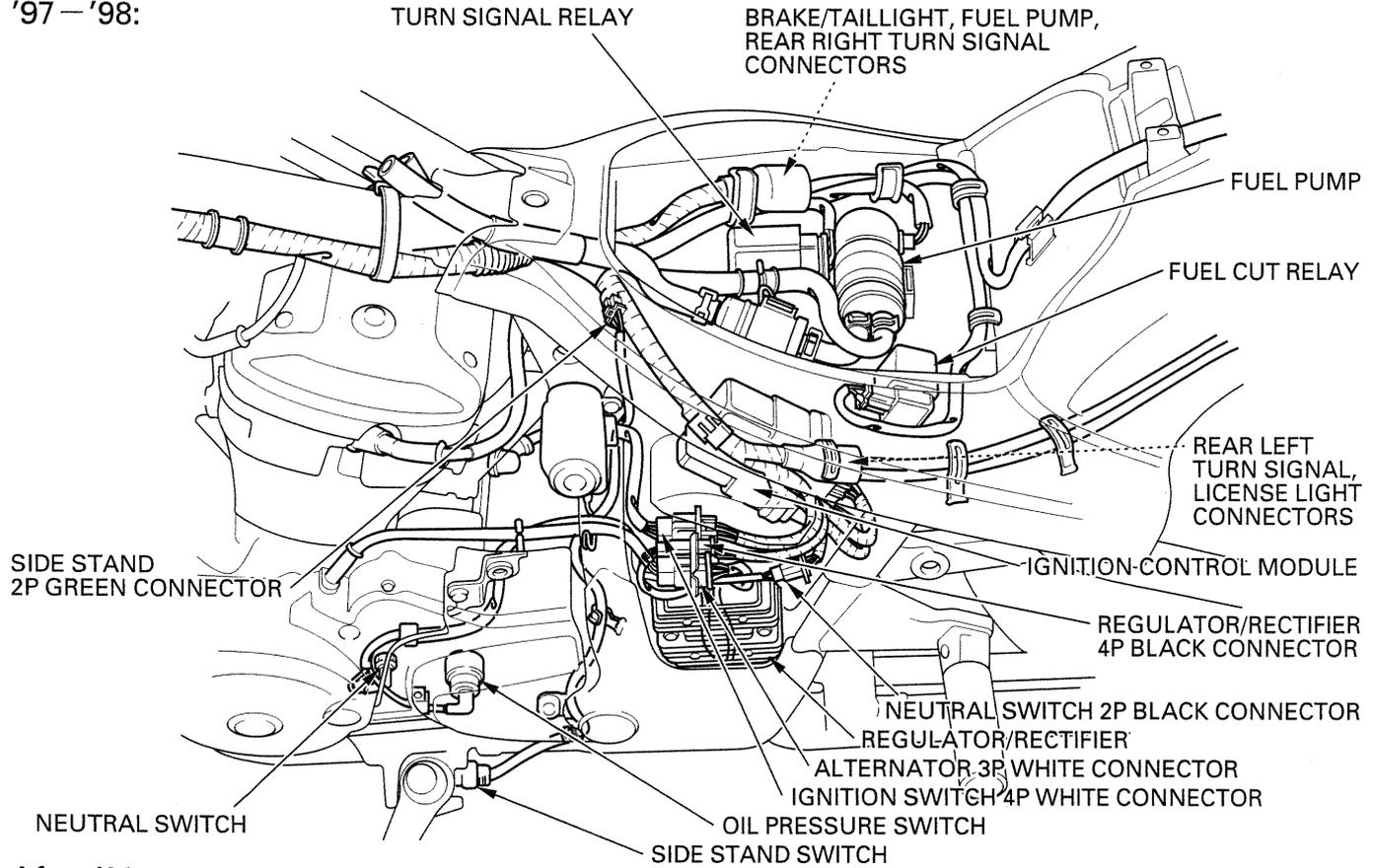


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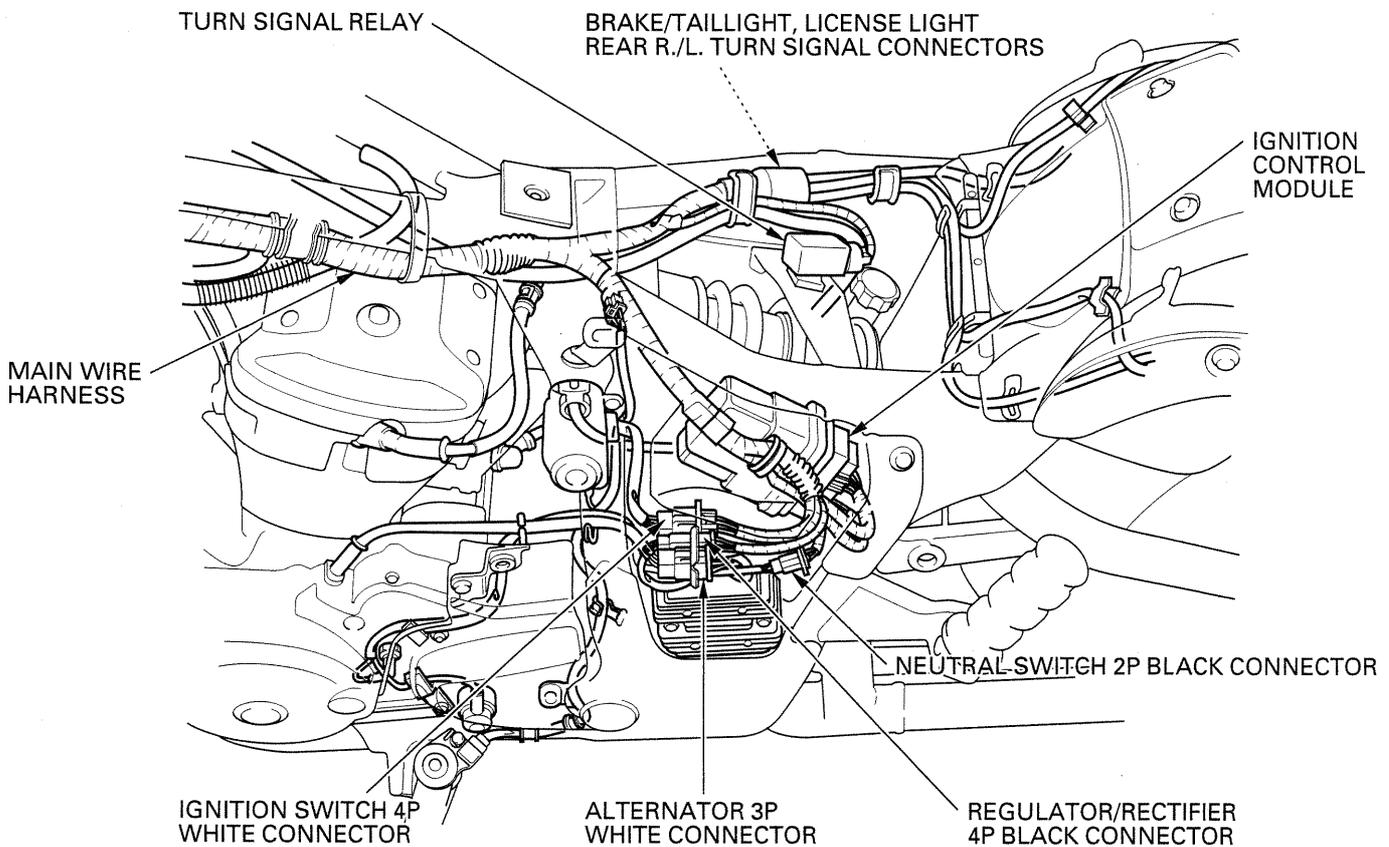


# GENERAL INFORMATION

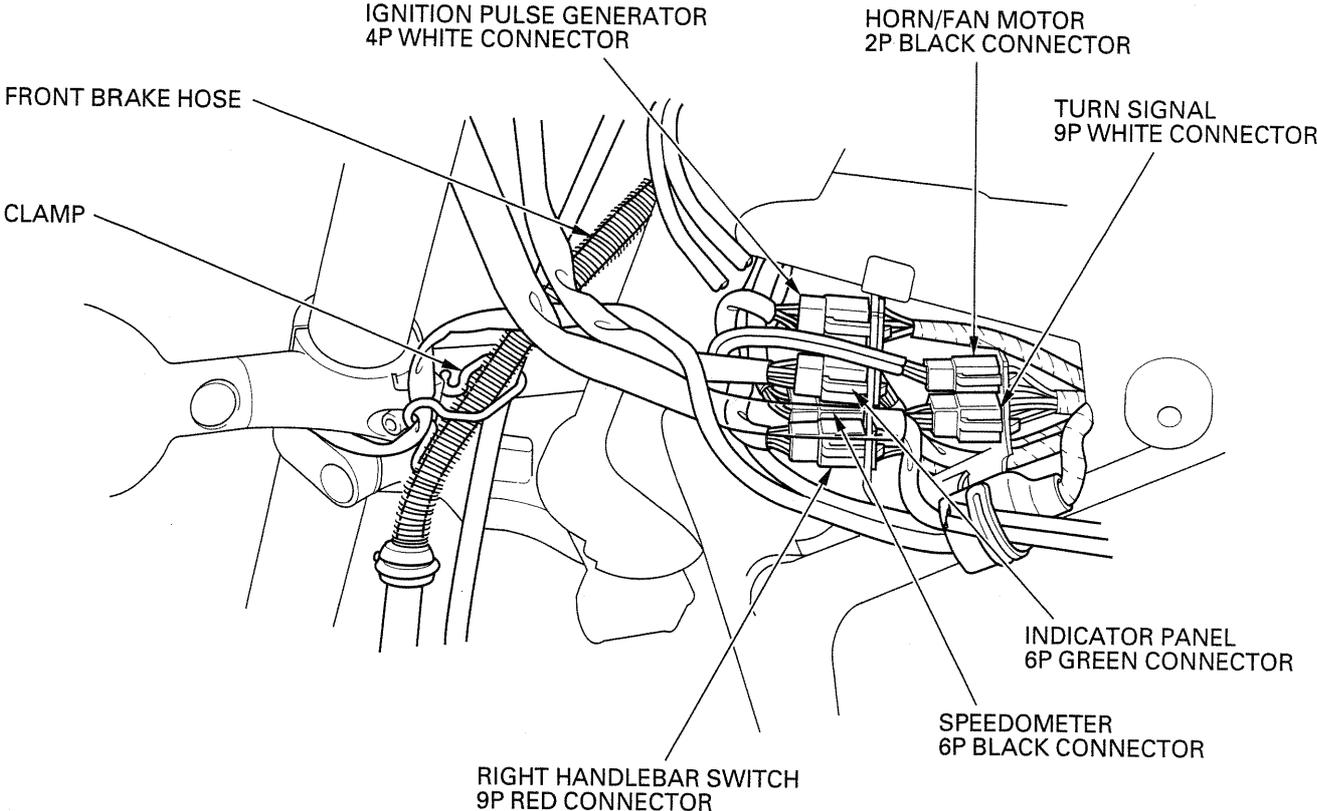
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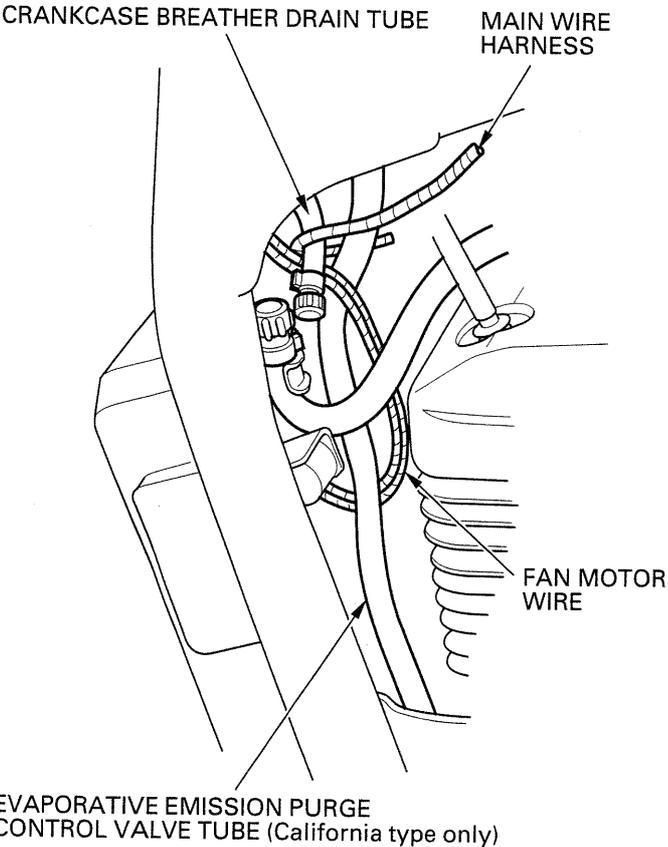
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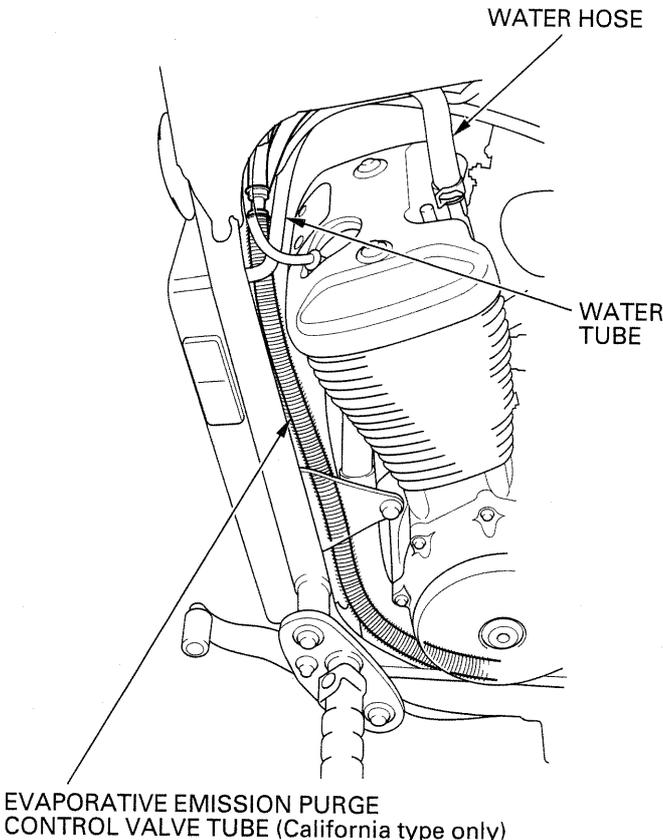
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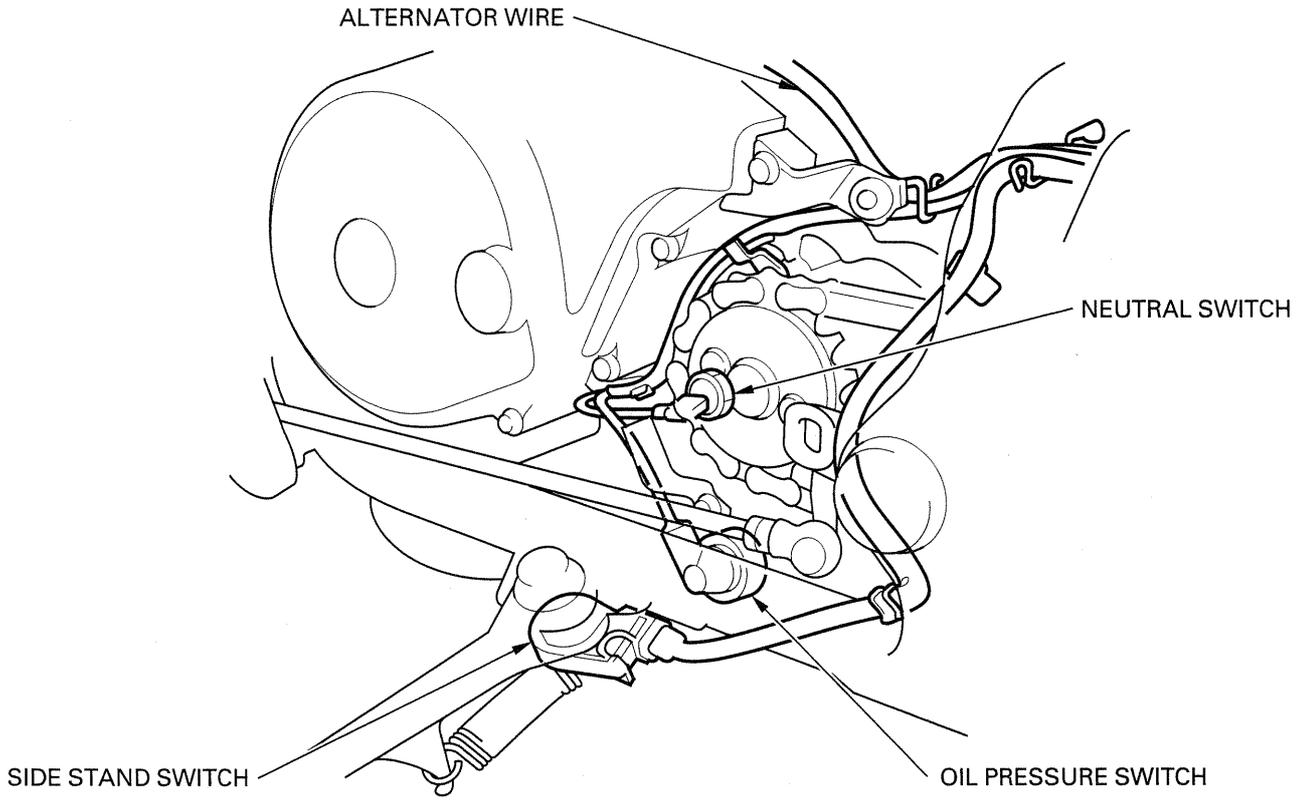


After '98:



## GENERAL INFORMATION

'97 - '98:



After '98:

