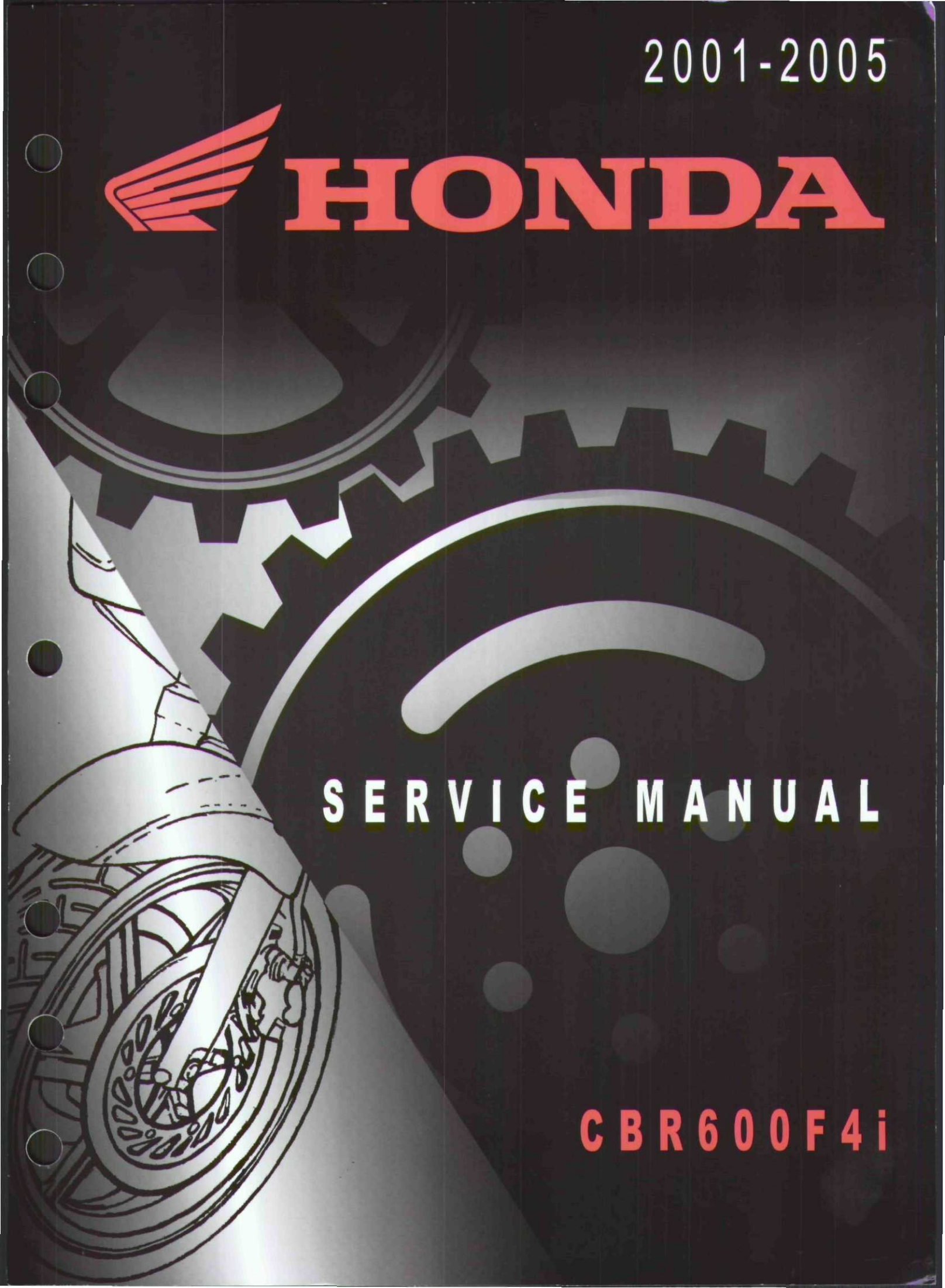
2001-2005

HONDA



SERVICE MANUAL

CBR600F4i

A Few Words About Safety

Service Information

The service and repair information contained in this manual is intended for use by qualified, professional technicians. Attempting service or repairs without the proper training, tools, and equipment could cause injury to you or others. It could also damage the vehicle or create an unsafe condition.

This manual describes the proper methods and procedures for performing service, maintenance, and repairs. Some procedures require the use of specially designed tools and dedicated equipment. Any person who intends to use a replacement part, service procedure or a tool that is not recommended by Honda, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use genuine Honda parts with the correct part number or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

For Your Customer's Safety

Proper service and maintenance are essential to the customer's safety and the reliability of the vehicle. Any error or oversight while servicing a vehicle can result in faulty operation, damage to the vehicle, or injury to others.

⚠ WARNING

Improper service or repairs can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

For Your Safety

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (e.g., hot parts – wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe servicing practice, we recommended that you do not attempt to perform the procedures described in this manual.

Some of the most important general service safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing service and repair procedures. Only you can decide whether or not you should perform a given task.

⚠ WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

Important Safety Precautions

Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When performing any service task, be especially careful of the following:

- Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.
- Protect your eyes by using proper safety glasses, goggles or face shields any time you hammer, drill, grind, pry or work around pressurized air or liquids, and springs or other stored-energy components. If there is any doubt, put on eye protection.
- Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Protect yourself and others whenever you have the vehicle up in the air. Any time you lift the vehicle, either with a hoist or a jack, make sure it is always securely supported. Use jack stands.

Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise. This will help eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
- Burns from hot parts or coolant. Let the engine and exhaust system cool before working in those areas.
- Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers and clothing are out of the way.

Gasoline vapors and hydrogen gases from batteries are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.

- Use only a nonflammable solvent, not gasoline, to clean parts.
- Never drain or store gasoline in an open container.
- Keep all cigarettes, sparks and flames away from the battery and all fuel-related parts.

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the CBR600F4.

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, California Air Resources Board and Transport Canada.

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 are not familiar with this motorcycle, read Technical Feature in Section 21.
If you do not know the source of the trouble, go to section 22 Troubleshooting.

Your safety, and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this vehicle. You must use your own good judgement.
You will find important safety information in a variety of forms including:

- Safety Labels – on the vehicle
- Safety Messages – preceded by a safety alert symbol ⚠ and one of three signal words, DANGER, WARNING, or CAUTION.
  These signal words mean:

⚠ DANGER You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

⚠ WARNING You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

⚠ CAUTION You CAN be HURT if you don't follow instructions.

- Instructions – how to service this vehicle correctly and safely.

As you read this manual, you will find information that is preceded by a NOTICE symbol. The purpose of this message is to help prevent damage to your vehicle, other property, or the environment.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATSOEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION. THIS MANUAL IS WRITTEN FOR PERSONS WHO HAVE ACQUIRED BASIC KNOWLEDGE OF MAINTENANCE ON HONDA MOTORCYCLES, MOTOR SCOOTERS OR ATVS.

Honda Motor Co., Ltd.
SERVICE PUBLICATION OFFICE

CONTENTS

Date of Issue: September 2004

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® 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 medium 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.

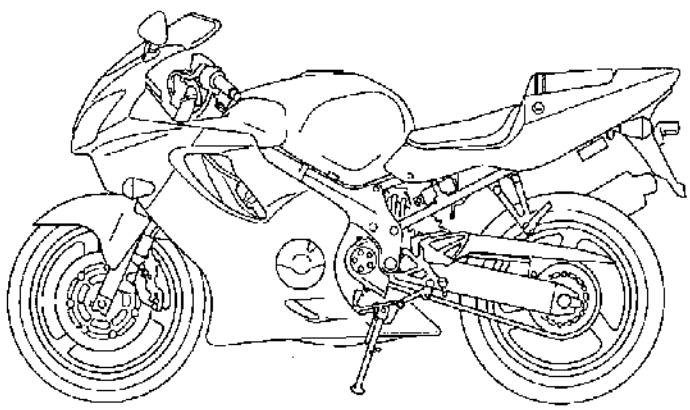
1. GENERAL INFORMATION

SERVICE RULES

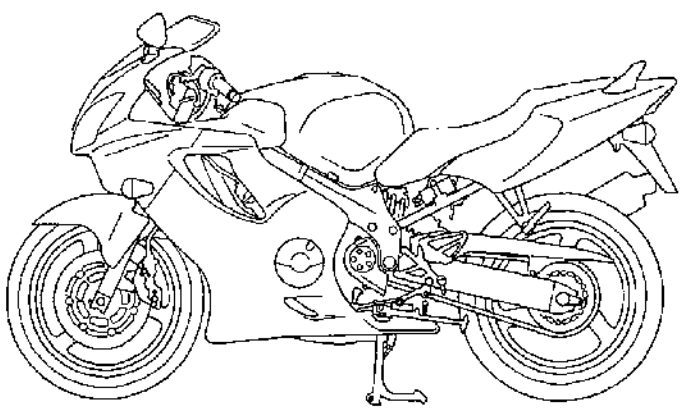
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 1-23 through 1-42, Cable and Harness Routing.

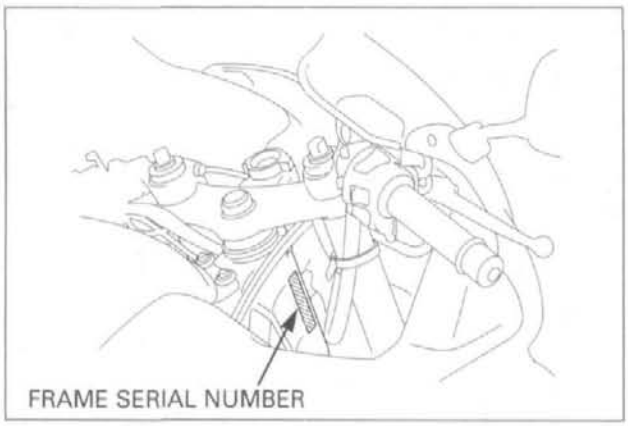
MODEL IDENTIFICATION

'01 – '03 shown:

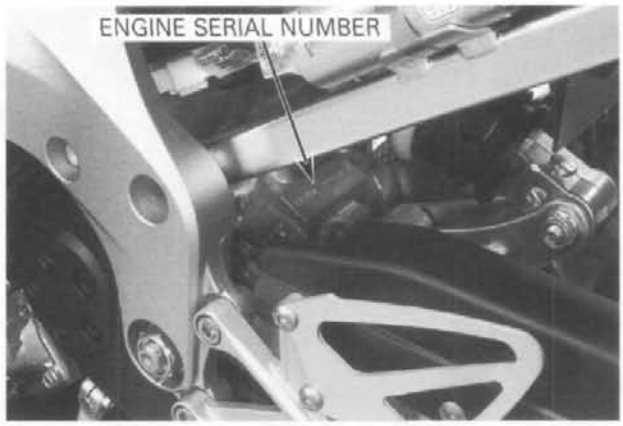


After '03 shown:

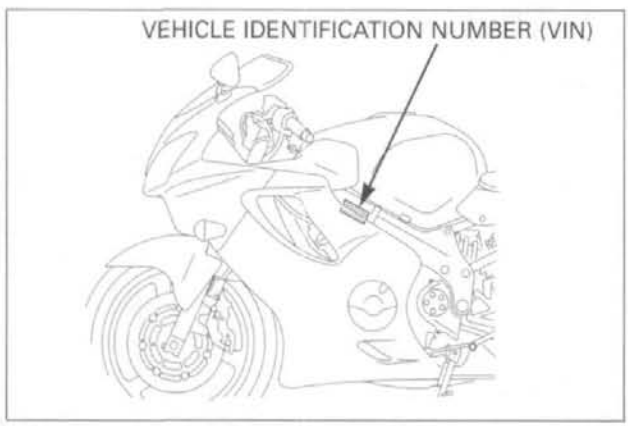




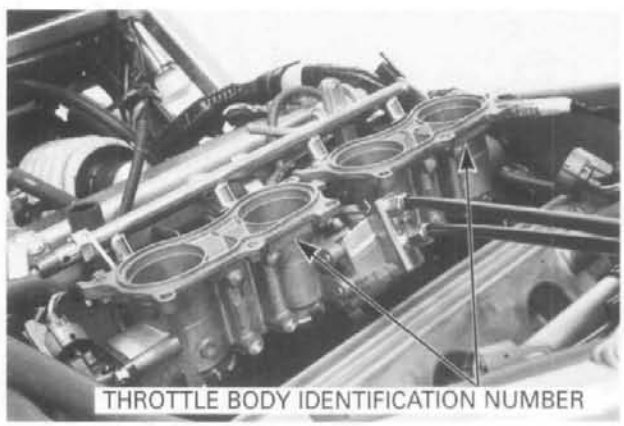
(1) The frame serial number is stamped on the right side of the steering head.



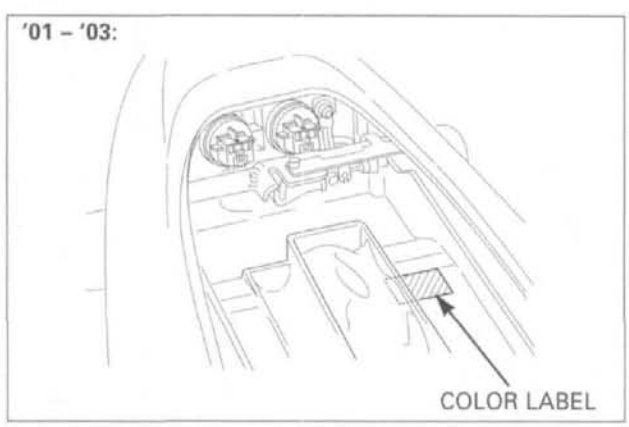
(2) The engine serial number is stamped on the right side of the upper crankcase.



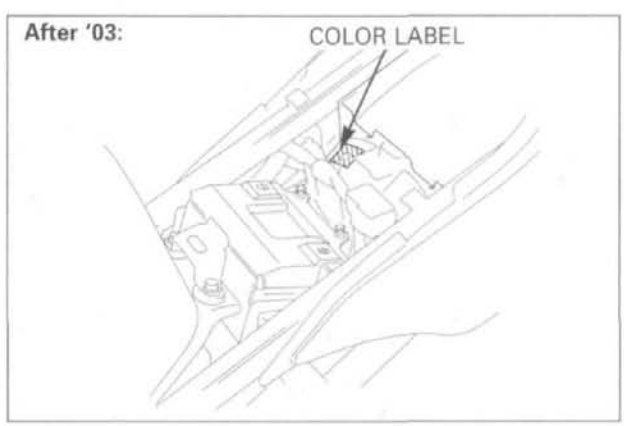
(3) The Vehicle Identification Number (VIN) is located on left side of the main frame on the Safety Certification Labels.



(4) The throttle body identification number is stamped on the intake side of the throttle body as shown.



(5) The color label is attached as shown. When ordering color-coded parts, always specify the designated color code.



SPECIFICATIONS

GENERAL

ITEM			SPECIFICATIONS
DIMENSIONS	Overall length		2,041 mm (80.4 in)
	Overall width		685 mm (27.0 in)
	Overall height		1,135 mm (44.7 in)
	Wheelbase		1,385 mm (54.5 in)
	Seat height		810 mm (31.9 in)
	Footpeg height		360 mm (14.2 in)
	Ground clearance		135 mm (5.3 in)
	Dry weight		
	49 State/Canada type		168 kg (370 lbs)
	California type		169 kg (373 lbs)
	Curb weight		
	49 State/Canada type	'01 – '03:	196 kg (432 lbs)
		After '03:	197 kg (434 lbs)
	California type	'01 – '03:	197 kg (434 lbs)
		After '03:	198 kg (437 lbs)
	Maximum weight capacity		175 kg (386 lbs)
FRAME	Frame type		Diamond
	Front suspension		Telescopic fork
	Front axle travel		120 mm (4.7 in)
	Rear suspension		Swingarm
	Rear axle travel		120 mm (4.7 in)
	Front tire size		120/70 ZR 17 (58W)
	Rear tire size		180/55 ZR 17 (73W)
	Front tire brand		BT010FF (Bridgestone) D207FJ (Dunlop) Pilot SPORT E (Michelin)
	Rear tire brand		BT010RF (Bridgestone) D207F (Dunlop) Pilot SPORT E (Michelin)
	Front brake		Hydraulic double disc
	Rear brake		Hydraulic single disc
	Caster angle		24°
	Trail length		96 mm (3.8 in)
	Fuel tank capacity		18.0 liter (4.76 US gal, 3.96 Imp gal)
ENGINE	Cylinder arrangement		4 cylinders in-line, inclined 31° from vertical
	Bore and stroke		67.0 x 42.5 mm (2.64 x 1.67 in)
	Displacement		599 cm³ (36.5 cu-in)
	Compression ratio		12.0 : 1
	Valve train		Chain driven, DOHC
	Intake valve	opens — at 1 mm	22° BTDC
		closes — (0.04 in) lift	43° ABDC
	Exhaust valve	opens —	38° BBDC
		closes —	7° ATDC
	Lubrication system		Forced pressure and wet sump
	Oil pump type		Trochoid
	Cooling system		Liquid cooled
	Air filtration		Paper element
	Engine dry weight		59 kg (130 lbs)
	Firing order		1 - 2 - 4 - 3

GENERAL (Cont'd)

ITEM			SPECIFICATIONS
CARBURETION	Type		PGM-FI (Programmed Fuel Injection)
	Throttle bore		38 mm (1.5 in)
DRIVE TRAIN	Clutch system		Multi-plate, wet
	Clutch operation system		Cable operating
	Transmission		Constant mesh, 6-speeds
	Primary reduction		1.822 (82/45)
	Final reduction		2.875 (46/16)
	Gear ratio	1st	2.833 (34/12)
		2nd	2.062 (33/16)
		3rd	1.647 (28/17)
		4th	1.421 (27/19)
		5th	1.272 (28/22)
		6th	1.173 (27/23)
	Gearshift pattern		Left foot operated return system, 1 – N – 2 – 3 – 4 – 5 – 6
ELECTRICAL	Ignition system		Computer-controlled digital transistorized with electric advance
	Starting system		Electric starter motor
	Charging system		Triple phase output alternator
	Regulator/rectifier		SCR shorted/triple phase, full wave rectification
	Lighting system		Battery

Unit: mm (in)

LUBRICATION SYSTEM

ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	3.0 liter (3.2 US qt, 2.6 Imp qt)	—
	After draining/filter change	3.3 liter (3.5 US qt, 2.9 Imp qt)	—
	After disassembly	3.7 liter (3.9 US qt, 3.3 Imp qt)	—
Recommended engine oil		Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil or equivalent motor oil API service classification SG or Higher JASO T 903 standard: MA Viscosity: SAE 10W-40	—
Oil pressure at oil pressure switch		490 kPa (5.0 kgf/cm², 71 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 (Programmed Fuel Injection)

ITEM		SPECIFICATIONS
Throttle body identification number	except California type	GQ90C
	California type	GQ90B
Starter valve vacuum difference		20 mm Hg
Base throttle valve for synchronization		No.1
Idle speed		1,300 ± 100 rpm
Throttle grip free play		2 – 6 mm (1/16 – 1/4 in)
Intake air temperature sensor resistance (at 20°C/68°F)		1 – 4 kΩ
Engine coolant temperature sensor resistance (at 20°C/68°F)		2.3 – 2.6 kΩ
Fuel injector resistance (at 20°C/68°F)		11.1 – 12.3 Ω
PAIR solenoid valve resistance (at 20°C/68°F)		20 – 24 Ω
CMP sensor peak voltage (at 20°C/68°F)		0.7 V minimum
CKP sensor peak voltage (at 20°C/68°F)		0.7 V minimum
Manifold absolute pressure at idle		150 – 250 mm Hg
Fuel pressure at idle		343 kPa (3.5 kgf/cm², 50 psi)
Fuel pump flow (at 12-V)		Minimum 188 cm³ (6.4 US oz, 6.6 Imp oz) for 10 seconds

COOLING SYSTEM

ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	2.7 liter (2.9 US qt, 2.4 Imp qt)
	Reserve tank	0.31 liter (0.33 US qt, 0.27 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm², 16 – 20 psi)
Thermostat	Begin to open	80 – 84 °C (176 – 183 °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 corrosion protection inhibitors
Standard coolant concentration		50% mixture with soft water

Unit: mm (in)

CYLINDER HEAD/VALVES

ITEM			STANDARD	SERVICE LIMIT
Cylinder compression			1,226 kPa (12.5 kgf/cm², 178 psi) at 350 rpm	—
Valve clearance		IN	0.20 ± 0.03 (0.008 ± 0.001)	—
		EX	0.28 ± 0.03 (0.011 ± 0.001)	—
Camshaft	Cam lobe height	IN	36.56 – 36.80 (1.439 – 1.449)	36.5 (1.44)
		EX	35.34 – 35.58 (1.391 – 1.401)	35.3 (1.39)
	Runout		—	0.05 (0.002)
	Oil clearance		0.030 – 0.072 (0.0012 – 0.0028)	0.10 (0.004)
Valve lifter	Valve lifter O.D.		25.978 – 25.993 (1.0228 – 1.0233)	25.97 (1.022)
	Valve lifter bore I.D.		26.010 – 26.026 (1.0240 – 1.0246)	26.04 (1.025)
Valve, valve guide	Valve stem O.D.	IN	3.975 – 3.990 (0.1565 – 0.1571)	3.965 (0.1561)
		EX	3.965 – 3.980 (0.1561 – 0.1567)	3.955 (0.1557)
	Valve guide I.D.	IN/EX	4.000 – 4.012 (0.1575 – 0.1580)	4.04 (0.159)
	Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.075 (0.0030)
		EX	0.020 – 0.047 (0.0008 – 0.0019)	0.085 (0.0033)
	Valve guide projection above cylinder head	IN	16.1 – 16.4 (0.63 – 0.65)	—
		EX	14.3 – 14.6 (0.56 – 0.57)	—
	Valve seat width	IN/EX	0.90 – 1.10 (0.035 – 0.043)	1.5 (0.06)
Valve spring free length	IN	Outer	42.2 (1.66)	41.36 (1.628)
		Inner	36.4 (1.43)	35.57 (1.400)
	EX		36.3 (1.43)	35.57 (1.400)
Cylinder head warpage			—	0.10 (0.004)

CLUTCH/GEARSHIFT LINKAGE

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Clutch lever free play		10 – 20 (3/8 – 13/16)	—
Clutch	Spring free length	44.7 (1.76)	43.4 (1.71)
	Disc thickness	2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
	Plate warpage	—	0.30 (0.012)
Clutch outer guide	I.D.	25.000 – 25.021 (0.9843 – 0.9851)	25.03 (0.985)
	O.D.	34.975 – 34.991 (1.3770 – 1.3776)	34.97 (1.377)
Mainshaft O.D. at clutch outer guide		24.980 – 24.993 (0.9835 – 0.9840)	24.96 (0.983)

ALTERNATOR/STARTER CLUTCH

Unit: mm (in)

ITEM	STANDARD	SERVICE LIMIT
Starter driven gear boss O.D.	51.699 – 51.718 (2.0354 – 2.0361)	51.684 (2.0348)

CRANKCASE/TRANSMISSION

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Shift fork, fork shaft	I.D.		12.000 – 12.021 (0.4724 – 0.4733)	12.03 (0.474)
	Claw thickness		5.93 – 6.00 (0.233 – 0.236)	5.9 (0.23)
	Shift fork shaft O.D.		11.957 – 11.968 (0.4707 – 0.4712)	11.95 (0.470)
Transmission	Gear I.D.	M5, M6	28.000 – 28.021 (1.1024 – 1.1032)	28.04 (1.104)
		C2, C3, C4	31.000 – 31.025 (1.2205 – 1.2215)	31.04 (1.222)
	Gear bushing O.D.	M5, M6	27.959 – 27.980 (1.1007 – 1.1016)	27.94 (1.100)
		C2	30.955 – 30.980 (1.2187 – 1.2197)	30.94 (1.218)
		C3, C4	30.950 – 30.975 (1.2185 – 1.2195)	30.93 (1.218)
	Gear-to-bushing clearance	M5, M6	0.020 – 0.062 (0.0008 – 0.0024)	0.10 (0.004)
		C2	0.020 – 0.070 (0.0008 – 0.0028)	0.10 (0.004)
		C3, C4	0.025 – 0.075 (0.0010 – 0.0030)	0.11 (0.004)
	Gear bushing I.D.	M5	24.985 – 25.006 (0.9837 – 0.9845)	25.016 (0.9849)
		C2	27.985 – 28.006 (1.1018 – 1.1026)	28.021 (1.1032)
	Mainshaft O.D.	at M5	24.967 – 24.980 (0.9830 – 0.9835)	24.96 (0.983)
	Countershaft O.D.	at C2	27.967 – 27.980 (1.1011 – 1.1016)	27.96 (1.101)
	Bushing-to-shaft clearance	M5	0.005 – 0.039 (0.0002 – 0.0015)	0.06 (0.002)
		C2	0.005 – 0.039 (0.0002 – 0.0015)	0.06 (0.002)

CRANKSHAFT/PISTON/CYLINDER

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Crankshaft	Connecting rod side clearance		0.10 – 0.25 (0.004 – 0.010)	0.30 (0.012)
	Crankpin bearing oil clearance		0.028 – 0.052 (0.0011 – 0.0020)	0.06 (0.002)
	Main journal bearing oil clearance		0.020 – 0.038 (0.0008 – 0.0015)	0.05 (0.002)
	Runout		—	0.05 (0.002)
Piston, piston rings	Piston O.D. at 15 mm (0.6 in) from bottom		66.965 – 66.985 (2.6364 – 2.6372)	66.90 (2.634)
	Piston pin bore I.D.		17.002 – 17.008 (0.6694 – 0.6696)	17.02 (0.670)
	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 – 0.0006)	0.04 (0.002)
	Piston ring end gap	Top	0.10 – 0.20 (0.004 – 0.008)	0.4 (0.02)
		Second	0.18 – 0.30 (0.007 – 0.012)	0.5 (0.02)
		Oil (side rail)	0.2 – 0.7 (0.01 – 0.03)	1.0 (0.04)
	Piston ring-to-ring groove clearance	Top	0.020 – 0.050 (0.0008 – 0.0020)	0.08 (0.003)
		Second	0.015 – 0.050 (0.0006 – 0.0020)	0.08 (0.003)
Cylinder	I.D.		67.000 – 67.015 (2.6378 – 2.6384)	67.10 (2.642)
	Out-of-round		—	0.10 (0.004)
	Taper		—	0.10 (0.004)
	Warpage		—	0.10 (0.004)
Cylinder-to-piston clearance			0.015 – 0.050 (0.0006 – 0.0022)	0.10 (0.004)
Connecting rod small end I.D.			17.016 – 17.034 (0.6699 – 0.6706)	17.04 (0.671)
Connecting rod-to-piston pin clearance			0.016 – 0.040 (0.0006 – 0.0016)	0.06 (0.002)

FRONT WHEEL/SUSPENSION/STEERING

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		—	1.5 (0.06)
Cold tire pressure	Up to 90 kg (200 lb) load	250 kPa (2.50 kgf/cm², 36 psi)	—
	Up to maximum weight capacity	250 kPa (2.50 kgf/cm², 36 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel balance weight		—	60 g (2.1 oz) max.
Fork	Spring free length	286 (11.3)	280.3 (11.03)
	Tube runout	—	0.20 (0.008)
	Recommended fork fluid	Pro Honda Suspension Fluid SS-8	—
	Fluid level	116 (4.6)	—
	Fluid capacity	462 ± 2.5 cm³ (15.6 ± 0.08 US oz, 16.3 ± 0.09 Imp oz)	—
	Pre-load adjuster initial setting	4th groove from top	—
	Rebound adjuster initial setting	1-3/4 turns out from fully turned in	—
	Compression adjuster initial setting	1-1/4 turns out from fully turned in	—
Steering head bearing pre-load		1.0 – 1.5 kgf (2.2 – 3.3 lbf)	—

REAR WHEEL/SUSPENSION

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Minimum tire tread depth			—	2.0 (0.08)
Cold tire pressure	Up to 90 kg (200 lb) load		290 kPa (2.90 kgf/cm², 42 psi)	—
	Up to maximum weight capacity		290 kPa (2.90 kgf/cm², 42 psi)	—
Axle runout			—	0.2 (0.01)
Wheel rim runout	Radial		—	2.0 (0.08)
	Axial		—	2.0 (0.08)
Wheel balance weight			—	60 g (2.1 oz) max.
Drive chain	Size/link	DID	DID525HV-108LE	—
		RK	RKGB525ROZ1-108LE	—
	Slack		25 – 35 (1 – 1-3/8)	—
Shock absorber	Spring adjuster standard position		Position 3	—
	Rebound adjuster initial setting		1-1/2 turns out from fully turned in	—
	Compression adjuster initial setting		1-1/2 turns out from fully turned in	—

HYDRAULIC BRAKE

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Front	Specified brake fluid		Honda DOT 4 Brake Fluid	—
	Brake disc thickness		4.4 – 4.6 (0.17 – 0.18)	3.5 (0.14)
	Brake disc runout		—	0.20 (0.008)
	Master cylinder I.D.		15.870 – 15.913 (0.6248 – 0.6265)	15.925 (0.6270)
	Master piston O.D.		15.827 – 15.854 (0.6231 – 0.6242)	15.815 (0.6226)
	Caliper cylinder I.D.	A	33.96 – 34.01 (1.337 – 1.339)	34.02 (1.339)
		B	32.030 – 32.080 (1.2610 – 1.2630)	32.09 (1.263)
	Caliper piston O.D.	A	33.802 – 33.835 (1.3308 – 1.3321)	33.794 (1.3305)
		B	31.877 – 31.910 (1.2550 – 1.2563)	31.869 (1.2547)
Rear	Specified brake fluid		Honda DOT 4 Brake Fluid	—
	Brake pedal height		75 (3.0)	—
	Brake disc thickness		4.8 – 5.2 (0.19 – 0.20)	4.0 (0.16)
	Brake disc runout		—	0.30 (0.012)
	Master cylinder I.D.		14.000 – 14.043 (0.5512 –0.5529)	14.055 (0.5533)
	Master piston O.D.		13.957 – 13.984 (0.5495 –0.5506)	13.945 (0.5490)
	Caliper cylinder I.D.		38.18 – 38.23 (1.053 – 1.505)	38.24 (1.506)
	Caliper piston O.D.		38.098 – 38.148 (1.4999 – 1.5019)	38.09 (1.500)

BATTERY/CHARGING SYSTEM

ITEM			SPECIFICATIONS
Battery	Capacity		12-V – 8.6 Ah
	Current leakage		2.0 mA max.
	Voltage (20°C/68°F)	Fully charged	13.0 – 13.2-V
		Needs charging	Below 12.3-V
	Charging current	Normal	0.9 A/5 – 10 h
		Quick	4.5 A/0.5 h
Alternator	Capacity		0.433 kW/5,000 rpm
	Charging coil resistance (20°C/68°F)		0.1 – 1.0 Ω

IGNITION SYSTEM

ITEM			SPECIFICATIONS
Spark plug (*iridium*)	NGK	'01:	IMR9A-9H
		After '01:	IMR9C-9H
	DENSO	'01:	IUH27D
		After '01:	VUH27D
Spark plug gap			0.80 – 0.90 mm (0.031 – 0.035 in)
Ignition coil peak voltage			100 V minimum
CKP sensor peak voltage			0.7 V minimum
Ignition timing ("F" mark)			13° BTDC at idle

ELECTRIC STARTER

Unit: mm (in)

ITEM	STANDARD	SERVICE LIMIT
Starter motor brush length	12.0 – 13.0 (0.47 – 0.51)	6.5 (0.26)

LIGHTS/METERS/SWITCHES

ITEM			SPECIFICATIONS
Bulbs	Headlight	Hi	12V – 55 W
		Lo	12V – 55 W
	Brake/tail light		12V – 21/5 W x 2
	Front turn signal/running light		12V – 32/3 CP (23/8 W) x 2
	Rear turn signal light		12V – 32 CP (23 W) x 2
	License light		12V – 4 CP (5 W)
	Instrument light		LED
	Turn signal indicator		LED
	High beam indicator		LED
	Neutral indicator		LED
	Oil pressure indicator		LED
	PGM-FI warning indicator		LED
	Low fuel indicator		LED
Fuse	Main fuse		30 A
	PGM-FI fuse		20 A
	Sub fuse	'01 – '03:	10 A x 6
		After '03:	20 A x 1, 10 A x 5
Tachometer peak voltage			10.5 V minimum
Fan motor switch	Start to close (ON)		98 – 102 °C (208 – 216 °F)
	Stop to open		93 – 97 °C (199 – 207 °F)

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, small flange)	10 (1.0, 7)
10 mm hex bolt and nut	34 (3.5, 25)		
12 mm hex bolt and nut	54 (5.5, 40)	6 mm flange bolt (8 mm head, large flange)	12 (1.2, 9)
		6 mm flange bolt (10 mm head) and nut	12 (1.2, 9)
		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 specific fasteners.
- Other fasteners 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. Stake.
4. Apply oil to the threads and flange surface.
5. U-nut.
6. ALOC bolt/screw: replace with a new one.
7. Apply grease to the threads.
8. Apply molybdenum disulfide oil to the threads and seating surface.
9. CT bolt.

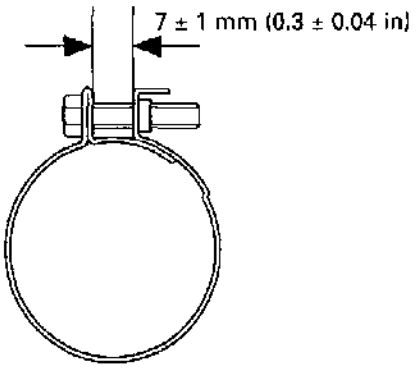
ENGINE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
MAINTENANCE:				
Spark plug	4	10	12 (1.2, 9)	
Timing hole cap	1	45	18 (1.8, 13)	NOTE 7
Engine oil filter cartridge	1	20	26 (2.7, 20)	NOTE 4
Engine oil drain bolt	1	12	29 (3.0, 22)	
LUBRICATION SYSTEM:				
Oil main gallery sealing bolt	2	20	29 (3.0, 22)	NOTE 2
Oil pump cover bolt	1	6	8 (0.8, 5.8)	NOTE 9
Oil cooler bolt (filter boss)	1	20	64 (6.5, 47)	NOTE 4
FUEL SYSTEM (Programmed Fuel Injection):				
ECT (Engine Coolant Temperature)/thermo sensor	1	12	23 (2.3, 17)	
Throttle body insulator band screw	8	5	See page 1-14	
Throttle cable bracket mounting bolt	2	5	3 (0.35, 2.5)	
Starter valve lock nut	4	10	2 (0.18, 1.3)	
Starter valve synchronization plate screw	4	3	1 (0.09, 0.7)	
Fast idle wax unit link plate screw	1	3	1 (0.09, 0.7)	
Fast idle wax unit mounting screw	2	6	5 (0.5, 3.6)	
Pressure regulator mounting bolt	2	6	10 (1.0, 7)	
Vacuum joint for synchronization	2	5	3 (0.3, 2.2)	
COOLING SYSTEM:				
Water pump cover flange bolt	2	6	12 (1.2, 9)	NOTE 9
Thermostat cover flange bolt	2	6	12 (1.2, 9)	NOTE 9
ENGINE MOUNTING:				
Drive sprocket special bolt	1	10	54 (5.5, 40)	

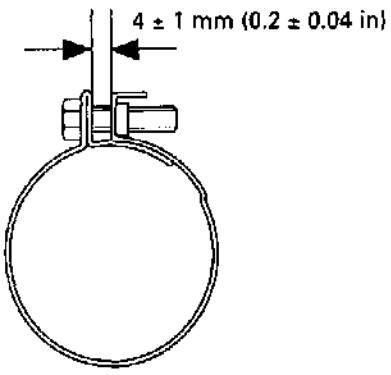
ENGINE (Cont'd)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
CYLINDER HEAD/VALVES:				
Cylinder head mounting bolt/washer	10	9	47 (4.8, 35)	NOTE 8
Camshaft holder flange bolt	20	6	12 (1.2, 9)	NOTE 4
Cylinder head sealing bolt	1	14	18 (1.8, 13)	NOTE 2
Cylinder head cover bolt	3	6	10 (1.0, 7)	
Breather plate flange bolt	3	6	12 (1.2, 9)	NOTE 2, 9
PAIR reed valve cover SH bolt	4	6	12 (1.2, 9)	NOTE 9
Cam sprocket flange dowel bolt	4	7	20 (2.0, 14)	NOTE 2
CMP sensor rotor flange dowel bolt	2	6	12 (1.2, 9)	NOTE 2
Cam chain lifter mounting socket bolt	2	6	10 (1.0, 7)	
Cam chain tensioner pivot socket bolt	1	6	10 (1.0, 7)	NOTE 2
Cam chain guide bolt/washer	1	6	12 (1.2, 9)	
Cylinder head stud bolt (exhaust pipe stud bolt)	8	6	See page 1-14	
CLUTCH/GEARSHIFT LINKAGE:				
Clutch center lock nut	1	22	127 (13.0, 94)	NOTE 3, 4
Clutch spring bolt/washer	5	6	12 (1.2, 9)	
Oil pump driven sprocket bolt/washer	1	6	15 (1.5, 11)	NOTE 2
Shift drum center socket bolt	1	8	23 (2.3, 17)	NOTE 2
Shift drum stopper arm pivot bolt	1	6	12 (1.2, 9)	
Gearshift spindle return spring pin	1	8	22 (2.2, 16)	
CKP sensor wire guide bolt/washer	1	6	12 (1.2, 9)	
ALTERNATOR/STARTER CLUTCH:				
Alternator stator socket bolt	4	6	12 (1.2, 9)	
Starter clutch outer socket bolt	6	8	16 (1.6, 12)	NOTE 2
Flywheel flange bolt	1	10	103 (10.5, 76)	NOTE 4
Starter wire clamp flange bolt	1	6	12 (1.2, 9)	NOTE 9
CRANKCASE/TRANSMISSION:				
Mainshaft bearing set plate bolt	3	6	12 (1.2, 9)	NOTE 2
Gearshift drum bearing/fork shaft set bolt/washer	2	6	12 (1.2, 9)	NOTE 2
Crankcase bolt (main journal)	10	8	25 (2.6, 19)	NOTE 8
Crankcase bolt	1	10	39 (4.0, 29)	
Crankcase bolt	6	7	18 (1.8, 13)	
Crankcase bolt (upper side)	5	8	25 (2.5, 18)	
CRANKSHAFT/PISTON/CYLINDER:				
Connecting rod bearing cap nut	8	7	25 (2.6, 19)	NOTE 4
IGNITION SYSTEM:				
CKP sensor rotor special bolt	1	10	59 (6.0, 43)	
ELECTRIC STARTER:				
Starter motor terminal nut	1	6	12 (1.2, 9)	
LIGHTS/METERS/SWITCHES:				
Oil pressure switch	1	PT 1/8	12 (1.2, 9)	NOTE 1
Oil pressure switch wire terminal bolt/washer	1	4	2 (0.2, 1.4)	
Neutral switch	1	10	12 (1.2, 9)	

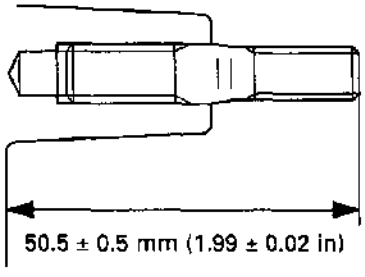
Insulator clamp (throttle body side):



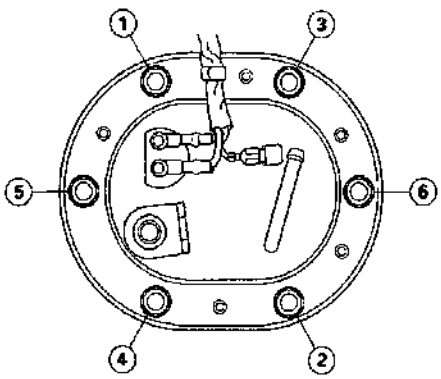
Insulator clamp (cylinder head side):



Exhaust pipe stud bolt:



FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
FRAME BODY PANELS/EXHAUST SYSTEM:				
Seat cowl special screw (after '03)	2	6	2 (0.15, 1.1)	
Upper cowl-to-lower cowl screw	6	5	2 (0.15, 1.1)	
Inner half cowl-to-lower cowl screw	6	6	2 (0.15, 1.1)	
Windscreen setting screw	6	4	1 (0.05, 0.4)	
Seat rail upper mounting flange bolt/nut	2	10	49 (5.0, 36)	
Seat rail lower mounting flange bolt/nut	2	10	49 (5.0, 36)	
Exhaust pipe joint flange nut	8	7	12 (1.2, 9)	
Muffler band flange bolt	2	8	23 (2.3, 17)	
Passenger footpeg bracket flange bolt	4	8	26 (2.7, 20)	
FUEL SYSTEM (Programmed Fuel Injection):				
Fuel filler cap bolt	3	4	2 (0.18, 1.3)	
Service check bolt	1	6	15 (1.5, 11)	
Fuel hose banjo bolt (fuel tank side)	1	12	22 (2.2, 16)	
Fuel hose sealing nut (throttle body side)	1	12	22 (2.2, 16)	
Fuel pump mounting nut	6	6	12 (1.2, 9)	
				
O_2 sensor (California type only)	1	12	25 (2.6, 19)	
COOLING SYSTEM:				
Cooling fan mounting nut	1	5	3 (0.27, 2.0)	NOTE 2
Fan motor mounting nut	3	5	5 (0.5, 3.6)	
ENGINE MOUNTING:				
Front engine hanger bolt	2	10	39 (4.0, 29)	See page 7-10
Center engine hanger bolt	2	10	39 (4.0, 29)	
Center engine hanger adjusting bolt	1	20	3 (0.3, 2.2)	
Center engine hanger lock nut	1	20	54 (5.5, 40)	
Rear engine hanger nut	1	10	39 (4.0, 29)	
Rear engine hanger adjusting bolt	1	22	3 (0.3, 2.2)	
Rear engine hanger lock nut (right side)	1	22	54 (5.5, 40)	
Shock link bracket nut	2	10	39 (4.0, 29)	
FRONT WHEEL/SUSPENSION/STEERING:				
Handlebar weight mounting screw	2	6	10 (1.0, 7)	NOTE 6
Front brake disc bolt	12	6	20 (2.0, 14)	NOTE 6
Front axle bolt	1	14	59 (6.0, 43)	
Front axle holder flange bolt	4	8	22 (2.2, 16)	
Front brake hose clamp flange bolt (left front)	1	6	12 (1.2, 9)	
Front brake hose 3-way joint flange bolt (right front)	1	6	12 (1.2, 9)	
Fork socket bolt	2	10	34 (3.5, 25)	NOTE 2
Fork bolt	2	39	23 (2.3, 17)	
Fork top bridge pinch socket bolt	2	8	23 (2.3, 17)	
Fork bottom bridge pinch flange bolt	2	10	39 (4.0, 29)	
Steering bearing adjusting nut	1	26	25 (2.5, 18)	See page 13-29
Steering bearing adjusting nut lock nut	1	26	—	
Steering stem nut	1	24	103 (10.5, 76)	
Front brake hose clamp bolt (steering stem)	1	6	10 (1.0, 7)	

FRAME (Cont'd)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
REAR WHEEL/SUSPENSION:				
Rear brake disc bolt	4	8	42 (4.3, 31)	NOTE 6
Final driven sprocket nut	6	10	64 (6.5, 47)	NOTE 5
Rear axle nut	1	18	93 (9.5, 69)	NOTE 5
Rear shock absorber mounting nut	2	10	44 (4.5, 33)	NOTE 5
Shock link plate-to-swingarm nut	1	10	44 (4.5, 33)	NOTE 5
Shock link-to-shock link plate nut	1	10	44 (4.5, 33)	NOTE 5
Shock link-to-bracket nut	1	10	44 (4.5, 33)	NOTE 5
Drive chain slider flange bolt	2	6	9 (0.9, 6.5)	NOTE 6
Swingarm pivot adjusting bolt	2	30	7 (0.7, 5.1)	See page 14-22
Swingarm pivot adjusting bolt lock nut	2	30	64 (6.5, 47)	
Swingarm pivot nut	1	18	93 (9.5, 69)	
HYDRAULIC BRAKE:				
Front master cylinder reservoir cap screw	2	4	2 (0.2, 1.4)	
Front brake lever pivot bolt	1	6	1 (0.1, 0.7)	
Front brake lever pivot nut	1	6	6 (0.6, 4.3)	
Front brake light switch screw	1	4	1 (0.1, 0.7)	
Front master cylinder mounting bolt	2	6	12 (1.2, 9)	
Front brake caliper assembly torx bolt	8	8	23 (2.3, 17)	NOTE 2
Front brake caliper mounting flange bolt	4	8	30 (3.1, 22)	NOTE 6
Rear master cylinder push rod joint nut	1	8	18 (1.8, 13)	
Rear master cylinder mounting bolt	2	6	9 (0.9, 6.5)	
Rear brake reservoir mounting bolt/nut	1	6	12 (1.2, 9)	
Rear brake caliper bolt	1	8	23 (2.3, 17)	
Rear brake caliper pin bolt	1	12	27 (2.8, 20)	
Pad pin	5	10	18 (1.8, 13)	
Pad pin plug	1	10	3 (0.3, 2.2)	
Brake hose oil bolt	5	10	34 (3.5, 25)	
Brake caliper bleeder valve	3	8	6 (0.6, 4.3)	
LIGHTS/METERS/SWITCHES:				
Side stand switch bolt	1	6	10 (1.0, 7)	NOTE 6
Ignition switch mounting bolt	2	8	25 (2.5, 18)	
Fan motor switch	1	16	18 (1.8, 13)	NOTE 1
OTHERS:				
Side stand pivot bolt	1	10	10 (1.0, 7)	
Side stand pivot lock nut	1	10	29 (3.0, 22)	
Side stand bracket flange bolt	2	10	44 (4.5, 33)	NOTE 6
Driver footpeg bracket socket bolt	4	8	26 (2.7, 20)	

TOOLS

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

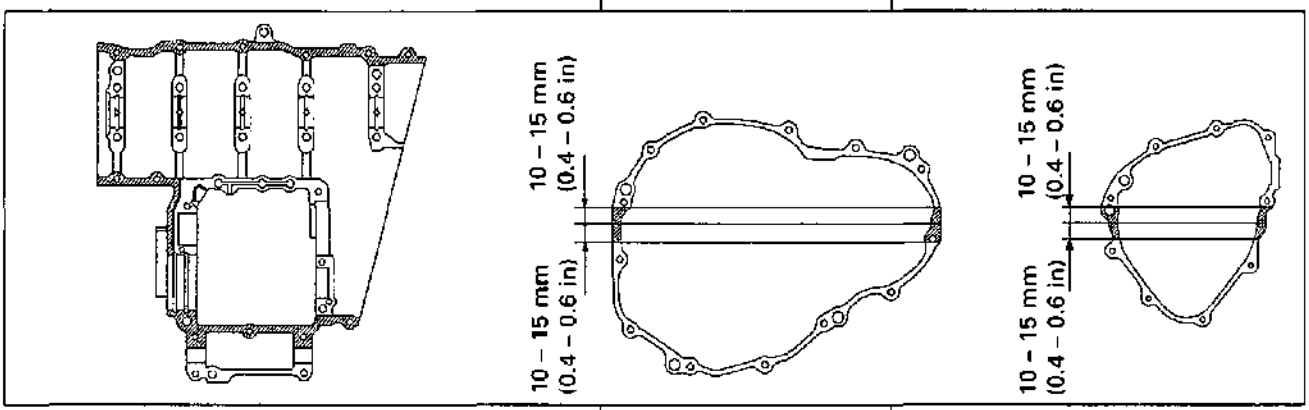
DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Fuel pressure gauge	07406-0040003	NOTE 3: 07406-0040002	5
Oil pressure gauge set	07506-3000000	NOTE 1	4
Oil pressure gauge attachment	07510-MJ10100	NOTE 1	4
Universal bearing puller	07631-0010000	NOTE 1	12
Clutch center holder	07724-0050002	NOTE 1	9
Flywheel holder	07725-0040000	NOTE 1	10
Rotor puller	07733-0020001	NOTE 3: 07933-3950000	10
Remover weight	07741-0010201	NOTE 3: 07916-371020A (U.S.A. only)	14
Attachment, 32 x 35 mm	07746-0010100		9, 14
Attachment, 37 x 40 mm	07746-0010200		9, 14
Attachment, 42 x 47 mm	07746-0010300		13, 14
Attachment, 52 x 55 mm	07746-0010400		14
Attachment, 24 x 26 mm	07746-0010700		14
Attachment, 22 x 24 mm	07746-0010800		14
Inner driver C	07746-0030100		11
Attachment, 25 mm I.D.	07746-0030200		12
Attachment, 30 mm I.D.	07746-0030300		11
Pilot, 17 mm	07746-0040400		9, 14
Pilot, 20 mm	07746-0040500		13, 14
Pilot, 25 mm	07746-0040600		14
Pilot, 35 mm	07746-0040800		9
Pilot, 28 mm	07746-0041100		14
Bearing remover shaft	07746-0050100		13, 14
Bearing remover head, 20 mm	07746-0050600		13, 14
Driver	07749-0010000		9, 13, 14
Valve spring compressor	07757-0010000		8
Valve seat cutter		NOTE 1	8
Seat cutter, 24.5 mm (45° EX)	07780-0010100		
Seat cutter, 27.5 mm (45° IN)	07780-0010200		
Flat cutter, 24 mm (32° EX)	07780-0012500		
Flat cutter, 27 mm (32° IN)	07780-0013300		
Interior cutter, 22 mm (60° EX)	07780-0014202		
Interior cutter, 26 mm (60° IN)	07780-0014500		
Cutter holder, 4.0 mm	07781-0010500		
Lock nut wrench	07908-4690003		14
Snap ring pliers	07914-SA50001		15
Steering stem socket	07916-3710101	NOTE 4: 07916-3710100	13
Bearing remover handle	07936-3710100		14
Bearing remover head	07936-3710600		14
Attachment, 28 x 30 mm	07946-1870100		14
Ball race remover set	07946-KM90001	NOTE 3:	13
– Driver attachment, A	07946-KM90100	Can be used with the following	
– Driver attachment, B	07946-KM90200	combination (U.S.A. only):	
– Driver shaft assembly	07946-KM90300	07VMF-MAT0100	
– Bearing remover, A	07946-KM90401	07VMF-MAT0200	
– Bearing remover, B	07946-KM90500	07VMF-KZ30200	
– Assembly base	07946-KM90600	07VMF-MAT0300 07VMF-MAT0400 07947-KA50100 07965-MA60000 07946-ME90200	
Steering stem driver	07946-MB00000		13
Fork seal driver weight	07947-KA50100		13
Fork seal driver attachment	07946-KA40200		13
Driver	07949-3710001	NOTE 3: 07946-MJ00100	14

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Valve spring compressor attachment	07959–KM30101		8
Oil filter wrench	07HAA–PJ70100		3
Peak voltage adaptor	07HGJ–0020100		5, 17, 19
Tappet hole protector	07HMG–MR70002		8
Drive chain tool set	07HMH–MR10103	NOTE 3: 07HMH–MR1010B (U.S.A. only)	3
Valve guide driver	07JMD–KY20100		8
Bearing remover set	07LMC–KV30100		14
Valve guide reamer, 4.008 mm	07MMH–MV90100	NOTE3: 07MMH–WV9010A (U.S.A. only)	8
Compression gauge attachment	07RMJ–MY50100	NOTE 1	8
Lock nut wrench	07VMA-MBB0100	NOTE 3: 07VMA–MBB0101	7
ECM test harness	07YMZ–0010100	Two required	5
Attachment, 34 mm	07ZMD–MBW0100	NOTE 4	14
Attachment, 37 mm	07ZMD–MBW0200	NOTE 4	14
		NOTE 3: 07746–0010100 (for swingarm right pivot radial ball bearing installation)	
		NOTE 3: 07946–MJ00100 with 07HMC–MR70100 (for swingarm left pivot needle bearing removal)	
		NOTE 3: 07746–0010200 (for swingarm left pivot needle bearing installation)	

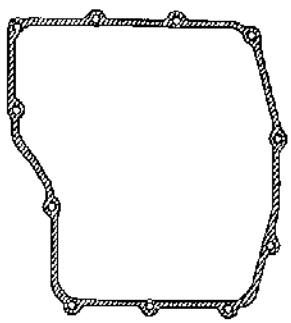
LUBRICATION & SEAL POINTS

ENGINE

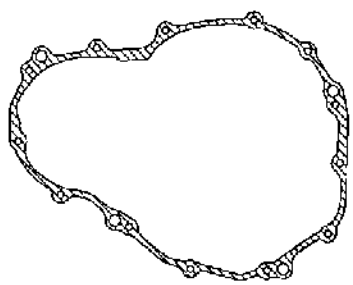
LOCATION	MATERIAL	REMARKS
Crankcase mating surface	Liquid sealant (Three Bond 1207B or equivalent)	



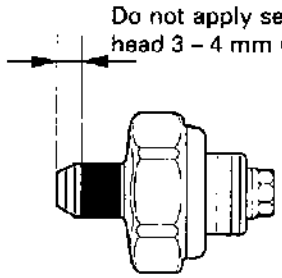
Oil pan mating surface



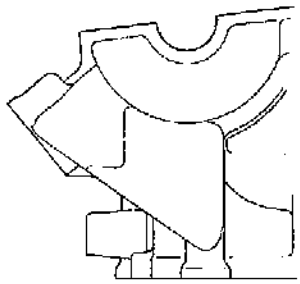
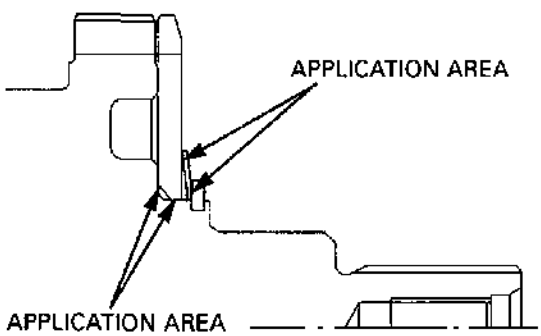
Right crankcase cover mating surface



Oil pressure switch threads



ENGINE (Cont'd)

LOCATION	MATERIAL	REMARKS
Cylinder head semi-circular cut-out 	Sealant	
Main journal bearing surface Piston pin sliding surface Connecting rod bearing surface Connecting rod small end inner surface Crankshaft thrust surface Camshaft lobes/journals and thrust surface Valve stem (valve guide sliding surface) Valve lifter outer sliding surface Water pump shaft spline and thrust washer sliding surface Clutch outer/primary driven gear sliding surface Clutch outer guide sliding surface M3/4, C5, C6 shifter gear (shift fork grooves) Starter reduction gear shaft outer surface Cylinder head special bolt (after removing anti-rust oil additive) Primary sub-gear friction spring sliding surface 	Molybdenum disulfide oil (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease	
Piston ring sliding area Oil strainer packing Clutch disc surface Starter one-way clutch sliding surface Connecting rod nut threads Flywheel bolt threads and seating surface Main journal 9-mm bolt threads and seating surface (after removing anti-rust oil additive) Clutch center lock nut threads Oil filter cartridge threads and O-ring Camshaft holder bolt threads and seating surface Oil cooler center bolt threads Each gear teeth and rotating surface Each bearing Each O-ring Other rotating area and sliding surface	Engine oil	

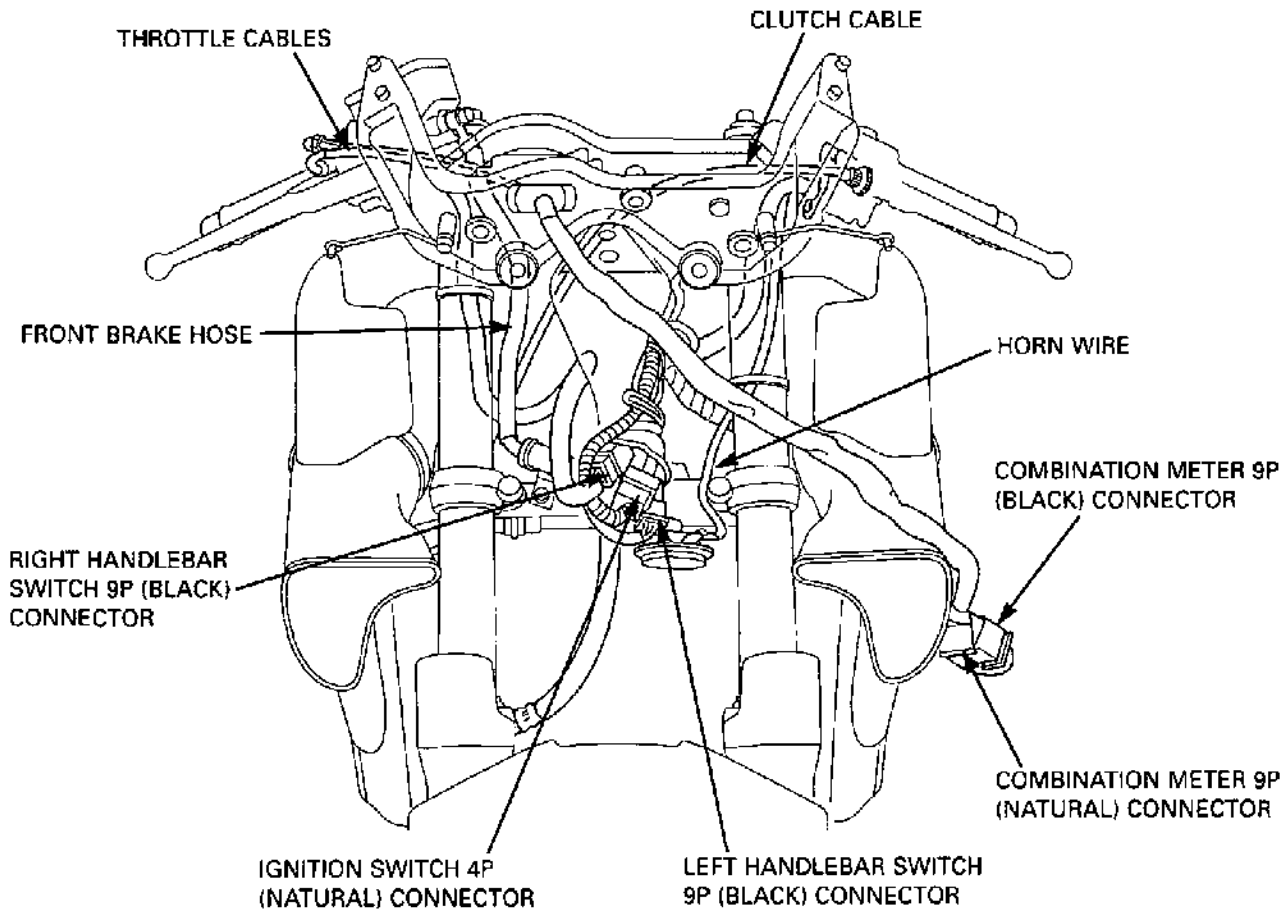
ENGINE (Cont'd)

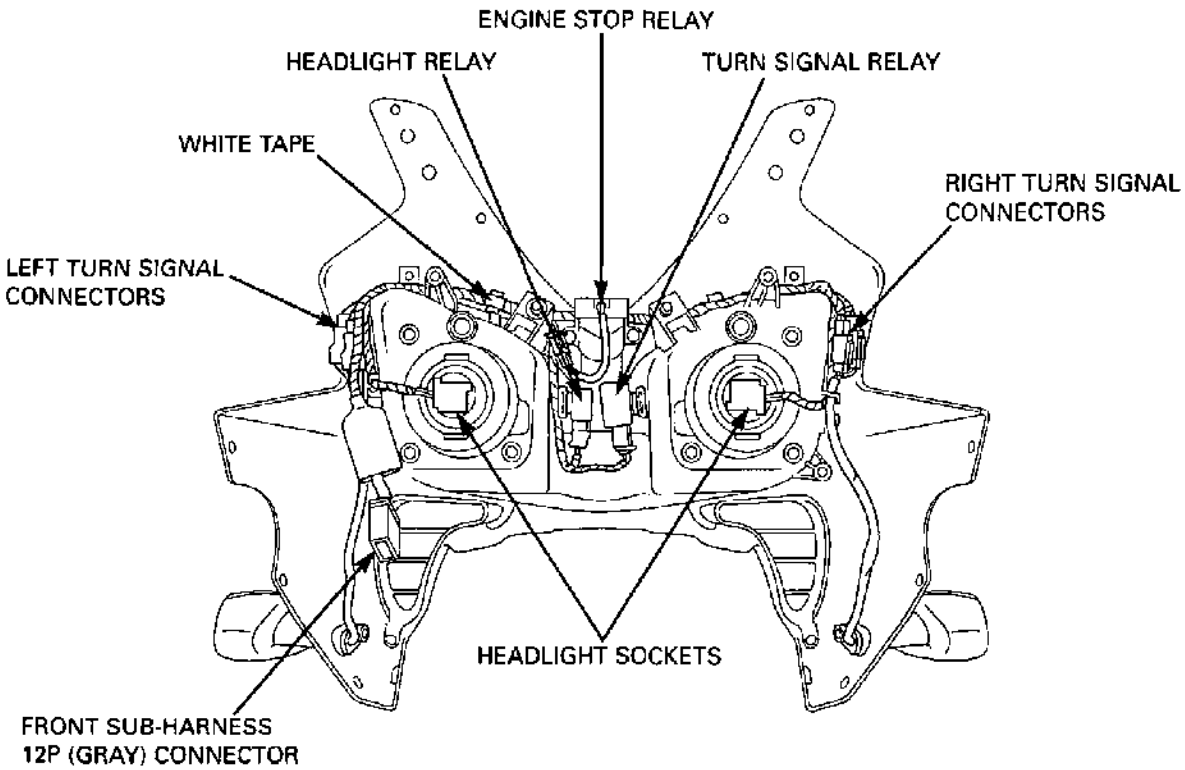
LOCATION	MATERIAL	REMARKS
Timing hole cap threads Each oil seal lips	Multi-purpose grease	
Upper crankcase sealing bolt threads Lower crankcase sealing bolt threads Cylinder head sealing bolt threads Cylinder head cover breather joint threads Cylinder head sealing bolt threads CMP sensor rotor bolt threads Starter one-way clutch outer bolt threads Oil pump driven sprocket bolt threads Shift drum bearing set plate bolt threads Mainshaft bearing set plate bolt threads Cam sprocket bolt threads Cylinder head cover breather plate bolt threads Shift drum center bolt threads Cam chain tensioner pivot bolt threads Spindle plate tightening bolt threads	Locking agent	Coating width: 6.5 ± 1 mm

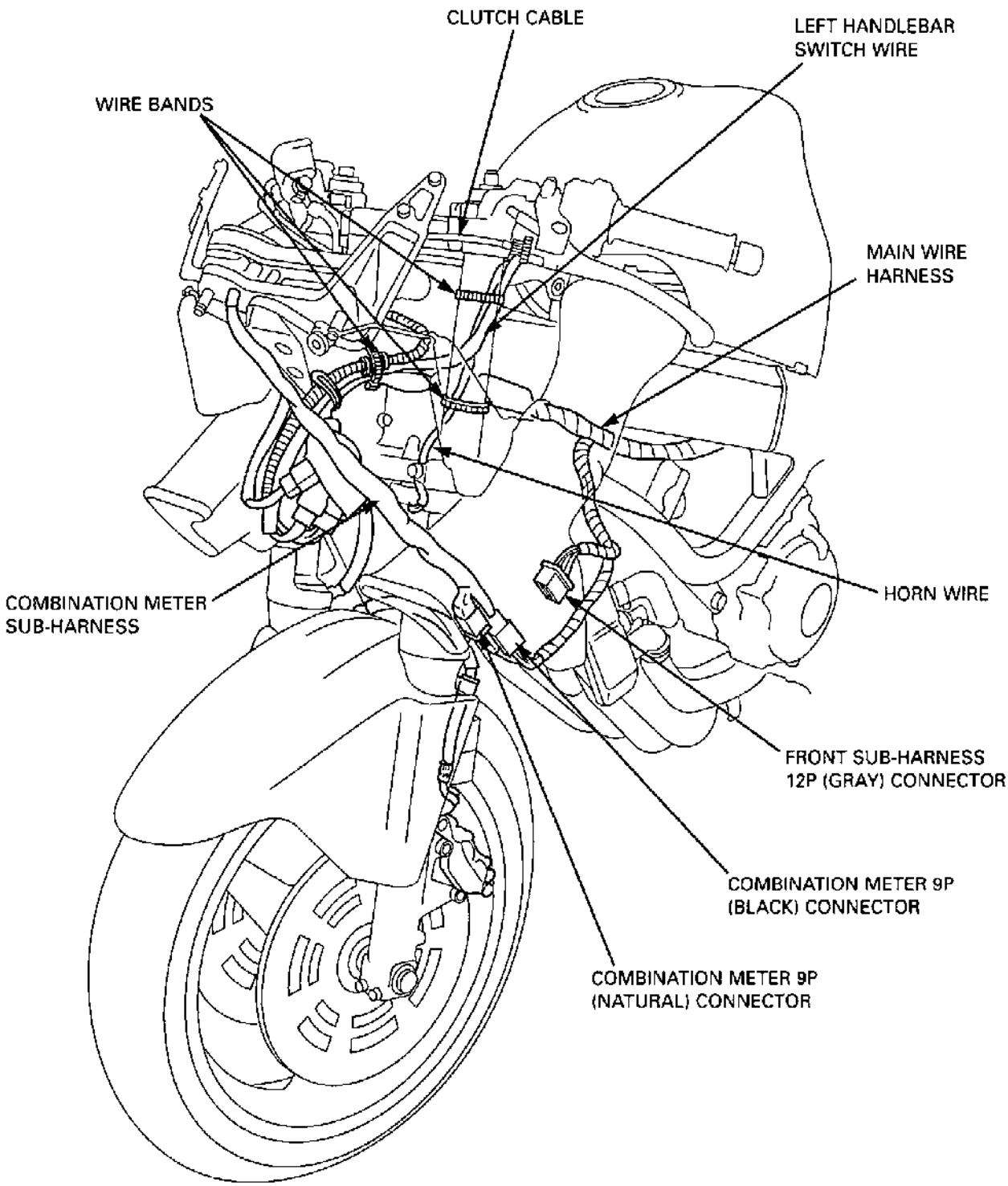
FRAME

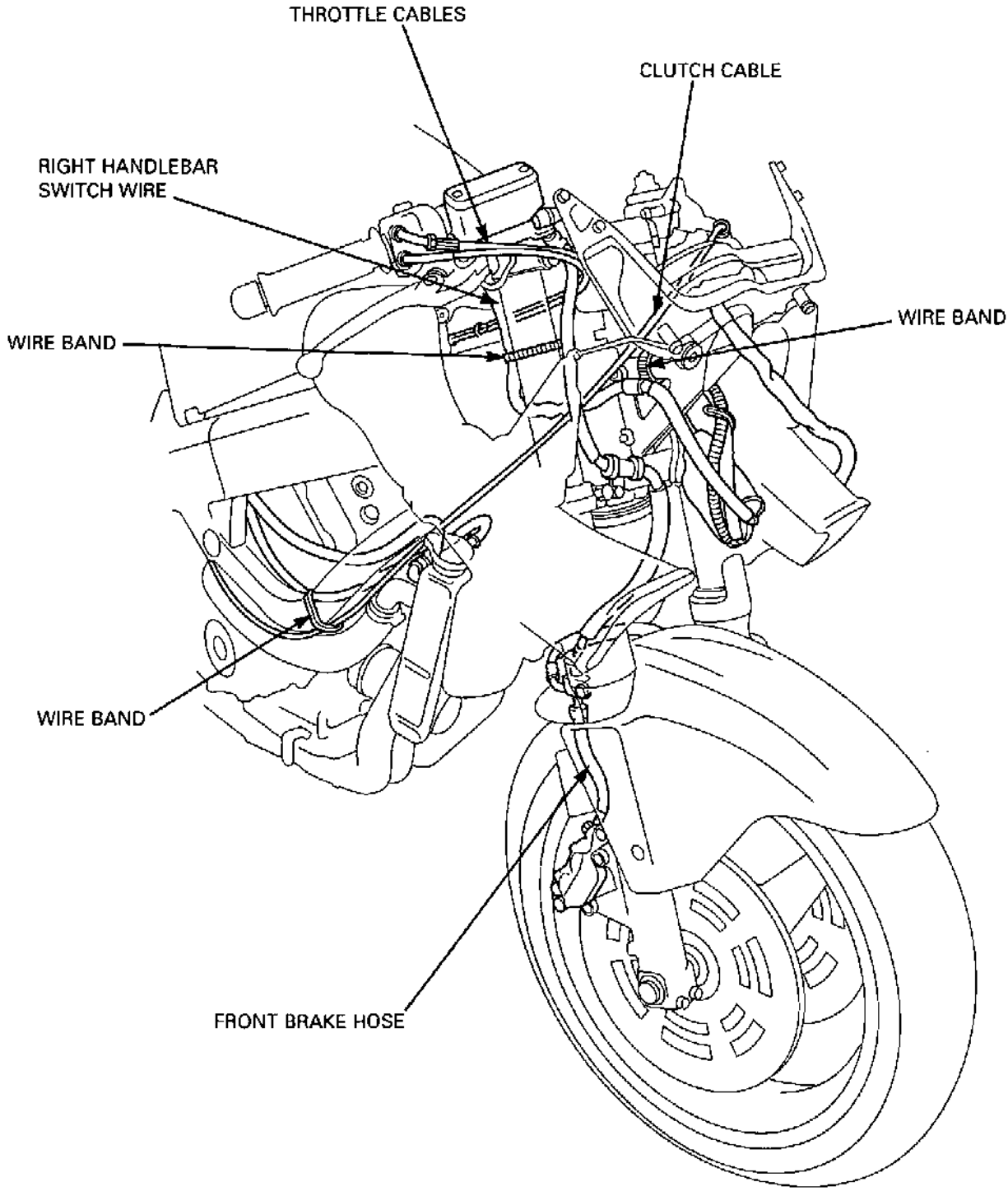
LOCATION	MATERIAL	REMARKS
Seat catch hook sliding area Front wheel dust seal lips Final driven flange-to-rear wheel hub mating surface and O-ring Rear wheel dust seal lips Rear wheel side collar inner surface Throttle grip pipe flange Clutch lever pivot bolt sliding area Rear brake pedal pivot sliding area Gearshift pedal link tie-rod ball joints Gearshift pedal pivot Rider footpeg sliding area Pillion footpeg sliding area Side stand pivot Center stand pivot	Multi-purpose grease	
Steering head bearing sliding surface Steering head dust seal lips	Urea based multi-purpose grease with extreme pressure (example: EXCELITE EP2 manufactured by KYODO YUSHI, Japan), Shell Stamina EP2 or equivalent	
Swingarm pivot bearings Swingarm pivot dust seal lips Shock arm and shock link needle bearings Shock arm and shock link dust seal lips Shock absorber needle bearings Shock absorber dust seal lips	Multi-purpose grease (Shell Alvania EP2 or equivalent)	
Throttle cable A, B outer inside Clutch cable outer inside Clutch cable outer inside	Cable lubricant	
Handlebar grip rubber inside	Honda Bond A or Honda Hand Grip Cement (U.S.A. only)	
Steering bearing adjustment nut threads	Engine oil	
Front brake lever-to-master piston contacting area Front brake lever pivot Rear master brake master piston-to-push rod contacting area Brake caliper dust seals Rear brake caliper boot inside Rear brake caliper pin boot inside	Silicone grease	
Brake master piston and cups Brake caliper piston and piston seals	DOT 4 brake fluid	
Fork cap O-ring Fork dust seal and oil seal lips	Fork fluid	
Rear brake reservoir hose joint screw threads Front brake caliper assembly bolt threads Rear brake caliper pin bolt threads	Locking agent	

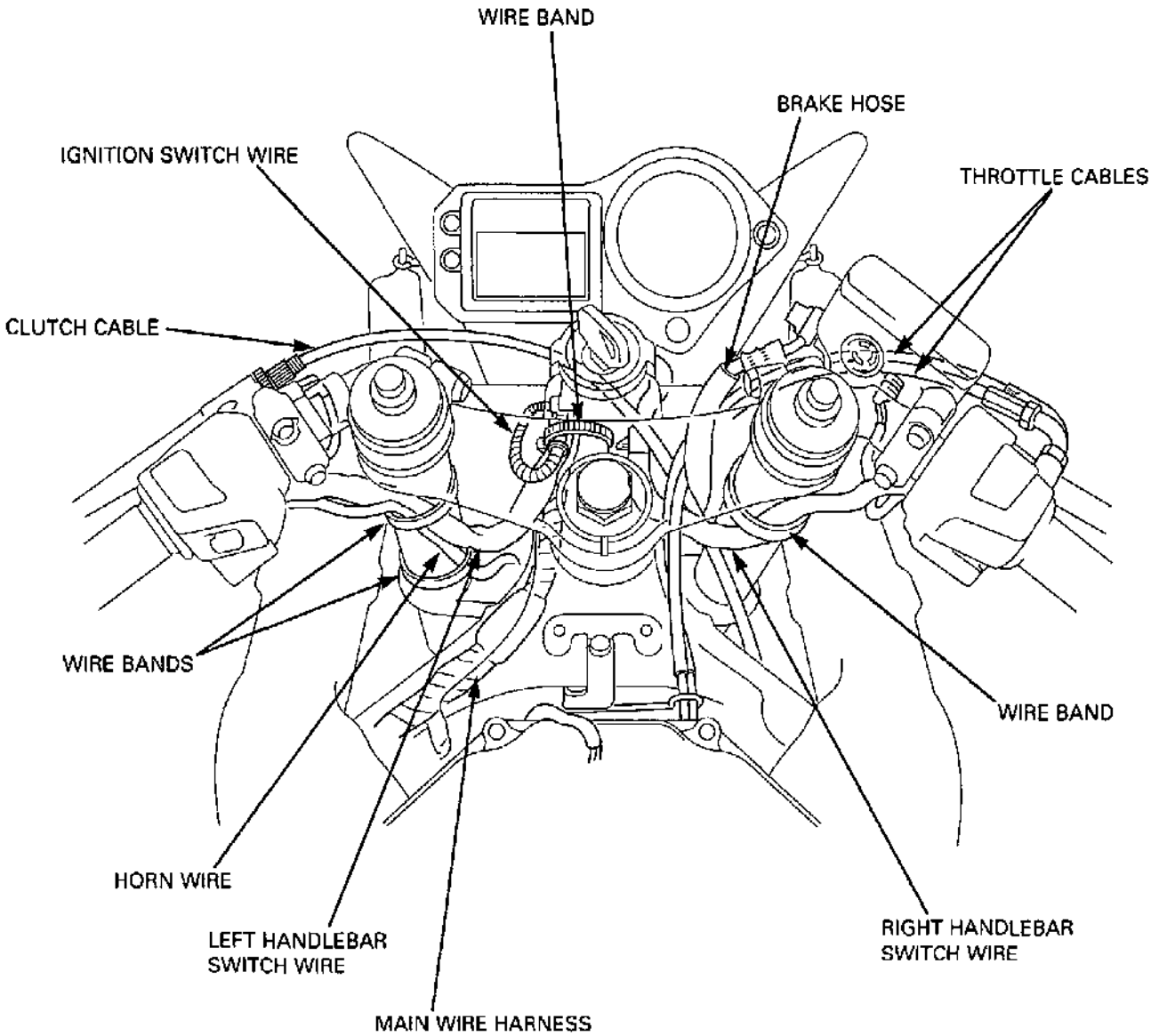
CABLE & HARNESS ROUTING

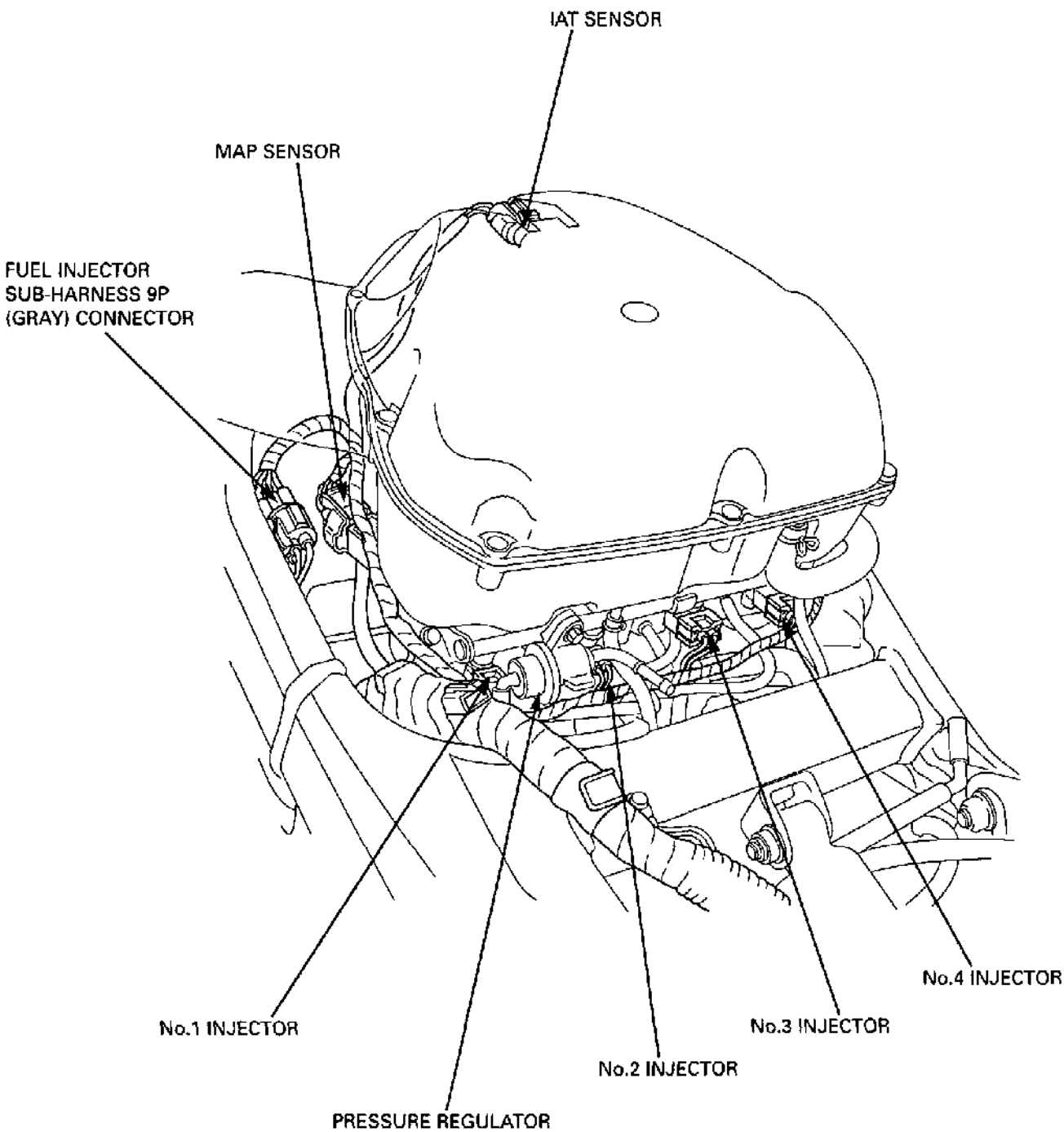


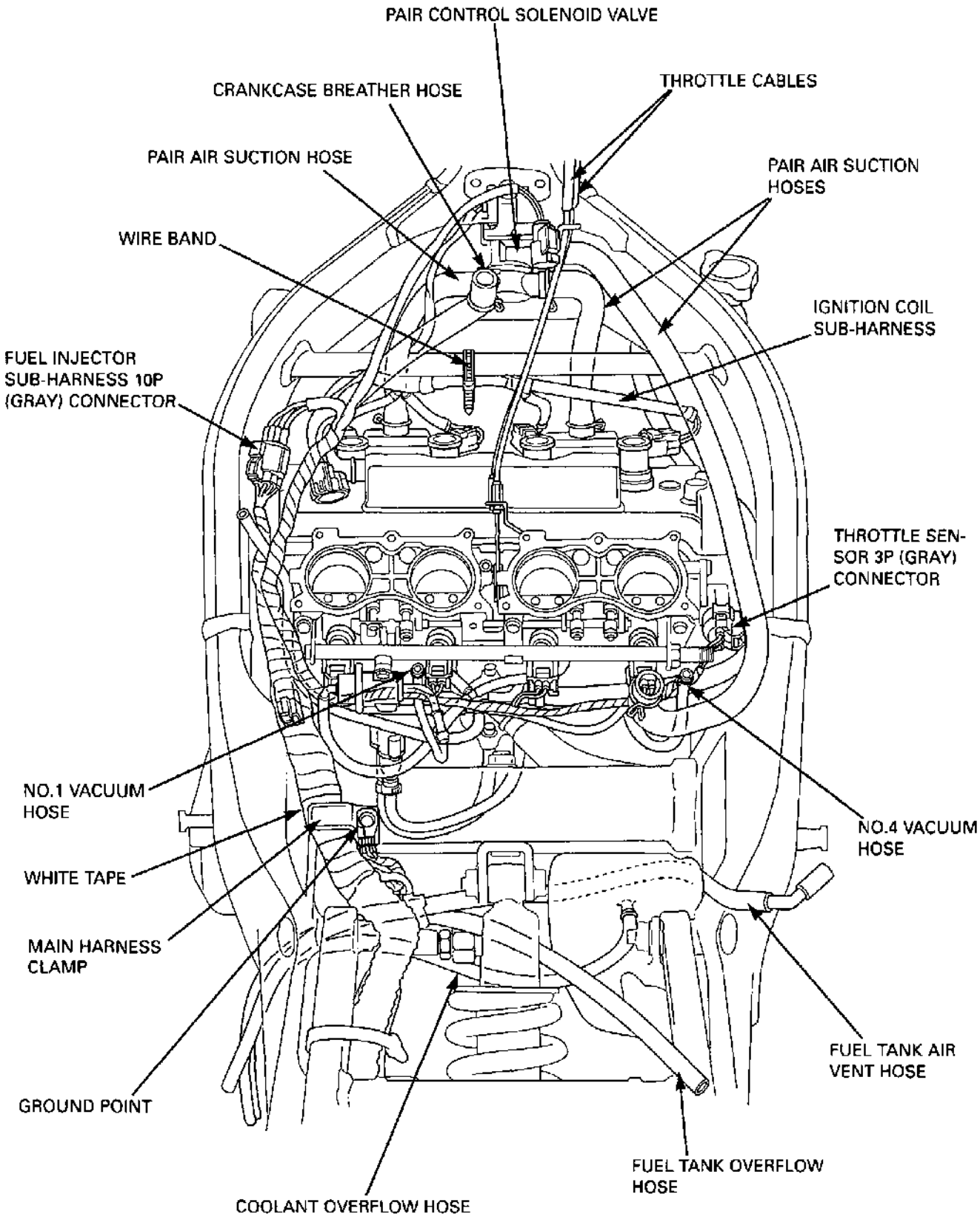


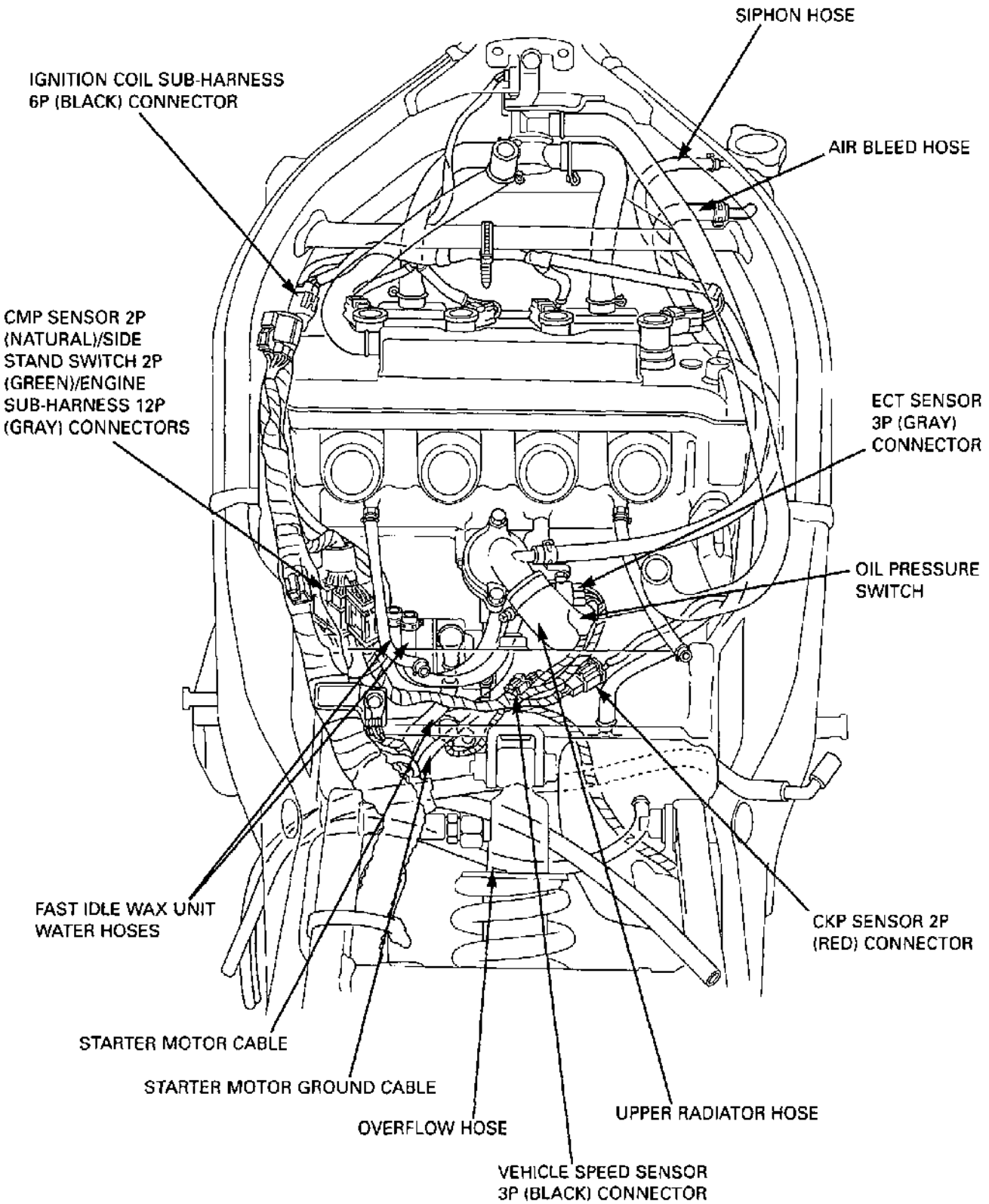

CLUTCH CABLE
LEFT HANDLEBAR SWITCH WIRE
WIRE BANDS
MAIN WIRE HARNESS
HORN WIRE
COMBINATION METER SUB-HARNESS
FRONT SUB-HARNESS 12P (GRAY) CONNECTOR
COMBINATION METER 9P (BLACK) CONNECTOR
COMBINATION METER 9P (NATURAL) CONNECTOR

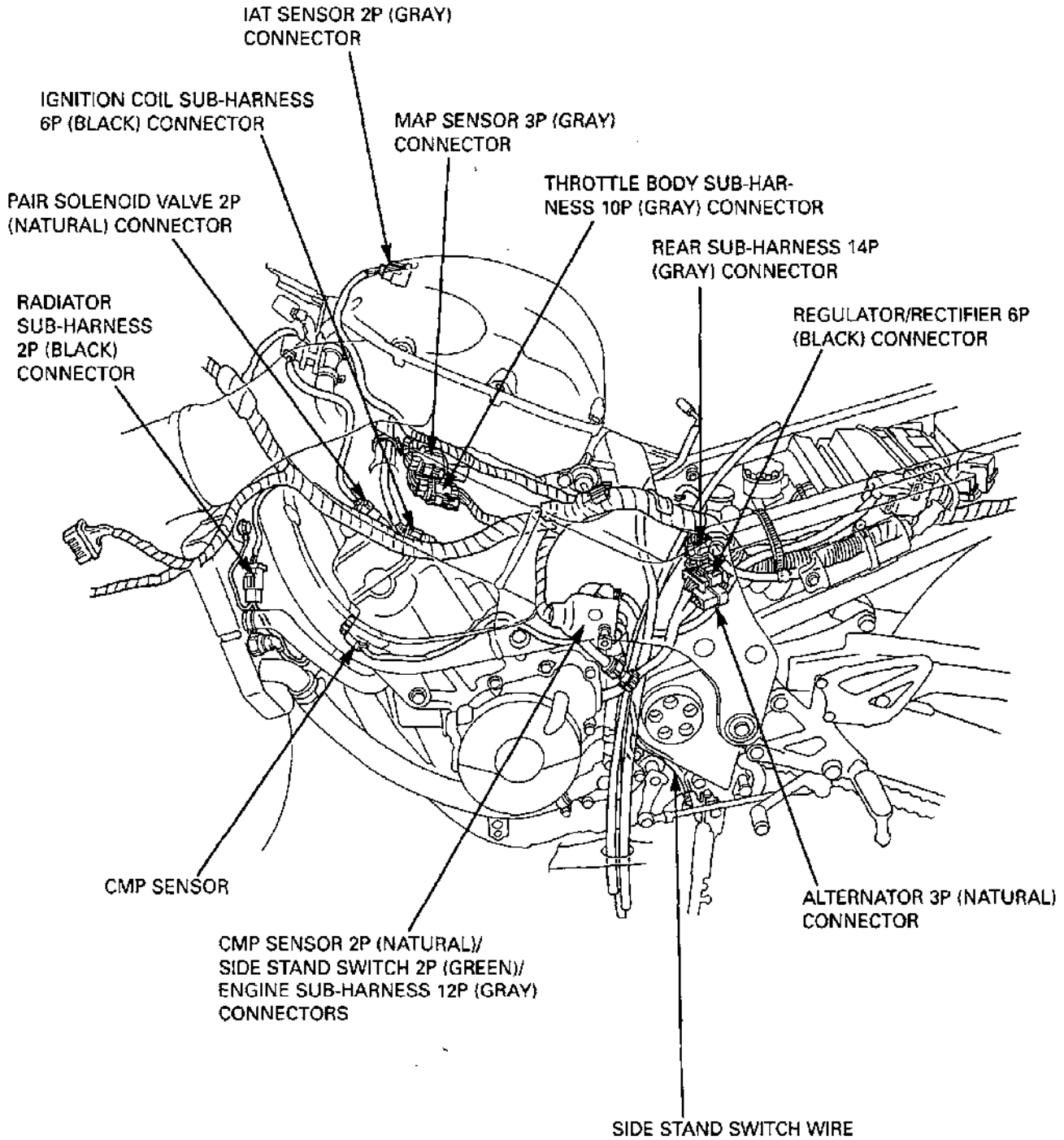

THROTTLE CABLES
CLUTCH CABLE
RIGHT HANDLEBAR SWITCH WIRE
WIRE BAND
WIRE BAND
WIRE BAND
FRONT BRAKE HOSE

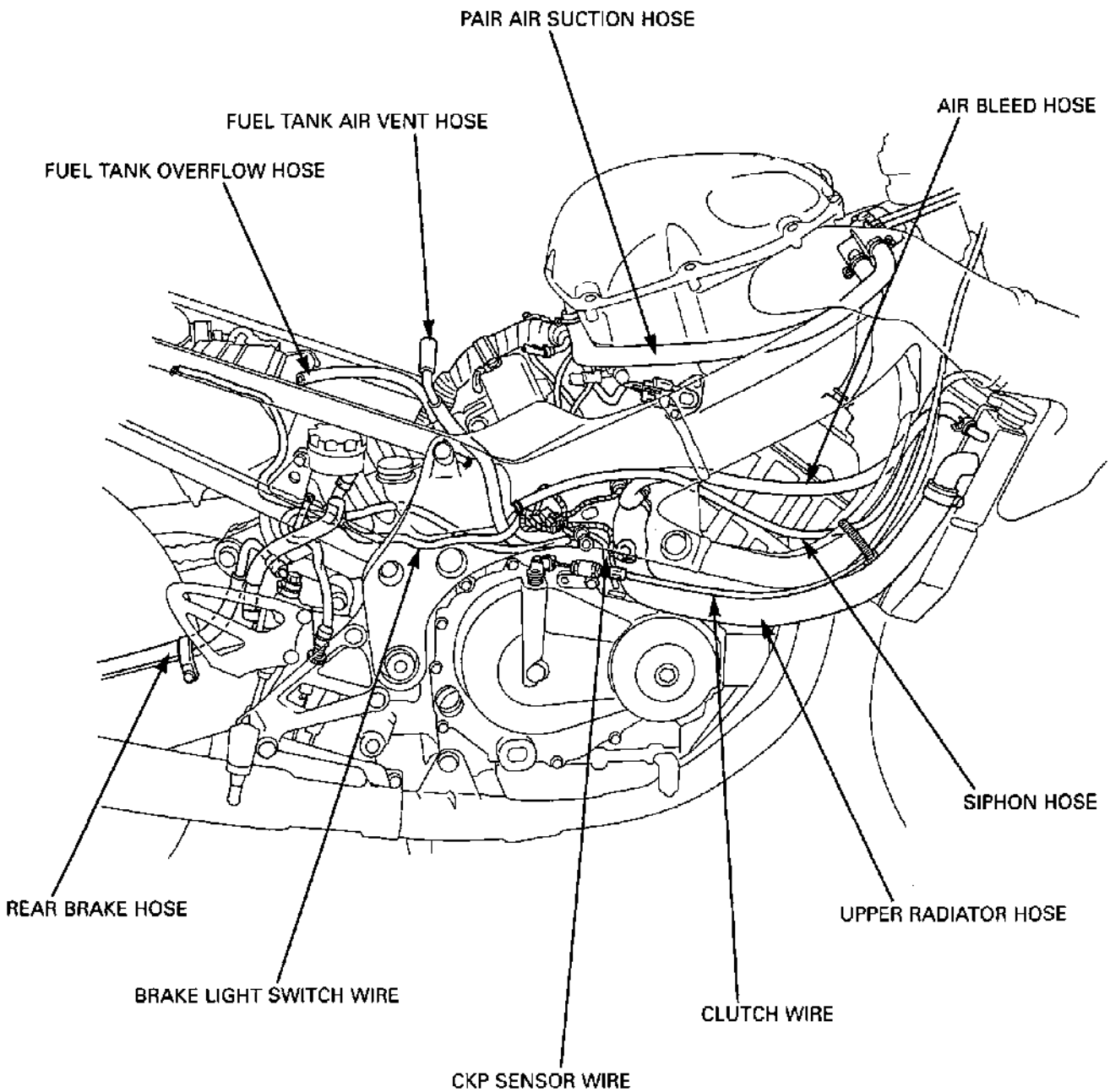

WIRE BAND
BRAKE HOSE
IGNITION SWITCH WIRE
THROTTLE CABLES
CLUTCH CABLE
WIRE BANDS
WIRE BAND
HORN WIRE
LEFT HANDLEBAR
SWITCH WIRE
RIGHT HANDLEBAR
SWITCH WIRE
MAIN WIRE HARNESS

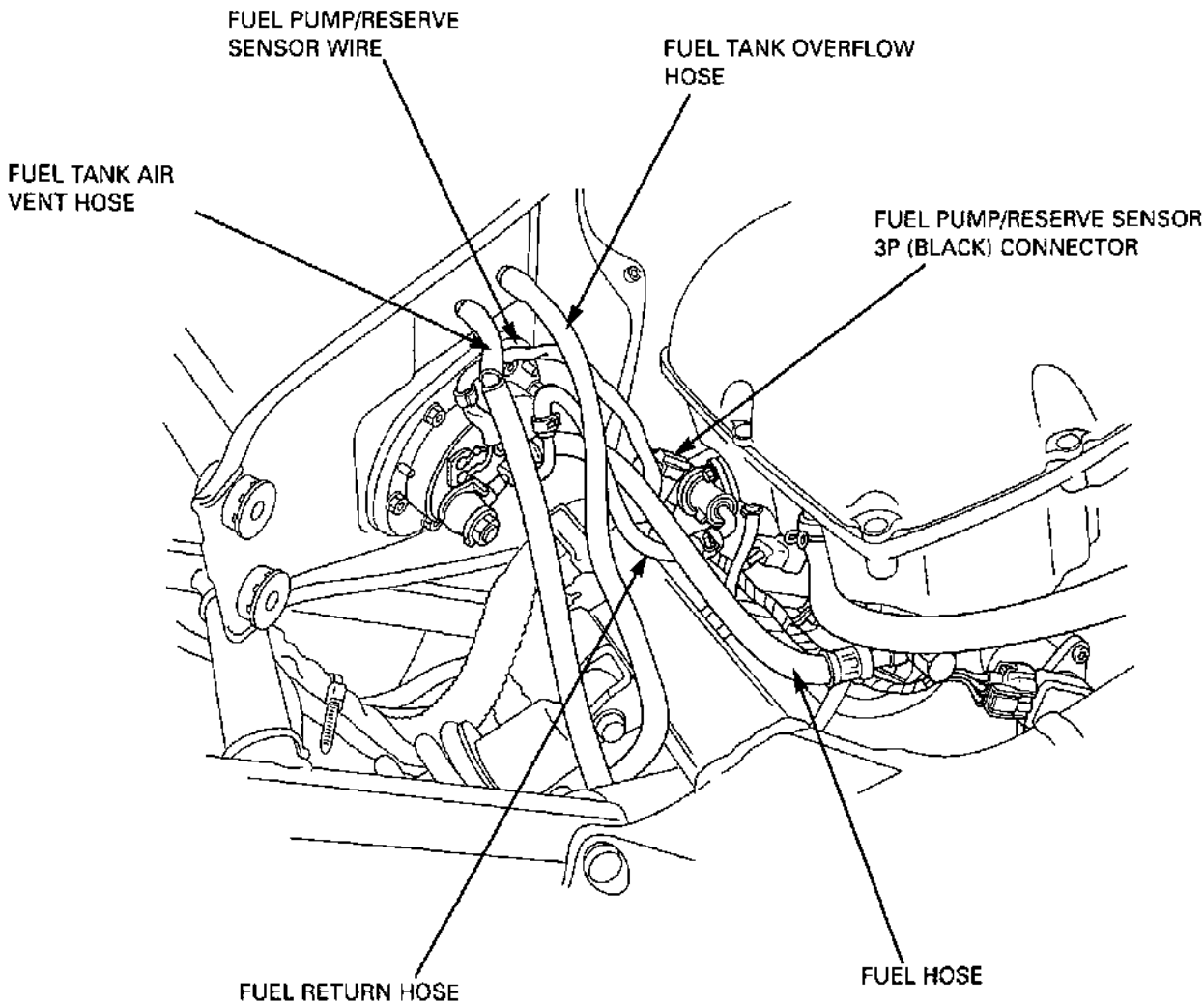

IAT SENSOR
MAP SENSOR
FUEL INJECTOR
SUB-HARNESS 9P
(GRAY) CONNECTOR
No.4 INJECTOR
No.1 INJECTOR
No.3 INJECTOR
No.2 INJECTOR
PRESSURE REGULATOR

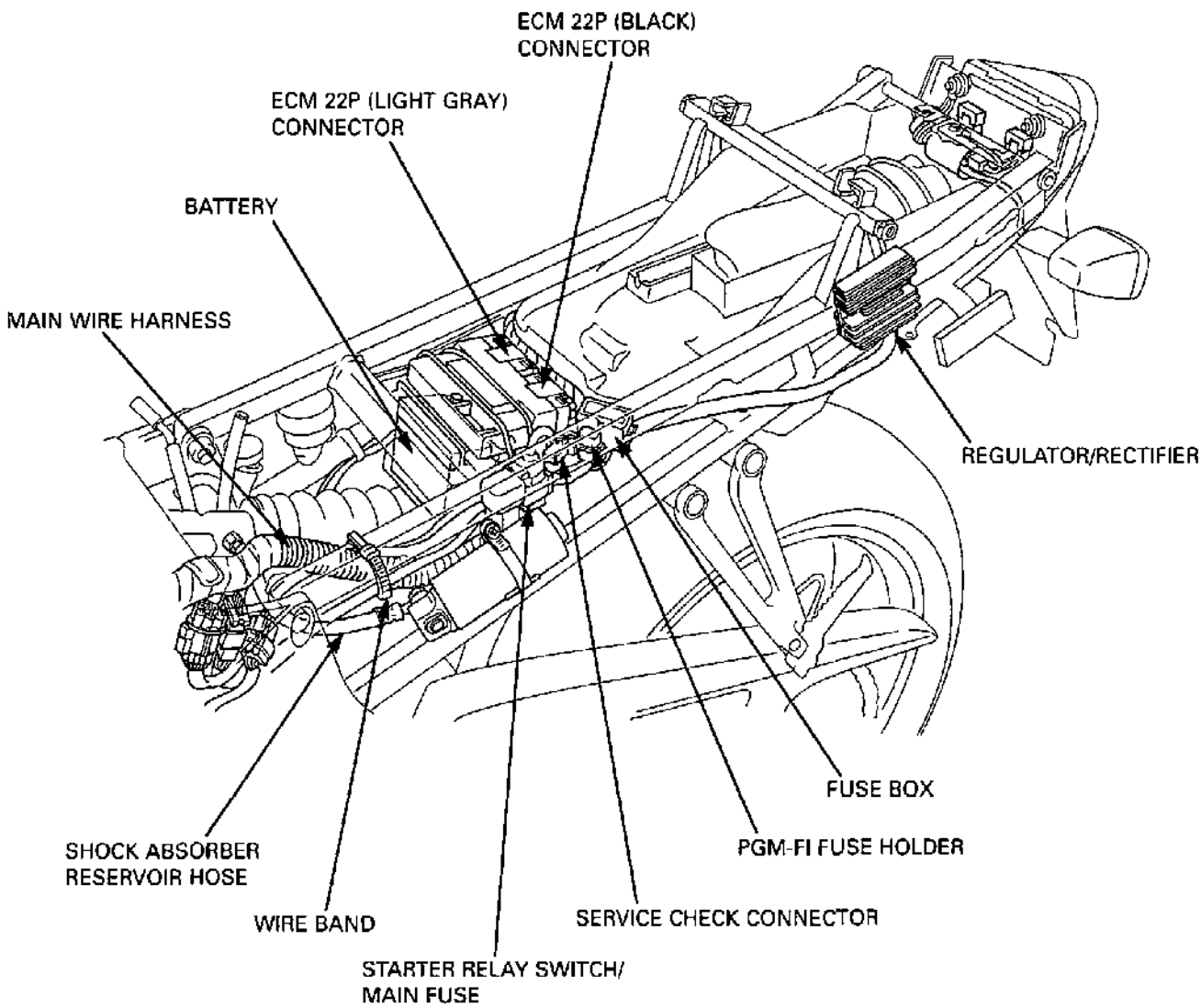

PAIR CONTROL SOLENOID VALVE
CRANKCASE BREATHER HOSE
THROTTLE CABLES
PAIR AIR SUCTION HOSE
PAIR AIR SUCTION HOSES
WIRE BAND
IGNITION COIL SUB-HARNESS
FUEL INJECTOR SUB-HARNESS 10P (GRAY) CONNECTOR
THROTTLE SENSOR 3P (GRAY) CONNECTOR
NO.1 VACUUM HOSE
NO.4 VACUUM HOSE
WHITE TAPE
MAIN HARNESS CLAMP
FUEL TANK AIR VENT HOSE
GROUND POINT
FUEL TANK OVERFLOW HOSE
COOLANT OVERFLOW HOSE

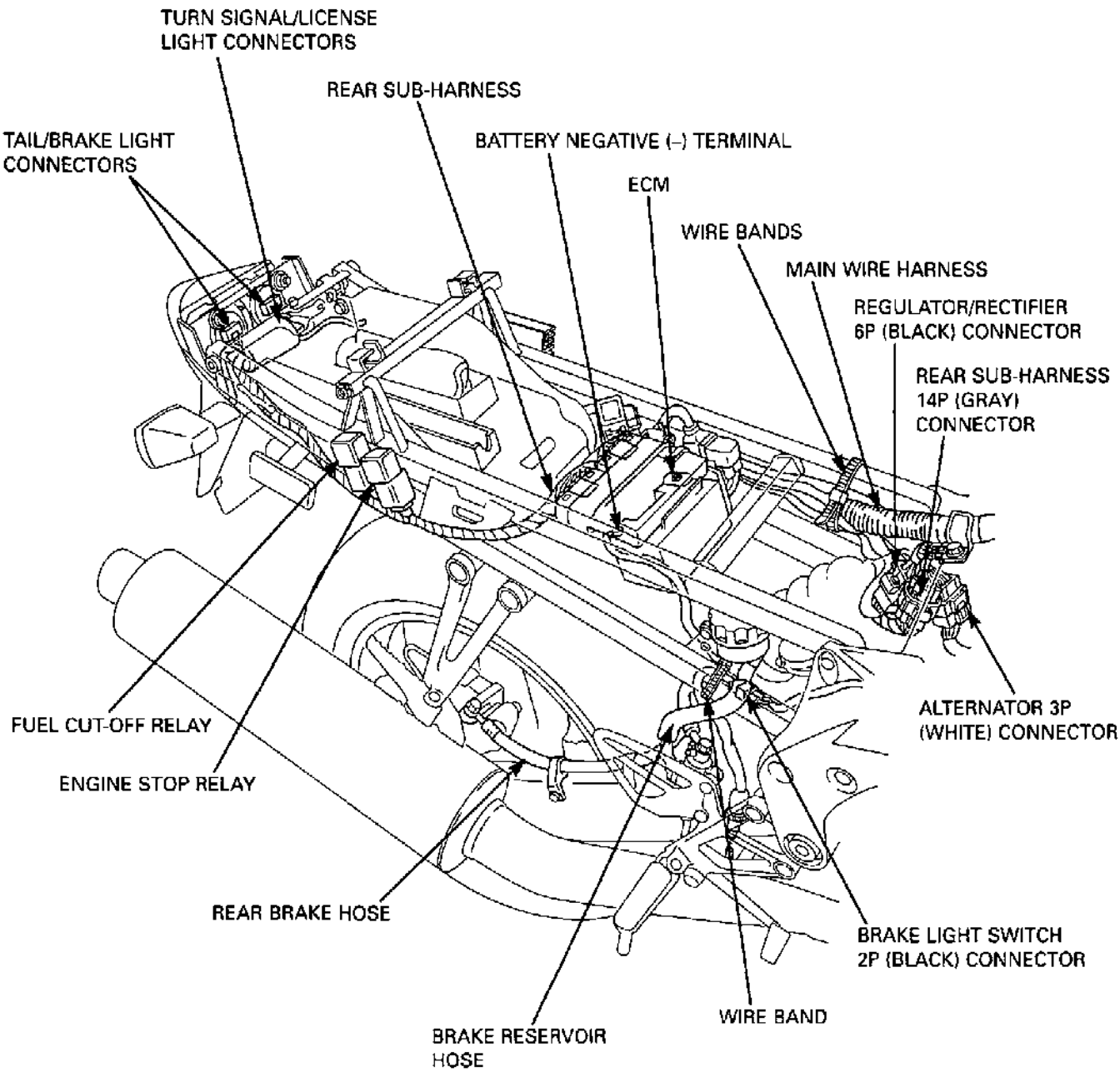

SIPHON HOSE
IGNITION COIL SUB-HARNESS 6P (BLACK) CONNECTOR
AIR BLEED HOSE
CMP SENSOR 2P (NATURAL)/SIDE STAND SWITCH 2P (GREEN)/ENGINE SUB-HARNESS 12P (GRAY) CONNECTORS
ECT SENSOR 3P (GRAY) CONNECTOR
OIL PRESSURE SWITCH
FAST IDLE WAX UNIT WATER HOSES
CKP SENSOR 2P (RED) CONNECTOR
STARTER MOTOR CABLE
STARTER MOTOR GROUND CABLE
OVERFLOW HOSE
UPPER RADIATOR HOSE
VEHICLE SPEED SENSOR 3P (BLACK) CONNECTOR


IAT SENSOR 2P (GRAY) CONNECTOR
IGNITION COIL SUB-HARNESS 6P (BLACK) CONNECTOR
MAP SENSOR 3P (GRAY) CONNECTOR
PAIR SOLENOID VALVE 2P (NATURAL) CONNECTOR
THROTTLE BODY SUB-HARNESS 10P (GRAY) CONNECTOR
REAR SUB-HARNESS 14P (GRAY) CONNECTOR
RADIATOR SUB-HARNESS 2P (BLACK) CONNECTOR
REGULATOR/RECTIFIER 6P (BLACK) CONNECTOR
CMP SENSOR
ALTERNATOR 3P (NATURAL) CONNECTOR
CMP SENSOR 2P (NATURAL)/ SIDE STAND SWITCH 2P (GREEN)/ ENGINE SUB-HARNESS 12P (GRAY) CONNECTORS
SIDE STAND SWITCH WIRE

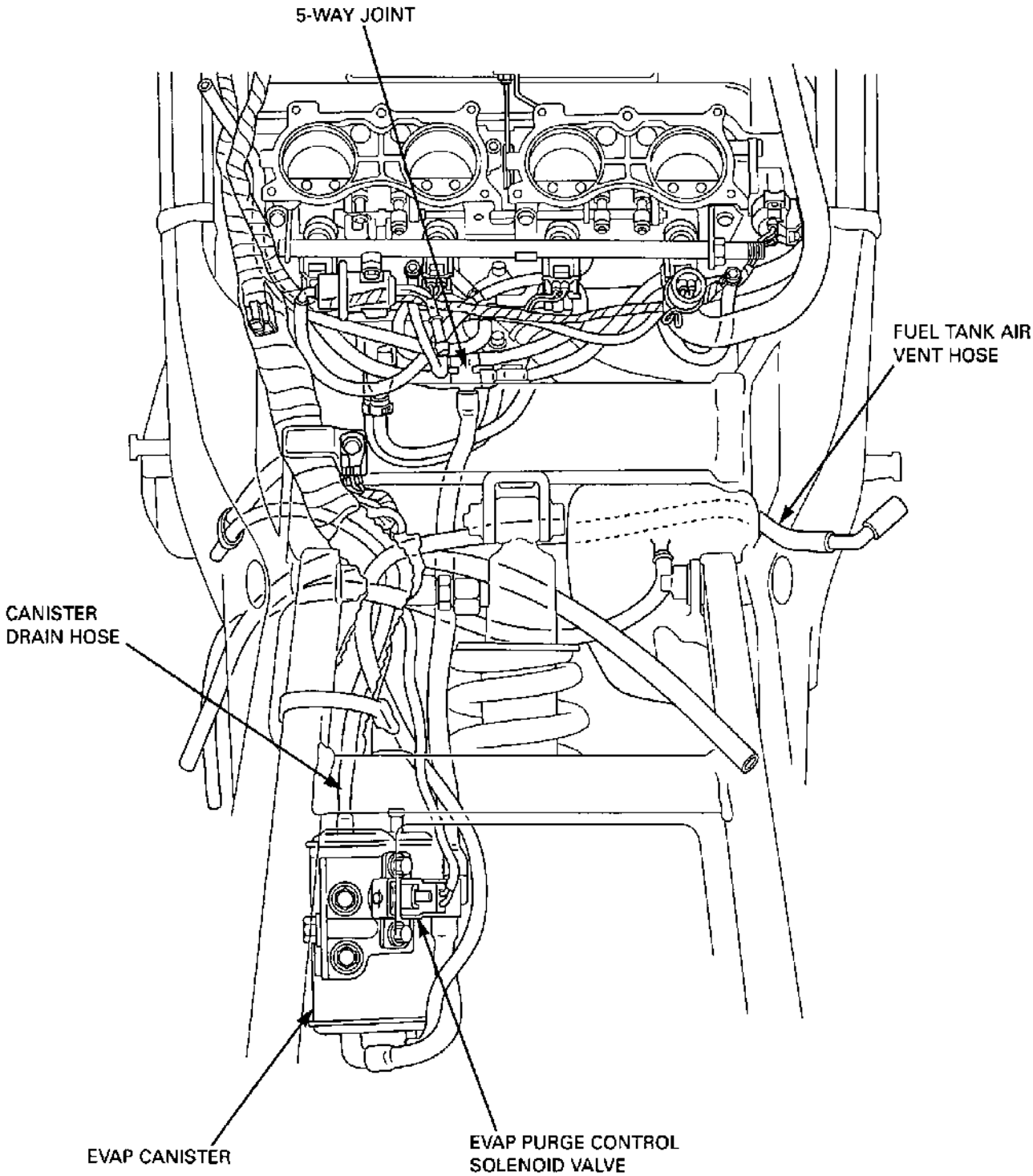

PAIR AIR SUCTION HOSE
AIR BLEED HOSE
FUEL TANK AIR VENT HOSE
FUEL TANK OVERFLOW HOSE
SIPHON HOSE
REAR BRAKE HOSE
UPPER RADIATOR HOSE
BRAKE LIGHT SWITCH WIRE
CLUTCH WIRE
CKP SENSOR WIRE

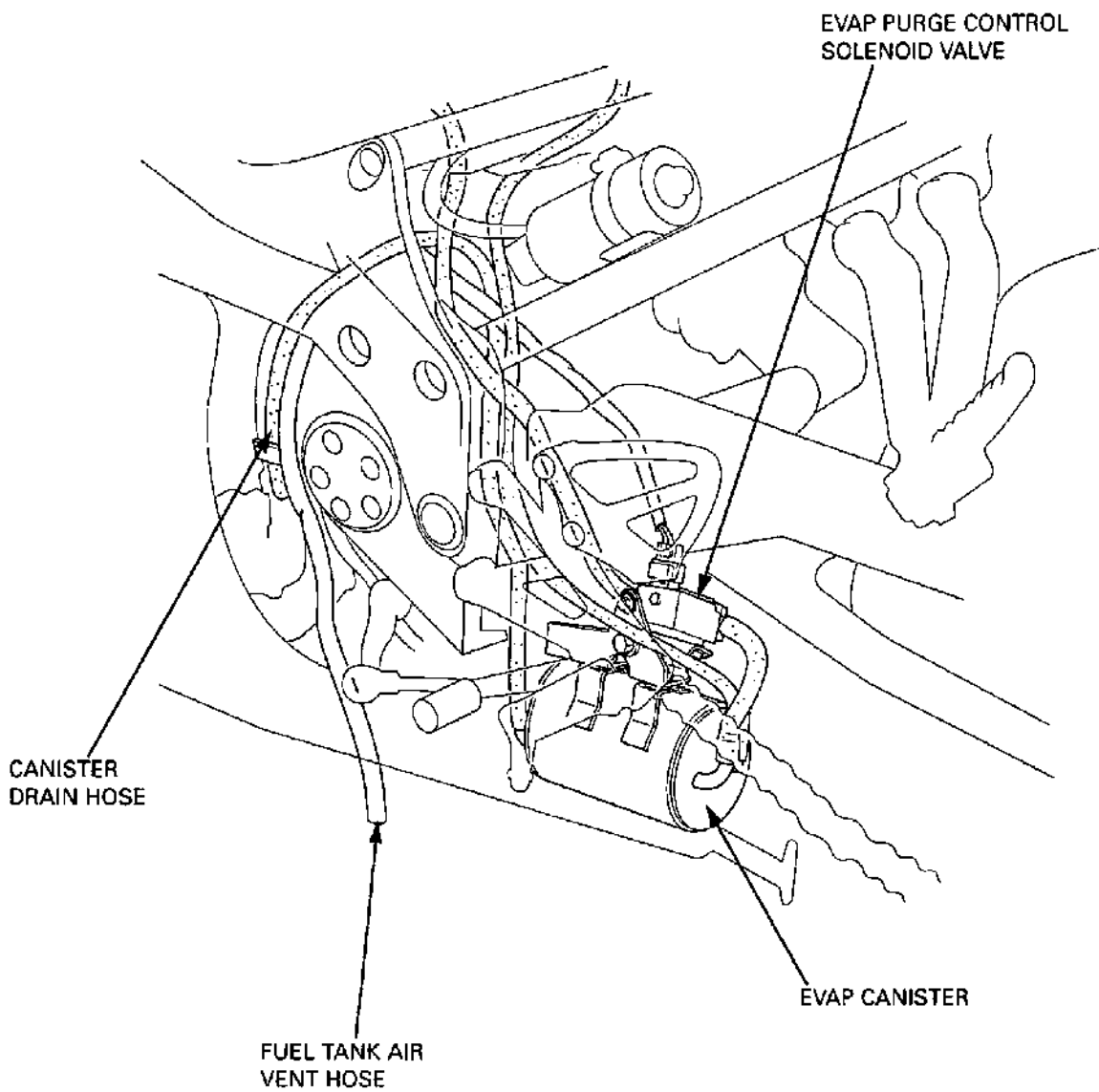

FUEL PUMP/RESERVE SENSOR WIRE
FUEL TANK OVERFLOW HOSE
FUEL TANK AIR VENT HOSE
FUEL PUMP/RESERVE SENSOR 3P (BLACK) CONNECTOR
FUEL RETURN HOSE
FUEL HOSE

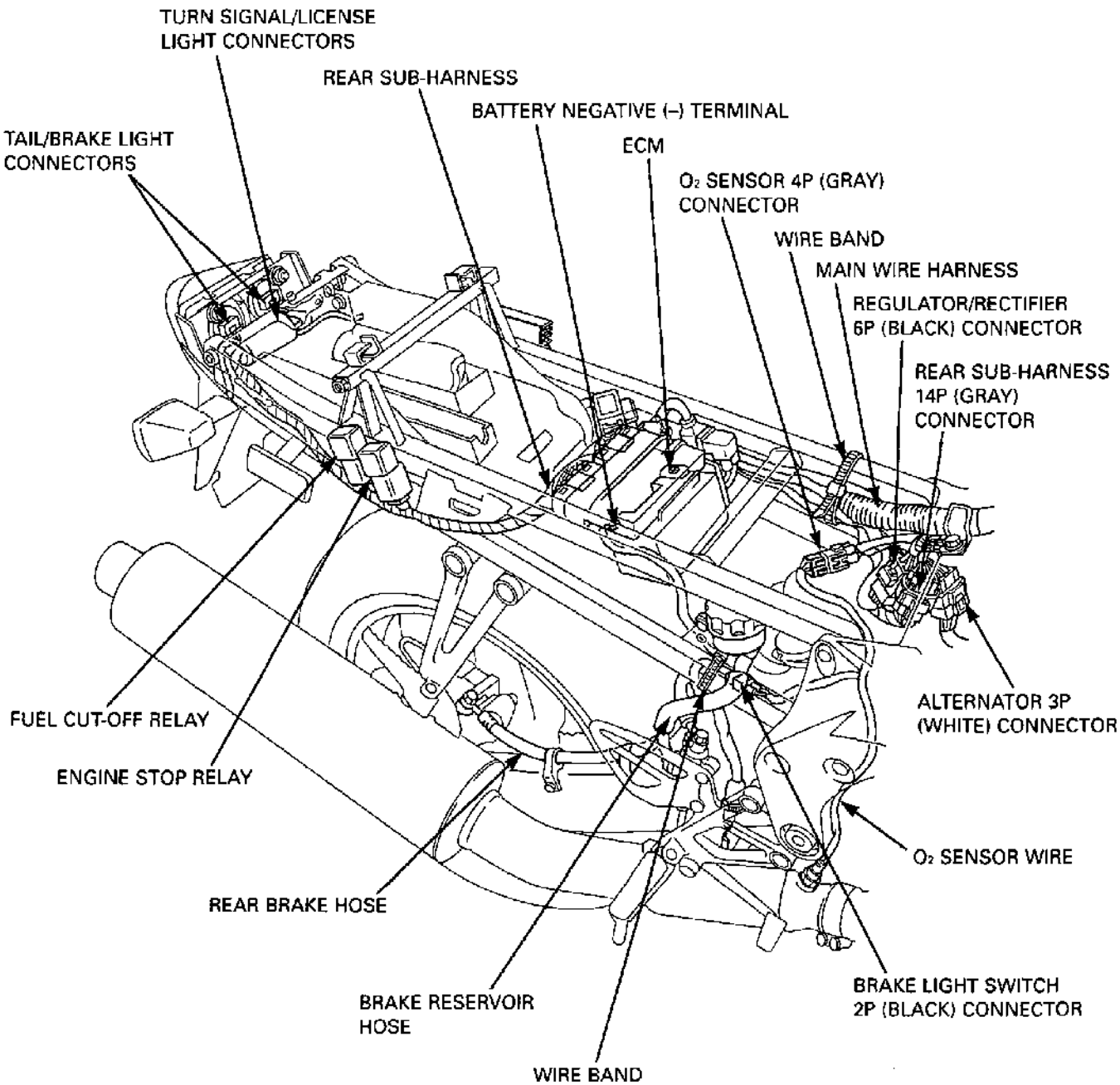

ECM 22P (BLACK) CONNECTOR
ECM 22P (LIGHT GRAY) CONNECTOR
BATTERY
MAIN WIRE HARNESS
REGULATOR/RECTIFIER
FUSE BOX
PGM-FI FUSE HOLDER
SHOCK ABSORBER RESERVOIR HOSE
WIRE BAND
SERVICE CHECK CONNECTOR
STARTER RELAY SWITCH/ MAIN FUSE


TURN SIGNAL/LICENSE LIGHT CONNECTORS
REAR SUB-HARNESS
TAIL/BRAKE LIGHT CONNECTORS
BATTERY NEGATIVE (–) TERMINAL
ECM
WIRE BANDS
MAIN WIRE HARNESS
REGULATOR/RECTIFIER 6P (BLACK) CONNECTOR
REAR SUB-HARNESS 14P (GRAY) CONNECTOR
ALTERNATOR 3P (WHITE) CONNECTOR
FUEL CUT-OFF RELAY
ENGINE STOP RELAY
REAR BRAKE HOSE
BRAKE LIGHT SWITCH 2P (BLACK) CONNECTOR
WIRE BAND
BRAKE RESERVOIR HOSE

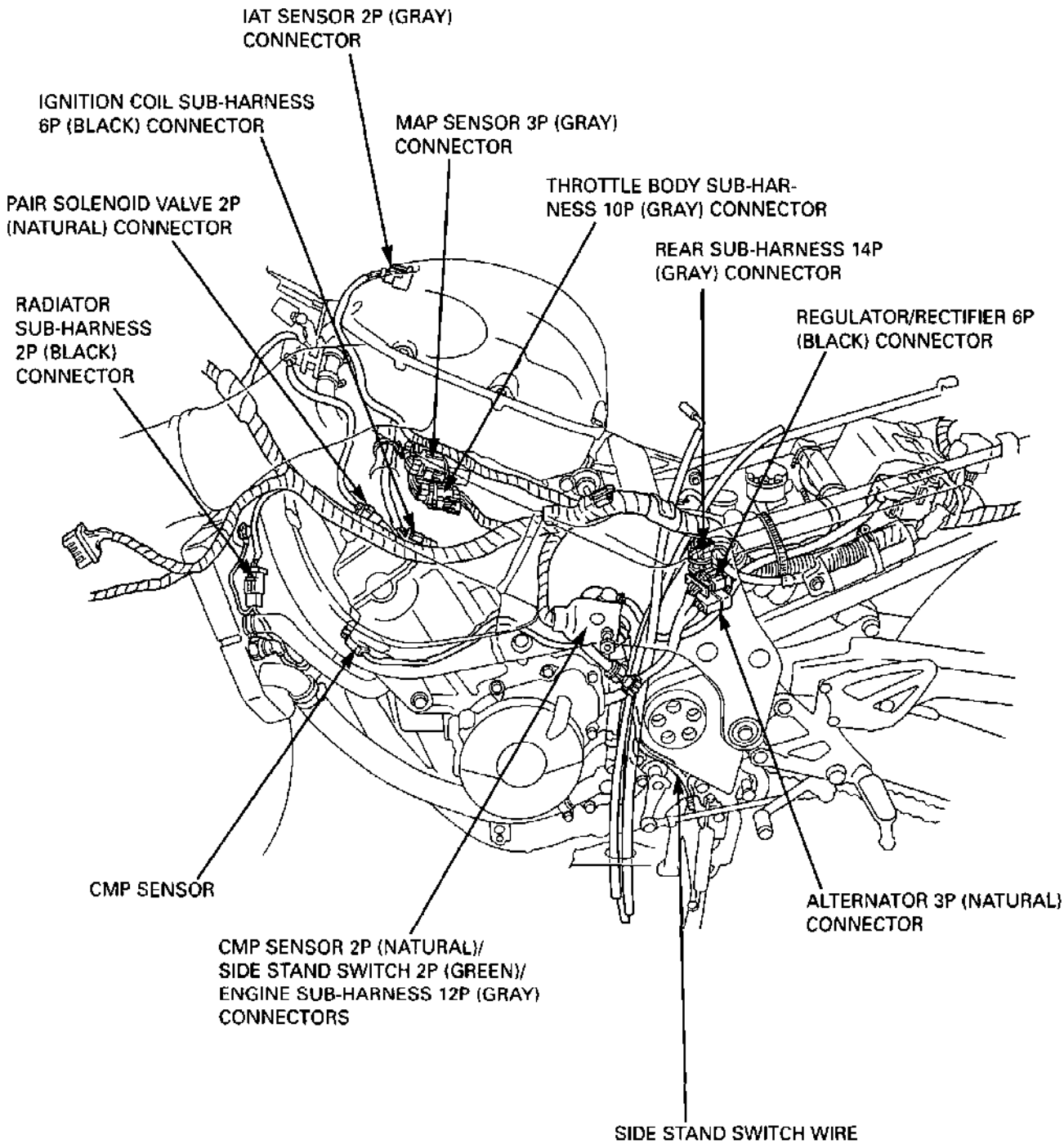
CALIFORNIA TYPE:

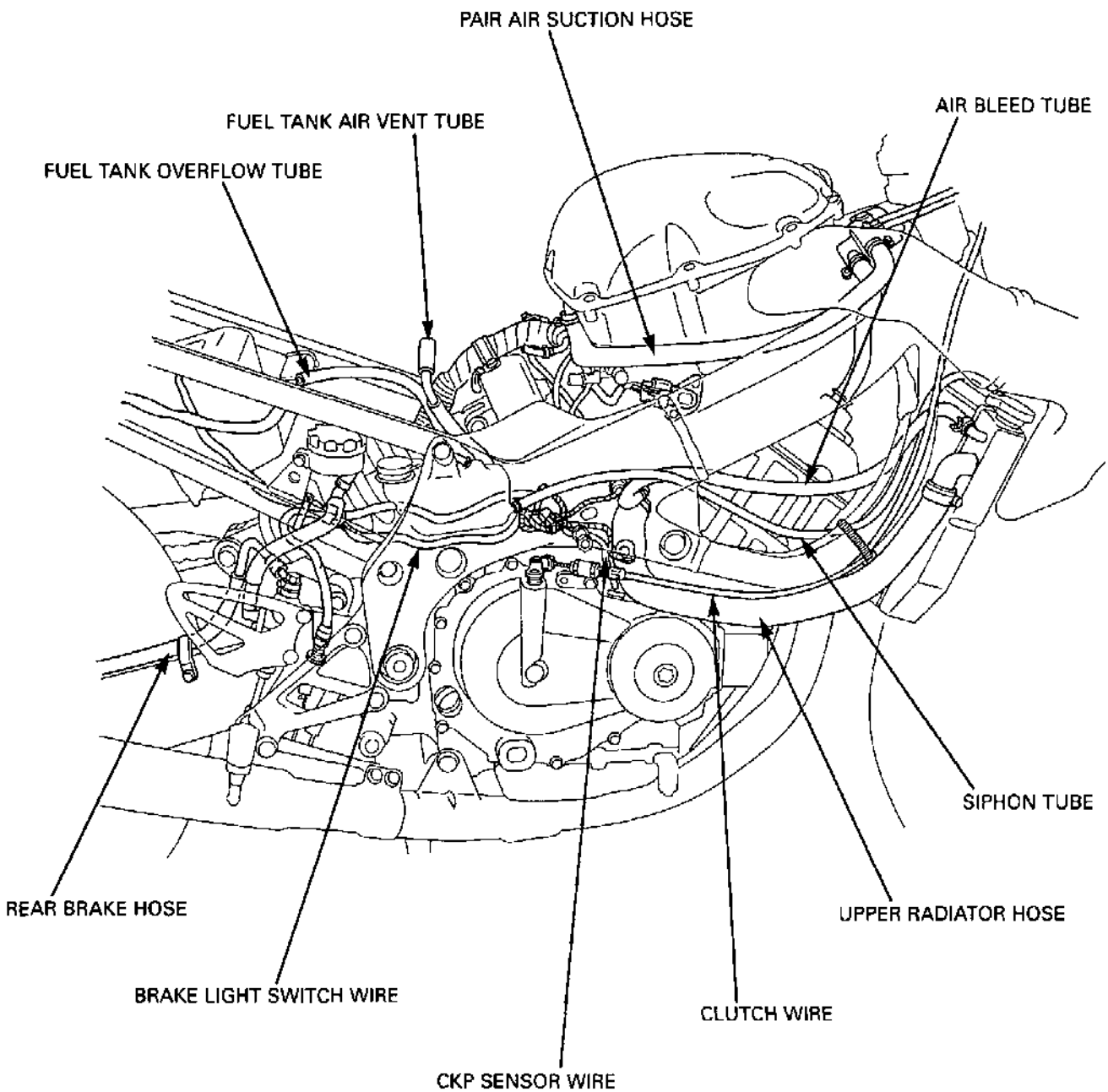


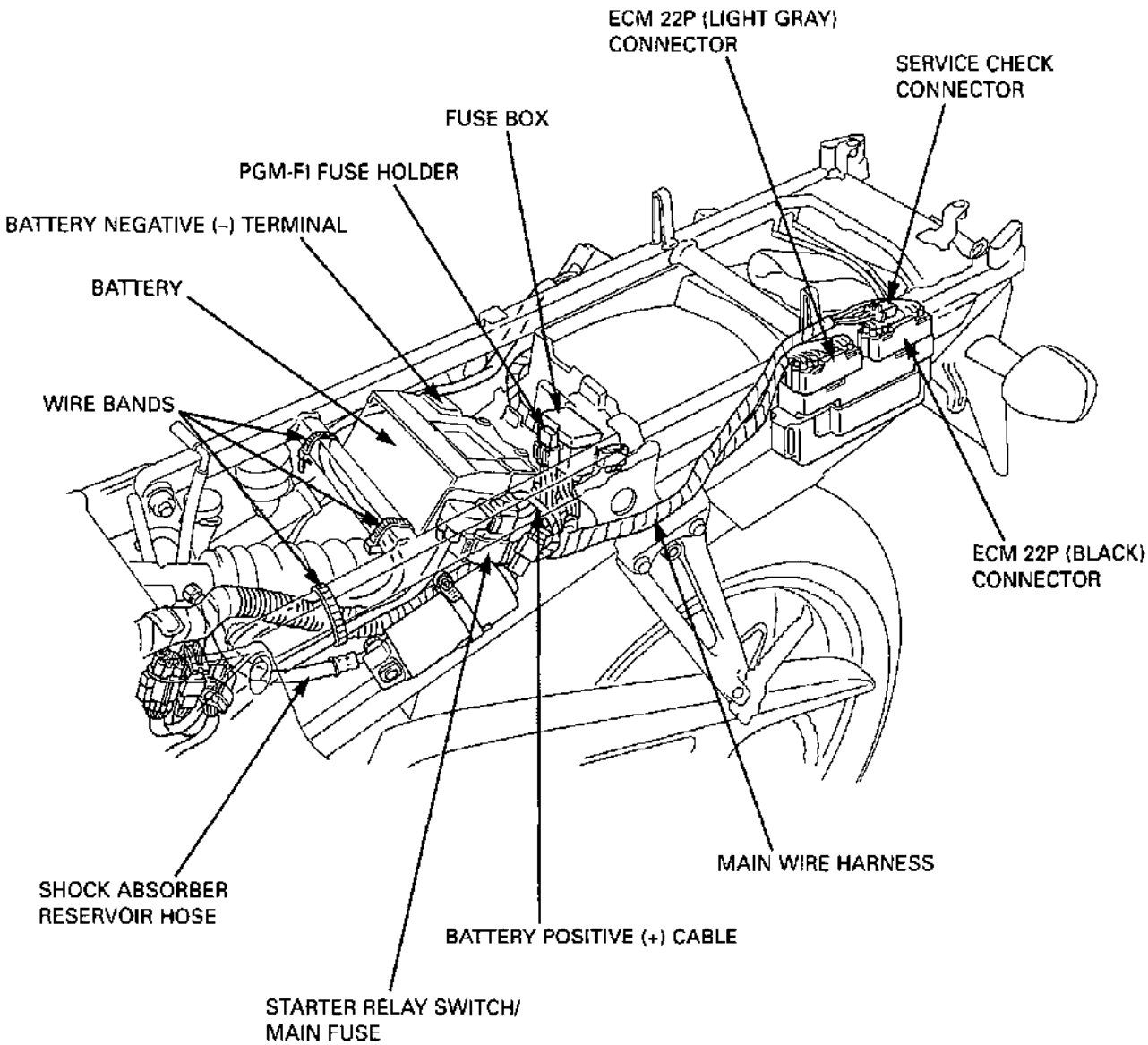

EVAP PURGE CONTROL
SOLENOID VALVE
CANISTER
DRAIN HOSE
EVAP CANISTER
FUEL TANK AIR
VENT HOSE

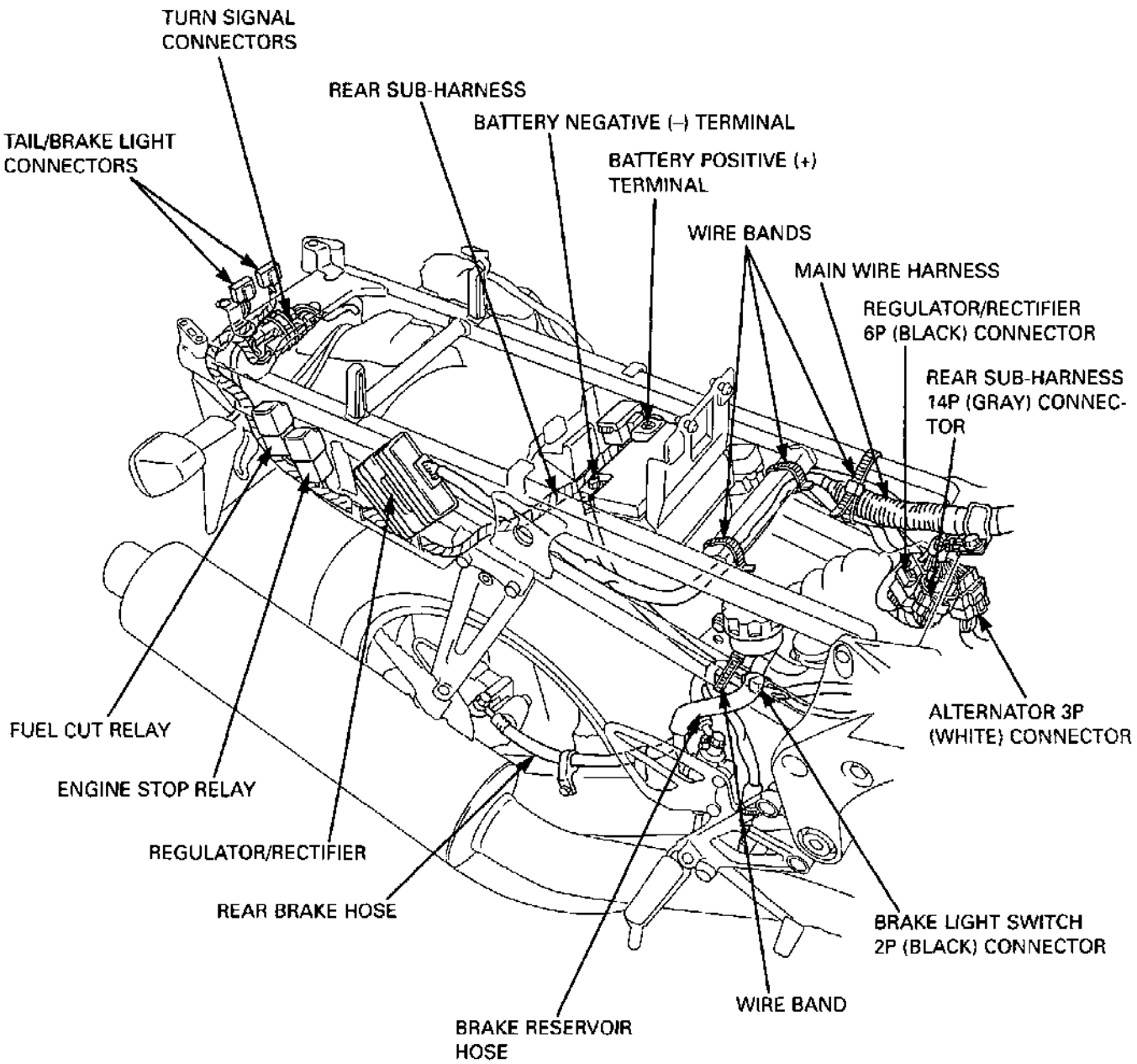

TURN SIGNAL/LICENSE LIGHT CONNECTORS
REAR SUB-HARNESS
BATTERY NEGATIVE (–) TERMINAL
TAIL/BRAKE LIGHT CONNECTORS
ECM
O2 SENSOR 4P (GRAY) CONNECTOR
WIRE BAND
MAIN WIRE HARNESS
REGULATOR/RECTIFIER 6P (BLACK) CONNECTOR
REAR SUB-HARNESS 14P (GRAY) CONNECTOR
ALTERNATOR 3P (WHITE) CONNECTOR
FUEL CUT-OFF RELAY
ENGINE STOP RELAY
O2 SENSOR WIRE
REAR BRAKE HOSE
BRAKE LIGHT SWITCH 2P (BLACK) CONNECTOR
BRAKE RESERVOIR HOSE
WIRE BAND

After 03:

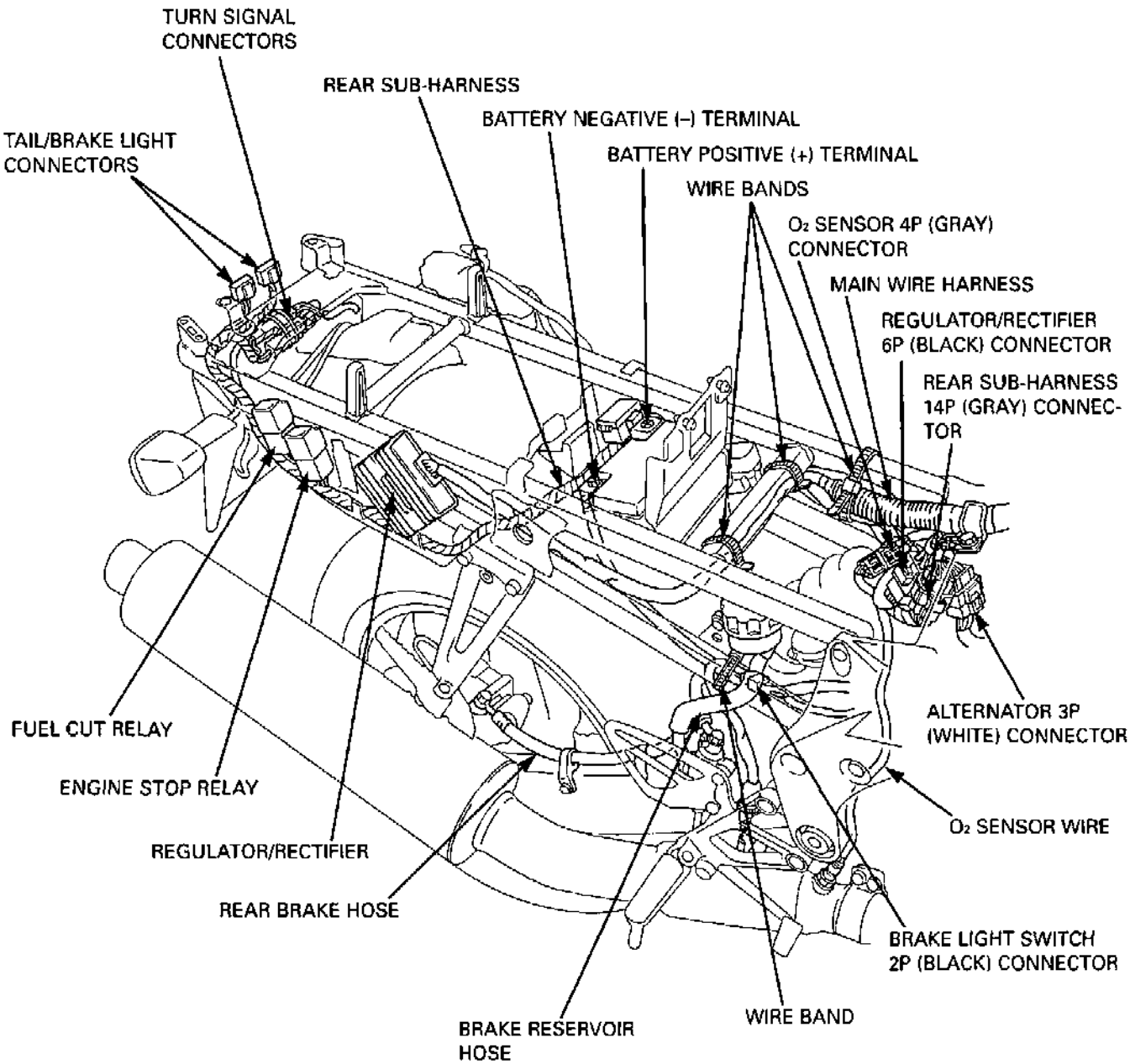

IAT SENSOR 2P (GRAY) CONNECTOR
IGNITION COIL SUB-HARNESS 6P (BLACK) CONNECTOR
MAP SENSOR 3P (GRAY) CONNECTOR
PAIR SOLENOID VALVE 2P (NATURAL) CONNECTOR
THROTTLE BODY SUB-HARNESS 10P (GRAY) CONNECTOR
REAR SUB-HARNESS 14P (GRAY) CONNECTOR
RADIATOR SUB-HARNESS 2P (BLACK) CONNECTOR
REGULATOR/RECTIFIER 6P (BLACK) CONNECTOR
CMP SENSOR
CMP SENSOR 2P (NATURAL)/ SIDE STAND SWITCH 2P (GREEN)/ ENGINE SUB-HARNESS 12P (GRAY) CONNECTORS
ALTERNATOR 3P (NATURAL) CONNECTOR
SIDE STAND SWITCH WIRE


PAIR AIR SUCTION HOSE
AIR BLEED TUBE
FUEL TANK AIR VENT TUBE
FUEL TANK OVERFLOW TUBE
SIPHON TUBE
REAR BRAKE HOSE
UPPER RADIATOR HOSE
BRAKE LIGHT SWITCH WIRE
CLUTCH WIRE
CKP SENSOR WIRE


ECM 22P (LIGHT GRAY) CONNECTOR
SERVICE CHECK CONNECTOR
FUSE BOX
PGM-FI FUSE HOLDER
BATTERY NEGATIVE (–) TERMINAL
BATTERY
WIRE BANDS
ECM 22P (BLACK) CONNECTOR
MAIN WIRE HARNESS
SHOCK ABSORBER RESERVOIR HOSE
BATTERY POSITIVE (+) CABLE
STARTER RELAY SWITCH/ MAIN FUSE


TURN SIGNAL CONNECTORS
REAR SUB-HARNESS
BATTERY NEGATIVE (–) TERMINAL
TAIL/BRAKE LIGHT CONNECTORS
BATTERY POSITIVE (+) TERMINAL
WIRE BANDS
MAIN WIRE HARNESS
REGULATOR/RECTIFIER 6P (BLACK) CONNECTOR
REAR SUB-HARNESS 14P (GRAY) CONNEC-TOR
ALTERNATOR 3P (WHITE) CONNECTOR
FUEL CUT RELAY
ENGINE STOP RELAY
REGULATOR/RECTIFIER
REAR BRAKE HOSE
BRAKE LIGHT SWITCH 2P (BLACK) CONNECTOR
WIRE BAND
BRAKE RESERVOIR HOSE

CALIFORNIA TYPE (After '03):



EMISSION CONTROL SYSTEMS

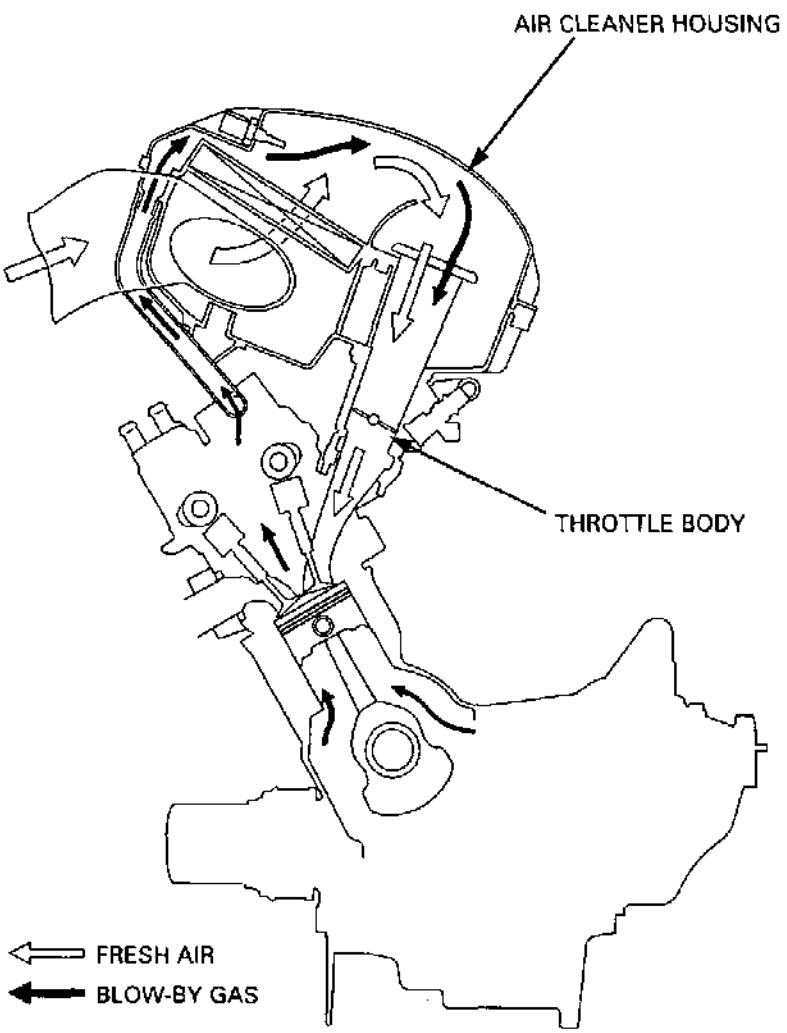
The U.S. Environmental Protection Agency, California Air Resources Board (CARB) and Transport Canada require manufacturers to certify that their motorcycles comply with applicable exhaust emissions standards during their useful life, when operated and maintained according to the instructions provided, and that motorcycles built after January 1, 1983 comply with applicable noise emission standards for one year or 3,730 miles (6,000 km) after the time of sale to the ultimate purchaser, when operated and maintained according to the instructions provided. Compliance with the terms of the Distributor's Limited Warranty for Honda Motorcycle Emission Control Systems is necessary in order to keep the emissions system warranty in effect.

SOURCE OF EMISSIONS

The combustion process produces carbon monoxide, hydrocarbons and oxides of nitrogen. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.
Honda Motor Co., Ltd. utilizes PGM-FI, two three-way catalytic converters and a heated oxygen sensor to reduce carbon monoxide, hydrocarbons, and oxides of nitrogen.

CRANKCASE EMISSION CONTROL SYSTEM

The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner and throttle body.



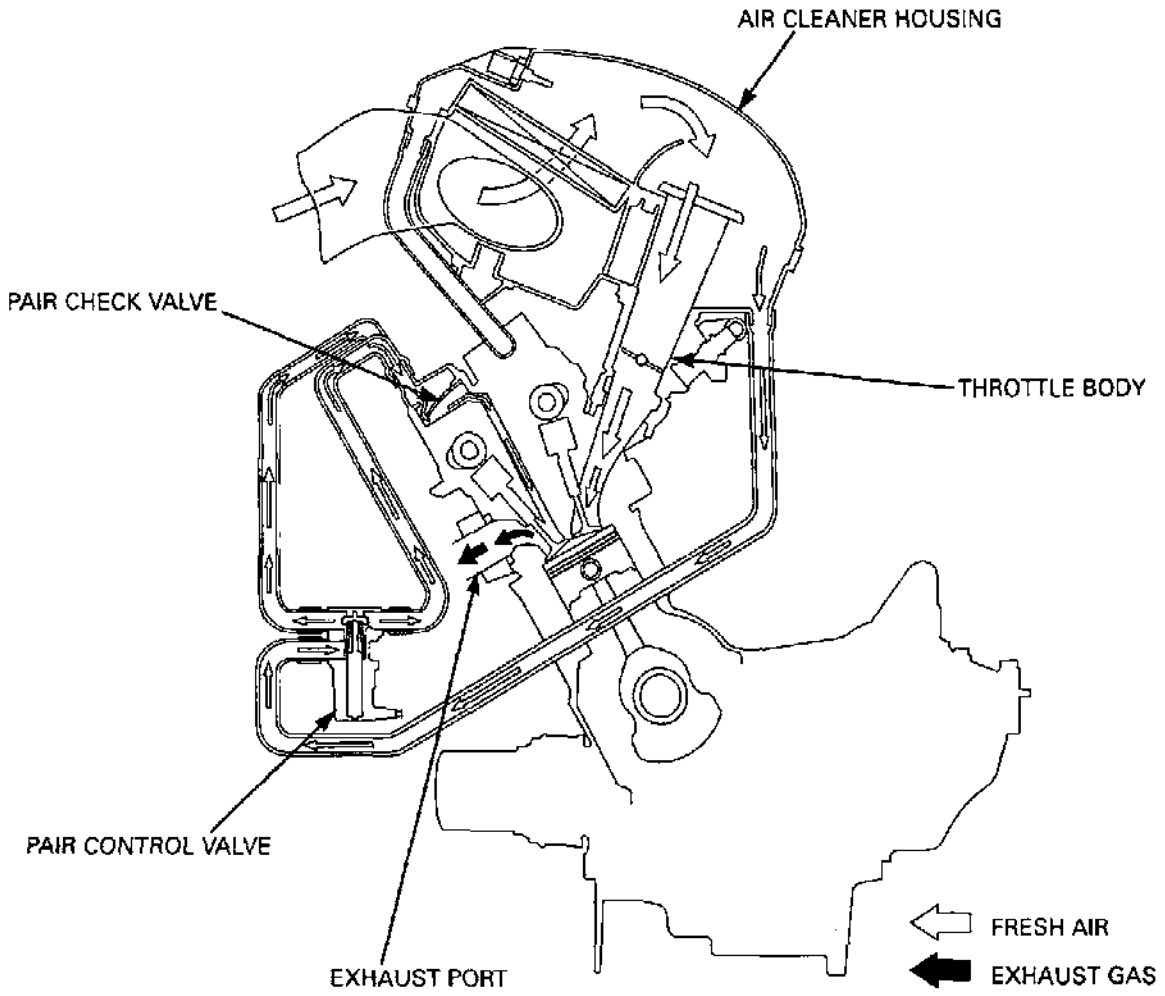
EXHAUST EMISSION CONTROL SYSTEM (PULSE SECONDARY AIR SUPPLY SYSTEM)

The exhaust emission control system is composed of a lean fuel injection setting, and no adjustments should be made except idle speed adjustment with the throttle stop screw. The exhaust emission control system is separate from the crankcase emission control system.

The exhaust emission control system consists of a secondary air supply system which introduces filtered air into the exhaust gases in the exhaust port. Fresh air is drawn into the exhaust port by the function of the Pulse Secondary Air Injection (PAIR) control valve.
This charge of fresh air promotes burning of the unburned exhaust gases and changes a considerable amount of hydrocarbons and carbon monoxide into relatively harmless carbon dioxide and water vapor.

The reed valve prevents reverse air flow through the system. The PAIR solenoid control valve is controlled by the PGM-FI unit, and the fresh air passage is opened and closed according the running condition (ECT/IAT/TP/MAP sensor and engine revolution).

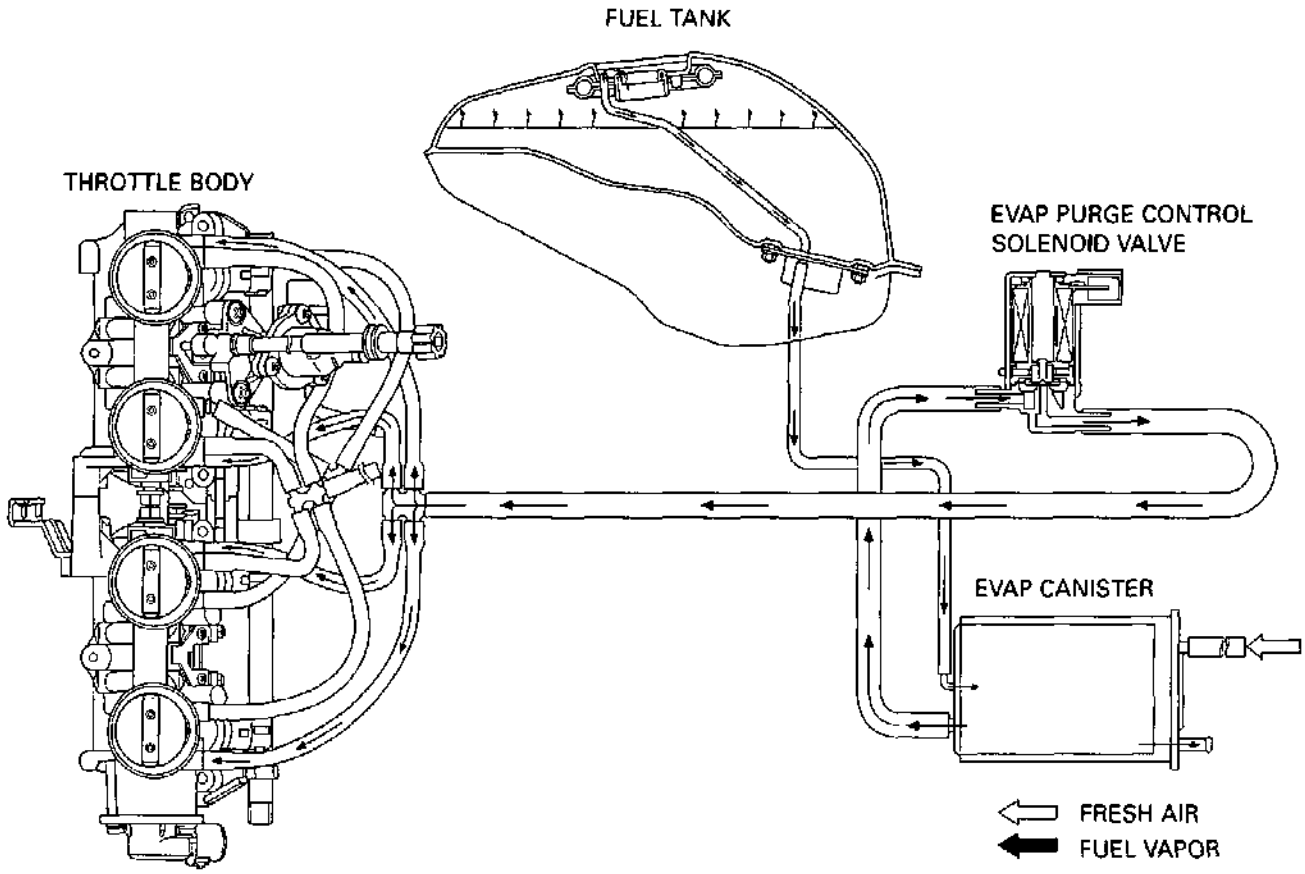
No adjustments to the secondary air supply system should be made, although periodic inspection of the components is recommended.



California type:
The California type is equipped with two three-way warm-up catalytic converters, a three-way catalytic converter, and a heated oxygen sensor.
The three-way catalytic converters are in the exhaust system. Through chemical reactions, they convert HC, CO, and NOx in the engine's exhaust to carbon dioxide (CO_2), dinitrogen (N_2), and water vapor.
No adjustment to these systems should be made although periodic inspection of the components is recommended.

EVAPORATIVE EMISSION CONTROL SYSTEM (CALIFORNIA TYPE ONLY)

This model complies with California Air Resources Board evaporative emission requirements.
Fuel vapor from the fuel tank is routed into the evaporative emission (EVAP) canister where it is absorbed and stored while the engine is stopped. When the engine is running and the evaporative emission (EVAP) purge control solenoid valve is open, fuel vapor in the EVAP canister is drawn into the engine through the throttle body.



NOISE EMISSION CONTROL SYSTEM

TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED: Federal, state and local law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person, other than for purposes of maintenance, repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

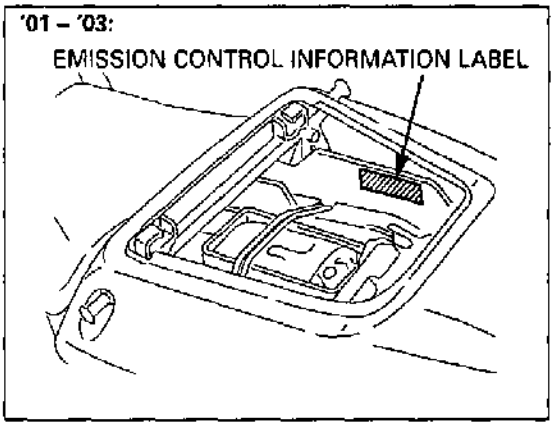
AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW:

1. Removal of, or puncturing of the muffler, baffles, header pipes or any other component which conducts exhaust gases.
2. Removal of, or puncturing of any part of the intake system.
3. Lack of proper maintenance.
4. Replacing any moving parts of the vehicle, or parts of the exhaust or intake system, with parts other then those specified by the manufacturer.

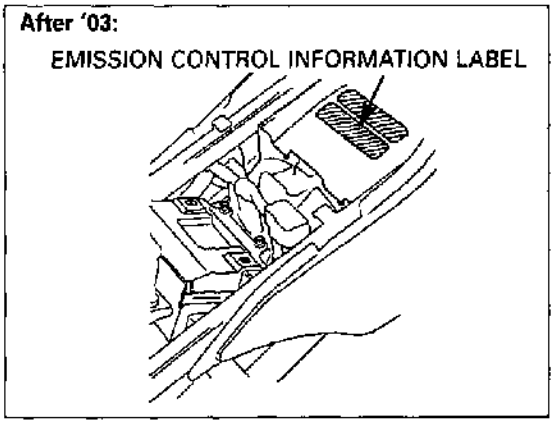
EMISSION CONTROL INFORMATION LABELS (U.S.A. ONLY)

An Emission Control Information Label is located on the storage compartment as shown.
The pillion seat must be removed to read it.
It gives base tune-up specifications.

'01 – '03:



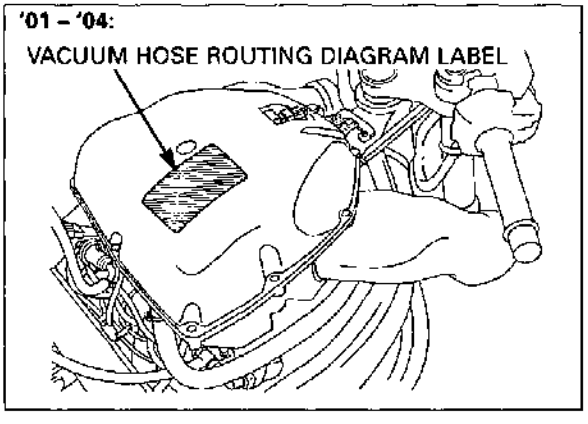
After '03:



VACUUM HOSE ROUTING DIAGRAM LABEL (CALIFORNIA TYPE ONLY)

The Vacuum Hose Routing Diagram Label is on the air cleaner housing cover as shown.
The fuel tank must be opened to read it. Refer to page 3-4 for fuel tank opening.

'01 – '04:



'01 – '04: