HOW TO USE THIS MANUAL

This service manual describes the service procedures for the VTR1000F.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition.

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. Section 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 procedure.

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

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 WHATEVER. 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

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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® G-n paste, manufactured by Dow Corning, U. S. A. Honda Moly 60 (U. S. A. only) Rocol ASP manufactured by Rocol Limited, U. K. Rocol Paste manufactured by Sumico Lubricant, Japan
	Use silicone grease.
	Apply a locking agent. Use a middle strength locking agent unless otherwise specified.
	Apply sealant.
	Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use Fork or Suspension Fluid.

IMPORTANT SAFETY NOTICE

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

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

NOTE: Gives helpful information.

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

TYPE CODE

• Throughout this manual, the following abbreviations are used to identify individual type.

CODE	AREA TYPE
E	U.K.
G	Germany, Sweden, Finland
IIG	Germany (Type II)
F	France
ED	Europian direct sales (Belgium, Holland, Portugal)

CODE	AREA TYPE
SW	Switzerland
AR	Austria
IT	Italy, Spain
ND	North Europe (Denmark, Norway)
U	Australia

1. GENERAL INFORMATION

GENERAL SAFETY

CARBON MONOXIDE

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

⚠WARNING

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

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

GASOLINE

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

⚠WARNING

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

HOT COMPONENTS

⚠WARNING

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

USED ENGINE OIL

⚠WARNING

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

BRAKE DUST

Never use an air hose or dry brush to clean brake assemblies. Use a vacuum cleaner or alternate method to minimize the hazard caused by air borne asbestos fibers.

⚠WARNING

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

BRAKE FLUID

CAUTION:

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

COOLANT

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

⚠WARNING

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

BATTERY HYDROGEN GAS & ELECTROLYTE

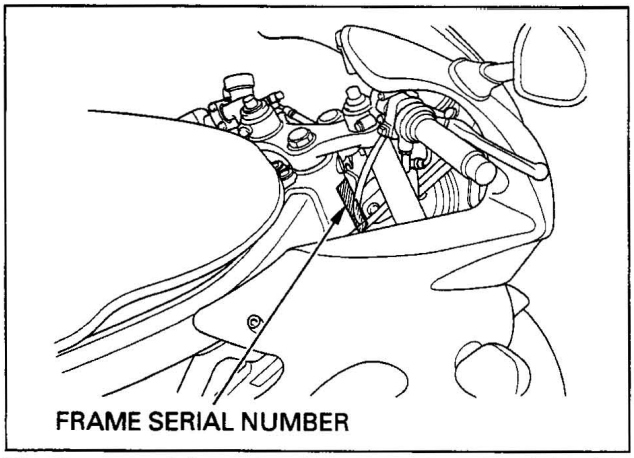
⚠WARNING

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

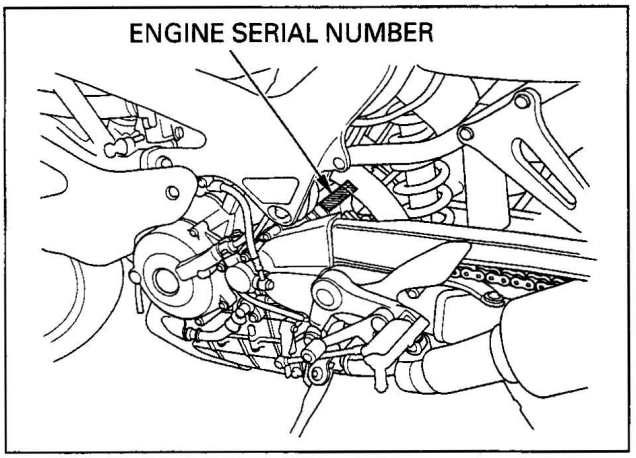
SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that 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 electrical wires as shown on pages 1-18 through 1-24, Cable & Harness routing.

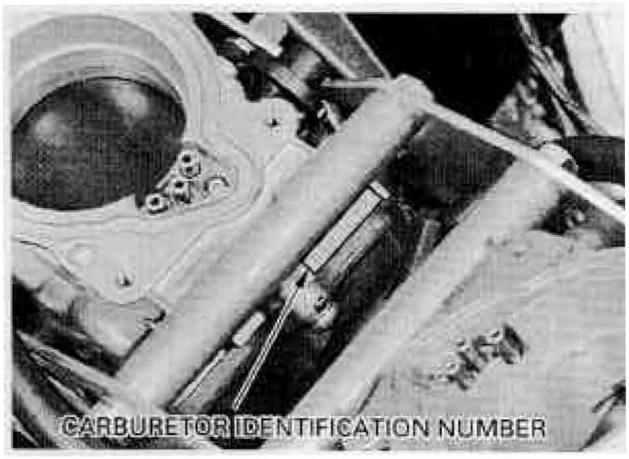
MODEL IDENTIFICATION



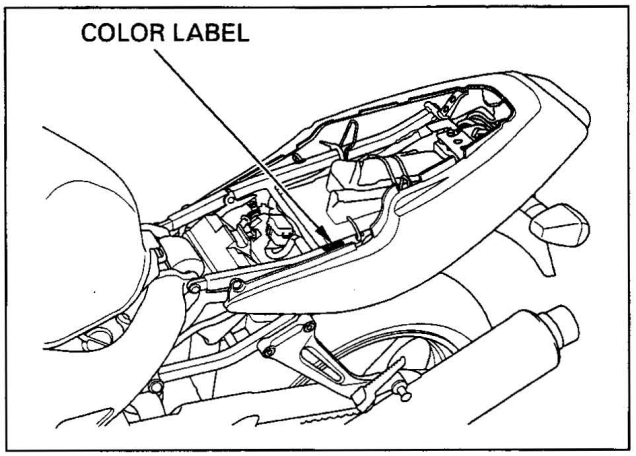
The frame serial number is stamped on the right side of the steering head.



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



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



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

SPECIFICATIONS

GENERAL

ITEM			SPECIFICATIONS
DIMENSIONS	Overall length	G, IIG, SW, AR, ND	2,155 mm (84.8 in)
		E, F, ED, U, IT	2,050 mm (80.7 in)
	Overall width		710 mm (28.0 in)
	Overall height		1,155 mm (45.5 in)
	Wheelbase		1,430 mm (56.3 in)
	Seat height		810 mm (31.9 in)
	Footpeg height		377 mm (14.8 in)
	Ground clearance		135 mm (5.3 in)
	Dry weight	Except SW, AR, IIG	192 kg (423 lbs)
		SW, AR, IIG	193 kg (425 lbs)
	Curb weight	Except SW, AR, IIG	214 kg (472 lbs)
		SW, AR, IIG	215 kg (474 lbs)
	Maximum weight capacity		188 kg (415 lbs)
FRAME	Frame type		Diamond
	Front suspension		Telescopic fork
	Front axle travel		109 mm (4.3 in)
	Front fork stroke		120 mm (4.7 in)
	Rear suspension		Swingarm
	Rear axle travel		124 mm (4.9 in)
	Front tire size		120/70ZR17 (58W)
	Rear tire size		180/55ZR17 (73W)
	Front tire brand		D204FK (DUNLOP), MACADAM 90X G (MICHELIN)
	Rear tire brand		D204K (DUNLOP), MACADAM 90X G (MICHELIN)
	Front brake		Hydraulic double disc
	Rear brake		Hydraulic single disc
	Caster angle		24°53′
	Trail length		97 mm (3.8 in)
	Fuel tank capacity		16.0 ℓ (4.23 US gal, 3.52 Imp gal)
ENGINE	Cylinder arrangement		2 cylinders 90° V transverse
	Bore and stroke		98.0 × 66.0 mm (3.90 × 2.60 in)
	Displacement		995.7 cm³ (60.74 cu-in)
	Compression ratio		9.4 : 1
	Valve train		Chain driven, DOHC
	Intake valve	opens	20° BTDC (At 1 mm lift)
		closes	45° ABDC (At 1 mm lift)
	Exhaust valve	opens	50° BBDC (At 1 mm lift)
		closes	15° ATDC (At 1 mm lift)
	Lubrication system		Forced pressure and wet sump
	Oil pump type		Trochoid
	Cooling system		Liquid cooled
	Air filtration		Viscous paper element
	Engine dry weight		74.2 kg (163.6 lbs)
	Firing order		Front—270°—Rear—450°—Front

GENERAL (Cont'd)

ITEM		SPECIFICATIONS
CARBURETOR	Carburetor type	CV semi-downdraft
	Throttle bore	48 mm (1.9 in)
DRIVE TRAIN	Clutch system	Multi-plate, wet
	Clutch operation system	Hydraulic operating
	Transmission	Constant mesh, 6-speeds
	Primary reduction	1.681 (74/44)
	Final reduction	2.562 (41/16)
	Gear ratio 1st	2.733 (41/15)
	2nd	1.812 (29/16)
	3rd	1.428 (30/21)
	4th	1.206 (35/29)
	5th	1.080 (27/25)
	6th	0.961 (25/26)
	Gearshift pattern	Left foot operated return system, 1—N—2—3—4—5—6
ELECTRICAL	Ignition system	DC-CDI
	Starting system	Electric starter motor
	Charging system	Triple phase output alternator
	Regulator/rectifier	SCR shorted, triple phase full wave rectification
	Lighting system	Battery

LUBRICATION SYSTEM

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	3.7 ℓ (3.9 US qt , 3.3 Imp qt)	————
	After draining/filter change	3.9 ℓ (4.1 US qt , 3.4 Imp qt)	————
	After disassembly	4.5 ℓ (4.8 US qt , 4.0 Imp qt)	————
Recommended engine oil		Honda 4-stroke oil or equivalent motor oil API service classification SE, SF or SG Viscosity: SAE 10W-40	————
Oil pressure (at oil pressure switch)		588 kPa (6.0 kgf/cm², 85 psi) at 5,000 min⁻¹ (rpm) /176 °F (80 °C)	————
Oil pump	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15—0.21 (0.006—0.008)	0.35 (0.014)
	Side clearance	0.02—0.09 (0.001—0.004)	0.12 (0.005)

FUEL SYSTEM

ITEM		SPECIFICATIONS
Carburetor identification number	Except G, SW, AR, IIG type	VPT0B
	G type	VPT0A
	SW type	VPT2B
	AR, IIG type	VPT2C
Main jet		Front: #175, Rear: #178
Slow jet		#45
Jet needle number	Except SW, AR, G type	Front: A1UD, Rear: A1UC
	SW, AR, G type	Front: A1UF, Rear: A1UE
Pilot screw opening		See page 5-18
Float level		16.6 ± 0.5 mm (0.65 ± 0.02 in)
Idle speed	Except SW, AR, IIG type	1,100 ± 100 min⁻¹ (rpm)
	AR, IIG type	1,200 ± 100 min⁻¹ (rpm)
	SW type	1,200 ± 50 min⁻¹ (rpm)

COOLING SYSTEM

ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	2.86 ℓ (0.756 US gal , 0.629 Imp gal)
	Reserve tank	0.71 ℓ (0.188 US gal , 0.156 Imp gal)
Radiator cap relief pressure		108—137 kPa (1.1—1.4 kgf/cm², 16—20 psi)
Thermostat	Begin to open	163—171 °F (73—77 °C)
	Fully open	194 °F (90 °C)
	Valve lift	8 mm (0.3 in) minimum

CYLINDER HEAD/VALVE

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cylinder compression at 350 min^{-1} (rpm)			1,128 kPa (11.5 kgf/cm^2, 164 psi)	———
Valve clearance		IN	0.16 (0.006)	———
		EX	0.31 (0.012)	———
Camshaft	Cam lobe height	IN	40.080–40.240 (1.5779–1.5842)	39.780 (1.5661)
		EX	40.230–40.390 (1.5839–1.5902)	39.930 (1.5720)
	Runout		———	0.05 (0.002)
	Oil clearance		0.020–0.062 (0.0008–0.0024)	0.088 (0.0035)
Valve lifter	Valve lifter O.D.		33.978–33.993 (1.3377–1.3383)	33.97 (1.337)
	Valve lifter bore I.D.		34.010–34.026 (1.3390–1.3396)	34.04 (1.340)
Valve, valve guide	Valve stem O.D.	IN	5.975–5.990 (0.2352–0.2358)	5.965 (0.2348)
		EX	5.965–5.980 (0.2348–0.2354)	5.955 (0.2344)
	Valve guide I.D.	IN/EX	6.000–6.012 (0.2362–0.2367)	6.040 (0.2378)
	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		14.0–14.2 (0.55–0.56)	———
	Valve seat width	IN	1.1–1.3 (0.04–0.05)	1.7 (0.07)
		EX	1.3–1.5 (0.05–0.06)	1.9 (0.07)
Valve spring	Free length	Inner	37.0 (1.46)	36.0 (1.42)
		Outer	41.9 (1.65)	40.9 (1.61)
Cylinder head warpage			———	0.10 (0.004)

CLUTCH/GEARSHIFT LINKAGE

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Specified clutch fluid		DOT 4 brake fluid	———
Clutch master cylinder	Cylinder I.D.	14.000–14.043 (0.5512–0.5529)	14.055 (0.5533)
	Piston O.D.	13.957–13.984 (0.5495–0.5506)	13.945 (0.5490)
Clutch	Spring free length	49.6 (1.95)	46.6 (1.83)
	Disc thickness	3.72–3.88 (0.146–0.153)	3.5 (0.14)
	Plate warpage	———	0.30 (0.012)
Clutch outer guide	I.D.	28.000–28.021 (1.1024–1.1032)	28.031 (1.1036)
	O.D.	34.975–34.991 (1.3770–1.3776)	34.965 (1.3766)
Mainshaft O.D. at clutch outer guide		27.980–27.993 (1.1016–1.1021)	27.970 (1.1012)

ALTERNATOR/STARTER CLUTCH

Unit: mm (in)

ITEM	STANDARD	SERVICE LIMIT
Starter driven gear boss O.D.	57.749–57.768 (2.2736–2.2743)	57.639 (2.2692)

CRANKCASE/TRANSMISSION

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Shift fork	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	31.000–31.016 (1.2205–1.2211)	31.04 (1.222)
		C2, C3, C4	33.000–33.025 (1.2992–1.3002)	33.05 (1.301)
	Gear bushing O.D.	M5, M6	30.955–30.980 (1.2187–1.2197)	30.93 (1.218)
		C2, C3, C4	32.955–32.980 (1.2974–1.2984)	32.93 (1.296)
	Gear-to-bushing clearance	M5, M6	0.020–0.061 (0.0008–0.0024)	0.10 (0.004)
		C2, C3, C4	0.020–0.070 (0.0008–0.0028)	0.11 (0.004)
	Gear bushing I.D.	M5	27.985–28.006 (1.1018–1.1026)	28.02 (1.103)
		C2	29.985–30.006 (1.1805–1.1813)	30.02 (1.182)
	Mainshaft O.D.	at M5	27.967–27.980 (1.1011–1.1016)	27.94 (1.100)
	Countershaft O.D.	at C2	29.950–29.975 (1.1791–1.1801)	29.92 (1.178)
	Bushing-to-shaft clearance	M5	0.005–0.039 (0.0002–0.0015)	0.06 (0.002)
		C2	0.010–0.056 (0.0004–0.0022)	0.06 (0.002)

CRANKSHAFT/PISTON/CYLINDER

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Crankshaft	Connecting rod side clearance		0.10–0.30 (0.004–0.012)	0.40 (0.016)
	Crankpin bearing oil clearance		0.032–0.050 (0.0013–0.0020)	0.060 (0.0024)
	Main journal bearing oil clearance		0.020–0.038 (0.0008–0.0015)	0.048 (0.0019)
	Runout		———	0.10 (0.004)
Piston, piston pin, piston ring	Piston O.D. at 20 (0.8) from bottom		97.965–97.985 (3.8569–3.8577)	97.900 (3.8543)
	Piston pin hole I.D.		24.002–24.008 (0.9450–0.9452)	24.03 (0.946)
	Piston pin O.D.		23.994–24.000 (0.9446–0.9449)	23.984 (0.9443)
	Piston-to-piston pin clearance		0.002–0.014 (0.0001–0.0006)	0.046 (0.0018)
	Piston ring end gap	Top	0.25–0.40 (0.010–0.016)	0.55 (0.022)
		Second	0.40–0.55 (0.016–0.022)	0.70 (0.028)
		Oil (side rail)	0.20–0.70 (0.008–0.028)	0.90 (0.035)
	Piston ring-to-ring groove clearance	Top	0.065–0.100 (0.0026–0.0039)	0.115 (0.0045)
		Second	0.035–0.070 (0.0014–0.0028)	0.085 (0.0033)
Cylinder	I.D.		98.005–98.025 (3.8585–3.8592)	98.100 (3.8622)
	Out of round		———	0.10 (0.004)
	Taper		———	0.10 (0.004)
	Warpage		———	0.05 (0.002)
Cylinder-to-piston clearance			0.020–0.060 (0.0008–0.0024)	0.200 (0.0079)
Connecting rod small end I.D.			24.020–24.041 (0.9457–0.9465)	24.051 (0.9469)
Connecting rod-to-piston pin clearance			0.020–0.047 (0.0008–0.0019)	0.067 (0.0026)

FRONT WHEEL/SUSPENSION/STEERING

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		———	1.5 (0.06)
Cold tire pressure	Driver only	250 kPa (2.50 kgf/cm², 36 psi)	———
	Driver and passenger	250 kPa (2.50 kgf/cm², 36 psi)	———
Axle runout		———	0.20 (0.008)
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	309.9 (12.20)	303.7 (11.96)
	Tube runout	———	0.20 (0.008)
	Recommended fluid	Fork fluid	———
	Fluid level	130 (5.1)	———
	Fluid capacity	448 ± 2.5 cm³ (15.2 ± 0.08 US oz, 15.8 ± 0.09 Imp oz)	———
Steering head bearing preload		1.0–1.6 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	Driver only	290 kPa (2.90 kgf/cm², 42 psi)	———
	Driver and passenger	290 kPa (2.90 kgf/cm², 42 psi)	———
Axle runout		———	0.20 (0.008)
Wheel rim runout	Radial	———	2.0 (0.08)
	Axial	———	2.0 (0.08)
Wheel balance weight		———	60 g (2.1 oz) max.

HYDRAULIC BRAKE

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Front	Specified brake fluid		DOT 4	———
	Brake disc thickness		4.4–4.6 (0.17–0.18)	3.5 (0.14)
	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.	A	30.23–30.28 (1.190–1.192)	30.29 (1.193)
		B	27.000–27.050 (1.0630–1.0650)	27.060 (1.0654)
	Caliper piston O. D.	A	30.148–30.198 (1.1869–1.1889)	30.14 (1.187)
		B	26.918–26.968 (1.0598–1.0617)	26.91 (1.059)
Rear	Specified brake fluid		DOT 4	———
	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 (1.503–1.505)	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 − 10 AH
	Current leakage		0.1 mA max.
	Voltage (68 °F/20 °C)	Fully charged	13.0 − 13.2 V
		Needs charging	Below 12.3 V
	Charging current	Normal	1.2 A × 5 − 10 h
		Quick	5.0 A × 1.0 h
Alternator	Capacity		0.280 kW/5,000 min^{-1} (rpm)
	Charging coil resistance (68 °F/20 °C)		0.2 − 0.5 Ω
Regulator/rectifier regulated voltage			13.5 − 15.5 V/5,000 min^{-1} (rpm)

IGNITION SYSTEM

ITEM		SPECIFICATIONS
Spark plug		DPR9EVX-9 (NGK)
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)		15° BTDC at idle
Engine coolant temperature (ECT) sensor resistance	At 68 °F (20 °C)	2 − 3 kΩ
	At 176 °F (80 °C)	200 − 400 Ω
Throttle sensor	Resistance (68 °F/20 °C)	4 − 6 kΩ
	Input voltage	4.7 − 5.3 V

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 (High/low beam)	12 V − 60/55 W
	Position light (Except U type)	12 V − 5 W
	Brake/taillight	12 V − 21/5 W × 2
	Turn signal light	12 V − 21 W × 4
	Instrument light	12 V − 1.7 W × 3
	Turn signal indicator	12 V − 1.7 W × 2
	High beam indicator	12 V − 1.7 W
	Neutral indicator	12 V − 1.7 W
	Oil pressure indicator	12 V − 1.7 W
	Side stand indicator	12 V − 1.7 W
Fuse	Main fuse	30 A
	Sub-fuse	10 A, 20 A
Thermosensor resistance	At 176 °F (80 °C)	47 − 57 Ω
	At 248 °F (120 °C)	14 − 18 Ω
Fan motor switch	Starts to close (ON)	208 − 216 °F (98 − 102 °C)
	Stops to open (OFF)	199 − 207 °F (93 − 97 °C)

TORQUE VALUES

STANDARD

FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)	FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)
5 mm bolt and nut	5 (0.5, 3.6)	5 mm screw	4 (0.4 , 2.9)
6 mm bolt and nut	10 (1.0, 7)	6 mm screw	9 (0.9 , 6.5)
8 mm bolt and nut	22 (2.2, 16)	6 mm flange bolt (8 mm head, small flange)	10 (1.0 , 7)
10 mm bolt and nut	34 (3.5, 25)	6 mm flange bolt (8 mm head, large flange)	12 (1.2 , 9)
12 mm bolt and nut	54 (5.5, 40)	6 mm flange bolt (10 mm head) and nut	12 (1.2 , 9)
		8 mm flange bolt and nut Engine	23 (2.3 , 17)
		Frame	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 locking agent to the threads.
3. Replace with a new one.
4. Stake.
5. Apply oil to the threads and seating surface.
6. Apply engine oil to the O-ring.
7. U-nut.
8. ALOC bolt/screw: replace with a new one.
9. Apply grease to the threads.

ENGINE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
MAINTENANCE:				
Spark plug	2	12	14 (1.4 , 10)	
Crankshaft hole cap	1	30	15 (1.5 , 11)	NOTE 9
Timing hole cap	1	14	10 (1.0 , 7)	NOTE 9
Engine oil filter cartridge	1	20	10 (1.0 , 7)	NOTE 5, 6
Engine oil drain bolt	1	12	29 (3.0 , 22)	
LUBRICATION SYSTEM:				
Oil pressure switch	1	PT 1/8	12 (1.2 , 9)	NOTE 1
Oil pressure switch terminal screw	1	4	2 (0.2 , 1.4)	
Oil pump bolt	2	6	12 (1.2 , 9)	
Oil filter boss	1	20	18 (1.8 , 13)	NOTE 2
FUEL SYSTEM:				
Carburetor insulator band bolt	4	5	1 (0.1 , 0.7)	
Vacuum joint	1	5	2 (0.25 , 1.8)	
Reed valve cover bolt	4	5	5 (0.52 , 3.8)	NOTE 2
ENGINE MOUNTING:				
Drive sprocket bolt	1	10	54 (5.5 , 40)	
CYLINDER HEAD/VALVE:				
Cylinder head cover bolt	8	6	10 (1.0 , 7)	
Breather plate bolt	4	6	12 (1.2 , 9)	NOTE 2
Cam sprocket bolt	4	7	20 (2.0 , 14)	NOTE 2
Camshaft holder bolt	16	7	21 (2.1 , 15)	NOTE 5
Cylinder head bolt	12	10	53 (5.4 , 39)	NOTE 5
Cylinder head sealing bolt	2	12	32 (3.3 , 24)	NOTE 2
Intake manifold vacuum port socket bolt	1	5	3 (0.34 , 2.5)	

ENGINE (Cont'd)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
CLUTCH/GEARSHIFT LINKAGE:				
Clutch slave cylinder bleed valve	1	8	9 (0.9 , 6.5)	
Clutch bolt	5	6	12 (1.2 , 9)	
Clutch center lock nut	1	25	127 (13.0 , 94)	NOTE 4, 5
Oil pump driven sprocket bolt	1	6	15 (1.5 , 11)	NOTE 2
Gearshift cam bolt	1	8	23 (2.3 , 17)	NOTE 2
Gearshift spindle return spring pin	1	8	23 (2.3 , 17)	
Primary drive gear bolt	1	12	88 (9.0 , 65)	NOTE 5
ALTERNATOR/STARTER CLUTCH:				
Flywheel bolt	1	12	157 (16.0 , 116)	NOTE 5
Starter clutch bolt	6	8	23 (2.3 , 17)	NOTE 2
Alternator stator bolt	3	6	12 (1.2 , 9)	
CRANKCASE/TRANSMISSION:				
Cam chain tensioner bolt	2	8	23 (2.3 , 17)	NOTE 2
Cam chain guide bolt	2	8	23 (2.3 , 17)	NOTE 2
Crankcase flange bolt	1	10	39 (4.0 , 29)	
Crankcase special bolt	8	10	42 (4.3 , 31)	NOTE 5
Crankcase sealing bolt	1	15	29 (3.0 , 22)	NOTE 2
Crankcase sealing bolt	1	18	29 (3.0 , 22)	NOTE 2
Crankcase sealing bolt	1	22	29 (3.0 , 22)	
Crankcase sealing bolt	1	24	49 (5.0 , 36)	NOTE 2
CRANKSHAFT/PISTON/CYLINDER:				
Connecting rod bolt (standard)	4	9	29 (3.0 , 22) + 120°	NOTE 3, 5
(checking the oil clearance)	4	9	20 (2.0 , 14) + 120°	NOTE 3, 5
IGNITION SYSTEM:				
Ignition pulse generator bolt	2	6	12 (1.2 , 9)	
Engine coolant temperature (ECT) sensor	1	12	23 (2.3 , 17)	
ELECTRIC STARTER:				
Starter motor terminal nut	1	6	10 (1.0 , 7)	
LIGHTS/METERS/SWITCHES:				
Thermosensor	1	PT 1/8	12 (1.2 , 9)	NOTE 1
Neutral switch	1	10	12 (1.2 , 9)	

FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
FRAME/BODY PANELS/EXHAUST SYSTEM:				
Exhaust pipe joint nut	4	7	12 (1.2 , 9)	
Muffler band bolt	2	8	26 (2.7 , 20)	
ENGINE MOUNTING:				
Front engine hanger nut	1	12	64 (6.5 , 47)	Page 7-7
Front engine hanger adjusting bolt	1	20	3 (0.3 , 2.2)	
Front engine hanger lock nut	1	20	54 (5.5 , 40)	
Center engine hanger bolt	2	10	39 (4.0 , 29)	
Left center engine hanger adjusting bolt	1	20	3 (0.3 , 2.2)	
Left center engine hanger lock nut	1	20	54 (5.5 , 40)	
Rear engine hanger nut	1	12	64 (6.5 , 47)	
Rear engine hanger adjusting bolt	1	22	3 (0.3 , 2.2)	
Rear engine hanger lock nut	1	22	54 (5.5 , 40)	
Shock link bracket nut	2	10	44 (4.5 , 33)	
CLUTCH/GEARSHIFT LINKAGE:				
Clutch reservoir mounting screw	1	4	1 (0.15 , 1.1)	NOTE 2
Clutch reservoir cap stopper plate screw	1	4	1 (0.12 , 0.9)	
Clutch lever pivot nut	1	6	6 (0.6 , 4.3)	
Clutch hose oil bolt	2	10	34 (3.5 , 25)	

FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
FRONT WHEEL/SUSPENSION/STEERING:				
Handlebar weight mounting screw	2	6	10 (1.0 , 7)	NOTE 8
Front master cylinder holder bolt	2	6	12 (1.2 , 9)	
Front axle bolt	1	14	59 (6.0 , 43)	
Front axle holder bolt	4	8	22 (2.2 , 16)	
Front brake disc bolt	12	6	20 (2.0 , 14)	NOTE 8
Fork cap	2	37	23 (2.3 , 17)	
Fork socket bolt	2	8	20 (2.0 , 14)	NOTE 2
Fork top bridge pinch bolt	2	8	23 (2.3 , 17)	
Fork bottom bridge pinch bolt	2	10	49 (5.0 , 36)	
Front brake hose clamp bolt (fork side)	2	6	10 (1.0 , 7)	
Steering stem nut	1	24	103 (10.5 , 76)	Page 13-27
Steering bearing adjustment nut	1	26	25 (2.5 , 18)	
Steering bearing adjustment nut lock nut	1	26	———	
Front brake hose clamp bolt (stem side)	1	6	10 (1.0 , 7)	
Front brake hose 3-way joint bolt	1	6	10 (1.0 , 7)	
REAR WHEEL/SUSPENSION:				
Rear axle nut	1	18	93 (9.5 , 69)	
Rear brake disc bolt	4	8	42 (4.3 , 31)	NOTE 8
Final driven sprocket nut	5	12	108 (11.0 , 80)	NOTE 7
Shock absorber upper mounting bolt	1	10	44 (4.5 , 33)	NOTE 8
Shock absorber lower mounting nut	1	10	44 (4.5 , 33)	NOTE 7
Shock arm-to-swingarm nut	1	10	44 (4.5 , 33)	NOTE 7
Shock arm-to-shock link nut	1	10	44 (4.5 , 33)	NOTE 7
Shock link-to-bracket nut	1	10	44 (4.5 , 33)	NOTE 7
Swingarm pivot nut	1	18	93 (9.5 , 69)	NOTE 7
Drive chain slider bolt	2	6	9 (0.9 , 6.5)	NOTE 8
Rear brake hose clamp screw	2	5	4 (0.43 , 3.1)	NOTE 8
HYDRAULIC BRAKE:				
Brake caliper bleed valve	3	8	6 (0.6 , 4.3)	
Pad pin plug	3	10	2 (0.25 , 1.8)	
Pad pin	3	10	18 (1.8 , 13)	
Brake hose oil bolt	5	10	34 (3.5 , 25)	
Front brake lever pivot nut	1	6	6 (0.6 , 4.3)	
Front brake fluid reservoir mounting nut	1	6	6 (0.6 , 4.3)	NOTE 7
Rear brake fluid reservoir mounting bolt	1	6	9 (0.9 , 6.5)	
Rear master cylinder mounting bolt	2	6	10 (1.0 , 7)	
Rear master cylinder joint nut	1	8	18 (1.8 , 13)	
Front brake caliper mounting bolt	4	8	30 (3.1 , 22)	NOTE 8
Front brake caliper assembly bolt	8	8	32 (3.3 , 24)	NOTE 2
Rear brake caliper bolt	1	8	23 (2.3 , 17)	
Rear brake caliper pin bolt	1	12	27 (2.8 , 20)	NOTE 2
IGNITION SYSTEM:				
Ignition coil mounting bolt	4	6	10 (1.0 , 7)	
LIGHTS/METERS/SWITCHES:				
Side stand switch bolt	1	6	10 (1.0 , 7)	
Ignition switch mounting bolt	2	8	25 (2.5 , 18)	
Fan motor switch	1	16	18 (1.8 , 13)	
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 bolt	1	10	44 (4.5 , 33)	NOTE 8
Passenger footpeg bracket bolt	4	8	26 (2.7 , 20)	
Bank sensor bolt	2	8	10 (1.0 , 7)	
Seat rail upper mounting bolt	2	10	39 (4.0 , 29)	
Seat rail lower mounting bolt	2	10	44 (4.5 , 33)	
Gearshift pedal pivot bolt	1	8	26 (2.7 , 20)	

TOOLS

DESCRIPTION	TOOL NUMBER	REF. SECTION
Oil filter wrench	07HAA-PJ70100	3
Drive chain tool set	07HMH-MR10103	3
Oil pressure gauge	07506-3000000	4
Oil pressure gauge attachment	07510-4220100	4
Float level gauge	07401-0010000	5
Pilot screw wrench (Except SW type)	07908-4220201	5
Pilot screw wrench (SW type)	07KMA-MN90100	5
Bearing remover set	07936-GE00000	6
– Bearing remover shaft	07936-GE00100	6
– Bearing remover, 10 mm	07936-GE00200	6
– Sliding weight	07741-0010201	6, 14
Driver	07749-0010000	6, 9, 13, 14
Attachment, 28 × 30 mm	07946-1870100	6
Pilot, 10 mm	07746-0040100	6
Mechanical seal driver attachment	07945-4150400	6
Lock nut wrench	07HMA-MR70200	7
Lock nut wrench	07VMA-MBB0100	7
Valve spring compressor	07757-0010000	8
Valve guide remover, 5.5 mm	07742-0010000	8
Valve guide driver	07743-0020000	8
Valve guide reamer	07VMH-MBB0200	8
Valve seat cutter, 40 mm (IN/EX 45°)	07780-0010500	8
Flat cutter, 38.5 mm (IN 32°)	07780-0012400	8
Flat cutter, 35 mm (EX 32°)	07780-0012300	8
Interior cutter, 37.5 mm (IN/EX 60°)	07780-0014100	8
Cutter holder, 6 mm	07VMH-MBB0100	8
Snap ring pliers	07914-3230001	9, 15
Clutch center holder	07742-0050002	9
Attachment, 32 × 35 mm	07746-0010100	9, 14
Pilot, 17 mm	07746-0040400	9, 14
Attachment, 37 × 40 mm	07746-0010200	9, 14
Attachment, 42 × 47 mm	07746-0010300	9, 13, 14
Gear holder	07724-0010100	9
Flywheel holder	07725-0040000	10
Rotor puller	07733-0020001	10
Inner driver C	07746-0030100	11
Attachment, 35 mm I.D.	07746-0030400	11
Bearing remover shaft	07746-0050100	13, 14
Bearing remover head, 20 mm	07746-0050600	13, 14
Pilot, 20 mm	07746-0040500	13, 14
Fork seal driver weight	07947-KA50100	13
Fork seal driver	07947-KF00100	13
Steering stem socket	07916-3710101	13
Ball race remover set	07946-KM90001	13
– Driver attachment A	07946-KM90100	13
– Driver attachment B	07946-KM90200	13
– Driver shaft assembly	07946-KM90300	13
– Bearing remover A	07946-KM90401	13
– Bearing remover B	07946-KM90500	13
– Assembly base	07946-KM90600	13
Steering stem driver	07946-MB00000	13

DESCRIPTION	TOOL NUMBER	REF. SECTION
Attachment, 52 × 55	07746-0010400	14
Pilot, 22 mm	07746-0041000	14
Pin driver	07GMD-KT80100	14
Attachment, 24 × 26 mm	07746-0010700	14
Driver shaft	07946-MJ00100	14
Needle bearing remover	07HMC-MR70100	14
Pilot, 28 mm	07746-0041100	14
Bearing remover, 17 mm	07936-3710300	14
Bearing remover handle	07936-3710100	14
Peak voltage adaptor	07HGJ-0020100	17
Inspection adaptor	07VMJ-0020100	17

LUBRICATION & SEAL POINTS

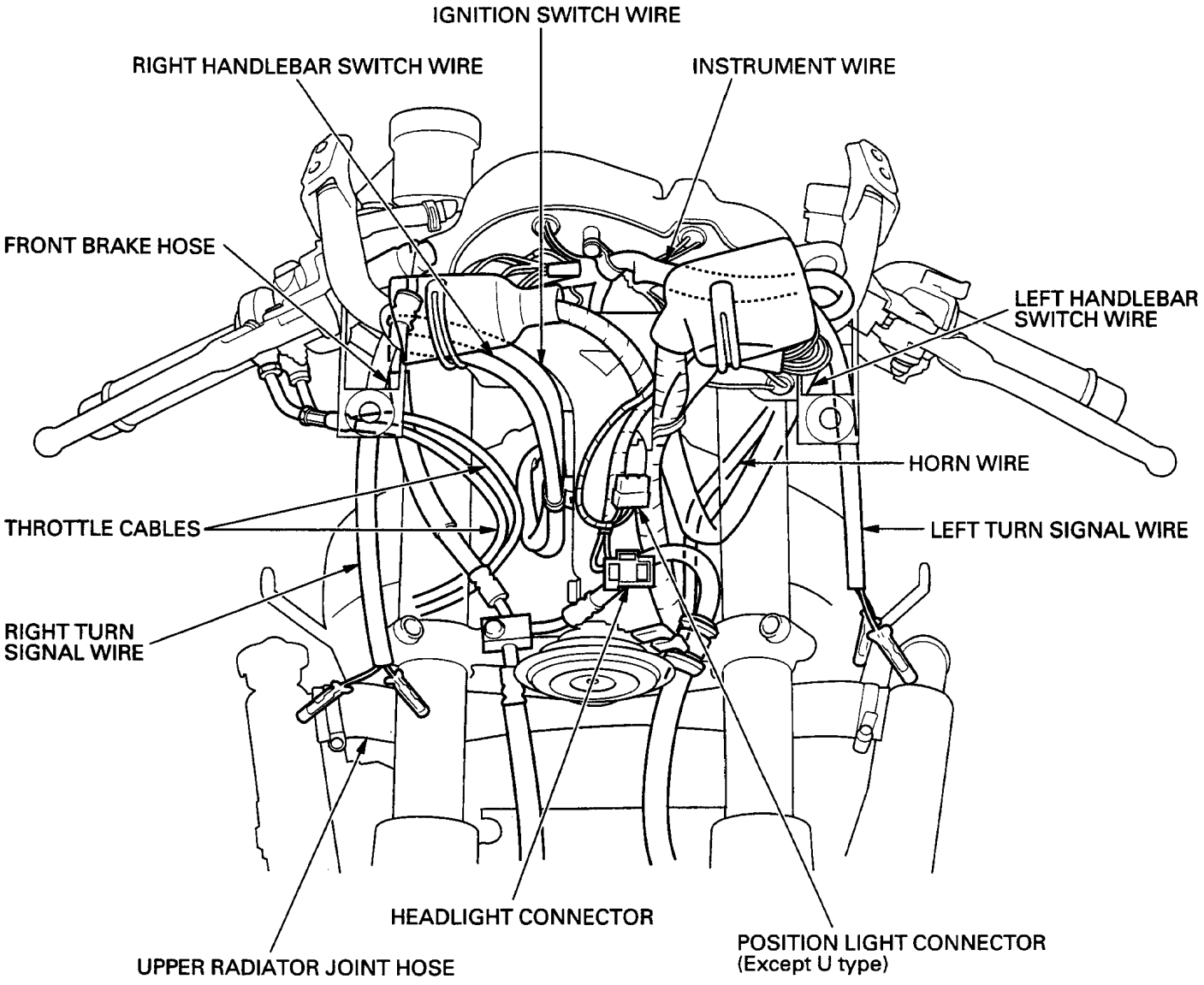
ENGINE

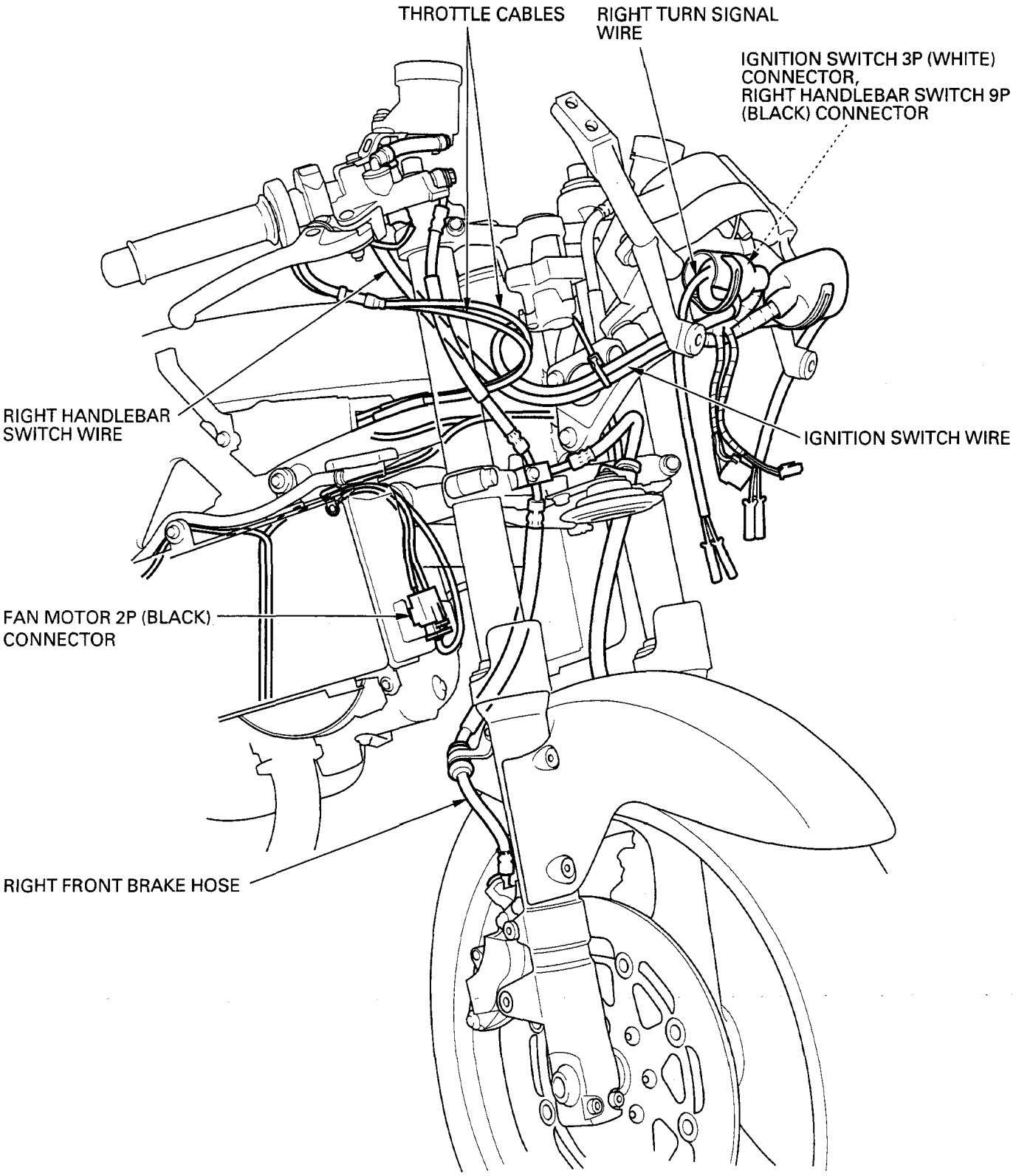
LOCATION	MATERIAL	REMARKS
Crankcase mating surfaces	Sealant	See page 11-10
Crankcase mating surfaces (right side)		See page 6-14
Crankcase mating surfaces (left side)		See page 10-3
Oil pan mating surface		
Cylinder head semi-circular area		
Cylinder head cover gasket mating surface (cover side)		
Oil pressure switch threads		
Thermosensor threads		Do not apply to the sensor head.
Alternator stator wire grommet seating surface		
Crankshaft main journal bearing sliding surface	Molybdenum oil solution (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)	
Crankpin bearing sliding surface		
Connecting rod small end inner surface		
Valve stem sliding surface		
Valve lifter outer surface		
Camshaft journals and cam lobes		
Clutch outer sliding surface		
M3/4, C5, C6 gear shift fork grooves		
Each gear teeth and sliding surface		
Other rotating and sliding area		
Primary drive gear and sub gear sliding surface	Molybdenum disulfide grease	
Engine oil filter cartridge threads and seating surface	Engine oil	
Camshaft holder bolt threads and seating surface		
Cylinder head bolt threads and seating surface		
Clutch disc lining surface		
Clutch center lock nut threads and seating surface		
Primary drive gear bolt threads and seating surface		
Flywheel bolt threads and seating surface		
Piston outer surface and piston pin hole		
Piston ring whole surface		
Connecting rod bolt threads and seating surface		
10 mm crankcase special bolt threads and seating surface		
Each bearing rotating area		
Each O-ring whole surface		
Timing hole cap threads	Multi-purpose grease	
Crankshaft hole cap threads		
Each oil seal lips		
Oil pump driven sprocket bolt threads	Locking agent	
Oil filter boss threads		
Reed valve cover bolt threads		
Breather plate bolt threads		
Cam sprocket bolt threads		
Cylinder head 12 mm sealing bolt threads		
Gearshift cam bolt threads		
Starter clutch bolt threads		
Cam chain tensioner bolt threads		
Cam chain guide bolt threads		
Crankcase 15 mm sealing bolt threads		
Crankcase 18 mm sealing bolt threads		
Crankcase 24 mm sealing bolt threads		
Mainshaft bearing set plate bolt threads		
Shift drum bearing set plate bolt threads		

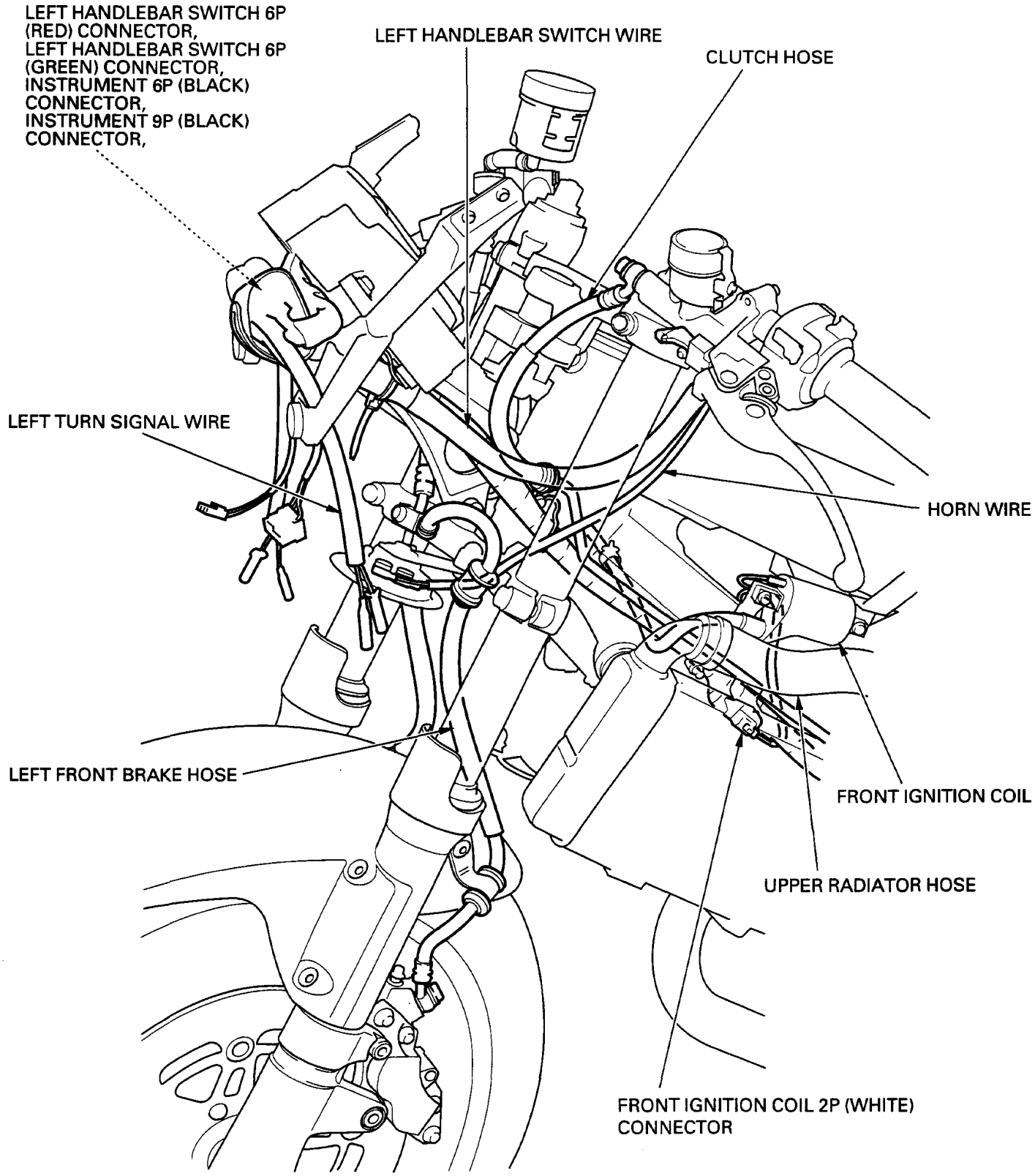
FRAME

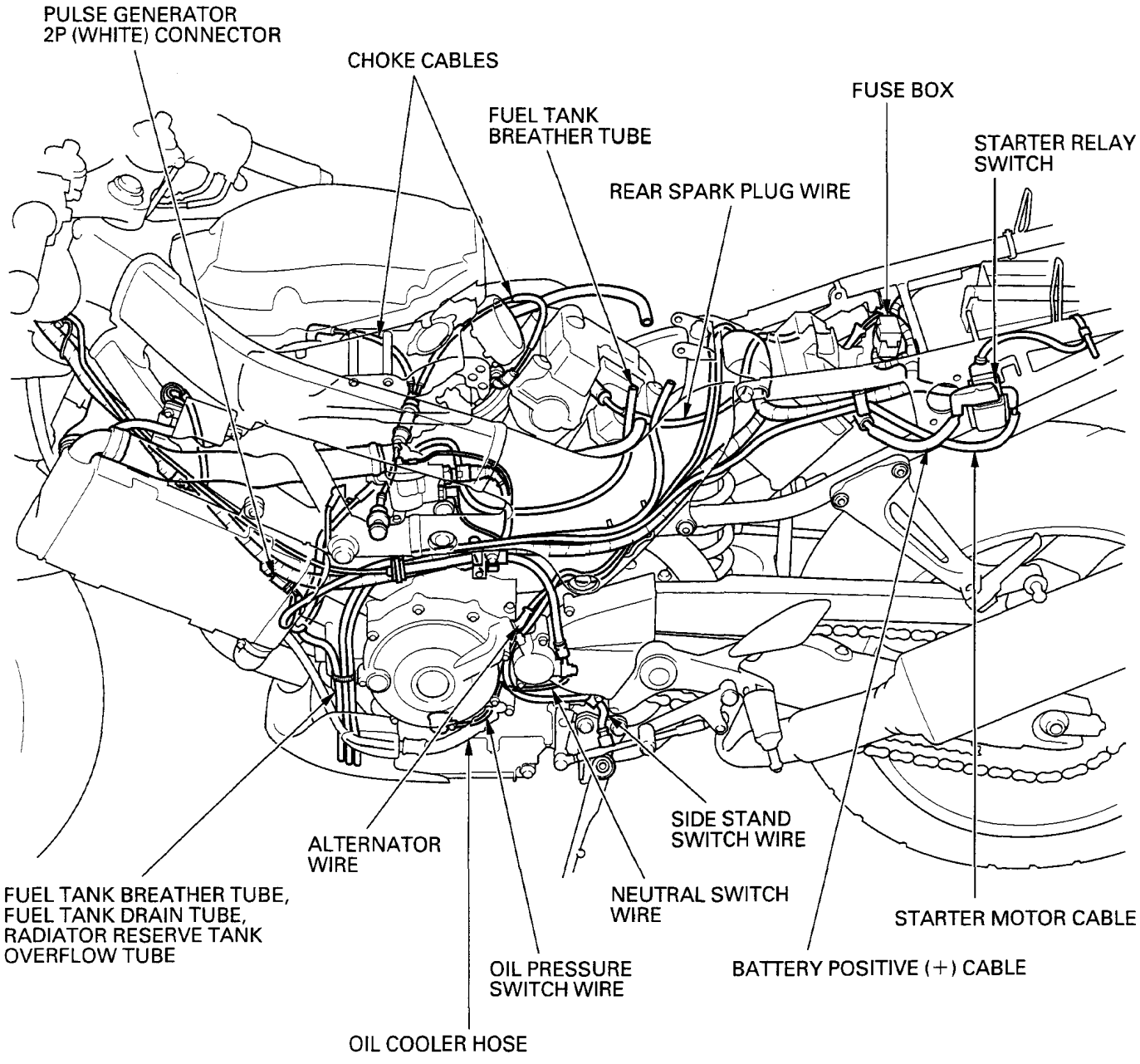
LOCATION	MATERIAL	REMARKS
Front wheel dust seal lips Rear wheel dust seal lips Rear wheel side collar inner surfaces Driver footpeg sliding area Passenger footpeg sliding area Throttle grip pipe flange Seat catch hook sliding area Gearshift pedal link tie-rod ball joints Gearshift pedal pivot Rear brake pedal pivot	Multi-purpose grease	
Side stand pivot Steering head bearings Steering head bearing dust seal lips Shock absorber dust seal lips Shock absorber needle bearing Shock arm and link dust seal lips Shock arm and link needle bearings Swingarm pivot bearings Swingarm pivot dust seal lips	Molybdenum disulfide grease	
Shock absorber spring adjuster cam surface	Molybdenum disulfide past	
Throttle cable outer inside Choke cable outer inside	Cable lubricant	
Left handlebar grip rubber inside	Honda bond A or equivalent	
Steering bearing adjustment nut threads	Engine oil	
Front brake lever-to-master piston contacting area Front brake lever pivot Rear brake caliper pin bolt sliding surfaces Rear brake master piston-to-push rod contacting area Clutch lever pivot Clutch lever joint piece-to-push rod contacting area Clutch master piston-to-push rod contacting area	Silicone grease	
Brake master piston and cups Brake caliper piston and piston seals Clutch master piston and cups	DOT 4 brake fluid	
Fork dust seal and oil seal lips	Fork fluid	
Clutch fluid reservoir mounting screw threads Fork socket bolt threads Front brake caliper assembly bolt threads Rear brake caliper pin bolt threads	Locking agent	

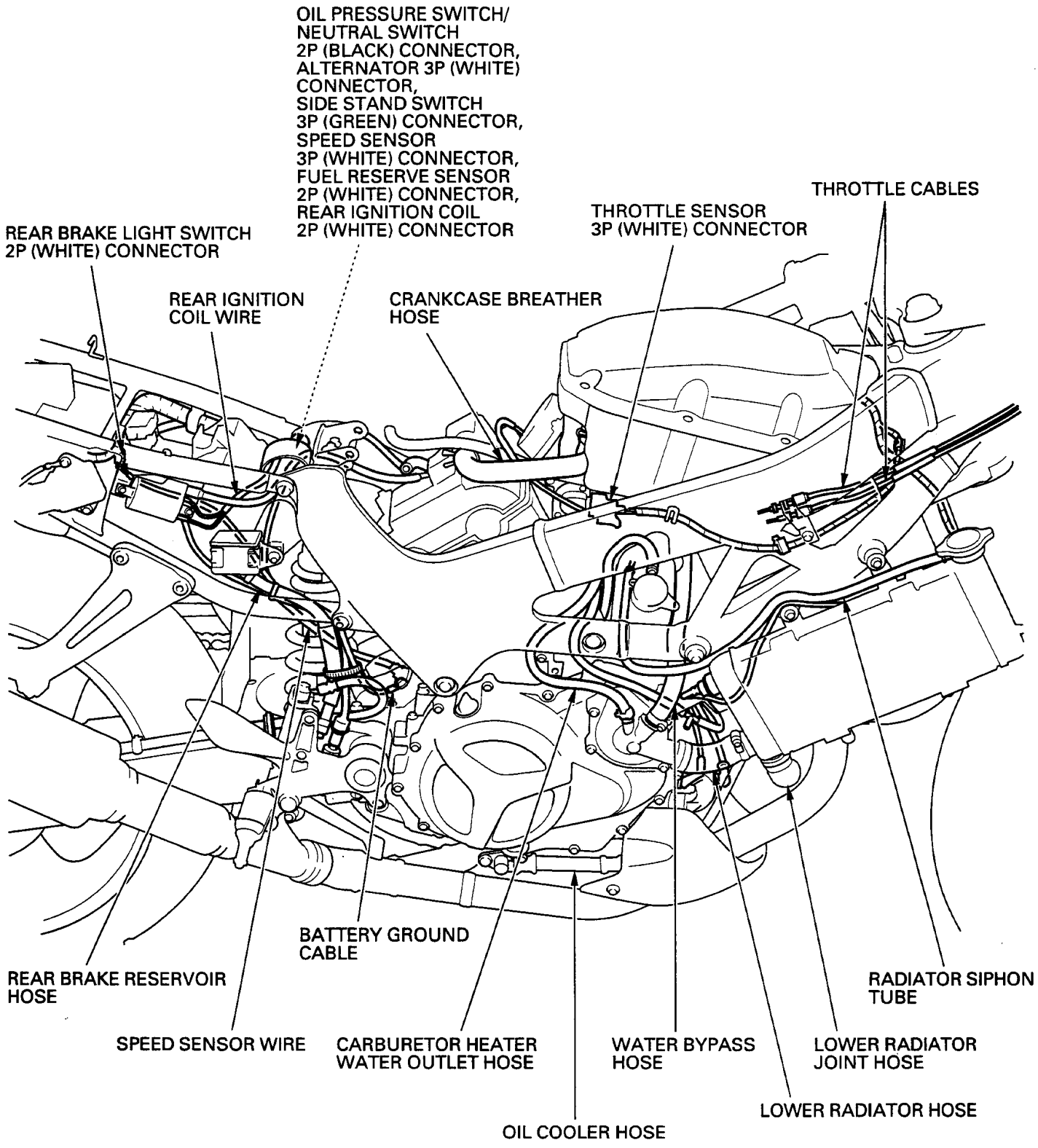
CABLE & HARNESS ROUTING

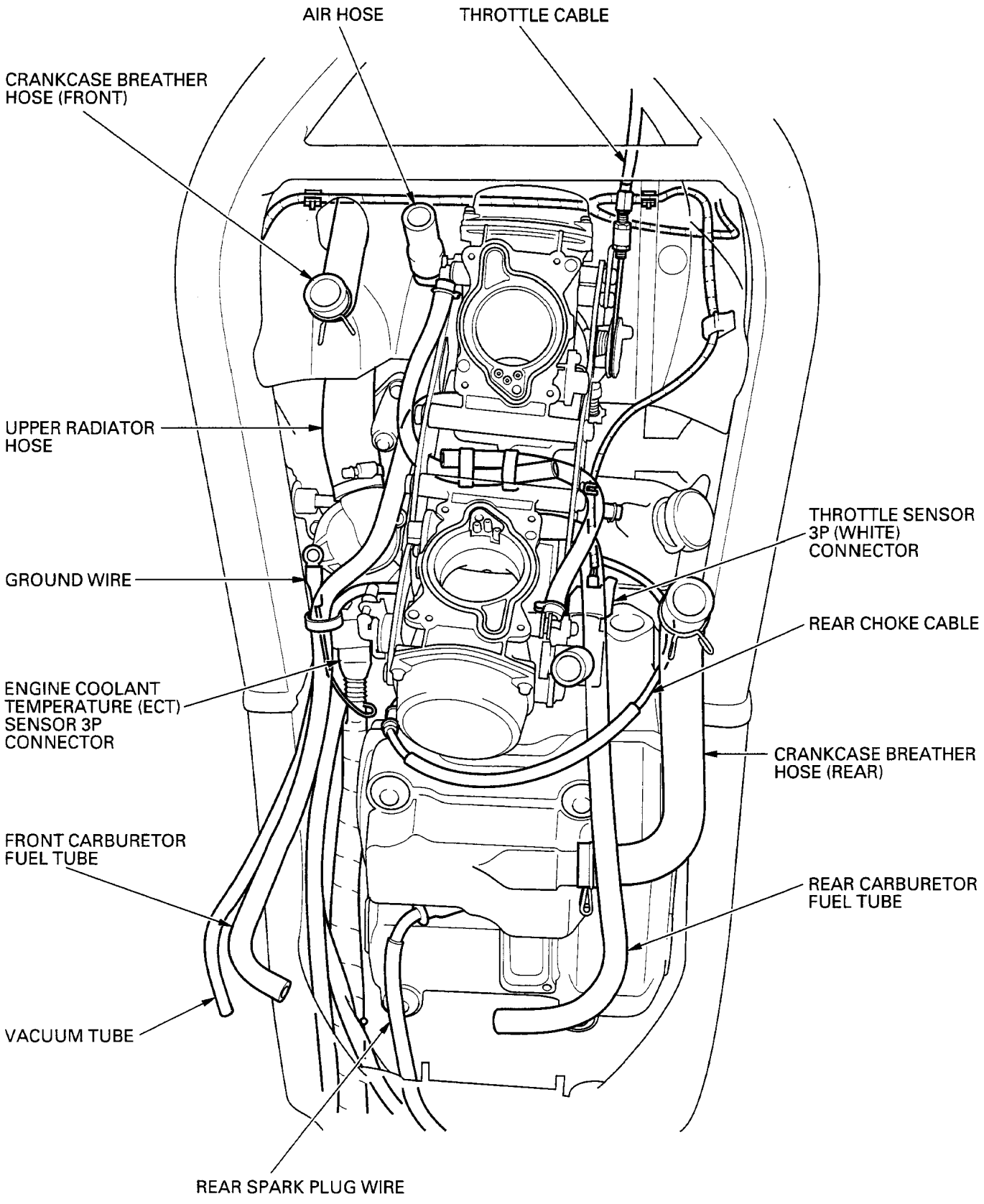


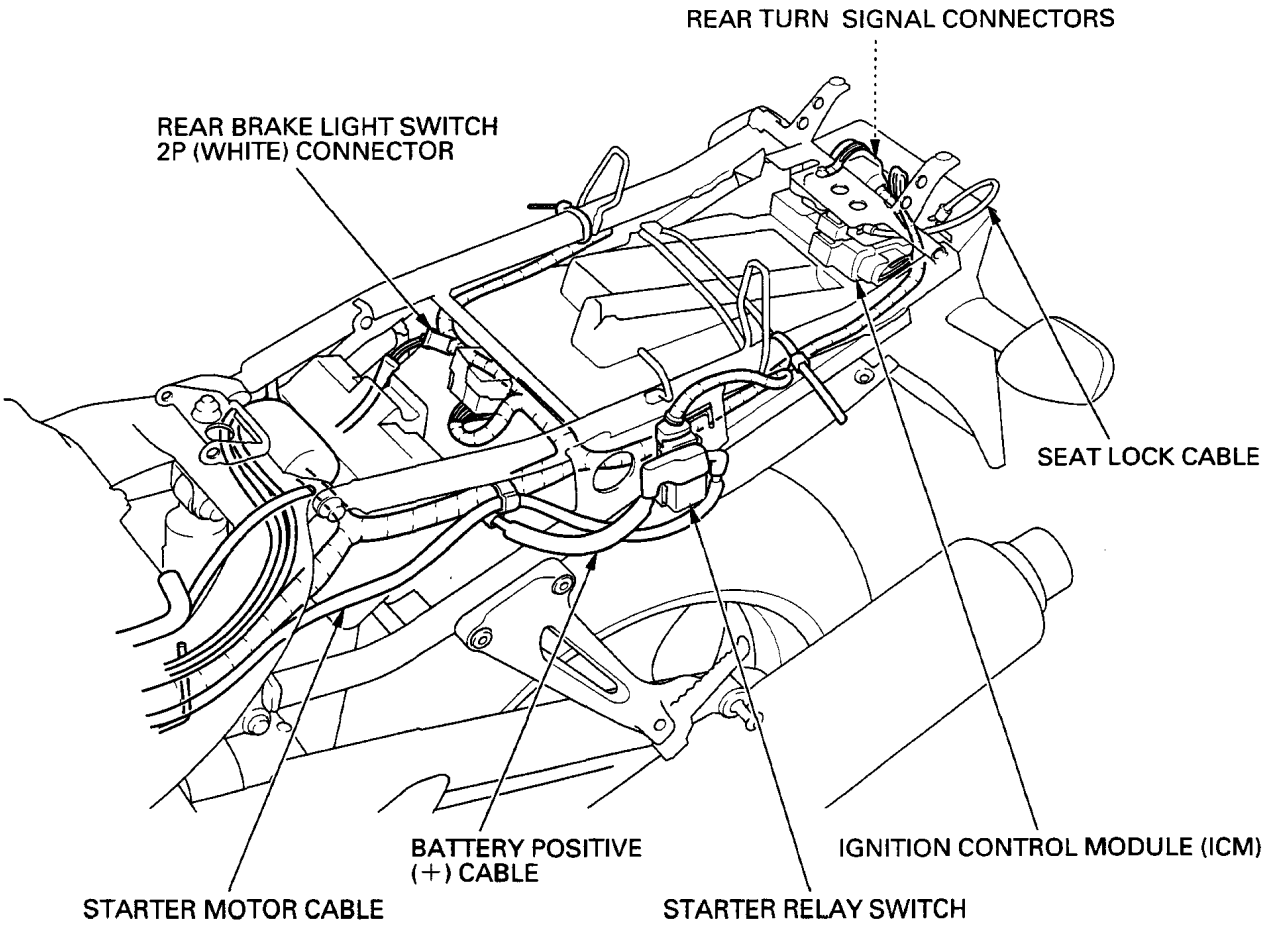

THROTTLE CABLES
RIGHT TURN SIGNAL WIRE
IGNITION SWITCH 3P (WHITE) CONNECTOR,
RIGHT HANDLEBAR SWITCH 9P (BLACK) CONNECTOR
RIGHT HANDLEBAR SWITCH WIRE
IGNITION SWITCH WIRE
FAN MOTOR 2P (BLACK) CONNECTOR
RIGHT FRONT BRAKE HOSE

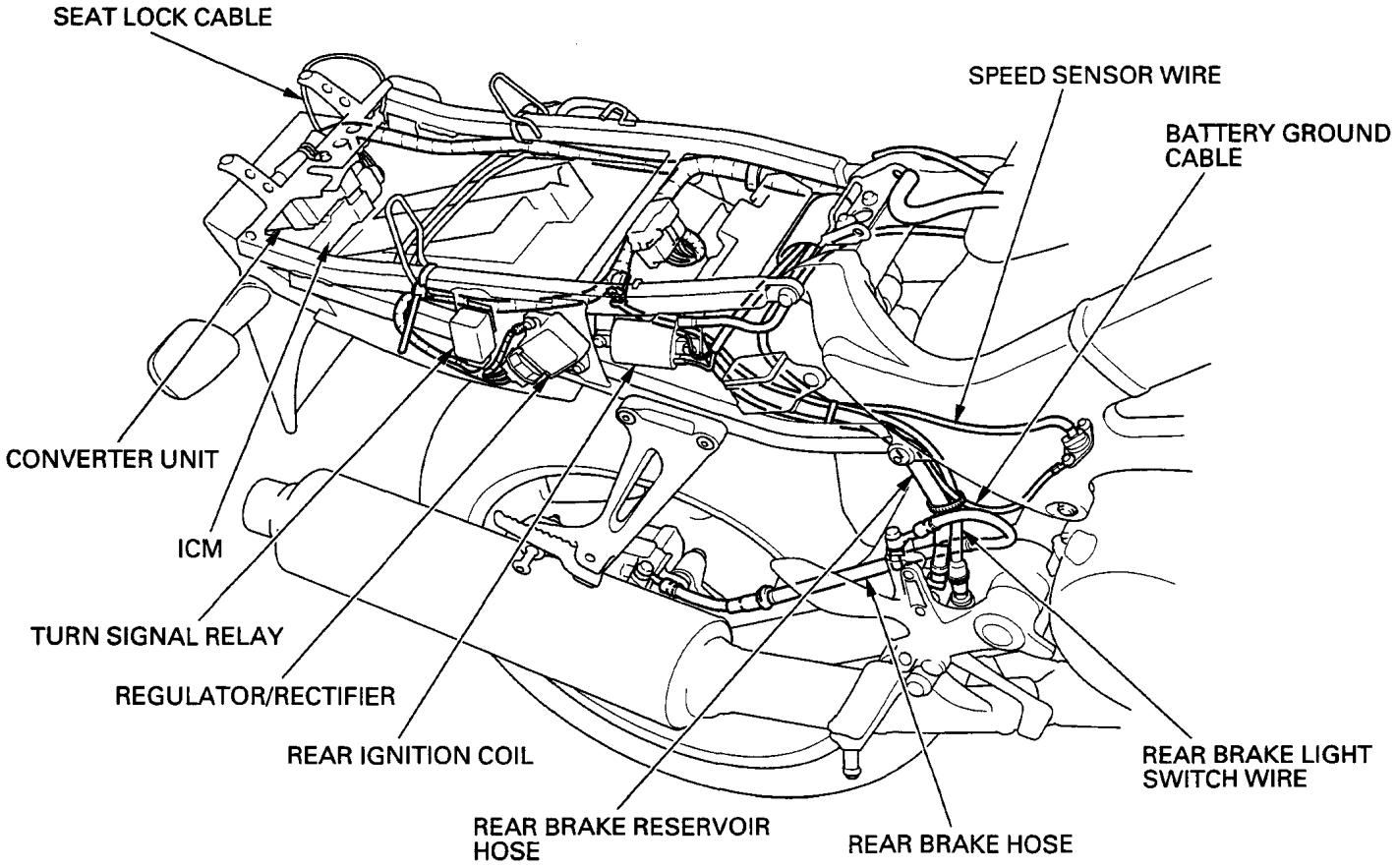

LEFT HANDLEBAR SWITCH 6P (RED) CONNECTOR,
LEFT HANDLEBAR SWITCH 6P (GREEN) CONNECTOR,
INSTRUMENT 6P (BLACK) CONNECTOR,
INSTRUMENT 9P (BLACK) CONNECTOR,
LEFT HANDLEBAR SWITCH WIRE
CLUTCH HOSE
LEFT TURN SIGNAL WIRE
HORN WIRE
LEFT FRONT BRAKE HOSE
FRONT IGNITION COIL
UPPER RADIATOR HOSE
FRONT IGNITION COIL 2P (WHITE) CONNECTOR


PULSE GENERATOR
2P (WHITE) CONNECTOR
CHOKE CABLES
FUEL TANK
BREATHER TUBE
FUSE BOX
STARTER RELAY
SWITCH
REAR SPARK PLUG WIRE
SIDE STAND
SWITCH WIRE
ALTERNATOR
WIRE
FUEL TANK BREATHER TUBE,
FUEL TANK DRAIN TUBE,
RADIATOR RESERVE TANK
OVERFLOW TUBE
NEUTRAL SWITCH
WIRE
STARTER MOTOR CABLE
OIL PRESSURE
SWITCH WIRE
BATTERY POSITIVE (+) CABLE
OIL COOLER HOSE


OIL PRESSURE SWITCH/
NEUTRAL SWITCH
2P (BLACK) CONNECTOR,
ALTERNATOR 3P (WHITE)
CONNECTOR,
SIDE STAND SWITCH
3P (GREEN) CONNECTOR,
SPEED SENSOR
3P (WHITE) CONNECTOR,
FUEL RESERVE SENSOR
2P (WHITE) CONNECTOR,
REAR IGNITION COIL
2P (WHITE) CONNECTOR
THROTTLE CABLES
THROTTLE SENSOR
3P (WHITE) CONNECTOR
REAR BRAKE LIGHT SWITCH
2P (WHITE) CONNECTOR
REAR IGNITION
COIL WIRE
CRANKCASE BREATHER
HOSE
BATTERY GROUND
CABLE
REAR BRAKE RESERVOIR
HOSE
RADIATOR SIPHON
TUBE
SPEED SENSOR WIRE
CARBURETOR HEATER
WATER OUTLET HOSE
WATER BYPASS
HOSE
LOWER RADIATOR
JOINT HOSE
LOWER RADIATOR HOSE
OIL COOLER HOSE


AIR HOSE
THROTTLE CABLE
CRANKCASE BREATHER HOSE (FRONT)
UPPER RADIATOR HOSE
GROUND WIRE
ENGINE COOLANT TEMPERATURE (ECT) SENSOR 3P CONNECTOR
FRONT CARBURETOR FUEL TUBE
VACUUM TUBE
REAR SPARK PLUG WIRE
THROTTLE SENSOR 3P (WHITE) CONNECTOR
REAR CHOKE CABLE
CRANKCASE BREATHER HOSE (REAR)
REAR CARBURETOR FUEL TUBE


REAR TURN SIGNAL CONNECTORS
REAR BRAKE LIGHT SWITCH 2P (WHITE) CONNECTOR
SEAT LOCK CABLE
BATTERY POSITIVE (+) CABLE
IGNITION CONTROL MODULE (ICM)
STARTER MOTOR CABLE
STARTER RELAY SWITCH


SEAT LOCK CABLE
SPEED SENSOR WIRE
BATTERY GROUND CABLE
CONVERTER UNIT
ICM
TURN SIGNAL RELAY
REGULATOR/RECTIFIER
REAR IGNITION COIL
REAR BRAKE LIGHT SWITCH WIRE
REAR BRAKE RESERVOIR HOSE
REAR BRAKE HOSE

EMISSION CONTROL SYSTEMS

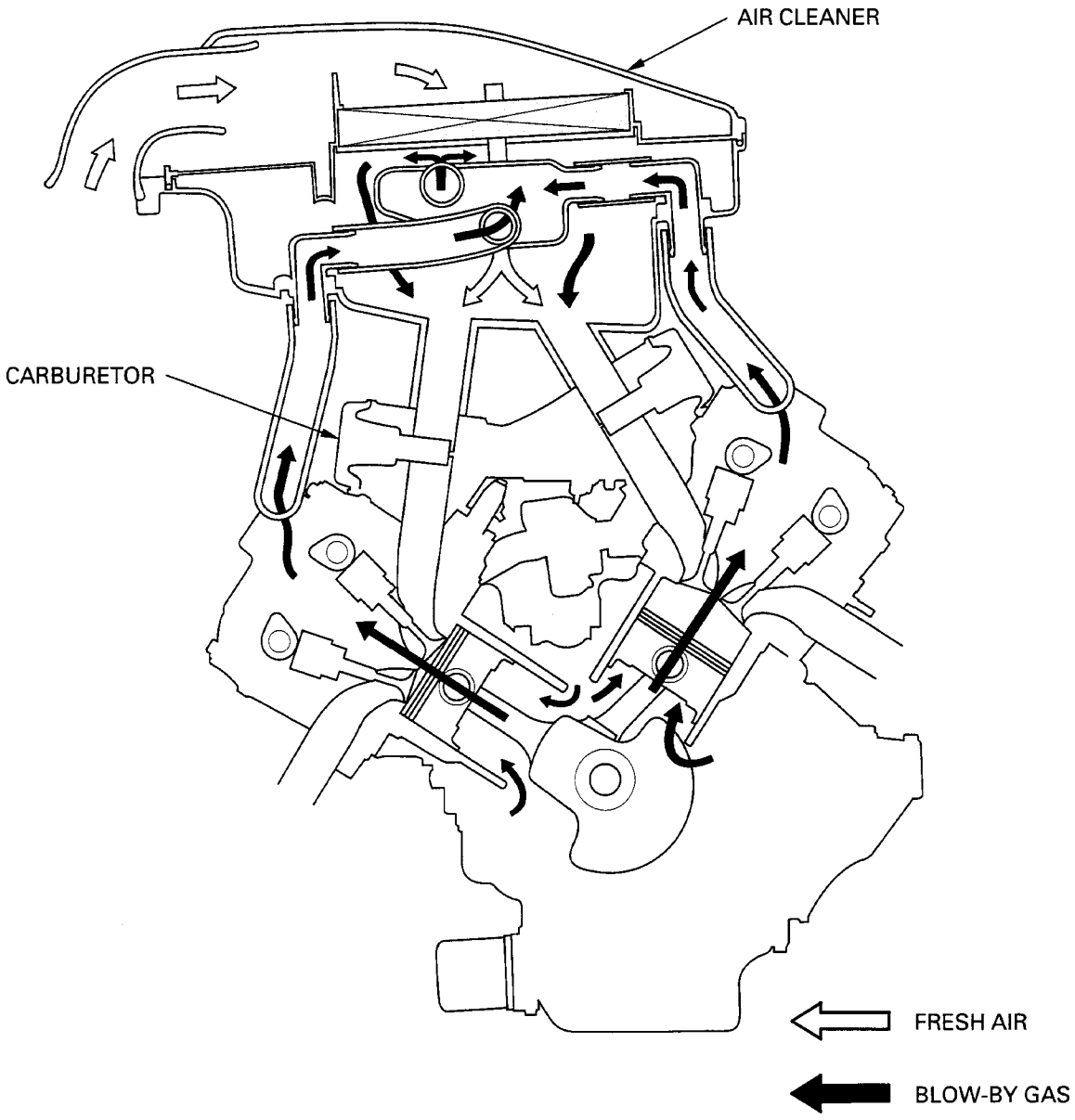
SOURCE OF EMISSIONS

The combustion process produces carbon monoxide and hydrocarbons. Controlling hydrocarbon emissions 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 lean carburetor settings as well as other systems, to reduce carbon monoxide and hydrocarbons.

CRANKCASE EMISSION CONTROL SYSTEM

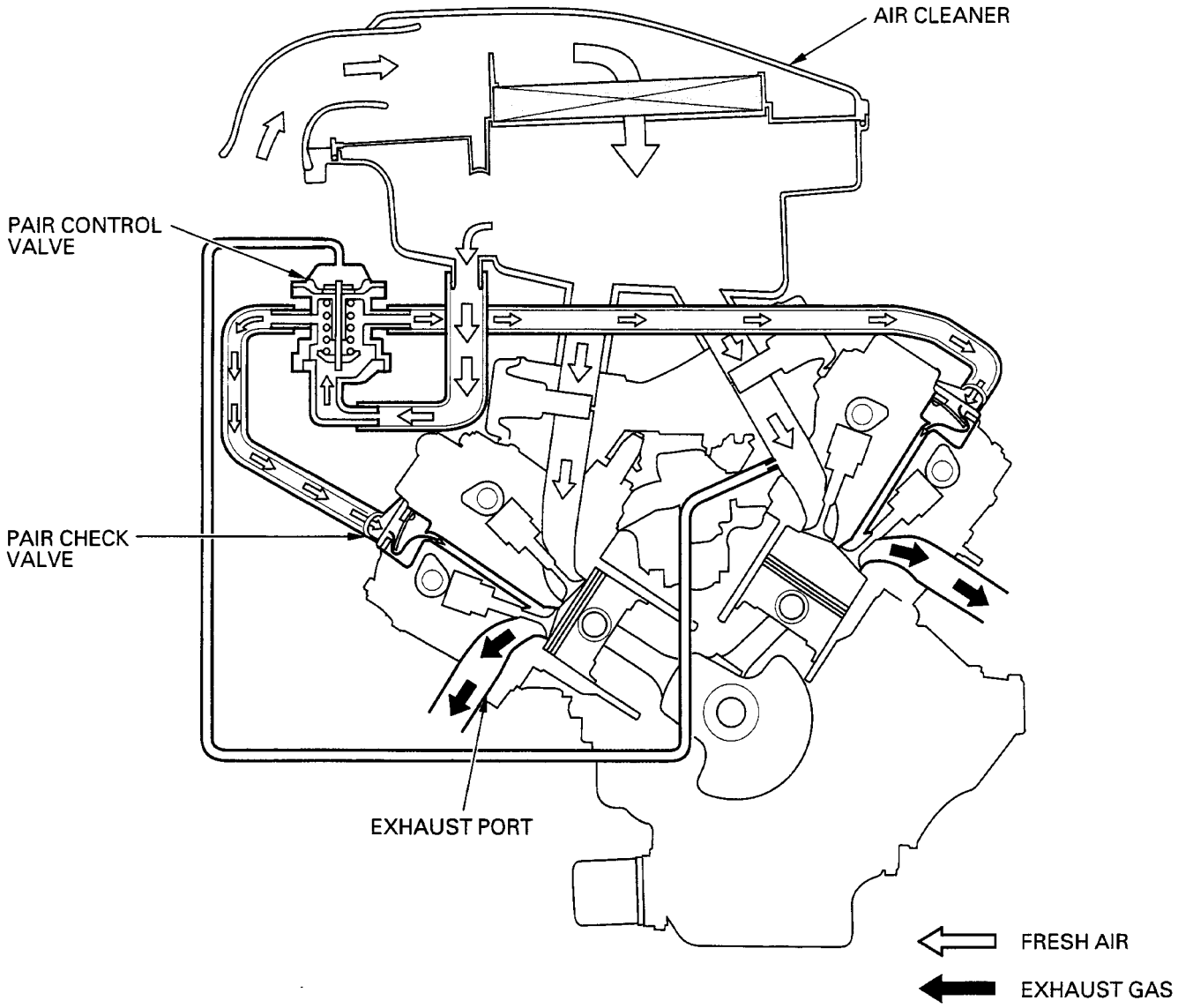
The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner and carburetor.



EXHAUST EMISSION CONTROL SYSTEM (PULSE SECONDARY AIR INJECTION SYSTEM) (SW, AR, IIG type only)

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 whenever there is a negative pressure pulse in the exhaust system. 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.
This model has the pulse secondary air injection (PAIR) control valve and PAIR check valves. PAIR check valve prevents reverse air flow through the system. The PAIR control valve reacts to high intake manifold vacuum and will cut off the supply of fresh air during engine deceleration, thereby preventing afterburn in the exhaust system.

No adjustment to the pulse secondary air injection system should be made, although periodic inspection of the components is recommended.



NOISE EMISSION CONTROL SYSTEM (U type only)

TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED: law may prohibit: (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.

2. FRAME/BODY PANELS/EXHAUST SYSTEM

SERVICE INFORMATION

GENERAL

⚠WARNING

- ***Gasoline is extremely flammable and is explosive under certain conditions. KEEP OUT OF REACH OF CHILDREN.***
- ***Serious burns may result if the exhaust system is not allowed to cool before components are removed or serviced.***

- Work in a well ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.
- This section covers removal and installation of the body panels, fuel tank and exhaust system.
- Always replace the exhaust pipe gasket when removing the exhaust pipe from the engine.
- Always inspect the exhaust system for leaks after installation.

TORQUE VALUES

Exhaust pipe joint nut	12 N·m (1.2 kgf·m , 9 lbf·ft)
Muffler band bolt	26 N·m (2.7 kgf·m , 20 lbf·ft)

TROUBLESHOOTING

Excessive exhaust noise
- Broken exhaust system
- Exhaust gas leaks

Poor performance
- Deformed exhaust system
- Exhaust gas leaks
- Clogged muffler