

## IMPORTANT SAFETY NOTICE



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

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

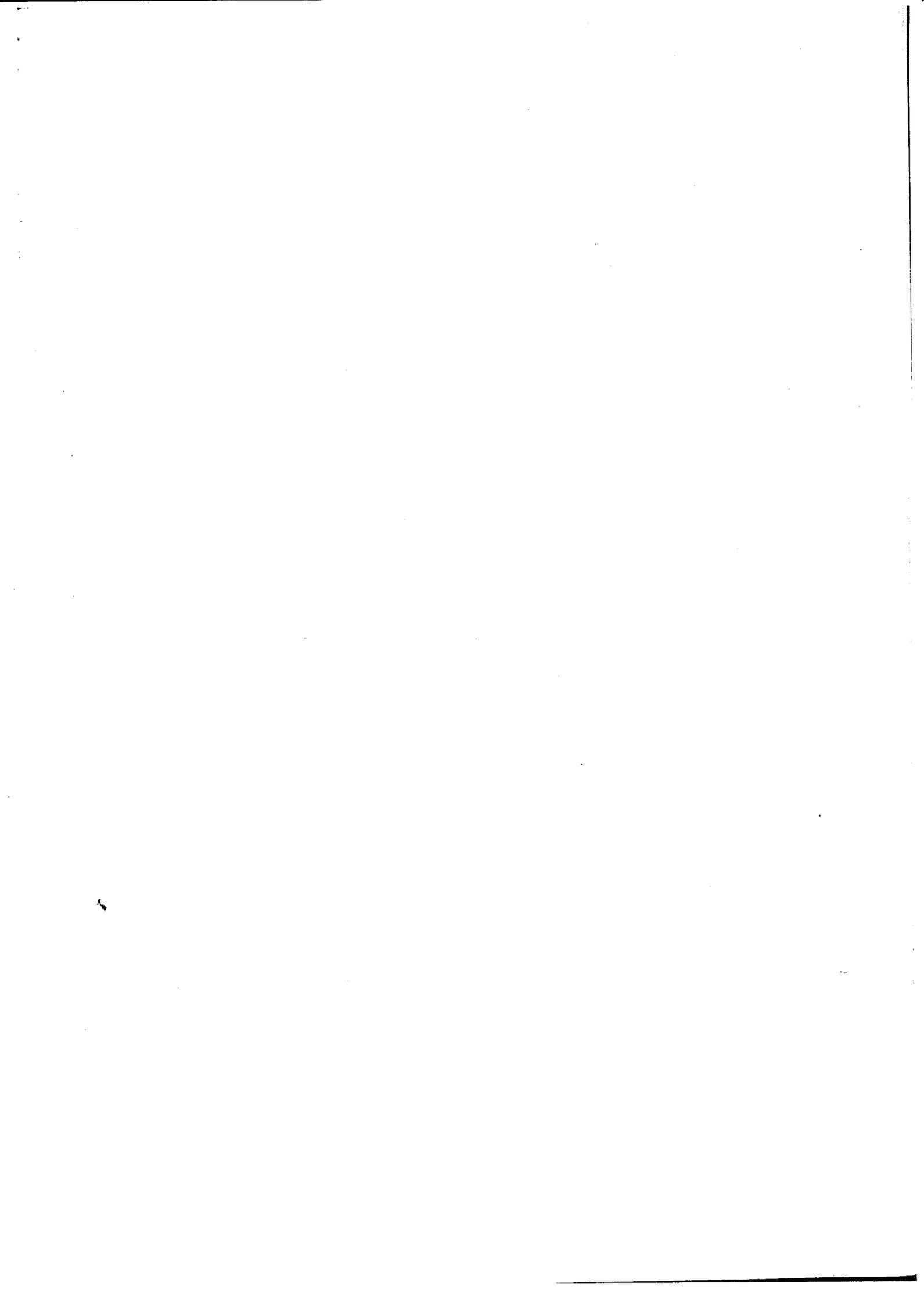
**NOTE:** Gives helpful information.

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 Codes

- Throughout this manual, the following abbreviations are used to identify individual model.
- The asterisk (\*) indicates that this manual is applicable for the corresponding area type.

Code	Available	Area Type
ED	*	European direct sales
E		U.K.
F		France
G		Germany
U	*	Australia
SA		South Africa
ND		North Europe
SW		Switzerland
SD		Sweden
FI		Finland
N	*	Norway
IT		Italy
B		Belgium
H		Netherland
AR		Austria
SP		Spain
D (DK, DM)	*	General export (km/h, mph)



## HOW TO USE THIS MANUAL

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.

Sections 4 through 18 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 that section.

Most sections start with an assembly or system illustration, service information, and troubleshooting for the section. The subsequent page gives detailed procedures.

If you don't know the source of the trouble, go to section 18 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 BASE KNOWLEDGE OF MAINTENANCE ON HONDA MOTORCYCLES, MOTOR SCOOTERS OR ATVS.

HONDA MOTOR CO., LTD.  
Service Publication Office

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## SYMBOLS

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

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

# 1. GENERAL INFORMATION

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## GENERAL SAFETY

### Carbon monoxide

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

#### ▲ WARNING

- *The exhaust contains poisonous carbon monoxide gas that may 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 bases, 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.

#### ▲ WARNING

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

### Brake fluid

#### CAUTION

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

## GENERAL INFORMATION

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### Nitrogen Pressure

For shock absorber with a gas-filled reservoir:

#### **⚠ WARNING**

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

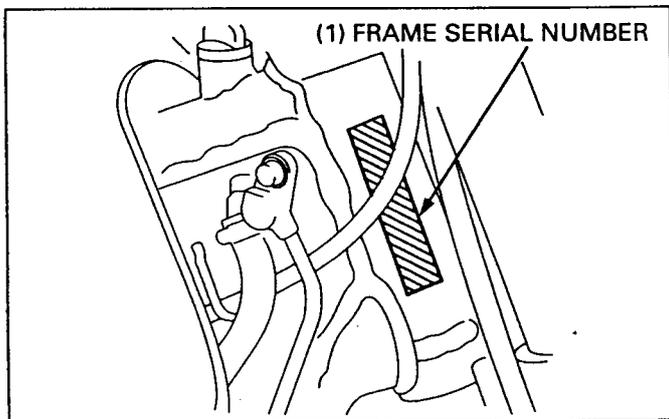
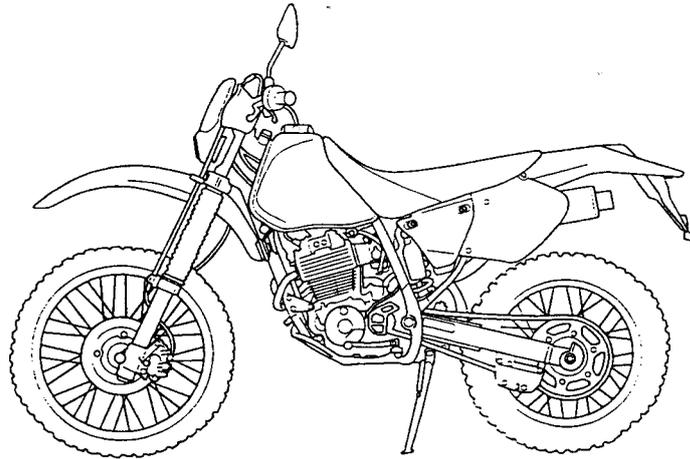
To prevent the possibility of an explosion, release the nitrogen by pressing the valve core. Then remove the valve stem from the shock absorber reservoir. Dispose of the oil in a manner acceptable to the Environmental Protection Agency (EPA).

Before disposal of the shock absorber, release the nitrogen by pressing the valve core. Then remove the valve stem from the shock absorber.

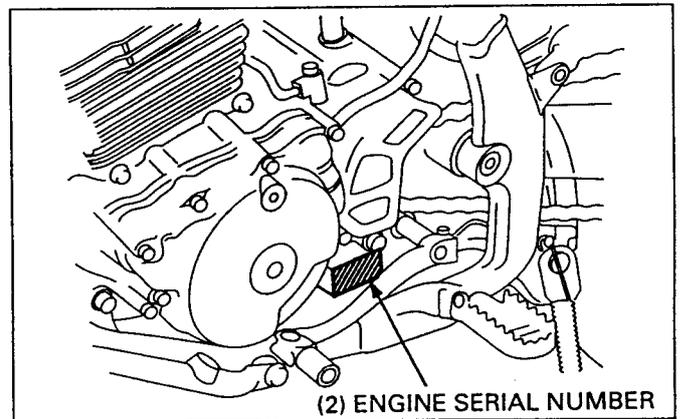
## SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that do not meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.
4. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
5. When tightening a series of bolts or nuts, begin with the larger-diameter of inner bolts first, and tighten to 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 assembly, check all parts for proper installation and operation.
8. Route all electrical wires as shown on pages 1-21 through 1-23, Cable and Harness Routing.

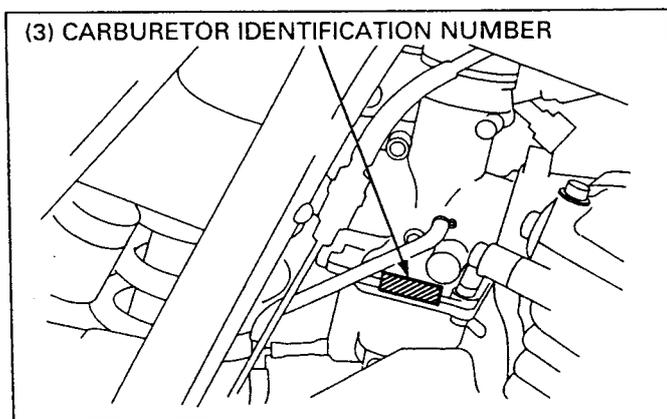
MODEL IDENTIFICATION



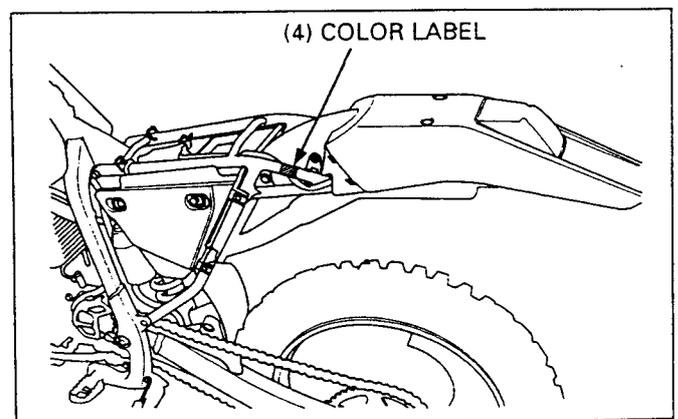
**(1) FRAME SERIAL NUMBER**  
The frame serial number is stamped on the right side of the steering head.



**(2) ENGINE SERIAL NUMBER**  
The engine serial number is stamped on the lower left side of the crankcase.



**(3) CARBURETOR IDENTIFICATION NUMBER**  
The carburetor identification number is stamped on the right side of the carburetor body.



**(4) COLOR LABEL**  
The color label is attached on the left frame tube under the seat.

**GENERAL INFORMATION**

**SPECIFICATIONS**

**GENERAL**

	ITEM	SPECIFICATION
DIMENSIONS	Overall length (ED, U types) (DK type) Overall width Overall height Wheelbase (ED, DK types) (U type) Seat height Ground clearance Dry weight (U, DK types) (ED type) Curb weight (ED, DK types) (U type) Maximum weight capacity	2,155 mm (84.8 in) 2,145 mm (84.4 in) 820 mm (32.3 in) 1,245 mm (49.0 in) 1,400 mm (55.1 in) 1,410 mm (55.5 in) 915 mm (36.0 in) 305 mm (12.0 in) 112 kg (246.9 lbs) 111 kg (244.7 lbs) 121 kg (267.0 lbs) 123 kg (271.0 lbs) 100 kg (220.5 lbs)
FRAME	Frame type Front suspension Front wheel travel Rear suspension Rear wheel travel Rear damper Front tire size (ED, DK types) (U type) Rear tire size (ED, DK types) (U type) Tire brand (ED, DK types) (Bridgestone) (U type) (IRC) Front brake Rear brake Caster Trail Fuel tank capacity Fuel tank reserve capacity	Semi double cradle Telescopic fork 270 mm (10.6 in) Pro-link 270 mm (10.6 in) Nitrogen gas filled damper with reserve tank 80/100-21 51M 3.00 - 21 51P 100/100-18 59M 4.00 - 18 64P M23 M22 TR8 TR8 Hydraulic single disc Hydraulic single disc 24°45' 92.0 mm (3.6 in) 9.0 l (2.38 US gal, 1.98 Imp gal) 2.0 l (0.53 US gal, 0.44 Imp gal)
ENGINE	Type Cylinder arrangement Bore x Stroke Displacement Compression ratio Valve train Intake valve opens at 1 mm (0.04 in) lift Intake valve closes at 1 mm (0.04 in) lift Exhaust valve opens at 1 mm (0.04 in) lift Exhaust valve closes at 1 mm (0.04 in) lift Lubrication system Oil pump type Cooling system Air filtration Engine dry weight	Gasoline, air cooled 4-stroke SOHC Single cylinder inclined 15° 73.0 x 59.5 mm (2.87 x 2.34 in) 249 cm <sup>3</sup> (15.2 cu-in) 10.2 : 1 4-valve, single chain driven SOHC 10° BTDC 40° ABDC 40° BBDC 10° ATDC Forced pressure dry sump Trochoid Air cooled Oiled polyurethane foam 33.7 kg (74.3 lbs)
CARBURETOR	Carburetor type Venturi diameter	Piston valve 30 mm (1.18 in)

**GENERAL INFORMATION****GENERAL (cont'd)**

GENERAL (cont'd)		
	ITEM	SPECIFICATION
DRIVE TRAIN	Clutch System Clutch operating system Transmission Primary reduction Gear ratio 1st Gear ratio 2nd Gear ratio 3rd Gear ratio 4th Gear ratio 5th Gear ratio 6th Final reduction (ED, DK types) (U type) Gear shift pattern	Multi-plate, wet Cable operating 6-speed 3.100 (20/62) 2.769 (13/36) 1.941 (17/33) 1.450 (20/29) 1.173 (23/27) 0.960 (25/24) 0.814 (27/22) 3.692 (13/48) 3.000 (13/39) Left foot operated return system, 1 - N - 2 - 3 - 4 - 5 - 6
ELECTRICAL	Ignition system	CDI (Capacitive Discharge Ignition)

## GENERAL INFORMATION

Unit: mm in

LUBRICATION		STANDARD	SERVICE LIMIT
ITEM			
Engine oil capacity	at draining	1.3 liter (1.37 US qt, 1.14 Imp qt)	—
	at disassembly	1.7 liter (1.79 US qt, 1.50 Imp qt)	—
	at oil filter change	1.4 liter (1.47 US qt, 1.23 Imp qt)	—
Recommended engine oil		API Service Classification: SF or SG Viscosity: SAE 10W-40 or 20W-50	—
Oil pump rotor	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 – 0.22 (0.006 – 0.009)	0.25 (0.010)
	End clearance	0.02 – 0.09 (0.001 – 0.004)	0.12 (0.005)

FUEL SYSTEM		SPECIFICATIONS
ITEM		
Carburetor identification number	(ED, DK types)	PDG1A
	(U type)	PDG1B
Main jet	(ED, DK types)	#132
	(U type)	#75
Slow jet		#45
Jet needle clip position		3rd groove from top
Pilot screw initial opening		1-3/4 turns out
Float level		12.5 mm (0.49 in)
Idle speed		1,300 ± 100 min <sup>-1</sup> (rpm)
Throttle grip free play		2 – 6 mm (1/12 – 1/4 in)

## GENERAL INFORMATION

Unit: mm (in)

CYLINDER HEAD/VALVES				STANDARD	SERVICE LIMIT
ITEM					
Cylinder compression	Valve clearance at standard (Decompressor effected)			637 – 735 kPa (6.5 – 7.5 kgf/cm <sup>2</sup> , 92 – 107 psi) at 600 min <sup>-1</sup> (rpm)	—
	Valve clearance at 1 mm (0.04 in) (Decompressor not effected)			1,177 – 1,275 kPa (12.0 – 13.0 kgf/cm <sup>2</sup> , 171 – 185 psi)	—
Cylinder head warpage				—	0.10 (0.004)
Valve and valve guide	Valve clearance		IN	0.10 ± 0.02 (0.004 ± 0.001)	—
			EX	0.12 ± 0.02 (0.005 ± 0.001)	—
	Valve stem O.D.		IN	4.975 – 4.990 (0.1959 – 0.1965)	4.96 (0.195)
			EX	4.955 – 4.970 (0.1951 – 0.1957)	4.94 (0.194)
	Valve guide I.D.		IN/EX	5.000 – 5.012 (0.1969 – 0.1973)	5.03 (0.198)
	Stem-to-guide clearance		IN	0.010 – 0.037 (0.0004 – 0.0015)	0.07 (0.003)
			EX	0.030 – 0.057 (0.0012 – 0.0022)	0.09 (0.004)
Valve seat width		IN/EX	1.1 – 1.2 (0.04 – 0.05)	2.0 (0.8)	
Valve spring	Free length	Inner	IN/EX	43.44 (1.710)	42.51 (1.673)
		Outer	IN/EX	44.03 (1.733)	42.83 (1.686)
Rocker arm	Rocker arm I.D.		IN/EX	11.500 – 11.518 (0.4528 – 0.4535)	11.53 (0.454)
	Rocker arm shaft O.D.		IN/EX	11.466 – 11.484 (0.4632 – 0.4521)	11.41 (0.449)
	Rocker arm-to-shaft clearance		IN/EX	0.016 – 0.052 (0.0006 – 0.0020)	0.10 (0.004)
Sub-rocker arm	Sub-rocker arm I.D.		IN/EX	7.000 – 7.015 (0.2756 – 0.2762)	7.05 (0.278)
	Sub-rocker arm shaft O.D.		IN/EX	6.972 – 6.987 (0.2745 – 0.2751)	6.92 (0.272)
	Sub-rocker arm-to-shaft clearance		IN/EX	0.013 – 0.043 (0.0005 – 0.0017)	0.10 (0.004)
Camshaft	Cam lobe height		IN	30.772 (1.2115)	30.583 (1.2041)
			EX	30.819 (1.2133)	30.629 (1.2059)
	Runout			—	0.03 (0.001)

## GENERAL INFORMATION

### CYLINDER/PISTON

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT	
Cylinder	I.D.	73.000 – 73.010 (2.8740 – 2.8744)	73.11 (2.878)	
	Taper	—	0.05 (0.002)	
	Out of round	—	0.05 (0.002)	
	Warpage	—	0.10 (0.004)	
Piston, piston ring and piston pin	Piston mark direction	"IN" mark facing to the intake side	—	
	Piston O.D.	72.965 – 72.985 (2.8726 – 2.8734) at 19 mm (0.7 in) from bottom of skirt	72.88 (2.869)	
	Piston pin hole I.D.	17.002 – 17.008 (0.6694 – 0.6696)	17.07 (0.672)	
	Cylinder-to-piston clearance	0.015 – 0.045 (0.0006 – 0.0018)	0.10 (0.004)	
	Piston pin O.D.	16.994 – 17.000 (0.6691 – 0.6693)	16.97 (0.668)	
	Piston-to-piston pin clearance	0.002 – 0.014 (0.0001 – 0.0006)	0.07 (0.003)	
	Piston ring-to-ring groove clearance	Top	0.015 – 0.050 (0.0006 – 0.0020)	0.12 (0.005)
		Second	0.015 – 0.050 (0.0006 – 0.0020)	0.12 (0.005)
	Piston ring end gap	Top	0.15 – 0.30 (0.006 – 0.012)	0.40 (0.016)
		Second	0.30 – 0.45 (0.012 – 0.018)	0.55 (0.022)
		Oil (side rail)	0.2 – 0.7 (0.01 – 0.03)	0.86 (0.034)
	Piston ring mark	Top	mark facing up	—
		Second	mark facing up	—
	Connecting rod small end I.D.	17.016 – 17.034 (0.6699 – 0.6706)	17.06 (0.672)	
	Connecting rod-to-piston pin clearance	0.016 – 0.040 (0.0006 – 0.0016)	0.09 (0.004)	

## GENERAL INFORMATION

### CLUTCH/KICKSTARTER/GEARSHIFT LINKAGE

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT	
Clutch	Lever free play	10 - 20 (3/8 - 3/4)	—	
	Spring free length	37.2 (1.46)	33.5 (1.32)	
	Disc thickness	2.92 - 3.08 (0.115 - 0.121)	2.69 (0.106)	
	Plate warpage	—	0.30 (0.012)	
	Clutch outer I.D.	25.000 - 25.021 (0.9843 - 0.9851)	25.04 (0.986)	
	Outer guide	I.D.	19.990 - 20.010 (0.7870 - 0.7878)	20.03 (0.789)
		O.D.	24.959 - 24.980 (0.9826 - 0.9835)	24.17 (0.952)
	Mainshaft O.D. at clutch outer guide	19.959 - 19.980 (0.7858 - 0.7866)	19.91 (0.784)	
Kickstarter	Starter idle gear I.D.	19.010 - 19.034 (0.7484 - 0.7494)	19.13 (0.753)	
	Starter idle gear bushing	I.D.	15.000 - 15.018 (0.5906 - 0.5913)	15.04 (0.592)
		O.D.	18.959 - 18.980 (0.7464 - 0.7472)	18.92 (0.745)
	Kickstarter gear I.D.	25.020 - 25.041 (0.9850 - 0.9859)	25.12 (0.989)	
	Kickstarter gear bushing	I.D.	22.000 - 22.021 (0.8661 - 0.8670)	22.10 (0.870)
		O.D.	24.979 - 25.000 (0.9834 - 0.9843)	24.90 (0.980)
	Kickstarter spindle O.D.	21.959 - 21.980 (0.8645 - 0.8654)	21.91 (0.863)	
	Countershaft O.D. at starter idle gear	14.966 - 14.984 (0.5892 - 0.5899)	14.91 (0.587)	

# GENERAL INFORMATION

Unit: mm (in)

## CRANKSHAFT/TRANSMISSION

ITEM			STANDARD	SERVICE LIMIT	
Crankshaft, Connecting rod	Connecting rod big end side clearance		0.050 – 0.500 (0.0019 – 0.0197)	0.80 (0.031)	
	Connecting rod big end radial clearance		0.000 – 0.008 (0.0000 – 0.0003)	0.05 (0.002)	
	Crankshaft runout		—	0.05 (0.002)	
Transmission	Gear I.D.	M5	20.000 – 20.021 (0.7874 – 0.7882)	20.08 (0.791)	
		M6	23.000 – 23.021 (0.9055 – 0.9063)	23.07 (0.908)	
		C1	23.000 – 23.021 (0.9055 – 0.9063)	23.07 (0.908)	
		C2	25.020 – 25.041 (0.9850 – 0.9859)	25.09 (0.988)	
		C3	25.000 – 25.021 (0.9843 – 0.9851)	25.07 (0.987)	
		C4	22.000 – 22.021 (0.8661 – 0.8670)	22.07 (0.869)	
	Gear bushing	M6	O.D.	22.959 – 22.980 (0.9039 – 0.9047)	22.92 (0.902)
			I.D.	18.000 – 18.018 (0.7087 – 0.7094)	18.08 (0.712)
		C1	O.D.	22.959 – 22.980 (0.9039 – 0.9047)	22.90 (0.902)
			I.D.	22.000 – 22.021 (0.8661 – 0.8670)	22.10 (0.870)
		C3	O.D.	24.979 – 25.000 (0.9834 – 0.9843)	24.90 (0.980)
	Mainshaft O.D.	M5	19.959 – 19.980 (0.7858 – 0.7866)	19.91 (0.784)	
		Clutch outer guide	19.959 – 19.980 (0.7858 – 0.7866)	19.91 (0.784)	
	Countershaft O.D.	Starter idle gear		14.966 – 14.984 (0.5892 – 0.5899)	14.91 (0.587)
		C1		17.966 – 17.984 (0.7073 – 0.7080)	17.91 (0.705)
		C2, C4		21.959 – 21.980 (0.8645 – 0.8654)	21.91 (0.863)
	Shift drum O.D. at right crankcase bearing portion			19.959 – 19.980 (0.7858 – 0.7866)	19.90 (0.783)
	Gear-to-bushing clearance	M6	0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)	
		C1	0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)	
		C2	0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)	
		C3	0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)	
Gear-to-shaft clearance	M5, C4	0.020 – 0.062 (0.0008 – 0.0022)	0.15 (0.006)		
Bush-to-shaft clearance	C1	0.016 – 0.052 (0.0006 – 0.0020)	0.10 (0.004)		
	C2	0.020 – 0.062 (0.0008 – 0.0022)	0.10 (0.004)		
Shift fork, Shaft	Shift fork	I.D.	13.000 – 13.021 (0.5118 – 0.5126)	13.05 (0.514)	
		Operation area thickness	R, L	4.93 – 5.00 (0.194 – 0.197)	4.50 (0.177)
			C	4.90 – 5.00 (0.193 – 0.197)	4.50 (0.177)
	Shift fork shaft O.D.		12.966 – 12.984 (0.5105 – 0.5112)	12.90 (0.508)	

## GENERAL INFORMATION

FRONT WHEEL/SUSPENSION/STEERING		Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT
Cold tire pressure	(ED, DK types)	100 kPa (1.0 kgf/cm <sup>2</sup> , 15 psi)	—
	(U type)	150 kPa (1.50 kgf/cm <sup>2</sup> , 22 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel rim-to-hub distance		20.25 (0.797)	—
Fork spring free length		442.5 (17.42)	438.1 (17.25)
Fork tube runout		—	2.0 (0.08)
Recommended fork oil		Fork fluid (SS7)	—
Fork oil level		82 (3.2)	77 – 108 (3.0 – 4.2)
Fork oil capacity		477 cm <sup>3</sup> (16.13 US oz, 16.79 Imp oz)	—

REAR WHEEL/SUSPENSION		Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT
Cold tire pressure	(ED, DK types)	100 kPa (1.0 kgf/cm <sup>2</sup> , 15 psi)	—
	(U type)	125 kPa (1.25 kgf/cm <sup>2</sup> , 18 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel rim-to-hub distance		22.75 (0.896)	—
Drive chain slack		30 – 40 (1-1/4 – 1-5/8)	—
Drive chain length	(ED, DK types)	—	1,659 (65.3)
	(U type)	—	1,611 (63.4)
Replacement drive chain		D.I.D. 520VC5 or RK 520MOZ9	—
Drive chain guide slider thickness		—	To the indicator
Drive chain slider thickness		—	4.0 (0.15)
Recommended shock oil		Fork fluid (SS8)	—
Damper gas pressure/compressed gas		981 kPa (10.0 kgf/cm <sup>2</sup> , 142 psi)/Nitrogen	—
Shock absorber spring free length		190.0 (7.5)	186.2 (7.33)
Shock absorber spring preload length		181.5 (7.15)	173.5 – 185.5 (6.83 – 7.30)

## GENERAL INFORMATION

Unit: mm (i)

BRAKE SYSTEM			STANDARD	SERVICE LIMIT
Specified brake fluid			DOT 4 brake fluid	—
Brake pad wear			—	To the groove
Brake disc thickness	FR	(ED, DK types)	3.0 (0.12)	2.5 (0.10)
		(U type)	3.5 (0.14)	3.0 (0.12)
	RR		4.5 (0.18)	4.0 (0.16)
Brake disc runout			—	0.25 (0.010)
Master cylinder I.D.	FR		12.700 – 12.743 (0.5000 – 0.5017)	12.76 (0.502)
	RR		14.000 – 14.043 (0.5512 – 0.5529)	14.06 (0.554)
Master piston O.D.	FR		12.657 – 12.684 (0.4983 – 0.4994)	12.68 (0.497)
	RR		13.957 – 13.984 (0.5495 – 0.5506)	13.95 (0.549)
Caliper cylinder I.D.	FR		27.000 – 27.050 (1.0630 – 1.0650)	27.06 (1.065)
	RR		27.000 – 27.050 (1.0630 – 1.0650)	27.06 (1.065)
Caliper piston O.D.	FR		26.900 – 26.950 (1.0591 – 1.0610)	26.89 (1.059)
	RR		26.935 – 26.968 (1.0604 – 1.0617)	26.89 (1.059)

## GENERAL INFORMATION

ELECTRICAL SYSTEM		SPECIFICATIONS	
	ITEM		
Spark plug		NGK	NIPPONDENSO
	Standard	CR9EH-9	U27FER9
	For cold climate (Below 5°C/41°F)	CR8EH-9	U24FER9
Ignition timing	Initial	8° BTDC at 1,900 ± 200 min <sup>-1</sup> (rpm)	
	Full advance	28° ± 2° BTDC at 4,300 min <sup>-1</sup> (rpm)	
Spark plug gap		0.8 – 0.9 mm (0.031 – 0.035 in)	
Ignition coil primary peak voltage		100 V minimum	
Ignition pulse generator peak voltage		0.7 V minimum	
Exciter coil peak voltage		100 V minimum	
Lighting coil resistance (At 20°C/68°F) (AC/DC)		- 0.2 – 1.2 Ω	
Headlight		12 V 35/35 W	
Taillight		12 V 5 W	
Alternator/output		0.14 kW/5,000 min <sup>-1</sup> (rpm)	
AC regulator specific voltage		12.0 – 14.0 V/3,000 min <sup>-1</sup> (rpm)	

## GENERAL INFORMATION

### TORQUE VALUES

STANDARD			
Fasteners Type	Torque N-m (kgf-m, lbf-ft)	Fasteners Type	Torque N-m (kgf-m, lbf-ft)
5 mm hex bolt and nut	5 (0.5, 3.6)	5 mm screw	4 (0.4, 2.9)
6 mm hex bolt and nut	10 (1.0, 7)	6 mm screw	9 (0.9, 6.5)
8 mm hex bolt and nut	22 (2.2, 16)	6 mm flange bolt (8 mm head)	9 (0.9, 6.5)
10 mm hex bolt and nut	34 (3.5, 25)	6 mm flange bolt (10 mm head)	12 (1.2, 9)
12 mm hex bolt and nut	54 (5.5, 40)	and nut	
		8 mm flange bolt and nut	26 (2.7, 20)
		10 mm flange bolt and nut	39 (4.0, 29)

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

- Notes:
1. Apply a locking agent to the threads.
  2. Stake.
  3. Apply oil to the threads and flange surface.
  4. Apply clean engine oil to the O-ring.
  5. Apply grease to the threads and flange surface.
  6. U-nut.
  7. ALOC bolt; Replace with a new one.

ENGINE				
Item	Q'ty	Thread dia. (mm)	Torque N-m (kgf-m, lbf-ft)	Remarks
<b>Maintenance:</b>				
Crankcase oil drain bolt	1	12	25 (2.5, 18)	
Oil filter cover bolt	2	6	12 (1.2, 9)	
Timing hole cap	1	14	10 (1.0, 7)	Note 5
Crankshaft hole cap	1	30	8 (0.8, 5.8)	Note 5
Valve hole cap	4	36	15 (1.5, 11)	Note 4
Valve adjust lock nut (IN)	2	7	24 (2.4, 17)	
(EX)	2	8	26 (2.6, 19)	
Spark plug	1	10	12 (1.2, 9)	
<b>Lubrication:</b>				
Oil pass pipe bolt (7 mm)	2	7	12 (1.2, 9)	
(8 mm)	1	8	12 (1.2, 9)	
<b>Cylinder Head/Valves:</b>				
Cylinder head cover bolt (6 mm)	13	6	12 (1.2, 9)	
(8 mm)	1	8	24 (2.4, 17)	
Rocker arm shaft	2	14	27 (2.8, 20)	Note 1
Sub-rocker arm shaft	4	12	23 (2.3, 17)	Note 1
Cam sprocket bolt	2	7	20 (2.0, 14)	Note 1
Cylinder head bolt (10 mm)	4	10	39 (4.0, 29)	Note 3
(6 mm)	2	6	10 (1.0, 7)	
Cam chain tensioner set plate bolt	2	6	10 (1.0, 7)	
<b>Engine Removal/Installation:</b>				
Drive sprocket cover bolt	2	6	12 (1.2, 9)	
Drive sprocket bolt	2	6	10 (1.0, 7)	

## GENERAL INFORMATION

### — ENGINE (Cont'd)

Item	Q'ty	Thread dia. (mm)	Torque N-m (kgf-m, lbf-ft)	Remarks
<b>Cylinder/Piston:</b>				
Cylinder bolt (10 mm)	4	10	39 (4.0, 29)	Note 3
(6 mm SH)	2	6	10 (1.0, 7)	
<b>Clutch/Kickstarter/Gearshift Linkage:</b>				
Right crankcase cover bolt	11	6	12 (1.2, 9)	Note 1 Note 2, 3 Note 3
Stopper arm pivot bolt	1	6	12 (1.2, 9)	
Gearshift cam bolt	1	10	24 (2.4, 17)	
Clutch center lock nut	1	16	108 (11.0, 80)	
Primary drive gear lock nut	1	18	88 (9.0, 65)	
Kickstarter pedal bolt	1	8	26 (2.7, 20)	
<b>Alternator:</b>				
Left crankcase cover bolt	8	6	12 (1.2, 9)	Note 3 Note 1 Note 1 Note 1
Flywheel bolt	1	12	103 (10.5, 76)	
Stator bolt	3	6	10 (1.0, 7)	
Ignition pulse generator bolt	2	5	5 (0.5, 3.6)	
Alternator wire clamp bolt	1	5	5 (0.5, 3.6)	
Gearshift pedal bolt	1	6	1.2 (1.2, 9)	
<b>Crankcase/Crank Shaft/Balancer:</b>				
Crankcase bolt	11	6	12 (1.2, 9)	Note 1
Cam chain tensioner bolt	1	6	12 (1.2, 9)	
<b>Others:</b>				
NSHF bolt	—	6	12 (1.2, 9)	
SH bolt	—	6	10 (1.0, 7)	

### — FRAME

Item	Q'ty	Thread dia. (mm)	Torque N-m (kgf-m, lbf-ft)	Remarks	
<b>Frame Body Panels/Exhaust System:</b>					
Muffler mounting bolt	1	8	32 (3.3, 24)	Note 6	
Muffler clamp bolt	1	8	20 (2.0, 14)		
Exhaust pipe protector mounting bolt	2	6	12 (1.2, 9)		
Exhaust pipe joint nut	4	6	10 (1.0, 7)		
<b>Maintenance:</b>					
Fuel valve mounting bolt	2	6	9 (0.9, 6.5)		
Down tube oil drain bolt	1	10	39 (4.0, 29)		
Front brake lever adjust lock nut	1		6 (0.6, 4.3)		
Side stand pivot bolt	1	10	10 (1.0, 7)		
nut	1	10	39 (4.0, 29)		
Spoke nipple	68	BC3.2	3.8 (0.38, 2.7)		
Rim lock	2	8	15 (1.5, 11)		
<b>Lubrication System:</b>					
Down tube oil strainer	1	27	54 (5.5, 40)		
Oil pipe bolt (12 mm)	1	12	37 (3.8, 27)		
<b>Engine Removal/Installation:</b>					
Right foot peg mounting bolt	2	10	42 (4.3, 31)		
Engine hanger plate bolt (10 mm)	4	10	64 (6.5, 47)		
(8 mm)	6	8	26 (2.7, 20)		

## GENERAL INFORMATION

FRAME (cont'd)				
Item	Q'ty	Thread dia. (mm)	Torque N·m (kgf·m, lbf·ft)	Remarks
Rear frame upper mounting bolt	1	8	26 (2.7, 20)	
Rear frame lower side mounting bolt	2	8	42 (4.3, 31)	
<b>Front Wheel/Suspension/Steering:</b>				
Handlebar holder bolt	4	8	26 (2.7, 20)	
Steering stem nut	1	24	98 (10.0, 72)	
Steering stem adjusting nut	1	26	5 (0.5, 3.6)	
Top bridge pinch bolt	4	8	32 (3.3, 24)	
Bottom bridge pinch bolt	4	8	26 (2.7, 20)	
Front axle	1	12	74 (7.5, 54)	
Front axle holder nut	4	6	12 (1.2, 9)	Note 6
Front brake disc plate bolt	4	6	20 (2.0, 14)	Note 7
<b>Rear Wheel/Suspension:</b>				
Rear axle nut	1	16	93 (9.5, 69)	Note 6
Driven sprocket nut	6	8	32 (3.3, 24)	Note 6
Rear brake disc plate bolt	4	8	42 (4.3, 31)	Note 7
Rear brake hose guide screw	2	5	4.3 (0.43, 3.1)	Note 1
Swingarm pivot nut	1	14	88 (9.0, 65)	Note 6
Rear shock absorber mounting bolt (upper)	1	10	44 (4.5, 33)	
(lower)	1	10	44 (4.5, 33)	Note 6
Shock arm-to-swing arm bolt/nut	1	12	69 (7.0, 51)	Note 6
Shock link-to-frame bolt/nut	1	10	49 (5.0, 36)	Note 6
Shock link-to-shock arm bolt/nut	1	10	44 (4.5, 33)	Note 6
Damper rod end nut	1	12	37 (3.8, 27)	Note 6
Damping adjuster	1	19	20 (2.0, 14)	Note 6
<b>Brake System:</b>				
Front master cylinder holder bolt	2	6	9 (0.9, 6.5)	
Front reservoir tank cover screw	2	4	2 (0.2, 1.4)	
Front brake lever pivot bolt	1	6	6 (0.6, 4.3)	
nut	1	6	6 (0.6, 4.3)	
Front brake caliper pad pin	1	10	18 (1.8, 13)	
Front brake caliper pin bolt A	1	8	23 (2.3, 17)	Note 1
B	1	8	13 (1.3, 9)	Note 1
Front brake caliper bracket bolt	2	8	30 (3.1, 22)	Note 1
Rear brake master cylinder holder bolt	2	6	14 (1.4, 10)	Note 1
Push rod lock nut	1	8	18 (1.8, 13)	
Rear brake caliper pad pin	1	10	10 (1.0, 7)	
Rear brake caliper pin bolt	1	12	27 (2.8, 20)	
Rear brake caliper bracket pin bolt	1	8	13 (1.3, 9)	Note 1
Pad pin plug	2	10	2.5 (0.25, 1.8)	
Bleed valve	2	8	6 (0.6, 4.3)	
Brake hose bolt	4	10	34 (3.5, 25)	

## TOOLS

NOTE: Newly designed tool.

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Float level gauge	07401 - 0010000		5
Universal bearing puller	07631 - 0010000		11
Nipple wrench	07701 - 0020300		3, 13, 14
Gear holder	07724 - 0010100		9
Flywheel holder	07725 - 0040000		10
Flywheel puller	07733 - 0020001		10
Bearing remover weight	07741 - 0010201		11
Attachment, 32 x 35 mm	07746 - 0010100		11, 13
Attachment, 37 x 40 mm	07746 - 0010200		11, 14
Attachment, 42 x 47 mm	07746 - 0010300		11, 13, 14
Attachment, 52 x 55 mm	07746 - 0010400		11
Attachment, 72 x 75 mm	07746 - 0010600		11
Attachment, 24 x 26 mm	07746 - 0010700		14
Pilot, 15 mm	07746 - 0040300		11, 13
Pilot, 17 mm	07746 - 0040400		11, 14
Pilot, 20 mm	07746 - 0040500		11
Pilot, 22 mm	07746 - 0041000		11
Pilot, 28 mm	07746 - 0041100		11
Bearing remover shaft	07746 - 0050100		13, 14
Bearing remover head, 15 mm	07746 - 0050400		13
Bearing remover head, 17 mm	07746 - 0050500		14
Driver	07749 - 0010000		11, 13, 14
Valve spring compressor	07757 - 0010000		7
Valve seat cutter			7
— Seat cutter, 27.5 mm (45° EX)	07780 - 0010200		7
— Seat cutter, 33 mm (45° IN)	07780 - 0010800		7
— Flat cutter, 25 mm (32° EX)	07780 - 0012000		7
— Flat cutter, 30 mm (32° IN)	07780 - 0012200		7
— Interior cutter, 30 mm (60° IN/EX)	07780 - 0014000		7
Cutter holder, 5 mm	07781 - 0010400		7
Compression gauge attachment	07908 - KK60000		3
Snap ring pliers	07914 - 3230001		15
Steering stem socket	07916 - KA50100		13
Clutch center holder	07923 - KE10000		9
Needle bearing remover	07931 - MA70000		14
Bearing remover shaft	07936 - 1660120		11
Bearing remover set, 15 mm	07936 - KC10000		11
— remover weight	07741 - 0010201		
— remover shaft, 15 mm	07936 - KC10100		
— remover head, 15 mm	07936 - KC10200		
Valve guide driver	07942 - MA60000		7

## GENERAL INFORMATION

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SEC.
Steering stem driver	07946 - 4300101		13
Needle bearing remover	07946 - KA50000		14
Fork seal driver	07947 - KA50100		13
Fork seal driver attachment	07947 - KF00100		13
Oil seal remover	07948 - 4630100		13
Crankcase assembly tool	07965 - VM00000		11
— assembly collar	07965 - VM00100		
— assembly shaft	07965 - VM00200		
— thread adapter	07965 - VM00300		
Slider guide, 14 mm	07974 - KA40001		14
Slider guide attachment	07974 - KA50102		14
Valve guide reamer (5.010 mm)	07984 - MA60001		7
Bushing driver pin	07GMD - KT80100		14
Spherical bearing driver	07HMF - KS60100		14
Peak voltage adapter	07HGJ - 0020100		16
Bearing remover head, 13 mm	07LMC - KZ10100		11
Fork damper holder	07PMB - KZ40101	NOTE	13

## GENERAL INFORMATION

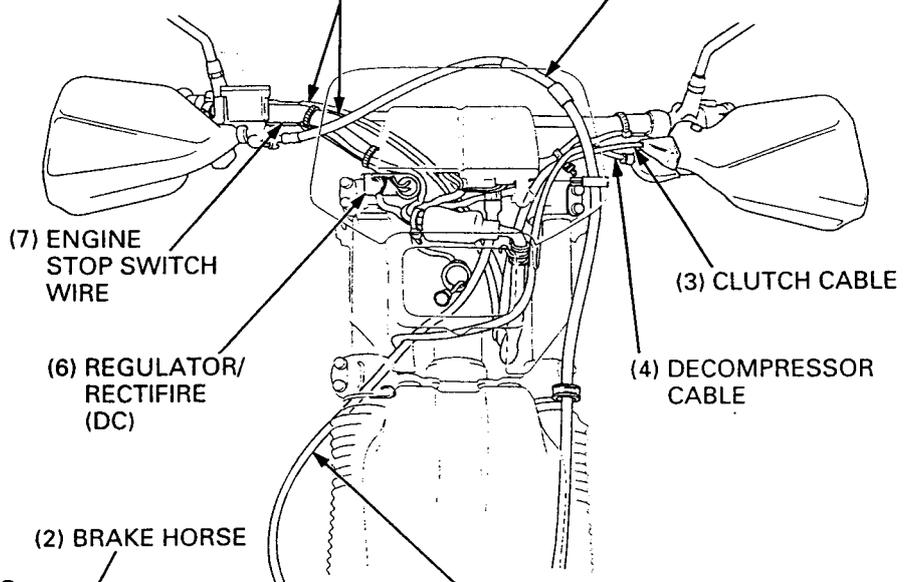
FRAME		
Location	Material	Remarks
Clutch lever pivot sliding surface Decompressor lever pivot sliding surface Throttle grip sliding surface and cable rolling area Throttle slider cable groove Steering stem bearing rolling area Steering stem bearing dust seal lip Wheel bearing dust seal lip Gearshift pedal movable area Kickstarter pedal movable area Shock arm pivot dust seal lip, spherical bearing rolling area and needle bearing rolling area Shock link pivot dust seal lip, needle bearing rolling area Shock link to frame bolt/nut threads Side stand pivot bolt sliding surface Brake pedal pivot sliding surface Swingarm pivot needle bearing rolling area and dust seal lip Rear shock absorber spherical bearing rolling area	Multi-purpose grease	Apply 5 g of grease
Fork tube bushing surface Guide bushing surface	Fork oil	
Brake master cylinder Brake caliper seals Caliper cylinder bore and pistons Master cylinder piston cups Master cylinder bore and piston	DOT 4 brake fluid	
Front brake master cylinder to brake lever adjusting bolt Brake lever pivot bolt sliding surface Brake caliper bracket pin boot Brake caliper pin boot Brake master cylinder boot Rear brake master cylinder piston to push rod contact area	Silicone grease	
Handlebar grip rubber inside	Honda bond A or Cemedine #540	
Drive chain slider mounting screw threads Rear brake hose guide mounting screw threads Rear brake master cylinder holder bolt threads	Locking agent	

## LUBRICATION &amp; SEAL POINTS

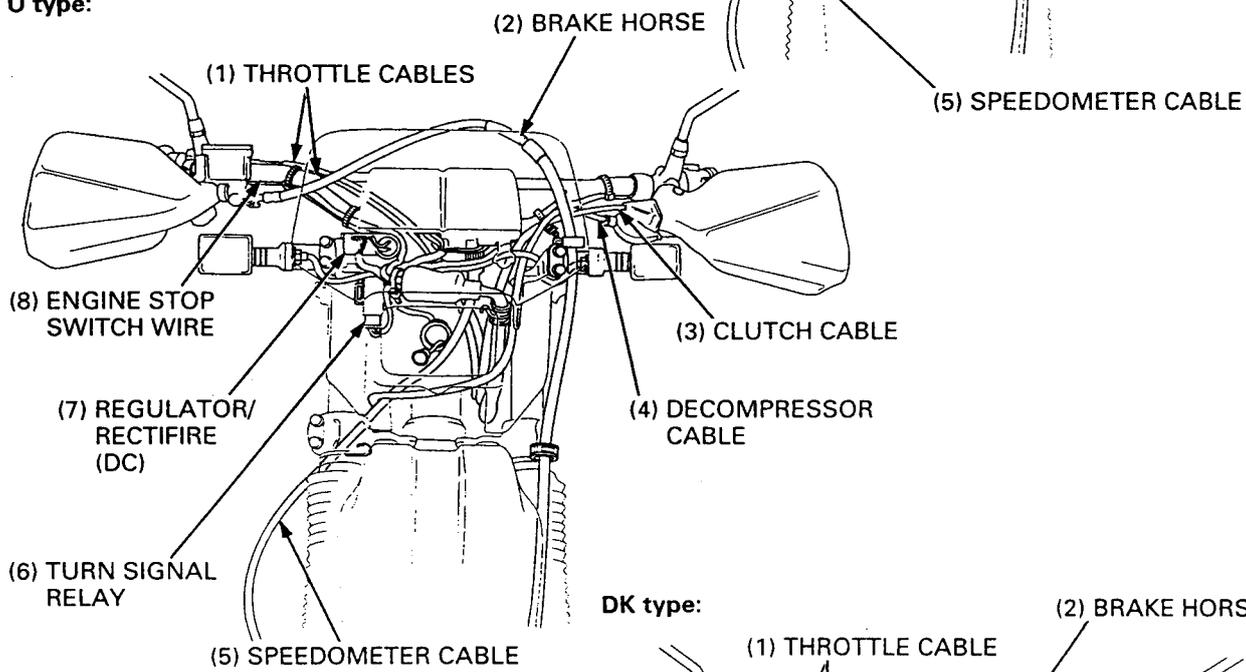
ENGINE	Location	Material	Remarks
	Cylinder inner surface Cylinder 10 mm bolt threads and seating surface Cylinder head 10 mm bolt threads and seating surface Piston outer surface Piston ring Cam chain Rocker arm shaft (rocker arm sliding surface) Sub-rocker arm shaft (sub rocker arm sliding surface) Valve adjust screw threads and lock nut seating surface Clutch disc Clutch center lock nut threads and seating surface Primary drive gear lock nut threads and seating surface Shift fork shaft Transmission gear teeth Kickstarter spindle bushing Each bearings rolling area Each O-rings surface Each oil seal lips and surface Flywheel bolt threads and seating surface	Engine oil	
	Piston pin Connecting rod piston pin hole Camshaft lobes and center journal Rocker arm slipper surface Sub-rocker arm slipper surface and adjusting screw contact area Valve guide sliding surface Valve stem sliding surface Clutch outer guide outer surface Transmission gear bearing surface M3/4, C5, C6 gear shift fork groove	Molybdenum disulfide oil (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)	
	Cam chain tensioner set plate bolt threads Cam sprocket bolt threads Rocker arm shaft threads Sub-rocker arm shaft threads Gearshift cam bolt threads Stator mounting bolt threads Ignition pulse generator mounting bolt and wire clamper bolt threads	Locking agent	Coating width $6.5 \pm 1$ mm from tip Coating width $5.0 \pm 1$ mm from tip (page 7-19) (page 7-20) Coating width $6.5 \pm 1$ mm from tip.
	Clutch lifter arm pivot Each oil seal lips	Multi-purpose grease	

CABLE & HARNESS ROUTING

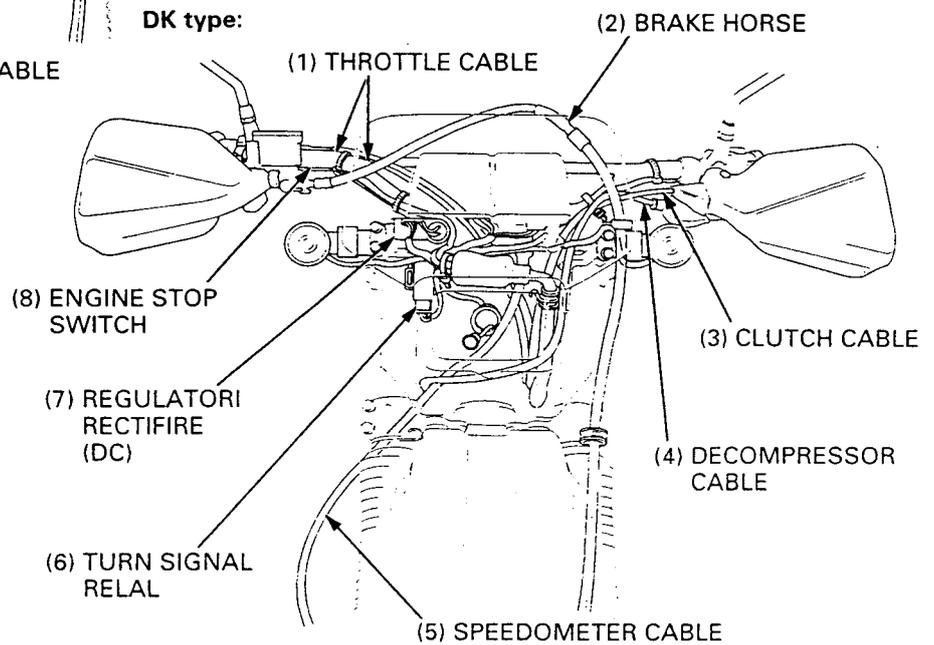
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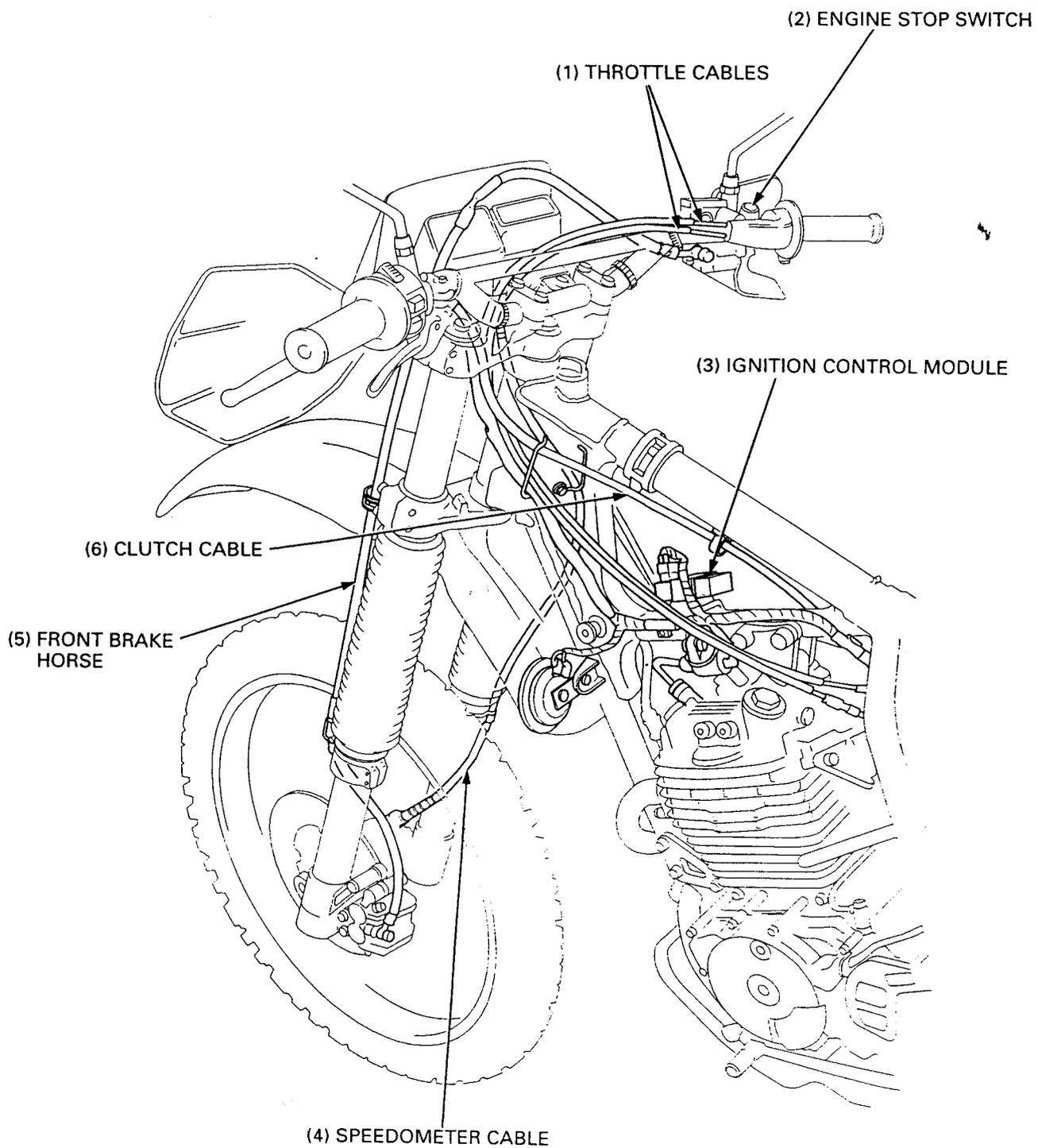
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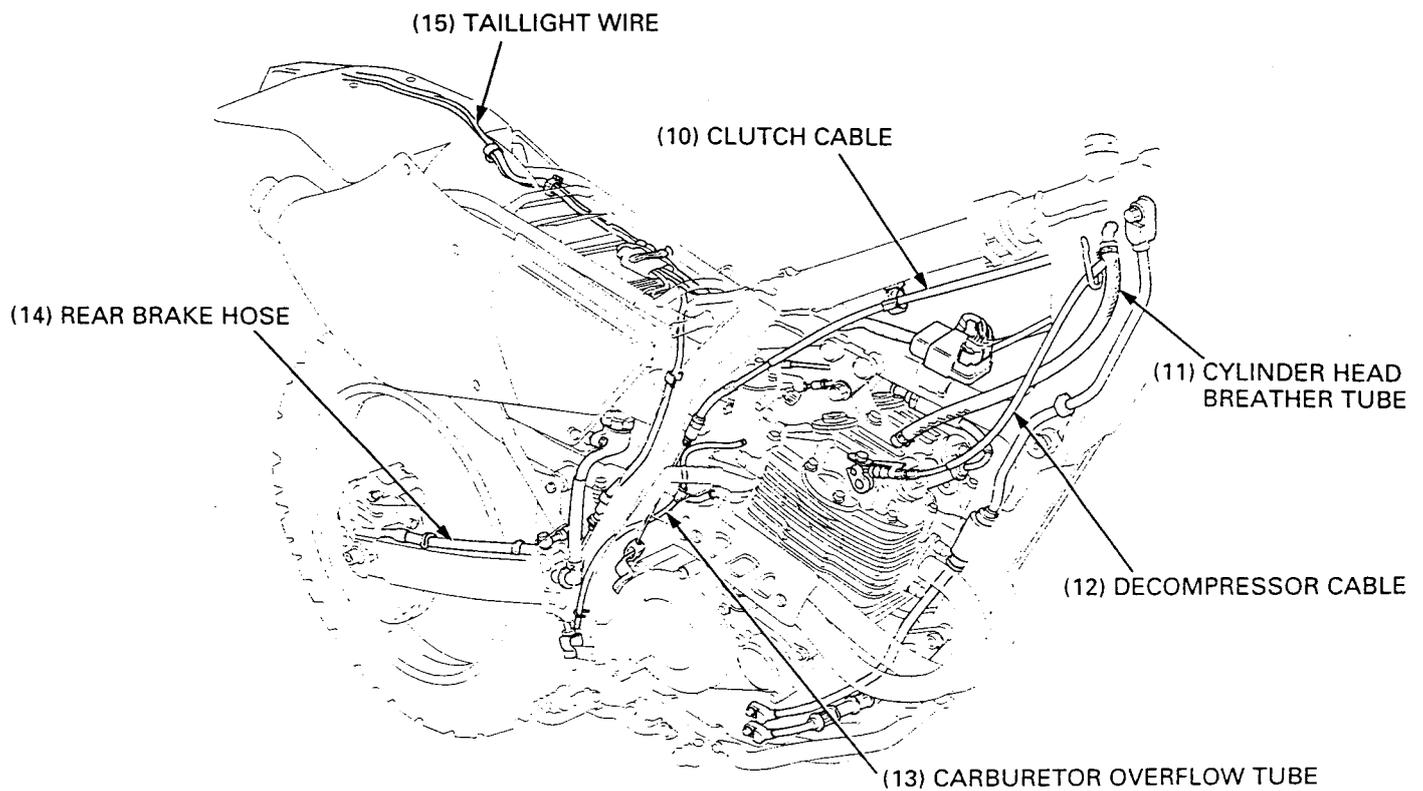
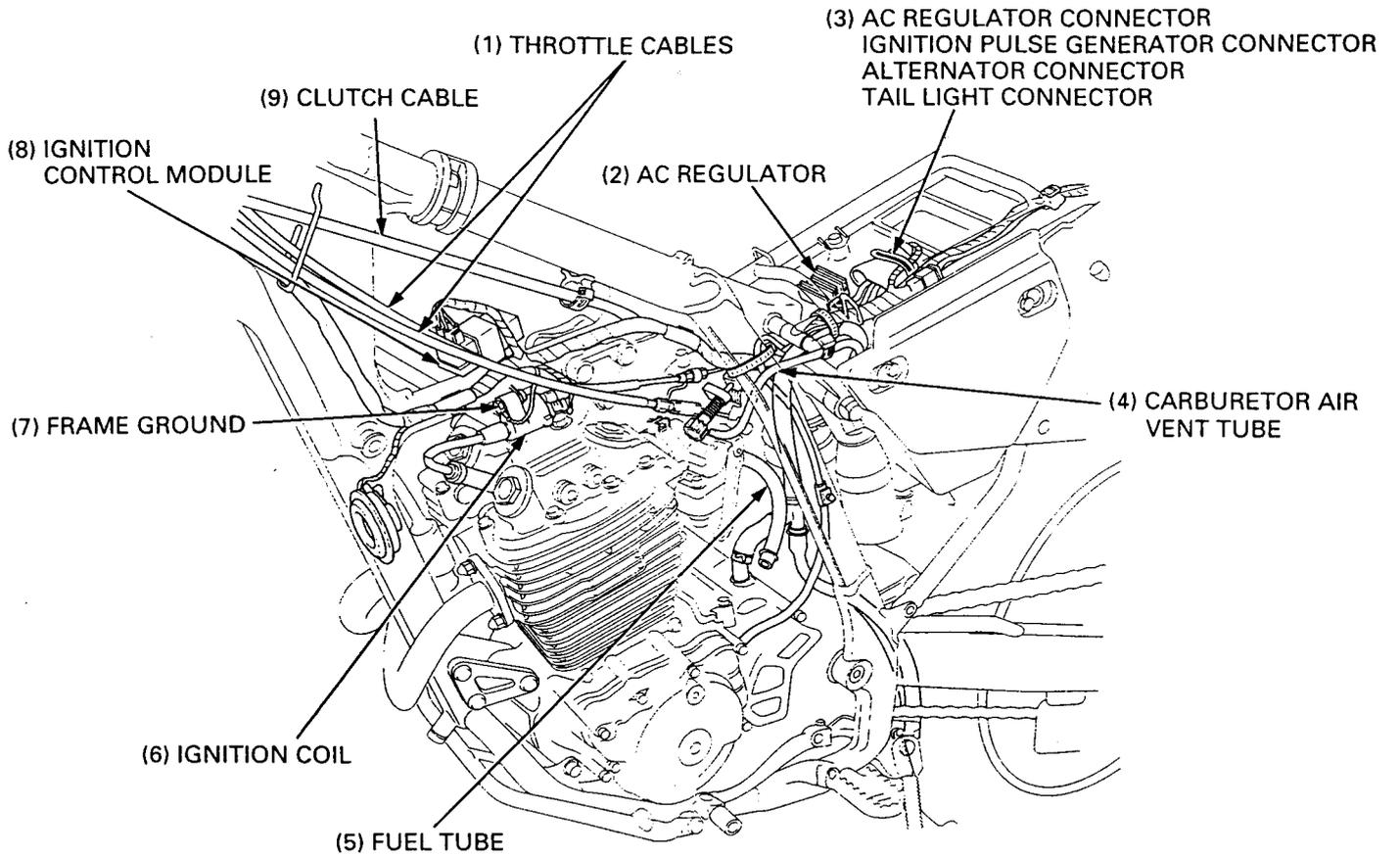
DK type:



# GENERAL INFORMATION



**GENERAL INFORMATION**



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MEMO

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