

2001 - 2005



HONDA

SERVICE MANUAL

TRX250EX

SPORTRAX™

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the TRX250 EX.

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 California Air Resources Board (CARB).

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 vehicle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.

Sections 4 through 20 describe parts of the vehicle, grouped according to location.


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

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

If you don't know the source of the trouble, go to Section 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.

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SERVICE PUBLICATIONS OFFICE

CONTENTS

	GENERAL INFORMATION	1
	FRAME/BODY PANELS/EXHAUST SYSTEM	2
	MAINTENANCE	3
ENGINE	LUBRICATION SYSTEM	4
	FUEL SYSTEM	5
	ENGINE REMOVAL/INSTALLATION	6
	CYLINDER HEAD/VALVE	7
	CYLINDER/PISTON/CAMSHAFT	8
	CLUTCH	9
	GEARSHIFT LINKAGE	10
	ALTERNATOR/STARTER CLUTCH	11
	CRANKSHAFT/TRANSMISSION	12
	CHASSIS	FRONT WHEEL/SUSPENSION/STEERING
REAR WHEEL/BRAKE/SUSPENSION		14
HYDRAULIC DISC BRAKE		15
REAR DRIVING MECHANISM		16
ELECTRICAL	BATTERY/CHARGING SYSTEM	17
	IGNITION SYSTEM	18
	ELECTRIC STARTER	19
	LIGHTS/SWITCHES	20
	WIRING DIAGRAM	21
	TROUBLESHOOTING	22
	INDEX	23

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 3 or DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use fork or suspension fluid.

1. GENERAL INFORMATION

1

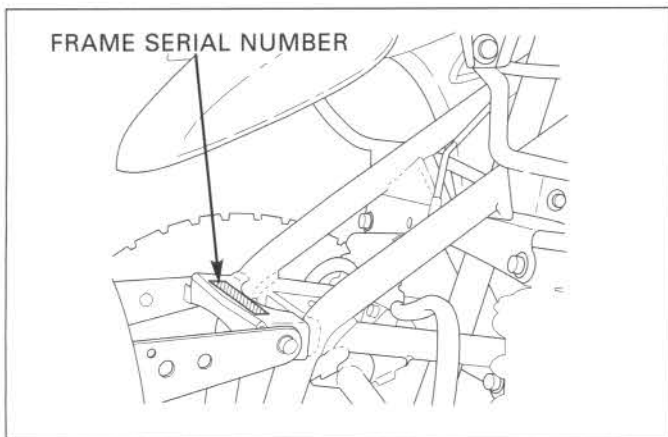
SERVICE RULES	1-1	LUBRICATION & SEAL POINTS	1-15
MODEL IDENTIFICATION	1-2	CABLE & HARNESS ROUTING	1-17
SPECIFICATIONS	1-3	EMISSION CONTROL SYSTEMS	1-21
TORQUE VALUES	1-10	EMISSION CONTROL INFORMATION LABEL	1-22
TOOLS	1-13		

SERVICE RULES

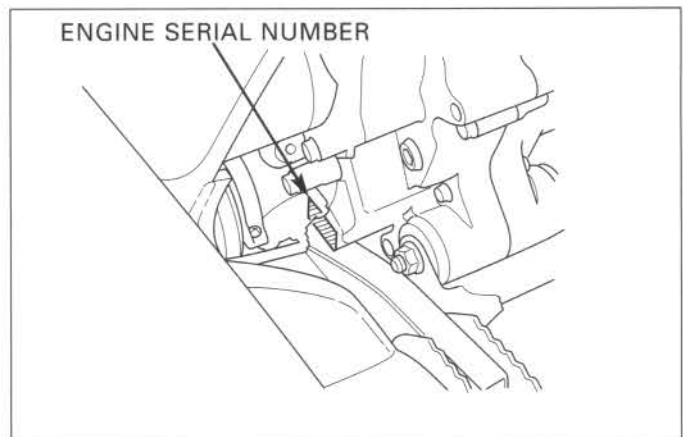
1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that don't meet HONDA's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 1-17 through 1-20, Cable & Harness Routing.

GENERAL INFORMATION

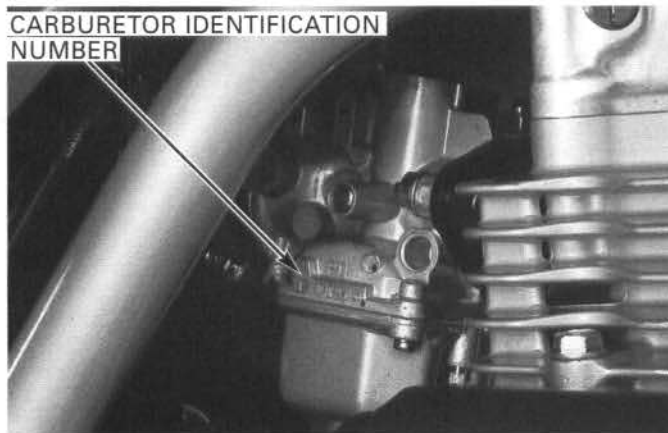
MODEL IDENTIFICATION



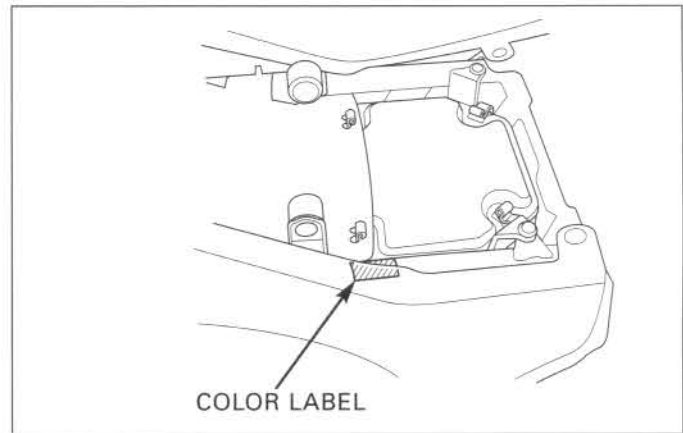
The frame serial number is stamped on the front cross-member of the frame.



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



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



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

SPECIFICATIONS

GENERAL		
	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	1,735 mm (68.3 in)
	Overall width	1,062 mm (41.8 in)
	Overall height	1,073 mm (42.2 in)
	Wheelbase	1,124 mm (44.3 in)
	Front tread	807 mm (31.8 in)
	Rear tread	805 mm (31.7 in)
	Seat height	794 mm (31.3 in)
	Footpeg height	319 mm (12.6 in)
	Ground clearance (Skid plate)	149 mm (5.9 in)
	Dry weight	158 kg (349 lbs)
	Curb weight	166 kg (367 lbs)
	Maximum weight capacity	110 kg (243 lbs)
FRAME	Frame type	Double cradle
	Front suspension	Double wish bone
	Front wheel travel	150 mm (5.91 in)
	Front damper	Double tube
	Rear suspension	Swingarm
	Rear wheel travel	145 mm (5.71 in)
	Rear damper	Double tube
	Front tire size	AT22 x 7-10
	Rear tire size	AT22 x 10-9
	Front rim size	10 x 5.5 AT
	Rear rim size	9 x 8.0 AT
	Front tire brand	DUNLOP: KT171
	Rear tire brand	DUNLOP: KT175
	Front brake	Hydraulic disc brake
	Rear brake	Mechanical drum brake
	Toe	Toe-in: 2.3 mm (3/32 in)
	Caster angle	9°
	Camber angle	-0.1°
	Trail length	40 mm (1.56 in)
Fuel tank capacity	10.2 liters (2.5 US gal, 2.24 Imp gal)	
Fuel tank capacity	2.7 liters (0.7 US gal, 0.59 Imp gal)	
ENGINE	Cylinder arrangement	Single cylinder, longitudinally installed
	Bore and stroke	68.5 x 62.2 mm (2.70 x 2.45 in)
	Displacement	229.2 cm ³ (14.0 cu-in)
	Compression ratio	9.2 : 1
	Valve train	OHV, rocker arm and push rod
	Intake valve opens	8° BTDC (at 1 mm lift)
	Intake valve closes	38° ABDC (at 1 mm lift)
	Exhaust valve opens	34° BBDC (at 1 mm lift)
	Exhaust valve closes	4° ATDC (at 1 mm lift)
	Lubrication system	Forced pressure and wet sump
	Oil pump type	Trochoid
	Cooling system	Air cooled
Air filtration	Oiled double urethane	
Crankshaft type	Unit type, two main journals	
Engine dry weight	34.5 kg (76.0 lbs)	

GENERAL INFORMATION

GENERAL (Cont'd)		SPECIFICATIONS
	ITEM	
CARBURETOR	Carburetor type Throttle bore	Piston valve 20 mm (0.79 in)
DRIVE TRAIN	Clutch system Clutch operation system Transmission Primary reduction Final reduction Gear ratio 1st 2nd 3rd 4th 5th R Gearshift pattern	Centrifugal & multi-plate, wet Automatic Constant mesh, 5-speeds with reverse 3.087 (71/23) 3.692 (48/13) 2.846 (37/13) 1.933 (29/15) 1.444 (26/18) 1.130 (26/23) 0.913 (21/23) 4.769 (31/16 x 32/13) Left foot operated return system, R - N - 1 - 2 - 3 - 4 - 5
ELECTRICAL	Ignition system Starting system Charging system Regulator/rectifier Lighting system	AC-CDI Electric starter motor Single phase output alternator SCR shorted, single phase full-wave rectification Battery

GENERAL INFORMATION

Unit: mm (in)

LUBRICATION

ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	At draining	1.6 liters (1.7 US qt, 1.4 Imp qt)	——
	At disassembly	1.9 liters (2.0 US qt, 1.7 Imp qt)	——
Recommended engine oil		Honda GN4 or HP4 4-stroke oil or equivalent motor oil API service classification SF or SG Viscosity: SAE 10W-40	——
Oil pump	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15—0.21 (0.006—0.008)	0.25 (0.010)
	Side clearance	0.05—0.13 (0.002—0.005)	0.15 (0.006)

FUEL SYSTEM

ITEM	SPECIFICATIONS
Carburetor identification number	PDC1D
Main jet	#95
Slow jet	#38
Pilot screw opening	See page 5-11
Float level	14 mm (0.6 in)
Jet needle clip position	3rd groove from top
Idle speed	1,400 ± 100 rpm
Throttle lever free play	3—8 mm (1/8—5/16)

CYLINDER HEAD/VALVE

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Cylinder compression at 800 rpm		1,275 kPa (13.0 kgf/cm ² , 185 psi)	——
Valve clearance		IN/EX 0.13 (0.005)	——
Valve, valve guide	Valve stem O.D.	IN 5.475—5.490 (0.2156—0.2161)	5.45 (0.215)
		EX 5.455—5.470 (0.2148—0.2154)	5.43 (0.214)
	Valve guide I.D.	IN/EX 5.500—5.512 (0.2165—0.2170)	5.525 (0.2175)
	Stem-to-guide clearance	IN 0.010—0.037 (0.0004—0.0015)	0.12 (0.005)
		EX 0.030—0.057 (0.0012—0.0022)	0.14 (0.006)
Valve seat width	IN/EX 1.2 (0.05)	1.5 (0.06)	
Valve spring free length	Inner valve spring	IN/EX 42.4 (1.67)	41.2 (1.62)
	Outer valve spring	IN/EX 44.2 (1.74)	43.0 (1.69)
Rocker arm	Rocker arm I.D.	IN/EX 12.000—12.018 (0.4724—0.4731)	12.05 (0.474)
	Rocker arm shaft O.D.	IN/EX 11.966—11.984 (0.4711—0.4718)	11.92 (0.469)
	Rocker arm-to-shaft clearance	0.016—0.052 (0.0006—0.0020)	0.08 (0.003)
Cylinder head warpage		——	0.10 (0.004)

GENERAL INFORMATION

Unit: mm (in)

CYLINDER/PISTON/CAMSHAFT			STANDARD	SERVICE LIMIT
ITEM				
Cylinder	I.D.		68.500—68.510 (2.6968—2.6972)	68.6 (2.70)
	Out of round		—	0.10 (0.004)
	Taper		—	0.10 (0.004)
	Warpage		—	0.10 (0.004)
Piston, piston pin, piston ring	Piston mark direction		"IN" mark toward the intake side	—
	Piston O.D. measurement point		6—14 (0.2—0.6)	—
	Piston O.D.		68.462—68.482 (2.6953—2.6961)	68.4 (2.69)
	Piston pin bore I.D.		15.002—15.008 (0.5906—0.5909)	15.04 (0.592)
	Piston pin O.D.		14.994—15.000 (0.5903—0.5906)	14.96 (0.589)
	Piston-to-piston pin clearance		0.002—0.014 (0.0001—0.0006)	0.020 (0.0008)
	Piston ring-to-ring groove clearance	Top	0.015—0.045 (0.0006—0.0018)	0.09 (0.004)
		Second	0.015—0.045 (0.0006—0.0018)	0.09 (0.004)
	Piston ring end gap	Top	0.20—0.35 (0.008—0.014)	0.5 (0.02)
		Second	0.40—0.55 (0.016—0.022)	0.7 (0.03)
Oil (side rail)		0.20—0.70 (0.008—0.028)	—	
Cylinder-to-piston clearance			0.018—0.048 (0.0007—0.0019)	0.10 (0.004)
Connecting rod small end I.D.			15.010—15.028 (0.5909—0.5917)	15.06 (0.593)
Connecting rod-to-piston pin clearance			0.010—0.034 (0.0004—0.0013)	0.10 (0.004)
Camshaft, cam follower	Cam lobe height	IN	35.764—35.924 (1.408—1.414)	35.6 (1.40)
		EX	35.292—35.452 (1.389—1.396)	35.1 (1.38)
	Cam follower O.D.	IN/EX	22.467—22.482 (0.8845—0.8851)	22.46 (0.884)
	Cam follower bore I.D.	IN/EX	22.510—22.526 (0.8862—0.8868)	22.54 (0.887)
	Cam follower-to-bore clearance		0.028—0.059 (0.0011—0.0023)	0.07 (0.003)

Unit: mm (in)

CLUTCH			STANDARD	SERVICE LIMIT
ITEM				
Change clutch	Spring free length		35.2 (1.39)	34.5 (1.36)
	Disc thickness		2.9—3.0 (0.11—0.12)	2.6 (0.10)
	Plate warpage		—	0.20 (0.008)
	Clutch outer guide O.D.		27.959—27.980 (1.1007—1.1016)	27.92 (1.099)
	Clutch outer guide boss I.D.		28.000—28.021 (1.1024—1.1032)	28.05 (1.104)
Centrifugal clutch	Drum I.D.		116.00—116.20 (4.567—4.575)	116.5 (4.59)
	Weight lining thickness		2.0 (0.08)	1.2 (0.05)
	Clutch spring height		3.0 (0.12)	2.85 (0.112)
	Clutch weight spring free length		30.75 (1.211)	31.6 (1.24)
	Drum bushing I.D.		24.000—24.021 (0.9449—0.9457)	24.05 (0.947)
	Front crankshaft O.D. at primary drive gear		23.959—23.980 (0.9433—0.9441)	23.93 (0.942)

Unit: mm (in)

CRANKSHAFT/TRANSMISSION

ITEM			STANDARD	SERVICE LIMIT
Crankshaft, connecting rod	Side clearance		0.05—0.50 (0.002—0.020)	0.80 (0.031)
	Radial clearance		0.004—0.012 (0.0002—0.0005)	0.05 (0.002)
	Runout	Front	—	0.06 (0.002)
Rear		—	0.03 (0.001)	
Transmission	Gear I.D.	M4	23.000—23.021 (0.9055—0.9063)	23.04 (0.907)
		M5	18.000—18.021 (0.7087—0.7095)	18.04 (0.710)
		C1, C2, C3, R	25.000—25.021 (0.9843—0.9851)	25.04 (0.986)
		Reverse idle	13.000—13.018 (0.5118—0.5125)	13.04 (0.513)
	Mainshaft O.D.	at M4	19.959—19.980 (0.7858—0.7866)	19.93 (0.785)
		at M5	14.966—14.984 (0.5892—0.5899)	14.94 (0.588)
	Reverse idle gear shaft O.D.		12.966—12.984 (0.5105—0.5112)	12.94 (0.509)
	Gear bushing O.D.	M4	22.959—22.979 (0.9039—0.9047)	22.94 (0.903)
		M5	17.959—17.980 (0.7070—0.7079)	17.94 (0.706)
		C3	24.959—24.980 (0.9826—0.9835)	24.94 (0.982)
		C1, C2, C3, R	24.959—24.980 (0.9826—0.9835)	24.94 (0.982)
	Gear bushing I.D.	M4	20.000—20.021 (0.7874—0.7882)	20.04 (0.789)
		M5	15.000—15.018 (0.5906—0.5913)	15.04 (0.592)
		C3	22.000—22.021 (0.8661—0.8670)	22.04 (0.868)
	Gear-to-bushing clearance	M4	0.021—0.062 (0.0008—0.0024)	0.10 (0.004)
		M5	0.020—0.062 (0.0008—0.0024)	0.10 (0.004)
		C1, C2, C3, R	0.020—0.062 (0.0008—0.0024)	0.10 (0.004)
Bushing-to-shaft clearance	M4	0.020—0.062 (0.0008—0.0024)	0.10 (0.004)	
	M5	0.016—0.052 (0.0006—0.0020)	0.10 (0.004)	
	C3	0.020—0.062 (0.0008—0.0024)	0.10 (0.004)	
Reverse idle gear-to-shaft clearance		0.016—0.052 (0.0006—0.0020)	0.10 (0.004)	
Shift fork, fork shaft	Fork	I.D.	13.000—13.018 (0.5118—0.5125)	13.04 (0.513)
		Claw thickness	4.93—5.00 (0.194—0.197)	4.60 (0.181)
	Fork shaft O.D.		12.966—12.984 (0.5105—0.5112)	12.96 (0.510)

GENERAL INFORMATION

FRONT WHEEL/SUSPENSION/STEERING

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire thread depth		—	4 (0.16)
Cold tire pressure	Standard	30 kPa (0.30 kgf/cm ² , 4.4 psi)	—
	Minimum	26 kPa (0.26 kgf/cm ² , 3.8 psi)	—
	Maximum	34 kPa (0.34 kgf/cm ² , 5.0 psi)	—
	With cargo	30 kPa (0.30 kgf/cm ² , 4.4 psi)	—
Tie-rod distance between the ball joints		326.7 ± 1 (12.86 ± 0.4)	—
Toe		Toe-in: 2.3 mm (3/32 in)	—

REAR WHEEL/BRAKE/SUSPENSION

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire thread depth		—	4 (0.16)
Cold tire pressure	Standard	20 kPa (0.20 kgf/cm ² , 2.9 psi)	—
	Minimum	17 kPa (0.17 kgf/cm ² , 2.5 psi)	—
	Maximum	23 kPa (0.23 kgf/cm ² , 3.3 psi)	—
	With cargo	20 kPa (0.20 kgf/cm ² , 2.9 psi)	—
Rear brake	Drum I.D.	140.0 (5.51)	141.0 (5.55)
	Lining thickness	4.5 (0.18)	To the indicator

HYDRAULIC DISC BRAKE

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Recommended brake fluid		DOT 4 brake fluid	—
Brake disc	Thickness	2.8—3.2 (0.11—0.13)	2.5 (0.10)
	Runout	—	0.30 (0.012)
Master cylinder I.D.		12.700—12.743 (0.5000—0.5017)	12.755 (0.5022)
Master piston O.D.		12.657—12.684 (0.4983—0.4994)	12.645 (0.4978)
Caliper cylinder I.D.		33.96—34.01 (1.337—1.339)	34.02 (1.340)
Caliper piston O.D.		33.878—33.928 (1.3338—1.3357)	33.87 (1.333)

REAR DRIVING MECHANISM

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT	
Rear axle runout		—	3.0 (0.12)	
Final drive	Recommended oil	Hypoid gear oil SAE #80	—	
	Oil capacity	At draining	75 cm ³ (2.5 US oz, 2.6 Imp oz)	—
		At disassembly	100cm ³ (3.4 US oz, 3.5 Imp oz)	—
	Gear backlash		0.05—0.25 (0.002—0.010)	0.40 (0.002)
	Backlash difference		—	0.2 (0.01)
	Ring gear-to-stop pin clearance		0.3—0.6 (0.01—0.02)	—

BATTERY/CHARGING SYSTEM

ITEM		SPECIFICATIONS	
Battery	Capacity	12 V—8 Ah	
	Current leakage	1 mA maximum	
	Voltage (20°C/68°F)	Fully charged	13.0—13.2 V
		Needs charging	Below 12.3 V
Charging current	Normal	0.9 A x 5—10 h	
	Quick	4.0 A x 1.0 h	
Alternator	Capacity	123 W/5,000 rpm	
	Charging coil resistance (20°C/68°F)	0.1—1.0 Ω	

IGNITION SYSTEM

ITEM		SPECIFICATIONS
Spark plug	Standard	DPR8EA-9 (NGK) X24EPR-U9 (DENSO)
	For cold climate (below 5°C/41°F)	DPR7EA-9 (NGK) X22EPR-U9 (DENSO)
Spark plug gap		0.8—0.9 mm (0.03—0.04 in)
Ignition-coil peak voltage		100 V minimum
Ignition pulse generator peak voltage		0.7 V minimum
Alternator exciter coil peak voltage		100 V minimum
Ignition timing ("F" mark)		14° BTDC at 1,700 rpm

ELECTRIC STARTER

ITEM	STANDARD	SERVICE LIMIT
Starter motor brush length	12.5 mm (0.49 in)	9.0 mm (0.35 in)

LIGHTS/SWITCHES

ITEM		SPECIFICATIONS
Main fuse		15 A
Bulbs	Headlight	12 V—35/35 W x 1
	Taillight	12 V—5 W x 1
	Indicator (Reverse/neutral)	12 V—1.7 W x 2

GENERAL INFORMATION

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)
6-mm flange bolt (SH type)	10 (1.0, 7)	6-mm flange bolt (8-mm head) and nut	12 (1.2, 9)
8-mm bolt and nut	22 (2.2, 16)	6-mm flange bolt (10-mm head) and nut	12 (1.2, 9)
10-mm bolt and nut	34 (3.5, 25)	8-mm flange bolt and nut	26 (2.7, 20)
12-mm bolt and nut	54 (5.5, 40)	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 locking agent to the threads.

2. Apply oil to the threads and seating surface.

3. Apply grease to the threads and seating surface.

4. Do not reuse: Replace with a new one.

5. Castle nut: Tighten to the specified torque then tighten to position suitable for cotter pin hole direction.

6. Stake.

7. Left-hand thread

ENGINE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
MAINTENANCE:				
Oil drain-bolt	1	12	25 (2.5, 18)	
Spark plug	1	12	18 (1.8, 13)	
Timing hole cap	1	14	10 (1.0, 7)	
Valve adjusting hole cap	2	30	20 (2.0, 14)	
Valve adjusting screw lock-nut	2	6	17 (1.7, 12)	NOTE 2
FUEL SYSTEM:				
Carburetor insulator stud bolt	2	6	10 (1.0, 7)	
CYLINDER HEAD/VALVE:				
Cylinder head cover bolt	9	6	12 (1.2, 9)	
Cylinder head flange nut	4	8	30 (3.1, 22)	NOTE 2
Carburetor insulator bolt	2	6	10 (1.0, 7)	
Cylinder head 8-mm stud bolt	2	8	6 (0.6, 4.3)	
CYLINDER/PISTON/CAMSHAFT:				
Cam chain tensioner arm pivot bolt	1	6	12 (1.2, 9)	NOTE 1
Push rod end piece	4	6	13 (1.3, 9)	
Front crankcase stud bolt	2	8	12 (1.2, 9)	
Rear crankcase stud bolt	2	8	12 (1.2, 9)	
CLUTCH:				
Centrifugal clutch-drum lock nut	1	18	88 (9.0, 65)	NOTE 2, 6, 7
Change clutch center lock nut	1	16	79 (8.1, 59)	NOTE 2, 6
Change clutch lifter plate bolt	4	6	12 (1.2, 9)	
GEARSHIFT LINKAGE:				
Gearshift return spring pin bolt	1	8	22 (2.2, 16)	NOTE 1
Gearshift cam plate bolt	1	6	16 (1.6, 12)	NOTE 1
Gearshift A arm bolt	1	8	25 (2.5, 18)	
Gearshift drum stopper arm bolt	1	6	12 (1.2, 9)	NOTE 1
ALTERNATOR/STARTER CLUTCH:				
Flywheel bolt	1	10	74 (7.5, 54)	NOTE 2
Starter one-way clutch outer Torx bolt	6	6	16 (1.6, 12)	NOTE 1
Ignition pulse generator bolt	2	5	6 (0.6, 4.3)	NOTE 1
CRANKSHAFT/TRANSMISSION:				
Neutral switch rotor socket-bolt	1	6	10 (1.0, 7)	NOTE 1
LIGHTS/SWITCHES:				
Neutral switch and reverse switch	2	10	13 (1.3, 9)	

GENERAL INFORMATION

FRAME				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N-m (kgf-m, lbf-ft)	REMARKS
FRAME/BODY PANELS/EXHAUST SYSTEM:				
Footpeg mounting nut	4	8	32 (3.3, 24)	
Skid plate bolt	3	8	32 (3.3, 24)	
Muffler band bolt	1	8	23 (2.3, 17)	
Exhaust pipe protector bolt	3	6	22 (2.2, 16)	
MAINTENANCE:				
Spark arrester bolt	3	6	12 (1.2, 9)	
Reverse control cable adjusting nut lock nut	1	6	7 (0.7, 5.1)	
ENGINE REMOVAL/INSTALLATION:				
Engine mounting nut (Lower left/lower right)	2	10	54 (5.5, 40)	
Cylinder head mounting rubber bolt	1	8	32 (3.3, 24)	
ALTERNATOR/STARTER CLUTCH:				
Gearshift pedal pinch bolt	1	6	20 (2.0, 14)	
FRONT WHEEL/SUSPENSION/STEERING:				
Handlebar lower holder nut	2	10	39 (4.0, 29)	NOTE 4
Steering shaft end nut	1	14	108 (11.0, 80)	
Tie-rod ball joint nut	4	12	54 (5.5, 40)	NOTE 4
Tie-rod lock nut	4	12	54 (5.5, 40)	
Steering shaft holder bolt	2	8	32 (3.3, 24)	
Upper arm pivot nut	4	10	30 (3.1, 22)	NOTE 4
Lower arm pivot nut	4	10	30 (3.1, 22)	NOTE 4
Knuckle ball joint nut	4	12	32 (3.3, 24)	NOTE 5
Shock absorber upper mounting nut	2	10	30 (3.1, 22)	NOTE 4
Shock absorber lower mounting nut	2	10	30 (3.1, 22)	NOTE 4
Brake hose clamp 6-mm bolt	4	6	12 (1.2, 9)	NOTE 1
Front wheel hub nut	2	14	69 (7.0, 51)	NOTE 5
Front wheel nut	8	10	64 (6.5, 47)	
Throttle case cover screw	3	4	4 (0.4, 2.9)	
REAR WHEEL/BRAKE/SUSPENSION:				
Shock absorber upper mounting nut	1	10	44 (4.5, 33)	NOTE 4
Shock absorber lower mounting bolt	1	10	44 (4.5, 33)	
Rear axle nut	1	32	39 (4.0, 29)	
Rear axle nut lock nut	1	32	127 (13.0, 94)	NOTE 1
Rear wheel hub nut	2	18	147 (15.0, 108)	NOTE 3, 5
Rear wheel nut	8	10	64 (6.5, 47)	
Swingarm right pivot bolt	1	30	112 (11.4, 82)	
Swingarm left pivot adjusting bolt	1	30	4 (0.4, 2.9)	
Swingarm left pivot lock nut	1	30	112 (11.4, 82)	
Rear brake arm nut	1	6	12 (1.2, 9)	
Rear brake panel drain bolt	1	8	12 (1.2, 9)	
HYDRAULIC DISC BRAKE:				
Brake disc cover bolt	2	6	12 (1.2, 9)	
Brake disc bolt	6	8	42 (4.3, 31)	NOTE 4
Master cylinder reservoir cap screw	2	4	1.5 (0.15, 1.1)	
Brake hose oil bolt	3	10	34 (3.5, 25)	
Brake pipe bolt	2	10	17 (1.7, 12)	
Brake caliper/bracket mounting bolt	4	8	30 (3.1, 22)	NOTE 4
Brake caliper bleed valve	2	8	6 (0.6, 4.3)	
Brake caliper pad pin plug	4	10	3 (0.3, 2.2)	
Brake caliper pad pin	4	10	18 (1.8, 13)	
Brake lever pivot bolt	1	6	6 (0.6, 4.3)	
Brake lever pivot lock nut	1	6	6 (0.6, 4.3)	
Brake caliper slide pin bolt	2	8	22 (2.2, 16)	
Brake caliper bracket pin bolt	2	8	18 (1.8, 13)	

GENERAL INFORMATION

FRAME (Cont'd)				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
REAR DRIVING MECHANISM:				
Final gear case mounting bolt (Front/left)	8	10	54 (5.5, 40)	
Final gear case cover 8-mm bolt	6	8	25 (2.6, 19)	
10-mm bolt	2	10	49 (5.0, 36)	NOTE 1
Pinion bearing lock nut	1	64	98 (10.0, 72)	NOTE 6
Final gear case drain-bolt	1	8	12 (1.2, 9)	
Final gear case oil check bolt	1	8	12 (1.2, 9)	
Final gear case oil cap	1	30	12 (1.2, 9)	
LIGHTS/SWITCHES:				
Headlight aim adjusting screw	1	4	4 (0.4, 2.9)	

TOOLS

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

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SECTION
Carburetor float level gauge	07401-0010000		5
Flywheel holder	07725-0040000	NOTE 2	10
Rotor puller	07733-0010000	NOTE 1: 07933-2000000	10
Remover weight	07741-0010201	NOTE 1: 07936-371020A (U.S.A. only) or 07936-3710200 (U.S.A. only)	9, 12,14,16
Valve guide driver, 5.5 mm (IN)	07742-0010100		7
Attachment, 32 x 35 mm	07746-0010100		9, 10, 12, 13
Attachment, 37 x 40 mm	07746-0010200		13
Attachment, 42 x 47 mm	07746-0010300		12, 13
Attachment, 52 x 55 mm	07746-0010400		12, 16
Attachment, 62 x 68 mm	07746-0010500		14, 16
Attachment, 72 x 75 mm	07746-0010600		12
Attachment, 22 x 24 mm	07746-0010800		16
Driver, 22 mm I.D.	07746-0020100		13
Driver, 40 mm I.D.	07746-0030100		13, 16
Attachment, 30 mm I.D.	07746-0030300		16
Pilot, 15 mm	07746-0040300		9, 12, 13
Pilot, 17 mm	07746-0040400		13, 14
Pilot, 20 mm	07746-0040500		12, 13
Pilot, 25 mm	07746-0040600		12
Pilot, 35 mm	07746-0040800		12, 16
Pilot, 40 mm	07746-0040900		16
Pilot, 14 mm	07746-0041200		16
Bearing remover shaft	07746-0050100		13
Bearing remover head, 15 mm	07746-0050400		13
Driver	07749-0010000		9, 10, 12, 13, 14, 16
Valve spring compressor			7
Valve seat cutter			7
- seat cutter, 29 mm (45° IN)	07780-0010300	NOTE 2	
- seat cutter, 33 mm (45° EX)	07780-0010800		
- flat cutter, 30 mm (32° IN)	07780-0012200		
- flat cutter, 33 mm (32° EX)	07780-0012900		
- interior cutter, 30 mm (60° IN)	07780-0014000		
- cutter holder, 5.5 mm (IN)	07781-0010101		
Pilot screw wrench	07908-4220201		5
Swingarm lock nut wrench	07908-4690003		14
Valve adjusting wrench, 3 mm	07908-KE90200	NOTE 1: 07708-0030400	3
Snap ring pliers	07914-SA50001		15
Lock nut spanner, 41 mm	07916-9580200		14
Lock nut wrench, 41 mm	07916-9580300		14
Lock nut wrench, 30 x 64 mm	07916-MB00002		16
Puller shaft	07931-ME4010B		16
Special nut	07931-HB3020A		16
Remover handle	07936-3710100		14
Bearing remover, 17 mm	07936-3710300		14
Bearing remover, 15 mm	07936-KC10500		9, 12
Attachment, 28 x 30 mm	07946-1870100		13
Oil seal driver attachment, 56.5 mm	07947-SD90101		14
Driver handle	07949-3710001		13
Thread adapter	07965-KA30000	NOTE 1: 07VMF-HM8010A (U.S.A. only)	12

GENERAL INFORMATION

DESCRIPTION	TOOL NUMBER	REMARKS	REF. SECTION
Oil seal driver	07965-KE80200		16
Assembly collar	07965-VM00100		12, 13
Assembly shaft	07965-VM00200	NOTE 1: 07931-ME4010B (U.S.A. only) and 07931-HB3020A (U.S.A. only)	12
Valve guide reamer, 5.5 mm	07984-2000001	NOTE 1: 07984-200000D (U.S.A. only)	7
Clutch center holder	07GMB-KT70101	NOTE 1: 07HGB-001010B (U.S.A. only) or 07HGB-001010A (U.S.A. only) and 07HGB-001020B (U.S.A. only) or 07HGB-001020A (U.S.A. only)	9
Clutch puller	07GMC-HB30100	NOTE 1: 07933-HB3000A (U.S.A. only)	9
Peak voltage adapter	07HGJ-0020100	NOTE 1: Peak voltage tester (U.S.A. only)	18
Clutch holder	07HMB-HB70100	NOTE 1: 07923-HB3000B (U.S.A. only)	9
Pinion puller set	07HMC-MM80101	NOTE 3:	16
- shaft puller	07931-ME40000	NOTE 1: 07931-ME4010B (U.S.A. only) and 07931-HB3020A (U.S.A. only)	16
- pinion puller base	07HMC-MM80110	NOTE 1: 07HMC-MM8011A (U.S.A. only)	16
Pinion puller base	07HMC-MM8011A		16
Oil seal driver	07JAD-PH80101		14
Driver attachment	07LAD-PW50500		16
Remover base	07JAF-SH20200		13
Ball joint remover/installer	07JMF-HC50110		13
Clutch spring compressor	07LAE-PX40100		9
Ball joint remover	07MAC-SL00200		13
Pilot, 32 mm	07MAD-PR90200		14
Bearing remover head, 14 mm	07WMC-KFG0100	or 07936-KC10200 and 07YMC-001010A (U.S.A. only)	16
Remover shaft, 15 mm	07936-KC10100		16
Differential bearing clip compressor	07YME-HN4010A		16
Universal bead breaker	GN-AH-958-BB1		13

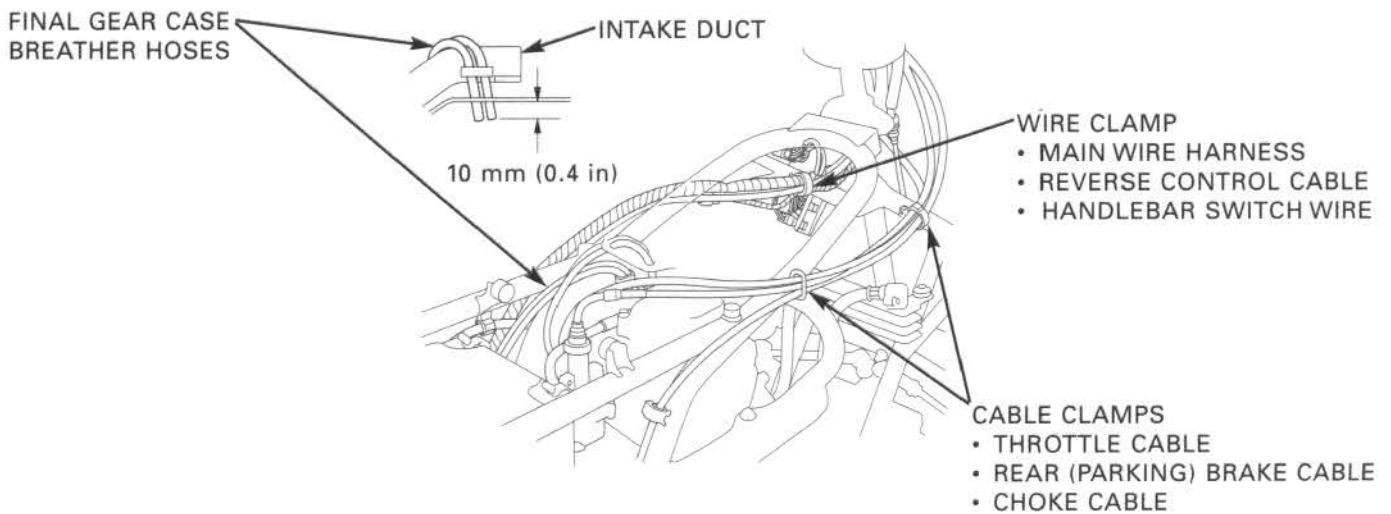
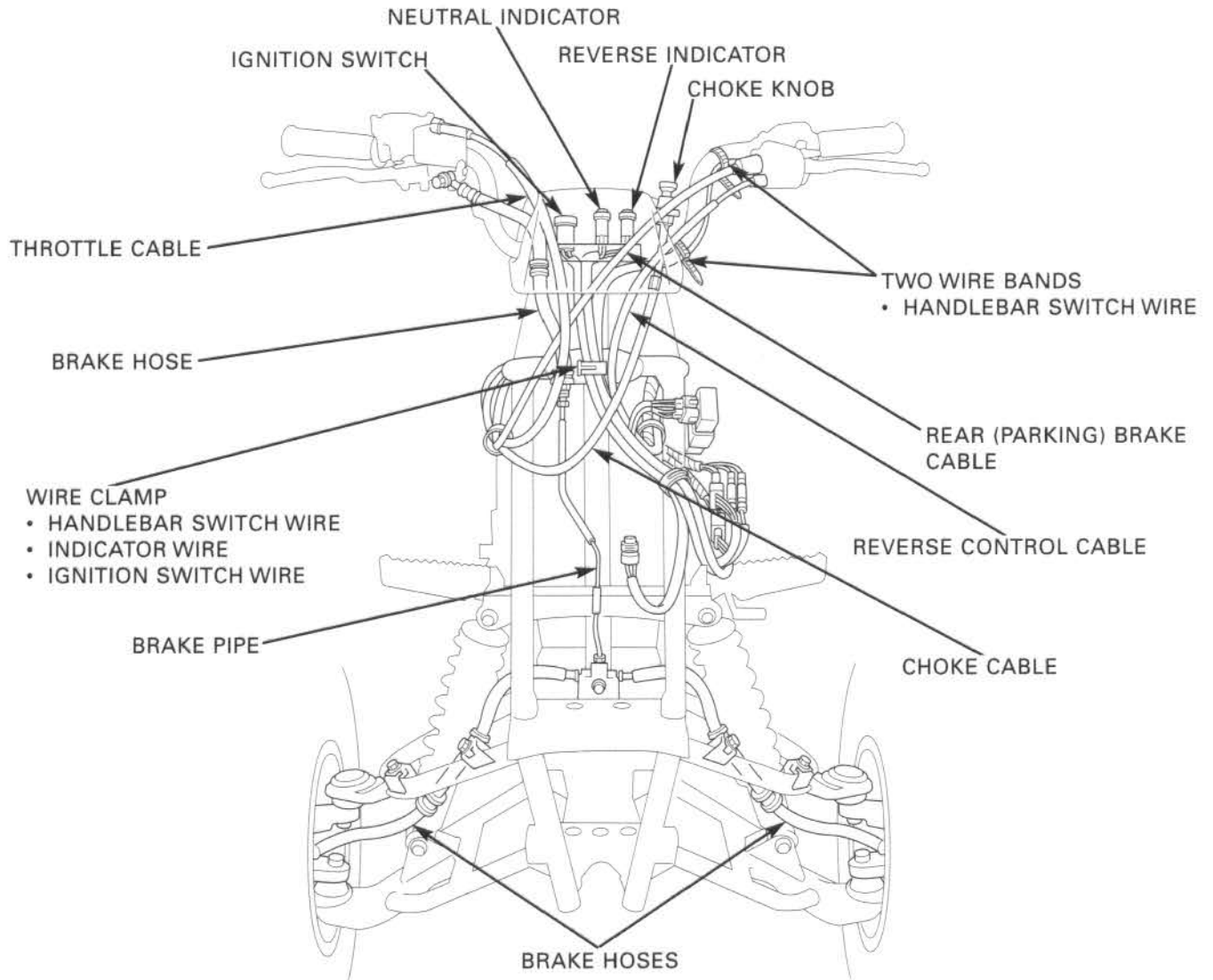
LUBRICATION & SEAL POINTS

ENGINE	LOCATION	MATERIAL	REMARKS
	Cylinder bore Connecting rod big end Connecting rod small end inner surface Piston ring whole surface Piston pin outer surface Piston pin hole and piston outer surface Cylinder head flange nut threads Cam chain tensioner inner surface of pivot Cam chain and oil pump chain whole surfaces Centrifugal clutch drum lock nut threads Centrifugal clutch shoe sliding surface Centrifugal clutch drum bushing inner surface Change clutch ball retainer ball Change clutch disc linings Change clutch center lock nut threads Primary driven gear teeth One-way clutch linings of cam Flywheel bolt threads Starter gear teeth Starter driven gear teeth and needle bearing inner surface Reverse stopper shaft bearing inner surface Transmission bearings and gear teeth Transmission bushing and collar sliding surfaces Mainshaft gear teeth and bearing inner surfaces Countershaft gear teeth and bearing inner surfaces Shift fork and shift fork shaft sliding surfaces Shift fork pawl pin sliding surfaces Gearshift drum inner grooves and bearing inner surfaces Gearshift master arm bearing inner surface Gearshift A arm bolt threads Gearshift spindle outer surface and bearing inner surfaces Sub clutch lever whole surface and bearing inner surface Bearings and needle bearings	Engine oil	
	Valve stem sliding surfaces Camshaft journals and cam lobes Rocker arm slipper surfaces Rocker arm shaft outer surfaces Change clutch outer guide sliding surface Starter idle gear shaft outer surfaces Starter reduction gear shaft outer surfaces	Molybdenum oil solution (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)	
	Alternator boss oil seal lip Oil seal lips	Multi-purpose grease	
	Camshaft retainer bolt threads Mainshaft bearing retainer bolt threads Cam chain tensioner arm pivot bolt threads Cam chain tensioner adjuster bolt threads Centrifugal oil filter cover bolt threads Gearshift drum stopper arm pivot bolt threads Gearshift return spring pin bolt threads Neutral switch rotor socket-bolt threads Gearshift cam plate bolt threads Starter one-way clutch outer Torx bolt threads Ignition pulse generator 5-mm socket bolt threads	Locking agent	
	Stator cord grommet	Sealant	

GENERAL INFORMATION

FRAME	LOCATION	MATERIAL	REMARKS
	Steering bushing sliding surface Steering shaft oil seal lips Steering shaft dust seal lips Front wheel hub dust seal lips Rear brake cable end and parking brake cable end Rear brake cam dust seal lips Rear brake panel dust seal lips Rear brake panel dust seal side lip Rear brake cam shaft sliding surface Rear brake shoe-to-brake cam contacting surface Rear brake shoe-to-anchor pin contacting surface Brake pedal shaft sliding surface Brake pedal dust seal lips Brake lever pivot sliding surface Brake lever parking arm pin sliding surface Rear brake panel O-ring Final gear case pinion joint oil seal lips Final gear case ring gear oil seal lips Final gear case oil cap O-ring Swingarm bearing and grease holder Swingarm bearing dust seal lips Throttle cable end and throttle lever side threaded portion Oil seal lips and dust seal lips	Multi-purpose grease	Spreading 2.5—3.0 g (0.09 – 0.11 oz) Spreading 0.5—1.0 g (0.02 – 0.04 oz) Spreading 0.5—1.0 g (0.02 – 0.04 oz) Spreading 0.5—1.0 g (0.02 – 0.04 oz) Fill up 3 g (0.1 oz) minimum
	Rear brake cam felt seal	Engine oil	
	Brake master cylinder piston seals Brake master cylinder piston Brake caliper piston Brake caliper piston seals	DOT 4 brake fluid	
	Front brake lever pivot Front brake lever-to master piston contacting area Brake caliper slide pin bolt sliding area Brake caliper pin sliding area	Silicone grease	
	Front shock absorber lower side oil seal lips Front shock absorber lower side metal bushings Rear axle shaft splines Universal joint splines Final gear case pinion joint splines Final gear case pinion joint needle bearing Rear shock absorber oil seal lips Rear shock absorber metal bushings	Molybdenum disulfide grease	page 14-12 and page 16-3
	Rear axle nut lock nut threads	Locking agent	
	Final gear case	Hypoid gear oil SAE #80	
	Final gear case-to-gear case cover mating surfaces	Liquid sealant	
	Air cleaner element	Pro Honda Foam Air Filter Oil or equivalent	Impregnation 20 ± 3 g (0.7 ± 0.1 oz)
	Each cable inside	Cable lubricant	
	Handle grip rubber inside	Honda bond A or Honda grip cement (U.S.A. only)	

CABLE & HARNESS ROUTING



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