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1. GENERAL INFORMATION

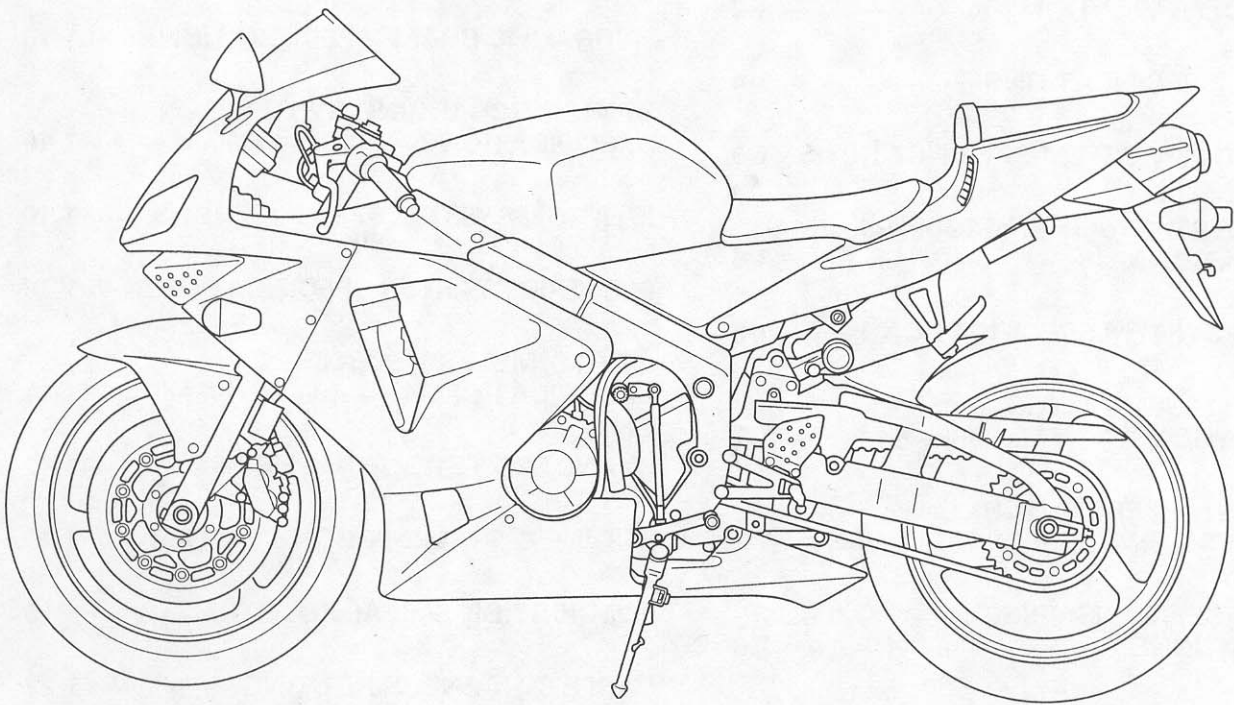
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GENERAL INFORMATION

SERVICE RULES

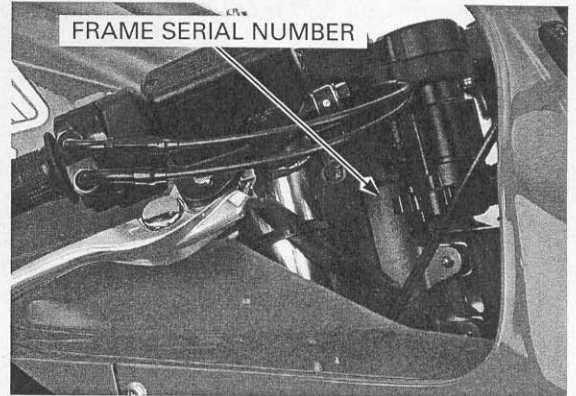
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 in the Cable and Harness Routing (page 1-22).

MODEL IDENTIFICATION

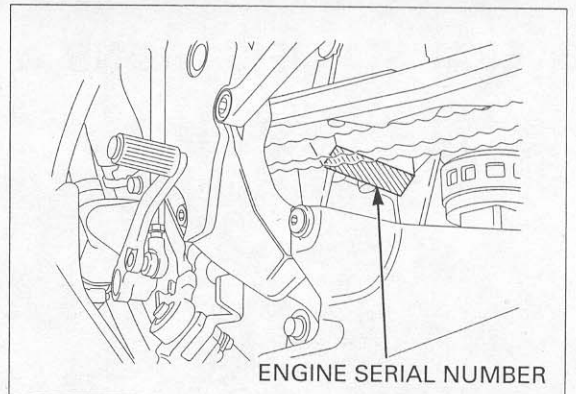


GENERAL INFORMATION

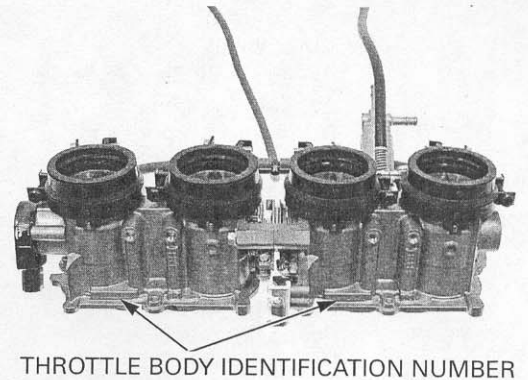
The frame serial number is stamped on the right side of the steering head.



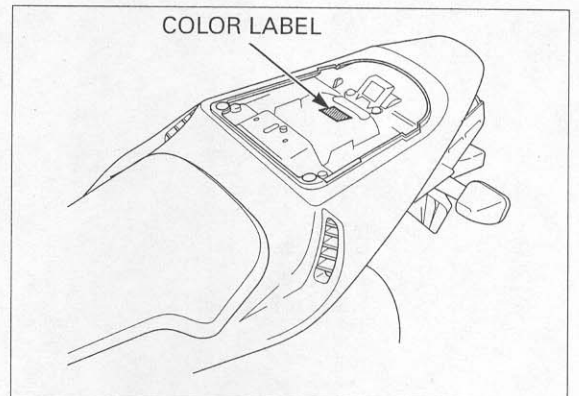
The engine serial number is stamped on the lower side of the lower crankcase.



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

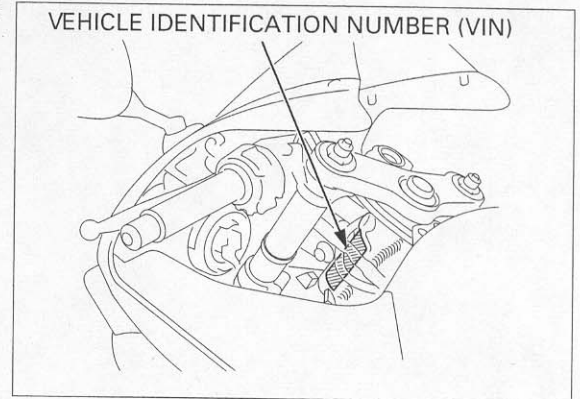


The color label is attached as shown. When ordering color-coded parts, always specify the designated color code.



GENERAL INFORMATION

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



GENERAL SPECIFICATIONS

| | ITEM | SPECIFICATIONS |
|--------------------|--|--|
| DIMENSIONS | Overall length | 2,030 mm (79.9 in) |
| | Overall width | 695 mm (27.4 in) |
| | Overall height | 1,115 mm (43.9 in) |
| | Wheelbase | 1,390 mm (54.7 in) |
| | Seat height | 820 mm (32.3 in) |
| | Footpeg height | 395 mm (15.6 in) |
| | Ground clearance | 130 mm (5.1 in) |
| | Dry weight | |
| | 49 states, Canada type: | 169 kg (373 lbs) |
| | California type: | 169 kg (373 lbs) |
| | Curb weight | |
| | 49 states, Canada type: | 199 kg (439 lbs) |
| | California type: | 202 kg (445 lbs) |
| FRAME | Maximum weight capacity | |
| | 49 states, California type: | 166 kg (366 lbs) |
| | Canada type: | 170 kg (375 lbs) |
| | Frame type | Diamond |
| | Front suspension | Telescopic fork |
| | Front axle travel | 102.7 mm (4.04 in) |
| | Rear suspension | Swingarm |
| | Rear axle travel | 130 mm (5.12 in) |
| | Front tire size | 120/70ZR17 M/C (58W) |
| | Rear tire size | 180/55ZR17 M/C (73W) |
| | Front tire brand | BT012F RADIAL G (Bridgestone) D208FK (Dunlop) Pilot SPORT E (Michelin) |
| | Rear tire brand | BT012R RADIAL L (Bridgestone) D208K (Dunlop) Pilot SPORT E (Michelin) |
| | Front brake | Hydraulic double disc |
| Rear brake | Hydraulic single disc | |
| Caster angle | 24° | |
| Trail length | 95 mm (3.7 in) | |
| Fuel tank capacity | 18.0 liter (4.76 US gal, 3.96 Imp gal) | |

GENERAL INFORMATION

LUBRICATION SYSTEM SPECIFICATIONS

| ITEM | | STANDARD | Unit: mm (in) SERVICE LIMIT |
|-------------------------------------|-------------------------|--|--------------------------------|
| Engine oil capacity | After draining | 2.6 liter (2.7 US qt, 2.3 Imp qt) | - |
| | After oil filter change | 2.9 liter (3.1 US qt, 2.6 Imp qt) | - |
| | After disassembly | 3.5 liter (3.7 US qt, 3.1 Imp qt) | - |
| Recommended engine oil | | Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (U.S.A. & Canada) or Honda 4-stroke oil (Canada only) or an equivalent motorcycle oil API service classification SG or Higher except oils labeled as energy conserving on the circular API service label JASO T 903 standard: MA Viscosity: SAE 10W-40 | - |
| Oil pressure at oil pressure switch | | 540 kPa (5.5 kgf/cm ² , 78 psi) at 6,000 rpm/(80°C/176°F) | - |
| 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 | 0.04 - 0.09 (0.002 - 0.004) | 0.17 (0.007) |

FUEL SYSTEM (Programmed Fuel Injection) SPECIFICATIONS

| ITEM | | SPECIFICATIONS |
|---|-------------------------|--|
| Throttle body identification number | 49 states, Canada type: | GQ63C |
| | California type: | GQ63B |
| Starter valve vacuum difference | | 20mm Hg |
| Base throttle valve for synchronization | | No. 3 |
| Idle speed | | 1,300 ± 100 rpm |
| Throttle grip free play | | 2 - 4 mm (1/16 - 1/8 in) |
| Intake air temperature sensor resistance (at 20°C/68°F) | | 1 - 4 kΩ |
| Engine coolant temperature sensor resistance (at 20°C/68°F) | | 2.3 - 2.6 kΩ |
| Fuel injection resistance (at 20°C/68°F) | Secondary injector | 10.5 - 14.5 Ω |
| | Primary injector | 10.5 - 14.5 Ω |
| PAIR control solenoid valve resistance (at 20°C/68°F) | | 20 - 24 Ω |
| Cam pulse generator peak voltage (at 20°C/68°F) | | 0.7 V minimum |
| Ignition pulse generator peak voltage (at 20°C/68°F) | | 0.7 V minimum |
| Manifold absolute pressure at idle | | 150 - 250 mm Hg |
| Fuel pressure at idle | | 343 kPa (3.5 kgf/cm ² , 50 psi) |
| Fuel pump flow (at 12V) | | 189 cm ³ (6.4 US oz, 6.7 Imp oz) minimum/10 seconds |

COOLING SYSTEM SPECIFICATIONS

| ITEM | | SPECIFICATIONS |
|--------------------------------|---------------------|--|
| Coolant capacity | Radiator and engine | 3.2 liter (3.4 US qt, 2.8 Imp qt) |
| | Reserve tank | 0.30 liter (0.32 US qt, 0.26 Imp qt) |
| Radiator cap relief pressure | | 108 - 137 kPa (1.1 - 1.4 kgf/cm ² , 16 - 20 psi) |
| Thermostat | Begin to open | 80 - 84 °C (176 - 183 °F) |
| | Valve lift | 8 mm (0.3 in) minimum at 90°C (194°F) |
| Recommended antifreeze | | Pro Honda HP Coolant or an equivalent high quality ethylene glycol antifreeze containing corrosion protection inhibitors |
| Standard coolant concentration | | 1 : 1 mixture of antifreeze and soft water |

GENERAL INFORMATION

CYLINDER HEAD/VALVES SPECIFICATIONS

Unit: mm (in)

| ITEM | | STANDARD | | SERVICE LIMIT |
|-----------------------------|---|---|---------------------------------|----------------|
| Cylinder compression | | 1,226 kPa (12.5 kgf/cm ² , 178psi) at 350 rpm | | |
| Valve clearance | | IN | 0.20 ± 0.03 (0.008 ± 0.001) | - |
| | | EX | 0.28 ± 0.03 (0.011 ± 0.001) | - |
| Camshaft | Cam lobe height | IN | 36.36 – 36.60 (1.431 – 1.441) | 36.34 (1.431) |
| | | EX | 35.34 – 35.58 (1.391 – 1.401) | 35.32 (1.391) |
| | Runout | - | | 0.05 (0.002) |
| | Oil clearance | 0.020 – 0.062 (0.0008 – 0.0024) | | 0.10 (0.004) |
| Valve lifter | Valve lifter O.D. | 25.978 – 25.993 (1.0228 – 1.0233) | | 25.97 (1.022) |
| | Valve lifter bore I.D. | 26.010 – 26.026 (1.0240 – 1.0246) | | 26.04 (1.025) |
| Valve, valve guide | Valve stem O.D. | IN | 3.975 – 3.990 (0.1565 – 0.1571) | 3.965 (0.1561) |
| | | EX | 3.965 – 3.980 (0.1561 – 0.1567) | 3.955 (0.1557) |
| | Valve guide I.D. | IN/EX | 4.000 – 4.012 (0.1575 – 0.1580) | 4.04 (0.159) |
| | Stem-to-guide clearance | IN | 0.010 – 0.037 (0.0004 – 0.0015) | 0.075 (0.0030) |
| | | EX | 0.020 – 0.047 (0.0008 – 0.0019) | 0.085 (0.0033) |
| | Valve guide projection above cylinder head | IN | 17.1 – 17.4 (0.67 – 0.69) | - |
| | | EX | 13.3 – 13.6 (0.52 – 0.54) | - |
| | Valve seat head | IN | 0.90 – 1.10 (0.035 – 0.043) | 1.5 (0.06) |
| EX | | 0.90 – 1.10 (0.035 – 0.043) | 1.5 (0.06) | |
| Valve spring free length | IN | Inner | 36.17 (1.424) | 35.1 (1.38) |
| | | Outer | 39.76 (1.565) | 38.8 (1.53) |
| | EX | Inner | 35.34 (1.391) | 34.4 (1.35) |
| | | Outer | 39.05 (1.537) | 38.1 (1.50) |
| Cylinder head warpage | | - | | 0.10 (0.004) |

CLUTCH/STARTER CLUTCH/GEARSHIFT LINKAGE SPECIFICATIONS

Unit: mm (in)

| ITEM | | STANDARD | | SERVICE LIMIT |
|---|-----------------------------------|-----------------------------------|-----------------|-----------------|
| Clutch lever free play | | 10 – 20 (3/8 – 13/16) | | - |
| Clutch | Spring free length | 46.5 (1.83) | | 45.2 (1.78) |
| | Disc thickness | 2.92 – 3.08 (0.115 – 0.121) | | 2.6 (0.10) |
| | Plate warpage | - | | 0.30 (0.012) |
| Clutch outer guide A (Without ID mark) | I.D. | 24.993 – 25.003 (0.9840 – 0.9844) | | 25.013 (0.9848) |
| | O.D. | 35.004 – 35.012 (1.3781 – 1.3784) | | 34.994 (1.3777) |
| Clutch outer guide B (With ID mark) | I.D. | 24.993 – 25.003 (0.9840 – 0.9844) | | 25.013 (0.9848) |
| | O.D. | 34.996 – 35.004 (1.3778 – 1.3781) | | 34.986 (1.3774) |
| Primary driven gear I.D. | A | 41.008 – 41.016 (1.6145 – 1.6148) | | 41.026 (1.6152) |
| | B | 41.000 – 41.008 (1.6142 – 1.6145) | | 41.018 (1.6149) |
| Oil pump drive sprocket guide | I.D. | 25.000 – 25.021 (0.9843 – 0.9851) | | 25.031 (0.9855) |
| | O.D. | 34.950 – 34.975 (1.3760 – 1.3770) | | 34.940 (1.3756) |
| Oil pump drive sprocket I.D. | 35.025 – 35.145 (1.3789 – 1.3837) | | 35.155 (1.3841) | |
| Mainshaft O.D. at clutch outer guide | 24.980 – 24.990 (0.9835 – 0.9839) | | 24.960 (0.9827) | |
| Mainshaft O.D. at oil pump drive sprocket guide | 24.980 – 24.990 (0.9835 – 0.9839) | | 24.960 (0.9827) | |
| Starter driven gear boss O.D. | 45.657 – 45.673 (1.7975 – 1.7981) | | 45.642 (1.7969) | |

GENERAL INFORMATION

CRANKCASE/TRANSMISSION SPECIFICATIONS

| ITEM | | | STANDARD | Unit: mm (in) | SERVICE LIMIT |
|-----------------------|----------------------------|---------------------------------|-----------------------------------|---------------|-----------------|
| Shift fork | I.D. | | 12.000 – 12.018 (0.4724 – 0.4731) | | 12.03 (0.474) |
| | Claw thickness | | 5.93 – 6.00 (0.233 – 0.236) | | 5.9 (0.23) |
| Shift fork shaft O.D. | | | 11.957 – 11.968 (0.4707 – 0.4712) | | 11.95 (0.470) |
| Transmission | Gear I.D. | M5, M6 | 28.000 – 28.021 (1.1024 – 1.1032) | | 28.04 (1.104) |
| | | C1 | 24.000 – 24.021 (0.9449 – 0.9457) | | 26.04 (1.025) |
| | | C2, C3, C4 | 31.000 – 31.025 (1.2205 – 1.2215) | | 31.04 (1.222) |
| | Gear busing O.D. | M5, M6 | 27.959 – 27.980 (1.1007 – 1.1016) | | 27.94 (1.100) |
| | | C2 | 30.955 – 30.980 (1.2187 – 1.2197) | | 30.94 (1.218) |
| | | C3, C4 | 30.950 – 30.975 (1.2185 – 1.2195) | | 30.93 (1.218) |
| | Gear-to-bushing clearance | M5, M6 | 0.020 – 0.062 (0.0008 – 0.0024) | | 0.10 (0.004) |
| | | C2 | 0.020 – 0.070 (0.0008 – 0.0028) | | 0.10 (0.004) |
| | | C3, C4 | 0.025 – 0.075 (0.0010 – 0.0030) | | 0.11 (0.004) |
| | Gear bushing I.D. | M5 | 24.985 – 25.006 (0.9837 – 0.9845) | | 25.016 (0.9849) |
| | | C2 | 27.985 – 28.006 (1.1018 – 1.1026) | | 28.021 (1.1032) |
| | Mainshaft O.D. | at M5 | 24.967 – 24.980 (0.9830 – 0.9835) | | 24.96 (0.983) |
| | Countershaft O.D. | at C2 | 27.967 – 27.980 (1.1011 – 1.1016) | | 27.96 (1.101) |
| | Bushing to shaft clearance | M5 | 0.005 – 0.039 (0.0002 – 0.0015) | | 0.06 (0.002) |
| C2 | | 0.005 – 0.039 (0.0002 – 0.0015) | | 0.06 (0.002) | |

CRANKSHAFT/PISTON/CYLINDER SPECIFICATIONS

| ITEM | | | STANDARD | Unit: mm (in) | SERVICE LIMIT |
|--|-------------------------------------|---------------------------------|-----------------------------------|---------------|-----------------|
| Crankshaft | Connecting rod side clearance | | 0.15 – 0.30 (0.006 – 0.012) | | 0.35 (0.014) |
| | Crankpin bearing oil clearance | | 0.028 – 0.052 (0.0011 – 0.0020) | | 0.06 (0.002) |
| | Main journal bearing oil clearance | | 0.020 – 0.038 (0.0008 – 0.0015) | | 0.05 (0.002) |
| | Runout | | – | | 0.05 (0.002) |
| Piston, piston rings | Piston O.D. at 10 (0.4) from bottom | | 66.965 – 66.985 (2.6364 – 2.6372) | | 66.90 (2.634) |
| | Piston pin bore I.D. | | 16.002 – 16.008 (0.6300 – 0.6302) | | 16.02 (0.631) |
| | Piston pin O.D. | | 15.994 – 16.000 (0.6297 – 0.6299) | | 15.98 (0.629) |
| | Piston-to-piston pin clearance | | 0.002 – 0.014 (0.0001 – 0.0006) | | 0.04 (0.002) |
| | Piston ring end gap | Top | 0.10 – 0.20 (0.004 – 0.008) | | 0.4 (0.02) |
| | | Second | 0.21 – 0.31 (0.008 – 0.012) | | 0.5 (0.02) |
| | | Oil (side rail) | 0.2 – 0.7 (0.01 – 0.03) | | 1.0 (0.04) |
| Piston ring-to-ring groove clearance | Top | 0.030 – 0.060 (0.0012 – 0.0024) | | 0.10 (0.004) | |
| | Second | 0.015 – 0.050 (0.0006 – 0.0020) | | 0.08 (0.003) | |
| Cylinder | I.D. | | 67.000 – 67.015 (2.6378 – 2.6384) | | 67.10 (2.642) |
| | Out of round | | – | | 0.10 (0.004) |
| | Taper | | – | | 0.10 (0.004) |
| | Warpage | | – | | 0.10 (0.004) |
| Cylinder-to-piston clearance | | | 0.015 – 0.050 (0.0006 – 0.0022) | | 0.10 (0.004) |
| Connecting rod small end I.D. | | | 16.010 – 16.034 (0.6303 – 0.6313) | | 16.050 (0.6319) |
| Connecting rod-to-piston pin clearance | | | 0.010 – 0.040 (0.0004 – 0.0016) | | 0.070 (0.0028) |

GENERAL INFORMATION

FRONT WHEEL/SUSPENSION/STEERING SPECIFICATIONS

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/cm ² , 36 psi) | - |
| | Driver and passenger | 250 kPa (2.50 kgf/cm ² , 36 psi) | - |
| Axle runout | | - | 0.2 (0.01) |
| Wheel rim runout | Radial | - | 2.0 (0.08) |
| | Axial | - | 2.0 (0.08) |
| Wheel balance weight | | - | 60 g (2.1oz) max. |
| Fork | Spring free length | 258.8 (10.19) | 253.6 (9.98) |
| | Tube runout | - | 0.20 (0.008) |
| | Recommended fork fluid | Pro Honda Suspension Fluid SS-8 | - |
| | Fluid level | 110 (4.3) | - |
| | Fluid capacity | 531 ± 2.5 cm ³ (18.0 ± 0.08 US oz, 18.7 ± 0.09 Imp oz) | - |
| | Pre-load adjuster initial setting | 14 mm (0.6 in) (4th groove from top) | - |
| | Rebound adjuster initial setting | 2-1/2 turns out from full hard | - |
| | Compression adjuster initial setting | 2 turns out from full hard | - |
| Steering head bearing pre-load | | 9.8 – 15 N·m (1.0 – 1.5 kgf·m) | - |

REAR WHEEL/SUSPENSION SPECIFICATIONS

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/cm ² , 42 psi) | - |
| | Driver and passenger | 290 kPa (2.90 kgf/cm ² , 42 psi) | - |
| Axle runout | | - | 0.2 (0.01) |
| Wheel rim runout | Radial | - | 2.0 (0.08) |
| | Axial | - | 2.0 (0.08) |
| Wheel balance weight | | - | 60 g (2.1 oz) max. |
| Drive chain | Size/link | DID | DID525HV-120ZB |
| | | RK | RK525ROZ1-120LJ-FZ |
| | Slack | 25 – 35 (1 – 1-3/8) | - |
| Shock absorber | Spring pre-load adjuster standard position | | Position 3 |
| | Rebound damping adjuster initial setting | | 1-3/4 turns out from full hard |
| | Compression damping adjuster initial setting | | 2 turns out from full hard |

GENERAL INFORMATION

HYDRAULIC BRAKE SPECIFICATIONS

| ITEM | | STANDARD | SERVICE LIMIT | |
|-----------------------|-----------------------|-----------------------------------|-----------------------------------|-----------------|
| Front | Specified brake fluid | Honda DOT4 Brake Fluid | - | |
| | 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. | 17.460 - 17.503 (0.6874 - 0.6891) | 17.515 (0.6896) | |
| | Master piston O.D. | 17.321 - 17.367 (0.6819 - 0.6837) | 17.309 (0.6815) | |
| | Caliper cylinder I.D. | A | 32.030 - 32.080 (1.2610 - 1.2630) | 32.092 (1.2635) |
| | | B | 30.230 - 30.280 (1.1902 - 1.1921) | 30.292 (1.1926) |
| | Caliper piston O.D. | A | 31.948 - 31.998 (1.2578 - 1.2598) | 31.940 (1.2574) |
| | | B | 30.082 - 30.115 (1.1843 - 1.1856) | 30.074 (1.1840) |
| | Rear | Specified brake fluid | Honda DOT4 Brake Fluid | - |
| Brake pedal height | | 75 (3.0) | - | |
| Brake disk thickness | | 4.8 - 5.2 (0.19 - 0.20) | 4.0 (0.16) | |
| Brake disc runout | | - | 0.30 (0.012) | |
| Master cylinder I.D. | | 15.870 - 15.913 (0.6248 - 0.6265) | 15.925 (0.6270) | |
| Master piston O.D. | | 15.827 - 15.854 (0.6231 - 0.6242) | 15.815 (0.6226) | |
| Caliper cylinder I.D. | | 38.180 - 38.230 (1.5031 - 1.5051) | 38.24 (1.506) | |
| Caliper piston O.D. | | 38.098 - 38.148 (1.4999 - 1.5019) | 38.09 (1.500) | |

BATTERY/CHARGING SYSTEM SPECIFICATIONS

| ITEM | | SPECIFICATIONS | |
|------------|--------------------------------------|--------------------|----------------|
| Battery | Capacity | 12V - 8.6 Ah | |
| | Current leakage | 2.0 mA max. | |
| | Voltage (20°C/68°F) | Fully charged | 13.0 - 13.2 V |
| | | Needs charging | Below 12.4 V |
| | Charging current | Normal | 0.9 A/5 - 10 h |
| Quick | | 4.5 A/1 h | |
| Alternator | Capacity | 0.333 kW/5,000 rpm | |
| | Charging coil resistance (20°C/68°F) | 0.1 - 1.0 Ω | |

IGNITION SYSTEM SPECIFICATIONS

| ITEM | SPECIFICATIONS |
|---------------------------------------|-----------------------------------|
| Spark plug (Iridium) | IMR9C-9HE (NGK) |
| Spark plug gap | 0.80 - 0.90 mm (0.031 - 0.035 in) |
| Ignition coil peak voltage | 100 V minimum |
| Ignition pulse generator peak voltage | 0.7 V minimum |
| Ignition timing ("F"mark) | 15° BTDC at idle |

ELECTRIC STARTER SPECIFICATIONS

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

LIGHTS/METERS/SWITCHES SPECIFICATIONS

| ITEM | | SPECIFICATIONS | |
|-------------------------|--------------------------|--------------------|------------|
| Bulbs | Headlight | Hi | 12V - 55 W |
| | | Lo | 12V - 55 W |
| | Position light | 12V - 5 W | |
| | Brake/tail light | LED | |
| | Turn signal light | 12V - 21 W X 4 | |
| | Instrument light | LED | |
| | Turn signal indicator | LED | |
| | High beam indicator | LED | |
| | Neutral indicator | LED | |
| | PGM-FI warning indicator | LED | |
| Fuse | Main fuse | 30 A | |
| | PGM-FI fuse | 20 A | |
| | Sub fuse | 10 A X 4, 20 A X 2 | |
| Tachometer peak voltage | | 10.5 V minimum | |
| ECT sensor resistance | 80°C (176 °F) | 2.1 - 2.6 kΩ | |
| | 120 °C (248 °F) | 0.65 - 0.73 kΩ | |

GENERAL INFORMATION

STANDARD TORQUE VALUES

| FASTENER TYPE | TORQUE N·m (kgf·m, lbf·ft) | FASTENER TYPE | TORQUE N·m (kgf·m, lbf·ft) |
|------------------------|-------------------------------|---|-------------------------------|
| 5 mm hex bolt and nut | 4.9 (0.5, 3.6) | 5 mm screw | 3.9 (0.4, 2.9) |
| 6 mm hex bolt and nut | 9.8 (1.0, 7) | 6 mm screw | 8.8 (0.9, 6.5) |
| 8 mm hex bolt and nut | 22 (2.2, 16) | 6 mm flange bolt (8 mm head, small flange) | 9.8 (1.0, 7) |
| 10 mm hex bolt and nut | 34 (3.5, 25) | 6 mm flange bolt (8 mm head, large flange) | 12 (1.2, 9) |
| 12 mm hex 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 | 26 (2.7, 20) |
| | | 10 mm flange bolt and nut | 39 (4.0, 29) |

ENGINE & FRAME TORQUE VALUES

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

NOTE:

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

ENGINE

MAINTENANCE

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-----------------------------|------|---------------------|-------------------------------|---------|
| Spark plug | 4 | 10 | 16 (1.6, 12) | |
| Timing hole cap | 1 | 45 | 18 (1.8, 13) | NOTE 7 |
| Engine oil filter cartridge | 1 | 20 | 26 (2.7, 20) | NOTE 4 |
| Engine oil drain bolt | 1 | 12 | 29 (3.0, 22) | |

LUBRICATION

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-------------------------------|------|---------------------|-------------------------------|---------|
| Oil pump assembly flange bolt | 1 | 6 | 7.8 (0.8, 5.8) | NOTE 9 |
| Oil filter boss (stud side) | 1 | 20 | 18 (1.8, 13) | NOTE 2 |

FUEL SYSTEM (Programmed Fuel Injection)

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---|------|---------------------|-------------------------------|---------|
| ECT (Engine Coolant Temperature) sensor | 1 | 12 | 23 (2.3, 17) | |
| Throttle body insulator band screw | 8 | 5 | See page 1-15 | |
| Starter valve lock nut | 4 | 10 | 1.8 (0.18, 1.3) | |
| Starter valve synchronization plate screw | 4 | 3 | 0.9 (0.09, 0.7) | |
| Fuel pipe mounting bolt | 3 | 6 | 9.8 (1.0, 7) | |
| Fast idle wax unit link plate screw | 1 | 3 | 0.9 (0.09, 0.7) | |
| Fast idle wax unit mounting screw | 2 | 6 | 4.9 (0.5, 3.6) | |
| Secondary injector bracket mounting bolt | 5 | 5 | 5.4 (0.55, 4) | |

GENERAL INFORMATION

COOLING SYSTEM

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------------------|------|---------------------|-------------------------------|---------|
| Water pump assembly flange bolt | 2 | 6 | 12 (1.2, 9) | NOTE 9 |
| Thermostat housing cover flange bolt | 2 | 6 | 13 (1.3, 10) | NOTE 9 |

ENGINE MOUNTING

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-----------------------------|------|---------------------|-------------------------------|---------|
| Drive sprocket special bolt | 1 | 10 | 54 (5.5, 40) | |

CYLINDER HEAD/VALVES

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---|------|---------------------|-------------------------------|-----------|
| Cylinder head mounting bolt | 10 | 9 | 47 (4.8, 35) | NOTE 8 |
| Camshaft holder bolt | 20 | 6 | 12 (1.2, 9) | NOTE 4 |
| Cylinder head sealing bolt | 3 | 14 | 18 (1.8, 13) | NOTE 2 |
| Cylinder head cover bolt | 4 | 6 | 9.8 (1.0, 7) | |
| Breather plate bolt | 3 | 6 | 13 (1.3, 9) | NOTE 2, 9 |
| PAIR reed valve cover bolt | 4 | 6 | 13 (1.3, 9) | NOTE 9 |
| Cam sprocket bolt | 4 | 7 | 20 (2.0, 14) | NOTE 2 |
| Cam pulse generator rotor bolt | 2 | 6 | 12 (1.2, 9) | NOTE 2 |
| Cam chain tensioner lifter mounting socket bolt | 2 | 6 | 9.8 (1.0, 7) | |
| Cam chain tensioner A pivot bolt | 1 | 6 | 9.8 (1.0, 7) | NOTE 2 |
| Cam chain tensioner B pivot bolt | 1 | 10 | 20 (2.0, 14) | NOTE 2 |
| Cam chain guide bolt | 1 | 6 | 12 (1.2, 9) | |
| Cylinder block socket bolt | 1 | 10 | 12 (1.2, 9) | NOTE 2 |

CLUTCH/GEARSHIFT LINKAGE

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-------------------------------------|------|---------------------|-------------------------------|-----------|
| Clutch center lock nut | 1 | 22 | 127 (13.0, 94) | NOTE 3, 4 |
| Clutch spring bolt | 5 | 6 | 12 (1.2, 9) | |
| Oil pump driven sprocket bolt | 1 | 6 | 15 (1.5, 11) | NOTE 2 |
| Shift drum center socket bolt | 1 | 8 | 23 (2.3, 17) | NOTE 2 |
| Shift drum stopper arm pivot bolt | 1 | 6 | 12 (1.2, 9) | |
| Gearshift spindle return spring pin | 1 | 8 | 22 (2.2, 16) | |

ALTERNATOR/STARTER CLUTCH

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-------------------------------|------|---------------------|-------------------------------|---------|
| Alternator stator socket bolt | 4 | 6 | 12 (1.2, 9) | |
| Flywheel bolt | 1 | 10 | 103 (10.5, 76) | NOTE 4 |
| Stator wire clamp bolt | 1 | 6 | 14 (1.4, 10) | NOTE 9 |

CRANKCASE/TRANSMISSION

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---|------|---------------------|-------------------------------|----------------|
| Mainshaft bearing set plate flange bolt | 3 | 6 | 12 (1.2, 9) | NOTE 2 |
| Gearshift drum bearing set bolt | 2 | 6 | 12 (1.2, 9) | NOTE 2 |
| Lower crankcase sealing bolt | 2 | 20 | 28 (2.8, 20) | |
| Crankcase 6 mm bolt | 10 | 6 | 12 (1.2, 9) | |
| 8 mm bolt | 6 | 8 | 25 (2.5, 18) | |
| 8 mm bolt (main journal bolt) | 10 | 8 | 15 (1.5, 10) + 120° | See page 12-17 |
| 10 mm bolt | 1 | 10 | 39 (4.0, 29) | |

GENERAL INFORMATION

CRANKSHAFT/PISTON/CYLINDER

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---------------------------------|------|---------------------|-------------------------------|---------|
| Connecting rod bearing cap bolt | 8 | 7 | 14 (1.4, 10) + 90° | NOTE 4 |

IGNITION SYSTEM

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|-----------------------------------|------|---------------------|-------------------------------|---------|
| Starter clutch outer special bolt | 1 | 10 | 74 (7.5, 54) | NOTE 4 |

ELECTRIC STARTER

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|----------------------------|------|---------------------|-------------------------------|---------|
| Starter motor terminal nut | 17 | 6 | 12 (1.2, 9) | |

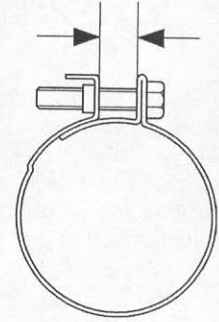
LIGHTS/METERS/SWITCHES

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---|------|---------------------|-------------------------------|---------|
| Oil pressure switch | 1 | PT 1/8 | 12 (1.2, 9) | NOTE 1 |
| Oil pressure switch wire terminal screw | 1 | 4 | 2.0 (0.2, 1.4) | |
| Neutral switch | 1 | 10 | 12 (1.2, 9) | |

GENERAL INFORMATION

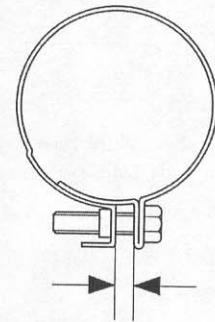
Insulator clamp (Throttle body side):

$12 \pm 1 \text{ mm}$ ($0.5 \pm 0.04 \text{ in}$)

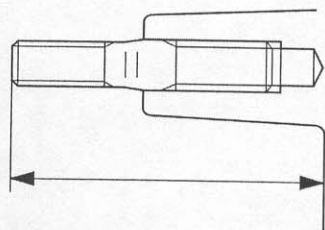


Insulator clamp (Cylinder head side):

$10 \pm 1 \text{ mm}$ ($0.4 \pm 0.04 \text{ in}$)



Exhaust pipe stud bolt:



$45.5 \pm 0.5 \text{ mm}$ ($1.79 \pm 0.04 \text{ in}$)

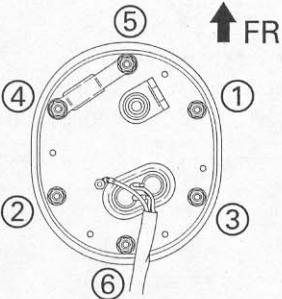
GENERAL INFORMATION

FRAME

FRAME BODY PANELS/EXHAUST SYSTEM

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|---------------------------------------|------|---------------------|-------------------------------|---------|
| Lower cowl-to-middle cowl pan screw | 2 | 5 | 1.5 (0.15, 1.1) | |
| Middle cowl-to-upper cowl pan screw | 4 | 5 | 1.5 (0.15, 1.1) | |
| Windscreen setting screw | 6 | 5 | 0.5 (0.05, 0.4) | |
| Seat rail upper mounting flange nut | 2 | 10 | 54 (5.5, 40) | |
| Seat rail lower mounting flange bolt | 2 | 10 | 44 (4.5, 33) | |
| Seat rail brace socket bolt | 4 | 8 | 26 (2.7, 20) | |
| Seat rail assembly flange nut | 2 | 8 | 30 (3.1, 22) | |
| Exhaust pipe joint flange nut | 8 | 7 | 12 (1.2, 9) | |
| Muffler band flange bolt | 2 | 8 | 23 (2.3, 17) | |
| Passenger footpeg bracket socket bolt | 4 | 8 | 26 (2.7, 20) | |

FUEL SYSTEM

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|--|--|---------------------|-------------------------------|--------------|
| Fuel filler cap socket bolt | 3 | 4 | 1.8 (0.18, 1.3) | |
| Fuel feed hose banjo bolt (fuel tank side) | 1 | 12 | 22 (2.2, 16) | |
| Fuel hose sealing nut (throttle body side) | 1 | 12 | 22 (2.2, 16) | |
| Fuel pump mounting nut | 6 | 6 | 12 (1.2, 9) | |
|  | | | | |
| | O ₂ sensor (California type only) | 1 | 12 | 25 (2.6, 19) |

COOLING SYSTEM

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------------|------|---------------------|-------------------------------|---------|
| Cooling fan nut | 1 | 5 | 2.9 (0.3, 2.2) | NOTE 2 |
| Fan motor nut | 3 | 5 | 4.9 (0.5, 3.6) | |
| Fan motor shroud mounting bolt | 3 | 6 | 7.8 (0.8, 5.8) | |

ENGINE MOUNTING

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------------------|------|---------------------|-------------------------------|---------------|
| Front engine hanger bolt (left side) | 1 | 12 | 54 (5.5, 40) | |
| Front engine hanger nut (right side) | 1 | 12 | 54 (5.5, 40) | |
| Front engine hanger pinch bolt | 2 | 10 | 27 (2.7, 20) | |
| Rear engine hanger adjusting bolt | 1 | 20 | 9.8 (1.0, 7) | |
| Rear engine hanger lock nut | 1 | 20 | 54 (5.5, 40) | |
| Rear engine hanger nut | 1 | 12 | 59 (6.0, 43) | |
| Lower engine hanger pinch bolt | 2 | 8 | 27 (2.7, 20) | |
| Lower engine hanger nut | 1 | 12 | 59 (6.0, 43) | See page 8-10 |

GENERAL INFORMATION

FRONT WHEEL/SUSPENSION/STEERING

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N-m (kgf-m, lbf-ft) | REMARKS |
|----------------------------------|------|---------------------|-------------------------------|-------------------|
| Handlebar weight mounting screw | 2 | 6 | 9.8 (1.0, 7) | NOTE 6 |
| Front brake disc bolt | 12 | 6 | 20 (2.0, 14) | NOTE 6 |
| Front axle bolt | 1 | 14 | 59 (6.0, 43) | |
| Front axle holder pinch bolt | 4 | 8 | 22 (2.2, 16) | |
| Fork socket bolt | 2 | 10 | 34 (3.5, 25) | NOTE 2 |
| Fork bolt | 2 | 42 | 23 (2.3, 17) | |
| Fork top bridge pinch bolt | 2 | 8 | 23 (2.3, 17) | |
| Handlebar pinch bolt | 2 | 8 | 23 (2.3, 17) | |
| Fork bottom bridge pinch bolt | 2 | 8 | 27 (2.7, 20) | |
| Steering stem adjusting nut | 1 | 26 | 49 (5.0, 36) | |
| Steering stem adjusting lock nut | 1 | 26 | - | See page 14-34 |
| Steering stem nut | 1 | 24 | 103 (10.5, 76) | |

REAR WHEEL/SUSPENSION

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N-m (kgf-m, lbf-ft) | REMARKS |
|---|------|---------------------|-------------------------------|---------|
| Rear brake disc bolt | 4 | 8 | 42 (4.3, 31) | NOTE 6 |
| Final driven sprocket nut | 6 | 10 | 64 (6.5, 47) | NOTE 5 |
| Rear axle nut | 1 | 22 | 113 (11.5, 83) | NOTE 5 |
| Rear shock absorber upper mounting nut | 1 | 10 | 44 (4.5, 33) | NOTE 5 |
| Rear shock absorber lower mounting nut | 1 | 10 | 44 (4.5, 33) | NOTE 5 |
| Shock link-to-frame pivot nut | 1 | 10 | 44 (4.5, 33) | NOTE 5 |
| Shock arm-to-shock link nut | 1 | 10 | 44 (4.5, 33) | NOTE 5 |
| Shock arm-to-swingarm nut | 1 | 10 | 44 (4.5, 33) | NOTE 5 |
| Rear shock absorber bracket mounting bolt | 4 | 10 | 44 (4.5, 33) | NOTE 5 |
| Drive chain slider flange bolt | 3 | 6 | 8.8 (0.9, 6.5) | NOTE 2 |
| Swingarm pivot pinch bolt | 2 | 8 | 27 (2.7, 20) | |
| Swingarm pivot nut | 1 | 18 | 93 (9.5, 69) | |

HYDRAULIC BRAKE

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N-m (kgf-m, lbf-ft) | REMARKS |
|---|------|---------------------|-------------------------------|---------|
| Front master cylinder reservoir cap screw | 2 | 4 | 1.5 (0.15, 1.1) | |
| Front brake lever pivot bolt | 1 | 6 | 1.0 (0.1, 0.7) | |
| Front brake lever pivot nut | 1 | 6 | 5.9 (0.6, 4.3) | |
| Front brake light switch screw | 1 | 4 | 1.0 (0.1, 0.7) | |
| Front master cylinder holder bolt | 2 | 6 | 12 (1.2, 9) | |
| Front brake caliper assembly torx bolt | 8 | 8 | 23 (2.3, 17) | NOTE 2 |
| Front brake caliper mounting bolt | 4 | 8 | 30 (3.1, 22) | NOTE 6 |
| Rear master cylinder push rod joint nut | 1 | 8 | 18 (1.8, 13) | |
| Rear master cylinder reservoir cap screw | 2 | 4 | 1.5 (0.15, 1.1) | |
| Rear master cylinder mounting bolt | 2 | 6 | 8.8 (0.9, 6.5) | |
| Rear brake reservoir mounting bolt | 1 | 6 | 12 (1.2, 9) | |
| Rear brake reservoir hose joint screw | 1 | 4 | 1.5 (0.15, 1.1) | NOTE 2 |
| Rear brake caliper mounting bolt | 1 | 8 | 23 (2.3, 17) | |
| Rear brake caliper slide pin bolt | 1 | 12 | 27 (2.8, 20) | |
| Front brake caliper pad pin | 2 | 10 | 18 (1.8, 13) | |
| Rear brake caliper pad pin | 1 | 10 | 18 (1.8, 13) | |
| Brake hose oil bolt | 5 | 10 | 34 (3.5, 25) | |
| Front brake hose clamp bolt | 2 | 6 | 12 (1.2, 9) | |
| Front brake hose 3-way joint bolt | 1 | 6 | 12 (1.2, 9) | |
| Brake caliper bleed valve | 3 | 8 | 5.9 (0.6, 4.3) | |

GENERAL INFORMATION

LIGHTS/METERS/SWITCHES

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|------------------------------------|------|---------------------|-------------------------------|---------|
| Side stand switch bolt | 1 | 6 | 9.8 (1.0, 7) | NOTE 6 |
| Ignition switch mounting bolt | 2 | 8 | 25 (2.5, 18) | |
| Driver footpeg bracket socket bolt | 4 | 8 | 37 (3.8, 28) | |

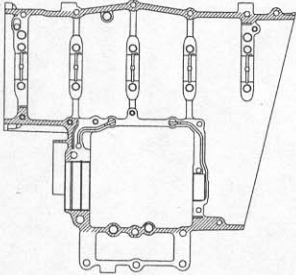
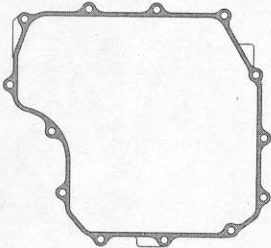
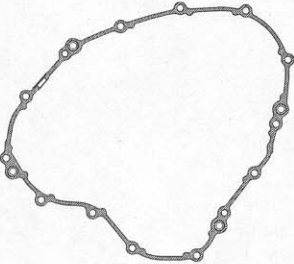
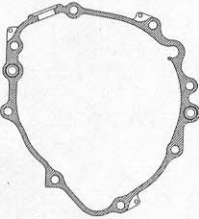
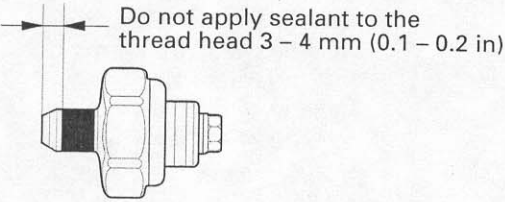
OTHERS

| ITEM | Q'TY | THREAD DIA. (mm) | TORQUE N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------------|------|---------------------|-------------------------------|------------------|
| Side stand pivot bolt | 1 | 10 | 9.8 (1.0, 7) | NOTE 6 NOTE 6 |
| Side stand pivot lock nut | 1 | 10 | 29 (3.0, 22) | |
| Side stand bracket socket bolt | 2 | 10 | 39 (4.0, 29) | |
| Driver footpeg bolt | 2 | 10 | 44 (4.5, 33) | |
| Driver footpeg cap bolt | 2 | 6 | 11 (1.1, 8) | |

GENERAL INFORMATION

LUBRICATION & SEAL POINTS

ENGINE

| LOCATION | MATERIAL | REMARKS |
|---|--|---------|
| <p>Crankcase mating surface</p>  | <p>Liquid sealant (Three Bond 1207B or equivalent)</p> | |
| <p>Oil pan mating surface</p>  | | |
| <p>Right crankcase cover mating surface</p>  | <p>Liquid sealant (Three Bond 1207B or equivalent)</p> | |
| <p>Alternator cover mating surface</p>  | | |
| <p>Oil pressure switch threads</p>  <p>Do not apply sealant to the thread head 3 - 4 mm (0.1 - 0.2 in)</p> | | |