

# 1. GENERAL INFORMATION

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## GENERAL INFORMATION

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### 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 1-23).

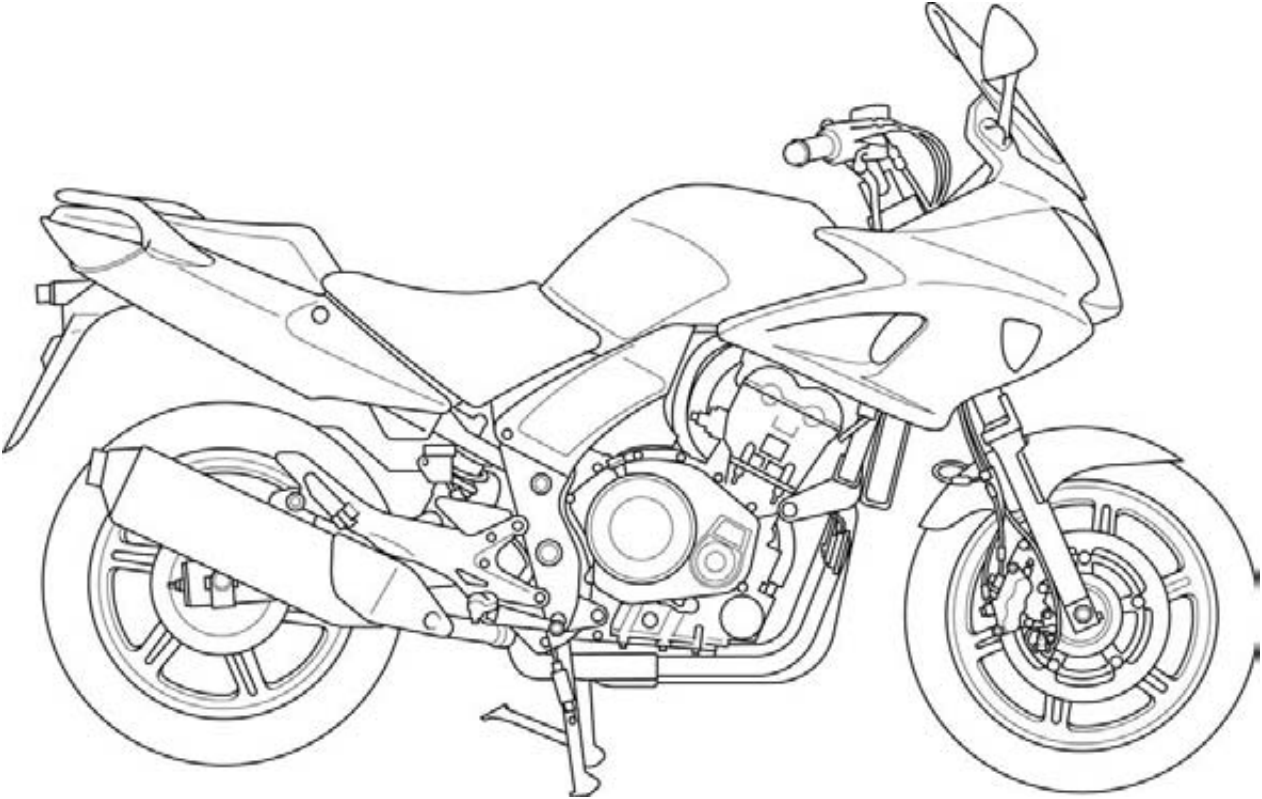
### ABBREVIATION

Throughout this manual, the following abbreviations are used to identify the respective parts or systems.

| Abbrev. term  | Full term   |
|---------------|---|
| PGM-FI        | Programmed Fuel Injection                           |
| MAP sensor    | Manifold Absolute Pressure sensor                   |
| TP sensor     | Throttle Position sensor                            |
| ECT sensor    | Engine Coolant Temperature sensor                   |
| IAT sensor    | Intake Air Temperature sensor                       |
| CKP sensor    | Crankshaft Position sensor                          |
| VS sensor     | Vehicle Speed sensor                                |
| IACV          | Idle Air Control Valve                              |
| ECM           | Engine Control Module                               |
| EEPROM        | Electrically Erasable Programmable Read Only Memory |
| DLC           | Data Link Connector                                 |
| SCS connector | Service Check Short connector                       |
| HDS           | Honda Diagnostic System                             |
| DTC           | Diagnostic Trouble Code                             |
| MIL           | Malfunction Indicator Lamp                          |
| FP            | Fuel Pump   |
| PAIR          | Pulsed Secondary Air Injection                      |
| ABS           | Anti-lock Brake System                              |
| HISS          | Honda Ignition Security System                      |

# MODEL IDENTIFICATION

CBF1000A Shown:

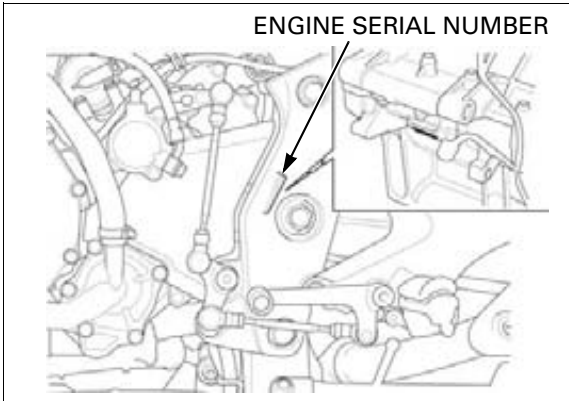


## SERIAL NUMBERS

The Vehicle Identification Number (V.I.N) is stamped on the right side of the steering head.

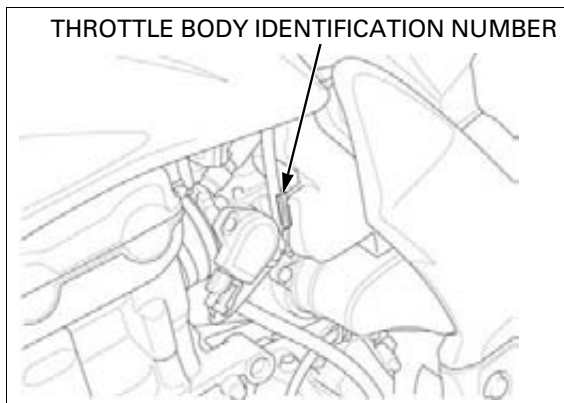


The engine serial number is stamped on the lower side of the lower crankcase.



## GENERAL INFORMATION

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



## LABELS

The Model Identification Label is located on left side of the frame tube.



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



**GENERAL SPECIFICATIONS**

| ITEM                 |                                      | SPECIFICATIONS  |
|----------------------|--------------------------------------|---|
| DIMENSIONS           | Overall length                       | 2,156 mm (84.9 in)  |
|                      | Overall width                        | 782 mm (30.8 in)  |
|                      | Overall height                       | 1,238 mm (48.7 in)  |
|                      | Wheelbase                            | 1,483 mm (58.4 in)  |
|                      | Seat height                          | 800 mm (31.5 in)  |
|                      | Ground clearance                     | 130 mm (5.1 in)   |
|                      | Curb weight                          | CBF1000:<br>CBF1000A:<br>244 kg (538 lbs)<br>251 kg (553 lbs) |
|                      | Maximum weight capacity              | 195 kg (430 lbs)  |
| FRAME                | Frame type                           | Diamond type  |
|                      | Front suspension                     | Telescopic fork   |
|                      | Front axle travel                    | 108 mm (4.3 in)   |
|                      | Rear suspension                      | Swingarm  |
|                      | Rear axle travel                     | 120 mm (4.7 in)   |
|                      | Front tire size                      | 120/70ZR17M/C (58W)   |
|                      | Rear tire size                       | 160/60ZR17M/C (69W)   |
|                      | Front tire brand                     | Bridgestone<br>Michelin                                       |
|                      | Rear tire brand                      | Bridgestone<br>Michelin                                       |
|                      | Front brake                          | Hydraulic double disc   |
|                      | Rear brake                           | Hydraulic single disc   |
|                      | Caster angle                         | 26° 00'   |
|                      | Trail length                         | 111 mm (4.4 in)   |
| Fuel tank capacity   | 19.3 liter (5.1 US gal, 4.2 Imp gal) |   |
| ENGINE               | Cylinder arrangement                 | 4 cylinders in-line, inclined 28° from vertical               |
|                      | Bore and stroke                      | 75.0 x 56.5 mm (2.95 x 2.22 in)                               |
|                      | Displacement                         | 998.4 cm <sup>3</sup> (60.92 cu-in)                           |
|                      | Compression ratio                    | 11.0 : 1  |
|                      | Valve train                          | Chain driven, DOHC  |
|                      | 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                   | Forced pressure and wet sump                                  |
|                      | Oil pump type                        | Trochoid  |
|                      | Cooling system                       | Liquid cooled   |
|                      | Air filtration                       | Paper element   |
| Engine dry weight    | 66.5 kg (146.6 lbs)                  |   |
| Firing order         | 1 - 2 - 4 - 3                        |   |
| FUEL DELIVERY SYSTEM | Type                                 | PGM-FI (Programmed Fuel Injection)                            |
|                      | Throttle bore                        | 36 mm (1.4 in)  |
| DRIVE TRAIN          | Clutch system                        | Multi-plate, wet  |
|                      | Clutch operation system              | Hydraulic operating   |
|                      | Transmission                         | Constant mesh, 6-speeds                                       |
|                      | Primary reduction                    | 1.604 (77/48)   |
|                      | Final reduction                      | 2.687 (43/16)   |
|                      | Gear ratio                           | 1st<br>2.714 (38/14)  |
|                      |                                      | 2nd<br>1.941 (33/17)  |
|                      |                                      | 3rd<br>1.578 (30/19)  |
|                      | 4th<br>1.363 (30/22)                 |   |
|                      | 5th<br>1.217 (28/23)                 |   |
|                      | 6th<br>1.115 (29/26)                 |   |
|                      | Gearshift pattern                    | 1 - N - 2 - 3 - 4 - 5 - 6                                     |

## GENERAL INFORMATION

| ITEM       |                     | SPECIFICATIONS   |
|------------|---------------------|--|
| ELECTRICAL | Ignition system     | Computer-controlled digital transistorized with electric advance |
|            | Starting system     | Electric starter motor   |
|            | Charging system     | Triple phase output alternator                                   |
|            | Regulator/rectifier | FET shorted/triple phase, full wave rectification                |
|            | Lighting system     | Battery  |

## LUBRICATION SYSTEM SPECIFICATIONS

Unit: mm (in)

| ITEM   |                         | STANDARD   | SERVICE LIMIT |
|--|-------------------------|--|---------------|
| Engine oil capacity                              | After draining          | 2.7 liter (2.9 US qt, 2.4 Imp qt)  | –             |
|  | After oil filter change | 3.5 liter (3.7 US qt, 3.1 Imp qt)  | –             |
|  | After disassembly       | 3.6 liter (3.8 US qt, 3.2 Imp qt)  | –             |
| Engine oil                                       |                         | Suggested oil:<br>Honda "4-stroke motorcycle oil" or an equivalent<br>Oil recommendation:<br>API classification: SG or higher (except oils labeled as energy conserving on the circular API service label)<br>Viscosity: SAE 10W-30<br>JASO T 903 standard: MA | –             |
| Oil pressure at EOP (engine oil pressure) switch |                         | 510 kPa (5.2 kgf/cm <sup>2</sup> , 74 psi) at 6,000 min <sup>-1</sup> (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 (PGM-FI) SPECIFICATIONS

| ITEM  | SPECIFICATIONS   |
|---|--|
| Throttle body identification number                   | GQ3BA  |
| Idle speed  | 1,200 ± 100 min <sup>-1</sup> (rpm)                            |
| Throttle grip free play                               | 2 – 6 mm (1/12 – 1/4 in)                                       |
| IAT sensor resistance (at 20°C/68°F)                  | 1 – 4 kΩ   |
| ECT sensor resistance (at 20°C/68°F)                  | 2.3 – 2.6 kΩ   |
| Fuel injector resistance (at 20°C /68°F)              | 11.1 – 12.3 Ω  |
| PAIR control solenoid valve resistance (at 20°C/68°F) | 23 – 27 Ω  |
| CKP sensor peak voltage (at 20°C/68°F)                | 0.7 V minimum  |
| Manifold absolute pressure at idle                    | 29 – 32 kPa (0.30 – 0.33 kgf/cm <sup>2</sup> , 4.3 – 4.7 psi)  |
| Fuel pressure at idle                                 | 343 kPa (3.5 kgf/cm <sup>2</sup> , 50 psi)                     |
| Fuel pump flow (at 12 V)                              | 189 cm <sup>3</sup> (6.4 US oz, 6.7 Imp oz) minimum/10 seconds |

## COOLING SYSTEM SPECIFICATIONS

| ITEM                           | SPECIFICATIONS      |  |
|--------------------------------|---------------------|--|
| Coolant capacity               | Radiator and engine | 2.71 liter (2.86 US qt, 2.38 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 <sup>2</sup> , 16 – 20 psi)                        |
| Thermostat                     | Begin to open       | 80 – 84 °C (176 – 183 °F)  |
|                                | Fully open          | 90 °C (194 °F)   |
|                                | Valve lift          | 8 mm (0.3 in) minimum  |
| Recommended antifreeze         |                     | High quality ethylene glycol antifreeze containing corrosion protection inhibitors |
| Standard coolant concentration |                     | 1:1 mixture with distilled water   |

## GENERAL INFORMATION

# CYLINDER HEAD/VALVES SPECIFICATIONS

Unit: mm (in)

| ITEM                     |  | STANDARD   | SERVICE LIMIT                     |
|--------------------------|--|--|-----------------------------------|
| Cylinder compression     |  | 1,098 kPa (11.2 kgf/cm <sup>2</sup> , 159 psi)<br>at 350 min <sup>-1</sup> (rpm) | –                                 |
| Valve clearance          |  | IN   | 0.16 ± 0.03 (0.006 ± 0.001)       |
|                          |  | EX   | 0.32 ± 0.03 (0.013 ± 0.001)       |
| Camshaft                 | Cam lobe height                            | IN   | 34.62 – 34.70 (1.363 – 1.366)     |
|                          |  | EX   | 34.58 – 34.66 (1.361 – 1.365)     |
|                          | Runout                                     |  | –                                 |
|                          | Oil clearance                              |  | 0.020 – 0.062 (0.0008 – 0.0024)   |
| Valve lifter             | Valve lifter O.D.                          |  | 25.978 – 25.993 (1.0228 – 1.0233) |
|                          | Valve lifter bore I.D.                     |  | 26.010 – 26.026 (1.0240 – 1.0246) |
| Valve,<br>valve guide    | Valve stem O.D.                            | IN   | 4.475 – 4.490 (0.1762 – 0.1768)   |
|                          |  | EX   | 4.465 – 4.480 (0.1758 – 0.1764)   |
|                          | Valve guide I.D.                           |  | 4.500 – 4.512 (0.1772 – 0.1776)   |
|                          | Stem-to-guide clearance                    | IN   | 0.010 – 0.037 (0.0004 – 0.0015)   |
|                          |  | EX   | 0.020 – 0.047 (0.0008 – 0.0019)   |
|                          | Valve guide projection above cylinder head |  | 16.0 – 16.3 (0.63 – 0.64)         |
|                          | Valve seat width                           |  | 0.90 – 1.10 (0.035 – 0.043)       |
| Valve spring free length |  | 39.55 (1.557)  |                                   |
| Cylinder head warpage    |  | –  |                                   |

# CLUTCH/STARTER CLUTCH SPECIFICATIONS

Unit: mm (in)

| ITEM  |                      | STANDARD                          | SERVICE LIMIT   |
|---|----------------------|-----------------------------------|-----------------|
| Specified clutch fluid                          |                      | DOT 4 brake fluid                 | –               |
| Clutch master cylinder                          | 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) |
| Clutch  | Spring free length   | 58.2 (2.29)                       | 55.7 (2.19)     |
|   | Disc A thickness     | 3.72 – 3.88 (0.146 – 0.153)       | 3.4 (0.13)      |
|   | Disc B thickness     | 3.22 – 3.38 (0.127 – 0.133)       | 2.9 (0.11)      |
|   | Plate warpage        | –                                 | 0.30 (0.012)    |
| Clutch outer guide A<br>(Without ID mark)       | I.D.                 | 27.993 – 28.003 (1.1021 – 1.1025) | 28.012 (1.1028) |
|   | O.D.                 | 35.004 – 35.012 (1.3781 – 1.3784) | 34.994 (1.3777) |
| Clutch outer guide B<br>(With ID mark)          | I.D.                 | 27.993 – 28.003 (1.1021 – 1.1025) | 28.012 (1.1028) |
|   | 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<br>guide                | I.D.                 | 28.000 – 28.021 (1.1024 – 1.1032) | 28.030 (1.1035) |
|   | O.D.                 | 34.975 – 34.991 (1.3770 – 1.3776) | 34.965 (1.3766) |
| 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            |                      | 27.980 – 27.990 (1.1016 – 1.1020) | 27.96 (1.101)   |
| Mainshaft O.D. at oil pump drive sprocket guide |                      | 27.980 – 27.990 (1.1016 – 1.1020) | 27.96 (1.101)   |
| Starter idle gear                               | Gear I.D.            | 10.013 – 10.035 (0.3942 – 0.3951) | 10.05 (0.396)   |
|   | Shaft O.D.           | 9.991 – 10.000 (0.3933 – 0.3937)  | 9.98 (0.393)    |
| Starter driven gear boss O.D.                   |                      | 45.657 – 45.673 (1.7975 – 1.7981) | 45.642 (1.7969) |



## TRANSMISSION/GEARSHIFT LINKAGE SPECIFICATIONS

Unit: mm (in)

| ITEM                  |                            | STANDARD                          | 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                            | 31.000 – 31.025 (1.2205 – 1.2215) |
|                       |                            | C1                                | 28.000 – 28.021 (1.1024 – 1.1032) |
|                       |                            | C2, C3, C4                        | 33.000 – 33.025 (1.2992 – 1.3002) |
|                       | Gear busing O.D.           | M5, M6                            | 30.955 – 30.980 (1.2187 – 1.2197) |
|                       |                            | C2                                | 32.955 – 32.980 (1.2974 – 1.2984) |
|                       |                            | C3, C4                            | 32.950 – 32.975 (1.2972 – 1.2982) |
|                       | Gear-to-bushing clearance  | M5, M6                            | 0.020 – 0.070 (0.0008 – 0.0028)   |
|                       |                            | C2                                | 0.020 – 0.070 (0.0008 – 0.0028)   |
|                       |                            | C3, C4                            | 0.025 – 0.075 (0.0010 – 0.0030)   |
|                       | Gear bushing I.D.          | M5                                | 27.985 – 28.006 (1.1018 – 1.1026) |
|                       |                            | C2                                | 29.985 – 30.006 (1.1018 – 1.1026) |
|                       | Mainshaft O.D.             | at M5                             | 27.967 – 27.980 (1.1011 – 1.1016) |
|                       | Countershaft O.D.          | at C2                             | 29.967 – 29.980 (1.1798 – 1.1803) |
|                       | Bushing to shaft clearance | M5                                | 0.005 – 0.039 (0.0002 – 0.0015)   |
| C2                    |                            | 0.005 – 0.039 (0.0002 – 0.0015)   |                                   |

## CRANKCASE/CRANKSHAFT/BALANCER/PISTON/CYLINDER SPECIFICATIONS

Unit: mm (in)

| ITEM                                   |                                       | STANDARD                          | SERVICE LIMIT               |              |
|--|---------------------------------------|-----------------------------------|-----------------------------|--------------|
| Crankshaft                             | Connecting rod side clearance         | 0.05 – 0.20 (0.002 – 0.008)       | 0.25 (0.098)                |              |
|  | Crankpin bearing oil clearance        | 0.030 – 0.052 (0.0012 – 0.0020)   | 0.06 (0.002)                |              |
|  | Main journal bearing oil clearance    | 0.019 – 0.037 (0.0007 – 0.0015)   | 0.05 (0.002)                |              |
|  | Runout                                | –                                 | 0.05 (0.002)                |              |
| Piston, piston rings                   | Piston O.D. at 9.0 (0.35) from bottom | 74.960 – 74.980 (2.9512 – 2.9520) | 74.895 (2.9486)             |              |
|  | Piston pin bore I.D.                  | 17.002 – 17.008 (0.6694 – 0.6696) | 17.030 (0.6705)             |              |
|  | Piston pin O.D.                       | 16.994 – 17.000 (0.6690 – 0.6693) | 16.980 (0.6685)             |              |
|  | Piston-to-piston pin clearance        | 0.002 – 0.014 (0.0001 – 0.0006)   | 0.04 (0.002)                |              |
|  | Piston ring end gap                   | Top                               | 0.22 – 0.32 (0.009 – 0.013) | 0.52 (0.020) |
|  |                                       | Second                            | 0.48 – 0.63 (0.019 – 0.025) | 0.82 (0.032) |
|  |                                       | Oil (side rail)                   | 0.2 – 0.7 (0.01 – 0.03)     | 1.0 (0.04)   |
| Piston ring-to-ring groove clearance   | Top                                   | 0.050 – 0.085 (0.0020 – 0.0033)   | 0.125 (0.0049)              |              |
|  | Second                                | 0.015 – 0.050 (0.0006 – 0.0020)   | 0.075 (0.0030)              |              |
| Cylinder                               | I.D.                                  | 75.000 – 75.015 (2.9528 – 2.9533) | 75.15 (2.959)               |              |
|  | Out of round                          | –                                 | 0.10 (0.004)                |              |
|  | Taper                                 | –                                 | 0.10 (0.004)                |              |
|  | Warpage                               | –                                 | 0.10 (0.004)                |              |
| Cylinder-to-piston clearance           |                                       | 0.020 – 0.055 (0.0008 – 0.0022)   | 0.10 (0.004)                |              |
| Connecting rod small end I.D.          |                                       | 17.030 – 17.042 (0.6705 – 0.6709) | 17.048 (0.6712)             |              |
| Connecting rod-to-piston pin clearance |                                       | 0.030 – 0.046 (0.0012 – 0.0018)   | 0.07 (0.003)                |              |

## 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 <sup>2</sup> , 36 psi)                       | –                 |
|                                | Driver and passenger   | 250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)                       | –                 |
| Axle runout                    |                        | –   | 0.2 (0.008)       |
| 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     | 358.8 (14.13)   | 352 (13.9)        |
|                                | Fork pipe runout       | –   | 0.20 (0.008)      |
|                                | Recommended fork fluid | Honda ULTRA CUSHION OIL 10W or equivalent                         | –                 |
|                                | Fluid level            | 129 (5.1)   | –                 |
|                                | Fluid capacity         | 437 ± 2.5 cm <sup>3</sup> (14.8 ± 0.08 US oz, 15.4 ± 0.09 Imp oz) | –                 |
| Steering head bearing pre-load |                        | 9.8 – 13.7 N (1.0 – 1.4 kgf, 2.2 – 3.1 lbf)                       | –                 |

# 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 <sup>2</sup> , 42 psi) | –                   |   |
|   | Driver and passenger | 290 kPa (2.90 kgf/cm <sup>2</sup> , 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   | DID50VA8/120 links  | – |
|   |                      | RK  | RK50HFOZ5/120 links | – |
|   | Slack                | 20 – 30 (4/5 – 1-1/5)                       | –                   |   |
| Shock absorber spring pre-load adjuster standard position |                      | Position 3                                  | –                   |   |

## HYDRAULIC BRAKE SPECIFICATIONS

Unit: mm (in)

| ITEM     |                       | STANDARD                          | SERVICE LIMIT                     |                 |
|----------|-----------------------|-----------------------------------|-----------------------------------|-----------------|
| Front    | Specified brake fluid | DOT 4                             | –                                 |                 |
|          | Brake disc thickness  | 4.5 (0.18)                        | 3.5 (0.14)                        |                 |
|          | Brake disc 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) | 12.650 (0.4980)                   |                 |
|          | Caliper cylinder I.D. | CBF1000A:                         | 22.650 – 22.700 (0.8917 – 0.8937) | 22.710 (0.8941) |
|          |                       | CBF1000:                          | 25.400 – 25.450 (1.0000 – 1.0020) | 25.460 (1.0024) |
|          | Caliper piston O.D.   | CBF1000A:                         | 22.585 – 22.618 (0.8892 – 0.8905) | 22.560 (0.8882) |
| CBF1000: |                       | 25.318 – 25.368 (0.9968 – 0.9987) | 25.310 (0.9965)                   |                 |
| Rear     | Specified brake fluid | DOT 4                             | –                                 |                 |
|          | Brake disk thickness  | CBF1000A:                         | 6.0 (0.24)                        | 5.0 (0.20)      |
|          |                       | CBF1000:                          | 5.0 (0.20)                        | 4.0 (0.16)      |
|          | Brake disc runout     | –                                 | 0.30 (0.012)                      |                 |
|          | Master cylinder I.D.  | CBF1000A:                         | 17.460 17.503 (0.6874 0.6891)     | 17.515 (0.6896) |
|          |                       | CBF1000:                          | 14.000 – 14.043 (0.5512 – 0.5529) | 14.055 (0.5533) |
|          | Master piston O.D.    | CBF1000A:                         | 17.417 – 17.444 (0.6857 – 0.6868) | 17.405 (0.6852) |
|          |                       | CBF1000:                          | 13.957 – 13.984 (0.5495 – 0.5506) | 13.945 (0.5490) |
|          | Caliper cylinder I.D. | CBF1000A:                         | 25.400 – 25.450 (1.0000 – 1.0020) | 25.460 (1.0024) |
|          |                       | CBF1000:                          | 38.180 – 38.230 (1.5031 – 1.5051) | 38.24 (1.506)   |
|          | Caliper piston O.D.   | CBF1000A:                         | 25.318 – 25.368 (0.9968 – 0.9987) | 25.310 (0.9965) |
|          |                       | CBF1000:                          | 38.098 – 38.148 (1.4999 – 1.5019) | 38.09 (1.500)   |

## BATTERY/CHARGING SYSTEM SPECIFICATIONS

| ITEM       |                                      | SPECIFICATIONS                         |                |
|------------|--------------------------------------|--|----------------|
| Battery    | Capacity                             | 12 V – 8.6 Ah                          |                |
|            | Current leakage                      | 0.5 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                             | 0.344 kW/5,000 min <sup>-1</sup> (rpm) |                |
|            | Charging coil resistance (20°C/68°F) | 0.1 – 1.0 Ω                            |                |

## IGNITION SYSTEM SPECIFICATIONS

| ITEM                       |       | SPECIFICATIONS                    |
|----------------------------|-------|-----------------------------------|
| Spark plug                 | NGK   | CR8EH-9                           |
|                            | DENSO | U24FER9                           |
| Spark plug gap             |       | 0.80 – 0.90 mm (0.031 – 0.035 in) |
| Ignition coil peak voltage |       | 100 V minimum                     |
| CKP sensor peak voltage    |       | 0.7 V minimum                     |
| Ignition timing ("F" mark) |       | 5° BTDC at idle                   |

## ELECTRIC STARTER SPECIFICATIONS

Unit: mm (in)

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

**GENERAL INFORMATION****LIGHTS/METERS/SWITCHES SPECIFICATIONS**

| ITEM                    |                                     | SPECIFICATIONS |                    |
|-------------------------|-------------------------------------|----------------|--------------------|
| Bulbs                   | Headlight                           | Hi             | 12 V – 55 W        |
|                         |                                     | Lo             | 12 V – 55 W        |
|                         | Position light                      |                | 12 V – 5 W x 2     |
|                         | Brake/tail light                    |                | 12 V – 21/5 W      |
|                         | Turn signal light                   |                | 12 V – 21 W x 4    |
|                         | Instrument light                    |                | LED                |
|                         | Turn signal indicator               |                | LED                |
|                         | High beam indicator                 |                | LED                |
|                         | Oil pressure indicator              |                | LED                |
|                         | Neutral indicator                   |                | LED                |
|                         | Temp. indicator                     |                | LED                |
|                         | Malfunction indicator lamp (MIL)    |                | LED                |
|                         | Immobilizer indicator               |                | LED                |
|                         | ABS indicator (CBF1000A)            |                | LED                |
| Fuse                    | Main fuse                           |                | 30 A               |
|                         | PGM-FI/IGN fuse                     |                | 20 A               |
|                         | Sub fuse                            |                | 10 A x 3, 20 A x 2 |
|                         | ABS main fuse (CBF1000A)            |                | 10 A               |
|                         | ABS fail-safe relay fuse (CBF1000A) |                | 30 A               |
|                         | ABS motor fuse (CBF1000A)           |                | 30 A               |
| 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     |

## STANDARD TORQUE VALUES

| FASTENER TYPE          | TORQUE<br>N·m (kgf·m, lbf·ft) | FASTENER TYPE                              | TORQUE<br>N·m (kgf·m, lbf·ft) |
|------------------------|-------------------------------|--|-------------------------------|
| 5 mm hex bolt and nut  | 5 (0.5, 3.6)                  | 5 mm screw                                 | 4 (0.4, 2.9)                  |
| 6 mm hex bolt and nut  | 10 (1.0, 7)                   | 6 mm screw                                 | 9 (0.9, 6.5)                  |
| 8 mm hex bolt and nut  | 22 (2.2, 16)                  | 6 mm flange bolt (8 mm head, small flange) | 10 (1.0, 7)                   |
| 10 mm hex bolt and nut | 34 (3.5, 25)                  | 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.

### ENGINE

#### MAINTENANCE

| ITEM                        | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS   |
|-----------------------------|------|---------------------|-------------------------------|---|
| Spark plug                  | 4    | 10                  | 16 (1.6, 12)                  | Apply grease to the threads.<br>Apply oil to the threads and<br>O-ring. |
| Timing hole cap             | 1    | 45                  | 18 (1.8, 13)                  |   |
| Engine oil filter cartridge | 1    | 20                  | 26 (2.7, 19)                  |   |
| Oil filter boss             | 1    | 20                  | See page 4-16                 | Apply locking agent.  |
| Engine oil drain bolt       | 1    | 12                  | 30 (3.1, 22)                  |   |

#### LUBRICATION SYSTEM

| ITEM                   | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|------------------------|------|---------------------|-------------------------------|---------|
| Oil pump assembly bolt | 3    | 6                   | 8 (0.8, 5.9)                  | CT bolt |

#### FUEL SYSTEM (PGM-FI)

| ITEM   | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|--|------|---------------------|-------------------------------|---------|
| ECT/thermo sensor                            | 1    | 12                  | 23 (2.3, 17)                  |         |
| Insulator band screw (Throttle<br>body side) | 4    | 5                   | See page 6-72                 |         |
| Insulator band screw (Cylinder<br>head side) | 4    | 5                   | See page 6-67                 |         |
| Fuel rail mounting bolt                      | 4    | 6                   | 5.1 (0.5, 3.8)                |         |

#### COOLING SYSTEM

| ITEM                     | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------|------|---------------------|-------------------------------|---------|
| Coolant drain bolt       | 1    | 6                   | 12 (1.2, 9)                   | CT bolt |
| Water pump assembly bolt | 2    | 6                   | 12 (1.2, 9)                   | CT bolt |

#### ENGINE REMOVAL/INSTALLATION

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

## GENERAL INFORMATION

### CYLINDER HEAD/VALVES

| ITEM                           | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS   |
|--------------------------------|------|---------------------|-------------------------------|---|
| Cylinder head mounting bolt    | 10   | 9                   | 51 (5.2, 38)                  | Apply molybdenum oil solution to the threads and seating surface. |
| Camshaft holder flange bolt    | 20   | 6                   | 12 (1.2, 9)                   |   |
| Cylinder head sealing bolt     | 2    | 18                  | 28 (2.9, 21)                  | Apply locking agent.  |
| Cylinder head cover bolt       | 4    | 6                   | 10 (1.0, 7)                   |   |
| PAIR reed valve cover bolt     | 4    | 6                   | 12 (1.2, 9)                   | Apply locking agent.  |
| Cam sprocket bolt              | 4    | 7                   | 20 (2.0, 15)                  | Apply locking agent.  |
| Cam chain tensioner pivot bolt | 1    | 6                   | 10 (1.0, 7)                   | Apply locking agent.  |
| Cam chain guide torx bolt      | 1    | 6                   | 12 (1.2, 9)                   | Apply locking agent.  |
| Exhaust pipe stud bolt         | 8    | 8                   | See page 3-13                 |   |

### CLUTCH/STARTER CLUTCH

| ITEM   | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS   |
|--|------|---------------------|-------------------------------|---|
| Clutch center lock nut                             | 1    | 25                  | 128 (13.1, 94)                | Apply oil to the threads and seating surface.<br>Stake. |
| Clutch spring bolt                                 | 5    | 6                   | 12 (1.2, 9)                   |   |
| Oil pump driven sprocket bolt                      | 1    | 6                   | 15 (1.5, 11)                  | Apply locking agent.                                    |
| Right crankcase cover rubber damper set plate bolt | 1    | 6                   | 12 (1.2, 9)                   | Apply locking agent.<br>CT bolt                         |
| Starter clutch outer mounting bolt                 | 1    | 10                  | 83 (8.5, 61)                  | Apply oil to the threads and seating surface.           |

### ALTERNATOR

| ITEM                          | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                                       |
|-------------------------------|------|---------------------|-------------------------------|---|
| Stator wire clamp flange bolt | 1    | 6                   | 12 (1.2, 9)                   | CT bolt                                       |
| Flywheel flange bolt          | 1    | 10                  | 103 (10.5, 76)                | Apply oil to the threads and seating surface. |
| Stator mounting socket bolt   | 4    | 6                   | 12 (1.2, 9)                   |   |

### TRANSMISSION/GEARSHIFT LINKAGE

| ITEM                                | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS              |
|-------------------------------------|------|---------------------|-------------------------------|----------------------|
| Transmission holder flange bolt     | 6    | 8                   | 29 (3.0, 21)                  |                      |
| Countershaft bearing set plate bolt | 1    | 6                   | 12 (1.2, 9)                   | Apply locking agent. |
| Mainshaft bearing set plate bolt    | 3    | 6                   | 12 (1.2, 9)                   | Apply locking agent. |
| Shift drum center socket bolt       | 1    | 8                   | 23 (2.3, 17)                  | Apply locking agent. |
| Shift drum stopper arm pivot bolt   | 1    | 6                   | 12 (1.2, 9)                   |                      |
| Gearshift spindle return spring pin | 1    | 8                   | 23 (2.3, 17)                  |                      |
| Shift drum bearing setting bolt     | 2    | 6                   | 12 (1.2, 9)                   | Apply locking agent. |
| Gearshift cam bolt                  | 1    | 6                   | 12 (1.2, 9)                   | Apply locking agent. |

## GENERAL INFORMATION

### CRANKCASE/CRANKSHAFT/BALANCER/PISTON

| ITEM                               | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                                       |
|------------------------------------|------|---------------------|-------------------------------|---|
| Crankcase 7 mm bolt                | 12   | 7                   | 18 (1.8, 13)                  |   |
| 8 mm bolt                          | 6    | 8                   | 24 (2.4, 18)                  |   |
| 9 mm bolt (main journal bolt)      | 10   | 9                   | See page 13-23                |   |
| Lower crankcase sealing bolt       | 1    | 22                  | 59 (6.0, 44)                  | Apply locking agent.                          |
| Lower crankcase socket bolt        | 1    | 10                  | 12 (1.2, 9)                   | Apply locking agent.                          |
| Lower crankcase sealing bolt       | 1    | 20                  | 30 (3.1, 22)                  | Apply locking agent.                          |
| Lower crankcase socket bolt        | 1    | 8                   | 23 (2.3, 17)                  | Apply locking agent.                          |
| Connecting rod bolt (new bolt)     | 8    | 8                   | See page 13-23                | Apply oil to the threads and seating surface. |
| Connecting rod bolt (retightening) | 8    | 8                   | See page 13-13                | Apply oil to the threads and seating surface. |

### ELECTRIC STARTER

| ITEM                       | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|----------------------------|------|---------------------|-------------------------------|---------|
| Starter motor terminal nut | 1    | 6                   | 12 (1.2, 9)                   |         |

### LIGHTS/METERS/SWITCHES

| ITEM                          | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                       |
|-------------------------------|------|---------------------|-------------------------------|-------------------------------|
| EOP switch                    | 1    | PT 1/8              | 12 (1.2, 9)                   | Apply sealant to the threads. |
| EOP switch wire terminal bolt | 1    | 4                   | 2 (0.2, 1.5)                  |                               |
| Neutral switch                | 1    | 10                  | 12 (1.2, 9)                   |                               |

## GENERAL INFORMATION

### FRAME

#### FRAME/BODY PANELS/EXHAUST SYSTEM

| ITEM                               | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|------------------------------------|------|---------------------|-------------------------------|---------|
| Exhaust pipe joint nut             | 8    | 7                   | 20 (2.0, 15)                  |         |
| Side stand pivot bolt              | 1    | 10                  | 15 (1.5, 11)                  |         |
| Side stand pivot nut               | 1    | 10                  | 39 (4.0, 29)                  |         |
| Grab rail mounting bolt            | 4    | 8                   | 27 (2.8, 20)                  |         |
| Front fender mounting bolt (front) | 2    | 6                   | 12 (1.2, 9)                   |         |
| Front fender mounting bolt (rear)  | 2    | 6                   | 12 (1.2, 9)                   |         |
| Rearview mirror mounting bolt      | 4    | 6                   | 14 (1.4, 10)                  |         |

#### MAINTENANCE

| ITEM                          | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|-------------------------------|------|---------------------|-------------------------------|---------|
| Drive chain adjuster lock nut | 2    | 8                   | 21 (2.1, 15)                  |         |

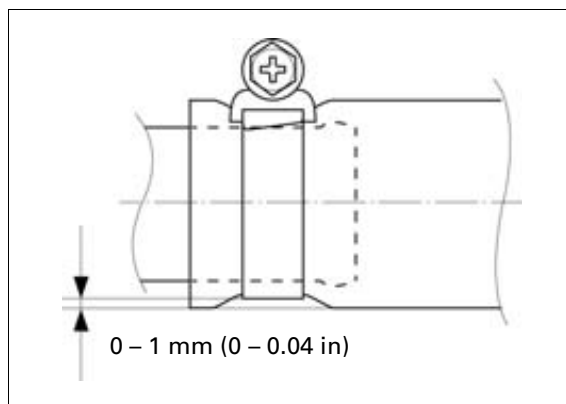
#### FUEL SYSTEM (PGM-FI)

| ITEM                          | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS       |
|-------------------------------|------|---------------------|-------------------------------|---------------|
| Fuel tank rear mounting nut   | 1    | 6                   | 12 (1.2, 9)                   |               |
| Fuel filler cap mounting bolt | 3    | 4                   | 1.8 (0.2, 1.3)                |               |
| Fuel feed hose banjo bolt     | 1    | 12                  | 22 (2.2, 16)                  |               |
| Fuel pump mounting nut        | 6    | 6                   | 12 (1.2, 9)                   |               |
| O <sub>2</sub> sensor         | 1    | 18                  | 44 (4.5, 32)                  | See page 6-56 |

#### COOLING SYSTEM

| ITEM                            | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS              |
|---------------------------------|------|---------------------|-------------------------------|----------------------|
| Cooling fan nut                 | 1    | 5                   | 2.7 (0.3, 2.0)                |                      |
| Fan motor nut                   | 3    | 5                   | 5.1 (0.5, 3.8)                |                      |
| Fan motor bracket mounting bolt | 3    | 6                   | 8.4 (0.9, 6.2)                | Apply locking agent. |

#### Radiator hose band:





**ENGINE REMOVAL/INSTALLATION**

| ITEM                           | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|--------------------------------|------|---------------------|-------------------------------|---------|
| Front engine hanger bolt       | 2    | 12                  | 60 (6.1, 44)                  |         |
| Rear engine hanger nut (upper) | 1    | 12                  | 60 (6.1, 44)                  |         |
| Rear engine hanger nut (lower) | 1    | 12                  | 60 (6.1, 44)                  |         |
| Swingarm pivot bracket nut     | 2    | 12                  | 69 (7.0, 51)                  |         |
| Gearshift arm pinch bolt       | 1    | 6                   | 10 (1.0, 7)                   |         |

**CLUTCH/STARTER CLUTCH**

| ITEM                                       | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                                       |
|--|------|---------------------|-------------------------------|---|
| Clutch lever pivot bolt                    | 1    | 6                   | 1 (0.1, 0.7)                  | Apply silicone grease to the sliding surface. |
| Clutch lever pivot nut                     | 1    | 6                   | 5.9 (0.6, 4.4)                |   |
| Clutch master cylinder holder bolt         | 2    | 6                   | 12 (1.2, 9)                   |   |
| Clutch master cylinder reservoir cap screw | 2    | 4                   | 1.5 (0.2, 1.1)                |   |
| Clutch switch mounting screw               | 1    | 4                   | 1.2 (0.1, 0.9)                |   |
| Clutch hose oil bolt                       | 2    | 10                  | 34 (3.5, 25)                  |   |

**FRONT WHEEL/SUSPENSION/STEERING**

| ITEM                                       | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                   |                      |
|--|------|---------------------|-------------------------------|---------------------------|----------------------|
| Steering stem adjusting lock nut           | 1    | 26                  | See page 14-34                | Apply oil to the threads. |                      |
| Steering stem adjusting nut                | 1    | 26                  | 25 (2.5, 18)                  |                           |                      |
| Steering stem nut                          | 1    | 24                  | 103 (10.5, 76)                |                           |                      |
| Bottom bridge pinch bolt                   | 2    | 10                  | 39 (4.0, 29)                  |                           |                      |
| Top bridge pinch bolt                      | 2    | 8                   | 22 (2.2, 16)                  |                           |                      |
| Fork cap                                   | 2    | 37                  | 22 (2.2, 16)                  |                           |                      |
| Fork cap lock nut                          | 2    | 10                  | 19.6 (2.0, 14)                |                           |                      |
| Fork center bolt                           | 2    | 8                   | 20 (2.0, 15)                  |                           | Apply locking agent. |
| Front axle pinch bolt                      | 2    | 8                   | 22 (2.2, 16)                  |                           |                      |
| Front axle bolt                            | 1    | 14                  | 59 (6.0, 44)                  |                           |                      |
| Front brake disc bolt                      | 12   | 6                   | 20 (2.0, 15)                  | ALOC bolt                 |                      |
| Front pulser ring mounting bolt (CBF1000A) | 3    | 5                   | 7 (0.7, 5.2)                  | ALOC bolt                 |                      |

**REAR WHEEL/SUSPENSION**

| ITEM                                     | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS   |
|--|------|---------------------|-------------------------------|-----------|
| Drive chain case mounting bolt           | 2    | 6                   | 12 (1.2, 9)                   |           |
| Rear axle nut                            | 1    | 18                  | 98 (10.0, 72)                 | U-nut     |
| Rear brake disc bolt                     | 4    | 8                   | 42 (4.3, 31)                  | ALOC bolt |
| Driven sprocket nut                      | 5    | 12                  | 108 (11.0, 80)                |           |
| Shock absorber mounting nut              | 2    | 10                  | 42 (4.3, 31)                  | U-nut     |
| Shock arm nut                            | 2    | 10                  | 42 (4.3, 31)                  | U-nut     |
| Shock link-to-frame nut                  | 1    | 10                  | 42 (4.3, 31)                  | U-nut     |
| Swingarm pivot nut                       | 1    | 18                  | 98 (10.0, 72)                 | U-nut     |
| Drive chain slider screw                 | 2    | 5                   | 6 (0.6, 4.4)                  |           |
| Rear pulse ring mounting bolt (CBF1000A) | 4    | 5                   | 7 (0.7, 5.2)                  | ALOC bolt |
| Gearshift pedal pivot bolt               | 1    | 8                   | 27 (2.8, 20)                  |           |

## GENERAL INFORMATION

### HYDRAULIC BRAKE

| ITEM   | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS  |
|--|------|---------------------|-------------------------------|--|
| Brake hose oil bolt                                |      |                     |                               |  |
| CBF1000A:  | 6    | 10                  | 34 (3.5, 25)                  |  |
| CBF1000:   | 5    | 10                  | 34 (3.5, 25)                  |  |
| Front brake caliper mounting bolt                  | 4    | 8                   | 30 (3.1, 22)                  | ALOC bolt  |
| Caliper bleed valve                                |      |                     |                               |  |
| CBF1000A:  | 5    | 8                   | 5.4 (0.6, 4.0)                |  |
| CBF1000:   | 3    | 8                   | 5.4 (0.6, 4.0)                |  |
| Brake pad pin                                      | 3    | 10                  | 17 (1.7, 13)                  |  |
| Pad pin plug (CBF1000)                             | 2    | 10                  | 2.5 (0.3, 1.8)                |  |
| Front brake caliper slide pin                      |      |                     |                               |  |
| CBF1000A:  | 2    | 10                  | 22 (2.2, 16)                  | Apply locking agent.                             |
| CBF1000:   | 2    | 8                   | 22 (2.2, 16)                  | Apply locking agent.                             |
| Front brake caliper bracket pin                    |      |                     |                               |  |
| CBF1000A:  | 2    | 10                  | 12 (1.2, 9)                   |  |
| CBF1000:   | 2    | 8                   | 12 (1.2, 9)                   |  |
| Rear brake caliper slide pin                       | 1    | 12                  | 27 (2.8, 20)                  |  |
| Rear brake caliper bracket pin<br>(CBF1000A)       | 1    | 8                   | 12 (1.2, 9)                   | Apply locking agent.                             |
| Rear brake caliper bolt (CBF1000)                  | 1    | 8                   | 22 (2.2, 16)                  |  |
| Front master cylinder holder bolt                  | 2    | 6                   | 12 (1.2, 9)                   |  |
| Front master cylinder reservoir<br>cap screw       | 2    | 4                   | 1.5 (0.2, 1.1)                |  |
| Brake lever pivot bolt                             | 1    | 6                   | 1 (0.1, 0.7)                  | Apply silicone grease to the<br>sliding surface. |
| Brake lever pivot nut                              | 1    | 6                   | 5.9 (0.6, 4.4)                |  |
| Front brake light switch screw                     | 1    | 4                   | 1.2 (0.1, 0.9)                |  |
| Rear master cylinder mounting<br>bolt              | 2    | 6                   | 12 (1.2, 9)                   |  |
| Rear master cylinder reservoir<br>hose joint screw | 1    | 4                   | 1.5 (0.2, 1.1)                | Apply locking agent.                             |
| Rear master cylinder push rod<br>lock nut          | 1    | 8                   | 17 (1.7, 13)                  |  |
| Rear master cylinder reservoir<br>mounting bolt    | 1    | 6                   | 10 (1.0, 7)                   |  |
| Front brake hose clamp bolt                        |      |                     |                               |  |
| CBF1000A:  | 4    | 6                   | 10 (1.0, 7)                   |  |
| CBF1000:   | 1    | 6                   | 10 (1.0, 7)                   |  |
| Front brake hose stay mounting<br>bolt (CBF1000A)  | 1    | 6                   | 10 (1.0, 7)                   |  |
| Rear brake hose guide screw                        | 2    | 5                   | 4.2 (0.4, 3.1)                |  |

### ABS (Anti-lock Brake System)

| ITEM  | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS                              |
|---|------|---------------------|-------------------------------|--------------------------------------|
| ABS modulator lower mounting<br>bolt          | 2    | 6                   | 12 (1.2, 9)                   | ALOC bolt                            |
| ABS modulator left mounting bolt              | 1    | 6                   | 10 (1.0, 7)                   |                                      |
| Rear brake pipe stay bolt                     | 1    | 6                   | 12 (1.2, 9)                   |                                      |
| Front brake hose joint bolt                   | 2    | 6                   | 10 (1.0, 7)                   |                                      |
| Front wheel speed sensor mount-<br>ing bolt   | 2    | 6                   | 10 (1.0, 7)                   |                                      |
| Rear wheel speed sensor mount-<br>ing bolt    | 2    | 6                   | 10 (1.0, 7)                   |                                      |
| Speed sensor wire clamp bolt                  | 2    | 6                   | 10 (1.0, 7)                   | ALOC bolt                            |
| Brake pipe joint nut                          | 12   | 10                  | 17 (1.7, 13)                  | Apply brake fluid to the<br>threads. |
| Proportional control valve mount-<br>ing bolt | 2    | 6                   | 12 (1.2, 9)                   |                                      |

## GENERAL INFORMATION

### LIGHTS/METERS/SWITCHES

| ITEM                          | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS      |
|-------------------------------|------|---------------------|-------------------------------|--------------|
| Ignition switch mounting bolt | 2    | 8                   | 25 (2.5, 18)                  | One-way bolt |
| License light mounting nut    | 2    | 5                   | 1.8 (0.2, 1.3)                |              |
| Horn mounting bolt            | 1    | 8                   | 32 (3.3, 24)                  |              |

### OTHERS

| ITEM                                | Q'TY | THREAD<br>DIA. (mm) | TORQUE<br>N·m (kgf·m, lbf·ft) | REMARKS |
|-------------------------------------|------|---------------------|-------------------------------|---------|
| Footpeg holder mounting bolt        | 4    | 8                   | 27 (2.8, 20)                  |         |
| Footpeg lower plate bolt            | 4    | 5                   | 5 (0.5, 3.7)                  |         |
| Footpeg holder guard mounting nut   | 4    | 6                   | 12 (1.2, 9)                   |         |
| Gearshift pedal link pivot bolt     | 1    | 8                   | 27 (2.8, 20)                  |         |
| License light mounting nut          | 2    | 5                   | 1.8 (0.2, 1.3)                |         |
| Front center cowl stay mounting nut | 2    | 8                   | 27 (2.8, 20)                  |         |
| Side cowl stay mounting bolt        | 4    | 8                   | 32 (3.3, 24)                  |         |

## GENERAL INFORMATION

# LUBRICATION & SEAL POINTS

## ENGINE

| MATERIAL   | LOCATION   | REMARKS   |
|--|--|---|
| Liquid sealant<br>(Three Bond 1207B or equivalent)   | Crankcase mating surface<br>Oil pan mating surface<br>Right crankcase cover mating surface<br>Alternator cover mating surface<br>Oil pressure switch threads   | See page 13-23<br>See page 5-7<br>See page 10-33<br>See page 11-5<br>See page 21-19 |
| Liquid sealant<br>(Three Bond 5211C or equivalent)   | Cylinder head semi-circular cut-out  | See page 9-31   |
| Molybdenum disulfide oil (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease) | Main journal bearing surface<br>Piston pin sliding surface<br>Connecting rod bearing surface<br>Connecting rod small end inner surface<br>Crankshaft thrust surface<br>Camshaft lobes, journals and thrust surface<br><br>Valve stem (valve guide sliding surface)<br>Valve lifter outer sliding surface<br>Clutch outer/primary driven gear sliding surface<br>Clutch outer guide sliding surface<br>Oil pump drive sprocket and collar sliding surface<br>M3/4, C5, C6 shifter gear (shift fork grooves)<br>Starter reduction gear shaft sliding surface<br>Starter idle gear shaft sliding surface<br>Water pump shaft thrust washer sliding surface<br>Cylinder head mounting bolt threads and seating surface | Do not apply mating surface of the camshaft holder                                  |
| Engine oil   | Clutch joint piece sliding surface<br>Clutch lifter rod outer surface<br>Piston and piston ring sliding surface<br>Oil strainer packing whole surface<br>Clutch disc whole surface<br>Starter one-way clutch sliding surface<br>Flywheel bolt threads and seating surface<br>Clutch center lock nut threads and seating surface<br>Oil filter cartridge threads and O-ring surface<br>Camshaft holder bolt threads and seating surface<br>Starter clutch mounting bolt threads and seating surface<br>Connecting rod bolt threads and seating surface<br>Each gear teeth and rotating surface<br>Each bearing rolling surface<br>Each O-ring whole surface<br>Other rotating area and sliding surface              |   |
| Multi-purpose grease   | Timing hole cap threads<br>Balancer damper rubber fitting area<br>Each oil seal lips   |   |

**GENERAL INFORMATION**

| <b>MATERIAL</b> | <b>LOCATION</b>  | <b>REMARKS</b>  |
|-----------------|--|---|
| Locking agent   | Gearshift spindle cover bolt threads<br>Lower crankcase 22 mm sealing bolt threads<br>Lower crankcase 20 mm sealing bolt threads<br>Lower crankcase 10 mm sealing bolt threads<br>Lower crankcase 8 mm sealing bolt threads<br>Cam chain guide A pivot bolt threads<br>Cylinder head sealing bolt threads<br>Cylinder head cover breather joint threads<br>Oil pump driven sprocket bolt threads<br>Shift drum bearing setting bolt threads<br>Oil filter boss threads (stud side)<br>Right crankcase cover damper rubber plate bolt threads<br>Mainshaft/countershaft bearing set plate bolt threads<br>Cam sprocket bolt threads<br>Shift drum center bolt threads<br>Cam chain tensioner pivot bolt threads<br>Gearshift cam bolt threads | See page 12-10<br><br><br><br><br><br><br><br><br><br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm<br><br>Coating width: 6.5 ± 1 mm<br><br><br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm<br>Coating width: 6.5 ± 1 mm |

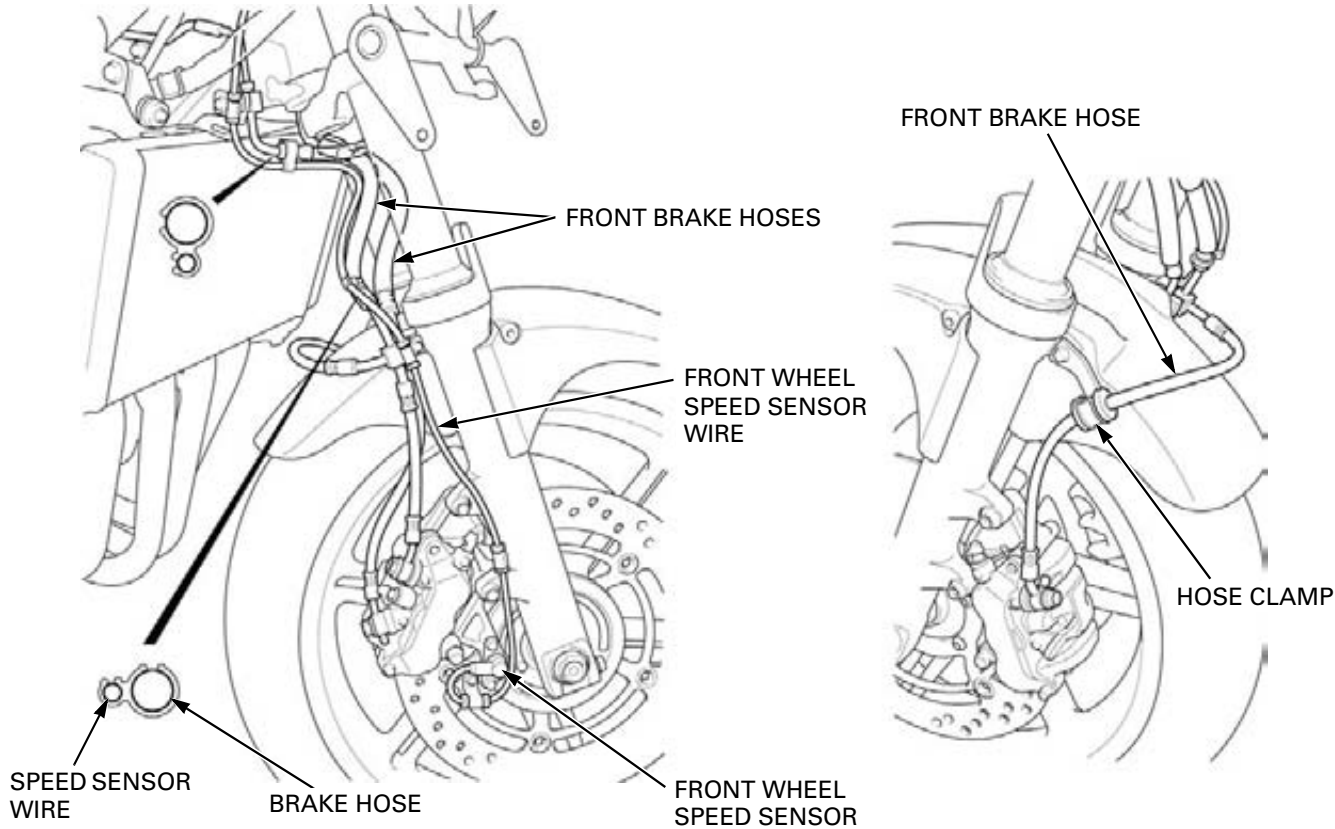
## GENERAL INFORMATION

### FRAME

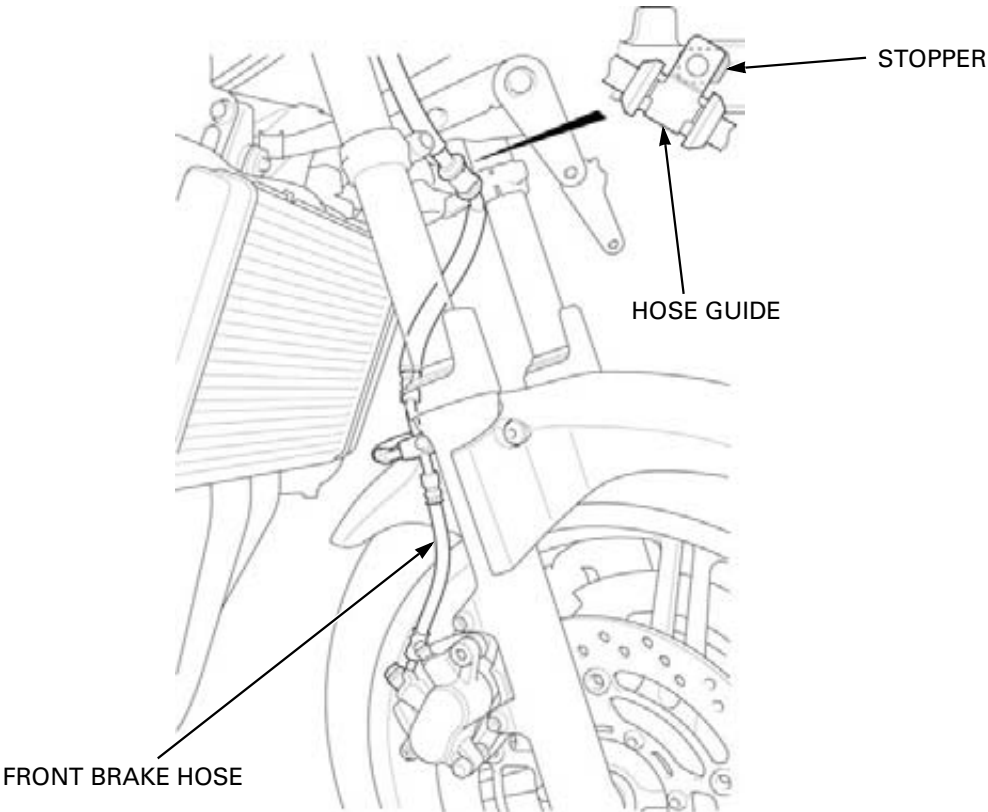
| MATERIAL  | LOCATION  | REMARKS  |
|---|---|--|
| Multi-purpose grease  | Side stand pivot sliding area<br>Center stand pivot sliding area<br>Throttle cable end<br>Driver footpeg sliding area<br>Passenger footpeg sliding area<br>Gearshift pedal pivot sliding area<br>Rear brake pedal pivot sliding area<br>Rear wheel hub O-ring and sleeve (driven flange contact area)<br>Front wheel dust seal lips<br>Rear wheel dust seal lips  |  |
| Lithium based multi-purpose grease with extreme pressure (Shell Alvania EP2 or equivalent)  | Swingarm pivot bearings<br>Swingarm pivot dust seal lips<br>Shock arm and shock link needle bearings<br>Shock arm and shock link dust seal lips<br>Shock absorber pivot dust seal lips<br>Shock absorber pivot needle bearing   |  |
| Urea based multi-purpose grease with extreme pressure agent (example: EXCELITE EP2 manufactured by KYODO YUSHI, Japan), Shell Stamina EP2 or equivalent | Upper and lower steering head bearing<br>Steering head dust seal lips   | Apply 3 – 5 g each   |
| Molybdenum paste  | Shock absorber spring adjuster cam sliding area   |  |
| Engine oil  | Steering head bearing adjusting nut threads   |  |
| Cable lubricant   | Throttle cable A, B casing inside   |  |
| Honda bond A, Honda hand grip cement, Cemedine #540 or equivalent   | Handlebar grip rubber inside  |  |
| Silicone grease   | Brake caliper main and sub slide pin sliding surfaces<br>Brake caliper pin boot inside<br>Front brake lever pivot<br>Front brake lever-to-master piston contact area<br>Rear master cylinder push rod-to-master piston contact area<br>Rear master cylinder push rod boot inside<br>Brake caliper dust seal<br>Clutch lever pivot and master piston contact area<br>Clutch lever joint piece-to-push rod contact area | Apply 0.4 g each<br><br>Apply 0.1 g min.<br>Apply 0.1 g min. |
| DOT 4 brake fluid   | Master cylinder inner surface<br>Brake master pistons and cups<br>Brake caliper pistons and piston seals  |  |
| Fork fluid  | Fork cap O-ring<br>Fork dust seal and oil seal lips   |  |
| Locking agent   | Rear master cylinder reservoir hose joint screw threads<br>Fork socket bolt threads<br>Front brake caliper main and sub slide pin bolt threads<br>Rear brake caliper sub slide pin bolt threads   |  |

# CABLE & HARNESS ROUTING

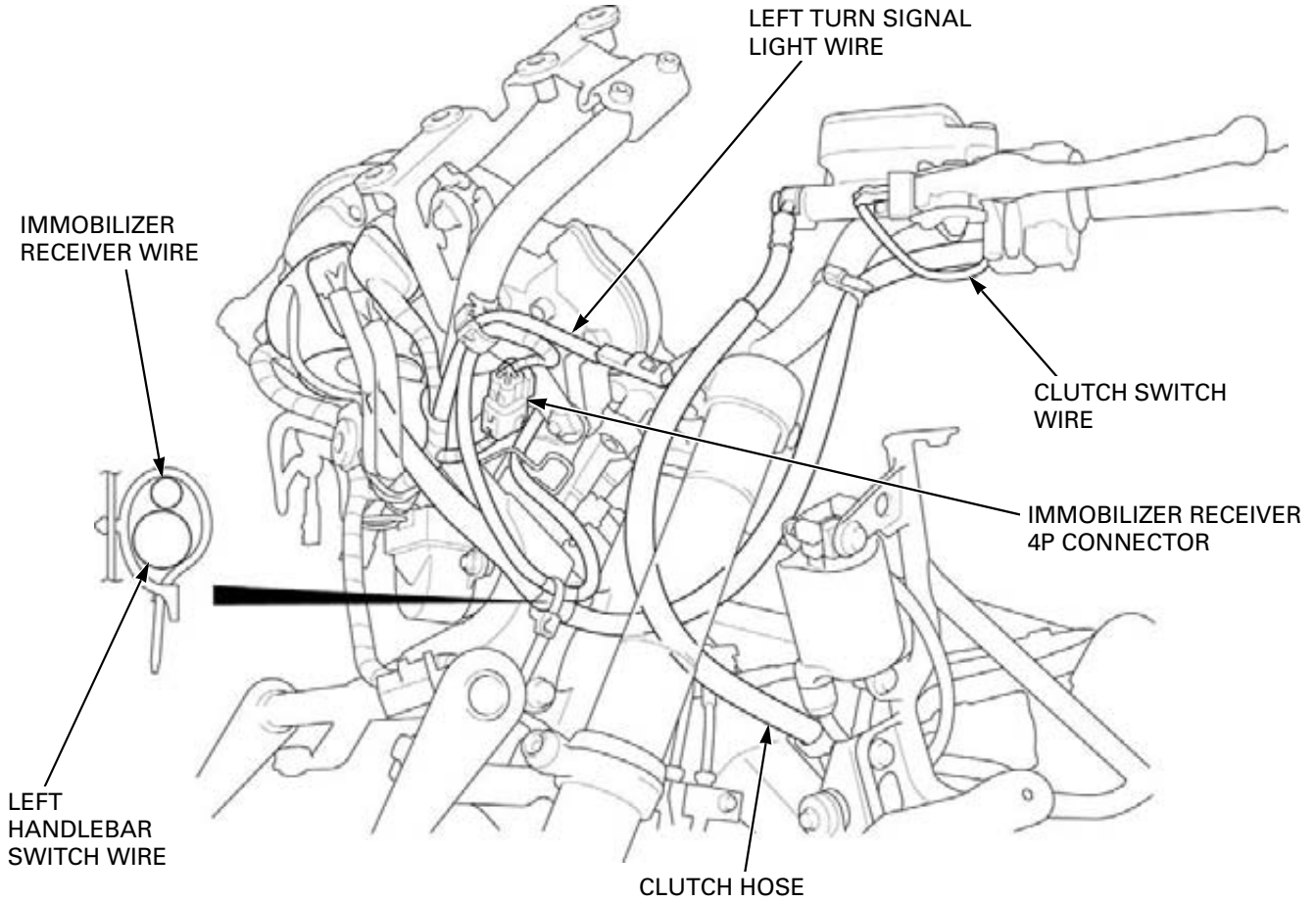
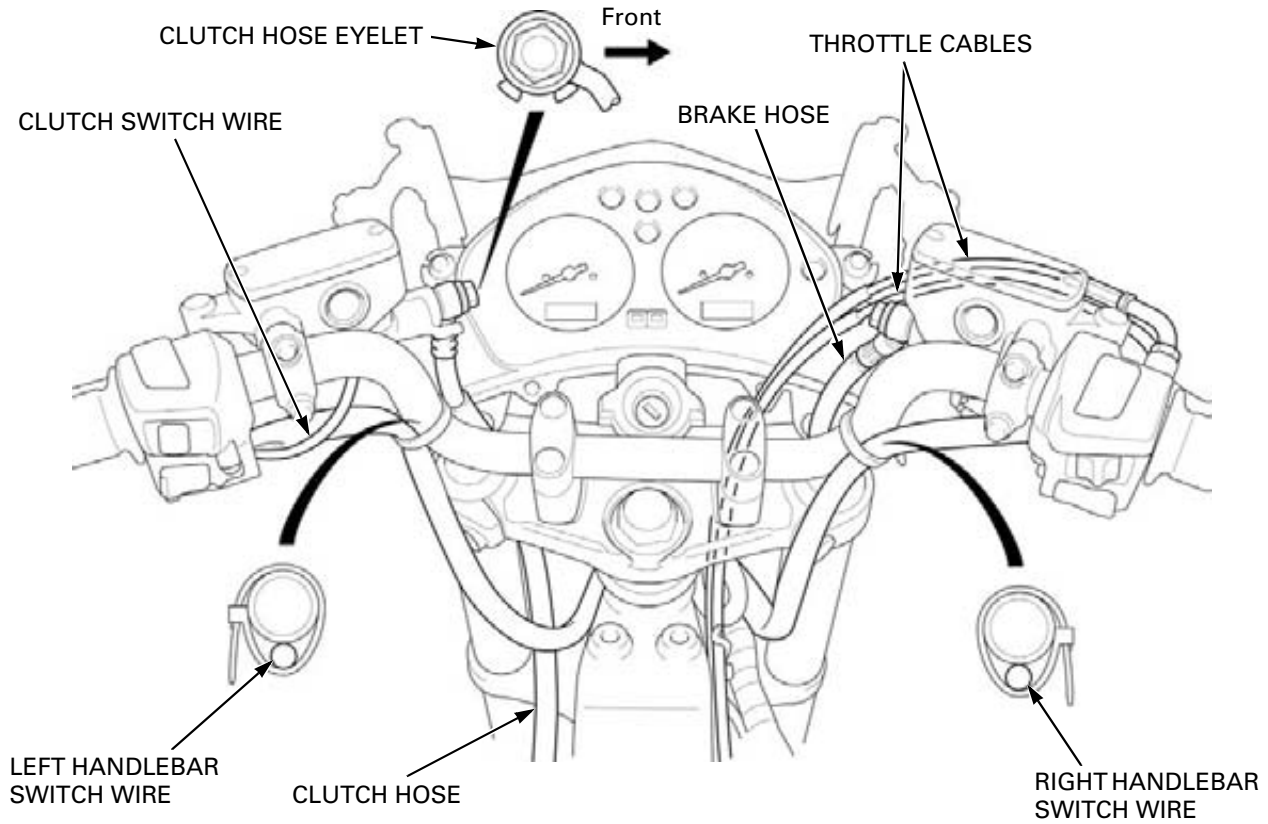
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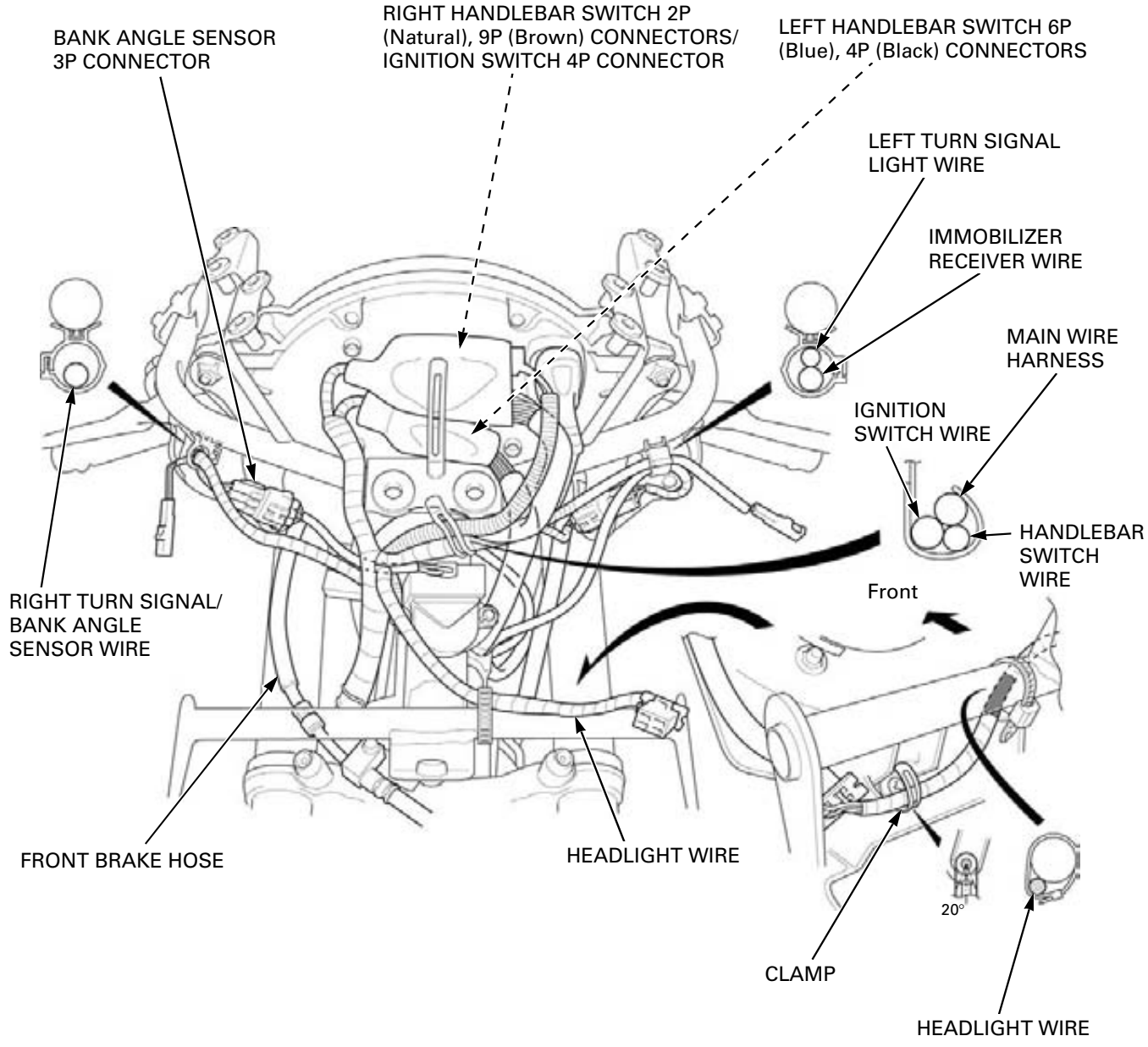
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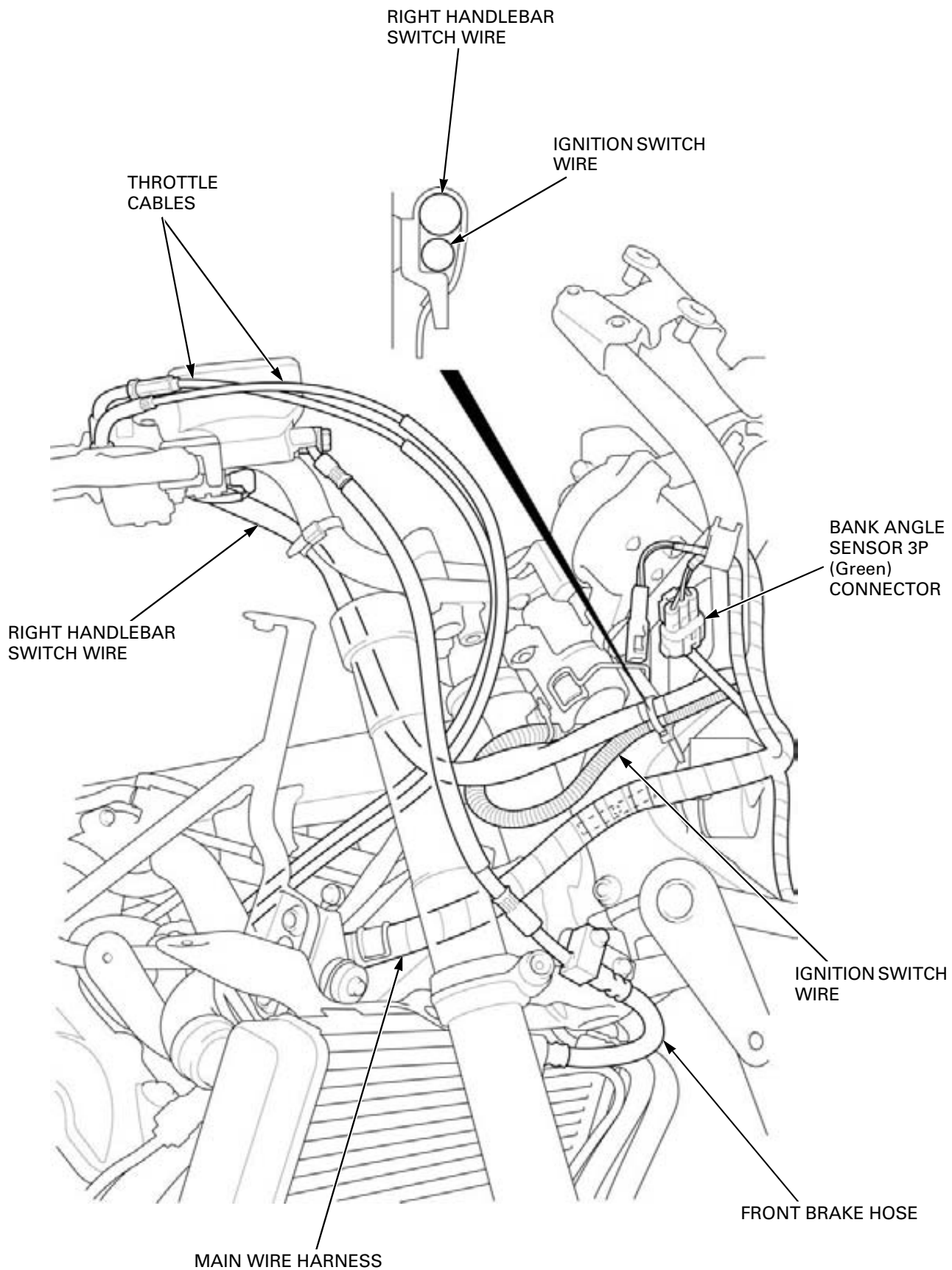




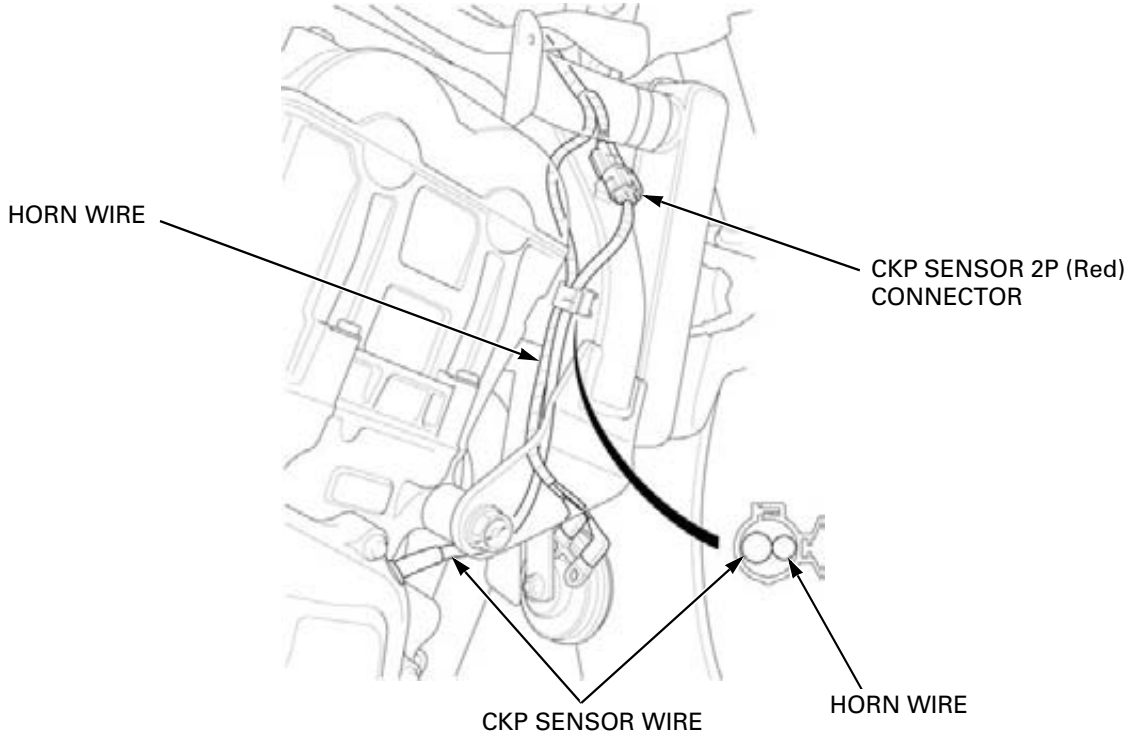
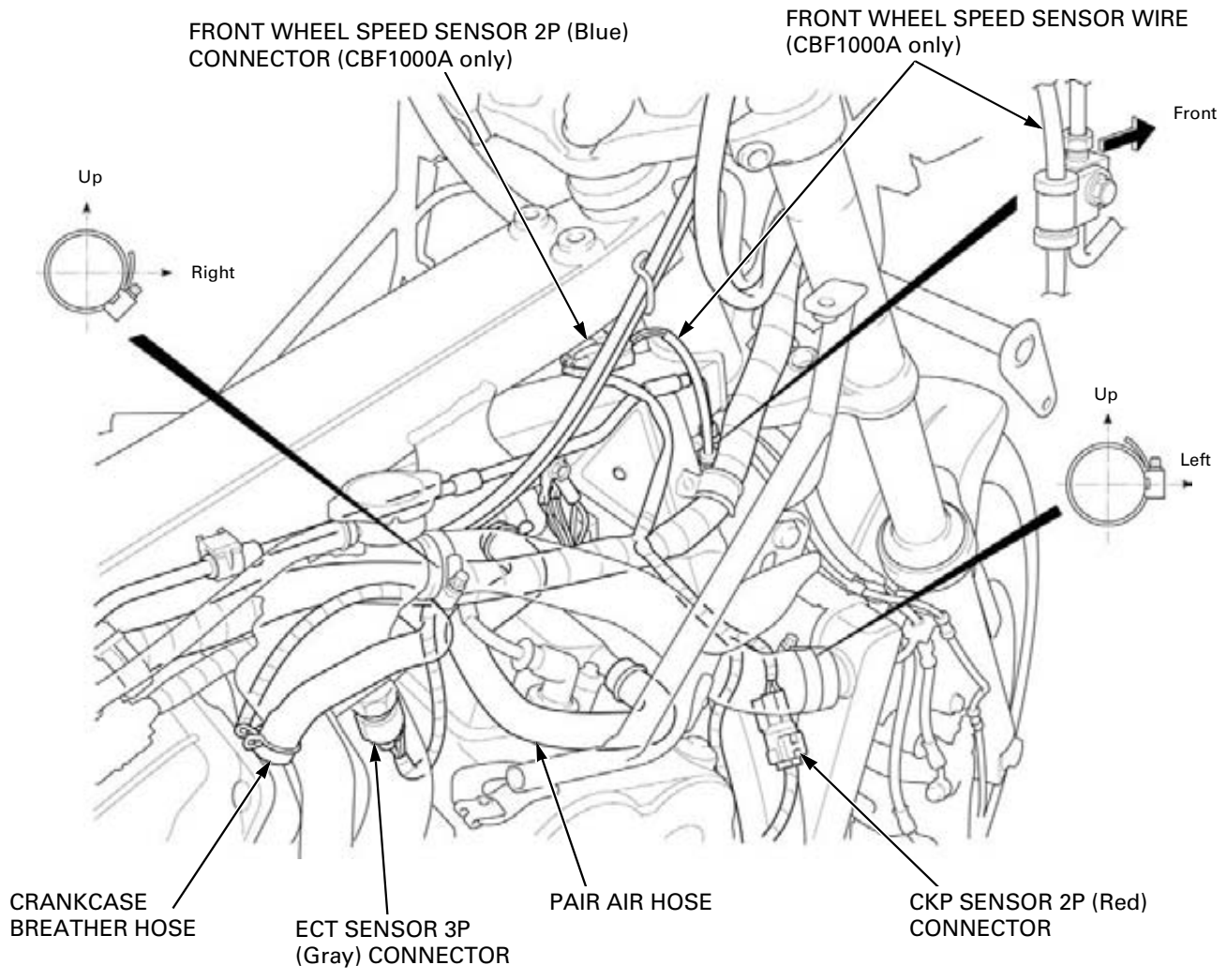


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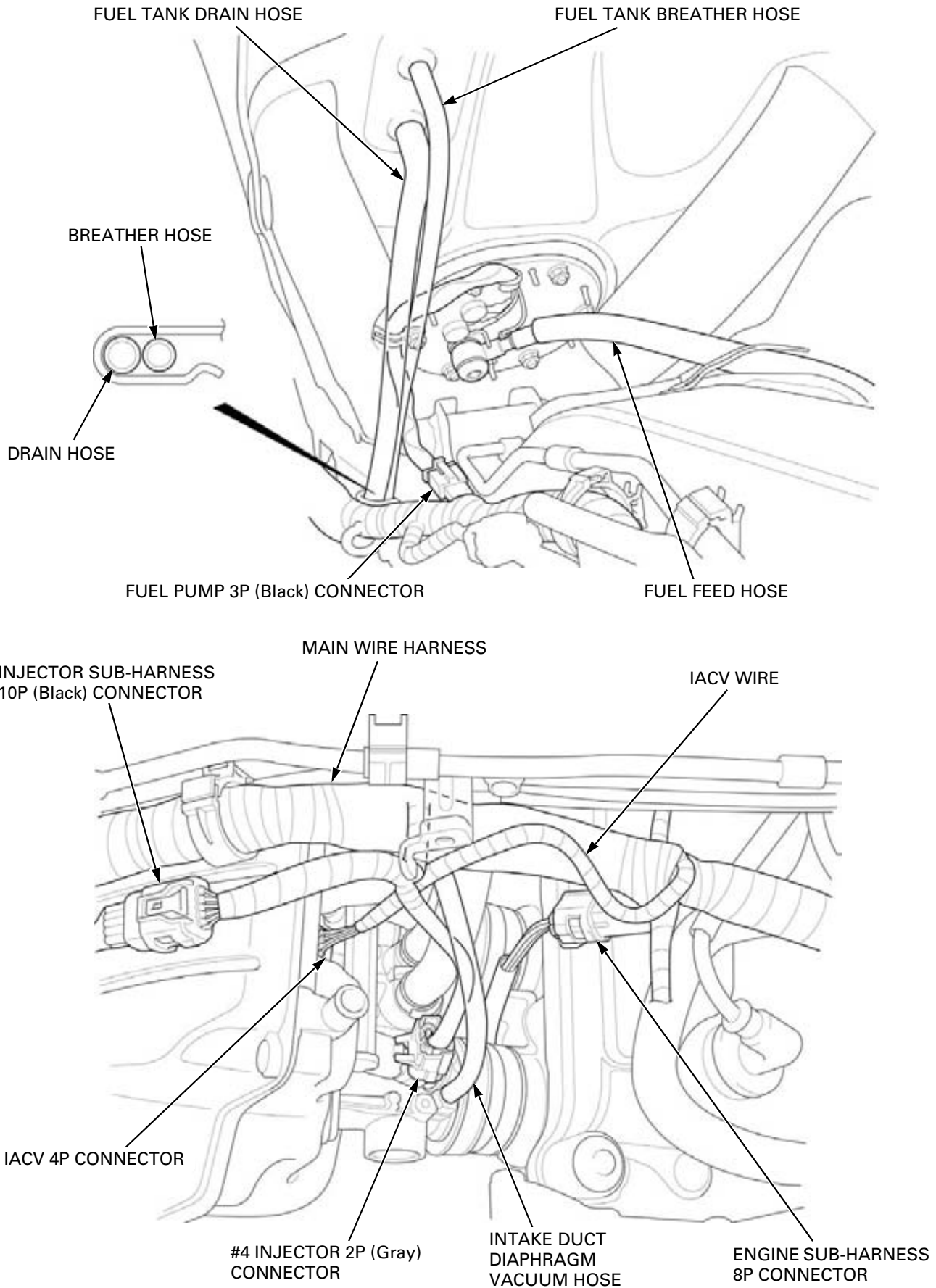
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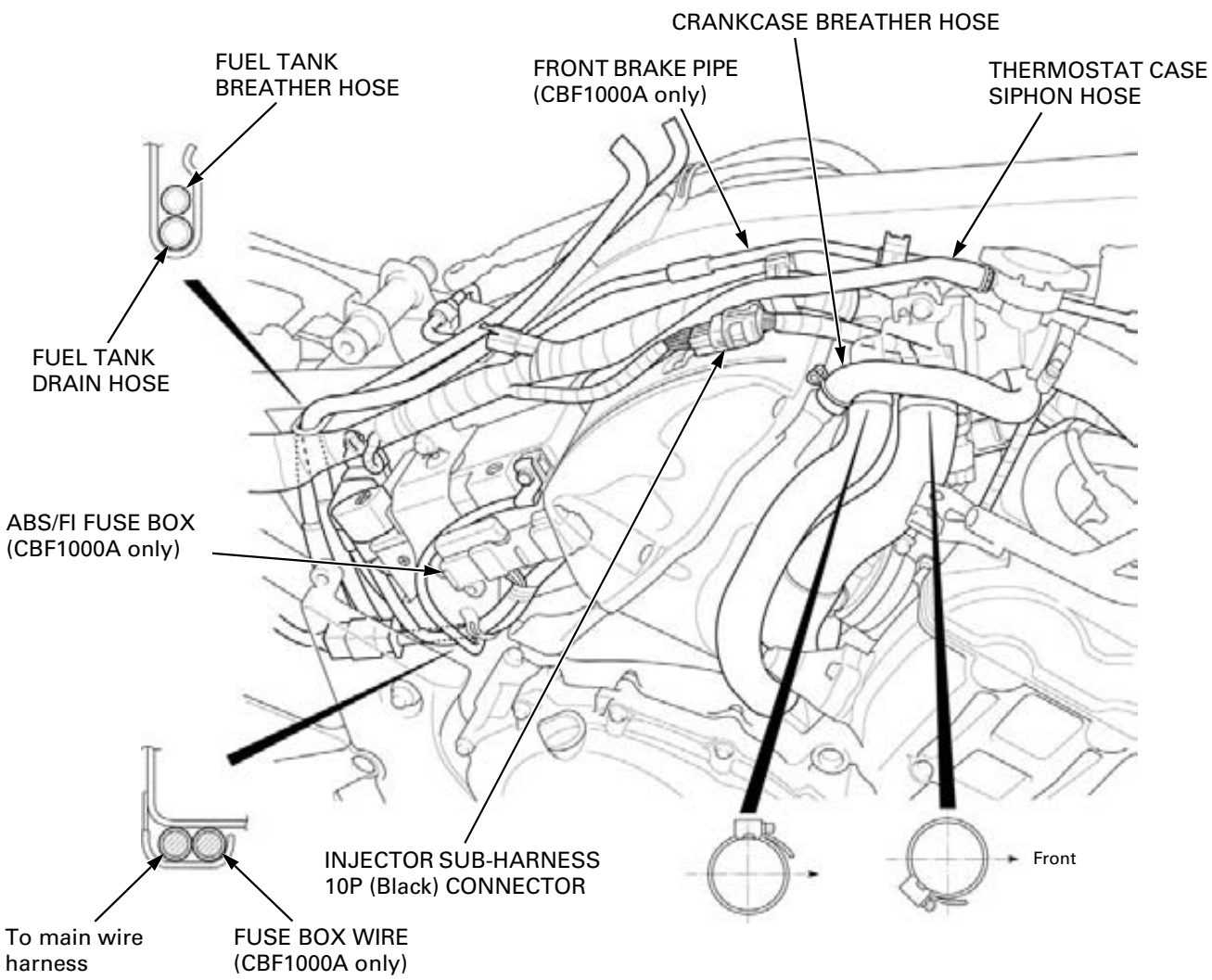


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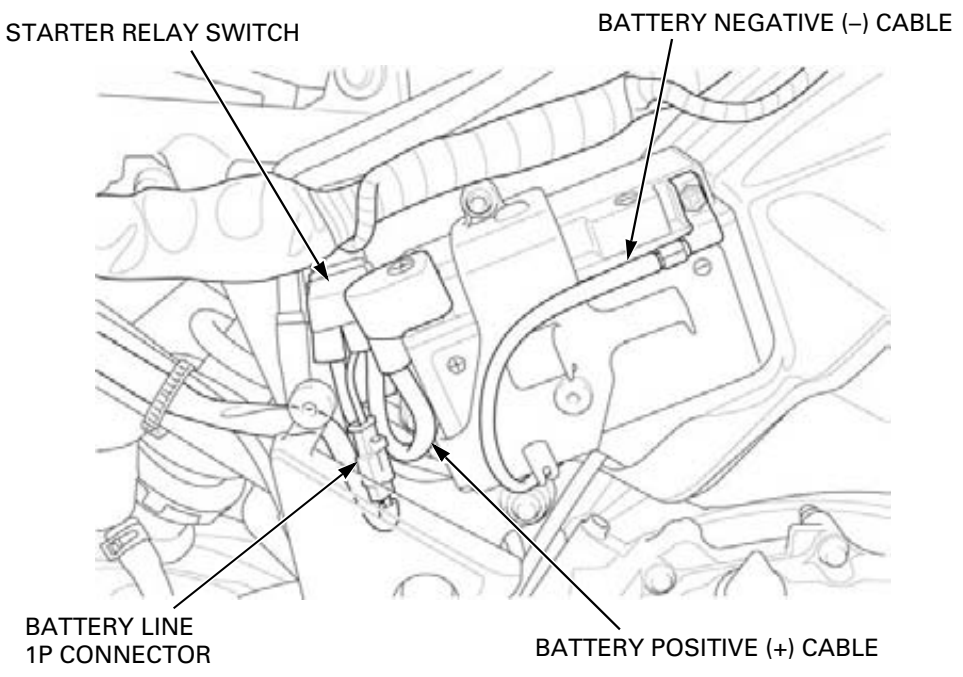


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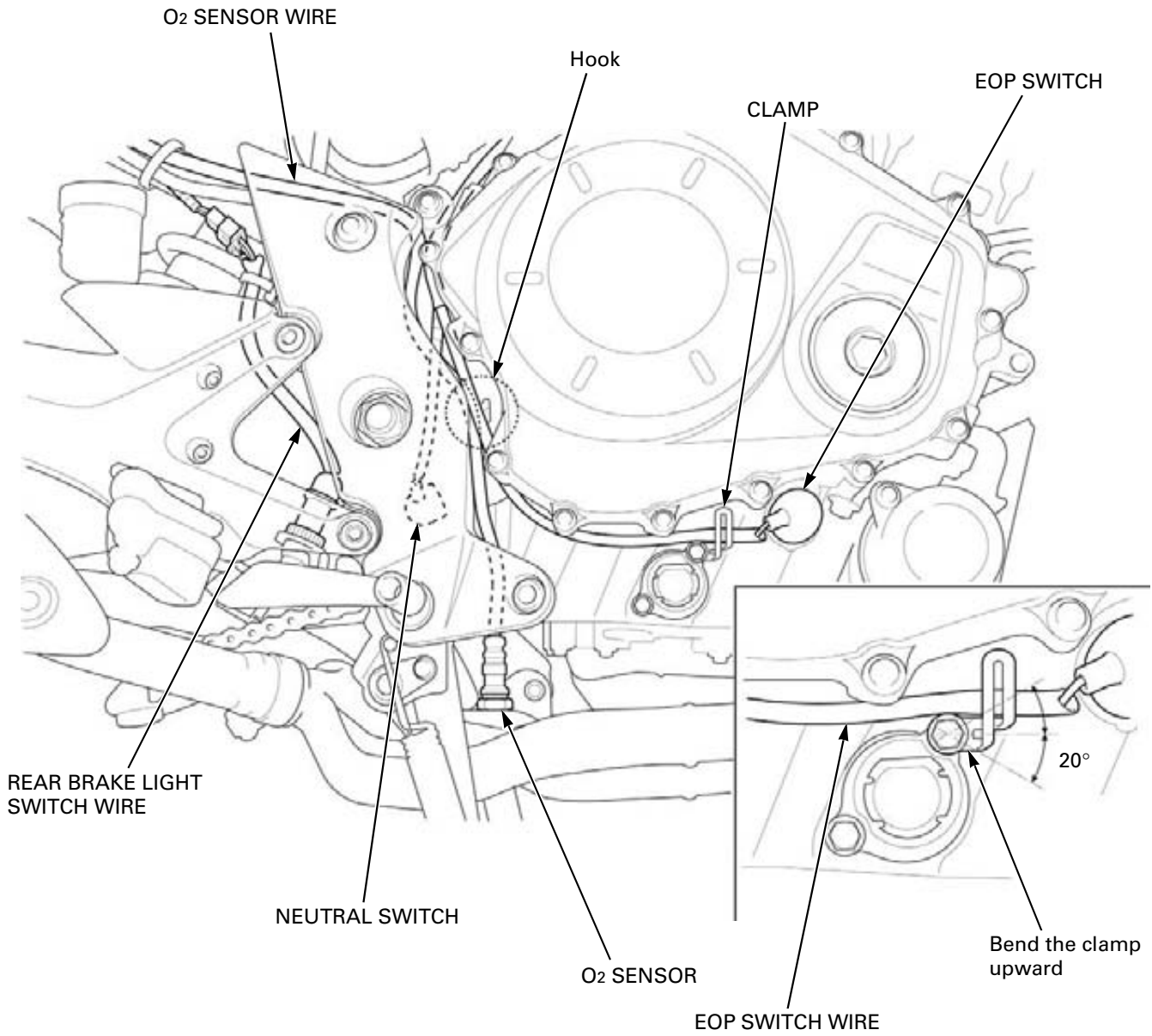


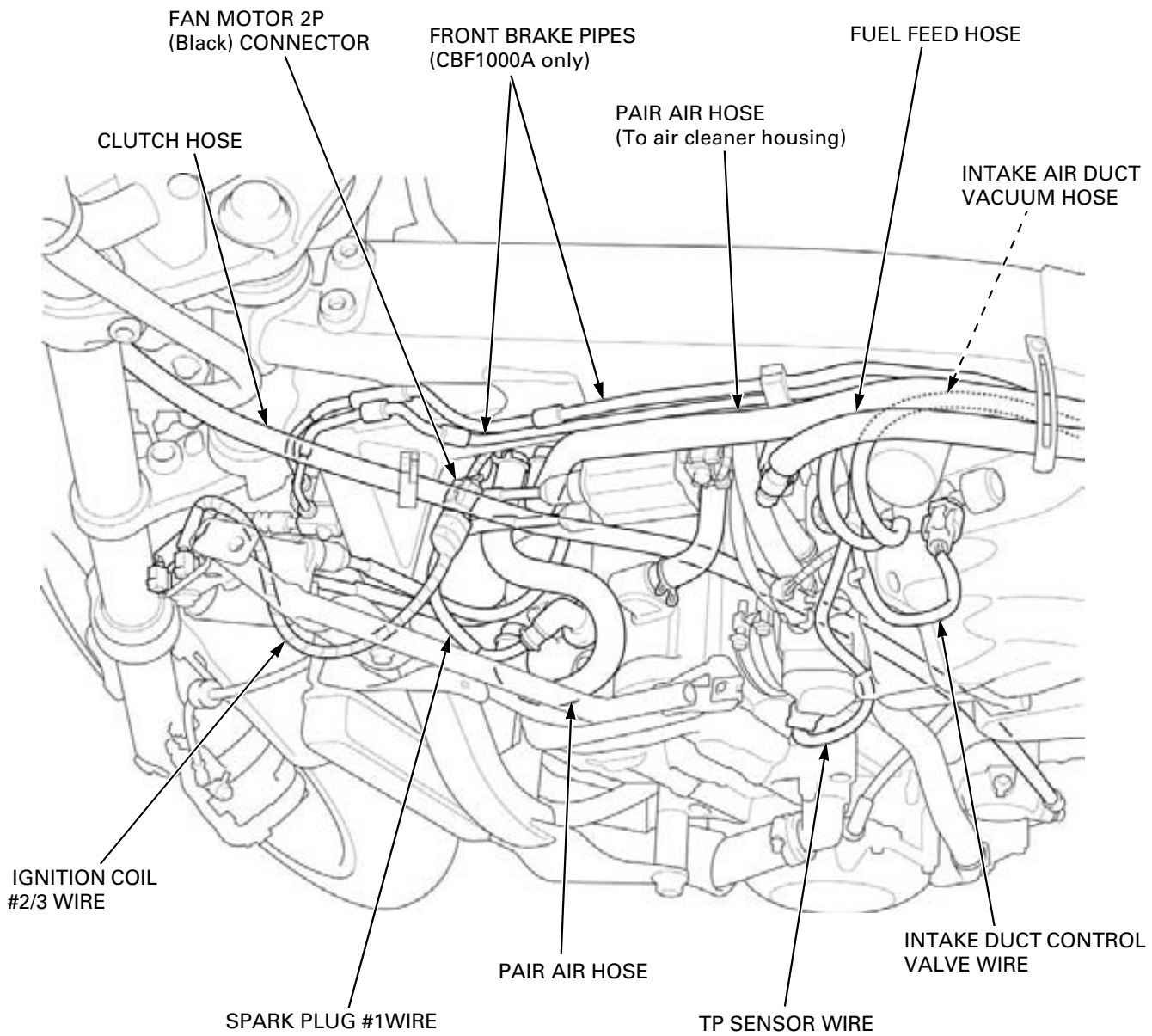


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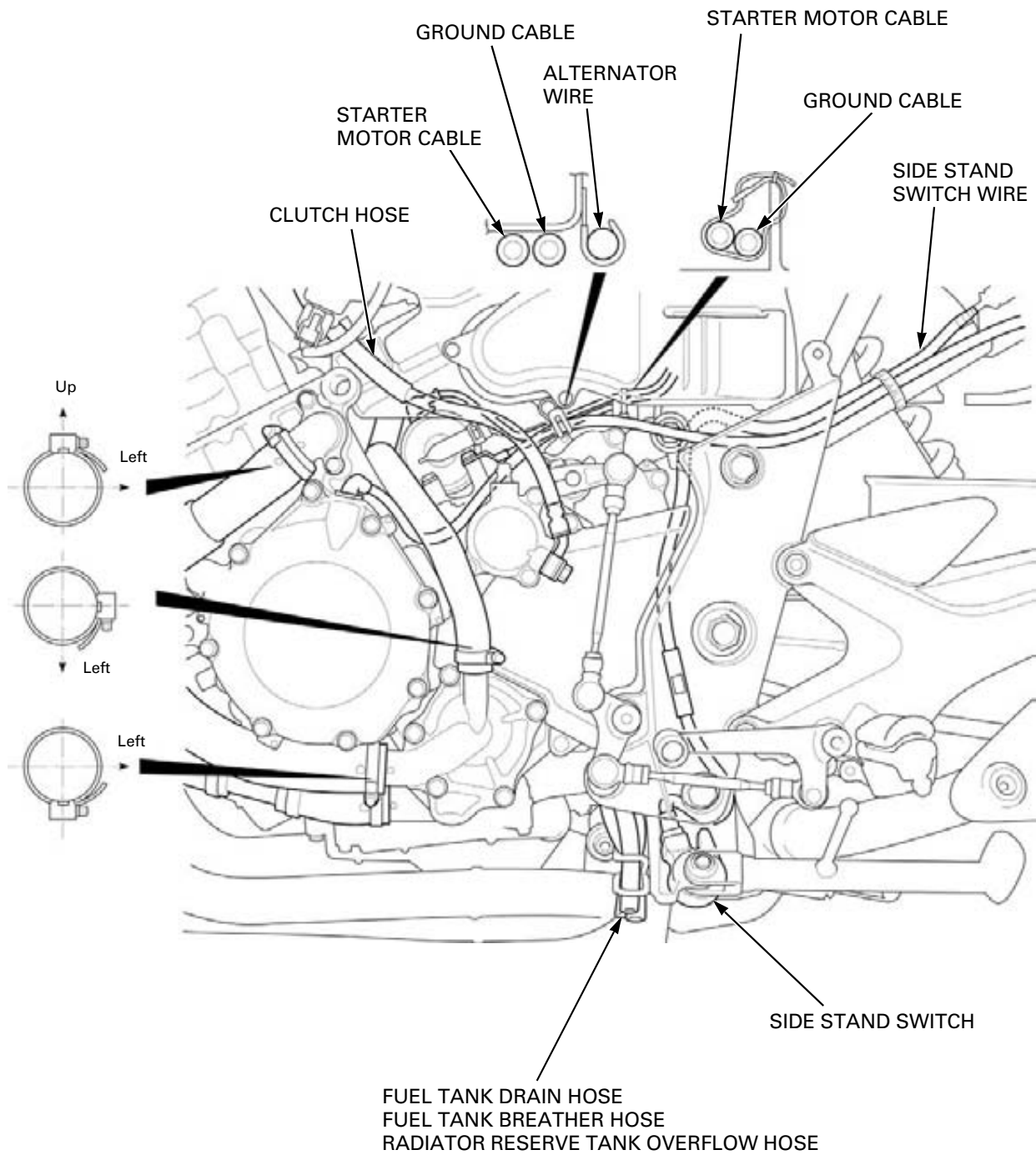


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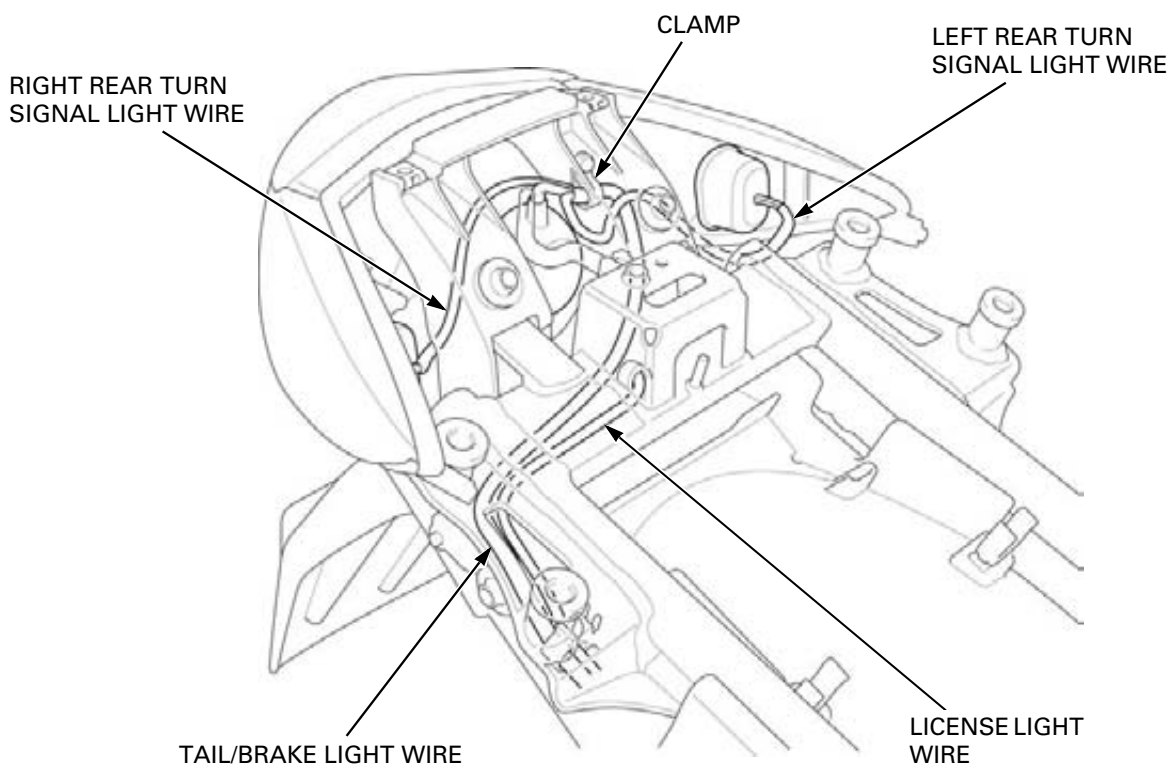
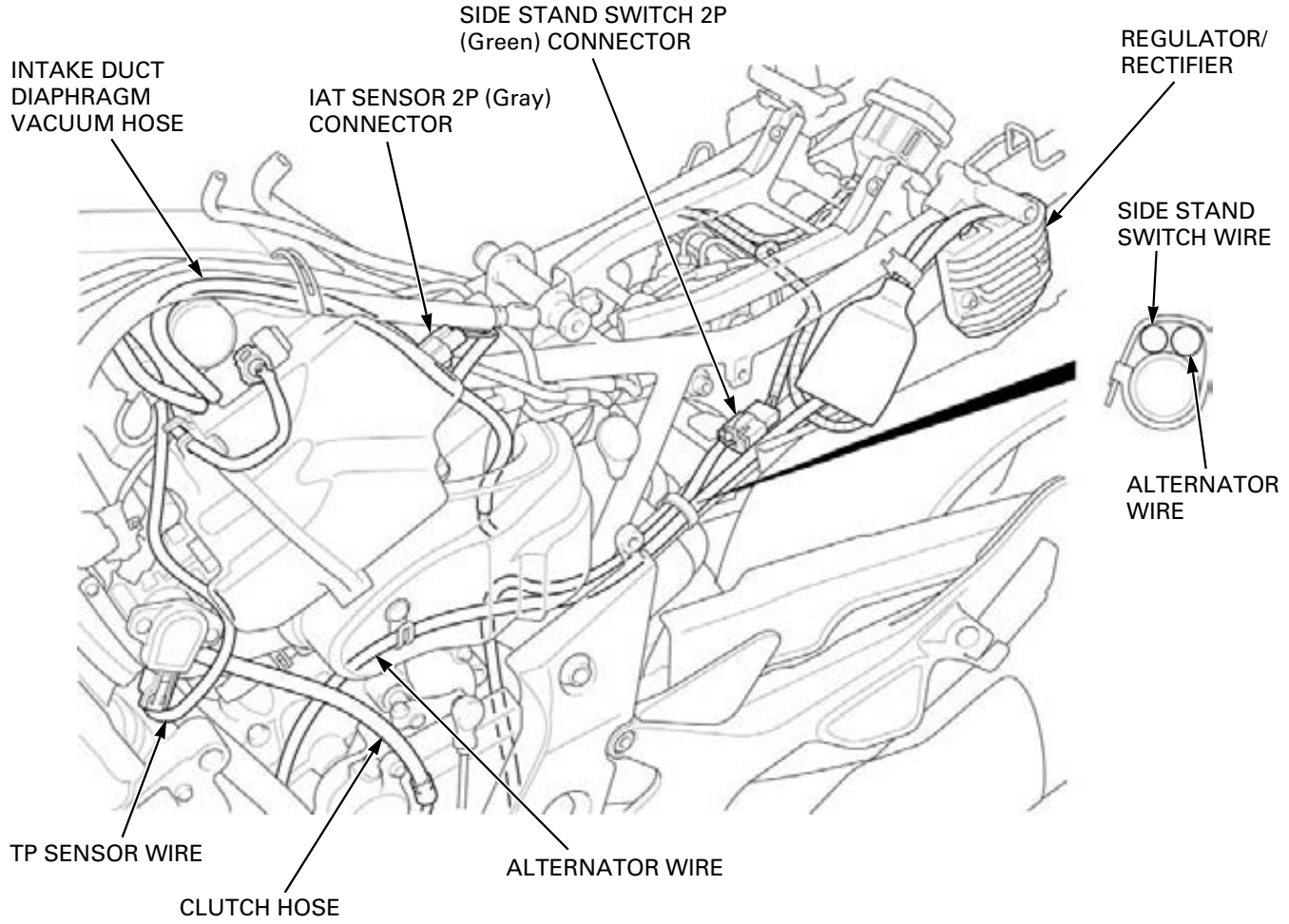




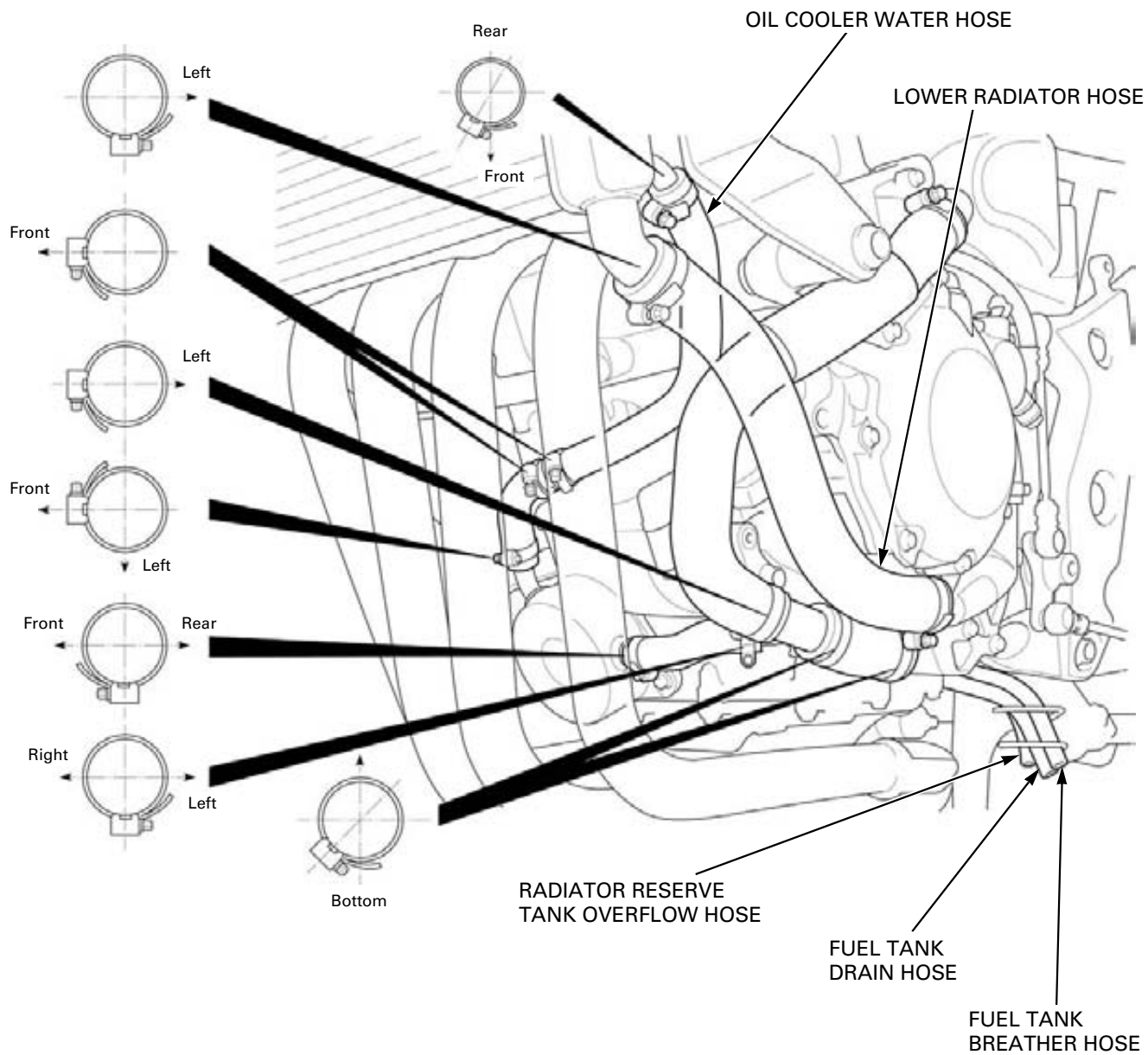
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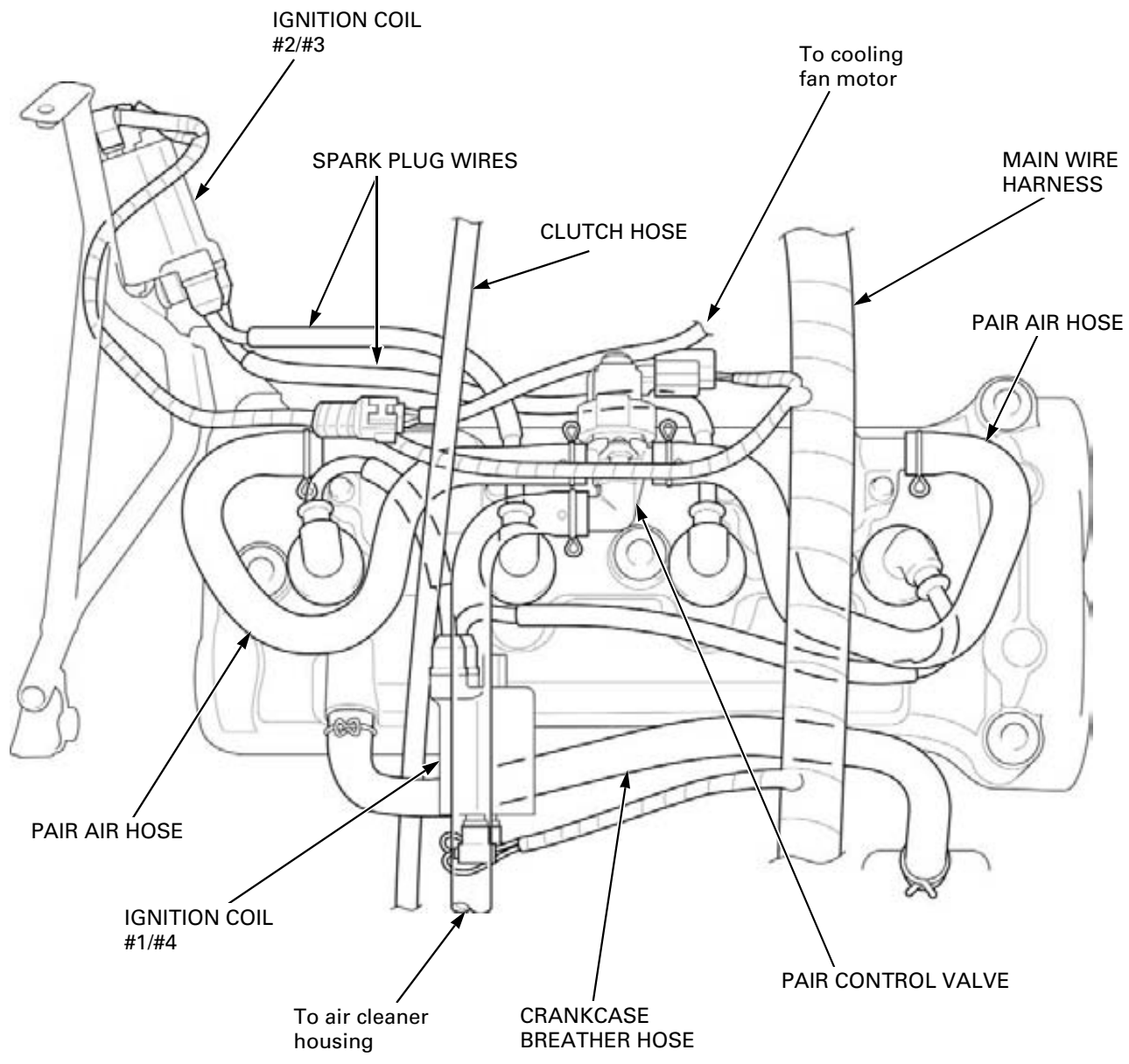






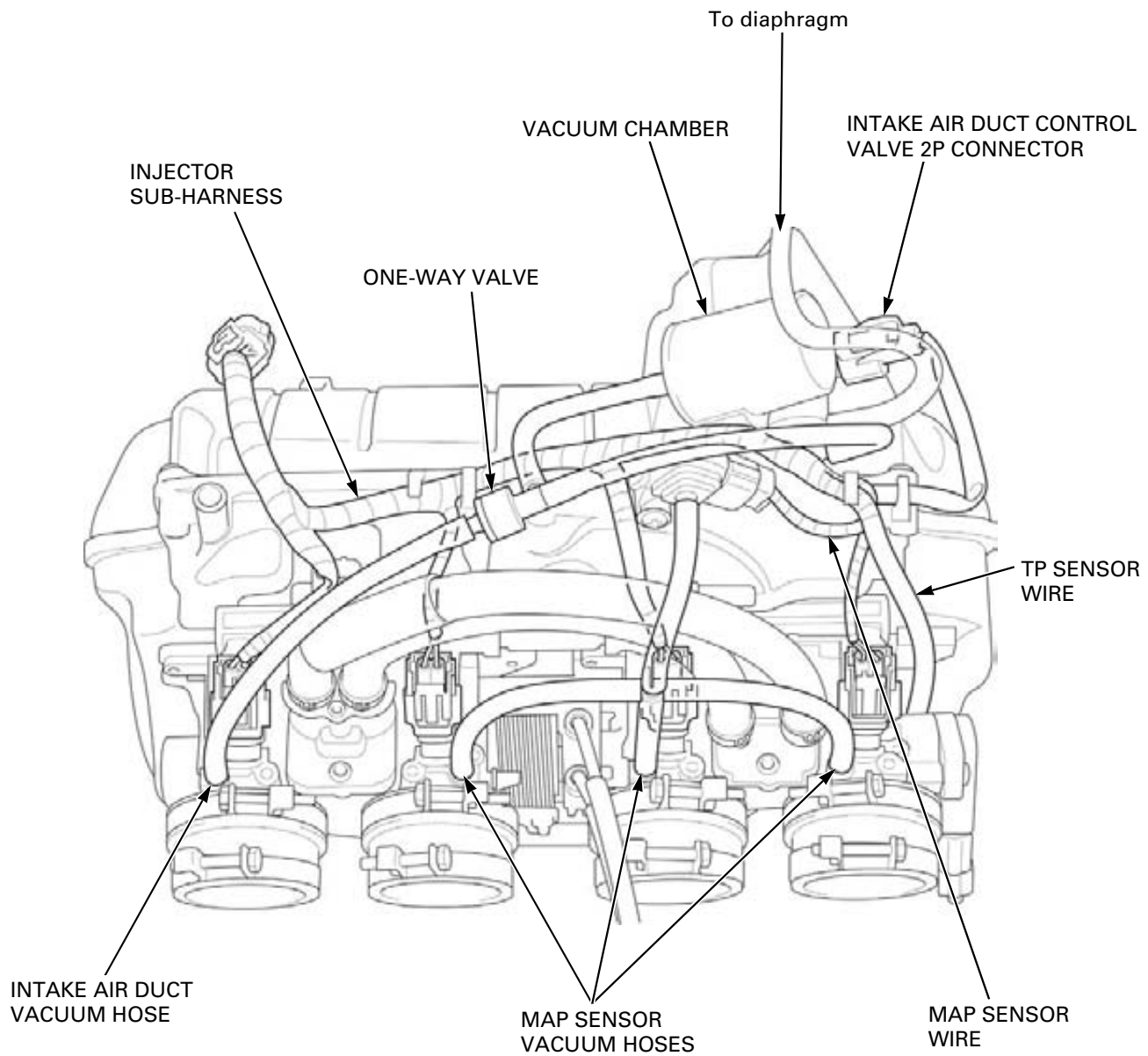
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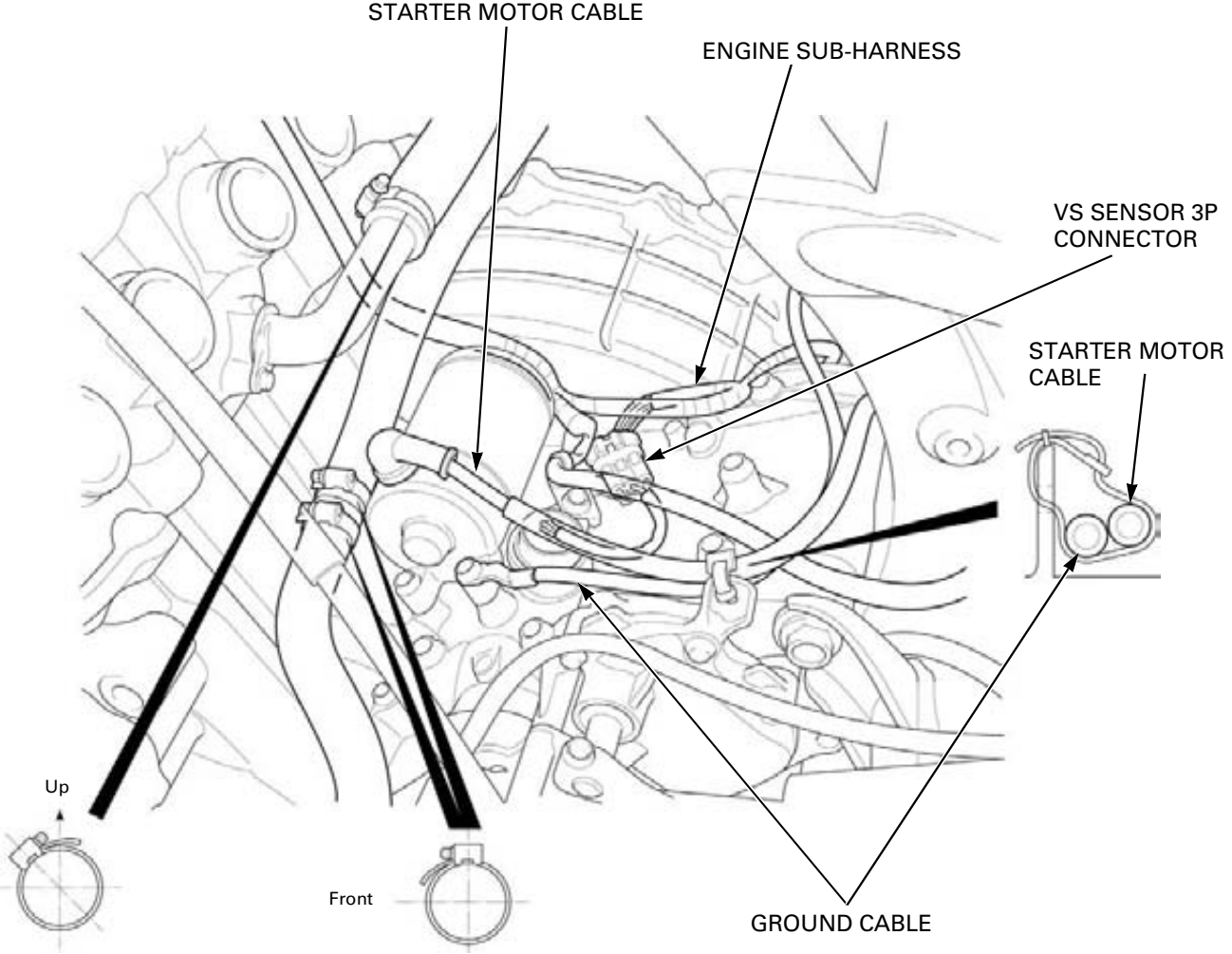




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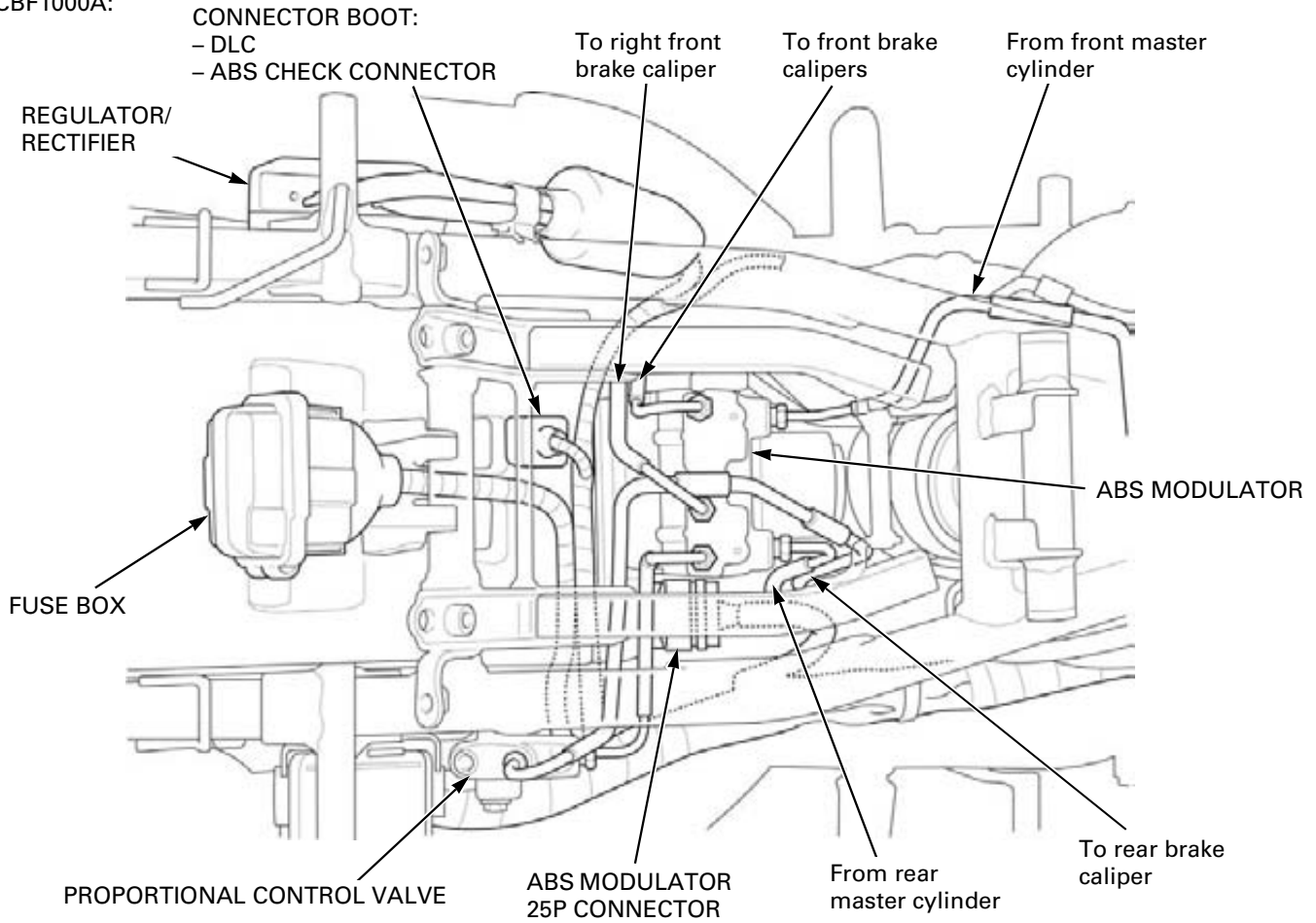
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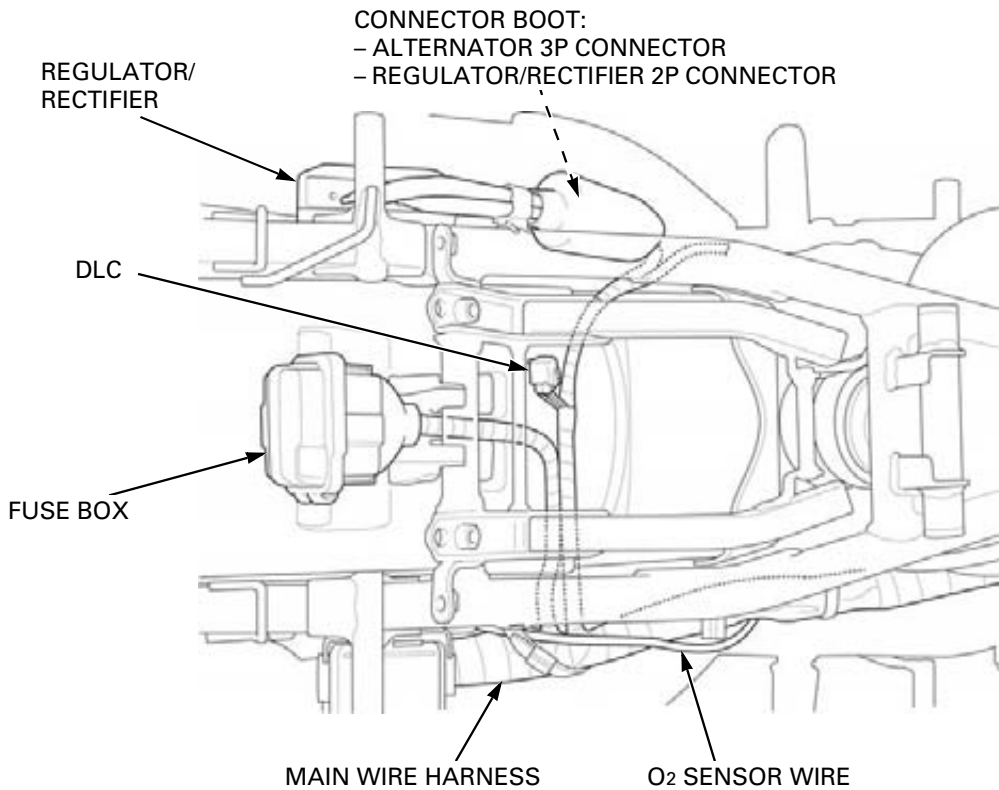


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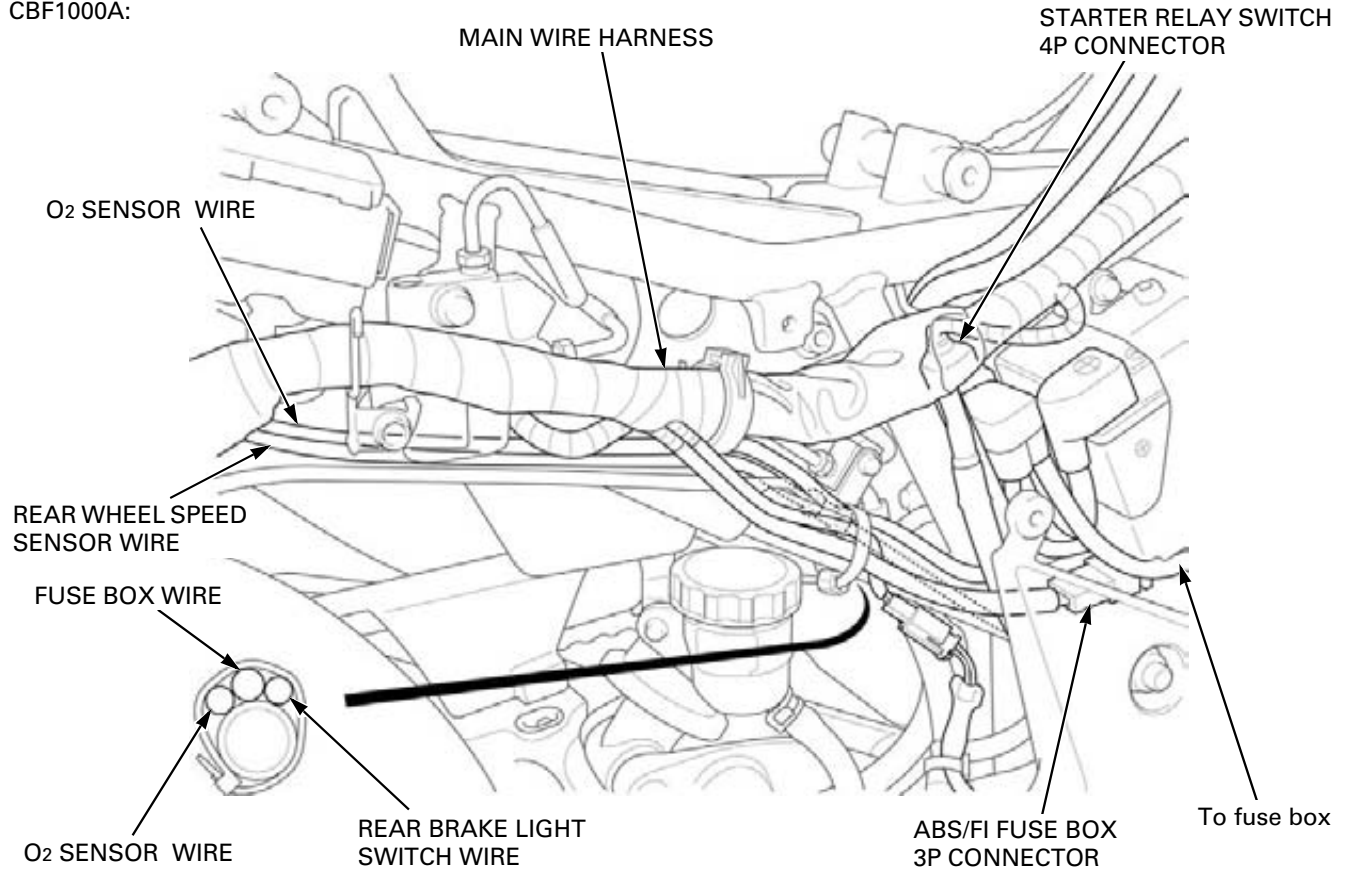
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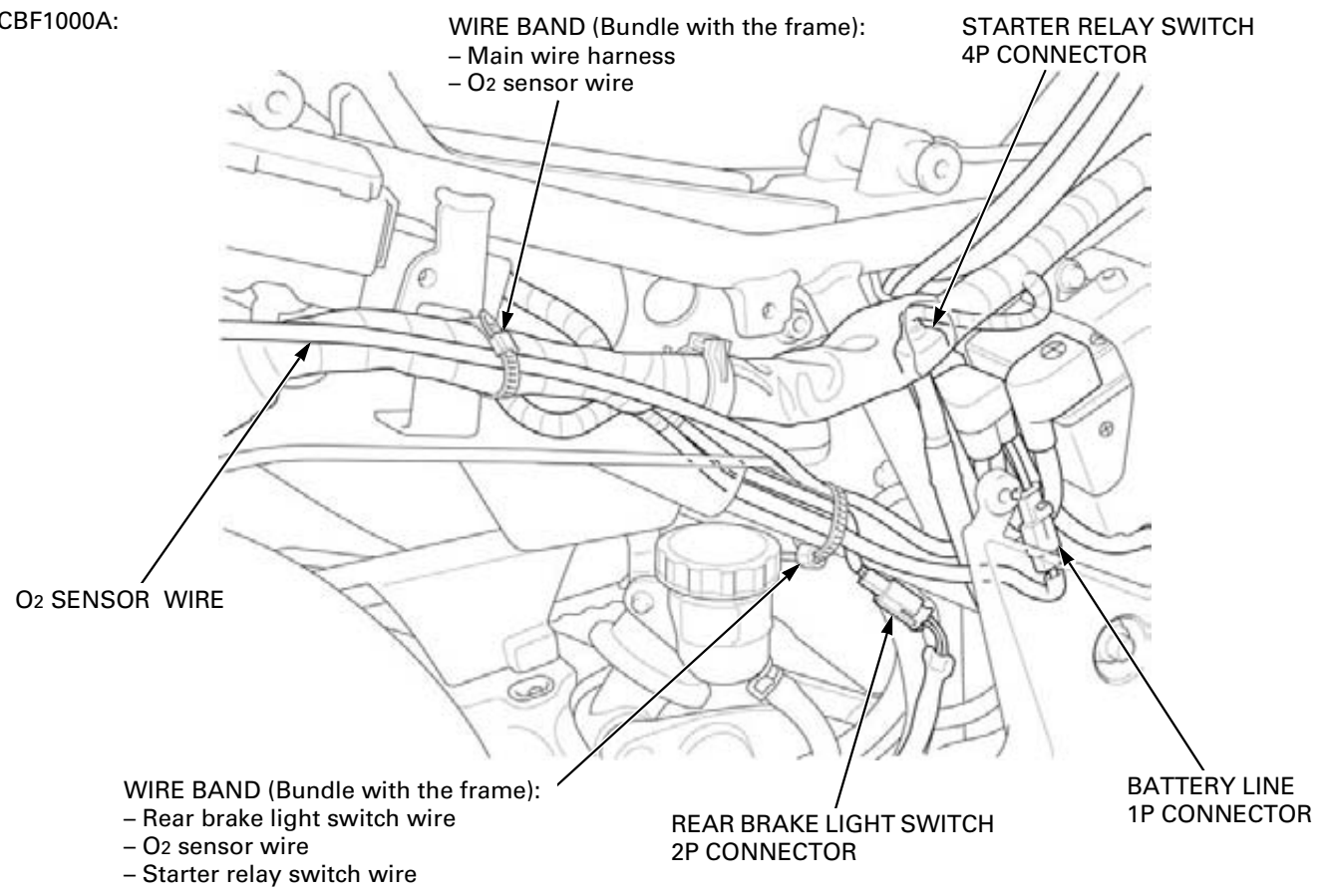
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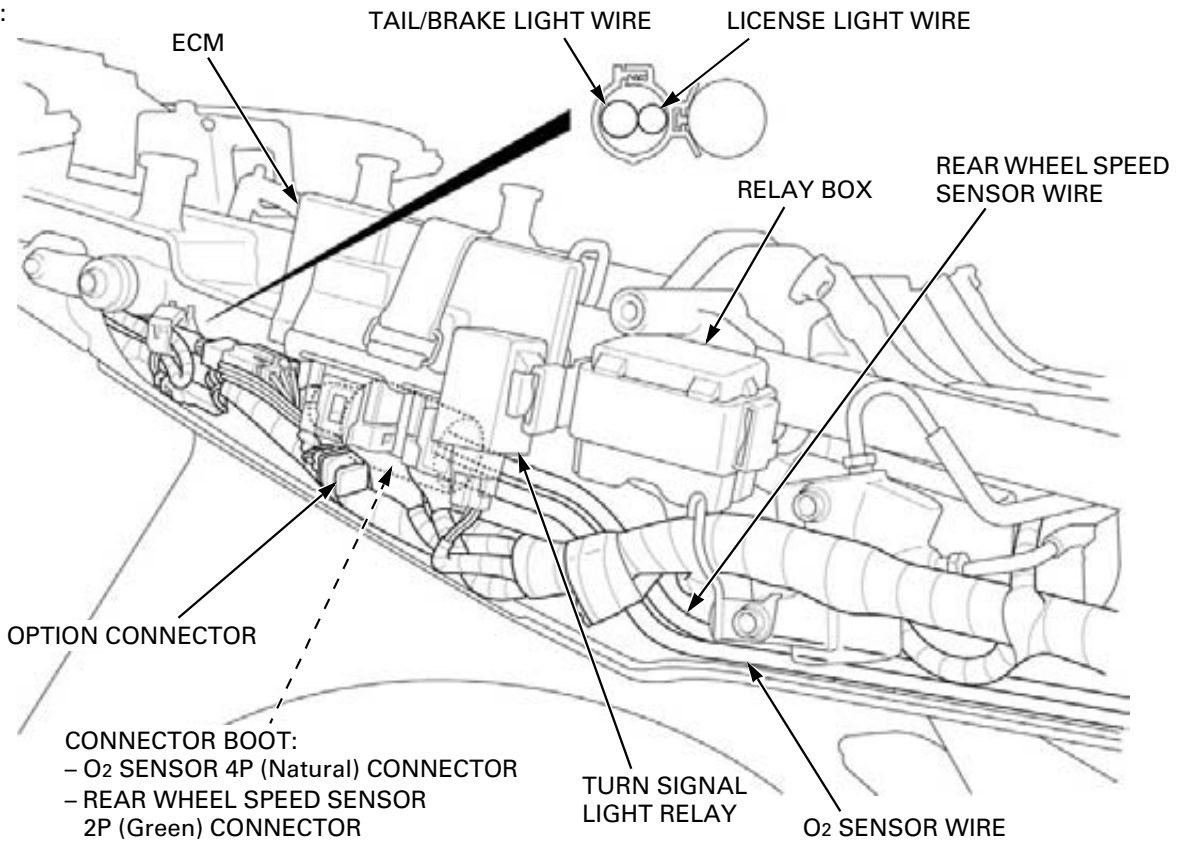


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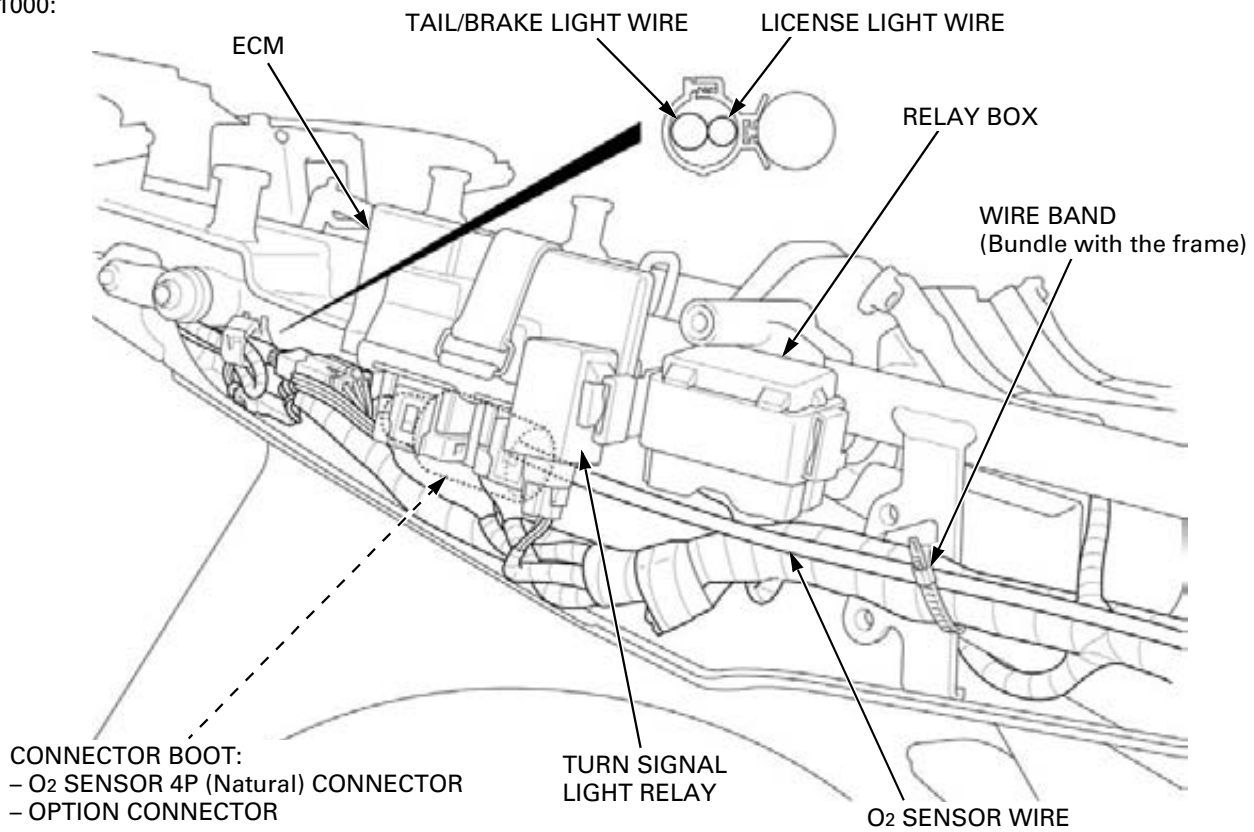


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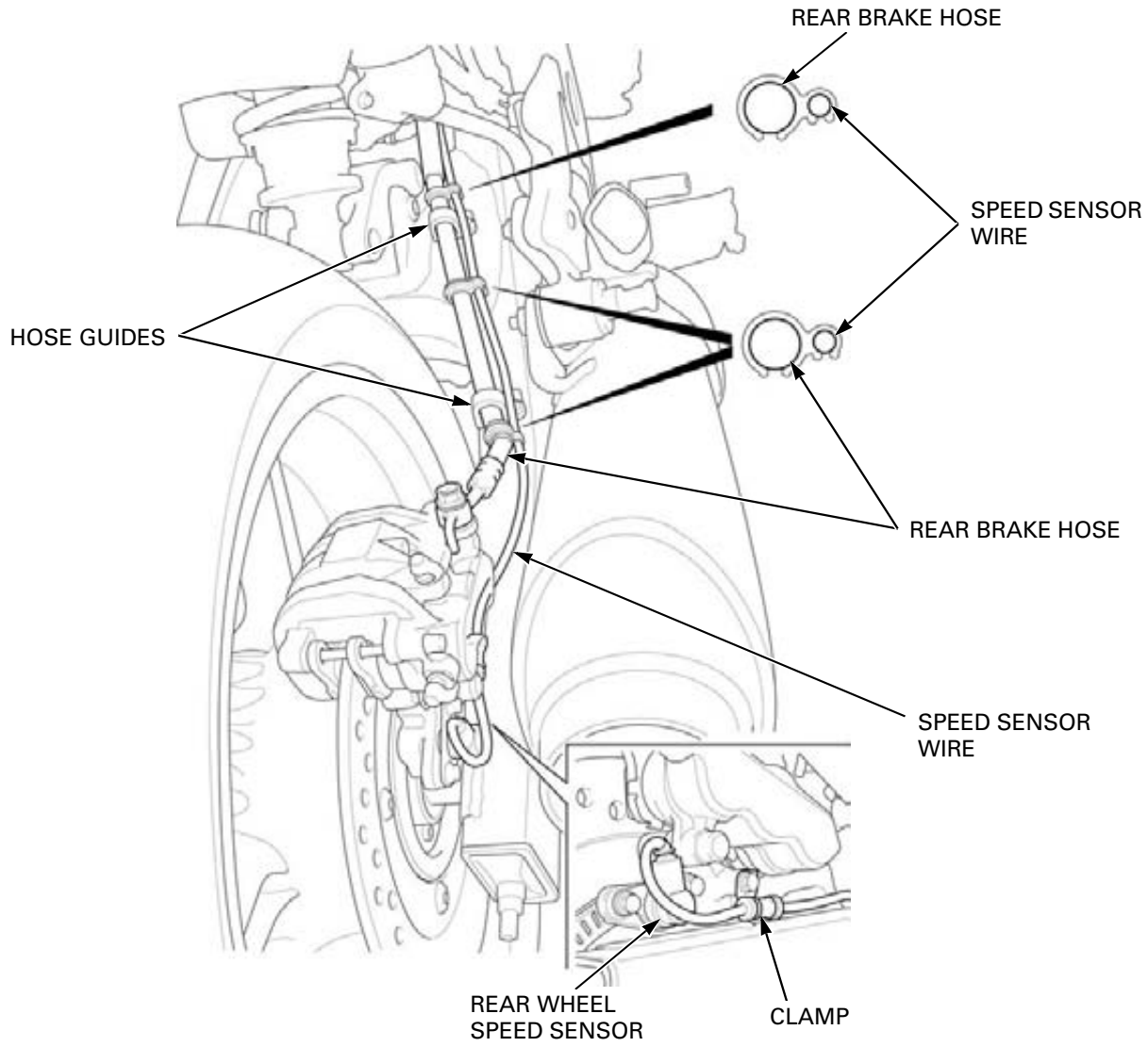


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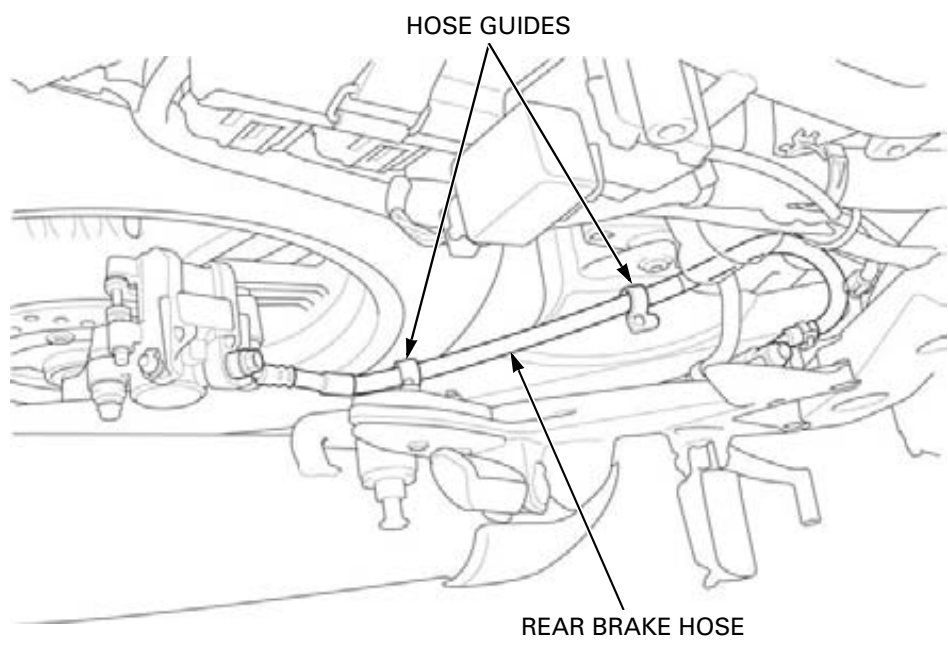




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## GENERAL INFORMATION

# EMISSION CONTROL SYSTEMS

## SOURCE OF EMISSIONS

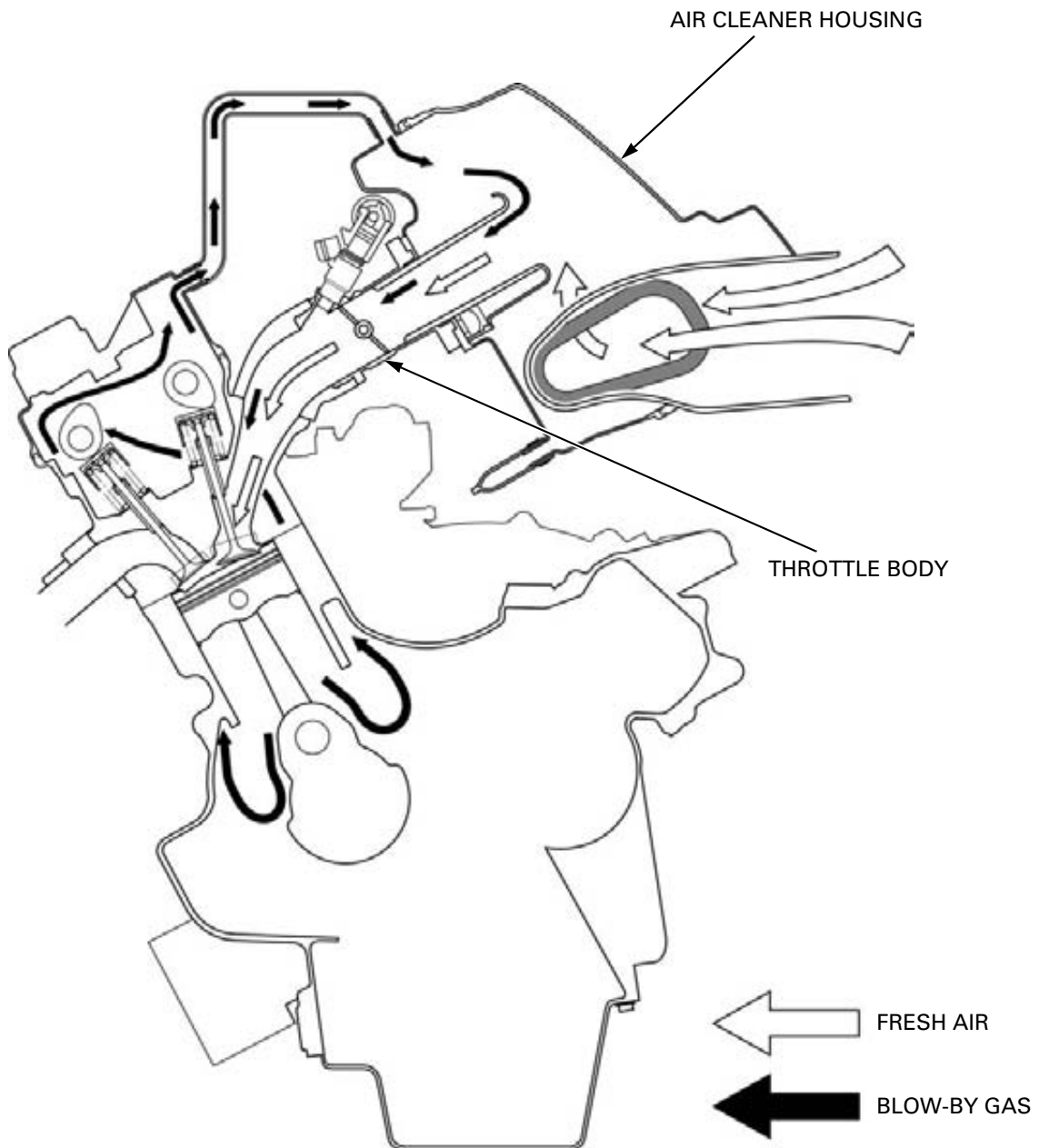
The combustion process produces carbon monoxide (CO), oxides of nitrogen (NOx) and hydrocarbons (HC). Control of carbon monoxide, oxides of nitrogen and hydrocarbons is very important because, under certain conditions, they react to form photochemical smog when subject to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda Motor Co., Ltd. utilizes various systems (page 1-43) to reduce carbon monoxide, oxides of nitrogen and hydrocarbons.

## CRANKCASE EMISSION CONTROL SYSTEM

The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere.

Blow-by gas is returned to the combustion chamber through the air cleaner and throttle body.



**EXHAUST EMISSION CONTROL SYSTEM**

The exhaust emission control system is composed of a pulse secondary air supply system, a three-way catalytic converter and PGM-FI system.

No adjustment should be made for the exhaust emission control system. The exhaust emission control system is separate from the crankcase emission control system.

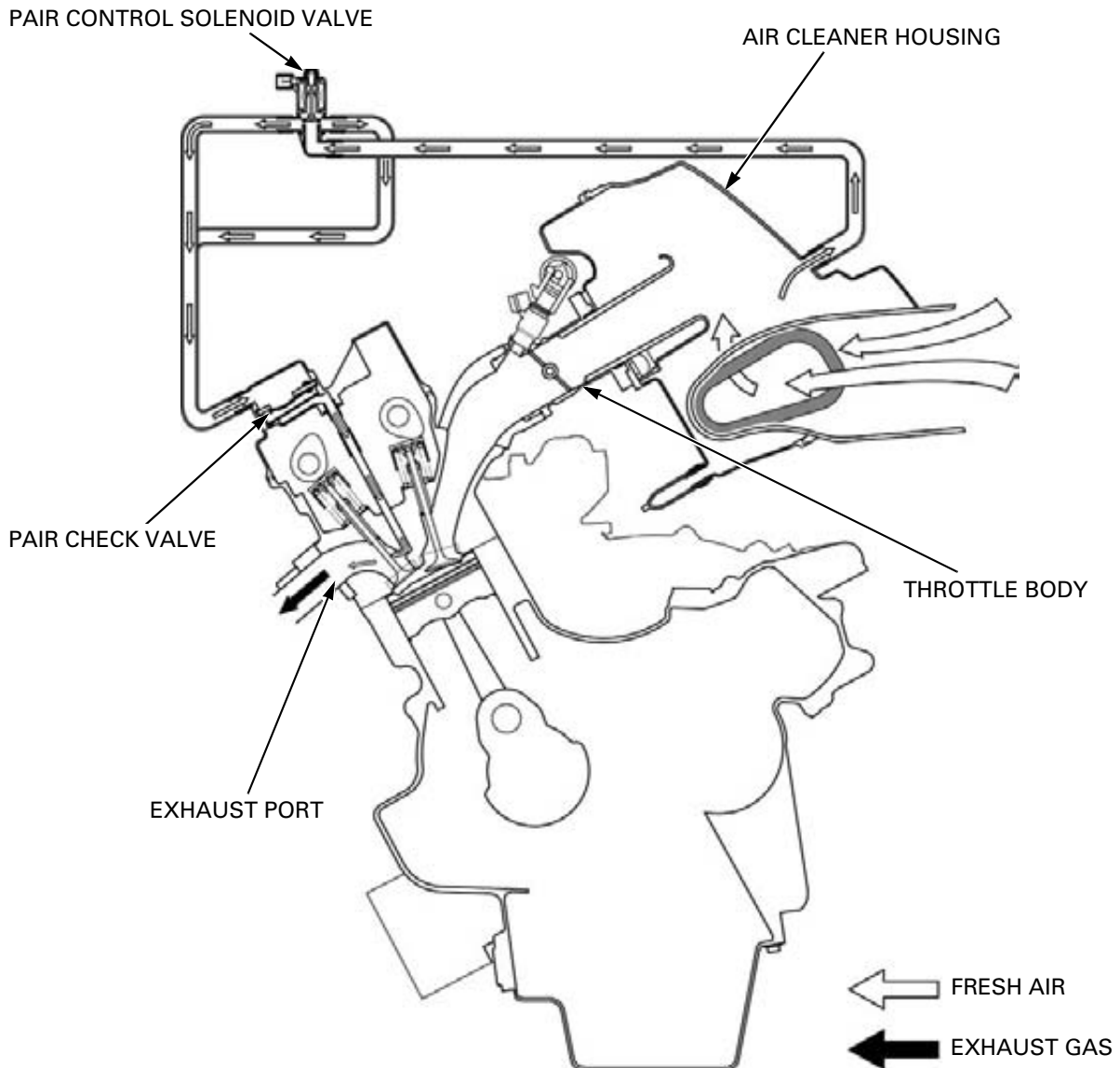
**SECONDARY AIR SUPPLY SYSTEM**

The pulse secondary air supply system introduces filtered air into the exhaust gases in the exhaust port. Fresh air is drawn into the exhaust port by the function of the PAIR (Pulse Secondary Air Injection) control valve.

This charge of fresh air promotes burning of the unburned exhaust gases and changes a considerable amount of hydrocarbons and carbon monoxide into relatively harmless carbon dioxide and water vapor.

The reed valve prevents reverse air flow through the system. The PAIR control valve is operated by the solenoid valve. The solenoid valve is controlled by the PGM-FI unit, and the fresh air passage is opened/closed according the running condition.

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



**THREE-WAY CATALYTIC CONVERTER**

This motorcycle is equipped with a three-way catalytic converter.

The three-way catalytic converter is in the exhaust system. Through chemical reactions, they convert HC, CO and NOx in the engine's exhaust to carbon dioxide (CO<sub>2</sub>), nitrogen (N<sub>2</sub>) and water vapor.

No adjustment to these systems should be made although periodic inspection of the components is recommended.

## **GENERAL INFORMATION**

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### **NOISE EMISSION CONTROL SYSTEM**

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

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

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