## SERVICE INFORMATION

## GENERAL

- A hoist or equivalent is required to support the motorcycle when removing and installing the engine.
- A floor jack or other adjustable support is required to support and maneuver the engine.
- Do not use the oil filter and oil cooler as a jacking point.
- When using the lock nut wrench for the adjusting bolt lock nut, use a deflecting beam type torque wrench 20 inches long. The lock nut wrench increases the torque wrench's leverage, so the torque wrench reading will be less than the torque actually applied to the lock nut. The specification given is the actual torque applied to the lock nut, not the reading on the torque wrench. Do not overtighten the lock nut. The specification later in the text gives both actual and indicated.
- The following components can be serviced with the engine installed in the frame.
- Alternator (page 11-4)
- Clutch (page 10-16)
- Camshaft (page 9-8)
- Gearshift linkage (page 12-11)
- Oil cooler (page 5-13)
- Oil pump (page 5-8)
- Transmission/gearshift linkage (page 12-11)
- Water pump (page 7-17)
- The following components require engine removal for service.
- Cylinder head (page 9-13)
- Crankshaft (page 13-7)
- Piston/cylinder (page 13-15)
- When installing the engine, be sure to tighten the engine mounting fasteners to the specified torque in the specified sequence. If you mistake the torque or sequence, loosen all mounting fasteners, then tighten them again to the specified torque in the correct sequence.


## SERVICE DATA

| ITEM |  | SPECIFICATIONS |
| :--- | :--- | :---: |
| Engine dry weight | $65.8 \mathrm{~kg}(145.1 \mathrm{lbs})$ |  |
| Engine oil capacity | After disassembly | 3.8 liter (4.0 US qt, 3.3 Imp qt) |
| Coolant capacity | Radiator and engine | 3.55 liter (3.75 US qt, 3.12 Imp qt) |

## TORQUE VALUES

Engine hanger adjusting bolt
Engine hanger adjusting bolt lock nut
Rear upper engine hanger nut
Rear lower engine hanger nut
Front engine hanger bolt
Middle engine hanger bolt
Drive sprocket special bolt
Starter motor terminal nut

## TOOLS


or 07VMA-MBB0101
$15 \mathrm{~N} \cdot \mathrm{~m}(1.5 \mathrm{kgf} \cdot \mathrm{m}, 11 \mathrm{lbf} \cdot \mathrm{ft})$
$54 \mathrm{~N} \cdot \mathrm{~m}(5.5 \mathrm{kgf} \cdot \mathrm{m}, 40 \mathrm{lbf} \cdot \mathrm{ft})$
$64 \mathrm{~N} \cdot \mathrm{~m}(6.5 \mathrm{kgf} \cdot \mathrm{m}, 47 \mathrm{lbf} \cdot \mathrm{ft})$
$64 \mathrm{~N} \cdot \mathrm{~m}(6.5 \mathrm{kgf} \cdot \mathrm{m}, 47 \mathrm{lbf} \cdot \mathrm{ft})$
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$64 \mathrm{~N} \cdot \mathrm{~m}(6.5 \mathrm{kgf} \cdot \mathrm{m}, 47 \mathrm{lbf} \cdot \mathrm{ft})$
$54 \mathrm{~N} \cdot \mathrm{~m}(5.5 \mathrm{kgf} \cdot \mathrm{m}, 40 \mathrm{lbf} \cdot \mathrm{ft})$
$9.8 \mathrm{~N} \cdot \mathrm{~m}(1.0 \mathrm{kgf} \cdot \mathrm{m}, 7 \mathrm{lbf} \cdot \mathrm{ft})$

