



## CRANKSHAFT/PISTON

**PISTON RING**  
**REASSEMBLY:**

- Install the second ring with the "•" or "R" mark facing up.
- Do not interchange the top ring and the second ring.
- After assembly, check for smooth movement of the piston rings.
- Stagger the piston ring end gaps 120° apart. Do not align with the piston pin.
- Space the oil ring side rail end gaps at least 10 mm (0.4 in) apart. Coat the oil ring with oil after assembly.

TOP RING (CHROME FACE)  
 SECOND RING (BLACK FACE)  
 OIL RINGS (COMBINATION RINGS) { SIDE RAIL, SPACER, SIDE RAIL }

"•" or "R" MARK

120° 120° TOP RING  
 10 mm (0.4 in)  
 10 mm (0.4 in)  
 10 mm (0.4 in)  
 SECOND RING  
 OIL RINGS (COMBINATION RINGS)

**TIMING BELT**  
**INSTALLATION:**  
 Check that the belt is not worn or cracked and do not bend or twist the belt.

CARBURETOR SIDE

PISTON  
**REASSEMBLY:**  
 Install with the "Δ" mark on the piston head facing the carburetor

PISTON PIN  
 10 x 20 x 5 mm OIL SEAL  
 15 x 25 x 6 mm OIL SEAL  
 "Δ" MARK  
 CRANKSHAFT

## LOWER CRANKCASE

4 x 8 mm SCREW (2)  
**REASSEMBLY:**  
 Clean the threads and apply liquid sealant (Loctite® 648, Hondalock 2 or equivalent) to the threads.

OIL OUTLET VALVE PLATE  
**INSTALLATION:**  
 Install the oil outlet valve to the oil outlet valve plate by aligning the chamfer and projections.

OIL FILLER CAP  
 PROJECTIONS  
 CHAMFER  
 OIL FILLER CAP PACKING  
 4 x 10 mm SPRING PIN

14.8 x 2.4 mm O-RING  
 5 x 53 mm HEX BOLT (2)  
 SHROUD  
 OIL OUTLET VALVE  
 STOPPER PLATE  
 D12 TUBE CLIP (Color: Gold)  
 OIL TUBE  
**REASSEMBLY:**  
 Inspect for cracks or deterioration before installation.

5 x 16 mm HEX BOLT (2)  
**REASSEMBLY:**  
 Clean the hex bolt threads and apply liquid sealant (Loctite® 648, Hondalock 2 or equivalent) to the threads.

3.5 mm SCREW  
 D13 TUBE CLIP (Color: Silver)  
 5 x 20 mm HEX BOLT (2)  
**6.4 N·m (0.65 kgf·m, 4.7 lbf·ft)**  
 5 x 32 mm HEX BOLT (4)  
**6.4 N·m (0.65 kgf·m, 4.7 lbf·ft)**

LOWER CRANKCASE  
**REASSEMBLY:**  
 Clean the inside of the crankcase and remove foreign material before reassembly.

## CAM PULLEY/CRANKSHAFT

CAM PULLEY  
 ALIGNMENT MARKS  
 TIMING BELT  
 CAM PULLEY SHAFT  
 HEAD COVER MATING SURFACE  
 FLYWHEEL  
 FAN COVER BOLT HOLE  
 ALIGNMENT MARK

CAM PULLEY  
 CAM PULLEY SHAFT  
 CYLINDER BARREL  
 CRANKSHAFT

**HONDA**  
 PISTON

**INSTALLATION:**  
 • Check that the belt is not worn or cracked, and do not bend or twist the belt.  
 • Install with the markings as shown.

## LOWER CRANKCASE/CYLINDER BARREL/VALVES

LOWER CRANKCASE

LIQUID GASKET APPLICATION AREA (Hondabond 4, ThreeBond® #1216, 1216E or equivalent)  
 Assemble **within 3 minutes** after applying the liquid gasket.

Loosely tighten each two 5 x 20 mm and four 5 x 30 mm hex bolts, and then tighten to the numbered sequence.  
**TORQUE: 6.4 N·m (0.65 kgf·m, 4.7 lbf·ft)**  
 Wait for **approximately 60 minutes** after assembly before filling with oil and starting the engine.

VALVE SPRING (2)  
 VALVE SPRING RETAINER (2)  
**DISASSEMBLY:**  
 Do not remove the valve spring retainers while the lower crankcase is installed, or the valves will drop into the cylinder.

VALVE STEM SEAL (Intake valve only)  
 Do not reuse.

VALVE LIFTER (2)  
 Do not disassemble.

VALVE ROCKER ARM (2)  
 Do not disassemble.

INTAKE VALVE  
**REASSEMBLY:**  
 Do not interchange with the exhaust valve.

EXHAUST VALVE

SPARK PLUG CMR5H (NGK)  
 CYLINDER BARREL

Viewed from the back side:  
 IN EX  
 ZI ZE

VALVE HEAD DIAMETER:  
 IN: 15.5 mm (0.61 in)  
 EX: 14.0 mm (0.55 in)