

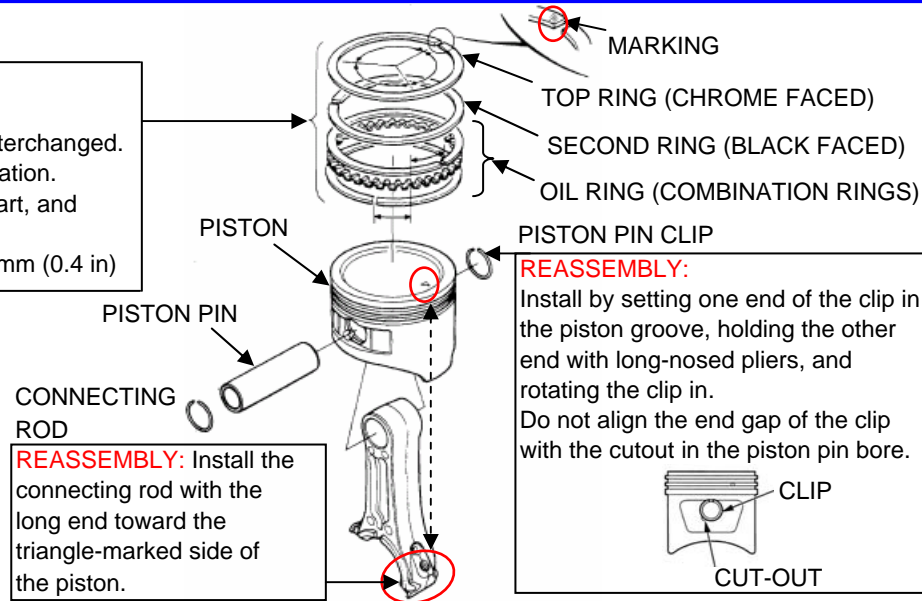
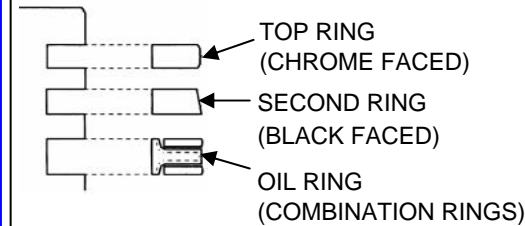


## PISTON

### PISTON RING

#### REASSEMBLY:

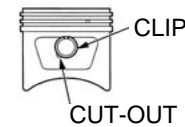
- Install all rings with the markings facing upward.
- Be sure that the top and second rings are not interchanged.
- Check that the rings rotate smoothly after installation.
- Space the piston ring end gaps 120 degrees apart, and do not align the gaps with the piston pin bore.
- Space the oil ring side rail end gaps at least 10 mm (0.4 in) apart. Coat the oil ring with oil after assembly.



**REASSEMBLY:** Install the connecting rod with the long end toward the triangle-marked side of the piston.

#### REASSEMBLY:

Install by setting one end of the clip in the piston groove, holding the other end with long-nosed pliers, and rotating the clip in. Do not align the end gap of the clip with the cutout in the piston pin bore.



## CYLINDER HEAD/VALVES

### GX120/GX160: VALVE SPRING RETAINER

#### DISASSEMBLY:

Push down and slide the retainer to the side, so the valve stem slips through the hole at the side of the retainer.

#### REASSEMBLY:

The exhaust valve retainer has a larger center recess than the intake valve retainer so it can accept the valve rotator.

#### NOTICE:

Do not remove the valve spring retainers while the cylinder head is installed, or the valves will drop into the cylinder.

### EXHAUST VALVE

#### REASSEMBLY:

• Before installation, remove carbon deposits and inspect the valve.

• Do not interchange with the intake valve.

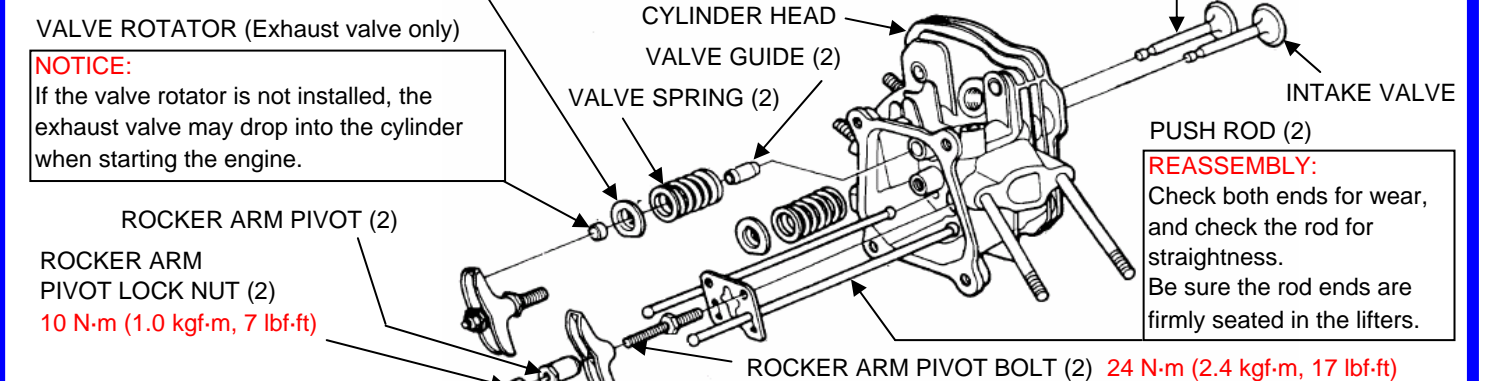
#### VALVE HEAD DIAMETER

GX120: IN: 22 mm (0.87 in)

EX: 19 mm (0.75 in)

GX160: IN: 25 mm (0.98 in)

EX: 24 mm (0.94 in)



**NOTICE:** If the valve rotator is not installed, the exhaust valve may drop into the cylinder when starting the engine.

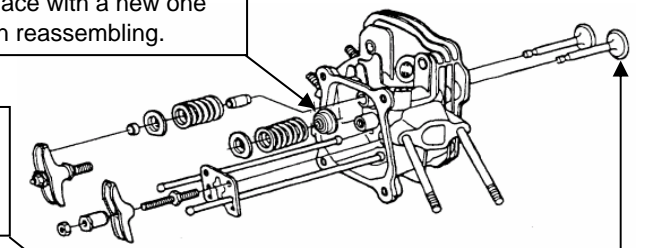
**REASSEMBLY:** Check both ends for wear, and check the rod for straightness. Be sure the rod ends are firmly seated in the lifters.

**REASSEMBLY:** Before installing, check for wear on the surfaces which contact the pivot bolt, the push rod, and the rocker arm pivot.

GX200: Refer to the above for information not shown below.

#### VALVE STEM SEAL (Intake valve only)

Replace with a new one when reassembling.



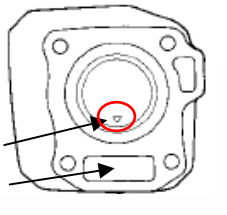
## CRANKCASE COVER/CRANKSHAFT/PISTON

### PISTON

#### REASSEMBLY:

Install with the triangle mark toward the pushrod hole.

TRIANGLE MARK  
PUSH ROD HOLE



### VALVE LIFTER

#### REASSEMBLY:

Install the lifters immediately before installing the camshaft.

### CAMSHAFT

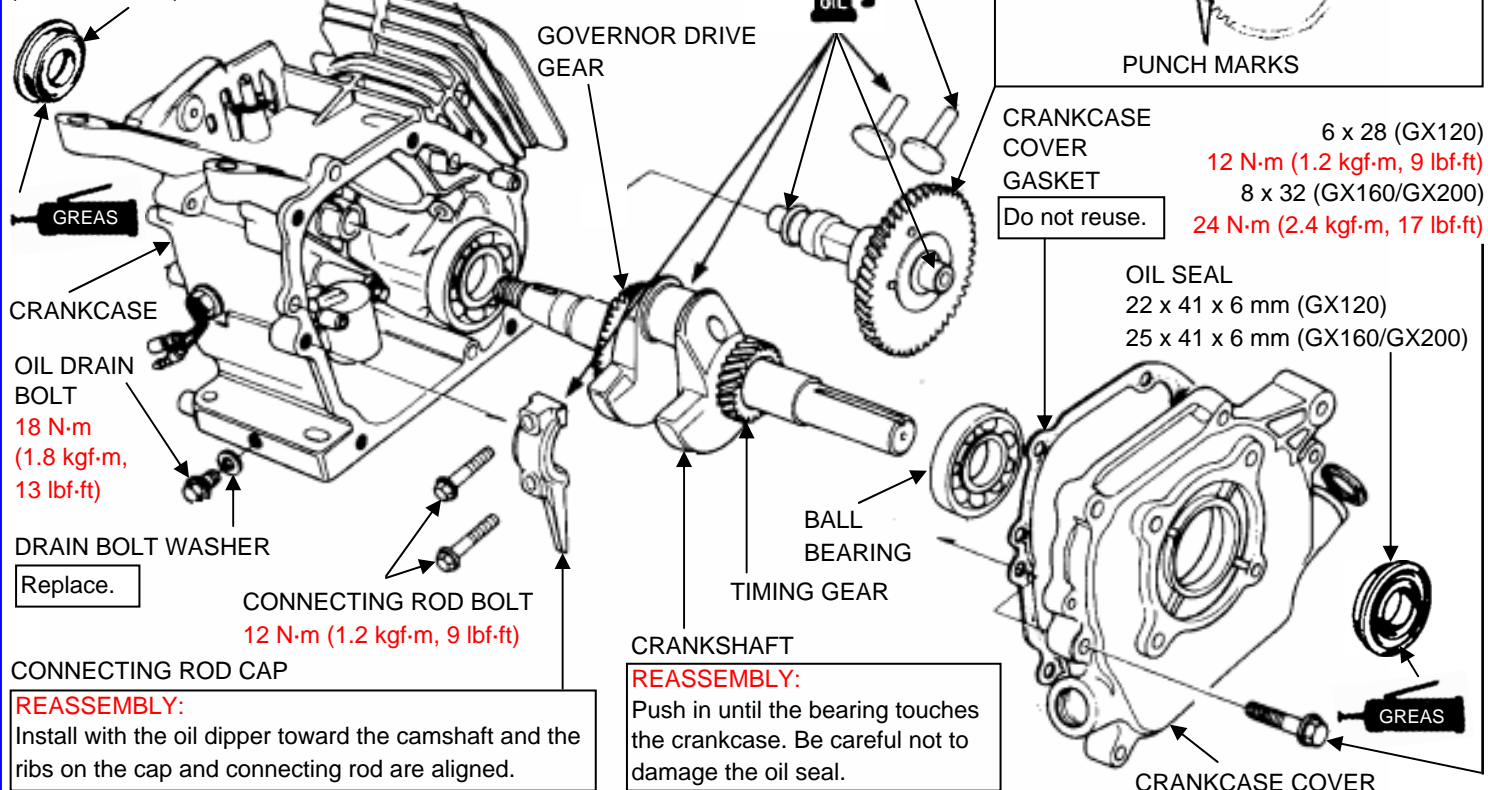
#### REASSEMBLY:

- With the crankshaft in place, align the timing punch mark on the cam gear with the punch mark on the crankshaft gear.
- Before installing, inspect for worn and weakened springs and check that the decompressor weight moves smoothly.



PUNCH MARKS

OIL SEAL 22 x 35 x 6 mm (GX120)  
25 x 41 x 6 mm (GX160/GX200)



CRANKCASE COVER 6 x 28 (GX120)

12 N·m (1.2 kgf·m, 9 lbf·ft)

GASKET 8 x 32 (GX160/GX200)

24 N·m (2.4 kgf·m, 17 lbf·ft)

Do not reuse.

OIL SEAL 22 x 41 x 6 mm (GX120)

25 x 41 x 6 mm (GX160/GX200)

### CONNECTING ROD CAP

#### REASSEMBLY:

Install with the oil dipper toward the camshaft and the ribs on the cap and connecting rod are aligned.

### CRANKSHAFT

#### REASSEMBLY:

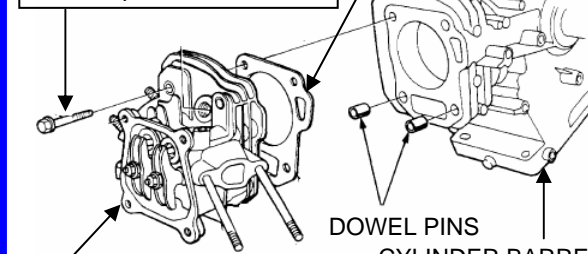
Push in until the bearing touches the crankcase. Be careful not to damage the oil seal.

## CYLINDER HEAD

8 x 55 (4) (GX120), 8 x 60 (4) (GX160/GX200)

24 N·m (2.4 kgf·m, 17 lbf·ft)

**REMOVAL/INSTALLATION:** Loosen and tighten the bolts in a crisscross pattern in 2-3 steps.



### CYLINDER HEAD

#### REMOVAL/INSTALLATION:

- Before installation, remove any carbon deposits from the combustion chamber and inspect the valve seats.
- Measure the cylinder compression after reassembly.

## GOVERNOR

### GOVERNOR WEIGHT

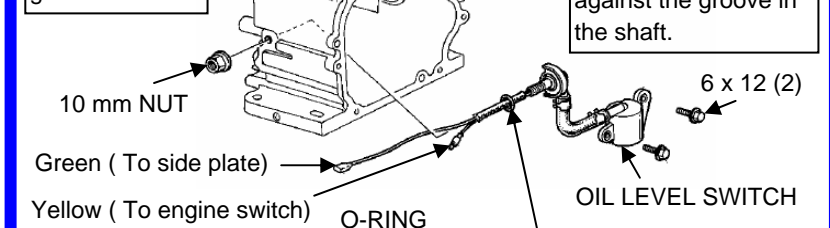
**REASSEMBLY:** Be sure to install the governor weight before installing the crankshaft.

### GOVERNOR SLIDER

**REASSEMBLY:** Install inside the case.

### CLIP

**REASSEMBLY:** Insert firmly into the shaft groove.



**REASSEMBLY:** Install firmly in the groove.