**GX610K1 • GX620K1 • GX670 Engine Assembly Information**

### Piston/Connecting Rod
- **Reassembly**: Chrome plated. Do not interchange with second ring.
- **Second Ring**: Space the side rail end gaps at least 20 mm (0.8 in) apart. Coat the oil ring with oil after assembly.
- **Piston Pin Clip (2)**: Set one end of the clip into the groove in the piston and work the other end around in the groove using a pair of needle nose pliers. Install so that the end gap does not face the notch in the piston.
- **Connecting Rod**: Use a commercially available piston ring compressor.

### Crankshaft/Cylinder Barrel
- **603 Radial Ball Bearing**: Install the assembly before installing the camshaft.
- **Valve Lifter Assembly**: Install the assembly before installing the camshaft.
- **8 x 12.7 x 11.1 mm Needle Bearing**: 10 mm FLANGE NUT 10 N·m (1.0 kgf·m, 9 lbf·ft)
- **8 mm Plain Washer (3)**
- **8 x 12 x 10 mm Needle Bearing**
- **8 x 10 mm Dowel Pin**
- **5 x 16 Crankshaft**
- **Connecting Rod Cap (2)**: Do not interchange with the other connecting rod cap.
- **Application**: Apply molybdenum disulfide oil or spray ThreeBond 1910, then coat with clean engine oil. Apply oil to the crank pin only. Do not apply oil to the connecting rod.

### Piston Assembly/Connecting Rod Cap/Camshaft
- **Install the valve lifter assembly.**
- **Install the camshaft by aligning the punch mark on the timing gear with the rib on the cam gear.**
- **Install the connecting rod big end on the crankpin. Pushing the top of the piston, turn the crankshaft counterclockwise to the top dead center.**
- **Tighten the connecting rod bolts to the specified torque.**

### Crankshaft
- **Cylinder Block**: 38 x 56 x 9 mm OIL SEAL
- **Governor Arm Shaft**: 6 x 75 (2) OIL LEVEL SWITCH
- **Governor Arm Shaft Setting Collar (2)**
- **Governor Arm Shaft Oil Level Switch**: 6 x 75 (2)

### Piston Assembly
- **No. 1 Cylinder**: "FW" Mark
- **No. 2 Cylinder**: "FW" Mark

See the shop manual for additional information.
CRANKCASE COVER

Install the oil pump cover assembly by aligning the two alignment pins on the reverse side of the pump cover with the alignment holes in the crankcase cover. After installation, check for smooth rotation of the oil pump.

GOVERNOR WEIGHT (3)

Before installing, check the governor weights to install the slider; then check to be sure the slider moves smoothly.

GOVERNOR SLIDER

Clean the rotor thoroughly.

OIL FILTER BASE

(Apply molybdenum disulfide oil or spray ThreeBond 1910, then coat with clean engine oil.)

CRANKCASE COVER

CRANKCASE COVER GASKET

Clean the mating surface with the crankshaft. Do not apply oil to the mating surface with the crankcase cover side.

OIL PUMP COVER ASSEMBLY

Cylinder head assembly information.

CYLINDER HEAD/VALVES

Before installation, remove carbon deposits from the combustion chamber and inspect the valve seats.

CYLINDER HEAD

- Before installation, remove carbon deposits and inspect the valve.
- Check both ends for wear and check rod for straightness. Be sure the rod ends are firmly seated in the lifter.

HEAD COVER GASKET (2)

- Before installation, remove the head cover gasket.

HEAD COVER WASHER (2)

- After installing the flywheel, check to be sure that the camshaft timing gear is securely engaged with the oil pump gear and governor weight holder.

HEAD SHROUD (2)

- Apply oil to the threads.

CALCULATE: After installing the flywheel, check to be sure that the camshaft timing gear is securely engaged with the oil pump gear and governor weight holder.

INSTALLATION:

- Loosen and tighten the bolts in a crisscross pattern in 2-3 steps.
- Install the cylinder head on the cylinder block with the head inlet side facing the flywheel side.

REASSEMBLY:

- Apply molybdenum disulfide oil or spray ThreeBond 1910, then coat with clean engine oil.

ECCENTRIC CAMSHAFT (2)

- Spread the governor weights to install the slider; then check to be sure the slider moves smoothly.

INTAKE VALVE SPRING RETAINER

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

INTAKE VALVE

- Do not interchange with the exhaust valve.
- Do not interchange with the exhaust valve.

EXHAUST VALVE SPRING RETAINER

- Push down and slide the retainer to the side, so the valve stem slips through the hole at the side of the retainer.
- Do not remove the valve spring retainer while the cylinder head is installed, or the valves will drop into the cylinder.