



## PISTON/CRANKSHAFT/BALANCER

### PISTON RING SET

(Use the recommended engine oil, unless otherwise specified.)

#### ASSEMBLY:

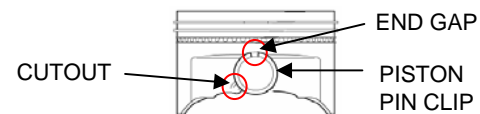
- Be sure that the top and second ring are not interchanged.
- Install the top ring and second ring on the piston with the maker mark side facing up.
- Check that the piston rings rotate smoothly after installing them.
- Space the piston ring end gaps 120 degrees apart, and do not align the gaps with the piston pin bore.



### PISTON PIN CLIP (20 mm) (2)

#### ASSEMBLY:

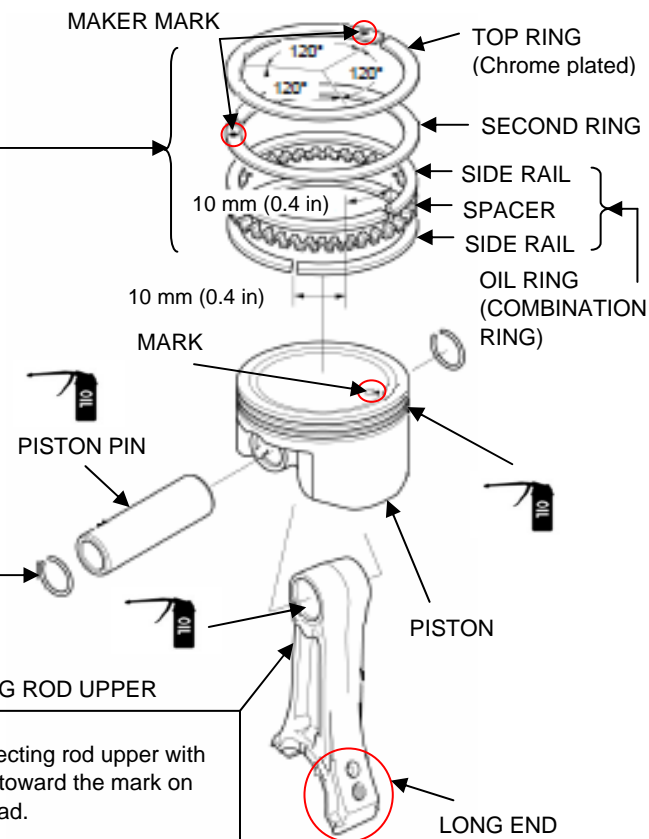
Install by setting one end of the piston pin clip in the groove of the piston pin bore, holding the other end with long needle pliers, and rotating the clip in. Do not align the end gap of the piston pin clip with the cutout of the piston pin bore.



### CONNECTING ROD UPPER

#### ASSEMBLY:

Set the connecting rod upper with the long end toward the mark on the piston head.



### LOCK PIN (10 mm)

#### INSTALLATION:

- Install the lock pin immediately after installing the governor arm shaft in the direction as shown.
- The 10 mm lock pin must be installed with the straight side of the 10 mm lock pin against the groove of the governor arm shaft.



(Replace the part(s) with new one(s) before assembly.)

### DRAIN PLUG WASHER (12 mm) (2)

### OIL LEVEL SW JOINT NUT (10 mm)

10 N·m (1.0 kgf·m, 7 lbf·ft)

### DRAIN PLUG BOLT (2)

22.5 N·m (2.25 kgf·m, 17 lbf·ft)

### WASHER (8.2 x 17 x 0.8 mm)

### GOVERNOR ARM SHAFT



### OIL LEVEL SW (If equipped)

### FLANGE BOLT (6 x 12 mm) (2)

### BALANCER WEIGHT

### GROOVE

### CONNECTING ROD BOLT (2)

14 N·m (1.4 kgf·m, 10 lbf·ft) (Apply to the threads and seating surface)

### PISTON

#### INSTALLATION:

Install the piston to the cylinder barrel with the mark on the piston head toward the push rod hole of the cylinder head. Viewed from cylinder head side

### MARK

### VALVE LIFTER

#### REMOVAL:

When removing the valve lifters, mark so that the intake and exhaust sides can be distinguished.

#### INSTALLATION:

Attach the valve lifters to the cylinder barrel immediately before installing the camshaft.

### CRANKSHAFT

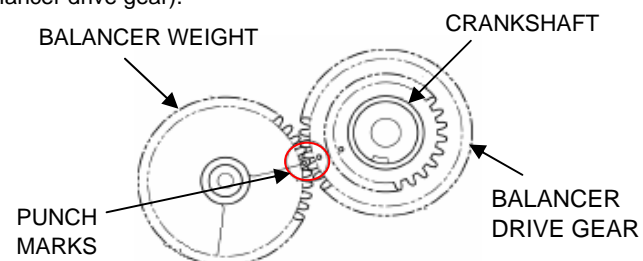
#### INSTALLATION:

Before installing the crankshaft, check the oil seal of the cylinder barrel for damage or hardening. Be careful not to damage the oil seal when installing the crankshaft.

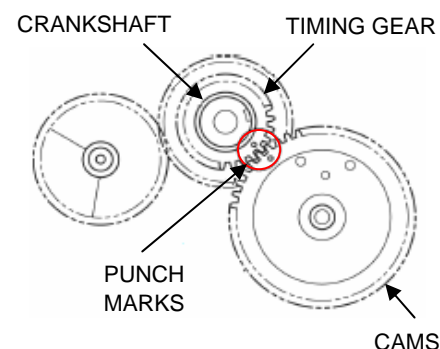
## BALANCER/CRANKCASE COVER/GOVERNOR

### BALANCER WEIGHT/CAMSHAFT INSTALLATION

Install balancer weight to the cylinder barrel by aligning the punch marks of the balancer weight and the crankshaft (marked on the balancer drive gear).



Install the camshaft to the cylinder barrel by aligning the punch marks of the camshaft and the crankshaft (marked on the timing gear).



### GOVERNOR HOLDER CLIP

#### ASSEMBLY:

Install firmly into the groove of the governor shaft.

### GOVERNOR WEIGHT PIN (3)

### GOVERNOR SLIDER

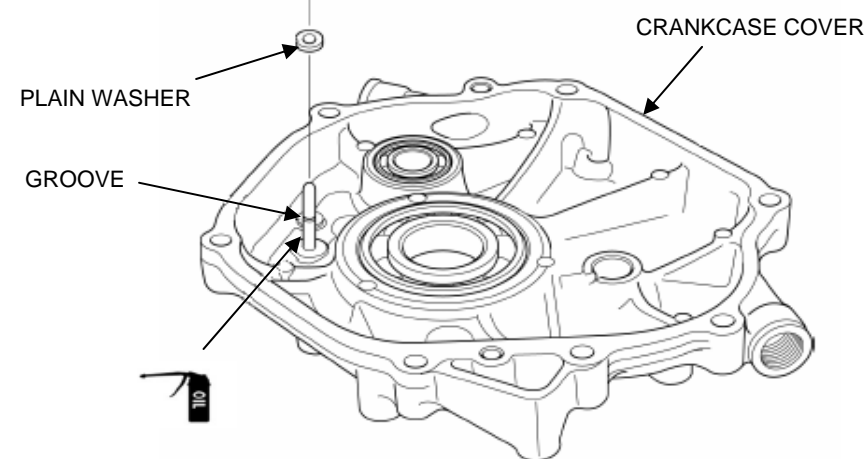
#### ASSEMBLY:

- Spread the governor weight to install the governor slider.
- After installing the governor slider, check to be sure it moves smoothly.

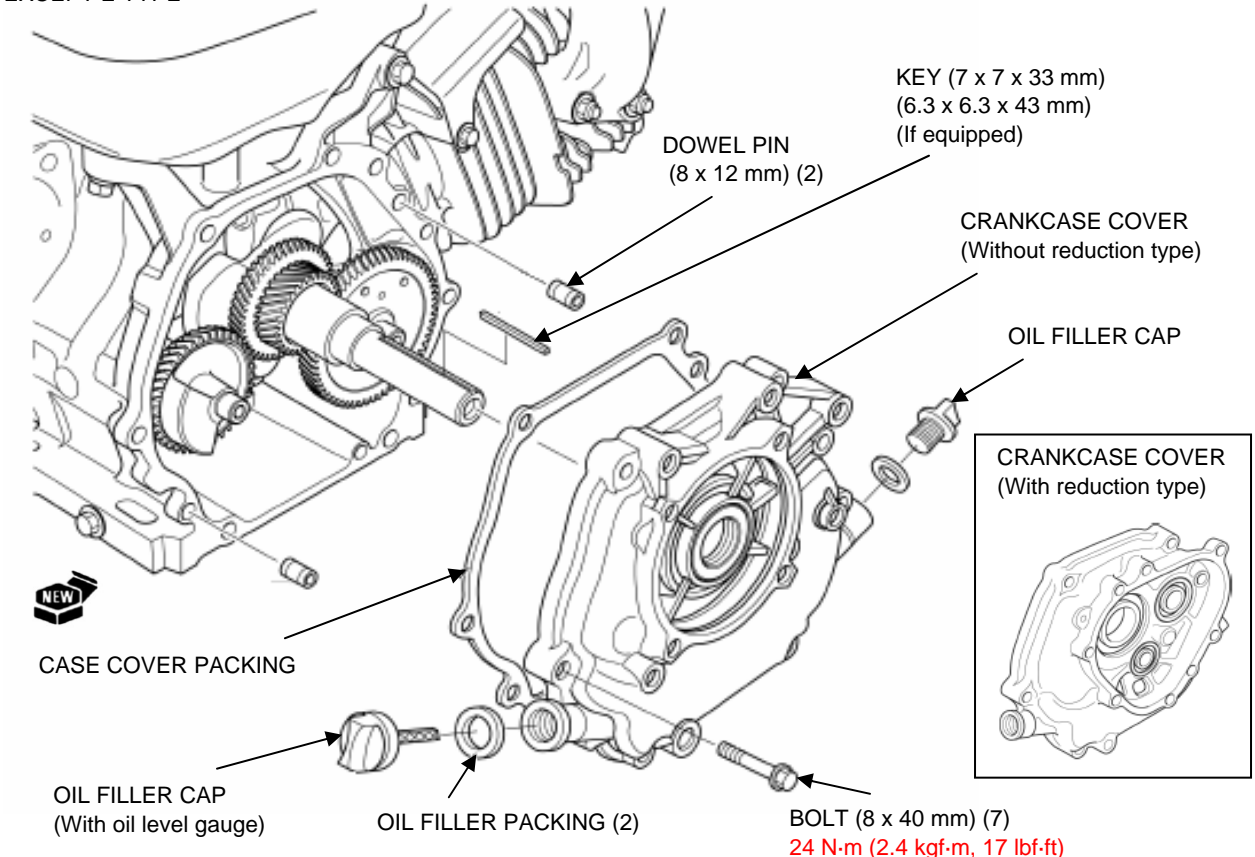
### GOVERNOR WEIGHT (3)

#### REASSEMBLY:

After installing the governor weight, check to be sure they move smoothly.



### EXCEPT E TYPE



### KEY (7 x 7 x 33 mm)

(6.3 x 6.3 x 43 mm) (If equipped)

### DOWEL PIN (8 x 12 mm) (2)

### CRANKCASE COVER (Without reduction type)

### OIL FILLER CAP

### CRANKCASE COVER (With reduction type)



### CASE COVER PACKING

### OIL FILLER CAP (With oil level gauge)

### OIL FILLER PACKING (2)

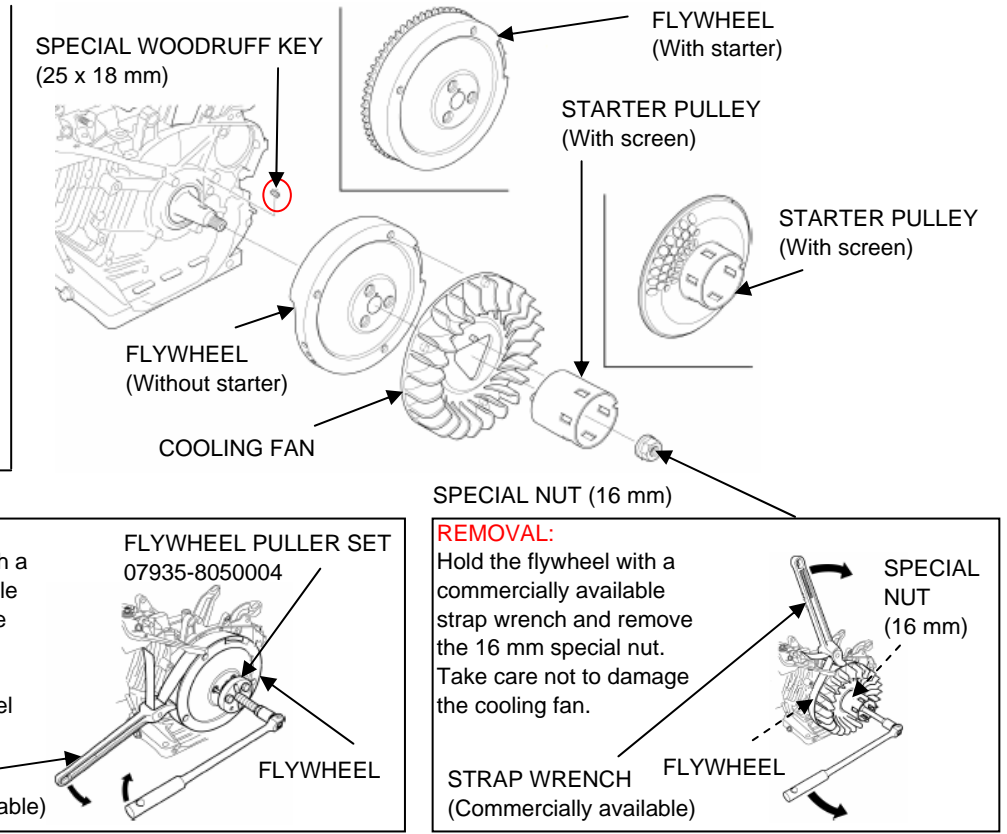
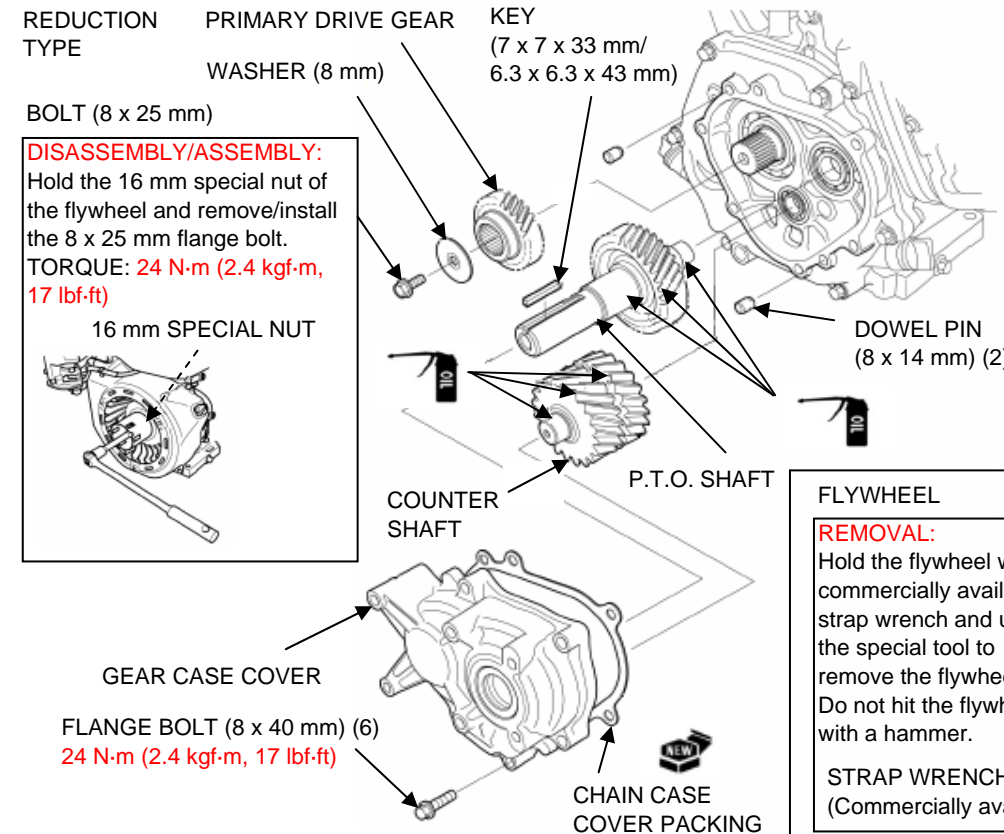
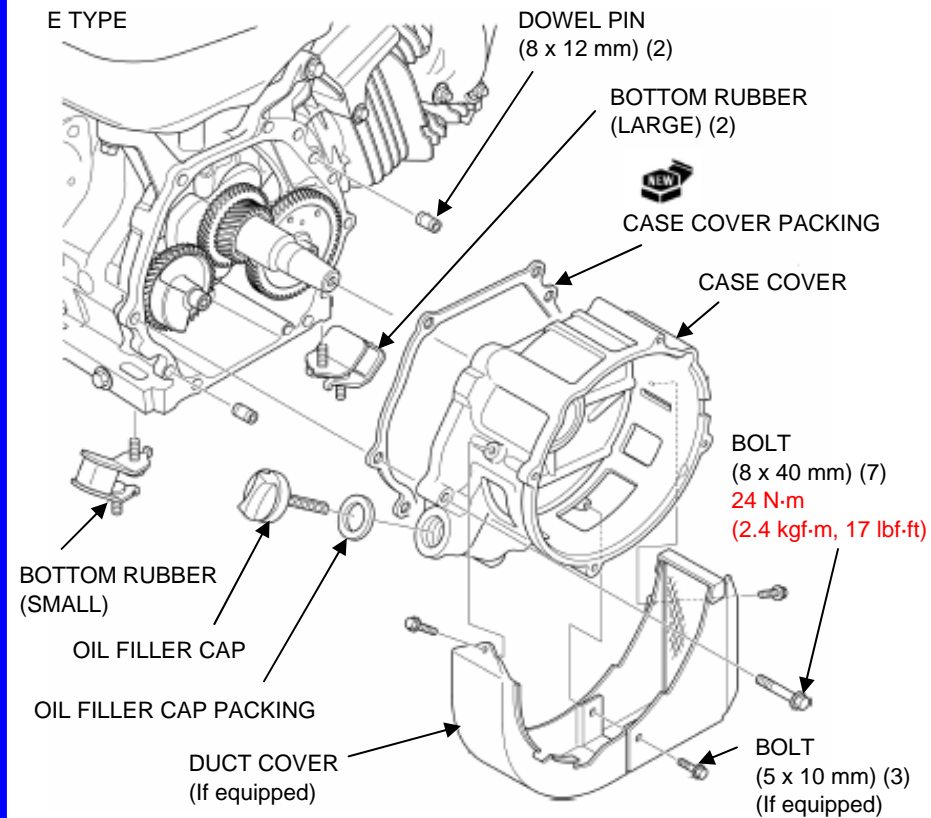
### BOLT (8 x 40 mm) (7)

24 N·m (2.4 kgf·m, 17 lbf·ft)





## CRANKCASE COVER/REDUCTION UNIT/COOLING FAN/FLYWHEEL



## COOLING FAN/FLYWHEEL/CYLINDER HEAD/VALVES

