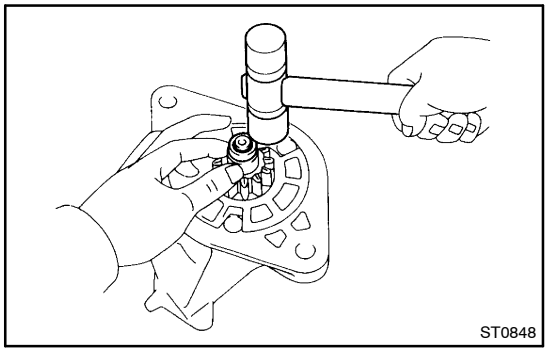
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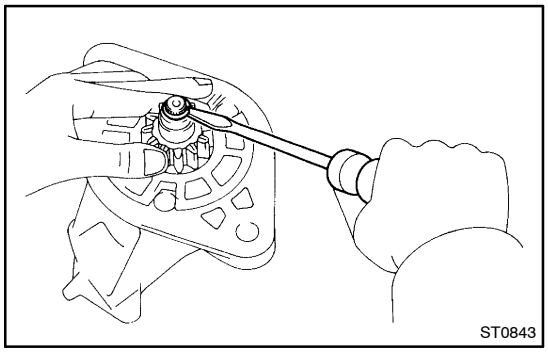
# REPLACEMENT



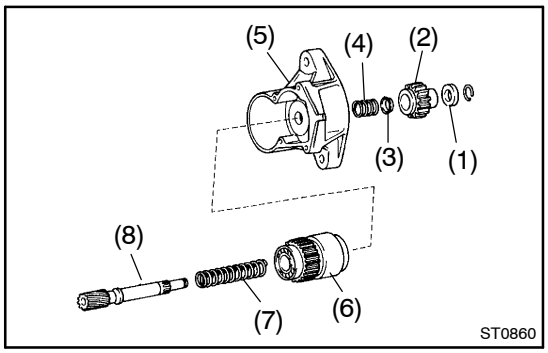

**1. REPLACE CLUTCH ASSEMBLY:**
**DISASSEMBLY STARTER HOUSING AND CLUTCH ASSEMBLY**

(a) Push down the pinion gear and starter housing.

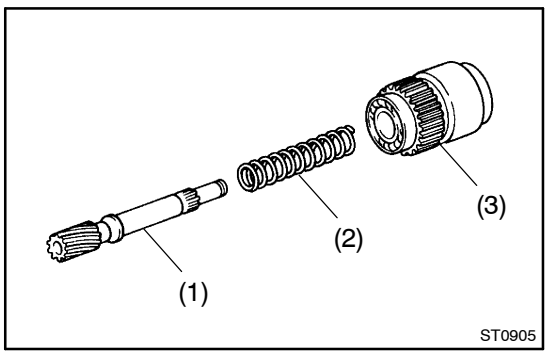
(b) Using a plastic–faced hammer, tap down the stop collar.




(c) Using a screwdriver, pry out the snap ring.

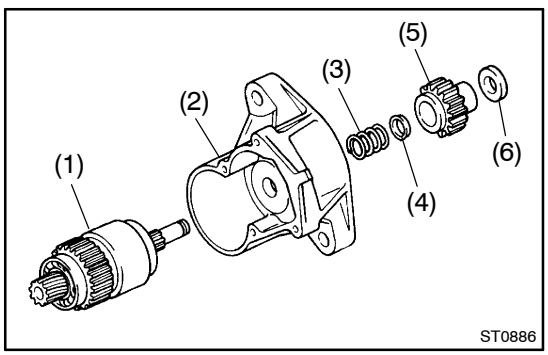



(d) Disassemble these parts:
(1) Stop collar
(2) Pinion gear
(3) Retainer
(4) Compression spring
(5) Starter housing
(6) Starter clutch
(7) Compression spring
(8) Clutch shaft

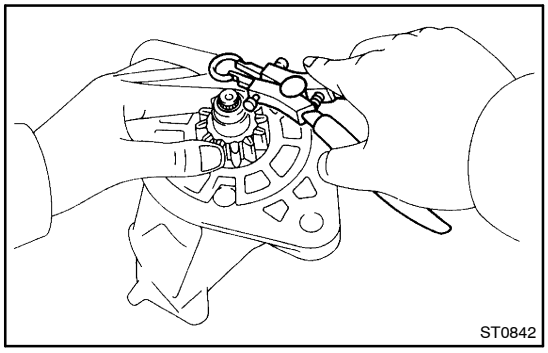



**2. REPLACE CLUTCH ASSEMBLY:**
**ASSEMBLE STARTER HOUSING AND CLUTCH ASSEMBLY**

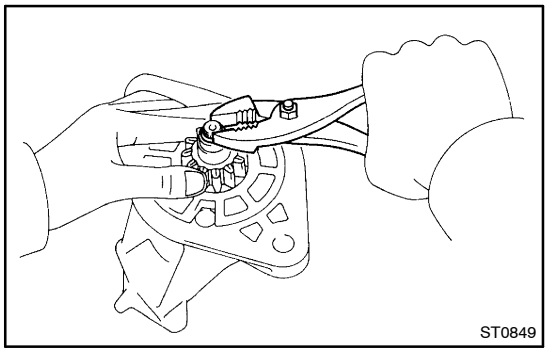
(a) 1st, assemble these parts:
(1) Clutch shaft
(2) Compression spring
(3) Starter clutch



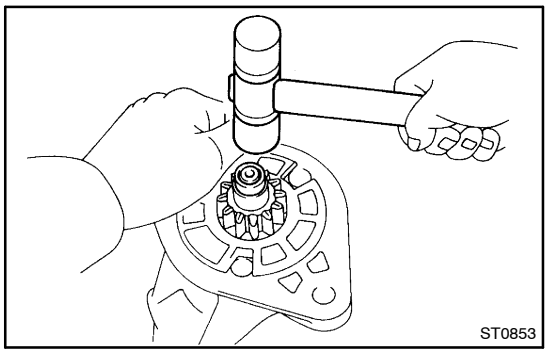

(b) 2nd, assemble these parts:
(1) Clutch shaft and starter shaft assembly
(2) Starter housing
(3) Compression spring
(4) Retainer
(5) Pinion gear
(6) Stop collar



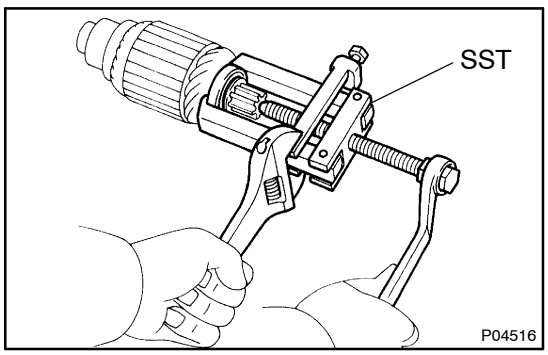

(c) Push down the pinion gear and starter housing.
(d) Using snap ring pliers, install a new snap ring.




(e) Using pliers, compress the snap ring.
(f) Check that the snap ring fits correctly.

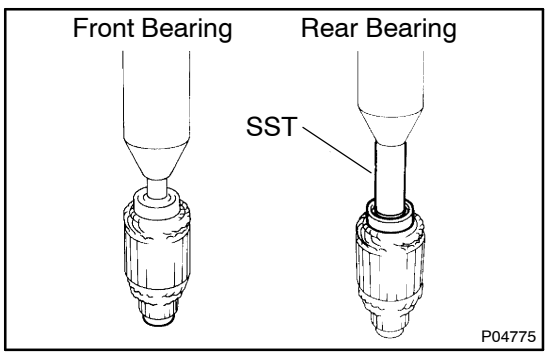



(g) Using a plastic–faced hammer, tap the clutch shaft and install the stop collar onto the snap ring.

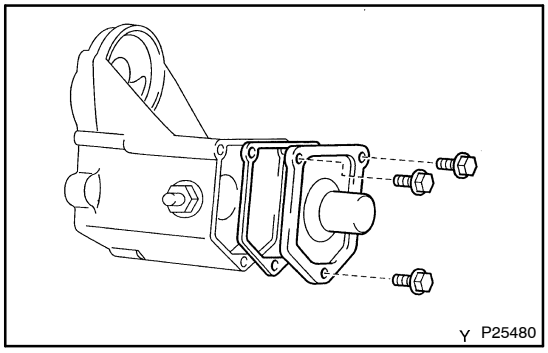



**3. REPLACE FRONT AND REAR BEARINGS**

(a) Using SST, remove the front and rear bearings.
SST 09286–46011

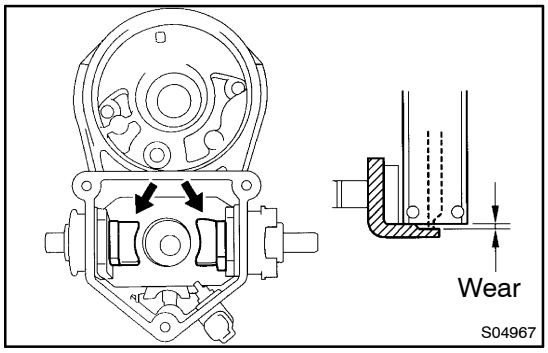



(b) Using a press, press in a new front bearing.
(c) Using SST and a press, press in a new rear bearing.
SST 09820–00030



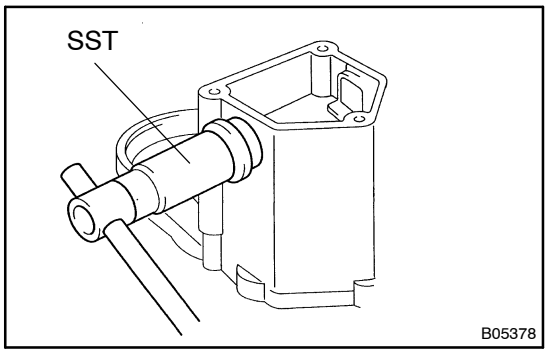

**4. REPLACE MAGNETIC SWITCH TERMINAL KIT PARTS**

(a) Remove magnetic switch end cover.
Remove the 3 bolts, end cover, gasket and plunger.

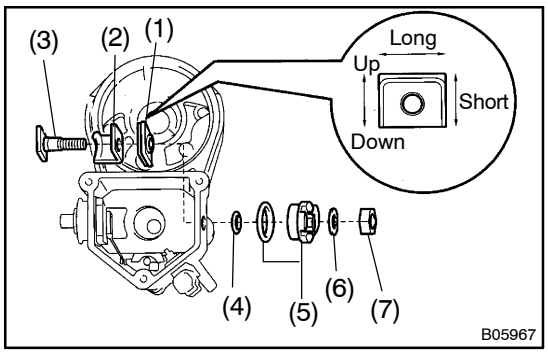



(b) Inspect contact plate for wear.
Using vernier calipers, measure the contact plate for depth of wear.
**Maximum wear:**
**1.6 mm (0.063 in.)**

If the depth of wear is greater than the maximum, replace the contact plate.




(c) Remove terminal kit parts.
(1) Using SST, loosen the terminal nuts.
SST 09810–38140
(2) Terminal C:
Remove the terminal nut, wave washer, terminal insulator (outside), terminal bolt, contact plate and terminal insulator (inside).
(3) Terminal 30:
Remove the terminal nut, wave washer, terminal insulator (outside), O–ring, terminal bolt, contact plate, terminal insulator (inside).

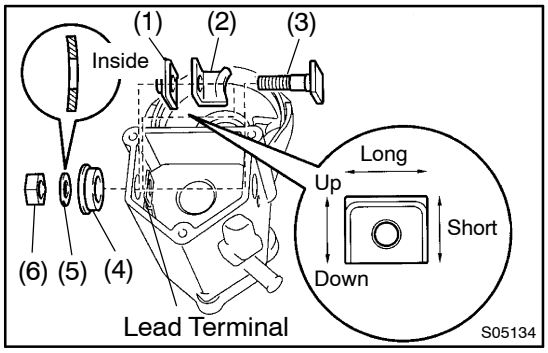



(d) Temporarily install these new terminal 30 kit parts:
(1) Terminal insulator (inside)
(2) Contact plate
(3) Terminal bolt
(4) O–ring
(5) Packing and terminal insulator (outside)
Install the packing to the terminal insulator, and install them.

HINT:
Match the protrusion of the insulator with the indentation of the housing.

(6) Plate washer
(7) Terminal nut

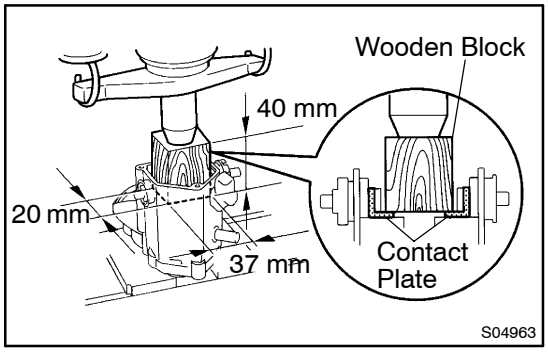
**NOTICE:**
**Be careful to install the terminal insulator (inside) and wave washer in the correct direction.**




(e) Temporarily install these new terminal C kit parts:
(1) Terminal insulator (inside)
(2) Contact plate
(3) Terminal bolt
(4) Terminal insulator (outside)
(5) Wave washer
(6) Terminal nut

**NOTICE:**
**Be careful to install the terminal insulator (inside) and wave washer in the correct direction.**

(f) Temporarily tighten the terminal nuts.




(g) Tighten terminal nuts.
(1) Put a wooden block on the contact plate and press it down with a hand press.

**Dimensions of wooden block:**
**20 x 37 x 40 mm (0.79 x 1.46 x 1.57 in.)**
**Press force:**
**981 N (100 kgf, 221 lbf)**

**NOTICE:**

- **Check the diameter of the hand press ram. Then calculate the gauge pressure of the press when 981 N (100 kgf, 221 lbf) of force is applied.**
  **Gauge pressure:**

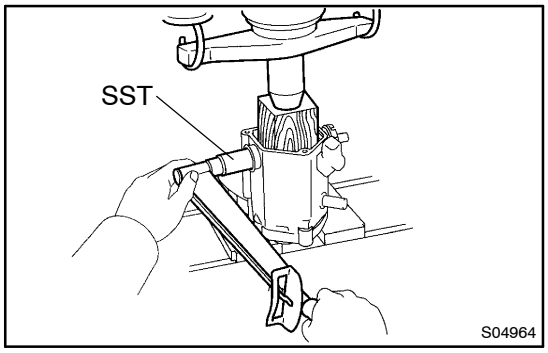
$$\text{(kgf/cm}^2\text{)} = \frac{\text{100 kgf}}{\left(\frac{\text{Ram diameter (cm)}}{2}\right)^2 \times 3.14\ (\pi)}$$

$$\text{(psi)} = \frac{\text{221lbf}}{\left(\frac{\text{Ram diameter (in.)}}{2}\right)^2 \times 3.14\ (\pi)}$$

**(kPa) = (kgf/cm$^2$) x 98.1**

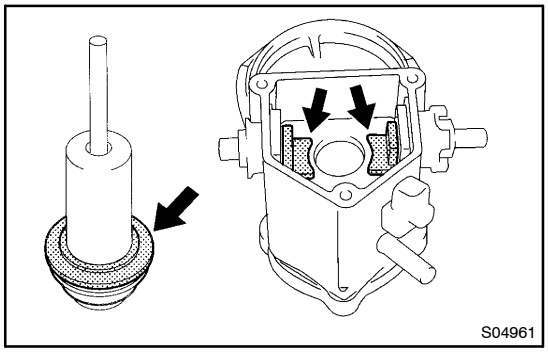
**(kPa) = (psi) x 6.9**

- **If the contact plate is not pressed down with the specified pressure, the contact plate may tilt due to coil deformation or the tightening of the nut.**




(2) Using SST, tighten the nuts to the specified torque.
SST 09810–38140
**Torque: 36.3 N·m (370 kgf·cm, 27 ft·lbf)**

**NOTICE:**
**If the nut is over tightened, it may cause cracks on the inside of the insulator.**




(h) Clean contact surfaces of contact plate and plunger.
Clean the contact surfaces of the remaining contact plate and plunger with a dry shop rag.

(i) Reinstall magnetic switch end cover.
Install the plunger, new gasket, end cover and lead clamp with the 3 bolts.
**Torque: 3.6 N·m (37 kgf·cm, 32 in.·lbf)**