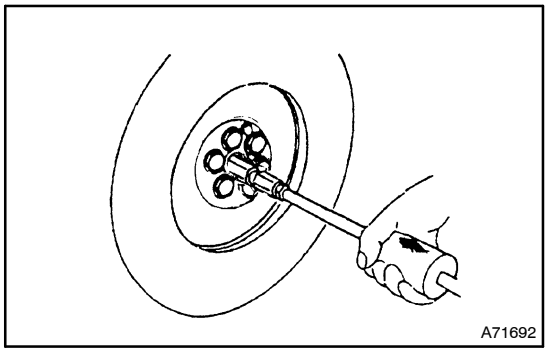
1414A–01

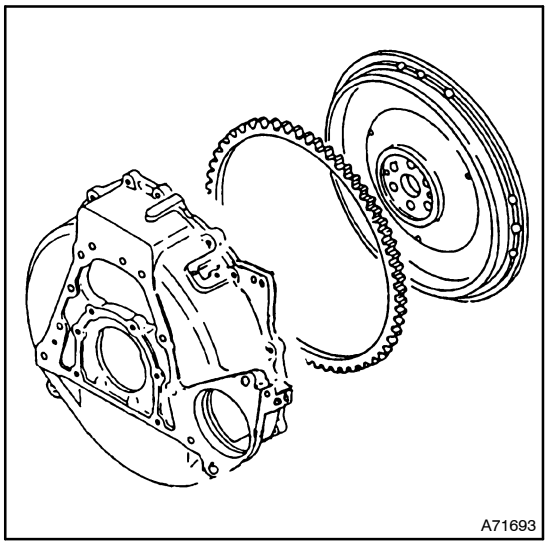
OVERHAUL

1. REMOVE CRANKSHAFT PULLEY

2. REMOVE OIL PAN SUB–ASSY



3. REMOVE PILOT BEARING



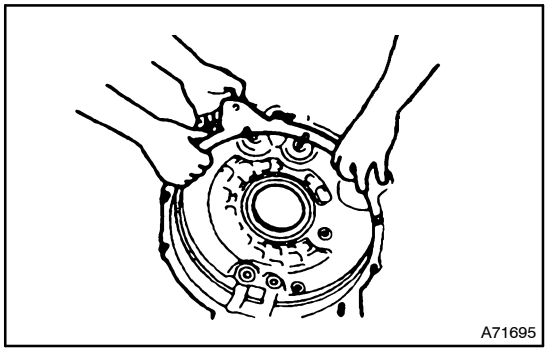
4. REMOVE FLYWHEEL SUB–ASSY

(a) Remove the flywheel mounting bolts.

(b) Hold a copper rod through the starter hole against the flywheel, and strike the rod lightly with a hammer to remove the flywheel from the crankshaft while rotating the crankshaft.

NOTICE:

The flywheel is heavy. When removing, be careful not to drop it on your feet.



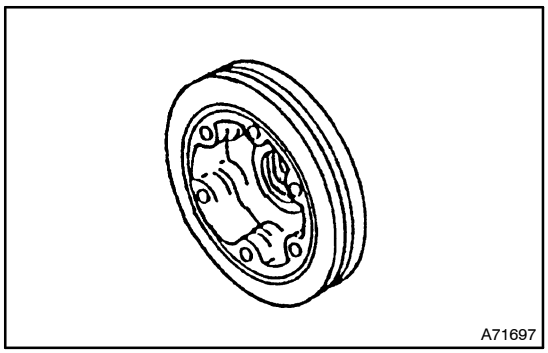
5. REMOVE FLYWHEEL HOUSING

(a) Remove the rear mounting bolts of the flywheel housing.

(b) Using a plastic–faced hammer, remove the flywheel housing by striking it lightly.

CAUTION:

The flywheel housing is heavy. When removing, be careful not to drop it on your feet.



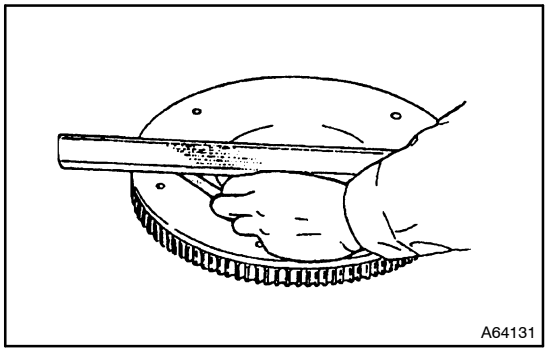
6. INSPECT CRANKSHAFT PULLEY

HINT:

- Clean the torsional damper with a commercial cleaning agent before inspection.
- Use a cleaning agent that dose not damage gum.

(a) Check if there are any cracks in the damper rubber section.

If the cracks are excessive, replace the pulley



7. INSPECT FLYWHEEL SUB–ASSY

(a) Check the friction surface for damage.

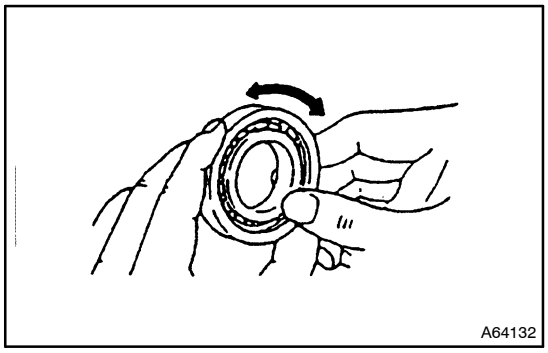
(b) Check the friction surface for distortion.

(1) Grinding and replacement should be performed as necessary.

Maximum deflection: 0.04 mm (0.0016 in.)

Grind limit: 1.00 mm (0.0394 in.)

If the flywheel is ground over the limit, replace it with a new one.



8. INSPECT PILOT BEARING

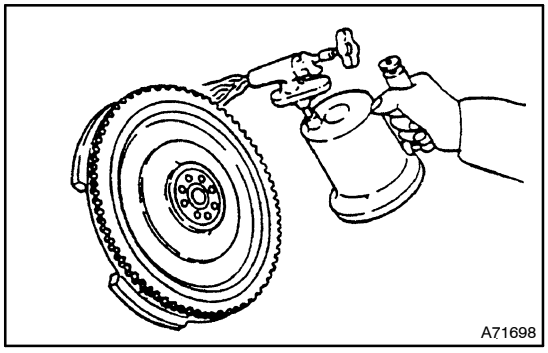
(a) Rotate the bearing lightly by hand, and check whether there is any abnormal noise or clatter and whether the balls run smoothly.

If there is any fault, replace the pilot bearing.

9. INSPECT FLYWHEEL RING GEAR

(a) Visually check the flywheel ring gear.

If damage such as wear and scratches is excessive, replace the part.



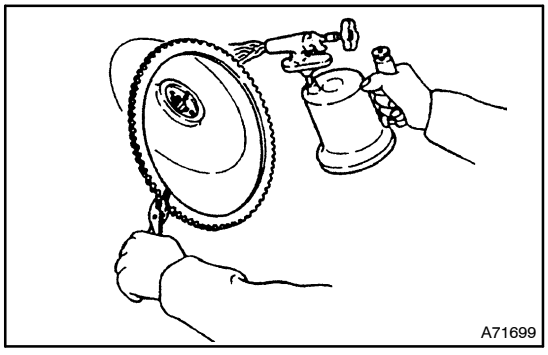
10. REMOVE FLYWHEEL RING GEAR

(a) Using a torch, heat the ring gear evenly to about 200°C (392°F).

(b) Using a metal rod as a pad, uniformly strike all around the ring gear in a uniform manner and remove the gear.

CAUTION:

Be careful not to overheat the ring gear.



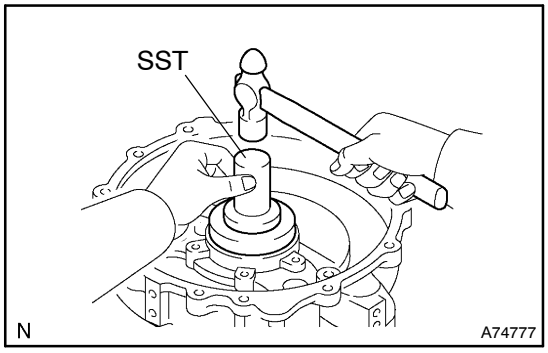
11. INSTALL FLYWHEEL RING GEAR

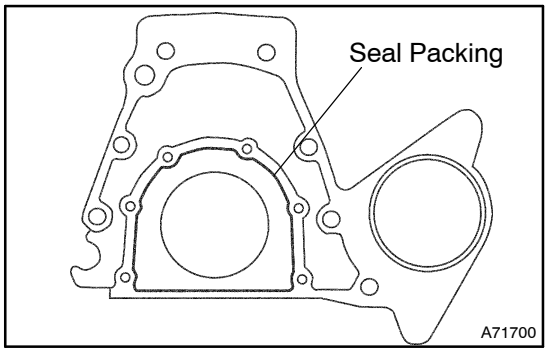
(a) Using a torch, heat the ring gear evenly to about 200°C (392°F).

(b) Using a metal rod, strike the ring gear onto the the flywheel with its chamfered gear teeth facing the block.

NOTICE:

Be careful not to overheat the ring gear.





12. INSTALL ENGINE REAR OIL SEAL

(a) Apply a small amount of clean engine oil on the outer periphery of the oil seal.

(b) Using SST and a hammer, tap in oil seal to the flywheel housing, checking that it is flush with the end of the flywheel housing.

SST 09223–78010

NOTICE:

Make sure that the lip of the oil seal is coated with the oil seal lubricating grease (lithium–based).

13. INSTALL FLYWHEEL HOUSING

(a) Clean the rear end plate mounting surface of the flywheel housing.

(b) Apply seal packing to the flywheel housing, then install it to the rear end plate within 20 minutes.

Seal packing: Part No. 08826–00080 or equivalent
Coating width: 1.5 – 2.5 mm (0.059 – 0.098 in.)
Torque: 117.7 N·m (1,200 kgf·cm, 87 ft·lbf)

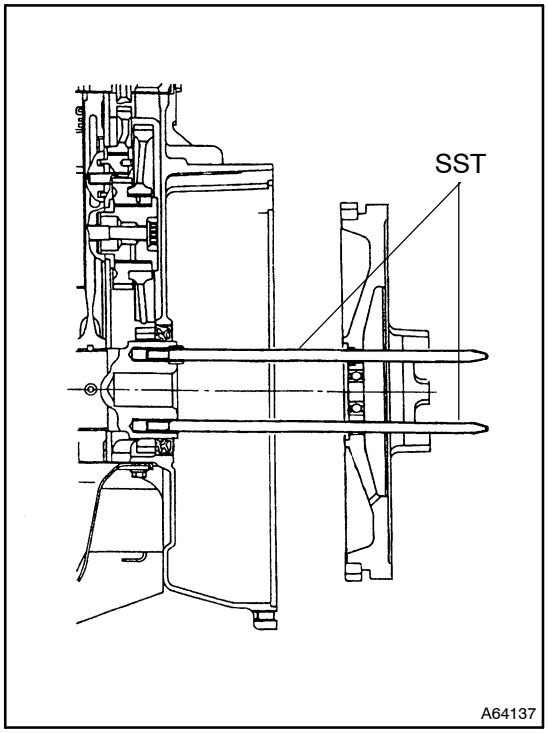
If left more than 20 minutes, clean off the seal packing completely and reapply the seal packing.

NOTICE:

Before installing the flywheel, be sure to tighten the bolt A, apply seal packing to the flywheel housing, and be sure to assemble the stud bolt on the block side.

CAUTION:

The flywheel is heavy. When installing, be careful not to drop it on your feet.



14. INSTALL FLYWHEEL SUB–ASSY

(a) Make sure that there are no burns or dirt on the contact surface or in the threaded hole of the crankshaft or flywheel.

(b) Insert SST onto the crankshaft.

SST S0948–11340

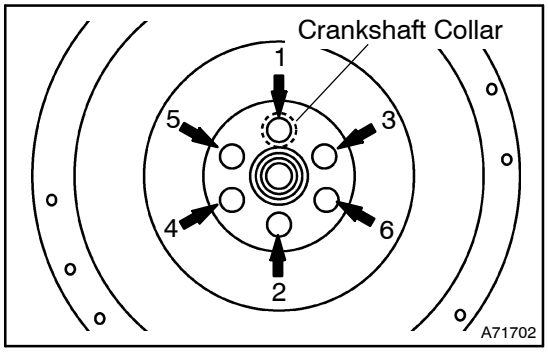
HINT:

Place one guide bar on one side of the collar knock and another on the opposite side of the collar knock.

(c) Insert the flywheel slowly until it contacts the collar knock in order to prevent impact on the guide bar. Adjust the position, then insert it completely.

CAUTION:

The flywheel is heavy. When installing, be careful not to drop it on your feet.

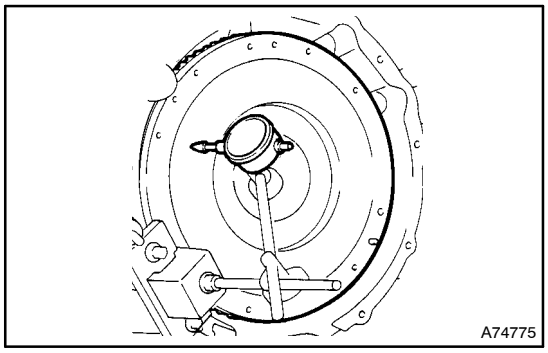


(d) Apply clean engine oil to the threads of the flywheel bolt and the flywheel bolt seat. Be sure to tighten 2 or 3 threads provisionally by hand. Then, tighten the 4 flywheel bolts with a low–torque impact wrench.

(e) Pull out the guide bar and tighten the remaining 2 flywheel bolts provisionally as in step (d).

(f) Tighten the flywheel bolts in the order shown in the illustration.

Torque: 186 N·m (1,900 kgf·cm, 137 ft·lbf)

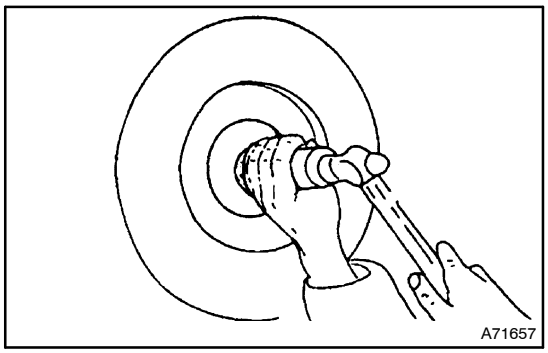


(g) Measure the sliding surface play of the flywheel.

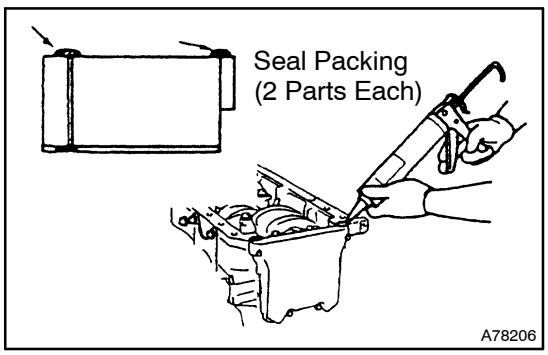
(1) Using a dial gauge, measure the runout of the flywheel.

Maximum runout: 0.15 mm (0.0059 in.)

If the runout is greater than the maximum, resurface the sliding surface.



15. INSTALL PILOT BEARING



16. INSTALL OIL PAN SUB–ASSY

(a) Make sure that there is no deformation, impact marks or foreign particles on the mounting surface and that the surface of the upper oil pan is not stiffened.

(b) Place a guide pin of 70 mm (2.76 in.) or longer in the cylinder block.

(c) Apply seal packing to the front and back ends of the cylinder block lower surface.

Seal packing: Part No. 08826–00080 or equivalent
Coating width: 1.5 – 2.5 mm (0.059 – 0.098 in.)
Torque: 22.5 N·m (230 kgf·cm, 17 ft·lbf)

17. INSTALL CRANKSHAFT PULLEY
Torque: 514.8 N·m (5,250 kgf·cm, 380 ft·lbf)