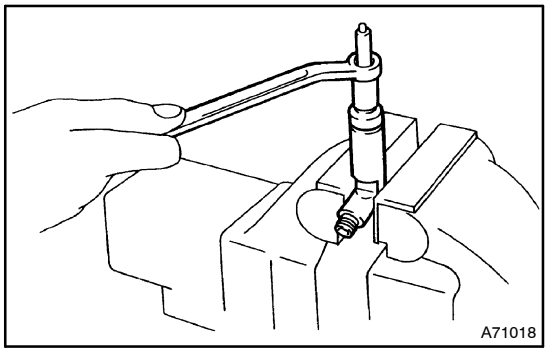
110R1–01

OVERHAUL



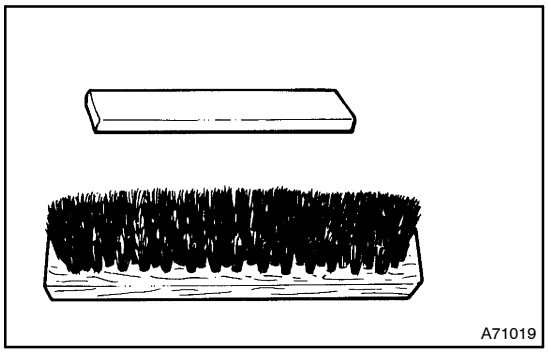
1. REMOVE NOZZLE ASSY

(a) Remove the nozzle holder retaining nut.

NOTICE:

When disassembling the nozzle, be careful not to drop the inner parts.

(b) Disassemble the nozzle holder and nozzle set, and remove the nozzle assy.

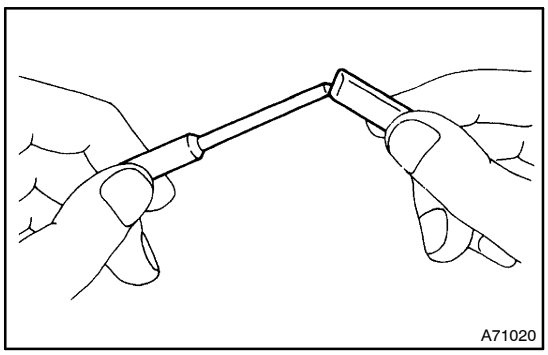


2. CLEAN NOZZLE ASSY

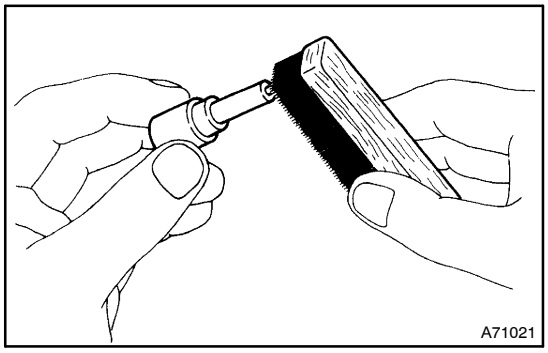
(a) Using a wooden stick and brass brush, clean the nozzle. Wash them in clean diesel fuel.

HINT:

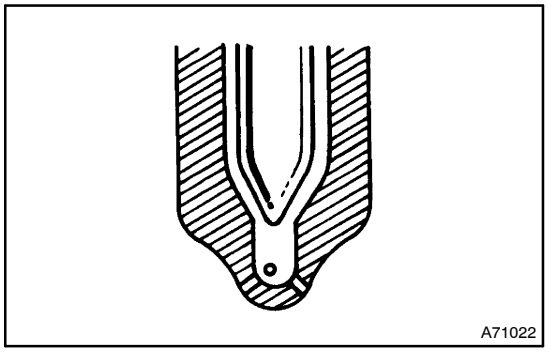
Do not touch the nozzle mating surfaces with your fingers.



(b) Using a wooden stick, remove the carbons adhering to the nozzle needle tip.

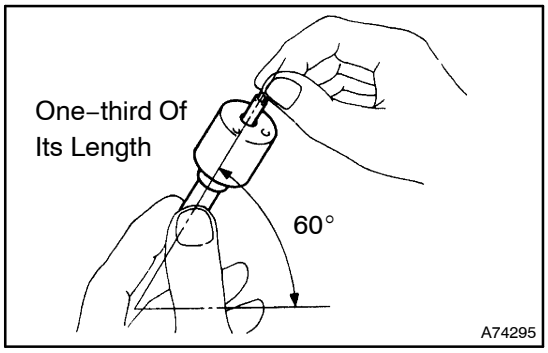


(c) Using a brass brush, remove the carbons from the exterior of the nozzle body (except lapped surface).



(d) Check the seat of the nozzle body for burns or corrosion.
(e) Check the nozzle needle tip for damage or corrosion.

If any of these conditions are present, replace the nozzle assy.



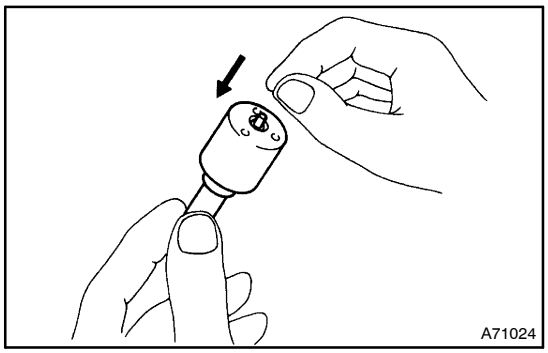
3. INSPECT NOZZLE ASSY

(a) Wash the nozzle in clean diesel fuel.

HINT:

Do not touch the nozzle mating surfaces with your fingers.

(b) Tilt the nozzle body about 60 degrees and pull the needle out about one–third of its length.
(c) When released, the needle should fall into the body vent smoothly by its own weight.



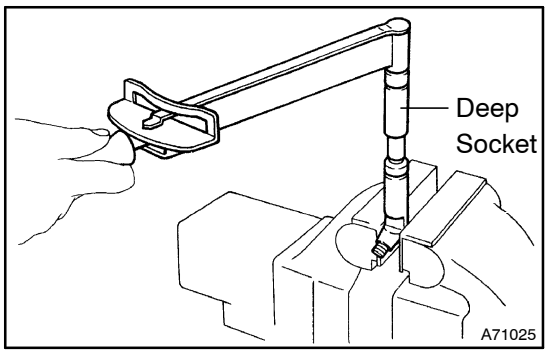
(d) Repeat this inspection, rotating the needle slightly each time. If the needle does not fall freely, replace the nozzle assy.

4. INSTALL NOZZLE ASSY

(a) Assemble the nozzle holder body, adjusting shim, capsule sub–assembly, adjusting shim, No. 1 pressure spring, distance piece, 2 straight pins and nozzle sub–assembly, and finger–tighten the retaining nut.

HINT:

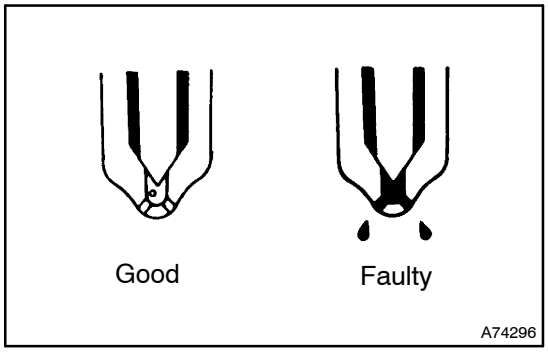
- Align the holes of the nozzle body, distance piece and nozzle holder body.
- When the thickness of the adjusting shim originally used is unclear, use a shim with 1.5 mm (0.56 in.) thickness instead.



(b) Using a deep socket wrench, tighten the retaining nut.
Torque: 63.7 N·m (650 kgf·cm, 47 ft·lbf)

NOTICE:

Over–torquing could make the nozzle deformed, the needle stuck or other areas defective.

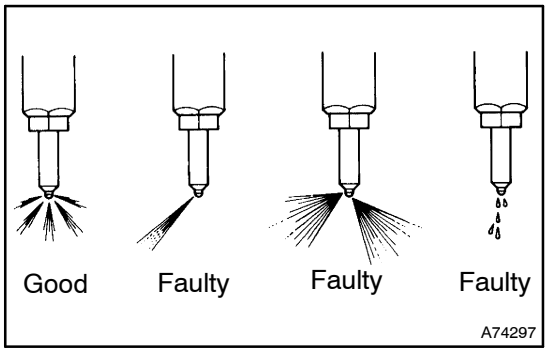


5. INSPECT NOZZLE HOLDER AND NOZZLE SET

(a) Check for leaks.

(1) While maintaining pressure at about 981 – 1,961 kPa (10 – 20 kgf/cm^2 142 – 284 psi) below No.1 opening pressure (adjust it by tester handle), check that there is no dripping from the injection hole or around the retaining nut for 10 seconds.

If there is dripping within 10 seconds, replace or clean and overhaul the nozzle assy.



(b) Check the spray pattern.

(1) The injection nozzle should shudder at a certain pumping speed between 15 – 60 times (old nozzle) or 30 – 60 times (new nozzle) per minute.

(2) Check the spray pattern during shuddering.

If the spray pattern is not correct during shuddering, replace or clean the nozzle.