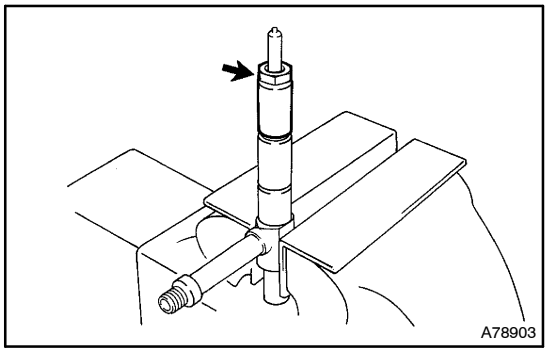
110PQ–01

OVERHAUL



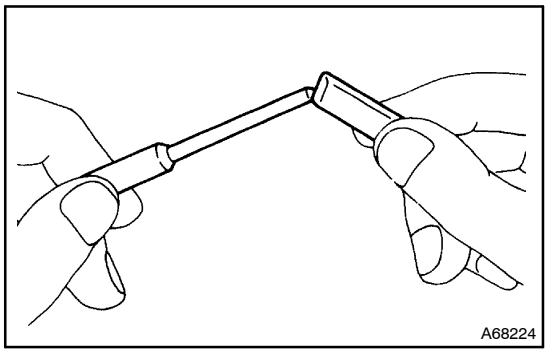
1. REMOVE NOZZLE ASSY

(a) Using a 14 mm deep socket wrench, unscrew the nozzle holder retaining nut.

NOTICE:

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

(b) Remove the 2 pressure springs, 2 pressure spring seats, 3 adjusting shims, pressure pin, 2 pins, tip packing and the nozzle assy.



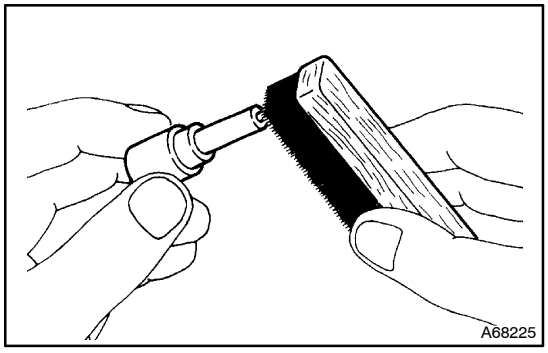
2. CLEAN NOZZLE ASSY

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

NOTICE:

Do not touch the nozzle mating surfaces with your fingers.

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

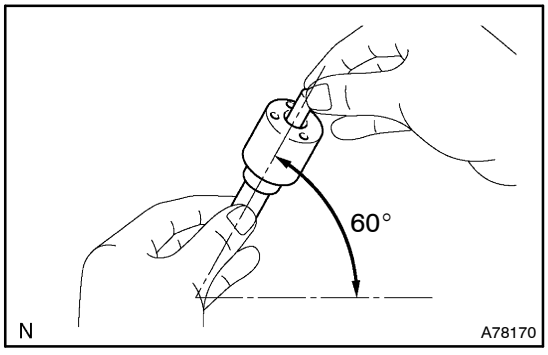


(c) Using a brass brush, remove the carbon from the exterior of the nozzle body (except lapped surface).

(d) Check the nozzle body for burns or corrosion.

(e) Check the nozzle needle tip for damage or corrosion.

If any of these damages are found, replace the nozzle assy.



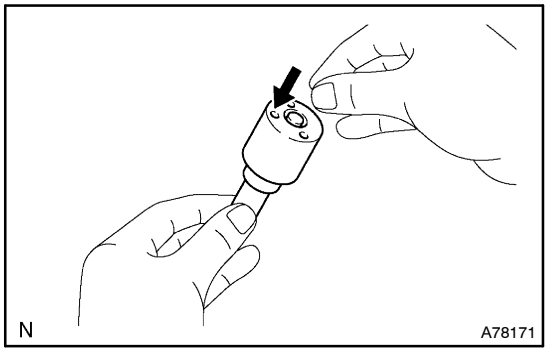
3. INSPECT NOZZLE ASSY

(a) Wash the nozzle in clean diesel fuel.

NOTICE:

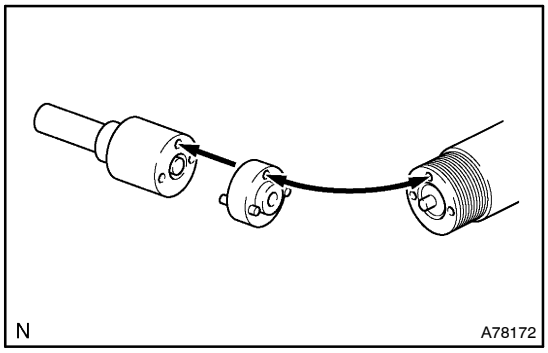
Do not touch the nozzle mating surfaces with your fingers.

(b) Tilt the nozzle body about 60° and pull the needle out about one–third of its length.



(c) Check that the needle smoothly falls into the body vent by its own weight when released.
(d) Repeat this test, rotating the needle slightly every time.

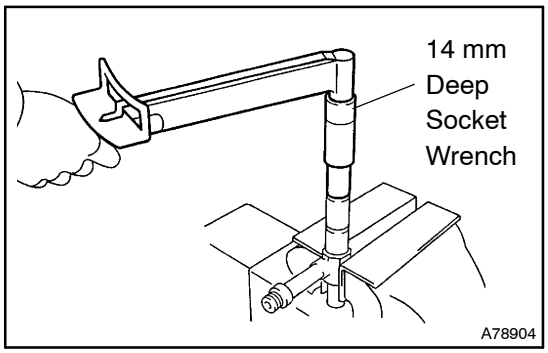
If the needle does not fall smoothly, replace the nozzle assy.



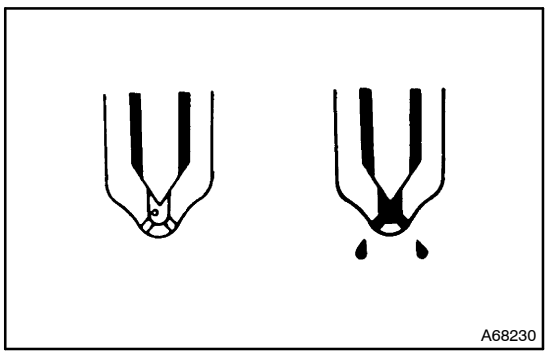
4. INSTALL NOZZLE ASSY

(a) Assemble the nozzle holder body, 3 adjusting shims, 2 pressure springs, 2 pressure spring seats, pressure pin, 2 pins, tip packing, the nozzle assy and nozzle holder retaining nut, and tighten the nut with your finger.

HINT:
Align the holes of the nozzle body, tip packing and nozzle holder body.



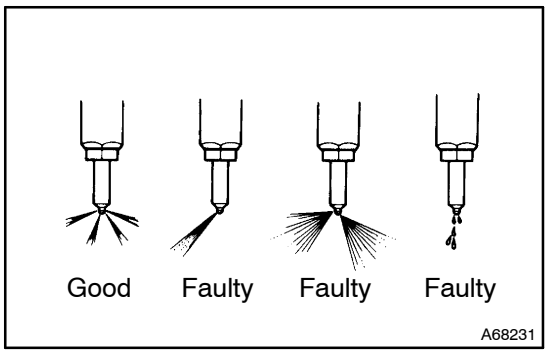
(b) Using a 14 mm deep socket wrench, tighten the retaining nut.
Torque: 29.4 N·m (300 kgf·cm, 22 ft·lbf)



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 opening pressure (adjust it by the 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 holder and nozzle set.



(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 while shuddering.

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