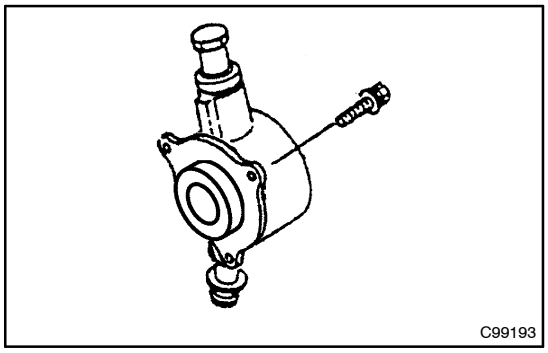
320U0–01

# OVERHAUL

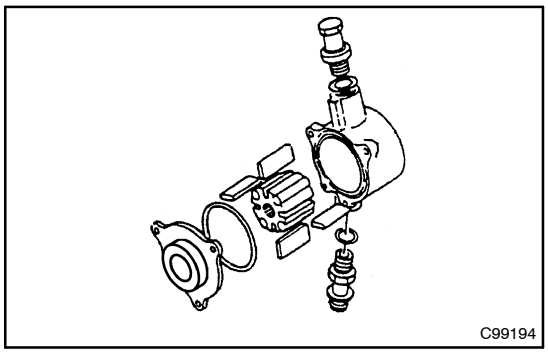
**1. REMOVE GENERATOR W/ VACUUM PUMP ASSY**

(a) Disconnect the negative (–) terminal of the battery.
(b) Disconnect the +B terminal and electrical wiring harness connector.
(c) Remove the clip and disconnect the vacuum hose.
(d) Remove the vacuum pump together with the generator.


C99193

**2. REMOVE VACUUM PUMP ASSY**

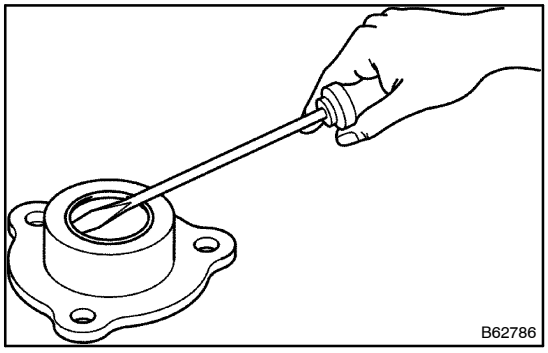
(a) Remove the 3 pump set bolts.
(b) Remove the vacuum pump from the alternator.


C99194

**3. REMOVE VACUUM PUMP BLADE A**

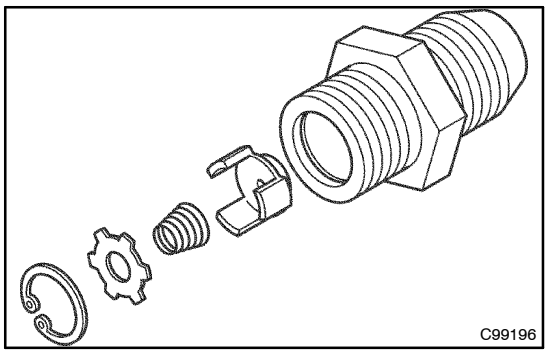
(a) Remove the cover.
(b) Remove the rotor, blade A and O–ring.

**NOTICE:**
**Do not tighten a vise.**


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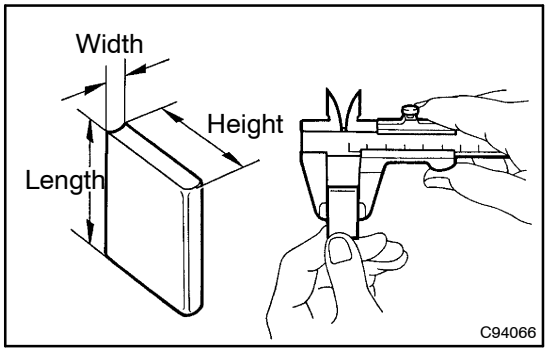
**4. REMOVE OIL SEAL**

(a) Using a screwdriver, pry out the oil seal.


C99196

**5. REMOVE CHECK VALVE SUB–ASSY**

(a) Using snap ring pliers, remove the check valve.




**6. INSPECT VACUUM PUMP BLADE A**

(a) Check the blades for wear or damage.

(b) Using a vernier calipers, measure the dimensions of the blades.

**Minimum Dimension:**

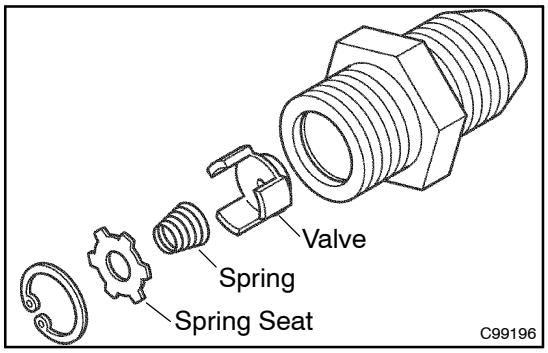
| | |
|---|---|
| MInimum Height | 14.8 mm (0.583 in.) |
| Minimum Width | 4.8 mm (0.189 in.) |
| Minimum Length | 38.9 mm (1.531 in.) |

If necessary, replace the blade.

**7. INSPECT VACUUM PUMP CASE**

(a) Inspect the inside surface on the case for scoring.

If necessary, replace the vacuum pump assembly.




**8. INSPECT CHECK VALVE SUB–ASSY**

(a) Check the valve, spring seat and spring for damage.

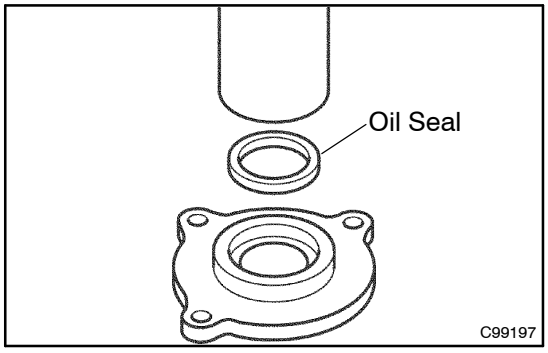
If necessary, replace it.

**9. INSTALL CHECK VALVE SUB–ASSY**

(a) Using snap ring pliers, install the check valve.

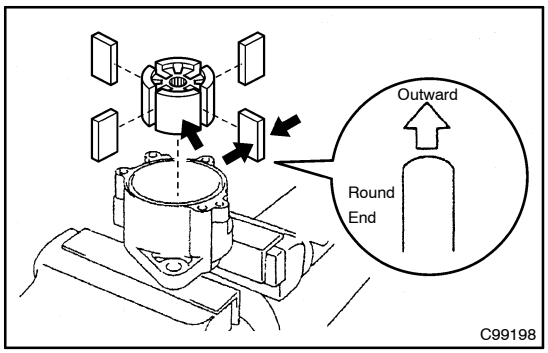
HINT:

Check the spring inserting direction, as shown in the illustration, and inspect the check valve.




**10. INSTALL OIL SEAL**

(a) Using a suitable tool, press in the oil seal to the cover.

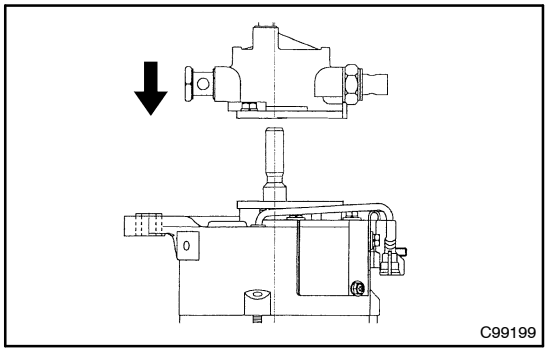



**11. INSTALL VACUUM PUMP BLADE A**

(a) Apply engine oil to the rotor blades.

(b) Install the rotor into the housing.

(c) Install the blades with the round end facing outward.

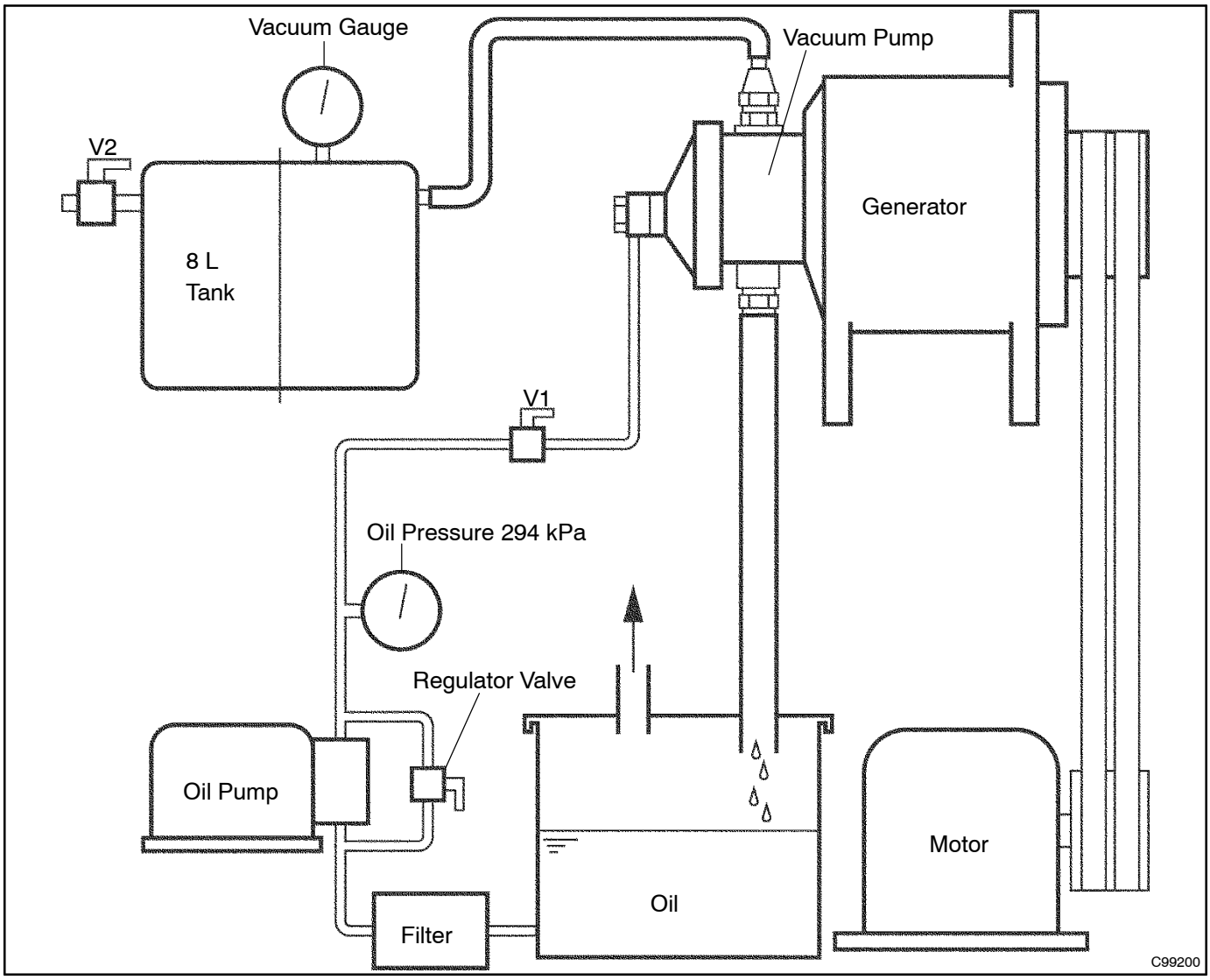



**12. INSTALL VACUUM PUMP ASSY**

(a) Put the O–ring in the cover, and install the vacuum pump.
(b) Stand the generator, and install the vacuum pump to the alternator rotor shaft.
(c) Tighten the set bolts.
**Torque: 7.5 N·m (76 kgf·cm, 5.5 in.·lbf)**
(d) Install the check valve.
**Torque: 32 N·m (326 kgf·cm, 24 ft·lbf)**

**13. INSPECT VACUUM PUMP ASSY**

(a) Set the vacuum pump to the bench tester, as shown below.
(b) Open valve V1, leaving valve V2 open.
(1) With the vacuum pump running steady at 1000 rpm, close valve while measuring the time. Measure the time until the pressure reaches 294 kPa.




**14. INSTALL GENERATOR W/ VACUUM PUMP ASSY**