DATE: April 18, 2007

SUBJECT: Addco Throttle Switch Replacement

RATING: ☒ ALERT (Potential Problem)

MACHINE MODEL(S): CX Hammer
SP2R Spike Puller
Grabber LS-2 Spike Puller (including rebuilt machines)
Super Claws LS-2 Spike Puller (including rebuilt machines)

SERIAL NUMBER(S): All with Addco Throttle Actuator

SUMMARY: There have been problems with premature failure of the Addco Throttle Actuators. The failure has been primarily with the High Speed Limit Switch. The limit switch contacts will bounce open and closed due to engine vibration. This will ultimately weld the limit switch contacts together. If the limit switch is not replaced, the Throttle Speed Toggle Switch on the operator's panel can fail. A typical Addco Throttle Actuator is shown in Figure 1.

Some machines were built with a 10 amp circuit breaker installed in the power wire feeding the toggle switch. This circuit breaker should be replaced with a 3 amp circuit breaker.

OPERATIONAL IMPACT: If the Throttle Actuator fails, the engine speed will not be able to be controlled with the toggle switch. In addition, the toggle switch can be damaged by excessive current flowing through it.
ACTION:
The 4PDT Throttle Toggle Switch should be replaced with a DPDT Momentary Contact, Center-Off Toggle Switch, P/N 5125588. See Figure 2 for wiring instructions. Please note that after the new throttle switch is installed, the engine will be able to be started with the throttle in the high-speed position.

In addition, a 3-Amp Circuit Breaker, P/N 5128941 should be installed in the power wire to the Throttle Toggle Switch. This will help protect the wiring to the switch as well as the throttle actuator from current overloads.

A Throttle Switch Replacement Kit, P/N 98410235 is available. This kit consists of 1 each of Switch, P/N 5125588; 3-Amp Circuit Breaker, P/N 5128941; Actuator Circuit Board, P/N 59040180 Wiring instructions are also included.

WARRANTY:
The Throttle Switch Replacement Kit will be supplied under warranty for all machines equipped with Addco Throttle actuators from Nordco. Contact the Nordco Service Department at 1-800-445-9258 to order the kit. The machine serial number will be required to receive the kit.
CX Hammer Instructions

1. Remove all wires from the original Throttle Switch (TGS6) and remove the switch.
2. Remove Wire 42 from Terminal 2 of the Pump On/Off Switch (TGS7) and discard.
3. Install the 3-Amp Circuit Breaker in the Circuit Breaker Socket at any open slot.
4. Install the replacement switch in the mounting hole with Terminal 1 on the top left as shown in Figure 2.
5. Install a new wire from the 3-Amp Circuit Breaker to Terminal 2 of the Throttle Switch (TGS6). Number this wire 567.
6. Connect the wires to the replacement Throttle Switch (TGS6) as shown in the table below.
7. Connect Wire 41 to Terminal 2 of the Pump On/Off Switch (TGS7).

<table>
<thead>
<tr>
<th>TGS6</th>
<th>Terminal 1</th>
<th>Terminal 2</th>
<th>Terminal 3</th>
<th>Terminal 4</th>
<th>Terminal 5</th>
<th>Terminal 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX Hammer</td>
<td>566</td>
<td>567</td>
<td>37</td>
<td>37</td>
<td>2</td>
<td>566</td>
</tr>
</tbody>
</table>

Figure 2
Original and Replacement Throttle Toggle Switches

CX HAMMER THROTTLE SWITCH WIRING INSTRUCTIONS
SP2R Instructions

1. Remove all wires from the original Throttle Switch (S2) and remove the switch.
2. Remove Wire 197 from Terminal 2 of the Pump On/Off Switch (S10) and discard.
3. Install the 3 Amp Circuit Breaker in the Circuit Breaker Socket at CB14.
4. Install the replacement Throttle Switch (S2) in the mounting hole with Terminal 1 on the top left as shown in Figure 3.
5. Install a new wire from CB14 to Terminal 2 of Throttle Switch (S2). Number this wire 567.
6. Connect the wires to the replacement Throttle Switch (S2) as shown in the table below.
7. Connect Wire 98 to Terminal 2 of the Pump On/Off Switch (S10).
8. If engine speeds up when the switch is placed in the Slow position, reverse the wires on Terminals 4 and 5 of the Addco Throttle Actuator.

<table>
<thead>
<tr>
<th>S2</th>
<th>Terminal 1</th>
<th>Terminal 2</th>
<th>Terminal 3</th>
<th>Terminal 4</th>
<th>Terminal 5</th>
<th>Terminal 6</th>
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<td>SP2R</td>
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<td>567</td>
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<td>126</td>
<td>2</td>
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</table>

Figure 3
Original and Replacement Throttle Toggle Switches