## Test Values

<table>
<thead>
<tr>
<th>Test Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery voltage (ignition turned on)</td>
<td>approx. 12 V</td>
</tr>
<tr>
<td>Cranking voltage</td>
<td>approx. 10 V</td>
</tr>
<tr>
<td>Ignition system voltages</td>
<td></td>
</tr>
<tr>
<td>terminal 15 to ground (terminal 5 at diagnostic socket)</td>
<td>battery voltage</td>
</tr>
<tr>
<td>between terminal 15 and 1 (terminal 5 and 4 at diagnostic socket)</td>
<td>0 V</td>
</tr>
<tr>
<td>4-pole round plug on ignition switching unit</td>
<td></td>
</tr>
<tr>
<td>between terminal 15 and 31</td>
<td>battery voltage</td>
</tr>
<tr>
<td>between terminal 16 and 31</td>
<td>battery voltage</td>
</tr>
<tr>
<td>Resistance of ignition coil</td>
<td></td>
</tr>
<tr>
<td>primary winding (terminal 16 to 1)</td>
<td>0.3–0.6 Ohms</td>
</tr>
<tr>
<td>secondary winding (terminal 1 to 4)</td>
<td>6–15 k Ohms</td>
</tr>
<tr>
<td>Transmitter resistance</td>
<td></td>
</tr>
<tr>
<td>terminal 7 to 3</td>
<td>600±100 Ohms</td>
</tr>
<tr>
<td>terminal 7 to ground</td>
<td>200 k Ohms</td>
</tr>
<tr>
<td>terminal 3 to ground</td>
<td>∞</td>
</tr>
<tr>
<td>Dwell angle at terminal TD at cranking speed</td>
<td>5–23°</td>
</tr>
</tbody>
</table>

### Conventional Tools

- Digital multimeter (volt-ohm-ammeter) - e.g. Sun Electric DMM-5
- Dwell angle meter - e.g. Sun Electric
Wiring Diagram
Wiring diagram breakerless transistorized ignition without series resistors:

1. Line connector
2. Switching unit
3. Diagnostic socket
4. Ignition distributor
5. Ignition coil

a) to fuse box, input terminal 15
b) to fuel pump relay with speed limitation

Color Code
br = brown
ge = yellow
gn = green
rt = red
sw = black

Test Procedure
Test voltage between pin 5 of the diagnostic socket (coil terminal 15) and ground. Ignition switched on. (see Fig. 1)
Nominal value: battery voltage
Nominal value O.K. Nominal value not O.K.

Test voltage supply via ignition switch.

Test voltage difference between pins 5 and 4 (coil terminal 15 and 1) of diagnostic socket. (see Fig. 2)
Nominal value: 0 Volt
Nominal value O.K. Nominal value not O.K. (voltage above 0.1 Volt)
Switch off ignition immediately.

Replace switching unit (2). (see Fig. 3)

Check pressure relief plug in ignition coil as well as resistance of ignition coil (between terminal 1 and 15, approximately 0.3–0.6 ohm). If the pressure relief plug has popped out (arrow) or if resistance value is incorrect, replace ignition coil. (see Fig. 4)

Test dwell angle at cranking speed on diagnostic socket or terminal TD.
Nominal value: from 5° to 23°
Nominal value O.K. Nominal value no reading. Nominal value higher than 23°

Replace switching unit.

Continued From (A) Continued From (B)

Test ignition distributor transmitter section for interruption and internal short circuit. Pull off green control line on switching unit. Test resistance between terminal 7 and 3 with ohmmeter. (see Fig. 5)
Nominal value: 600±100 ohm
Nominal value O.K. Nominal value not O.K.

Pull off plug connection of green cable on ignition distributor and test with ohmmeter whether 600±100 ohm are indicated at the distributor. (see Fig. 6)
If the nominal value is attained, replace green cable.
If the nominal value is not attained, replace ignition distributor.

Test ignition distributor transmitter section for ground connection.
Pull off green cable on control unit, connect ohmmeter to terminal 3 or 7 and to ground. (see Fig. 7)
Nominal value: above 200k ohm
Nominal value O.K. Nominal value not O.K.

Pull off plug connection of green cable on ignition distributor. Test resistance between any one of the two plugs on the ignition distributor and ground. (see Fig. 8)
Nominal value on both plugs: above 200k ohm or
If the nominal value is not attained at either plug, replace the ignition distributor.

End of Test
Fig. 3