The repair procedures given by the manufacturer in this document are based on the technical specifications current when it was prepared. The procedures may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed.
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<td>BVA</td>
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<tr>
<td>BVM</td>
<td>Manual gearbox</td>
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<td>DAE</td>
<td>Electric power assisted steering</td>
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<tr>
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</tr>
<tr>
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<td>Fault finding code</td>
</tr>
<tr>
<td>EGR</td>
<td>Exhaust gas recirculation</td>
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<td>ESP</td>
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<td>GMV</td>
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</tr>
<tr>
<td>GNC</td>
<td>Compressed natural gas</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquified petroleum gas</td>
</tr>
<tr>
<td>HLE</td>
<td>High elastic limit</td>
</tr>
<tr>
<td>MAG</td>
<td>Metal active gas (for welding steel)</td>
</tr>
<tr>
<td>MIG</td>
<td>Metal inert gas (for welding aluminium)</td>
</tr>
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<td>MR</td>
<td>Workshop repair manual</td>
</tr>
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<tr>
<td>UHLE</td>
<td>Ultra high elastic limit</td>
</tr>
<tr>
<td>VIN</td>
<td>Vehicle identification number</td>
</tr>
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</table>
1. SCOPE OF THIS DOCUMENT

This document presents the fault finding procedure applicable to computers with the following specifications:

- Name of computer: Siemens TA 2000
- Program no.: 94
- VDIAG no.: 10

2. ITEMS REQUIRED FOR FAULT FINDING

Documentation:
- Fault finding procedures (this manual)
- Assisted fault finding (included in the diagnostic tool), Dialogys.

Wiring Diagrams:
- Visu-Schéma (CD-ROM), paper version.

Diagnostic tools:
- CLIP

Special tooling required:
- Multimeter
- Elé. 1681
- Universal bornier
- Elé. 1588
- Bornier

3. REMINDERS

Procedure
- To carry out fault finding on the vehicle's computers, switch the ignition to fault finding mode (forced + after ignition).
- Proceed as follows:
  - Renault card in the card reader (keyless vehicle scenario 1, entry-level, not hands-free and scenario 2, top of the range, hands-free).
  - Press and hold the start button (longer than 5 seconds) with starting conditions not met.
  - Then connect the diagnostic tool and carry out the required operations.
- To cut off the + after ignition, proceed as follows:
  - Disconnect the diagnostic tool.
  - Press the start button twice briefly (less than 3 seconds).
  - Check that the forced + after ignition feed has been cut off by observing the extinction of the computer warning lights on the instrument panel.

Vehicle(s):
- MEGANE II

Function concerned:
- AUTOMATIC TRANSMISSION

Name of computer:
- Siemens TA 2000

Program no.:
- 94

VDIAG no.:
- 10

Note:
- The left and right-hand discharge bulb computers are fed when the dipped headlights are switched on. It is only possible to test them after the ignition has been switched on in fault finding mode (forced + after ignition feed) and the dipped headlights are switched on.
Faults

Faults are displayed as present or stored (they appeared in a certain context and have since disappeared, or they are still present).

The "present" or "stored" status indicates whether the fault occurred when using the diagnosis tool after switching on the ignition (without activating the system components).

Deal with present faults according to the procedure shown in the section on "Interpretation of faults".

For a stored fault, note the faults displayed and follow the instructions shown in the "Notes" section.

If the fault is confirmed when the notes are applied, the fault is present. In this case, deal with the fault.

If the fault is not confirmed, check:
– the electrical lines which correspond to the fault,
– the connectors on these lines (corrosion, bent pins, etc.),
– the resistance of the component detected as faulty,
– the condition of the wires (melted or split insulation, chafing).

Conformity check

The aim of the conformity check is to check the statuses and parameters that do not display a fault on the diagnostic tool when they are inconsistent. Therefore, this step is used to:
– find faults which are not displayed but which may correspond to a customer complaint.
– check that the system is operating correctly, and that there is no risk of a fault recurring after repair.

This section explains the fault finding procedures for statuses and parameters, and the conditions for checking them.

If the correct status is not displayed or a parameter is outside permitted tolerance values, you should consult the relevant fault finding page.

Customer complaints - Fault finding charts

If the diagnostic tool check is correct, but the customer complaint persists, the problem should be dealt with according to the "Customer complaint" chart.

A summary of the overall procedure to follow is provided on the following page in the form of a flow chart.
4. FAULT FINDING PROCEDURE

Check the battery charge and the condition of the fuses

Print the system fault finding log (available on CLIP and in the Workshop Repair Manual or Technical Note)

Connect CLIP

Dialogue with the electronic control unit?

YES

Read the faults

Faults present

Deal with present faults

Deal with stored faults

The cause is still present

Fault cured

NO

See Fault Finding Chart no. 1

Conformity check

Fault symptoms persist

Fault cured

NO

Use the fault finding charts (ALPs)

Fault symptoms persist

Fault cured

NO

Contact the Techline with the completed fault finding log

DP094101.0 Version 2
5. FAULT FINDING LOG

IMPORTANT!

NOTE

All faults in a complex system require a thorough diagnostic check with the appropriate tools.

The FAULT FINDING LOG, which should be completed during the procedure, enables you to keep track of the fault finding carried out. It is an essential document for consultation with the manufacturer.

IT IS THEREFORE COMPULSORY TO COMPLETE A FAULT FINDING LOG EVERY TIME FAULT FINDING IS CARRIED OUT.
### System: Automatic or semiautomatic gearbox

<table>
<thead>
<tr>
<th>Date</th>
<th>Log completed by</th>
<th>VIN</th>
<th>Engine</th>
</tr>
</thead>
</table>

#### Customer complaint

- 681 Gears not changing
- 622 Noise
- 679 No drive
- 680 Slipping
- 675 Warning light illuminates
- 682 Loss of power
- 683 Jolts or jerks
- 684 “3H”
- 685 Erratic gear change

#### Conditions under which the customer complaint occurs

- 005 While driving
- 004 Intermittently
- 008 When decelerating
- 007 When accelerating
- 009 Sudden fault
- 010 Gradual deterioration

#### Documentation used for fault finding

- **Fault finding procedure used**
  - Type of diagnostic manual: Workshop Repair Manual
  - Technical Note
  - Assisted fault finding

- **Wiring diagram used**
  - Wiring Diagram Technical Note:

- **Other documentation**
  - Title and/or part number: FD 12

---

Fault finding log page to print or photocopy ---
## FAULT FINDING LOG

### System: Automatic or semiautomatic gearbox

#### Identification of the computer and parts replaced in the system

<table>
<thead>
<tr>
<th>Part 1 part number</th>
<th>Part 2 part number</th>
<th>Part 3 part number</th>
<th>Part 4 part number</th>
<th>Part 5 part number</th>
<th>Computer part number</th>
<th>Supplier no.</th>
<th>Program no.</th>
<th>Software version</th>
<th>Calibration no.</th>
</tr>
</thead>
</table>

#### Faults found with the diagnostic tool

<table>
<thead>
<tr>
<th>Fault no.</th>
<th>Present</th>
<th>Stored</th>
<th>Fault name</th>
<th>Description</th>
</tr>
</thead>
</table>

#### Context in which fault occurs

<table>
<thead>
<tr>
<th>Status or parameter no.</th>
<th>Parameter name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
</table>

#### System-specific information

<table>
<thead>
<tr>
<th>Description:</th>
</tr>
</thead>
</table>

### Additional information

- Gearbox number
- If the gearbox is automatic, which mode is it (automatic/semiautomatic)?
- Gear changes affected?
- Result of the gearbox oil level check
- Result of the oil level check with "Add-On"
- Appearance of the oil
  - No
  - Seepage
  - Drops
- Location of the leak
- Type of noise (metallic, rubbing, etc.)
- Does the buzzer work? Yes  No

### What factors led you to replace the computer?

### What other parts were replaced?

### Other faulty functions?

### Your comments:
AUTOMATIC TRANSMISSION
Fault finding - System operation

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

Fault finding - System operation

GENERAL OPERATION
The automatic transmission on this model is the DP0, which is also found on other Renault vehicles including Laguna II, Clio II and Kangoo.

The automatic transmission computer controls gear-changing using several parameters, among them engine torque and the driver's driving style.

All signals travel to the computer by wire, except for those from the injection computer, which use the multiplex network.

Line K is used for computer diagnostics.

SYSTEM OPERATION
Multifunction switch (CMF) statuses:

Note:
Multifunction switch contact S1 is not connected on this model.
Ignore ET154 "Multifunction switches".

<table>
<thead>
<tr>
<th>Lever position</th>
<th>Multifunction switch contact S2</th>
<th>Multifunction switch contact S3</th>
<th>Multifunction switch contact S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>R</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td>CLOSED</td>
</tr>
<tr>
<td>N</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>D</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>M</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>+</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>-</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
</tbody>
</table>

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### Sequential Lever Switch Statuses:

<table>
<thead>
<tr>
<th>Lever Position</th>
<th>Sequential Lever Upshift Contact</th>
<th>Sequential Lever Downshift Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>R</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>N</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>D</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>M</td>
<td>CLOSED</td>
<td>CLOSED</td>
</tr>
<tr>
<td>+</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>-</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
</tbody>
</table>

### Shift Solenoids (EVS) Statuses:

- **Note:** The vehicle does not have a 3rd gear hold (D3). Ignore ET155 "Third gear hold contact".

### Lever Position Gear Engaged:

<table>
<thead>
<tr>
<th>Lever Position</th>
<th>P or N</th>
<th>D or M When Stopped</th>
<th>D or M When Driving</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Neutral</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>N</td>
<td>Neutral</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>P or N &lt; -10</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>D or M</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
</tbody>
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### Solenoid Valve Statuses:

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- **Version 2**
AUTOMATIC TRANSMISSION
Fault finding - System operation

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VDIAG no.: 10

MODULAR CONNECTOR
Socket Plug

A

B

C

D

E

Multifunction switch
Hydraulic electronic interface
Oil pressure sensor
Turbine speed sensor
Exchanger flow lock-up solenoid valve

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Version 2
AUTOMATIC TRANSMISSION
Fault finding - System operation

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COMPUTER INPUTS AND OUTPUTS

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<td>Automatic transmission computer</td>
</tr>
<tr>
<td>+ Battery Diagnostic socket</td>
<td>Solenoid valve activation</td>
</tr>
<tr>
<td>Feed (+ after ignition) Display + indicator lights</td>
<td>Intersystem signals Signals for engine</td>
</tr>
<tr>
<td>Driver actions (brake light switch, gear shift, multifunction switch)</td>
<td>Automatic transmission sensors (turbine speed, oil pressure, oil temperature)</td>
</tr>
<tr>
<td>Selector lever lock</td>
<td>Earth</td>
</tr>
<tr>
<td>Wire connection Multiplex connection</td>
<td></td>
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</table>

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<table>
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<th>Assigned Track</th>
<th>Track under review</th>
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</thead>
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<tr>
<td>1</td>
<td></td>
<td>Track of the sensor.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Shift solenoid feed.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Exchanger flow sensor control solenoid valve.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>AT display signal (except Scenic II).</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Shift solenoid 3 - control.</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Shift solenoid 4 - control.</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Shift solenoid 2 - control.</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Shift solenoid 1 - control.</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Selector lever lock - control.</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Exchanger flow sensor solenoid valve - control.</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Modulating solenoid valve 3.</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Modulating solenoid valve 4.</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Brake light switch + signal.</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Diagnostic signal K.</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Lock-up modulating solenoid valve.</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Shift solenoid 5 - control.</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>22</td>
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<td>Not used.</td>
</tr>
<tr>
<td>23</td>
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<td>Not used.</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Line pressure sensor feed.</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Line pressure sensor - signal.</td>
</tr>
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<td>26</td>
<td></td>
<td>Modulating solenoid valve feed.</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>After ignition feed.</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Earth.</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>Not used.</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Not used.</td>
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</table>
### AUTOMATIC TRANSMISSION

#### Fault finding - Track assignments

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<thead>
<tr>
<th>No.</th>
<th>Assignment</th>
<th>Number Track</th>
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<tr>
<td>23A</td>
<td>Program no.: 94</td>
<td>VDIAG no.: 10</td>
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<tr>
<td>31</td>
<td>Multifunction switch signal 2</td>
<td>A10</td>
</tr>
<tr>
<td>32</td>
<td>Multifunction switch signal 3</td>
<td>A11</td>
</tr>
<tr>
<td>33</td>
<td>Multifunction switch signal 4</td>
<td>A12</td>
</tr>
<tr>
<td>34</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Sequential switch control, downshift control</td>
<td>B3</td>
</tr>
<tr>
<td>37</td>
<td>Sequential lever N +1 control</td>
<td>A3</td>
</tr>
<tr>
<td>38</td>
<td>Engine CAN H signal</td>
<td>K4</td>
</tr>
<tr>
<td>39</td>
<td>Engine CAN L signal</td>
<td>K3</td>
</tr>
<tr>
<td>40</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Multifunction switch - signal</td>
<td>A7</td>
</tr>
<tr>
<td>43</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Gearbox input speed sensor + signal</td>
<td>D1</td>
</tr>
<tr>
<td>46</td>
<td>Gearbox input speed sensor - signal</td>
<td>D2</td>
</tr>
<tr>
<td>47</td>
<td>Not used</td>
<td></td>
</tr>
<tr>
<td>48</td>
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<td>49</td>
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</tr>
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<tr>
<td>51</td>
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<td>52</td>
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<td></td>
</tr>
<tr>
<td>53</td>
<td>Pressure solenoid valve 1 - signal</td>
<td>B4</td>
</tr>
<tr>
<td>54</td>
<td>Shift solenoid 6 - control</td>
<td>B1</td>
</tr>
<tr>
<td>55</td>
<td>Line pressure sensor + signal</td>
<td>C2</td>
</tr>
<tr>
<td>56</td>
<td>+ battery</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Protection and Switching Unit grey</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>connector 1</td>
<td></td>
</tr>
</tbody>
</table>
Fault finding - Replacement of components

Replacing the Computer

If Techline approves the computer replacement proceed as follows:

– In the “Identification” menu, find the gearbox oil wear meter code.

– Switch off the ignition.

– Replace the computer.

– If necessary, change the computer configuration in the “Enter configuration” menu.

– Enter the VIN into the computer with diagnostic tool command VP001 "VIN Entry".

– Enter the oil wear meter code from the old AT computer (found in the “Identification” menu) by running command VP015 "Transfer oil wear meter".

– Enter the gearbox oil change date with command VP016 "Enter gearbox oil change date".

– Switch off the ignition.

– Carry out a check using the diagnostic tool.

– Enter the After-Sales operation date with diagnostic tool command VP008 "Enter last After-Sales operation date".

Replacing an Automatic Transmission Component

For replacing other automatic transmission components, see Workshop Repair Manual 364 Section 2.

It is essential to contact your Techline before replacing an automatic transmission computer.
PROGRAMMING

G
VP001 "VIN ENTRY":
As it is necessary to enter the VIN each time dialogue is established with the diagnostic tool, it must be programmed into each vehicle computer whenever a computer is replaced.

Programming procedure:
– Connect the diagnostic tool
– Refer to automatic transmission fault finding
– Select parameter setting
– Enter the vehicle's VIN
– Clear the computer memory
– Exit diagnostic mode
– Switch off the ignition
– Wait for the end of the "power latch"
– Double-check the setting

G
VP009 "ENTER LAST AFTER-SALES OPERATION DATE":
The date of every operation carried out on the automatic transmission in the workshop must be entered.

Select command VP009 "Enter last After-Sales operation date" on the fault finding tool, then enter the service date with the keyboard.

G
VP015 "TRANSFER OIL WEAR METER":
Transfer the oil wear meter code from the old computer.

Do this by selecting command VP015 "Transfer oil wear meter" on the fault finding tool, then use the keyboard to enter the code found on the replaced computer.

G
VP016 "ENTER GEARBOX OIL CHANGE DATE":
Do this by selecting command VP016 "Enter gearbox oil change date" on the fault finding tool, then use the keyboard to enter the date found on the replaced computer.
<table>
<thead>
<tr>
<th>Fault number</th>
<th>Fault description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF002</td>
<td>Computer</td>
</tr>
<tr>
<td>DF003</td>
<td>Analogue sensor feed</td>
</tr>
<tr>
<td>DF005</td>
<td>Oil pressure sensor circuit</td>
</tr>
<tr>
<td>DF008</td>
<td>Multifunction switch intermediate position</td>
</tr>
<tr>
<td>DF009</td>
<td>Multifunction switch prohibited position</td>
</tr>
<tr>
<td>DF010</td>
<td>Instrument panel connection</td>
</tr>
<tr>
<td>DF012</td>
<td>Solenoid valve feed</td>
</tr>
<tr>
<td>DF016</td>
<td>Lock-up solenoid valve circuit</td>
</tr>
<tr>
<td>DF017</td>
<td>Exchanger flow rate solenoid valve circuit</td>
</tr>
<tr>
<td>DF018</td>
<td>Lock-up slip</td>
</tr>
<tr>
<td>DF019</td>
<td>Old oil</td>
</tr>
<tr>
<td>DF023</td>
<td>Engine oil temperature sensor circuit</td>
</tr>
<tr>
<td>DF024</td>
<td>Coolant temperature circuit</td>
</tr>
<tr>
<td>DF029</td>
<td>Multifunction switch in unstable position</td>
</tr>
<tr>
<td>DF036</td>
<td>Pressure regulating solenoid valve circuit</td>
</tr>
<tr>
<td>DF038</td>
<td>Turbine speed sensor circuit</td>
</tr>
<tr>
<td>DF048</td>
<td>Vehicle speed signal</td>
</tr>
<tr>
<td>DF049</td>
<td>Pressure regulation</td>
</tr>
<tr>
<td>DF055</td>
<td>Injection connection instrument panel</td>
</tr>
<tr>
<td>DF064</td>
<td>Display circuit</td>
</tr>
<tr>
<td>DF085</td>
<td>Shift solenoid &quot;EVS1&quot; circuit</td>
</tr>
<tr>
<td>DF086</td>
<td>Shift solenoid &quot;EVS2&quot; circuit</td>
</tr>
<tr>
<td>DF087</td>
<td>Shift solenoid &quot;EVS3&quot; circuit</td>
</tr>
<tr>
<td>DF088</td>
<td>Shift solenoid &quot;EVS5&quot; circuit</td>
</tr>
<tr>
<td>DF089</td>
<td>Shift solenoid &quot;EVS4&quot; circuit</td>
</tr>
<tr>
<td>DF093</td>
<td>Sequential gear lever circuit</td>
</tr>
<tr>
<td>DF095</td>
<td>Shift lock electromagnet circuit</td>
</tr>
<tr>
<td>DF109</td>
<td>Engine torque multiplex signal</td>
</tr>
<tr>
<td>DF112</td>
<td>Shift solenoid &quot;EVS6&quot; circuit</td>
</tr>
<tr>
<td>DF114</td>
<td>Multiplex pedal position</td>
</tr>
<tr>
<td>DF116</td>
<td>Engine multiplex speed signal</td>
</tr>
<tr>
<td>DF117</td>
<td>LH rear wheel multiplex speed signal</td>
</tr>
<tr>
<td>DF118</td>
<td>RH rear wheel multiplex speed signal</td>
</tr>
<tr>
<td>DF119</td>
<td>Brake pedal position</td>
</tr>
<tr>
<td>DF122</td>
<td>Passenger compartment connection</td>
</tr>
<tr>
<td>DF123</td>
<td>ABS computer connection</td>
</tr>
<tr>
<td>DF126</td>
<td>Turbine speed signal</td>
</tr>
<tr>
<td>DF129</td>
<td>Electronic stability program (ESP)</td>
</tr>
<tr>
<td>DF131</td>
<td>Slip</td>
</tr>
<tr>
<td>DF174</td>
<td>ABS fault detection</td>
</tr>
<tr>
<td>DF175</td>
<td>Left-hand front wheel multiplex speed signal</td>
</tr>
<tr>
<td>DF176</td>
<td>Right-hand front wheel multiplex speed signal</td>
</tr>
<tr>
<td>DF177</td>
<td>Automatic transmission overheating</td>
</tr>
</tbody>
</table>
Fault finding - Interpretation of faults

Conditions for applying the fault finding procedure to stored faults:

- The fault appears after the ignition has been switched on.
- Check that the computer earth is connected correctly to the vehicle's left-hand front side member.
- The battery voltage should be between 11.8 V and 13.2 V.
- Check the cleanness and condition of the connections.
- On track 1 of the Protection and Switching Unit's grey 12-track PPM2 connector, check the computer's permanent feed 20-A fuse F15.
- Check the cleanness and condition of the connections.
- On track 10 of the Protection and Switching Unit's grey 12-track PPM2 connector, check the computer's after-ignition feed 5-A fuse F5H.
- Disconnect the battery.
- Disconnect the computer. Check the cleanness and condition of the connections.
- Disconnect connector PPM2 in the Protection and Switching Unit.
- Take the universal bornier Elé. 1681.

Check the insulation, continuity and absence of stray resistance on the following connections:

- Computer track 56  PSU connector PPM2 track 1
- Computer track 27  PSU connector PPM2 track 10
- Computer track 28  Left-hand front side member electronic earth 2

Reconnect the battery.
- With the ignition on, check for 12 V in computer tracks 27 and 56.

If 12 V is not found, there is a failure in the Protection and Switching Unit.
- Run fault finding on the Protection and Switching Unit.
- If the fault is still present, contact your Techline.

AFTER REPAIR
- Deal with any other faults.
- Clear the fault memory and switch off the ignition.
- Carry out a road test.
- Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF003
PRESENT
OR
STORED

FEED TO THE ANALOGUE SENSORS

NOTES

If fault DF002 “Computer” is present or stored, deal with it first.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after the ignition has been switched on.

Disconnect the battery.

Disconnect the “modular connector”, and check the cleanness and condition of the connections.

Disconnect the computer. Check the cleanness and condition of the connections.

Take the “universal bornier Elé. 1681”.
Check the insulation, continuity and absence of stray resistance on the following connections:
(For “modular connector” connection details, see the “System operation and Track assignments” section.)

Computer  track 24 Track C1 Modular connector plug
Computer  track 25 Track C3 Modular connector plug
Computer  track 53 Track B4 Modular connector plug
Computer  track 54 Track B1 Modular connector plug

Reconnect the “modular connector”.

Check that the oil pressure sensor resistance between tracks 24 and 25 of the computer connector is approximately 20 kΩ.
If the resistance is not correct, either the sensor or the harness is damaged.

Check the oil-temperature sensor resistance between computer tracks 53 and 54.
The resistance should be between 2360 and 2660 Ω at a temperature of approx. 20 °C.
If the resistance is not correct, either the sensor or the harness is damaged.

If the fault is still present, contact your Techline.

If the fault does not disappear, deal with the other faults then go to the conformity check.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Conditions for applying the fault finding procedure to stored faults:
- The fault appears following a timed period of 10 seconds with the engine running at more than 2000 rpm.

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
  - Computer track 24 Track C1 Modular connector plug
  - Computer track 55 Track C2 Modular connector plug
  - Computer track 25 Track C3 Modular connector plug

Reconnect the "modular connector".
Check that the oil pressure sensor resistance between tracks 24 and 25 of the computer connector is approximately 20 kΩ.
If the value is not correct, replace the sensor.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

### Conditions for applying the fault finding procedure to stored faults

The fault appears when the selector lever is shifted from "Park" to "Drive" (with a stop at each lever position).

Check the cleanness, condition, and mounting of the multifunction switch.

Check the control settings (see Workshop Repair Manual).

Disconnect the battery.

Disconnect the "modular connector" and check the cleanness and condition of connector "A" connections. (For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Take the "universal bornier Elé. 1681". Check the continuity of the following connections on the modular connector's socket:

- Lever in position "P"
- Modular connector track A10  Modular connector track A7

- Lever in position "R"  Modular connector track A11  Modular connector track A7
  Modular connector track A12  Modular connector track A7

- Lever in position "N"  Modular connector track A11  Modular connector track A7

- Lever in position "D"  Modular connector track A12  Modular connector track A7

If the continuity is faulty, change the multifunction switch.

(continued on next page)

### After repair

Follow the instructions to confirm repair.

Deal with any other faults.

Clear the fault memory and switch off the ignition.

Carry out a road test.

Complete the operation by carrying out a check with the diagnostic tool.
Check the insulation of the following connections on the modular connector's socket:
- Lever in position “P”
  - Modular connector track A9  Modular connector track A7
  - Modular connector track A11  Modular connector track A7
  - Modular connector track A12  Modular connector track A7
- Lever in position “R”
  - Modular connector track A9  Modular connector track A7
- Lever in position “N”
  - Modular connector track A9  Modular connector track A7
  - Modular connector track A10  Modular connector track A7
  - Modular connector track A12  Modular connector track A7
- Lever in position “D”
  - Modular connector track A9  Modular connector track A7
  - Modular connector track A10  Modular connector track A7
  - Modular connector track A11  Modular connector track A7
If the insulation is faulty, replace the multifunction switch.

Disconnect the computer. Check the cleanliness and condition of the connections. Check the insulation, continuity and absence of stray resistance on the following connections:
- Computer track 31  Track A10 Modular connector plug
- Computer track 32  Track A11 Modular connector plug
- Computer track 33  Track A12 Modular connector plug
- Computer track 42 Track A7 Modular connector plug
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair. Deal with any other faults. Clear the fault memory and switch off the ignition. Carry out a road test. Complete the operation by carrying out a check with the diagnostic tool.
<table>
<thead>
<tr>
<th>Instrument Panel Connection</th>
</tr>
</thead>
</table>

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.

If the fault is still present, test the instrument panel.
Refer to the "Instrument panel" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

PROGRAM no.: 94
VDIAG no.: 10

DF012
PRESENT
OR
STORED

SOLENOID VALVES FEED
CO : Open circuit
CC.1 : Short circuit to + 12 V

NOTES
Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Shift solenoid activation").

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)
Computer  track  1  Track B3 Modular connector plug
Computer  track 10 Track B11 Modular connector plug

Reconnect the "modular connector".
Check across tracks 10 and 1 of the computer connector that the resistance of shift solenoid no. 1 is 40±Ω at 20°C.
If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

PROGRAM no.: 94
VDIAG no.: 10
DF016
PRESENT
OR
STORED

CONVERTER LOCK-UP SOLENOID VALVE CIRCUIT

CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Actuator sequential control").

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)
Computer  track 19  Track B6 Modular connector plug
Computer  track 26  Track B12 Modular connector plug
Reconnect the "modular connector".
Check across tracks 19 and 26 of the computer connector that the resistance of the converter lock-up solenoid valve is 1 ± 0.2 Ω at 20 °C.
If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF017
PRESENT
OR
STORED

EXCHANGER FLOW RATE SOLENOID VALVE CIRCUIT
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES
Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Actuator sequential control").

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Computer  track  12  Track E1  Modular connector plug
Computer  track  2  Track E2  Modular connector plug

Reconnect the "modular connector".
Check across tracks 12 and 2 of the computer connector that the resistance of the heat exchanger flow solenoid valve is 40 Ω ± 4 Ω at 20 °C.
If the resistance is not correct, the solenoid valve or harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF018
PRESENT
OR
STORED

CONVERTER LOCK-UP SLIPPAGE

NOTES
Carry out injection system fault finding and check that it is operating correctly
If the following faults are present or stored, deal with them first:
DF003 - DF005 - DF016 - DF020 - DF023 - DF038 - DF049 - DF177

Conditions for applying the fault finding procedure to stored faults:
The fault appears after driving with 3rd gear hold at a steady speed for more than 3 minutes continuously.

To check that there are no faults with the converter lock-up solenoid valve, use the interpretation of fault DF016 "Converter lock-up solenoid valve circuit".
To check that there are no faults with the turbine speed sensor, use the interpretation of fault DF038 "Turbine speed sensor circuit".
Check the gearbox oil quality and level.
If an oil change or top-up is necessary see the "Draining-Filling-Levels" section of the Workshop Repair Manual.
Check that the transmission is not leaking oil.
Carry out the converter stall test.
Follow the procedure in the "Converter stall test" section of the Workshop Repair Manual.
Carry out a "Conformity check" to detect any possible faults.
See the "Taking line pressure" section of the Workshop Repair Manual.
Connect the pressure gauge for a line pressure reading.
Hot engine and gearbox oil temperature between 60 and 80 °C.
Take the line pressure readings under the following conditions:
– selector lever in position "P" or "N" and engine running at 2000 rpm, the pressure should be between 2.6 and 3.2 bar,
– selector lever in position "R" and engine running at 2000 rpm, the pressure should be more than 4 bar,
– selector lever in position "D" and engine running at 2000 rpm, the pressure in first gear should be more than 7 bar.
If the values are not correct, there is a fault inside the gearbox.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
See the "System operation and Track assignments" section for how to reset the oil ageing counter to zero (Entering oil change date).
Switch off the ignition, switch the ignition back on and carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF020
PRESENT
OR
STORED
O
LD
OIL

NOTES
None.

Change the automatic transmission oil.
(Refer to the relevant section in the Workshop Repair Manual.)
Reset the computer's oil ageing counter to zero and enter the oil change date.
Do this by running command VP016 "Enter gearbox oil change date".
Reset the self-adapting systems to zero by running command RZ005 "Self-adapting systems".
If necessary, take the vehicle for a drive to program the new self-adapting systems.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

Conditions for applying the fault finding procedure to stored faults:
The fault appears after a road test.

1. Disconnect the battery.
2. Disconnect the "modular connector", and check the cleanliness and condition of the connections.
3. Disconnect the computer. Check the cleanliness and condition of the connections.
4. Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
   - Computer track 53  Track B4 Modular connector plug
   - Computer track 54  Track B1 Modular connector plug
5. Reconnect the "modular connector".
6. Check the oil temperature sensor resistance between computer connector tracks 53 and 54.
   - The resistance should be between 2360 and 2660 Ω at a temperature of 20 °C and between 290 and 327 Ω at a temperature of 80 °C.
7. If the resistance is not correct, the sensor or the electric/hydraulic interface harness is damaged.
   - Replace the sensor.
8. If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
1. Deal with any other faults.
2. Clear the fault memory and switch off the ignition.
3. Carry out a road test.
4. Complete the operation by carrying out a check with the diagnostic tool.

Siemens TA2000
Program no.: 94
VDIAG no.: 10
DF023
PRESENT OR STORED
GEARBOX OIL TEMPERATURE SENSOR CIRCUIT

NOTES
FAULT FINDING - INTERPRETATION OF FAULTS

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

DF024
PRESENT OR STORED

COOLANT TEMPERATURE SENSOR CIRCUIT

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual. If the fault is still present, carry out fault finding on the injection system.
See the "Injection" section of the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94  
VDIAG no.: 10

DF029
PRESENT  OR STORED

MULTIFUNCTION SWITCH IN UNSTABLE POSITION

NOTES

Conditions for applying the fault finding procedure to stored faults:
The fault appears when the selector lever is shifted from "Park" to "Drive" (with a stop at each lever position).

Check the cleanness, condition and mounting of the multifunction switch.
Check the control settings (see Workshop Repair Manual).
Disconnect the battery.
Disconnect the "modular connector" and check the cleanness and condition of connector "A" connections.
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)
Take the "universal bornier Elé. 1681". Check the continuity of the following connections on the modular connector's socket:

<table>
<thead>
<tr>
<th>Lever position</th>
<th>Modular connector track A10</th>
<th>Modular connector track A7</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;P&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;R&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;N&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;D&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the continuity is not good, change the multifunction switch.
(continued on next page)

AFTER REPAIR

Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0  
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Check the insulation of the following connections on the modular connector's socket:

- Lever in position "P"
  - Modular connector track A9
  - Modular connector track A7
  - Modular connector track A11
  - Modular connector track A7
  - Modular connector track A12
  - Modular connector track A7

- Lever in position "R"
  - Modular connector track A9
  - Modular connector track A7

- Lever in position "N"
  - Modular connector track A9
  - Modular connector track A7
  - Modular connector track A10
  - Modular connector track A7

- Lever in position "D"
  - Modular connector track A9
  - Modular connector track A7
  - Modular connector track A10
  - Modular connector track A7
  - Modular connector track A11
  - Modular connector track A7

If the insulation is faulty, replace the multifunction switch.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the insulation, continuity and absence of stray resistance on the following connections:

- Computer track 31
  - Track A10 Modular connector plug
- Computer track 32
  - Track A11 Modular connector plug
- Computer track 33
  - Track A12 Modular connector plug
- Computer track 42
  - Track A7 Modular connector plug

If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
AUTOMATIC TRANSMISSION

Fault finding – Interpretation of faults

- VDIAG no.: 10
- DF036

PRESSURE REGULATING SOLENOID VALVE CIRCUIT

CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES

Conditions for applying the fault finding procedure to stored faults:

- The fault appears after running command AC024 ("Actuator sequential control").

- Disconnect the battery.
- Disconnect the "modular connector", and check the cleanness and condition of the connections.
- Disconnect the computer. Check the cleanness and condition of the connections.
- Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:

  - Computer track 20  Track B9 Modular connector plug
  - Computer track 26  Track B12 Modular connector plug

- Check across tracks B9 and B12 of the "modular connector" socket that the resistance of the converter lock-up solenoid valve is 1 Ω ± 0.2 Ω at approximately 23 °C.

  - If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
- If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR

- If replacing the pressure regulating solenoid valve (EVM), the self-adapting systems must be deleted (command RZ005).
- Follow the instructions to confirm repair.
- Deal with any other faults.
- Clear the fault memory and switch off the ignition.
- Carry out a road test.
- Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF037
PRESENT
OR
STORED
KICKDOWN SWITCH CIRCUIT
DEF: Unidentified electrical fault
NOTES:
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.

If the fault is still present, test the ABS and ESP systems.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

AUTOMATIC TRANSMISSION

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF038

PRESENT OR
STORED

TURBINE SPEED SENSOR CIRCUIT
1.DEF : No signal
2.DEF: Signal interference

NOTES
Conditions for applying the fault finding procedure to stored faults:
The fault appears when the engine is running and the selector lever is in "Park".

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Computer  track 45  Track D1 Modular connector plug
Computer  track 46  Track D2 Modular connector plug

Reconnect the "modular connector".
Check across tracks 45 and 46 of the computer connector that the turbine speed sensor resistance is 300 ± 40 Ω at approximately 20 °C.
If the resistance is not correct, either the sensor or the harness is damaged.
Replace the turbine speed sensor.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF048

PRESENT
OR
STORED
VEHICLE SPEED SIGNAL

1. DEF: Problem with the system generating the speed signal or signal interference
2. DEF: No signal

NOTES
Deal with faults DF117, DF118, DF175
or
DF176
first if present or stored.

Test the multiplex network.
Refer to the "Multiplex network"
section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the
ABS and ESP
system.
Refer to the "ABS system and Electronic Stability Program"
section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000

PROGRAM no.: 94
VDIAG no.: 10

DF049
PRESENT
OR
STORED

GEARBOX OIL PRESSURE REGULATION

1.DEF: Pressure regulation
2.DEF: Measured pressure lower than the required pressure

NOTES

Carry out an injection system check and check that it is operating correctly
If the following faults are present or stored, deal with them first:
DF003 - DF005 - DF020 - DF023 - DF036 - DF038

Conditions for applying the fault finding procedure to stored faults:
The fault appears after a road test.

To check that there are no faults with the oil pressure sensor, use the interpretation of fault DF005 "Oil pressure sensor circuit".
To make sure there are no problems with the pressure lock-up solenoid valve, use the interpretation of fault DF036 "Pressure regulating solenoid valve circuit".
Check the gearbox oil quality and level.
If a operation is required, see the "Draining-Filling-Levels" section of the Workshop Repair Manual.
Check that the gearbox is not leaking oil.
Carry out a conformity check to detect any possible faults.
See the "Line pressure measurement" section of the Workshop Repair Manual.

Connect the pressure gauge for a line pressure reading.

Hot engine with gearbox oil temperature between 60°C and 80°C.
Take the line pressure readings in the following conditions:
– with the selector lever in position "P" or "N" and the engine running at 2000 rpm, the pressure should be between 2.6 and 3.2 bar,
– with the selector lever in position "R" and the engine running at 2000 rpm, the pressure should be more than 4 bar,
– with the selector lever in position "D" and the engine running at 2000 rpm, the pressure in first gear should be more than 7 bar.

If the fault is still present, there is a mechanical or hydraulic failure in the gearbox.
Check the conformity of all "Statuses" and "Parameters" to find the cause of the fault.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF055
PRESENT
OR
STORED
INJECTION SYSTEM/AUTOMATIC TRANSMISSION CONNECTION

1. DEF : No signal
2. DEF: Signal interference

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the injection system.
See the "Injection" section of the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
## Automatic Transmission

### Fault Finding - Interpretation of Faults

**Program no.:** 94  
**VDIAG no.:** 10  
**DF064**

<table>
<thead>
<tr>
<th>Display Circuit Co. 0</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open circuit or short circuit to earth</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES**

- Switch on the ignition.
- Check the cleanness and condition of the selector lever display connections.
- Disconnect the battery.
- Disconnect the computer. Check the cleanness and condition of the connections.
- Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
  - Computer track 4
  - Selector lever display track 2

If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

### AFTER REPAIR

- Follow the instructions to confirm repair.
- Deal with any other faults.
- Clear the fault memory and switch off the ignition.
- Carry out a road test.
- Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Fault Finding: EVS1 Shift Solenoid Circuits

DF085
PRESENT
OR
STORED

“EVS1” Shift Solenoid Circuits
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to +12 V
CC : Short circuit

NOTES

First deal with fault DF012 “Solenoid valves feed” if present or stored.
Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 (“Actuator sequential control”).

Disconnect the battery.
Disconnect the “modular connector”, and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the “universal bornier Elé. 1681”. Check the continuity and insulation of the following connections:
(For “modular connector” connection positions, see the “System operation and Track assignments” section.)

Computer track 10 Track B11 Modular connector plug
Computer track 1 Track B3 Modular connector plug

Reconnect the “modular connector”.
Check across tracks 10 and 1 of the computer connector that the resistance of shift solenoid no. 1 is 40 Ω ± 2 Ω at approximately 20 °C.
If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR

Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

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Version 2
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

DF086
PRESENT
OR
STORED

"EVS2" SHIFT SOLENOID CIRCUITS
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V
CC : Short circuit

NOTES
First deal with fault DF012 "Solenoid valves feed" if present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Actuator sequential control").

Disconnect the battery.
Disconnect the "modular connector", and check the cleanliness and condition of the connections.
Disconnect the computer. Check the cleanliness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Computer  track 9  Track B8  Modular connector plug
Computer  track 1  Track B3  Modular connector plug

Reconnect the "modular connector".
Check across tracks 9 and 1 of the computer connector that the resistance of shift solenoid no. 2 is 40 Ω ± 2 Ω at approximately 20 °C.
If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

[Image]

Notes

1. Disconnect the battery.
2. Disconnect the "modular connector", and check the cleanliness and condition of the connections.
3. Disconnect the computer. Check the cleanliness and condition of the connections.
4. Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
   (For "modular connector" connection positions, see the "System operation and Track assignments" section.)
5. Reconnect the "modular connector".
6. Check across tracks 1 and 7 of the computer connector that the resistance of shift solenoid no. 3 is 40 ± 2 Ω at approximately 20 °C.
7. If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
8. If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR

1. Follow the instructions to confirm repair.
2. Deal with any other faults.
3. Clear the fault memory and switch off the ignition.
4. Carry out a road test.
5. Complete the operation by carrying out a check with the diagnostic tool.

Version 2
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF088
PRESENT
OR
STORED

"EVS5" SHIFT SOLENOID CIRCUITS

CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V
CC : Short circuit

NOTES

First deal with fault
DF012 "Solenoid valves feed" if present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Actuator sequential control").

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connections:
(For "modular connector" connection details, see the "System operation and Track assignments" section.)

Computer track 1 Track B3 Modular connector plug
Computer track 13 Track B5 Modular connector plug

Reconnect the modular connector.
Check across tracks 1 and 13 of the computer connector that the resistance of shift solenoid no. 5 is
± 2 Ω at approximately 20 °C.

If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF089
PRESENT
OR
STORED

"EVS4" SHIFT SOLENOID CIRCUITS
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to +12 V
CC : Short circuit

NOTES
First deal with fault
DF012 "Solenoid valves feed"
if present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running
command AC024 ("Actuator sequential control").

Disconnect the battery.
Disconnect the "modular connector", and check the
cleanness and condition
of the connections.
Disconnect the computer. Check the
cleanness and condition
of the connections.
Take the "universal bornier
Elé. 1681". Check the
continuity and insulation
of the following connections:
(For "modular connector" connection positions, see the "System operation and Track assignments" section.)
Computer track 1  Track B3 Modular connector plug
Computer track 8  Track B7 Modular connector plug
Reconnect the "modular connector".
Check across
tracks 8 and 1
of the computer connector that the resistance of shift solenoid no. 4 is
40 ± 2 Ω at
approximately
20°C.
If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
DP094101.0
Version 2
Conditions for applying the fault finding procedure to stored faults:
The fault appears during a road test when changing up or down with the selector lever in position "M" (sequential control).

Check the cleanliness and condition of the sequential switch module connections.
Disconnect the battery.
Disconnect the computer. Check the cleanliness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:

- Computer track 36  Sequential switch module track B3
- Computer track 37  Sequential switch module track A3
- Battery earth     Sequential switch module track A2

If the fault is still present, replace the sequential switch module.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.

DP094101.0
Version 2
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF095
PRESENT
OR
STORED

SHIFT LOCK ELECTROMAGNET CIRCUITS
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 ("Actuator sequential control").

Check the cleanliness and condition of shift lock electromagnet connections.
With the ignition on, check for + 12 V on track B1 of the shift lock electromagnet connector.
If there is no + 12 V:
– Check fuse 5F in the Protection and Switching Unit, as well as the cleanliness and condition of the connections.
– Disconnect the battery.
– Disconnect connector PPH2 in the Protection and Switching Unit.
– Check the cleanliness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the earth insulation and continuity of the following connection:
Protection and Switching Unit connector PPH2 track 11  Shift lock electromagnet track B1
If there is still no + 12 V on track B1 of the shift lock electromagnet connector with the ignition switched on,
check the Protection and Switching Unit.
Disconnect the battery.
Disconnect the computer. Check the cleanliness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the continuity and insulation of the following connection:
Computer track 11  Shift lock electromagnet track B2
Check the shift lock electromagnet resistance between track 11 of the computer connector and track 11 of Protection and Switching Unit connector PPH2.
The resistance should be 40 ± 4 Ω at a temperature of approximately 20 °C.
If the resistance is not correct, replace the shift lock electromagnet.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR

Follow the instructions to confirm repair.
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF109
PRESENT
OR
STORED

ENGINE TORQUE MULTIPLEX SIGNAL
1.DEF: Consistency
2.DEF: Real torque
3.DEF: Anticipated torque
4.DEF: Torque without reduction
5.DEF: Requested torque cannot be attained
6.DEF: Minimum torque not transmitted by engine management computer
7.DEF: Maximum torque not transmitted by engine management computer
8.DEF: Torque request fulfilled

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the injection system.
See the "Injection" section of the Workshop Repair Manual.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
VALEO TRANSMISSION

Fault finding - Interpretation of faults

SIEMENS TA2000

PROGRAM no.: 94

VDIAG no.: 10

Fault Code: DF112

PRESENT OR STORED

EVS6 Shift Solenoid Circuits
- CO.0: Open circuit or short circuit to earth
- CC.1: Short circuit to +12V
- CC: Short circuit

NOTES

First deal with fault DF012 “Solenoid valves feed” if present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 (“Actuator sequential control”).

Disconnect the battery.

Disconnect the “modular connector”, and check the cleanliness and condition of the connections.

Disconnect the computer. Check the cleanliness and condition of the connections.

Take the “universal bornier Elé. 1681”. Check the continuity and insulation of the following connections:
- (For “modular connector” connection positions, see the “System operation and Track assignments” section.)
  - Computer track 1
  - Track B3
  - Modular connector plug
  - Computer track 14
  - Track B2
  - Modular connector plug

Reconnect the “modular connector”.

Check across tracks 14 and 1 of the computer connector that the resistance of shift solenoid no. 6 is 40 ± 2Ω at approximately 20°C.

If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.

If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR

Follow the instructions to confirm repair.

Deal with any other faults.

Clear the fault memory and switch off the ignition.

Carry out a road test.

Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF114
PRESENT
OR
STORED
MULTIPLEX PEDAL POSITION
NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the injection system.
See the "Injection" section of the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

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Siemens TA2000
Program no.: 94
VDIAG no.: 10
DF116
PRESENT
OR
STORED
MULTIPLEX ENGINE SPEED SIGNAL

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.

If the fault is still present, carry out fault finding on the injection system.
See the "Injection" section of the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

PRESENT
OR
STORED

LEFT-HAND REAR WHEEL MULTIPLEX SIGNAL

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF118
PRESENT
OR
STORED

RIGHT-HAND REAR WHEEL MULTIPLEX SIGNAL

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF119
PRESENT
OR
STORED
MULTIPLEX BRAKE PEDAL POSITION

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of faults

SIEMENS TA2000

PROGRAM no.: 94

VDIAG no.: 10

DF122

PRESENT

OR

STORED

UCH CONNECTION

NOTES

None.

Test the multiplex network.

Refer to the "Multiplex network" fault finding section in the Workshop Repair Manual.

If the fault is still present, test the UCH.

Refer to the "UCH" section in the Workshop Repair Manual.

AFTER REPAIR

Deal with any other faults.

Clear the fault memory and switch off the ignition.

Carry out a road test.

Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

DF123
PRESENT OR STORED

ABS COMPUTER CONNECTION

NOTES
None.

Test the multiplex network (see 88B, Multiplex network).

If the fault is not cured, test the Anti-lock braking and Electronic stability program systems (see 38C, Anti-lock braking system / Electronic stability program).

AFTER REPAIR
Deal with any other faults.
Clear the stored faults and switch off the ignition.
Carry out a road test.
Complete the operation by testing with the diagnostic tool.

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AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF126
PRESENT
OR
STORED
TURBINE SPEED SIGNAL

NOTES
None.

Disconnect the battery.
Disconnect the "modular connector", and check the cleanness and condition of the connections.
Disconnect the computer. Check the cleanness and condition of the connections.
Use the "universal bornier Elé. 1681" to check the insulation and continuity on the following connections:
(For "modular connector" connection positions, refer to the "System operation and track assignment" section.)

Computer  track 45  Track D1 Modular connector plug
Computer  track 46  Track D2 Modular connector plug

Reconnect the "modular connector".
Check across tracks 45 and 46 of the computer connector that the turbine speed sensor resistance is 300 ± 40 Ω.
If the resistance is not correct, either the sensor or the harness is damaged.
If the fault is still not cured, deal with the other faults and then proceed with the conformity check.

AFTER REPAIR
Deal with any other faults.
Clear the stored faults and switch off the ignition.
Carry out a road test.
Complete the operation by testing with the diagnostic tool.

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Version 2
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
Program no.: 94
VDIAG no.: 10
DF129
PRESENT
OR
STORED

ELECTRONIC STABILITY PROGRAM
NOTES
None.

Test the multiplex network (see 88B, Multiplex network).
If the fault is not cured, test the Anti-lock braking and Electronic stability program systems (see 38C, Anti-lock braking system / Electronic stability program).

AFTER REPAIR
Deal with any other faults.
Clear the stored faults and switch off the ignition.
Carry out a road test.
Complete the operation by testing with the diagnostic tool.
Carry out injection system fault finding and check that it is operating correctly. Deal with all other faults first.

Conditions for applying the fault finding procedure to stored faults:
- The fault appears after a road test.

To check that there are no faults with the turbine speed sensor, use the interpretation of fault DF038 "Turbine speed sensor circuit".

To check that there are no faults with the vehicle speed signal, use the interpretation of fault DF048 "Vehicle speed signal".

Carry out a "Conformity check" to detect any possible faults.

If the fault is still present, a brake or clutch in the gearbox is certainly defective. Contact your Techline.

**AFTER REPAIR**

Follow the instructions to confirm repair. Carry out a road test. Complete the operation by carrying out a check with the diagnostic tool.
FAULT FINDING - INTERPRETATION OF FAULTS

PROGRAM no.: 94
VDIAG no.: 10

DF174
PRESENT OR STORED

ABS FAULT DETECTION

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault Finding - Interpretation of Faults

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
DF175
PRESENT
OR
STORED

LEFT-HAND FRONT WHEEL SPEED MULTIPLEX SIGNAL

NOTES
None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

PROGRAM no.: 94
VDIAG no.: 10

DF176
PRESENT
OR
STORED

RIGHT-HAND FRONT WHEEL SPEED MULTIPLEX SIGNAL

NOTES

None.

Test the multiplex network.
Refer to the "Multiplex network" section in the Workshop Repair Manual.
If the fault is still present, carry out fault finding on the ABS and ESP system.
Refer to the "ABS system and Electronic Stability Program" section in the Workshop Repair Manual.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Carry out injection system fault finding and check that it is operating correctly.

If the following faults are present or stored, deal with them first:

DF003 - DF005 - DF016 - DF017 - DF018 - DF020 - DF023 - DF024 - DF036 - DF131

Conditions for applying the fault finding procedure to stored faults:
The fault appears after a road test.

To check that there are no faults with the gearbox oil temperature sensor, use the interpretation of fault DF023 "Gearbox oil temperature sensor".

To check that there are no faults with the exchanger flow solenoid valve, use the interpretation of fault DF017 "Exchanger flow solenoid valve circuit".

Check the gearbox oil quality and level.
If an oil change or top-up is necessary see the "Draining-Filling-Levels" section of the Workshop Repair Manual.

Check that the gearbox is not leaking oil.
Check that the oil cooler is not blocked.

If the fault is still present, there is definitely a mechanical or hydraulic fault. Deal with the other faults then proceed with the conformity check.

If the fault persists, contact your Techline.

AFTER REPAIR
Deal with any other faults.
Clear the fault memory and switch off the ignition.
Carry out a road test.
Complete the operation by carrying out a check with the diagnostic tool.
**Main Screen**

- **Notes**: Only carry out this conformity check after a complete check with the fault finding tool (no faults present or stored).
- **Test conditions**: Engine stopped, ignition on.
- The values indicated in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

### Order Function Parameter or Status

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Display and Notes</th>
<th>Fault finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gear speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm If there is a problem, refer to the fault finding procedure for this parameter.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Gear selector position</td>
<td>ET012: Gear selector position</td>
<td>“P” if selector in position “P” If there is a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Gear</td>
<td>ET013: Gear engaged position</td>
<td>“D” if selector in position “D”</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Feed</td>
<td>PR008: Computer feed voltage</td>
<td>10.5 &lt; X &lt; 16 If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Vehicle speed</td>
<td>PR105: Vehicle speed</td>
<td>0 mph If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
</tbody>
</table>
**AUTOMATIC TRANSMISSION**

**Fault finding - Conformity check**

Only carry out this conformity check after a complete checks with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on. The values shown in this conformity check are given as examples only. If necessary, refer to the exact function specifications in the Workshop Repair Manual.

<table>
<thead>
<tr>
<th>Order Function Parameter</th>
<th>Display and Notes</th>
<th>Action</th>
<th>Fault Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Brake pedal</td>
<td>ET142: Brake pedal pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES, if brake pedal pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO, if brake pedal is not pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Brake switch</td>
<td>ET003: STOP light contact (closure)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACTIVE, if brake pedal is not pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INACTIVE, if brake pedal is pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ET004: STOP light contact (opening)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INACTIVE, if brake pedal is pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACTIVE, if brake pedal is not pressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Selection mode</td>
<td>ET097: Manual mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INACTIVE, if lever is in position &quot;M&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Sequential lever switch</td>
<td>ET127: Sequential lever downshift contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPEN, CLOSED, if selector lever in position &quot;M-&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPEN, CLOSED, if selector lever in position &quot;M+&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ET128: Sequential lever upshift contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ET155: Third gear hold contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPEN If there is a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Driving mode</td>
<td>ET079: Economy mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES, if driving is economical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO, if driving is sporty</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|                          | WITHOUT DP094101.0 Version 2
**Notes**

Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on.

The values shown in this conformity check are given as examples only. If necessary, refer to the exact function specifications in the Workshop Repair Manual.

<table>
<thead>
<tr>
<th>Order</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Display and Notes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>11 Gearbox oil temperature</td>
<td>PR004: Gearbox oil temperature - 40° C &lt; X &lt; 140° C</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12 Exchanger flow control solenoid valve (EPDE)</td>
<td>ET0207: Exchanger flow control solenoid valve control INACTIVE</td>
<td>If ACTIVE, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13 Old oil</td>
<td>ET079: Old oil YES NO</td>
<td>No fault finding procedure for this status.</td>
<td></td>
</tr>
<tr>
<td>Order Function</td>
<td>Function Parameter or Status</td>
<td>requested or Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------</td>
<td>--------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Gear selector position</td>
<td>“P” if selector in “P” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“N” if selector in “N” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“R” if selector in “R” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“D” if selector in “D” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“M” if selector in “M” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“M+” if selector in “M+” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“M-” if selector in “M-” position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Gear engaged</td>
<td>“N” for neutral position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“1” for 1st unlocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“2” for 2nd unlocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“R” for reverse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Vehicle speed</td>
<td>0 mph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Engine speed</td>
<td>0 rpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Oil pressure</td>
<td>X &lt; 0.2 bar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**AUTOMATIC TRANSMISSION**

**Fault finding - Conformity check**

*Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).*

**Test conditions:** engine stopped, ignition on.

The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

<table>
<thead>
<tr>
<th>Function</th>
<th>Parameter of Function</th>
<th>Status</th>
<th>Fault finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transmission control</td>
<td>ET021: Shift solenoid 1</td>
<td>INACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET022: Shift solenoid 2</td>
<td>INACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET023: Shift solenoid 3</td>
<td>ACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET024: Shift solenoid 4</td>
<td>INACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET025: Shift solenoid 5</td>
<td>INACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET026: Shift solenoid 6</td>
<td>INACTIVE</td>
</tr>
<tr>
<td>2</td>
<td>Multifunction control</td>
<td>ET123: Multifunction switch S2</td>
<td>CLOSED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET124: Multifunction switch S3</td>
<td>OPEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET125: Multifunction switch S4</td>
<td>OPEN</td>
</tr>
<tr>
<td>3</td>
<td>Feeds</td>
<td>ET001: Solenoid valves feed</td>
<td>PRESENT</td>
</tr>
</tbody>
</table>
Fault finding - Conformity check

**GEAR CHANGE SUB-FUNCTION (continued)**

Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on.

The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

<table>
<thead>
<tr>
<th>Order Function Parameter or Status</th>
<th>In Function</th>
<th>Parameter or Status</th>
<th>Testing and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET097: Manual mode</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
<td>If there is a fault, refer to the interpretation of these statuses.</td>
</tr>
<tr>
<td>ET127: Sequential lever switch</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>If there is a fault, refer to the interpretation of these statuses.</td>
</tr>
<tr>
<td>ET128: Sequential lever upshift</td>
<td>INACTIVE</td>
<td>CLOSED</td>
<td>If there is a fault, refer to the interpretation of these statuses.</td>
</tr>
<tr>
<td>ET155: Third gear hold contact</td>
<td>OPEN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AUTOMATIC TRANSMISSION
Fault finding - Conformity check

Pressures, regulated sub-function

<table>
<thead>
<tr>
<th>Gear</th>
<th>Function</th>
<th>Parameter of function</th>
<th>Display and Notes</th>
<th>Faultfinding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gear</td>
<td>ET013: Gear engaged</td>
<td>&quot;N&quot; for neutral position</td>
<td>Refer to interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;1&quot; for 1st unlocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;2&quot; for 2nd unlocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;R&quot; for reverse position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Engine speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm</td>
<td>Refer to interpretation of fault DF115.</td>
</tr>
<tr>
<td>3</td>
<td>Oil pressure</td>
<td>PR003: Oil pressure</td>
<td>X &lt; 0.2 bar</td>
<td>Refer to interpretation of this parameter.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PR138: Required pressure</td>
<td>21 bar</td>
<td>None.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PR146: Difference between specification and oil pressure</td>
<td>X = PR138 - PR003</td>
<td>None.</td>
</tr>
<tr>
<td>4</td>
<td>Oil temperature</td>
<td>PR004: Gearbox oil temperature</td>
<td>-40 &lt; X &lt; 140 °C</td>
<td>Refer to interpretation of this parameter.</td>
</tr>
</tbody>
</table>

Order Function Parameter or Status

Display and Notes

Faultfinding

Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored). Test conditions: engine stopped, ignition on. The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.
### Fault Finding - Conformity Check

#### Notes

Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on.

The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

#### Order Function Parameter or Status

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter</th>
<th>Status</th>
<th>Action</th>
<th>Display and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gear selector</td>
<td>ET012</td>
<td>&quot;D&quot; if selector in position &quot;D&quot;</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Brake pedal</td>
<td>ET142</td>
<td>&quot;YES&quot;, if brake pedal is pressed</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Selector lever locking</td>
<td>ET157</td>
<td>&quot;YES&quot;, if brake pedal is pressed</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
</tbody>
</table>

**DP094101.0 Version 2**
### Automatic Transmission

#### Fault Finding - Conformity Check

**Siemens TA2000**  
**Program No.: 94**  
**VDIAG No.: 10**

**Selector Lever Lock Sub-Function**

**Notes**
- Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).
- Test conditions: engine stopped, ignition on.
- The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

<table>
<thead>
<tr>
<th>Order</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Display or Meaning</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selector lever lock</td>
<td>Multifunction switch S2 in position “P”</td>
<td>OPEN</td>
<td>If there is a fault, refer to the interpretation of these statuses.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multifunction switch S3 in position “P”</td>
<td>OPEN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multifunction switch S4 in position “P”</td>
<td>OPEN</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Gear change mode</td>
<td>Manual mode ACTIVE, if selector lever is in position “M”, “M+” or “M-”</td>
<td>INACTIVE, if selector lever is in position “P”, “R”, “N” or “D”</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>3</td>
<td>Sequential lever</td>
<td>Sequential lever downshift contact CLOSED</td>
<td>If lever is in position “M-”</td>
<td>If lever is in position “M-”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sequential lever upshift contact CLOSED</td>
<td>If lever is in position “M+”</td>
<td>If lever is in position “M+”</td>
</tr>
</tbody>
</table>
AUTOMATIC TRANSMISSION
Fault finding - Conformity check

Only carry out the conformity check after a complete check with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on.

The values shown in this conformity check are given as examples only. If necessary, refer to the exact operating specifications in the Workshop Repair Manual.

**Order Function Parameter or Status**

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1. Rotation speeds**

- **PR006:** Engine speed
  - 0 rpm
  - If there is a fault, refer to the interpretation of this parameter.

- **PR007:** Turbine speed
  - 0 rpm
  - If there is a fault, refer to the interpretation of this parameter.

- **PR128:** Engine/turbine speed difference
  - 0 rpm
  - If there is a fault, refer to the interpretation of this parameter.

**2. Oil pressure**

- **PR003:** Oil pressure
  - X < 0.2 bar
  - If there is a fault, refer to the interpretation of this parameter.

- **PR138:** Required pressure
  - 21 bar
  - None.

- **PR146:** Difference between specification and oil pressure
  - X = PR138 - PR003
  - None.

**3. Torque converter**

- **ET071:** Torque converter
  - INACTIVE
  - If there is a fault, refer to the interpretation of this status.

**4. Oil temperature**

- **PR004:** Gearbox oil temperature
  - -40 < X < 140 °C
  - If there is a fault, refer to the interpretation of this parameter.

- **ET010:** Oil too hot signal
  - YES/NO
  - YES, if oil temperature is > 140 °C

**5. Driving mode**

- **ET079:** Economy mode
  - YES
  - If driving is economical

- **ET079:** Sport mode
  - NO
  - If driving is sporty

**6. Driving mode**

- **ET079:** Economy mode
  - YES
  - If driving is economical

- **ET079:** Sport mode
  - NO
  - If driving is sporty
### Fault Finding - Conformity Check

**SIEMENS TA2000**

**PROGRAM no.: 94**

**VDIAG no.: 10**

**SUB-FUNCTION: CREEPING AT IDLE SPEED**

**NOTES**

Only carry out this conformity check after a complete check with the diagnostic tool (no faults present or stored).

Test conditions: engine stopped, ignition on.

The values shown in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Function</th>
<th>Parameter or Status</th>
<th>Description</th>
<th>Upper Limit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Oil pressure</td>
<td>PR003: Oil pressure</td>
<td>X &lt; 0.2 bar</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>2 Oil temperature</td>
<td>PR004: Gearbox oil temperature</td>
<td>-40°C &lt; X &lt; 140°C</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>3 Vehicle speed</td>
<td>PR105: Vehicle speed</td>
<td>0 mph</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>4 Engine speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>5 Speed of rotation</td>
<td>PR007: Turbine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
<tr>
<td>6 Engine/turbine speed difference</td>
<td>PR128: Engine/turbine speed difference</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
</tr>
</tbody>
</table>
**AUTOMATIC TRANSMISSION**

**Fault finding - Conformity check**

---

**SIEMENS TA2000**

**PROGRAM no.: 94**

**VDIAG no.: 10**

**SUB-FUNCTION: CREEPING AT IDLE SPEED (continued)**

---

**NOTES**

- Only carry out this conformity check after a **complete check with the diagnostic tool** (no faults present or stored).
- **Test conditions:** engine stopped, ignition on. The values shown in this conformity check are given as examples.

---

### Order Function Parameter or Status

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<tr>
<th>Item</th>
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<th>Parameter or Status</th>
<th>Displayed as</th>
<th>Notes</th>
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<td>If there is a fault, refer to the interpretation of this parameter.</td>
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<tr>
<td>2</td>
<td></td>
<td>Brake pedal</td>
<td>ET003: STOP light contact (opening) OPEN, brake pedal released. CLOSED, brake pedal pressed.</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
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<tr>
<td>3</td>
<td></td>
<td>Brake pedal</td>
<td>ET004: Stop light contact (closure) OPEN, brake pedal released. CLOSED, brake pedal pressed.</td>
<td>If there is a fault, refer to the interpretation of this status.</td>
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## Fault Finding - List of statuses

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<tr>
<td>ET023</td>
<td>Shift solenoid 3</td>
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<tr>
<td>ET024</td>
<td>Shift solenoid 4</td>
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<tr>
<td>ET025</td>
<td>Shift solenoid 5</td>
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<td>ET157</td>
<td>Selector lever unlocking</td>
</tr>
</tbody>
</table>
There must be no present or stored faults.

Force power to the solenoid valves by running command AC024 "Actuator sequential control" described in the "Command mode procedures" section.

Disconnect the computer. Check the cleanness and condition of the connections.

Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the solenoid valve tracks. (For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Undervoltage:
– With the solenoid valve "ACTIVE", the voltage should be 0 V at the solenoid valve terminals.
– With the solenoid valve "INACTIVE", the voltage should be 12 V at the solenoid valve terminals.

Reconnect the modular connector and check that a solenoid valve's control current is 250 mA when the solenoid valve is "ACTIVE".

If the status is not correct, use fault procedure DF012 "Shift solenoids feed".

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

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PROGRAM no.: 94
VDIAG no.: 10
ET003

STOP LIGHT CONTACT (OPENING)

NOTES
There must be no present or stored faults.
Check that the status is "ACTIVE" with the brake pedal released, and changes to "INACTIVE" when the pedal is pressed.
Check the cleanness and condition of the brake light switch connections.
Check the position, adjustment and correct operation of the brake light switch.
Disconnect the battery.
Disconnect the computer. Check the cleanness and condition of the connections.
Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
Computer
track 16
Stop light switch
track 3
Repair if necessary.
If the correct statuses are not displayed, replace the sensor.

AFTER REPAIR
Repeat the conformity check from the start.
OIL TOO HOT SIGNAL

Notes:

There must be no present or stored faults.

This status indicates that the oil temperature is higher than normal operating temperature.

The status is "NO" if the gearbox oil temperature is below 140°C.

The status changes to "YES" when the gearbox oil temperature exceeds 140°C.

When the status is "YES", the oil temperature has to drop below 130°C for the status to change to "NO".

If the correct status is not displayed, use the interpretation of fault DF177 "Automatic transmission overheating".

If the fault is still present, contact your Techline.

AFTER REPAIR

Repeat the conformity check from the start.
Fault finding - Interpretation of statuses

There must be no present or stored faults.

Lever position:
- "P" - "R" - "N" - "D"

Check the cleanliness, condition and mounting of the automatic transmission multifunction switch.

Check the control settings (see Workshop Repair Manual).

Disconnect the battery.

Disconnect the "modular connector" and check the cleanliness and condition of connector "A" connections. (For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Carry out the following checks on the multifunction switch:

Continuity:
- Lever in position "P", track A10, A7
- Lever in position "R", track A10, A11, A12, A7
- Lever in position "N", track A11, A7
- Lever in position "D", track A12, A7

Insulation:
- Lever in position "P", track A9, A11, A12, A7
- Lever in position "R", track A9, A7
- Lever in position "N", track A9, A10, A12, A7
- Lever in position "D", track A9, A10, A11, A7

Disconnect the multifunction switch.

Connect the "universal bornier Elé. 1681" in place of the computer and check the insulation, continuity and absence of stray resistance in the connections between:

- Computer track 31 Multifunction switch track A10
- Computer track 32 Multifunction switch track A11
- Computer track 33 Multifunction switch track A12
- Computer track 42 Multifunction switch track A7

Repair if necessary.

AFTER REPAIR
Repeat the conformity check from the start.
### NOTES

- There must be no present or stored faults.

#### LEVER POSITION

- **M**
- **M+** and **M-**

#### SEQUENTIAL SHIFT

- Check the cleanness and condition of the sequential switch module connections.
- Disconnect the battery.
- Disconnect the computer. Check the cleanness and condition of the connections.
- Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:
  - Computer track 36  Sequential switch module track B3
  - Computer track 37  Sequential switch module track A3
  - Battery earth  Sequential switch module track A2

- Repair if necessary.

If the fault is still present, replace the sequential switch module.

#### AFTER REPAIR

- Repeat the conformity check from the start.
Fault finding - Interpretation of statuses

SIEMENS TA2000

A 1G 1st slipping
2G 2nd slipping
3G 3rd slipping
4G 4th slipping
1P 1st locked
2P 2nd locked
3P 3rd locked
4P 4th locked
R Reverse
MD Safe position
N Neutral position

There must be no present or stored faults.

–" 1 for 1st unlocked
–" 2 for 2nd unlocked
–" 3 for 3rd unlocked
–" 4 for 4th unlocked
–" 1G for 1st slipping
–" 2G for 2nd slipping
–" 3G for 3rd slipping
–" 4G for 4th slipping
–" 1P for 1st locked
–" 2P for 2nd locked
–" 3P for 3rd locked
–" 4P for 4th locked
–" R for reverse
–" MD for safe position
–" N for neutral position

If the fault is caused by the converter lock-up, use the interpretation of faults DF016 “Lock-up solenoid valve circuit”, DF018 “Lock-up slip” and DF120 “Controlled slip”.

If the fault is caused by the gear engaged, carry out fault finding on the multifunction switch.

Check that statuses ET123, ET124, ET125 and ET126 display correctly.

Check the multifunction switch adjustment.

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of statuses

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
ET020

EXCHANGER FLOW CONTROL SOLENOID VALVE

NOTES

There must be no present or stored faults.

The exchanger flow control solenoid valve is "ACTIVE" when the gearbox oil temperature exceeds 100°C and the engine speed is more than 2000 rpm.

Otherwise the solenoid valve remains inactive.

Run command AC024 "Actuator sequential control" and check that the activation status changes from "INACTIVE" to "ACTIVE".

When the solenoid valve is "ACTIVE" the voltage should be 0 V.

When the solenoid valve is "INACTIVE" the voltage should be 12 V.

Reconnect the computer.

Activate the solenoid valves with command AC024 "Actuator sequential control" and check the solenoid valve current.

If the current is 260 mA, the solenoid valve is operating correctly.

If the current is lower, check the connections and wiring from the computer to the exchanger flow solenoid valve.

If the command status does not change, use the interpretation of fault DF017 "Exchanger flow solenoid valve circuit".

If the problem persists after the diagnostic procedure for fault DF017 "Exchanger flow solenoid valve circuit" has been followed, contact your Techline.

AFTER REPAIR

Repeat the conformity check from the start.
There must be no present or stored faults. This indicates the status of the solenoid valve: "ACTIVE / INACTIVE". Its status must be "INACTIVE" in all lever positions. Disconnect the computer. Check the cleanliness and condition of the connections. Check the continuity between track 9 of the computer connector and track B8 of the "modular connector". Check across tracks 1 and 9 of the computer connector that the resistance of shift solenoid no. 1 is \(40 \Omega \pm 2 \Omega\) at approximately \(20^\circ\)C. If the resistance exceeds \(50 \Omega\), check the harness, computer connector and "modular connector". Reconnect the computer. Activate the solenoid valves with command AC024 "Actuator sequential control" and measure the current in the solenoid valves. If the current is 250 mA, the solenoid valve is operating correctly. If the current is lower, check the connections and wiring from the computer to the solenoid valve. If the correct status is not displayed, use the interpretation of fault DF085 "Shift solenoid 1 circuit". If the fault is still present, replace the electric/hydraulic interface.

AFTER REPAIR

Repeat the conformity check from the start. Check that all up and down shifts are correct.
NOTES

There must be no present or stored faults.

This indicates the status of the solenoid valve.

The status should be "INACTIVE" when the selector lever is in position "P", "R", "N", or "D".

The status should be "ACTIVE" when the selector lever is in position "M", "M+", or "M-".

Disconnect the computer. Check the cleanness and condition of the connections.

Check the continuity between track 9 of the computer connector and track B8 of the "modular connector".

Check across tracks 1 and 9 of the computer connector that the resistance of shift solenoid no. 2 is $40\Omega \pm 2\Omega$ at approximately $20^\circ C$.

If the resistance exceeds $50\Omega$, check the harness, computer connector and "modular connector".

Reconnect the computer.

Activate the solenoid valves with command AC024 "Actuator sequential control" and measure the current in the solenoid valves.

If the current is $250\ mA$, the solenoid valve is operating correctly.

If the current is lower, check the connections and wiring from the computer to the solenoid valve.

If the correct status is not displayed, use the interpretation of fault DF086 "Shift solenoid 2 circuit".

If the fault is still present, replace the electric/hydraulic interface.

AFTER REPAIR

Repeat the conformity check from the start.

Check that shifting up and down through each gear works properly.
AFTER REPAIR
Repeat the conformity check from the start.
Check that shifting up and down through each gear works properly.
NOTES
There must be no present or stored faults. This indicates the status of the solenoid valve. The status should be "INACTIVE" when the selector lever is in position "P", "R", or "N". The status should be "ACTIVE" when the selector lever is in position "M", "M+", or "M-". Disconnect the computer. Check the cleanness and condition of the connections. Check the continuity between track 8 of the computer connector and track B7 of the "modular connector". Check across tracks 1 and 8 of the computer connector that the resistance of shift solenoid no. 4 is 40 Ω ± 2 Ω at approximately 20 °C. If the resistance exceeds 50 Ω, check the harness, computer connector and "modular connector". Reconnect the computer. Activate the solenoid valves with command AC024 "Actuator sequential control" and measure the current in the solenoid valve. If the current is 250 mA, the solenoid valve is operating correctly. If the current is lower, check the connections and wiring from the computer to the solenoid valve. If the correct status is not displayed, use the interpretation of fault DF089 "Shift solenoid 4 circuit". If the fault is still present, replace the electric/hydraulic interface. AFTER REPAIR Repeat the conformity check from the start. Check that shifting up and down through each gear works properly.
Fault finding - Interpretation of statuses

23A

SIEMENS TA2000

PROGRAM no.: 94

VDIAG no.: 10

ET025

SHIFT SOLENOID 5

NOTES

There must be no present or stored faults.

This indicates the status of the solenoid valve. The status should be "INACTIVE" when the selector lever is in position "P", "R", "N", "M+", or "M-". The status should be "ACTIVE" when the selector lever is in position "D", or "M".

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 13 of the computer connector and track B5 of the "modular connector".

Check across tracks 14 and 1 of the computer connector that the resistance of shift solenoid no. 5 is 40 Ω ± 2 Ω at approximately 20 °C.

If the resistance exceeds 50 Ω, check the harness, computer connector and "modular connector".

Reconnect the computer. Activate the solenoid valves with command AC024 "Actuator sequential control" and measure the current in the solenoid valves.

If the current is 250 mA, the solenoid valve is operating correctly. If the current is lower, check the connections and wiring from the computer to the solenoid valve.

If the correct status is not displayed, use the interpretation of fault DF088 "Shift solenoid 5 circuit".

If the fault is still present, replace the electric/hydraulic interface.

AFTER REPAIR

Repeat the conformity check from the start. Check that shifting up and down through each gear works properly.
Fault finding - Interpretation of statuses

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ET026

SHIFT SOLENOID 6

NOTES
There must be no present or stored faults.
This indicates the status of the solenoid valve: "ACTIVE / INACTIVE".
The status should be "INACTIVE" when the selector lever is in any engaged gear position.
Disconnect the computer. Check the cleanness and condition of the connections.
Check the continuity between track 14 of the computer connector and track B2 of the "modular connector".
Check across tracks 14 and 1 of the computer connector that the resistance of shift solenoid no. 6 is 40 ± 2 Ω at approximately 20 °C.
If the resistance exceeds 50 Ω, check the harness, computer connector and "modular connector".
Reconnect the computer.
Activate the solenoid valves with command AC024 "Actuator sequential control" and measure the current in the solenoid valves.
If the current is 250 mA, the solenoid valve is operating correctly.
If the current is lower, check the connections and wiring from the computer to the solenoid valve.
If the status displayed is still not correct, use the interpretation of fault DF112 "Shift solenoid 6 circuit".
If the fault is still present, replace the electric/hydraulic interface.

AFTER REPAIR
Repeat the conformity check from the start.
Check that shifting up and down through each gear works properly.
There must be no present or stored faults.

This indicates the status of the torque converter. The status should be "ACTIVE" when the vehicle is driven with a gear engaged. The status should be "INACTIVE" when starting, changing gears, or if the vehicle is stopped.

If the correct status is not displayed, use the interpretation of fault DF016 "Converter lock-up solenoid valve circuit".

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

There must be no present or stored faults.

This status indicates the selector lever position.
The status should be "ACTIVE" when the selector lever is in position "M", "M+", or "M-".
The status should be "INACTIVE" when the selector lever is in position "P", "R", "N", or "D".

If the correct status is not displayed, use the interpretation of fault DF093 "Sequential gear lever circuit".

If the fault is still present, replace the sequential switch module.

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
Check that all up and down gear changes operate correctly in automatic and sequential mode.
Fault finding - Interpretation of statuses

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
ET123
ET124
ET125

MULTIFUNCTION SWITCH S2
MULTIFUNCTION SWITCH S3
MULTIFUNCTION SWITCH S4

NOTES

There must be no present or stored faults.
Multifunction switch contact S1 is not connected on this model.

These indicate the status of the various multifunction switch contacts for each selector lever position.
The switch status can be "OPEN" or "CLOSED" (see table below).

<table>
<thead>
<tr>
<th>P</th>
<th>R</th>
<th>N</th>
<th>D</th>
<th>M</th>
<th>M+</th>
<th>M-</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the correct status is not displayed, use the interpretation of fault:

– DF008 "Multifunction switch intermediate position".

If after these checks, statuses ET123, ET124 or ET125 are incorrect, replace the multifunction switch.

AFTER REPAIR
Repeat the conformity check from the start.
There must be no present or stored faults.

This indicates the status of the sequential lever downshift contact.

The status should be "CLOSED" when the selector lever is held in position "M-".

The status should be "OPEN" when the selector lever is in any position except "M-".

Check the sequential switch + 12 V feed on track B1 and the earth on track A2 of the sequential switch.

With the selector lever in position "M", measure the voltage between:

- Sequential switch track B5 Earth
- Sequential switch track B6 Earth

If any of the measured values is + 12 V, replace the sequential switch.

If the values are 0 V, check that the selector lever positions match the instrument panel display.

If the correct status is not displayed, use the interpretation of fault DF093 "Sequential gear lever circuit".

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

There must be no present or stored faults.

This indicates the status of the sequential lever upshift contact.

The status should be "CLOSED" when the selector lever is in position "M+".

The status should be "OPEN" when the selector lever is in any position except "M+".

Check the sequential switch + 12 V feed on track B1 and the earth on track A2 of the sequential switch.

With the selector lever in position "M", measure the voltage between:
- Sequential switch track B5 Earth
- Sequential switch track B6 Earth

If any of the measured values is + 12 V, replace the sequential switch.

If the values are 0 V, check that the selector lever positions match the instrument panel display.

If the correct status is not displayed, use the interpretation of fault DF093 "Sequential gear lever circuit".

If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

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PROGRAM no.: 94
VDIAG no.: 10
ET142

BRAKE PEDAL PRESSED

NOTES

There must be no present or stored faults.

This status indicates the position of the brake pedal

The status is "YES" when the brake pedal is pressed.

The status is "NO" when the brake pedal is not pressed.

If the correct status is not displayed as above, use the interpretation of fault

DF119 "Brake pedal position".

Disconnect the computer. Check the cleanness and condition of the connections.

Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance

on the following connection:

Computer track 16
Stop light switch track 3

If the fault is still present, replace the brake sensor.

If the fault is still present, contact your Techline.

AFTER REPAIR

Repeat the conformity check from the start.

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Fault finding - Interpretation of statuses

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ET157

SELECTOR LEVER UNLOCKING

NOTES
There must be no present or stored faults.

This status indicates whether or not the selector lever is unlocked.
Lever in position "P".
The status is "YES" when the brake pedal is pressed.
The status is "NO" when the brake pedal is not pressed.
Lever in any position except "P".
The status is "YES" whether or not the brake pedal is pressed.
Check that the instrument panel indicates that the lever is in position "P".
Check that, when the brake pedal is pressed, the "Press brake pedal" message disappears from the instrument panel.
Check the selector lever operation up to the multifunction switch.
Adjust the cable if necessary.
Check that statuses ET154, ET123, ET124 and ET125 "Multifunction switch" are correct.
If the correct status is not displayed, use the interpretation of fault DF095 "Selector lever locking electromagnet circuit".
If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<tr>
<td>PR004</td>
<td>Gearbox oil temperature</td>
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<td>PR007</td>
<td>Turbine speed</td>
</tr>
<tr>
<td>PR008</td>
<td>Computer feed voltage</td>
</tr>
<tr>
<td>PR105</td>
<td>Vehicle speed</td>
</tr>
<tr>
<td>PR128</td>
<td>Engine/turbine speed difference</td>
</tr>
</tbody>
</table>
Fault finding - Interpretation of parameters

PR003

OIL PRESSURE

NOTES

There must be no present or stored faults.

Disconnect the battery.

Disconnect the "modular connector", and check the cleanness and condition of the connections.

Disconnect the computer. Check the cleanness and condition of the connections.

Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:

(For "modular connector" connection positions, see the "System operation and Track assignments" section.)

Computer track 24 Track C1 Modular connector plug
Computer track 55 Track C2 Modular connector plug
Computer track 25 Track C3 Modular connector plug
Computer track 20 Track B9 Modular connector plug
Computer track 26 Track B12 Modular connector plug

Reconnect the "modular connector".

Check that the oil pressure sensor resistance between tracks 24 and 25 of the computer connector is approximately 20 kΩΩΩΩ.

If the value is not correct, replace the sensor.

Check across tracks 20 and 26 of the computer connector that the resistance of the pressure regulating solenoid valve is 1 ΩΩΩΩ ± 0.2 ΩΩΩΩ at approximately 23 °°°° C.

If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.

Check the gearbox oil quality and level.

If an oil change or top-up is necessary see the "Draining-Filling-Levels" section of the Workshop Repair Manual.

Check that the gearbox is not leaking oil.

(continued on next page)

AFTER REPAIR

Repeat the conformity check from the start.
AFTER REPAIR
Repeat the conformity check from the start.
There must be no present or stored faults.

Disconnect the battery.

Disconnect the "modular connector", and check the cleanness and condition of the connections.

Disconnect the computer. Check the cleanness and condition of the connections.

Take the "universal bornier Elé. 1681". Check the insulation, continuity and absence of stray resistance on the following connections:

- Computer track 53 Track B4 Modular connector plug
- Computer track 54 Track B1 Modular connector plug
- Computer track 12 Track E1 Modular connector plug
- Computer track 2 Track E2 Modular connector plug

Reconnect the "modular connector".

Check the oil pressure sensor resistance between computer connector tracks 53 and 54. The resistance should be between 2300 and 2600Ω at a temperature of 20°C and between 290 and 327Ω at a temperature of 80°C. If the resistance is not correct, the sensor or the electric/hydraulic interface harness is damaged.

Reconnect the "modular connector".

Check across tracks 12 and 2 of the computer connector that the resistance of the heat exchanger flow solenoid valve is 40Ω±4Ω at approximately 20°C. If the resistance is not correct, the solenoid valve or harness is damaged.

Check that the water-oil exchanger is not blocked.

AFTER REPAIR

Repeat the conformity check from the start.
Fault finding - Interpretation of parameters

AUTOMATIC TRANSMISSION

SIEMENS TA2000

PROGRAM no.: 94

VDIAG no.: 10

PR007

TURBINE SPEED

NOTES

There must be no present or stored faults.

Check the turbine speed sensor mounting.

Disconnect the battery.

Disconnect the "modular connector", and check the cleanness and condition of the connections.

Disconnect the computer. Check the cleanness and condition of the connections.

Take the "universal bornier Elé. 1681". Check the insulation and continuity of the following connections:

(For "modular connector" connection details, see the "System operation and Track assignments" section.)

Computer track 45 Track D1 Modular connector plug

Computer track 46 Track D2 Modular connector plug

Reconnect the "modular connector".

Check that the turbine speed sensor resistance between tracks 45 and 46 of the computer connector is approximately 300 ± 40 Ω.

If the resistance is not correct, either the sensor or the harness is damaged. Replace the faulty component.

If the fault persists after the sensor has been replaced, contact your Techline.

AFTER REPAIR

Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10
PR008

COMPUTER FEED VOLTAGE

NOTES
There must be no present or stored faults.
All electrical consumers switched off.

Carry out a thorough check of the battery and charging circuit (see values in the Workshop Repair Manual).

Disconnect the computer.
Check the condition and cleanness of the contacts.
Check that the computer earth is properly connected to the vehicle's front left side member.
Check the 20A permanent computer feed fuse marked "15" in the Protection and Switching Unit.
Check the cleanness and condition of the connections.

Check the 5A after-ignition computer feed fuse marked "5H" in the Protection and Switching Unit.
Check the cleanness and condition of the connections.

Disconnect the computer.
Disconnect the computer. Check the cleanness and condition of the connections.
Disconnect the connector marked "PPM2" in the Protection and Switching Unit.

Take the "universal bornier Elé. 1681". Check the insulation and continuity of the following connections:

- Computer track 56 Connector PPM2 track 1
- Computer track 27 Connector PPM2 track 10
- Computer track 28 Left-hand front side member electronic earth 2

Reconnect the battery.

With the ignition on, check the presence of +12 V on tracks 56 and 27 of the computer connector.
If there is no +12 V, there is a fault in the Protection and Switching Unit.
Run fault finding on the Protection and Switching Unit.

AFTER REPAIR
Repeat the conformity check from the start.

DP094101.0
Version 2
**AUTOMATIC TRANSMISSION**

**Fault finding - Interpretation of parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Model</td>
<td>SIEMENS TA2000</td>
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<tr>
<td>Program no.</td>
<td>94</td>
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<tr>
<td>VD1ag no.</td>
<td>10</td>
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</tbody>
</table>

**PR105**

**VEHICLE SPEED**

**NOTES**

- There must be no present or stored faults.
- Test the multiplex network.
- Refer to Workshop Repair Manual 366, "Multiplex network" section.
- If the fault is still present, carry out fault finding on the ABS and ESP system.
- See the "ABS/ESP" section in the Workshop Repair Manual.

**AFTER REPAIR**

Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

ENGINE/TURBINE SPEED DIFFERENCE

NOTES
Carry out injection system fault finding and check that it is operating correctly.
There must be no present or stored faults.

Check the gearbox oil quality and level.
If an oil change or top-up is necessary see the “Draining-Filling-Levels” section of the Workshop Repair Manual.

Check that the gearbox is not leaking oil.

Disconnect the battery.

Disconnect the “modular connector”, and check the cleanliness and condition of the connections.

Disconnect the computer. Check the cleanliness and condition of the connections.

Take the “universal bornier Elé. 1681”. Check the insulation and continuity of the following connections:

(For “modular connector” connection details, see the “System operation and Track assignments” section.)

Computer track 45 Track D1 Modular connector plug
Computer track 46 Track D2 Modular connector plug
Computer track 19 Track B6 Modular connector plug
Computer track 26 Track B12 Modular connector plug

Reconnect the “modular connector”.

Check across tracks 45 and 46 of the computer connector that the turbine speed sensor resistance is 300 ± 40 Ω at approximately 20 °C.

If the resistance is not correct, either the sensor or the harness is damaged.

Reconnect the “modular connector”.

Check across tracks 19 and 26 of the computer connector that the resistance of the converter lock-up solenoid valve is 1 ± 0.2 Ω at approximately 20 °C.

If the resistance is not correct, the solenoid valve or the electric/hydraulic interface harness is damaged.

Carry out a converter stall test.
Follow the procedure in the “Converter stall test” section of the Workshop Repair Manual.

See the “Taking line pressure” section of the Workshop Repair Manual.
Connect the pressure gauge for a line pressure reading.
Hot engine and gearbox oil temperature between 60 and 80 °C.

Take the line pressure readings under the following conditions:
– with the selector lever in position “P” or “N” and engine running at 2000 rpm, the pressure should be between 2.6 and 3.2 bar.
– with the selector lever in position “R” and engine running at 2000 rpm, the pressure should be more than 4 bar.
– with the selector lever in position “D” and engine running at 2000 rpm, the pressure in first gear should be more than 7 bar.

If the values are not correct, there is a fault inside the gearbox.
If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.
Fault finding - Command mode procedures

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

Fault finding - Command mode procedures

- Check the 20A permanent computer feed fuse marked "15" in the Protection and Switching Unit. Check the cleanness and condition of the connections.
- Check the 5A after-ignition computer feed fuse marked "5H" in the Protection and Switching Unit. Check the cleanness and condition of the connections.
- Replace them if necessary.
- Zero engine and vehicle speed, selector lever in position "P" or "N".
- If the solenoid valves are not activated, check:
  - the gearbox oil level,
  - the cleanness and condition of the computer connector and "modular connector",
- Repair if necessary.
- Check the insulation, continuity and absence of stray resistance on the following connections:
  - Computer track 1 Modular connector track B3 (+ 12 V)
  - Computer track 10 Modular connector track B11 (EVS 1)
  - Computer track 9 Modular connector track B8 (EVS 2)
  - Computer track 7 Modular connector track B10 (EVS 3)
  - Computer track 8 Modular connector track B7 (EVS 4)
  - Computer track 13 Modular connector track B5 (EVS 5)
  - Computer track 14 Modular connector track B2 (EVS 6)
  - Computer track 26 Modular connector track B12 (modulating solenoid valve)
  - Computer track 20 Modular connector track B6 (converter lock-up solenoid valve)
  - Computer track 2 Modular connector track E2 (exchanger flow control solenoid valve)
  - Computer track 12 Modular connector track E1 (exchanger flow control solenoid valve)
- Repair if necessary.
- If the fault is still present, contact your Techline.

AFTER REPAIR
Repeat the conformity check from the start.

DP094101.0
Version 2
Clearing

Before using the delete commands, engine and vehicle speed must be zero and the selector lever must be in position "P" or "N".

**GRZ004 “Clear fault memory”**
This command deletes present and stored faults in the automatic transmission computer.

**GRZ005 “Self-adapting system”**
This command clears the self-adapting systems in the automatic transmission computer. Doing a road test with the vehicle after running this command is recommended before returning the vehicle to the customer. This is because, after the command, the automatic transmission may occasionally malfunction as the self-adapting systems readjust.

**GRZ006 “Converter lock-up self-adapting system”**
This command clears the self-adapting systems associated with the converter. It is recommended to road test the vehicle after running this command before returning the vehicle to the customer. This is because, after the command, the converter-related self-adapting systems may occasionally malfunction as they readjust.

**GRZ007 “OBD memory”**
This command clears the computer’s OBD memory.
Fault finding - Customer complaints

NOTES
Consult "Customer complaints" only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

AUTOMATIC TRANSMISSION OPERATING FAULTS
- No forward and/or reverse drive
- Slow engagement with engine racing followed by a jolt when pulling away
- Reversing lights do not work
- The vehicle pulls away sluggishly
- Jolts, slippage or engine racing when changing gear
- No gear changing, vehicle stuck in one gear
- Missing one or more gears

AUTOMATIC TRANSMISSION MALFUNCTION WHEN CHANGING GEAR
- Erratic gear changes

DP094101.0
Version 2
AUTOMATIC TRANSMISSION
Fault finding - Customer complaints

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

NOTES
Consult "Customer complaints" only after carrying out and documenting checks for this diagnosis and any applicable conformity checks.

- REVERSING LIGHTS DO NOT WORK ALP 6
  Reverse gear works and the bulbs are OK

- OIL PRESENT UNDER THE VEHICLE ALP 7

- SELECTOR LEVER DOES NOT LOCK IN "PARK" POSITION ALP 8
  SELECTOR LEVER STUCK IN "PARK" POSITION (IMPOSSIBLE TO UNLOCK IT BY PRESSING THE BRAKE PEDAL) ALP 9
Diagnostic - Fault finding charts

ALP 1
No dialogue with computers

NOTES
None.

Try the diagnostic tool on another vehicle.

Check:
– The connection between the diagnostic tool and the diagnostic socket (correct connection and lead in good
condition).
– The computer feed.
– The engine and passenger compartment fuses.

Check that the CLIP probe is fed via tracks 16 (+ 12 V)
and 4 and 5 (earth) of the diagnostic socket, as shown
by the illumination of the two red warning lights on the
probe.

Check that the CLIP probe is fed via the computer's USB port.

Check that the CLIP probe is communicating with the vehicle's computers; this can be seen by the illumination
of the two green diodes on the probe.

Check the following tracks on the diagnostic socket:
track 1 + After ignition
track 16 + Battery
tracks 4 and 5 Earth

Repair if necessary.

No communication on line K.

Check the continuity, insulation and absence of stray resistance on line K of the diagnostic socket
(track 7).

Disconnect the connector from the climate control computer in order to check the insulation, continuity and
absence of stray resistance on the following connections:
Computer track 27 + After ignition
Computer track 56 + Battery
Computer track 28 Earth
Computer track 18 Diagnostic socket

AFTER REPAIR
Carry out a complete check with the diagnostic tool.
ALP 2 The starter motor will not operate when the selector lever is in position P or N.

NOTES
Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

Check the consistency between the diagnostic tool display, the selector lever positions and the gear engaged shown on the instrument panel.

Check the multifunction switch mounting.

Check the lever adjustment using the method described in the Technical Note.

Switch off the ignition and disconnect the automatic transmission computer connector.

Check that fuse F3 (25 A) is in good condition; replace it if necessary.

With the start button pressed, check the presence of +12 V on track 3 of the PSU.

Check that the start button is operating correctly.

Check the power circuit of the starter relay and the starter motor.

Test the injection system and the UCH.

AFTER REPAIR
Carry out a complete check using the diagnostic tool.
ALP 3  Automatic transmission operating problems

SIEMENS TA2000
PROGRAM no.: 94
VDIAG no.: 10

ALP 3 Automatic transmission operating problems

NOTES
Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

Use the diagnostic tool to check the correlation between the display and the selector lever positions (ignition on and engine stopped).

Check the lever adjustment, following the instructions in the Technical Note.

Check the oil level and condition (colour, odour, etc.). If the oil condition suggests an internal problem, replace the automatic transmission.

With the engine stopped, check the line pressure signal supplied by the oil pressure sensor. Replace the sensor if the pressure signal is > 0.2 bar.

Connect a pressure gauge to the pressure connection on the gearbox casing (check that the oil temperature is more than \(20^\circ C\) before continuing).

Note the line pressure value shown on the pressure gauge and by the diagnostic tool in the following conditions:
– With the brakes on, selector lever in “D” and engine speed = 1200 rpm.
Replace the pressure sensor if the gauge and diagnostic tool readings differ. Repeat the check after replacement.

With the gearbox oil temperature between \(60^\circ C\) and \(90^\circ C\), brakes applied and selector lever in position “D”, place a pedal presser or pusher on the accelerator pedal to get a stable reference pressure of approximately 8 bar (engine speed approximately 1300 rpm).

Note the pressure gauge and diagnostic tool readings obtained under these conditions, while ensuring that the engine speed remains stable between both readings. These measurements must be carried out quite quickly so that these conditions do not have to be maintained for too long.

Replace the pressure regulating solenoid valve and the oil if the difference between the two readings is more than 0.5 bar. Repeat the check after replacement.

If the fault is still present, replace the hydraulic control valve and all the solenoid valves.

Start the engine.

With the brakes applied, move the selector lever to position “D” and accelerate, observing the turbine speed signal.
If the turbine speed signal changes, replace the gearbox.

AFTER REPAIR
Carry out a complete check using the diagnostic tool.

DP094101.0
Version 223A-108
Refer to the procedure and the safety instructions for carrying out a torque converter stall test.

Theoretical engine speed at the stall speed:

\[ 2300 \pm 150 \text{ rpm} \].

If the stall speed value is incorrect, replace the torque converter, converter lock-up solenoid valve, and oil. If the oil is burnt, also replace the hydraulic control valve and all the solenoid valves.

When replacing the torque converter, ensure that the reaction shaft is securely attached to the hub of the oil pump (swaged shaft).

Note: a stall speed which is too low may be linked to a lack of engine power.

Carry out a road test, observing the engine speed on the instrument panel and the information displayed on the diagnostic tool.

If the engine speed does not vary with each change of gears, replace the hydraulic control valve and all the solenoid valves.

AFTER REPAIR

As a final step, clear the stored faults with command RZ004 "Clear stored faults", the computer self-adapting systems with command RZ005 "Self-adapting system" and the converter self-adapting systems with command RZ006 "Converter lock-up" self-adapting system. Refer to the "Configuration and Programming" section for how to reset the oil ageing counter to zero (enter gearbox oil change date).
ALP 4
Automatic transmission malfunction when changing gears

ALP 555
Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

ALP 5
Automatic transmission gear change malfunction may be observed without any fault being stored in the computer.

These malfunctions may be due to contact resistance faults on the selection and progressive engagement solenoid valve (EVS1 to EVS6) control lines preventing the self-test system from detecting a solenoid valve fault or preventing the solenoid valves from being controlled.

Check the clamping efficiency and condition of the clips on all the solenoid valve control line connections from the computer to the solenoid valve.

AFTER REPAIR
Carry out a road test, then do a complete check with the diagnostic tool.
## AUTOMATIC TRANSMISSION
### Diagnostic - Fault finding charts

#### ALP-6
- Erratic gear changes

#### SIEMENS TA2000
- PROGRAM no.: 94
- VDIAG no.: 10

### ALP-6
- Erratic gear changes

#### NOTES
- Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

---

**Carry out a road test with the CLIP diagnostic tool, and check that status ET013 “Gear engaged” is correct.**

If the customer complaint occurs when the brake pedal is released, check that status ET142 “Brake pedal pressed” really is NO. If not, adjust the brake light switch and brake pedal return spring.

Check that the instrument panel display of the gear engaged matches the selector lever position.

Check the routing of the automatic transmission harness (high voltage interference fault). Change it if necessary.

Check the adjustment of the external control.

If the fault persists, replace the multifunction switch.

Carry out a fault finding procedure on the injection system.

---

**Check the PR006 “Engine speed” signal during a road test at a steady speed.**

If the signal is wrong, replace the engine speed sensor.

---

**AFTER REPAIR**
- Carry out a road test, then do a complete check with the diagnostic tool.

---

**DP094101.0**

**Version 223A-111**
23A

NOTES
Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

Check that the bulbs are in good condition.
Check the condition of the bulb contacts. Repair if necessary.
Check that the rear lights earth is correct. Right-hand rear light track 4 and left-hand rear light track 1.
Switch off the ignition and disconnect the modular connector. Switch the ignition on again and check for + after ignition on modular connector track A2.
Check the condition of fuse F5C (10A) in the PSU and the presence of + after ignition on track 6 of connector PPM2.
Switch off the ignition and check the continuity between tracks A1 and A2 of the modular connector (gearbox side) with the selector lever in position "R". If continuity is not provided, replace the multifunction switch. If the continuity is okay, check the continuity between track A1 of the modular connector and track 9 of PSU connector PPM2.
Switch on the ignition. With the selector lever in position "R", check the presence of +12 V on:
- track 9 of PSU connector PPH2
- right-hand rear light track 2
- left-hand rear light track 3

AFTER REPAIR
Carry out a complete check using the diagnostic tool.

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Version 2
<table>
<thead>
<tr>
<th><strong>ALF 7</strong></th>
<th>0.75-litre oil vehicle</th>
</tr>
</thead>
</table>

**VI-100**
Special tools and equipment not specified in this diagnostic chart.

Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

Clean the gearbox.

Check the oil level and top up if necessary, following the procedure described in the Workshop Repair Manual.

Find the source of the leak, carry out the necessary repairs, or change the defective parts to stop the leak.

Check the oil level.

If there is no gearbox leak, look for a leak on the engine side.

**AFTER REPAIR**
Carry out a road test, then do a complete check with the diagnostic tool.
ALP 6  Selector lever does not lock in "Park" position

ALP 9  Selector lever stuck in "Park" position (unlocking impossible)

NOTES
Consult the fault finding charts only after carrying out a full diagnostic check with the diagnostic tool and completing the conformity check.

If no fault can be identified in the shift-lock electromagnet, check the operation of the stop light switch.
Use the interpretation of fault DF119 "Brake pedal position" and status ET003 "Brake light switch".

If the customer complaint is still present, look for a mechanical fault on the lever locking mechanism.

AFTER REPAIR
Carry out a complete check using the diagnostic tool.
1. SCOPE OF THIS DOCUMENT
This document contains the fault finding procedure applicable to computers with the following specifications:

2. PREREQUISITES FOR FAULT FINDING

- Assisted fault finding (integrated into the diagnostic tool), Dialogys.
- Visu-Schéma (CD-ROM), paper version.
- CLIP

3. RECAP

- To run fault finding on the vehicle computers, switch on the ignition.
- Connect the diagnostic tool and perform the required operations.

**Vehicle(s):**
- MEGANE II and SCENIC

**Function concerned:**
- Automatic transmission

**Name of computer:**
- Siemens TA 2000

**Vdiag no.:**
- 14

**Special tooling required:**
- Multimeter
  - Elé. 1681
  - Universal bornier

**IMPORTANT**

Computer supply for the fault finding procedure:
- Renault card on the card holder (keyless vehicle scenario 1 (basic, not hands-free) and scenario 2 (top of the range, hands-free)).
- Long press (more than 5 seconds) on Start button without start-up conditions.
- Then connect the diagnostic tool and perform the required operations.
Faults are declared either present or stored (depending on whether they appeared in a certain context and disappeared since, or whether they remain present but have not been diagnosed within the current context). The present or stored status of faults should be taken into consideration when the diagnostic tool is switched on after the + after ignition feed (without any system components being active).

For a present fault, apply the procedure described in the Interpretation of faults section.

For a stored fault, note the faults displayed and apply the instructions in the Notes section.

If the fault is confirmed when the instructions in the Notes section are applied, the fault is present. Deal with the fault.

If the fault is not confirmed, check:
- the electrical lines which correspond to the fault,
- the connectors for these lines (for oxidation, bent pins, etc.),
- the resistance of the component detected as faulty,
- the condition of the wires (melted or split insulation).

Conformity check
The aim of the conformity check is to check data that does not produce a fault on the diagnostic tool because the data is inconsistent. Therefore, this phase is used to:
- carry out fault finding on faults that do not have a fault display, and which may correspond to a customer complaint,
- check that the system is operating correctly and that there is no risk of a fault recurring after repairs.

This section gives the fault finding procedures for statuses and parameters and the conditions for checking them. If a status is not behaving normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding page.

Customer complaints - Fault finding chart
If the test with the diagnostic tool is OK but the customer complaint is still present, the fault should be processed by customer complaint.
4. FAULT FINDING PROCEDURE

Perform a pre-diagnostic on the system
Print the system fault finding log (available on CLIP and in the Workshop Repair Manual or Technical Note)
Connect CLIP

Dialogue with computer?

yes

Read the faults

no

Faults present

yes

Deal with present faults

Deal with stored faults

The cause is still present

yes

Fault solved

See ALP no. 1

Conformity check

no

The cause is still present

Fault solved

no

Use fault finding charts (ALPs)

no

The cause is still present

Fault solved

Contact the Techline with the completed fault finding log
Fault finding problems

Fault finding problems can be caused by mechanical or electrical malfunctions. Additionally, loose or damaged connectors can lead to intermittent failures. It is important to check all connections and ensure they are securely fastened.

Fault finding procedure (continued)

Wiring check

Fault finding problems can often be solved by inspecting the wiring harness for loose or damaged connectors. Look for signs of corrosion or damage to the wiring harness, and make sure all connections are tight.

Electrical measurements of the voltage, resistance, and insulation are generally accurate, especially if the fault is not present when analyzing (stored fault).

Visual inspection

Look for damage under the bonnet and in the passenger compartment. Carefully check the fuses, insulators, and wiring harness routing. Look for signs of oxidation.

Tactile inspection

While manipulating the wiring harness, use the diagnostic tool to note any change in fault status from "stored" or "present." Make sure the connectors are correctly locked. Apply light pressure to the connectors. Twist the wiring harness. If there is a change in status, try to locate the source of the fault.

Inspection of each component

Disconnect the connectors and check the appearance of the clips and tabs, as well as the crimping (no crimping on the insulating section). Make sure the clips and tabs are correctly locked in the sockets. Make sure no clips or tabs have been dislodged during connection. Check the clip contact pressure using an appropriate model of tab.

Check the continuity, insulation

Check the continuity of entire lines, then section by section. Look for a short circuit to earth, to +12 V, or to another wire. If a fault is detected, repair or replace the wiring harness.
5. FAULT FINDING LOG

You will always be asked for this log:
- when requesting technical assistance from the Techline,
- for approval requests when replacing parts for which approval is obligatory,
- to be enclosed when returning monitored parts on request. The log is needed for warranty reimbursement, and enables better analysis of the parts removed.

6. SAFETY ADVICE

Safety rules must be observed during any work on a component to prevent any damage or injury:
- make sure that the battery is properly charged to avoid damaging the computers with a low load,
- use the appropriate tools,
- immobilise the vehicle for all tests in the workshop on the automatic transmission with the engine running.

IMPORTANT!

NOTE

Any fault on a complex system requires thorough fault finding with the appropriate tools. The FAULT FINDING LOG, which should be completed during the procedure, enables you to keep track of the procedure which is carried out. It is an essential document when consulting the manufacturer.

IT IS THEREFORE MANDATORY TO FILL OUT A FAULT FINDING LOG EACH TIME FAULT FINDING IS CARRIED OUT.
<table>
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<th>Date</th>
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<td>Log completed by</td>
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<td>VIN</td>
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</table>

### System: Automatic or sequential gearbox

### Customer complaint
- 681 Gears not changing
- 622 Noise
- 679 No drive
- 680 Slipping
- 675 Indicator light comes on
- 682 Loss of power
- 683 Jolts or jerks
- 684 "3H"
- 685 Erratic gear change

### Conditions under which the customer complaint occurs
- 005 While driving
- 004 Intermittently
- 008 When decelerating
- 007 When accelerating
- 009 Sudden fault
- 010 Gradual deterioration

### Documentation used in fault finding

#### Fault finding procedure used
- Type of diagnostic manual: Workshop Repair Manual
- Technical Note
- Assisted fault finding

#### Wiring diagram used
- Wiring Diagram
- Technical Note no.

#### Other documentation
- Title and/or part number: FD 12

### Administrative identification
- Diagnostic tool CLIP
- Update version

### Your comments:
- Your comments:

### Other
- Your comments:
### Computer Identification and System Parts Replaced

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### Computer Part No.

- **Computer part no.:**

### Supplier No.

- **Supplier no.:**

### Program No.

- **Program no.:**

### Software Version

- **Software version:**

### Calibration No.

- **Calibration no.:**

### Faults Found with the Diagnostic Tool

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<th>Fault no.</th>
<th>Present</th>
<th>Stored</th>
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### Conditions Under Which Fault Occurs

<table>
<thead>
<tr>
<th>Status or parameter no.</th>
<th>Parameter name</th>
<th>Value</th>
<th>Unit</th>
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### System-Specific Information

- **Description:**

### Additional Information

- **Gearbox serial number:**
- **If the gearbox is automatic, which mode is it (automatic/sequential)?**
- **Gear changes affected?**
- **Result of the gearbox oil level check:**
- **Result of the oil check using “Add-On”:**
- **Appearance of the oil:**
  - No
  - Seepage
  - Droplets
- **Location of the leak:**
- **Type of noise (metallic, friction, etc.):**
- **Does the buzzer work?**
  - Yes
  - No
- **What factors led you to replace the computer?**
- **What other parts were replaced?**
- **Other defective functions?**

### Your Comments:

- **FD 12 Fault finding log page to print or photocopy - page to print or photocopy - page to print or photocopy**
The automatic transmission on this model is a DP0, which is also found on other Renault vehicles including the Clio II, Kangoo or Megane.

The automatic transmission computer controls gear-shifting based on several parameters, among them engine torque and the type of driving being done.

All signals travel to the computer by wire, except for those from the injection computer, which use the multiplex network.

Fault finding on the computer is carried out via the multiplex network (CAN).

### System Operation

#### Multifunction switch (CMF) statuses:

<table>
<thead>
<tr>
<th>Status</th>
<th>Lever Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>P CLOSED</td>
<td>R CLOSED</td>
</tr>
<tr>
<td>P OPEN</td>
<td>R OPEN</td>
</tr>
<tr>
<td>N CLOSED</td>
<td>R CLOSED</td>
</tr>
<tr>
<td>D CLOSED</td>
<td>R CLOSE CLOSED</td>
</tr>
<tr>
<td>M CLOSED</td>
<td>R CLOSE CLOSED</td>
</tr>
<tr>
<td>+ CLOSED</td>
<td>R CLOSE CLOSED</td>
</tr>
<tr>
<td>- CLOSED</td>
<td>R CLOSE CLOSED</td>
</tr>
</tbody>
</table>

### Table: Multifunction Switch (CMF) statuses

<table>
<thead>
<tr>
<th>Status</th>
<th>Lever Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P CLOSED</td>
</tr>
<tr>
<td></td>
<td>P OPEN</td>
</tr>
<tr>
<td></td>
<td>N CLOSED</td>
</tr>
<tr>
<td></td>
<td>D CLOSED</td>
</tr>
<tr>
<td></td>
<td>M CLOSED</td>
</tr>
<tr>
<td></td>
<td>+ CLOSED</td>
</tr>
<tr>
<td></td>
<td>- CLOSED</td>
</tr>
</tbody>
</table>

Note: On this vehicle, contact S1 of the multifunction switch depends on status ET128 “Upper switch on sequential lever”.
AUTOMATIC TRANSMISSION
Fault finding - System operation

SIEMENS TA2000
Vdiag no.: 14

Sequential lever switch statuses:

Note:
The vehicle does not have a fixed 3rd (D3).

<table>
<thead>
<tr>
<th>Lever position</th>
<th>Upper sequential lever contact</th>
<th>Lower sequential lever contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>R</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>N</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>D</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>M</td>
<td>INACTIVE</td>
<td>INACTIVE</td>
</tr>
<tr>
<td>+</td>
<td>INACTIVE</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>-</td>
<td>ACTIVE</td>
<td>INACTIVE</td>
</tr>
</tbody>
</table>
Sequence solenoid valve (EVS) statuses:

- Lever position
- Gear engaged

Solenoid valve statuses:

- 1: Neutral
- 2: INACTIVE INACTIVE INACTIVE INACTIVE
- 3: P Neutral
- 4: RR
- 5: N Neutral
- 6: P or N
- 7: D or M stationary
- 8: D or M while driving
- 9: D or M while driving
- 10: D or M while driving
**MODULAR CONNECTOR**

**Female pins** (connector towards the switch, the interface, the sensors, the exchanger flow lock-up solenoid valve)

- A: Multifunction switch
- B: Hydraulic electronic interface
- C: Oil pressure sensor
- D: Turbine speed sensor
- E: Exchanger flow lock-up solenoid valve

**Male pins** (connector from the computer)

- F: Multifunction switch
- G: Hydraulic electronic interface
- H: Oil pressure sensor
- I: Turbine speed sensor
- J: Exchanger flow lock-up solenoid valve
### COMPUTER INPUTS AND OUTPUTS

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>OUTPUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic socket</td>
<td>Automatic transmission computer</td>
</tr>
<tr>
<td>+ battery feed</td>
<td>Solenoid valve control</td>
</tr>
<tr>
<td>+ after ignition feed</td>
<td>Control module</td>
</tr>
<tr>
<td>Display + warning lights</td>
<td>Solenoid valve control</td>
</tr>
<tr>
<td>Inter-system signals</td>
<td>Inter-system signals</td>
</tr>
<tr>
<td>Gear lever lock</td>
<td>Gear lever lock</td>
</tr>
<tr>
<td>Automatic transmission sensors</td>
<td>Automatic transmission sensors</td>
</tr>
<tr>
<td>(turbine speed, oil pressure, oil temperature)</td>
<td>(turbine speed, oil pressure, oil temperature)</td>
</tr>
<tr>
<td>Display + warning lights</td>
<td>Display + warning lights</td>
</tr>
<tr>
<td>Gear lever lock</td>
<td>Gear lever lock</td>
</tr>
</tbody>
</table>

### Driver actions
- Brake light switch
- Gear selector
- Multifunction switch

### Automatic transmission sensors
- Automatic transmission sensors
- Automatic transmission sensors
- Automatic transmission sensors
- Automatic transmission sensors
<table>
<thead>
<tr>
<th>Vdiag no.: 14</th>
<th>Fault finding - Allocation of computer tracks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer track</td>
<td>Description</td>
</tr>
<tr>
<td>1</td>
<td>Shift solenoid valve power supply track</td>
</tr>
<tr>
<td>2</td>
<td>Exchanger flow lock-up solenoid valve supply track</td>
</tr>
<tr>
<td>3</td>
<td>Not used</td>
</tr>
<tr>
<td>4</td>
<td>Gear lever display signal track</td>
</tr>
<tr>
<td>5</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>Not used</td>
</tr>
<tr>
<td>7</td>
<td>Shift solenoid valve 3 control track</td>
</tr>
<tr>
<td>8</td>
<td>Shift solenoid valve 4 control track</td>
</tr>
<tr>
<td>9</td>
<td>Shift solenoid valve 2 control track</td>
</tr>
<tr>
<td>10</td>
<td>Shift solenoid valve 1 control track</td>
</tr>
<tr>
<td>11</td>
<td>Gear lever lock control shift pattern control track</td>
</tr>
<tr>
<td>12</td>
<td>Exchanger flow lock-up solenoid valve control track</td>
</tr>
<tr>
<td>13</td>
<td>Shift solenoid valve 5 control track</td>
</tr>
<tr>
<td>14</td>
<td>Shift solenoid valve 6 control track</td>
</tr>
<tr>
<td>15</td>
<td>Not used</td>
</tr>
<tr>
<td>16</td>
<td>Brake switch &quot;Open&quot; signal brake light switch track</td>
</tr>
<tr>
<td>17</td>
<td>Not used</td>
</tr>
<tr>
<td>18</td>
<td>Diagnostic socket</td>
</tr>
<tr>
<td>19</td>
<td>Lock-up modulating solenoid valve control track</td>
</tr>
<tr>
<td>20</td>
<td>Oil pressure regulating solenoid valve track</td>
</tr>
<tr>
<td>21</td>
<td>Not used</td>
</tr>
<tr>
<td>22</td>
<td>Not used</td>
</tr>
<tr>
<td>23</td>
<td>Not used</td>
</tr>
<tr>
<td>24</td>
<td>Pressure sensor feed</td>
</tr>
<tr>
<td>25</td>
<td>Pressure sensor earth</td>
</tr>
<tr>
<td>26</td>
<td>Modulating solenoid valve power supply track</td>
</tr>
<tr>
<td>27</td>
<td>+ After ignition feed track 12</td>
</tr>
<tr>
<td>28</td>
<td>Computer earth</td>
</tr>
<tr>
<td>29</td>
<td>Not used</td>
</tr>
<tr>
<td>30</td>
<td>Not used</td>
</tr>
<tr>
<td>Track</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>23A-14</td>
<td>Multifunction switch signal</td>
</tr>
<tr>
<td>23A-15</td>
<td>Multifunction switch signal</td>
</tr>
<tr>
<td>23A-16</td>
<td>Multifunction switch signal</td>
</tr>
<tr>
<td>23A-17</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-18</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-19</td>
<td>Lower one touch switch contact control</td>
</tr>
<tr>
<td>23A-20</td>
<td>Upper one touch switch contact control</td>
</tr>
<tr>
<td>23A-21</td>
<td>CAN H2 signal</td>
</tr>
<tr>
<td>23A-22</td>
<td>CAN L2 signal</td>
</tr>
<tr>
<td>23A-23</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-24</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-25</td>
<td>Multifunction switch earth</td>
</tr>
<tr>
<td>23A-26</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-27</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-28</td>
<td>Turbine speed signal</td>
</tr>
<tr>
<td>23A-29</td>
<td>Turbine speed earth</td>
</tr>
<tr>
<td>23A-30</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-31</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-32</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-33</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-34</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-35</td>
<td>Not used</td>
</tr>
<tr>
<td>23A-36</td>
<td>Temperature sensor earth</td>
</tr>
<tr>
<td>23A-37</td>
<td>Temperature sensor signal</td>
</tr>
<tr>
<td>23A-38</td>
<td>Line pressure signal</td>
</tr>
<tr>
<td>23A-39</td>
<td>+ Battery supply</td>
</tr>
</tbody>
</table>
REPLACING THE COMPUTER

If Techline approves the computer replacement, proceed as follows:

– Note the gearbox oil condition meter code in the Identification menu: ID018 “Oil condition meter” and the date of the last gearbox oil service ID017 “Gearbox oil service date”.

– Switch off the ignition.

– Replace the computer.

– If necessary, change the computer configuration in the “Write configuration” menu.

– Enter the VIN into the computer with diagnostic tool command VP001 “Write VIN”.

– Enter the oil condition meter code from the old automatic transmission computer (found in the Identification menu) using command VP015 “Transfer oil condition meter”.

– Enter the gearbox oil change date with command VP016 “Write gearbox oil service date”.

– Enter the After-Sales service date with diagnostic tool command VP009 “Write last After-Sales service date”.

– Carry out a check with the diagnostic tool, on the identification screen.

– Switch off the ignition.

REPLACING AN AUTOMATIC TRANSMISSION COMPONENT

For replacing other automatic transmission components, see MR 364, Mechanics, 23A, Automatic transmission.

IT IS ESSENTIAL TO CONTACT YOUR TECHLINE BEFORE REPLACING AN AUTOMATIC TRANSMISSION COMPUTER.
Fault finding - Configurations and programming

PROGRAMMING

G VP001 "VIN entry":
As it is necessary to enter the VIN each time dialogue is established with the diagnostic tool, it must be programmed into each vehicle computer whenever a computer is replaced.

Programming procedure:
– Connect the diagnostic tool.
– Consult the fault finding procedure for the automatic transmission.
– Select configuration VP001 "VIN entry".
– Enter the VIN.
– Exit fault finding mode.
– Switch off the ignition.
– Wait for the end of Power-latch: over 10 seconds.

G VP009 "Enter last After-Sales operation date":
Every time work is carried out on the automatic transmission in the workshop, enter the date of the operation.

Select command VP009 "Write last After-Sales operation date" on the diagnostic tool, then use the tool's keypad to enter the date of the operation.

G VP015 "Transfer oil condition meter":
Transfer the oil condition meter code from the old computer.

Selecting command VP015 "Transfer oil condition meter" at the diagnostic tool, then use the keyboard to enter the code found on the replaced computer.

G VP016 "Write gearbox oil change date":
Select command VP016 "Write gearbox oil change date" at the diagnostic tool, then use the keyboard to enter the date found on the replaced computer.

* The immobiliser warning light will flash for a few seconds after the ignition is switched off.
<table>
<thead>
<tr>
<th>Test No.</th>
<th>DTC Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23A1</td>
<td>0801</td>
<td>Brake switch circuit</td>
</tr>
<tr>
<td>23A2</td>
<td>0802</td>
<td>Brake warning sensor circuit</td>
</tr>
<tr>
<td>23A3</td>
<td>0803</td>
<td>Brake warning light circuit</td>
</tr>
<tr>
<td>23A4</td>
<td>0804</td>
<td>Brake warning sensor circuit</td>
</tr>
<tr>
<td>23A5</td>
<td>0805</td>
<td>Brake warning light circuit</td>
</tr>
</tbody>
</table>

* The table above lists the DTC codes associated with the faults mentioned in the text. The DTC codes are used to diagnose and resolve issues with the automatic transmission system. Each DTC code corresponds to a specific circuit or sensor that may be causing a problem.
### Fault Finding - Fault Summary Table

<table>
<thead>
<tr>
<th>Tool fault</th>
<th>M diag no.</th>
<th>Diagnostic tool title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF147</td>
<td>D122</td>
<td>Invalid anticipated torque multiplex signal</td>
</tr>
<tr>
<td>DF177</td>
<td>0218</td>
<td>Automatic transmission overheating</td>
</tr>
<tr>
<td>DF183</td>
<td>C140</td>
<td>No UCH multiplex signal</td>
</tr>
<tr>
<td>DF185</td>
<td>C121</td>
<td>ABS/ESP absent multiplex signal</td>
</tr>
<tr>
<td>DF186</td>
<td>C100</td>
<td>No injection multiplex signal</td>
</tr>
<tr>
<td>DF226</td>
<td>0841</td>
<td>Automatic transmission internal pressure</td>
</tr>
<tr>
<td>DF227</td>
<td>D403</td>
<td>UCH brake pedal multiplex signal</td>
</tr>
<tr>
<td>DF228</td>
<td>D22B</td>
<td>Invalid ABS lateral acceleration multiplex signal</td>
</tr>
<tr>
<td>DF229</td>
<td>D208</td>
<td>Invalid ABS brake multiplex signal</td>
</tr>
<tr>
<td>DF230</td>
<td>0720</td>
<td>Invalid vehicle speed multiplex signal</td>
</tr>
<tr>
<td>DF231</td>
<td>D200</td>
<td>Vehicle speed absent multiplex signal</td>
</tr>
<tr>
<td>DF232</td>
<td>0603</td>
<td>Computer</td>
</tr>
<tr>
<td>DF233</td>
<td>0604</td>
<td>Computer</td>
</tr>
<tr>
<td>DF234</td>
<td>0605</td>
<td>Computer</td>
</tr>
<tr>
<td>DF235</td>
<td>D121</td>
<td>Pedal position multiplex signal</td>
</tr>
<tr>
<td>DF236</td>
<td>D11F</td>
<td>Invalid engine speed multiplex signal</td>
</tr>
<tr>
<td>DF237</td>
<td>D100</td>
<td>Invalid coolant temperature signal</td>
</tr>
<tr>
<td>DF238</td>
<td>D12B</td>
<td>Raw engine torque multiplex signal</td>
</tr>
<tr>
<td>DF239</td>
<td>D120</td>
<td>Invalid real engine torque multiplex signal</td>
</tr>
<tr>
<td>DF240</td>
<td>D220</td>
<td>Invalid front right-hand wheel speed multiplex signal</td>
</tr>
<tr>
<td>DF241</td>
<td>D221</td>
<td>Invalid front left-hand wheel speed multiplex signal</td>
</tr>
<tr>
<td>DF242</td>
<td>D225</td>
<td>Invalid rear right-hand wheel speed multiplex signal</td>
</tr>
<tr>
<td>DF243</td>
<td>D226</td>
<td>Invalid rear left-hand wheel speed multiplex signal</td>
</tr>
<tr>
<td>DF244</td>
<td>0715</td>
<td>Turbine speed sensor signal</td>
</tr>
<tr>
<td>DF263</td>
<td>D12D</td>
<td>Instant max. torque multiplex signal</td>
</tr>
</tbody>
</table>
Fault finding - Interpretation of faults

DF003
PRESENT
OR
STORED
ANALOGUE SENSOR FEEDS

1.DEF: Voltage outside permitted range of values

NOTES
Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.

Customer complaint: deterioration in gear change shift patterns
Deal first with faults:
DF005 "Oil pressure sensor circuit"
and
DF023 "Gearbox oil temperature sensor circuit".
Disconnect the battery.
Check the condition and cleanliness of the modular connector connections.
Disconnect the computer. Check the cleanliness and condition of the connections.
Repair if necessary.
Check the insulation, continuity and the absence of interference resistance to earth, to +12 V of the following connections:
- Computer track 24 Track C1
- Computer track 25 Track C3
- Computer track 53 Track B4
- Computer track 54 Track B1
Check the supply of the analogue sensors = 5 V
Repair if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF003
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Fault finding - Interpretation of faults

Vdiag no.: 14
DF005
PRESENT
OR
STORED

OIL PRESSURE SENSOR CIRCUIT
CO.0 : Open circuit or short circuit to earth

CONDITIONS FOR APPLYING THE FAULT FINDING PROCEDURE TO STORED FAULTS:
The fault appears after a timed period of 10 seconds with the engine running at 2000 rpm.

SPECIAL NOTES:
Use bornier Élé. 1681 for any work on the computer connectors.
Disconnect the battery.
Disconnect the "modular connector", and check the cleanliness and condition of the connections.
Disconnect the computer. Check the cleanliness and condition of the connections.
Repair if necessary.

Check the insulation, continuity and the absence of interference resistance to earth, to +12 V of the following connection:
(see System operation and Allocation of computer tracks on the "modular connector")

Computer track 24 Track C1
Computer track 55 Track C2
Computer track 25 Track C3

The voltage on track C1 of the modular connector should be +5 V. If it is not, check the computer feed.
Reconnect the "modular connector".
Measure the resistance of the oil pressure sensor between tracks 25 and 55 of the computer connector (female pins).
Replace the sensor if the resistance is not approximately 20 kΩ.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF009
PRESENT
OR
STORED
MULTIFUNCTION SWITCH IN INHIBITOR POSITION

NOTES

Conditions for applying the fault finding procedure to stored faults:
The fault is reported present when the selector lever is shifted from "P" to "D" (with a stop at each lever position).

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.
Check the cleanliness, condition and attachment of the multifunction switch.
Check the adjustment of the control (see MR 364 Mechanics, 23A, Automatic transmission).
Repair if necessary.
Check the cleanliness and condition of the connector A connections (see System operation and Allocation of computer tracks on the "modular connector").
Check the continuity of the following connections on the female "modular connector":
- Lever in position "P" Modular connector track A10 Track A7 modular connector
- Lever in position "R" Modular connector track A10 Track A7 modular connector
- Lever in position "N" Modular connector track A11 Track A7 modular connector
- Lever in position "D" Modular connector track A12 Track A7 modular connector
If the continuity is faulty, change the multifunction switch.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF009
### Fault Finding - Interpretation of Faults

**SIEMENS TA2000**

**Vdiag no.: 14**

---

#### Check the insulation of the following connections on the "modular connector"s female plug:

- **Lever in position "P"**
  - Modular connector track A9
  - Track A7 modular connector
  - Modular connector track A11
  - Track A7 modular connector
  - Modular connector track A12
  - Track A7 modular connector

- **Lever in position "R"**
  - Modular connector track A9
  - Track A7 modular connector

- **Lever in position "N"**
  - Modular connector track A9
  - Track A7 modular connector
  - Modular connector track A10
  - Track A7 modular connector
  - Modular connector track A12
  - Track A7 modular connector

- **Lever in position "D"**
  - Modular connector track A9
  - Track A7 modular connector
  - Modular connector track A10
  - Track A7 modular connector
  - Modular connector track A11
  - Track A7 modular connector

If the insulation is faulty, replace the multifunction switch.

#### Check the cleanliness and condition of the connections.

#### Check the insulation, continuity and the absence of interference resistance to earth, to +12 V of the following connections:

- **Computer track 31**
  - Track A10 male modular connector

- **Computer track 32**
  - Track A11 male modular connector

- **Computer track 33**
  - Track A12 male modular connector

- **Computer track 42**
  - Track A7 male modular connector

With the ignition on, check for +12 V on track A2 of the multifunction switch.

If the fault is still present, contact the Techline.

---

**AFTER REPAIR**

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Conditions for applying the fault finding procedure to stored faults:
- The fault appears after running command AC024 "Actuator sequential control".

Special notes:
- Use bornier Élé. 1681 for any work on the computer connectors.
- Disconnect the battery.
- Disconnect the "modular connector", and check the cleanliness and condition of the connections.
- Disconnect the computer. Check the cleanliness and condition of the connections.
- Repair if necessary.
- Check the insulation, continuity and the absence of interference resistance to earth, to +12 V of the following connections:
  - Computer track 1 (Track B3) male modular connector
  - Computer track 10 (Track B11) male modular connector
  - Computer track 7 (Track B10) male modular connector
  - Computer track 9 (Track B8) male modular connector
  - Computer track 8 (Track B7) male modular connector
  - Computer track 13 (Track B5) male modular connector
  - Computer track 14 (Track B2) male modular connector
  - Computer track 26 (Track B12) male modular connector
  - Computer track 20 (Track B9) male modular connector
  - Computer track 19 (Track B6) male modular connector
  - Computer track 53 (Track B4) male modular connector
  - Computer track 54 (Track B1) male modular connector

With the ignition on, check for +12 V on tracks B12 and B3 of the connector on the electric/hydraulic interface.

Check the earth to track B4 of the connector on the electric/hydraulic interface.

AFTER REPAIR
- Deal with any other faults. Clear the fault memory.
- Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Reconnect the "modular connector".

Measure the resistance of shift solenoid valve no. 1 between tracks 10 and 1 of the computer connector:

Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 20 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

AUTOMATIC TRANSMISSION

SIEMENS TA2000

Vdiag no.: 14

DF016

PRESENT

OR

STORED

LOCK-UP SOLENOID VALVE CIRCUIT

CO.0 : Open circuit or short circuit to earth

CC.1 : Short circuit to + 12 V

NOTES

Conditions for applying the fault finding procedure to stored faults:

The fault appears after running command AC024 "Actuator sequential control".

Special notes:

Use bornier Elé. 1681 for any work on the computer connectors.

Disconnect the battery.

Disconnect the "modular connector", and check the cleanliness and condition of the connections.

Disconnect the computer. Check the cleanliness and condition of the connections.

Repair if necessary.

Check the insulation, continuity and the absence of interference resistance to earth, to + 12 V and the following connections:

(see System operation and Allocation of computer tracks on the "modular connector")

Computer track 19 Track B6

Computer track 26 Track B12

Reconnect the "modular connector".

Measure the resistance of the converter lock-up solenoid valve between tracks 19 and 26 of the connector, computer female pins:

Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 1 Ω ± 0.12 at 23 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF016
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF017
PRESENT
OR
STORED

EXCHANGER FLOW RATE SOLENOID VALVE CIRCUIT
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 “Actuator sequential control”.

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.
Disconnect the battery.
Disconnect the computer. Check the cleanliness and condition of the connections.
Disconnect the “modular connector”, and check the cleanliness and condition of the connections.
Repair if necessary.
Check the insulation, continuity and the absence of interference resistance to earth, to + 12 V and the following connections:
(see System operation and Allocation of computer tracks on the “modular connector”)
Computer track 12 – Track E1
Computer track 2 – Track E2
Reconnect the “modular connector”.
Measure the resistance of the exchanger flow lock-up solenoid valve between tracks 12 and 2 of the computer female pin connector:
Replace the exchanger flow solenoid valve or the wiring if the resistance is not 40 ± 4 Ω at 23 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

Siemens TA2000

Vdiag no.: 14

DF023

PRESENT

OR

STORED

Gearbox oil temperature sensor circuit

CO.0: Open circuit or short circuit to earth

Notes

Conditions for applying the fault finding procedure to stored faults:

- The fault is declared present after a road test.

Special notes:

- Use bornier Élé. 1681 for any work on the computer connectors.
- Disconnect the battery.
- Disconnect the "modular connector", and check the cleanliness and condition of the connections.
- Disconnect the computer. Check the cleanliness and condition of the connections.
- Repair if necessary.
- Check the insulation, continuity and the absence of interference resistance to earth, to +12 V and the following connections:
  - (see System operation and Allocation of computer tracks on the "modular connector")
  - Computer track 53 Track B4 male modular connector
  - Computer track 54 Track B1 male modular connector
- Reconnect the "modular connector".
- Measure the resistance of the oil temperature sensor between tracks 53 and 54 of the computer female pin connector:
  - Replace the sensor or the wiring if the resistance is not between:
    - 2360 Ω and 2660 Ω at 20°C
    - 290 Ω and 327 Ω at 80°C
- If the fault is still present, contact the Techline.

After repair

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

Conditions for applying the fault finding procedure to stored faults:
The fault appears when the selector lever is moved from position "P" to position "D" with a stop at each lever position.

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.

Check the cleanliness, condition and attachment of the multifunction switch.
Check the adjustment of the control (see MR 364 Megane Bodywork, 23A Automatic transmission).
Repair if necessary.
Disconnect the battery.
Disconnect the "modular connector" and check the cleanliness and condition of the connector's "A" connections. (see System operation and Track assignments on the "modular connector")
Check the continuity of the following connections on the "modular connector's" female plug:

- Lever in position "P"
  - Modular connector track A10
  - Modular connector track A11
  - Modular connector track A12
- Lever in position "R"
  - Modular connector track A10
  - Modular connector track A11
- Lever in position "N"
  - Modular connector track A11
- Lever in position "D"
  - Modular connector track A12
  - Modular connector track A7

If the continuity is faulty, change the multifunction switch.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF029
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

Check the insulation of the following connections on the "modular connector's" female plug:

Lever in position "P":
- Modular connector track A9
- Modular connector track A7
- Modular connector track A11
- Modular connector track A12

Lever in position "R":
- Modular connector track A9
- Modular connector track A7

Lever in position "N":
- Modular connector track A9
- Modular connector track A7
- Modular connector track A10
- Modular connector track A12

Lever in position "D":
- Modular connector track A9
- Modular connector track A10

If the insulation is faulty, replace the multifunction switch.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the insulation, continuity and the absence of interference resistance to earth, to +12 V and the following connections:

- Computer track 31 Track A10
- Computer track 32 Track A11
- Computer track 33 Track A12
- Computer track 42 Track A7

If the values are not correct, move the wiring about while taking the measurements again.

If the values are still incorrect, replace the modular connector.

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of faults

Fault finding procedure

The fault appears after running command AC024 “Actuator sequential control”.

Special notes:

Use bornier Elé. 1681 for any work on the computer connectors.

NOTES

Disconnect the battery.

Disconnect the “modular connector”, and check the cleanliness and condition of the connections.

Disconnect the computer. Check the cleanliness and condition of the connections.

Repair if necessary.

Check the insulation, continuity and the absence of interference resistance to earth, +12 V and the following connections:

- Computer track 20 Track B9
- Computer track 26 Track B12

Repair if necessary.

Measure the resistance of the converter lock-up solenoid valve between tracks B9 and B12 of the female “modular connector”:

Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 1 ± 0.2 Ω at 23 °C.

Check the temperature sensor supply between track 54 of the computer and track B1 of the electric/hydraulic interface.

Check the lock-up solenoid valve supply between track 26 of the computer and track B12 of the electric/hydraulic interface.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault Finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF064
PRESENT
OR
STORED

DISPLAY CIRCUIT
CO.0: Open circuit or short circuit to earth
CC.1: Short circuit to +12 V

NOTES
None

Disconnect the battery.
Check the cleanliness and condition of the gear lever display connections.
Disconnect the computer.
Check the cleanliness and condition of the connections.
Use the "Universal bornier Elé. 1681" to check the insulation, continuity and absence of interference resistance on the following connection:
Computer track 4 Track 2 Gear lever display
Repair if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault Finding - Interpretation of Faults

[Table with data]

DIAG: DF084

1. DEF: Carry out the multiplex network fault finding procedure

NOTES
None

Run a multiplex network test (see 88B, Multiplexing).
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF084
**Fault finding - Interpretation of faults**

<table>
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<td></td>
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<tr>
<td></td>
<td>CC.0: Short circuit to earth</td>
<td>The fault appears after running command AC024 “Actuator sequential control”.</td>
</tr>
<tr>
<td></td>
<td>CC.1: Short circuit to +12 V</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES**

- Deal with fault DF012 “Solenoid valves feed” first if it is present or stored.
- Conditions for applying the fault finding procedure to stored faults:
  - The fault appears after running command AC024 “Actuator sequential control”.
- Special notes:
  - Use bornier Elé. 1681 for any work on the computer connectors.
  - Disconnect the battery.
  - Disconnect the “modular connector”, and check the cleanliness and condition of the connections.
- Repair if necessary.
- Check the insulation, continuity and the absence of interference resistance to earth, to +12 V and the following connections:
  - Computer track 10 of the computer connector
  - Track B11 of the connector, female pins.
  - Computer track 1 of the computer connector
  - Track B3 of the connector, female pins.
- Repair if necessary.
- Reconnect the “modular connector”.
- Measure the resistance of the shift solenoid valve no. 1 between tracks 10 and 1 of the computer connector:
  - Which corresponds to track B3 and B11 of the connector, female pins.
- Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 23 °C.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

- Deal with any other faults. Clear the fault memory.
- Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

**System operation and Allocation of computer tracks**

- Computer track 10
- Track B11 of the connector, female pins.
- Computer track 1
- Track B3 of the connector, female pins.
Fault finding - Interpretation of faults

AUTOMATIC TRANSMISSION

SIEMENS TA2000

Vdiag no.: 14

DF086

PRESENT

OR

STORED

“EVS2” SHIFT SOLENOID VALVE CIRCUIT

CO.0 : Open circuit or short circuit to earth

CC.1 : Short circuit to + 12 V

NOTES

Deal with fault DF012 “Solenoid valves feed” first if it is present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 “Actuator sequential control”.

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.

Disconnect the battery.
Disconnect the “modular connector”, and check the cleanliness and condition of the connections.
Disconnect the computer. Check the cleanliness and condition of the connections.
Repair if necessary.

Check the insulation, continuity and the absence of interference resistance on the following connections:
(see System operation and Allocation of computer tracks on the “modular connector”)

Computer track 9 Track B8
Computer track 1 Track B3

Reconnect the “modular connector”.

Measure the resistance of the shift solenoid no. 2 valve between tracks 9 and 1 of the computer connector: (which corresponds to track B3 and B8 of the connector, female pins).

Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 23 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF086
### Fault Finding - Interpretation of Faults

**Fault Vdiag no.: 14 DF087**

**EVS3 Shift Solenoid Valve Circuit**

- **C.0**: Open circuit or short circuit to earth
- **C.1**: Short circuit to +12 V

**NOTES**

1. **Deal with fault DF012 “Solenoid valves feed”**
2. **Conditions for applying the fault finding procedure to stored faults**
   - The fault appears after running command AC024 “Actuator sequential control”.

**Special Notes**

1. Use bornier Elé. 1681 for any work on the computer connectors.
2. Disconnect the battery.
3. Disconnect the “modular connector”, and check the cleanliness and condition of the connections.
4. Disconnect the computer. Check the cleanliness and condition of the connections.
5. Repair if necessary.
6. Check the insulation, continuity and the absence of interference resistance on the following connections:
   - Computer track 1 Track B3
   - Computer track 7 Track B10
7. Repair if necessary.
8. Reconnect the “modular connector”.
9. Measure the resistance of the shift solenoid valve no. 3 between tracks 1 and 7 of the computer connector: (which corresponds to track B3 and B10 of the connector, female pins).
10. Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 23 °C.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

1. Deal with any other faults.
2. Clear the fault memory.
3. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

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**SIEMENS TA2000**

- **System operation and allocation of computer tracks**
  - Male modular connector
  - Female modular connector

---

**DP0TA2000_V14_DF087**
Fault finding - Interpretation of faults

AUTOMATIC TRANSMISSION

SIEMENS TA2000

Vdiag no.: 14

DF088

PRESENT

OR

STORED

"EVS5" SHIFT SOLENOID VALVE CIRCUIT

CO.0 : Open circuit or short circuit to earth

CC.1 : Short circuit to + 12 V

NOTES

Deal with fault

DF012 "Solenoid valves feed"

first if it is present or stored.

Conditions for applying the fault finding procedure to stored faults:

The fault appears after running command

AC024 "Actuator sequential control"

Special notes:

Use bornier

Elé. 1681

for any work on the computer connectors.

Disconnect the battery.

Disconnect the "modular connector", and check

the cleanliness and condition

of the connections.

Disconnect the computer. Check

the cleanliness and condition

of the connections.

Repair if necessary.

Check

the insulation, continuity and the absence of interference resistance

on the following connections:

(see System operation and Allocation of computer tracks

on the "modular connector")

Computer track 1 Track B3

Computer track 13 Track B5

Repair if necessary.

Reconnect the "modular connector".

Measure the

resistance

of the shift solenoid valve no. 5 between

tracks 1 and 13

of the computer connector:

(which corresponds to track B3 and B5 of the connector, female pins).

Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not

40 Ω

± 2 at 23 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic

tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF089
PRESENT
OR
STORED
"EVS4" SHIFT SOLENOID VALVE CIRCUIT

CC.0 : Short circuit to earth
CO : Open circuit
CC.1 : Short circuit to + 12 V

NOTES
Deal with fault DF012 "Solenoid valves feed" first if it is present or stored.

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 "Actuator sequential control".

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.

Disconnect the battery.
Disconnect the "modular connector", and check the cleanliness and condition of the connections.

Disconnect the computer. Check the cleanliness and condition of the connections.

Repair if necessary.

Check the insulation, continuity and the absence of interference resistance on the following connections:
(see System operation and Allocation of computer tracks on the "modular connector")
Computer track 1 track B3
Computer track 8 track B7

Repair if necessary.

Reconnect the "modular connector".

Measure the resistance of the shift solenoid valve no. 4 between tracks 8 and 1 of the computer connector: (which corresponds to track B3 and B7 of the connector, female pins).
Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 23 °C.

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0T A2000_V14_DF089
INFORMATION

Fault finding - Interpretation of faults

Notes for applying the fault finding procedure to stored faults:

1. The fault appears during a road test when selecting position “M” with the lever (one-touch control).

Special notes:

1. Disconnect the battery.
2. Disconnect the “modular connector”, and check the cleanliness and condition of the connections.
3. Disconnect the computer. Check the cleanliness and condition of the connections.
4. Repair if necessary.
5. Repair if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF093
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF095
PRESENT
OR
STORED
SELECTOR LEVER LOCK ELECTROMAGNET CIRCUIT
CO : Open circuit
CC.1 : Short circuit to + 12 V

NOTES
Conditions for applying the fault finding procedure to stored faults:
The fault appears when the selector lever is in position "P".

Special notes:
Use bornier Élé. 1681 for any work on the computer connectors.

Check the cleanliness and condition of the gear lever lock electromagnet connections.
With the ignition on, check for + 12 V in track B1 of the gear lever lock electromagnet connector.
– Disconnect the battery.
– Check fuse 5F in the Protection and Switching Unit, as well as the cleanliness and condition of the connections.
– Disconnect connector PPH2 in the Protection and Switching Unit.
– Check the cleanliness and condition of the connections.
– Use the "Universal bornier Élé. 1681". To check the insulation to earth and the continuity of the following connection:
  Protection and Switching Unit connector PPH2 track 11
  Lever lock electromagnet track B1
With the ignition on, if there is still no + 12 V on track B1 of the lever lock electromagnet connector, carry out Protection and Switching Unit fault finding.
– Disconnect the battery.
– Disconnect the computer. Check the cleanliness and condition of the connections.
– Take "Universal bornier Élé. 1681". Check the insulation and continuity of the following connection:
  Computer track 11
  Lever lock solenoid valve track B2
Repair if necessary.

Check gear lever lock electromagnet resistance between track 11 of the computer connector and track 11 of the Protection and Switching Unit connector PPH2.
The resistance should be 40 Ω ± 4 Ω at a temperature of approximately 23 °C.
Otherwise replace the gear lever lock electromagnet.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### Fault finding - Interpretation of faults

**Fault Code: DF109**

**Description:** Present or stored engine torque multiplex signal

**Interpretation:**
1. **1.DEF:** Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

**NOTES:**
- None

**Run a multiplex network test (see 88B, Multiplexing).**

If the fault is still present, carry out fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

**AFTER REPAIR:**
- Deal with any other faults.
- Clear the fault memory.
- Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

---

**DF0109A_V14_DF109**
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults.

SIEMENS TA2000
Vdiag no.: 14
DF112
PRESENT
OR
STORED
"EVS6" SHIFT SOLENOID VALVE CIRCUIT
CO.0 : Open circuit or short circuit to earth
CC.1 : Short circuit to + 12 V

NOTES
Deal with fault
DF012 "Solenoid valves feed" first if it is present or stored.
Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 "Actuator sequential control".

Special notes:
Use bornier Elé. 1681 for any work on the computer connectors.
Disconnect the battery.
Disconnect the "modular connector", and check the cleanliness and condition of the connections.
Disconnect the computer. Check the cleanliness and condition of the connections.
Repair if necessary.
Check the insulation, continuity and the absence of interference resistance to earth, to + 12 V and the following connections:
(see System operation and Allocation of computer tracks, "modular connector" connections)

Computer track 1 Track B3
Computer track 14 Track B2

Repair if necessary.
Reconnect the "modular connector".
Measure the resistance of the shift solenoid valve no. 6 between tracks 14 and 1 of the computer connector:
(whiich corresponds to track B2 and B3 of the connector, female pins).
Replace the solenoid valve or the electric/hydraulic interface wiring if the resistance is not 40 Ω ± 2 at 23 °C.
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

Conditions for applying the fault finding procedure to stored faults:
The fault appears after running command AC024 “Actuator sequential control”.

If the following faults are present or stored, deal with them first:
– DF003 “Analogue sensor feeds”.
– DF005 “Oil pressure sensor circuit”.
– DF016 “Lock-up solenoid valve circuit”.
– DF177 “Automatic transmission overheating”.
– DF226 “Automatic transmission internal pressure”.
– DF244 “Turbine speed sensor signal”.

Check the quality and oil level of the gearbox (see MR 364 Mechanics 23A, Automatic transmission, Fill-up oil level).

Make sure that the gearbox is not leaking oil.

Check the converter setting point (see MR 364 Mechanics, 23A, Automatic transmission, Converter setting point check).

With the engine running, check the behaviour of PR006 “Engine speed” and PR007 “Turbine speed”.

If the fault is still present, check conformity.

Set up the pressure gauge for a line pressure reading.

Hot engine and gearbox oil temperature between 60 and 80°C.

Take the line pressure readings under the following conditions:

NOTE
The vehicle must be stationary: handbrake on and brake pedal depressed.
– gear lever at “P” or “N” and engine running at 2000 rpm: the pressure should be between 2.6 and 3.2 bar,
– gear lever at “R” and engine running at 2000 rpm: the pressure should be above 4 bar,
– gear lever at “D” and engine running at 2000 rpm: the pressure in first gear should be above 7 bar.

If the values are not correct, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

DP0TA2000_V14_DF113
Fault finding - Interpretation of faults

Vdiag no.: 14

DF131 PRESENT OR STORED

SLIPPAGE

1.DEF: Permanent low level

NOTES
Deal with all other faults first.

Conditions for applying the fault finding procedure to stored faults:
- Safe mode is triggered after a fault, not by the driver.

In particular, check the absence of faults on:
- the turbine speed sensor, DF244 “Turbine speed sensor signal”,
- the vehicle speed signal, DF230 “Invalid vehicle speed multiplex signal”.

Check that the value of PR003 oil pressure is equal to 31 bar (forced setpoint).

Possible faulty components:
- Slave cylinder (brakes, clutch) or computer.
- Then check cleanliness and condition of the gearbox oil.

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

SOFTWARE

Fault finding procedure

VA.1

DIAGNOSIS

SIEMENS TA2000

Vdiag no.: 14

DF145

PRESENT

OR

STORED

1. INVALID PEDAL POSITION MULTIPLEX SIGNAL

DEF: Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

Conditions for applying the fault finding procedure to stored faults:

If the fault appears following a road test during which the quality of the gear changes deteriorates.

Disconnect the battery.

Disconnect the gearbox computer. Check the cleanliness and condition of the connections.

Disconnect the engine management computer. Check the cleanliness and condition of the connections.

If the fault is still present, run fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

Repair if necessary.

Run a multiplex network test (see 88B, Multiplexing).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### AUTOMATIC TRANSMISSION

#### Fault Finding - Interpretation of Faults

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<th>DF147</th>
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<tr>
<td>PRESENT OR STORED</td>
<td>INVALID ANTICIPATED TORQUE MULTIPLEX SIGNAL</td>
</tr>
</tbody>
</table>

**DEF :** Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

**NOTES:** None

- Run a **multiplex network test** (see 88B, Multiplexing).
- If the fault is still present, contact the Techline.

**AFTER REPAIR:**
- Deal with any other faults.
- Clear the fault memory.
- Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

---

**DP0TA2000_V14_DF147**
AUTOMATIC TRANSMISSION
Fault Finding - Interpretation of faults

If the following faults are present or stored, deal with them first:

– DF003 "Analogue sensor feeds".
– DF005 "Oil pressure sensor circuit".
– DF016 "Lock-up solenoid valve circuit".
– DF017 "Exchanger flow solenoid valve circuit".
– DF023 "Gearbox oil temperature sensor circuit".
– DF036 "Pressure regulating solenoid valve circuit".
– DF131 "Slipping".
– DF226 "Automatic transmission internal pressure".
– DF237 "Invalid coolant temperature signal".

Conditions for applying the fault finding procedure to stored faults:
The fault is declared present after a road test.

Check gearbox oil quality and level.
If a procedure is required (see MR 366 Megane 2, 23A, Automatic transmission, Filling and top-up).
Make sure that the water-oil exchanger is not blocked.
Check the oil temperature sensor resistance of track 53 to track 54, the resistance should be:

\[2660 \, \Omega < R < 2360 \, \Omega\] at 20°C and
\[327 \, \Omega < R < 290 \, \Omega\] at 80°C

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### AUTOMATIC TRANSMISSION

#### Fault Finding - Interpretation of Faults

**SIEMENS TA2000**

**Vdiag no.: 14**

**DF183**

**PRESENT OR STORED**

**UCH MULTIPLEX SIGNAL ABSENT**

1. **DEF:** Carry out the multiplex network fault finding procedure.

**NOTES**

None

Run a multiplex network test (see 88B, Multiplexing).

If the fault is still present, carry out fault finding on the **UCH** system (see 87B, Passenger compartment connection unit).

**AFTER REPAIR**

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF185
PRESENT OR STORED

ABS/ESP MULTIPLEX SIGNAL ABSENT

1. DEF: Carry out the multiplex network fault finding procedure

NOTES None

Run a multiplex network test (see 88B, Multiplexing). If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system). If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

23A-49

SIEMENS TA2000
Vdiag no.: 14
DF186
PRESENT
OR
STORED

NO INJECTION MULTIPLEX SIGNAL

1. DEF: Carry out the multiplex network fault finding procedure

NOTES
None

Run a multiplex network test (see 88B, Multiplexing). If the fault is still present, carry out fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
If the following faults are present or stored, deal with them first:

- DF003 "Sensor feeds".
- DF005 "Oil pressure sensor circuit".
- DF023 "Gearbox oil temperature sensor circuit".
- DF036 "Pressure regulating solenoid valve circuit".
- DF244 "Turbine speed sensor signal".

Conditions for applying the fault finding procedure to stored faults:

The fault is declared present after a road test. See the section "Measuring the line pressure" in the Repair Manual.

Set up the pressure gauge for a line pressure reading. Hot engine and gearbox oil temperature between 60 and 80 °C.

Take the line pressure readings under the following conditions:

NOTE
The vehicle must be stationary: handbrake on and brake pedal depressed.

- with the selector lever at "P" or "N" and engine speed at 2000 rpm the pressure must be between 2.6 and 3.2 bar.
- with the selector lever at "R" and engine speed at 2000 rpm the pressure must be greater than 4 bar.
- with the selector lever at "D" and engine speed at 2000 rpm the pressure in first gear must be greater than 7 bar.

If the fault has not been resolved, check the conformity of all the statuses and parameters to find the source of the fault.

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### AUTOMATIC TRANSMISSION

#### Fault finding - Interpretation of faults

<table>
<thead>
<tr>
<th>Vdiag no.:</th>
<th>DF227</th>
</tr>
</thead>
</table>

**PRESENT OR STORED INVALID UCH BRAKE PEDAL MULTIPLEX SIGNAL**

1. **DEF**: Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

#### NOTES

None

Run a multiplex network test (see 88B, Multiplexing).

If the problem is not resolved, carry out fault finding on the UCH system (see 87B, Passenger compartment connection unit).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

**Fault Code:** DF228

**Description:** Present or stored.

**Description:** Invalid ABS lateral acceleration multiplex signal.

1. **DEF:** Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault).

**NOTES:**
- **Invalid ABS lateral acceleration multiplex signal:** Signal sent as multiplex frames by the ABS computer to the automatic transmission computer to tell it whether the vehicle is tending to drift out (understeer).

Run a multiplex network test (see 88B, Multiplexing). If the fault is still present, carry out fault finding on the system (see 38C, ABS system). If the fault is still present, contact the Techline.

**AFTER REPAIR:**
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000

Vdiag no.: 14

DF229

PRESENT OR STORED

INVALID ABS BRAKE MULTIPLEX SIGNALS

1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

None

- Run a multiplex network test (see 88B, Multiplexing).
- If the fault is still present, carry out fault finding on the system (see 38C, ABS system).
- If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF230
PRESENT
OR
STORED
INVALID INVALID VEHICLE SPEED MULTIPLEX SIGNAL
1.DEF: Signal incoherence

NOTES
If the following faults are present or stored, deal with them first:
– DF240 "Invalid front right-hand wheel speed multiplex signal".
– DF241 "Invalid front left-hand wheel speed multiplex signal".
– DF242 "Invalid rear right-hand wheel speed multiplex signal".
– DF243 "Invalid rear left-hand wheel speed multiplex signal".

Run a multiplex network test (see MR 366 Megane 8, 88B, Multiplexing).
If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system).
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
SIEMENS TA2000
Vdiag no.: 14
DF231
PRESENT
OR
STORED
ABSENT VEHICLE SPEED MULTIPLEX SIGNAL

1. DEF: Carry out the multiplex network fault finding procedure

NOTES
If the following faults are present or stored, deal with them first:
– DF240 “Invalid front right-hand wheel speed multiplex signal”.
– DF241 “Invalid front left-hand wheel speed multiplex signal”.
– DF242 “Invalid rear right-hand wheel speed multiplex signal”.
– DF243 “Invalid rear left-hand wheel speed multiplex signal”.

Run a multiplex network test (see 88B, Multiplexing).
If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system).
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
The immobiliser warning light will flash for a few seconds after the ignition is switched off. DF232
PRESENT OR STORED
COMPUTER
1.DEF: Internal electronic fault

**NOTES**

Special note: The fault relates to an internal computer fault.

If the fault is stored, clear the fault from the computer memory. Switch off the ignition, wait until the end of power latch* then switch the ignition back on and re-establish dialogue:

- Check the computer supply and earth:
  - +12 V on track 27 of the computer,
  - the earth track 28 of the computer.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
The immobiliser warning light will flash for a few seconds after the ignition is switched off.

**PRESENT**

**OR**

**STORED**

**COMPUTER**

**NOTES**

Special note:
The fault relates to an internal computer fault.

If the fault is stored, clear the fault from the computer memory.

Switch off the ignition, wait until the end of power latch* then switch the ignition back on and re-establish dialogue:

Check the computer supply and earth:

- +12 V on track 27 of the computer,
- the earth track 28 of the computer.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
The immobiliser warning light will flash for a few seconds after the ignition is switched off.

**PRESENT**  **OR**  **STORED**

COMPUTER

**NOTES**

Special note:
The fault relates to an internal computer fault. If the fault is present, clear the fault from the computer memory.

Switch off the ignition, wait until the end of power latch* then switch the ignition back on and re-establish dialogue:

- Check the computer supply and earth:
  - +12 V on track 27 of the computer,
  - the earth track 28 of the computer.

If the fault is still present, contact the Techline.

*AFTER REPAIR*

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

KICKDOWN: Instant power request by suddenly pressing the accelerator pedal down hard.

DF235 PRESENT OR STORED

INVALID PEDAL POSITION MULTIPLEX SIGNAL

1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

Conditions for applying the fault finding procedure to stored faults:

- If the fault appears following a road test during which the kickdown function is inactive.
- Run a multiplex network test (see 88B, Multiplexing).
- If the fault is still present, carry out fault finding on injection system (see 17B, Petrol injection or 13B, Diesel injection).
- If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF236
PRESENT
OR
STORED
INVALID ENGINE SPEED MULTIPLEX SIGNAL
1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES
None

Run a multiplex network test (see 88B, Multiplexing).
If the fault is still present, carry out fault finding on injection system (see 17B, Petrol injection or 13B, Diesel injection).
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### Fault Finding - Interpretation of Faults

**SIEMENS TA2000**

Vdiag no.: 14

**DF237**

**PRESENT OR STORED INVALID COOLANT TEMPERATURE SIGNAL**

1. **DEF**: Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

**NOTES**

None

Run a multiplex network test (see MR 366 Megane 8, 88B, Multiplexing).

If the fault is still present, carry out fault finding on injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

### AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

---

**DP0TA2000_V14_DF237**
**AUTOMATIC TRANSMISSION**

**Fault finding - Interpretation of faults**

<table>
<thead>
<tr>
<th>VIN</th>
<th>DF238</th>
<th>PRESENT OR STORED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INVALID RAW ENGINE TORQUE MULTIPLEX SIGNAL</td>
<td></td>
</tr>
</tbody>
</table>

**1.DEF :** Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

**NOTES**

None

**Run a multiplex network test (see 88B, Multiplexing).**

If the fault is still present, carry out fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

23A-63

SIEMENS TA2000

Vdiag no.: 14

DF239

PRESENT

OR

STORED

INVALID REAL ENGINE TORQUE MULTIPLEX SIGNAL

1. DEF: Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

None

Run a multiplex network test (see 88B, Multiplexing).

If the fault is still present, carry out fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
Fault finding - Interpretation of faults

SIEMENS TA2000

Vdiag no.: 14

DF240

PRESENT

OR

STORED

INVALID FRONT RIGHT-HAND WHEEL SPEED MULTIPLEX SIGNAL

1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

Front right-hand front wheel speed signal for the automatic transmission computer.

Run a multiplex network test (see 88B, Multiplexing).

If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

SIEMENS TA2000
Vdiag no.: 14
DF241
PRESENT
OR
STORED
INVALID FRONT LEFT-HAND WHEEL SPEED MULTIPLEX SIGNAL
1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES
Front left-hand wheel speed signal for the automatic transmission computer.
Run a multiplex network test (see 88B, Multiplexing).
If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system).
If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
### AUTOMATIC TRANSMISSION

#### Fault Finding - Interpretation of Faults

<table>
<thead>
<tr>
<th>Vdiag no.: 14</th>
<th>DF242</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRESENT OR STORED</strong> INVALID REAR RIGHT-HAND WHEEL SPEED MULTIPLEX SIGNAL</td>
<td></td>
</tr>
<tr>
<td><strong>DEF</strong> Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES**

- Rear right-hand wheel speed signal for the automatic transmission computer.

**Run a multiplex network test (see 88B, Multiplexing).** If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system). If the fault is still present, contact the Techline.

**AFTER REPAIR**

- Deal with any other faults. Clear the fault memory.
- Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of faults

23A-67

SIEMENS TA2000
Vdiag no.: 14
DF243
PRESENT OR STORED
INVALID REAR LEFT-HAND WHEEL SPEED MULTIPLEX SIGNAL

1. DEF: Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES
Rear left-hand wheel speed signal for the automatic transmission computer.

Run a multiplex network test (see 88B, Multiplexing).

If the fault has not been resolved, carry out fault finding on the system (see 38C, ABS system).

If the fault is still present, contact the Techline.

AFTER REPAIR
Deal with any other faults. Clear the fault memory.
Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
## Fault Finding - Interpretation of Faults

### Siemens TA2000

**Vdiag no.: 14**

**DF244**

**PRESENT**

**OR**

**STORED**

**TURBINE SPEED SENSOR SIGNAL**

1. **DEF: Communication disrupted**
2. **DEF: No signal**

### Conditions for applying the fault finding procedure to stored faults:

- The fault appears when the engine is running and the selector lever is at "P".

### Special notes:

- Use bornier Elé. 1681 for any work on the computer connectors.
- Disconnect the battery.
- Disconnect the "modular connector" and check the cleanliness and condition of the connections. Disconnect the computer. Check the cleanliness and condition of the connections. Repair if necessary.
- Check the insulation, continuity and the absence of interference resistance to earth, to +12 V and the following connections:
  - **Computer track 45 Male modular connector track D1**
  - **Computer track 46 Male modular connector track D2**
- Repair if necessary.
- Reconnect the "modular connector".

###电阻 Measurement

Measure the resistance of the turbine speed sensor between tracks 45 and 46 of the computer connector:

Replace the sensor or the wiring if the resistance is not:

- **300 Ω ± 40 Ω**

If the fault is still present, contact the Techline.

### AFTER REPAIR

Deal with any other faults. Clear the fault memory. Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.

**DP0TA2000_V14_DF244**
Fault finding - Interpretation of faults

23A

SIEMENS TA2000

Vdiag no.: 14

DF263

PRESENT

OR

STORED

INSTANT MAXIMUM TORQUE MULTIPLEX SIGNAL

1.DEF : Multiplex frames absent or values invalid (fault with the computer generating the signal or CAN connection fault)

NOTES

Instant maximum torque signal for the automatic transmission computer.

Carry out a test on the multiplex network (see 88B, Multiplexing).

If the fault is still present, run fault finding on the injection system (see 17B, Petrol injection or 13B, Diesel injection).

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other faults. Clear the fault memory.

Switch off the ignition and carry out a road test followed by a check with the diagnostic tool.
**MAIN SCREEN**

**NOTES**

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

**Test conditions:** Engine off, ignition on.

The values indicated in this conformity check are given as examples.

*Order Function Parameter or Status | Display and Notes |
--- | --- |
1 | Engine speed | PR006: Engine speed 0 rpm |
2 | Turbine speed | PR007: Turbine speed 0 rpm |
3 | Power supply | PR008: Computer supply voltage 10 V < X < 13 V |
4 | Gearbox oil temperature | PR004: Gearbox oil temperature -40 °C < X < 140 °C |
5 | Coolant temperature | PR001: Coolant temperature -40 °C < X < 120 °C |
6 | Oil pressure | PR003: Oil pressure X < 0.2 bar |

If there is a fault, refer to the interpretation of this parameter.
### Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

**Test conditions:** Engine off, ignition on.

The values indicated in this conformity check are given as examples.

#### Main Screen (Continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Display and Notes</th>
<th>Fault Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Gear lever position</td>
<td>Gear lever position</td>
<td>ET012: Gear lever position</td>
<td><em>P</em> if selector is in position &quot;P&quot;. <em>N</em> if selector is in position &quot;N&quot;. <em>R</em> if selector is in position &quot;R&quot;. <em>D</em> if selector is in position &quot;D&quot;. <em>M</em> if selector is in position &quot;M&quot;. <em>M+</em> if selector is in position &quot;M+&quot;. *M-&quot; if selector is in position &quot;M-&quot;. In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>8</td>
<td>Manual mode</td>
<td>Manual mode</td>
<td>INACTIVE</td>
<td>ACTIVE, if lever is in position &quot;M&quot;</td>
</tr>
<tr>
<td>9</td>
<td>Old oil</td>
<td>Old oil</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>10</td>
<td>Raw pedal position</td>
<td>Raw pedal position</td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>
### Fault finding - Conformity check

**SIEMENS TA2000**

**Vdiag no.: 14**

**SUB-FUNCTION: CHANGING GEAR**

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Order</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Action Display</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sequential lever switch</td>
<td>Manual mode</td>
<td>Manual mode</td>
</tr>
</tbody>
</table>
AUTOMATIC TRANSMISSION
Fault finding - Conformity check

SIEMENS TA2000
Vdiag no.: 14

SUB-FUNCTION: CHANGING GEAR (CONTINUED)

NOTES
Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).
Test conditions: engine off, ignition on.
The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Parameter</th>
<th>Function</th>
<th>Display and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Gear engaged</td>
<td>Check engaged</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Oil pressure</td>
<td>PR003:</td>
<td>X &lt; 0.2 bar</td>
</tr>
<tr>
<td>6</td>
<td>Engine speed</td>
<td>PR006:</td>
<td>0 rpm</td>
</tr>
<tr>
<td>7</td>
<td>Specified pedal</td>
<td>PR135:</td>
<td>%</td>
</tr>
<tr>
<td>8</td>
<td>Raw pedal position</td>
<td>PR136:</td>
<td>%</td>
</tr>
</tbody>
</table>
**AUTOMATIC TRANSMISSION**
**Fault finding - Conformity check**

**SIEMENS TA2000**
Vdiag no.: 14

**SUB-FUNCTION: CHANGING GEAR (CONTINUED)**

**NOTES**
Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).
Test conditions: engine off, ignition on.
The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Sub-function</th>
<th>Function or Status</th>
<th>Parameter or Status</th>
<th>Display and Notes</th>
<th>Fault finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Accelerator pedal position</td>
<td>PR124: Accelerator pedal position for downshifting</td>
<td>%</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>10</td>
<td>Solenoid valve control</td>
<td>ET021: Shift solenoid valve 1 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET022: Shift solenoid valve 2 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET023: Shift solenoid valve 3 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET024: Shift solenoid valve 4 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET025: Shift solenoid valve 5 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET026: Shift solenoid valve 6 control</td>
<td>ACTIVE INACTIVE</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
</tbody>
</table>
**AUTOMATIC TRANSMISSION**

**Fault finding - Conformity check**

SIEMENS TA2000

Vdiag no.: 14

**SUB-FUNCTION: CHANGING GEAR (CONTINUED)**

**NOTES**

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Sub-function</th>
<th>Function</th>
<th>Parameter</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Multifunction switch</td>
<td>ET123: multifunction switch S2</td>
<td>Lever in position &quot;P&quot; OPEN</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET124: multifunction switch S3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET125: multifunction switch S4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ET126: P/N multifunction switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Actuator sequential control</td>
<td>AC024: actuator sequential control</td>
<td>Means of controlling all the solenoid valves</td>
<td>In the event of a fault, refer to the interpretation of this command.</td>
</tr>
</tbody>
</table>
## AUTOMATIC TRANSMISSION
### Fault finding - Conformity check

**SIEMENS TA2000**

**Vdiag no.: 14**

**SUB-FUNCTION: PRESSURE CONTROL**

**NOTES**

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>No.</th>
<th>Parameter</th>
<th>Function</th>
<th>Description</th>
<th>Display and Notes</th>
<th>Fault finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gear engaged</td>
<td>ET013: Gear engaged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“R” for reverse.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“1P” for 1st locked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“2P” for 2nd locked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“3P” for 3rd locked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“4P” for 4th locked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“1G” for 1st slipping.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“2G” for 2nd slipping.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“3G” for 3rd slipping.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“4G” for 4th slipping.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“1” for 1st unlocked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“2” for 2nd unlocked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“3” for 3rd unlocked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“4” for 4th unlocked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Engine speed</td>
<td>PR006: Engine speed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 rpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>In the event of a fault, refer to the interpretation of fault DF236 “Invalid engine speed multiplex signal”.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Oil pressure</td>
<td>PR003: Oil pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>x &lt; 0.2 bar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gearbox oil pressure sensor voltage</td>
<td>PR118: Gearbox oil pressure sensor voltage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>x = 5 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Reference pressure</td>
<td>PR138: Reference pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21 bar None.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SUB-FUNCTION: PRESSURE CONTROL (CONTINUED)

#### NOTES
- Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).
- Test conditions: engine off, ignition on.
- The values indicated in this conformity check are given as examples.

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<tr>
<th>Order</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Action Display and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td>Difference between reference pressure and oil pressure PR146:</td>
<td>Difference between specification and oil pressure $X = PR138 - PR003$ None.</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Gearbox oil pressure PR004:</td>
<td>$-40 &lt; X &lt; 140$° C If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Actuator sequential control AC024:</td>
<td>Means of controlling all the solenoid valves In the event of a fault, refer to the interpretation of this command.</td>
</tr>
</tbody>
</table>
### Automatic Transmission

**Fault Finding - Conformity Check**

Notes:
- Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).
- Test conditions: engine off, ignition on.
- The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Function</th>
<th>Parameter or Status</th>
<th>Fault Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear lever</td>
<td>Gear lever position ET012</td>
<td>Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults). Test conditions: engine off, ignition on. The values indicated in this conformity check are given as examples.</td>
</tr>
<tr>
<td>Brake pedal</td>
<td>Brake light contact OPEN, if brake pedal is not depressed. CLOSED, if brake pedal is depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>Brake pedal</td>
<td>Stop light contact OPEN, if brake pedal is depressed. CLOSED, if brake pedal is not depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>Actuator sequential control</td>
<td>Actuator sequential control Means of controlling all the solenoid valves</td>
<td>In the event of a fault, refer to the interpretation of this command.</td>
</tr>
</tbody>
</table>
## AUTOMATIC TRANSMISSION
### Fault finding - Conformity check

- **SIEMENS TA2000**
- **Vdiag no.: 14**
- **SUB-FUNCTION: LOCK-UP/UNLOCKING**

*Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).*

**Test conditions:** engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engine speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>2</td>
<td>Calculated engine torque</td>
<td>PR123: Calculated engine torque</td>
<td>0 Nm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>3</td>
<td>Speed of rotation</td>
<td>PR007: Turbine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>4</td>
<td>Engine/turbine speed difference</td>
<td>PR128: Engine/turbine speed difference</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>5</td>
<td>Current turbine speed</td>
<td>PR126: Current turbine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>6</td>
<td>Reference pressure</td>
<td>PR138: Reference pressure</td>
<td>21 bar</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>7</td>
<td>Oil pressure</td>
<td>PR003: Oil pressure</td>
<td>X &lt; 0.2 bar</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
</tbody>
</table>
AUTOMATIC TRANSMISSION
Fault finding - Conformity check

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Sub-function</th>
<th>Parameter/Value</th>
<th>Action/Display</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Gearbox oil pressure sensor voltage</td>
<td>PR118: X = 5 V</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>9</td>
<td>Oil temperature</td>
<td>PR004: -40 °C &lt; X &lt; 140 °C</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>10</td>
<td>Difference between pressure setting and oil pressure</td>
<td>PR146: X = PR138 - PR003</td>
<td>None.</td>
</tr>
<tr>
<td>11</td>
<td>Oil too hot signal</td>
<td>ET010: YES, if oil temperature: X &gt; 140 °C</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>12</td>
<td>Actuator sequential control</td>
<td>AC024:</td>
<td>Means of controlling all the solenoid valves</td>
</tr>
</tbody>
</table>
## Fault finding - Conformity check

**SIEMENS TA2000**

**Vdiag no.: 14**

**SUB-FUNCTION: STATIONARYDECLUTCHING**

**NOTES**

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter</th>
<th>Display and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engine speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm</td>
</tr>
</tbody>
</table>

If there is a fault, refer to the interpretation of this parameter.

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter</th>
<th>Display and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Gear lever position</td>
<td>ET012: Gear lever position</td>
<td>&quot;P&quot; if selector is in position &quot;P&quot;. &quot;N&quot; if selector is in position &quot;N&quot;. &quot;R&quot; if selector is in position &quot;R&quot;. &quot;D&quot; if selector is in position &quot;D&quot;. &quot;M&quot; if selector is in position &quot;M&quot;. &quot;M+&quot; if selector is in position &quot;M+&quot;. &quot;M-&quot; if selector is in position &quot;M-&quot;.</td>
</tr>
</tbody>
</table>

In the event of a fault, refer to the interpretation of this status.

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter</th>
<th>Display and Notes</th>
</tr>
</thead>
</table>

In the event of a fault, refer to the interpretation of this status.
Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Sub-Function</th>
<th>Description</th>
<th>Maximum limits</th>
<th>Function Parameter or Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Brake pedal ET003: Brake light contact (opening)</td>
<td>OPEN, brake pedal released. CLOSED, brake pedal depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Brake pedal ET004: Stop light contact (closure)</td>
<td>CLOSED, brake pedal released. OPEN, brake pedal depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Actuator sequential control AC024: Actuator sequential control</td>
<td>Means of controlling all the solenoid valves</td>
<td>In the event of a fault, refer to the interpretation of this command.</td>
<td></td>
</tr>
</tbody>
</table>
### Fault finding - Conformity check

Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.

The values indicated in this conformity check are given as examples.

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<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Parameter or Status</th>
<th>Action Display</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oil pressure</td>
<td>PR003: Oil pressure</td>
<td>&lt; 0.2 bar</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>2</td>
<td>Oil temperature</td>
<td>PR004: Gearbox oil temperature</td>
<td>-40°C &lt; X &lt; 140°C</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>3</td>
<td>Vehicle speed</td>
<td>PR105: Vehicle speed</td>
<td>0 mph</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>4</td>
<td>Engine speed</td>
<td>PR006: Engine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>5</td>
<td>Speed of rotation</td>
<td>PR007: Turbine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>6</td>
<td>Engine/turbine speed</td>
<td>PR128: Engine/turbine speed</td>
<td>0 rpm</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
</tbody>
</table>
AUTOMATIC TRANSMISSION
Fault finding - Conformity check

SIEMENS TA2000
Vdiag no.: 14

SUB-FUNCTION: CREEPING AT IDLE SPEED (CONTINUED)

NOTES
Only carry out this conformity check after a complete check with the diagnostic tool (no present or stored faults).

Test conditions: engine off, ignition on.
The values indicated in this conformity check are given as examples.

<table>
<thead>
<tr>
<th>Order</th>
<th>Parameter or Status</th>
<th>Display and Notes</th>
<th>Fault finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Standard pedal position</td>
<td>PR135: Standard pedal position %</td>
<td>If there is a fault, refer to the interpretation of this parameter.</td>
</tr>
<tr>
<td>8</td>
<td>Brake pedal ET003: Brake light contact (opening)</td>
<td>OPEN, brake pedal released. CLOSED, brake pedal depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>9</td>
<td>Brake pedal ET004: Stop light contact (closure)</td>
<td>CLOSED, brake pedal released. OPEN, brake pedal depressed.</td>
<td>In the event of a fault, refer to the interpretation of this status.</td>
</tr>
<tr>
<td>Tool status</td>
<td>Diagnostic tool title</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET001</td>
<td>Solenoid valve supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET003</td>
<td>Brake light contact (opening)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET004</td>
<td>Stop light contact (closure)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET010</td>
<td>Oil too hot signal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET011</td>
<td>Engine speed signal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET012</td>
<td>Gear lever position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET013</td>
<td>Gear engaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET020</td>
<td>Exchanger flow control solenoid valve control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET021</td>
<td>Shift solenoid valve 1 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET022</td>
<td>Shift solenoid valve 2 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET023</td>
<td>Shift solenoid valve 3 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET024</td>
<td>Shift solenoid valve 4 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET025</td>
<td>Shift solenoid valve 5 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET026</td>
<td>Shift solenoid valve 6 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET072</td>
<td>Gear change settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET081</td>
<td>Snow mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET083</td>
<td>Old oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET097</td>
<td>Manual mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET108</td>
<td>Torque reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET123</td>
<td>S2 multifunction switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET124</td>
<td>S3 multifunction switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET125</td>
<td>S4 multifunction switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET126</td>
<td>P/N multifunction switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET127</td>
<td>Lower sequential lever contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET128</td>
<td>Upper sequential lever contact</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AUTOMATIC TRANSMISSION**

**Fault finding - Interpretation of statuses**

**Tool status**

**Diagnostic tool title**

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<thead>
<tr>
<th>Tool status</th>
<th>Diagnostic tool title</th>
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<tbody>
<tr>
<td>ET001</td>
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</tr>
<tr>
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<td>Brake light contact (opening)</td>
</tr>
<tr>
<td>ET004</td>
<td>Stop light contact (closure)</td>
</tr>
<tr>
<td>ET010</td>
<td>Oil too hot signal</td>
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<tr>
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</tr>
<tr>
<td>ET012</td>
<td>Gear lever position</td>
</tr>
<tr>
<td>ET013</td>
<td>Gear engaged</td>
</tr>
<tr>
<td>ET020</td>
<td>Exchanger flow control solenoid valve control</td>
</tr>
<tr>
<td>ET021</td>
<td>Shift solenoid valve 1 control</td>
</tr>
<tr>
<td>ET022</td>
<td>Shift solenoid valve 2 control</td>
</tr>
<tr>
<td>ET023</td>
<td>Shift solenoid valve 3 control</td>
</tr>
<tr>
<td>ET024</td>
<td>Shift solenoid valve 4 control</td>
</tr>
<tr>
<td>ET025</td>
<td>Shift solenoid valve 5 control</td>
</tr>
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<td>Shift solenoid valve 6 control</td>
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<tr>
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<td>Gear change settings</td>
</tr>
<tr>
<td>ET081</td>
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<tr>
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</tr>
<tr>
<td>ET123</td>
<td>S2 multifunction switch</td>
</tr>
<tr>
<td>ET124</td>
<td>S3 multifunction switch</td>
</tr>
<tr>
<td>ET125</td>
<td>S4 multifunction switch</td>
</tr>
<tr>
<td>ET126</td>
<td>P/N multifunction switch</td>
</tr>
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<td>Lower sequential lever contact</td>
</tr>
<tr>
<td>ET128</td>
<td>Upper sequential lever contact</td>
</tr>
</tbody>
</table>

**AFTER REPAIR**

Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of statuses

Vdiag no.: 14

SIEMENS TA2000

ET001

SOLENOID VALVE SUPPLY

NOTES

There must be no present or stored faults.

Force the solenoid valves feed by running command AC024 "Actuator sequential control"; see "Interpretation of commands".

Disconnect the electric/hydraulic interface connector and check:

- The solenoid valves feed status is "ABSENT" at a voltage of 0 V: Earth Track 1, Track 12, Track 20
- The solenoid valves feed status is "PRESENT" at a voltage of +12 V.

If the status is not correct, apply the interpretation of fault DF012 "Solenoid valves feed".

Repair if necessary.

AFTER REPAIR

Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault-finding - Interpretation of statuses

Vdiag no. 14
ET003
SIEMENS TA2000
BRAKE LIGHT CONTACT (OPENING)

NOTES
There must be no present or stored faults.
The status displays "OPEN" with the pedal released and changes to "CLOSED" with the brake pedal depressed.
Check the cleanliness and the condition of the brake light switch connections.
Check the position, setting and correct operation of the brake light switch. (Watch out for the floor carpet which can jam the switch.)
Disconnect the battery.
Disconnect the computer. Check the cleanliness and condition of the connections.
Use the "Universal bornier Elé. 1681" to check the insulation, continuity and absence of interference resistance on the following connection:
Computer
track 16
track 3
brake light switch
If the correct status is not displayed, replace the switch.

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_ET003
AutOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

SIEMENS TA2000
Vdiag no.: 14
ET004
STOP LIGHT CONTACT (CLOSURE)

NOTES
There must be no present or stored faults.

The status displays "CLOSED" with the pedal released and changes to "OPEN" with the brake pedal depressed.

Check the cleanliness and the condition of the brake light switch connections.

Check the position, setting and proper functioning of the brake light switch. (Watch out for the floor carpet which can jam the switch.)

Disconnect the battery.

Disconnect the computer.

Check the cleanliness and condition of the connections.

Use the "Universal bornier Elé. 1681" to check the insulation, continuity and the absence of interference resistance on the following connection:

Computer track 16 Track 3 brake light switch

Repair if necessary.

If the correct status is not displayed, replace the switch.

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_ET004
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

23A

SIEMENS TA2000
Vdiag no.: 14
ET010

OIL TOO HOT SIGNAL

NOTES

There must be no present or stored faults.

This status means the oil temperature is higher than normal running temperature. The status displays "NO" if the gearbox oil temperature is below 140 °C.

The status displays "YES" when the gearbox oil temperature rises above 140 °C.

If the correct status is not displayed, use the interpretation of fault DF177 "Automatic transmission overheating".

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_ET010
AUTOMATIC TRANSMISSION

Fault finding - Interpretation of malfunctions

Siemens TA2000

Vdiag no.: 14

ET012

GEAR LEVER POSITION

NOTES

There must be no present or stored faults.

LEVER POSITION

"P" - "R" - "N" - "D"

Check the cleanliness, condition and attachment of the automatic transmission multifunction switch.

Check the lever adjustment (see 23A, Automatic transmission).

Disconnect the battery.

Disconnect the "modular connector" and check the cleanliness and condition of the connector "A" connections. See System operation and Allocation of computer tracks, "modular connector" connections.

Carry out the following checks on the multifunction switch:

Continuity:

- Lever in position "P", track A10 Track A7
- Lever in position "R", tracks A10, A11, A12 Track A7
- Lever in position "N", track A11 Track A7
- Lever in position "D", track A12 Track A7

Insulation:

- Lever in position "P", tracks A9, A11, A12 Track A7
- Lever in position "R", track A9 Track A7
- Lever in position "N", tracks A9, A10, A12 Track A7
- Lever in position "D", tracks A9, A10, A11 Track A7

AFTER REPAIR

Repeat the conformity check from the start.

DP0TA2000_V14_ET012
Fault finding - Interpretation of statuses

CONTINUED

LEVER POSITION

"P" - "R" - "N" - "D"

CONTINUED

Disconnect the multifunction switch.

Use the "Universal bornier Elé. 1681" to check the insulation, continuity and absence of interference resistance on the following connections:

- Computer track 31 Track A10 multifunction switch
- Computer track 32 Track A11 multifunction switch
- Computer track 33 Track A12 multifunction switch
- Computer track 42 Track A7 multifunction switch

Repair if necessary.

Check the cleanliness and condition of the one-touch switch module connections.

Disconnect the battery. Disconnect the computer.

Check the cleanliness and condition of the connections.

Use the "Universal bornier Elé. 1681".

Check the insulation, continuity and the absence of interference resistance on the following connections:

- Computer track 36 Track B3 one-touch switch module
- Computer track 37 Track A3 one-touch switch module
- Battery earth Track A2 one-touch switch module

Repair if necessary.

LEVER POSITION "M"

"M+" AND "M-

incremental shift

AFTER REPAIR

Repeat the conformity check from the start.
Fault finding - Interpretation of statuses

<table>
<thead>
<tr>
<th>Status</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>1st unlocked</td>
</tr>
<tr>
<td>2A</td>
<td>2nd unlocked</td>
</tr>
<tr>
<td>3A</td>
<td>3rd unlocked</td>
</tr>
<tr>
<td>4A</td>
<td>4th unlocked</td>
</tr>
<tr>
<td>1G</td>
<td>1st slipping</td>
</tr>
<tr>
<td>2G</td>
<td>2nd slipping</td>
</tr>
<tr>
<td>3G</td>
<td>3rd slipping</td>
</tr>
<tr>
<td>4G</td>
<td>4th slipping</td>
</tr>
<tr>
<td>1P</td>
<td>1st locked</td>
</tr>
<tr>
<td>2P</td>
<td>2nd locked</td>
</tr>
<tr>
<td>3P</td>
<td>3rd locked</td>
</tr>
<tr>
<td>4P</td>
<td>4th locked</td>
</tr>
<tr>
<td>R</td>
<td>Reverse</td>
</tr>
<tr>
<td>D</td>
<td>Default position</td>
</tr>
<tr>
<td>N</td>
<td>Neutral position</td>
</tr>
</tbody>
</table>

There must be no present or stored faults.

- "1" for 1st unlocked
- "2" for 2nd unlocked
- "3" for 3rd unlocked
- "4" for 4th unlocked
- "1G" for 1st slipping
- "2G" for 2nd slipping
- "3G" for 3rd slipping
- "4G" for 4th slipping
- "1P" for 1st locked
- "2P" for 2nd locked
- "3P" for 3rd locked
- "4P" for 4th locked
- "R" for reverse
- "D" for the default position
- "N" for neutral position

If the fault found is caused by the converter lock-up, use the interpretation of fault DF016 “Lock-up solenoid circuit”.

If the fault comes from the engaged gear, carry out fault finding on the multifunction switch.

Check that statuses ET123, ET124 and ET125 operate correctly.

- ET123 “Multifunction switch S2”.
- ET124 “Multifunction switch S3”.
- ET125 “Multifunction switch S4”.

Check multifunction switch settings.

AFTER REPAIR

Repeat the conformity check from the start.
NOTES

There must be no present or stored faults.

The exchanger flow control solenoid valve command status displays "ACTIVE" in the following conditions:
– gearbox oil temperature is over 100°C,
– engine rotation speed is greater than 2000 rpm.

With other conditions, the solenoid valve status displays "INACTIVE".

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 2 of the computer connector and track E2 of the "modular connector".

Check the continuity between track 12 of the computer connector and track E1 of the "modular connector".

Check between tracks 2 and 12 of the computer connector that the resistance of shift solenoid valve no. 2 is 40Ω ± 2 at approximately 23°C.

Repair if necessary.

If the resistance is greater than 50Ω, check the harness, computer connector and "modular connector".

If the status of the command fails to change, use the interpretation of fault DF017 "Exchanger flow solenoid valve circuit".

AFTER REPAIR

Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

Vdiag no.: 14
ET021
SHIFT SOLENOID VALVE 1 CONTROL

NOTES
There must be no present or stored faults.
This status displays "ACTIVE" when the gear engaged is "3" or "4" and "INACTIVE" when other gears are engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.
Check the continuity between track 10 of the computer connector and track B8 of the "modular connector".
Check between tracks 1 and 10 of the computer connector that the resistance of shift solenoid valve no. 2 is 40 Ω ± 2 at approximately 23 °C.
Repair if necessary.
If the resistance is greater than 50 Ω, check the harness, computer connector and "modular connector".
If the correct status is not displayed, use the interpretation of fault DF085 "EVS1 Shift solenoid valve circuit".

AFTER REPAIR
Repeat the conformity check from the start.
Fault finding - Interpretation of statuses

SIEMENS TA2000
Vdiag no.: 14
ET022

There must be no present or stored faults.

This status displays "ACTIVE" when the gear engaged is "N" or "2" or "3" or "4" and "INACTIVE" when other gears are engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 9 of the computer connector and track B8 of the "modular connector".

Check between tracks 1 and 9 of the computer connector that the resistance of shift solenoid valve no. 2 is 40 \(\Omega\) ± 2 \(\Omega\) at approximately 23 \(\text{°C}\).

If the resistance is greater than 50 \(\Omega\), check the harness, computer connector and "modular connector".

If the status does not function as specified, use the interpretation of fault DF086 "EVS2 Shift solenoid valve 2 circuit".

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_ET022
There must be no present or stored faults. This status displays "ACTIVE" when the gear engaged is "P" or "N" or "1" and "INACTIVE" when other gears are engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 7 of the computer connector and track B10 of the "modular connector".

Check between tracks 1 and 7 of the computer connector that the resistance of shift solenoid valve no. 3 is 40Ω±±2Ω at approximately 23°C.

Repair if necessary. If the resistance is greater than 50Ω, check the harness, computer connector and "modular connector".

If the status does not function as specified, use the interpretation of fault DF087 "EVS3 Sequence solenoid valve 3 circuit".

AFTER REPAIR
Repeat the conformity check from the start. Make sure that shifting up and down through each gear works properly.
NOTES

There must be no present or stored faults.

This status displays "ACTIVE" when the gear engaged is "1" or "2" and "INACTIVE" when other gears are engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 8 of the computer connector and track B7 of the "modular connector".

Check between tracks 1 and 8 of the computer connector that the resistance of shift solenoid valve no. 4 is 40 ± 2 Ω at approximately 23 °C.

Repair if necessary.

If the resistance is greater than 50 Ω, check the harness, computer connector and "modular connector".

If the status does not function as specified, use the interpretation of fault DF089 "EVS4 Sequence solenoid valve 4 circuit".

AFTER REPAIR

Repeat the conformity check from the start.

Make sure that shifting up and down through each gear works properly.
NOTES

There must be no present or stored faults.

This status displays "ACTIVE" when the gear engaged is "1" and "INACTIVE" when other gears are engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 13 of the computer connector and track B5 of the "modular connector". Check between tracks 1 and 13 of the computer connector that the resistance of shift solenoid valve no. 5 is 40 ± 2 Ω at approximately 23 °C.

Repair if necessary. If the resistance exceeds 50 Ω, check the harness, computer connector and "modular connector". If the status is still not correct, use the interpretation of fault DF088 "EVS5 Shift solenoid valve circuit".

AFTER REPAIR

Repeat the conformity check from the start. Make sure that shifting up and down through each gear works properly.
NOTES

There must be no present or stored faults.

This status displays "INACTIVE" with any gear engaged.

Disconnect the computer. Check the cleanliness and condition of the connections.

Check the continuity between track 14 of the computer connector and track B2 of the "modular connector".

Check between tracks 14 and 1 of the computer connector that the resistance of shift solenoid valve no. 6 is 40 \( \Omega \pm 2 \) at approximately 23 °C.

If the resistance exceeds 50 \( \Omega \), check the harness, computer connector and "modular connector".

If the status is still not correct, use the interpretation of fault DF112 "EVS6 Shift solenoid valve circuit".

AFTER REPAIR

Repeat the conformity check from the start. Make sure that shifting up and down through each gear works properly.
Fault finding - Interpretation of statuses

This status indicates the gear lever position. This status displays "ACTIVE" when the gear lever is in positions "M", "M+" or "M-". This status displays "INACTIVE" when the gear lever is in positions "P", "R", "N" or "D".

If the correct status is not displayed, use the interpretation of fault DF093 "One-touch switch circuits".

AFTER REPAIR
Repeat the conformity check from the start.
Make sure that shifting up and down through each gear works properly.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

SIEMENS TA2000

Vdiag no.: 14

ET123

ET124

ET125

MULTIFUNCTION SWITCH

S2

MULTIFUNCTION SWITCH

S3

MULTIFUNCTION SWITCH

S4

NOTES

There must be no present or stored faults.

Multifunction switch contact S1 is not connected on this vehicle.

These statuses show the position of the multifunction switch for each gear lever position.

The switch status can be "OPEN" or "CLOSED" (see chart below).

<table>
<thead>
<tr>
<th>Gear Lever Position</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>R</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td>CLOSED</td>
</tr>
<tr>
<td>N</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>D</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>M</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>M+</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>M-</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
</tbody>
</table>

If a status fails to function as specified, use the interpretation of fault DF008 "Multifunction switch intermediate position".

AFTER REPAIR
Repeat the conformity check from the start.

Make sure that shifting up and down through each gear works properly.

AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

1. Before doing the conformity checks, make sure that the vehicle is at rest.
2. Perform the conformity checks.

ET127
Vdiag no.: 14

**LOWER SEQUENTIAL LEVER CONTACT**

**NOTES**

- There must be no present or stored faults.
- This indicates the status of the lower sequential lever switch.
- This status displays "ACTIVE" with the gear lever in position "M-".
- This status displays "INACTIVE" with the gear lever in position other than "M-".
- Check the one-touch switch's power supply for +12 V on track B1 and earth in track A2 of the one-touch switch.
- With the gear lever in position "M-", measure the voltage between:
  - One-touch switch track A3
  - Earth
  - One-touch switch track B3
  - Earth
- If any of the measured values is +12 V, replace the one-touch switch.
- If the values are 0 V, check that the gear lever positions match the instrument panel display.
- Repair if necessary.
- If the correct status is not displayed, use the interpretation of fault DF093 "One-touch switch circuits".

**AFTER REPAIR**
Repeat the conformity check from the start.

Make sure that shifting up and down through each gear works properly.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

SIEMENS TA2000
Vdiag no.: 14
ET128

UPPER SEQUENTIAL LEVER CONTACT

NOTES
There must be no present or stored faults.

This indicates the status of the lower sequential lever contact.

This status displays "ACTIVE" with the gear lever in position "M+".

This status displays "INACTIVE" with the gear lever in a position other than "M+".

Check the one-touch switch's power supply for +12 V on track B1 and earth in track A2 of the one-touch switch.

With the gear lever in position "M", measure the voltage between:
- One-touch switch track A3 Earth
- One-touch switch track B3 Earth

If any of the measured values is +12 V, replace the one-touch switch.

If the values are 0 V, check that the gear lever positions match the instrument panel display. Repair if necessary.

If the correct status is not displayed, use the interpretation of fault DF093 "One-touch switch circuits".

AFTER REPAIR
Repeat the conformity check from the start.
Make sure that shifting up and down through each gear works properly.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of statuses

ET157
GEAR LEVER UNLOCKING
NOTES
There must be no present or stored faults.
This status displays "ACTIVE" when the gear lever is locked and "INACTIVE" when the gear lever is unlocked.
Check the status with:
– Gear lever in position "P".
– Instrument panel displaying "P" for the gear lever position.
Press the brake pedal; the message on the instrument panel: "Depress the brake pedal" disappears.
The status displays "INACTIVE" with the brake pedal depressed and the gear lever unlocking permitted.
The status displays "ACTIVE" with the brake pedal released and the gear lever locked in position "P".
This status can only be checked with the gear lever in position "P".
If the correct status is not displayed, use the interpretation of fault DF095 "Selector lever locking electromagnet circuit".

AFTER REPAIR
Repeat the conformity check from the start.
Make sure that shifting up and down through each gear works properly.
## Fault Finding - Parameter Summary Table

<table>
<thead>
<tr>
<th>Parameter Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR001</td>
<td>Coolant Temperature</td>
</tr>
<tr>
<td>PR003</td>
<td>Oil Pressure</td>
</tr>
<tr>
<td>PR004</td>
<td>Gearbox Oil Temperature</td>
</tr>
<tr>
<td>PR006</td>
<td>Engine Speed</td>
</tr>
<tr>
<td>PR007</td>
<td>Turbine Speed</td>
</tr>
<tr>
<td>PR008</td>
<td>Computer Supply Voltage</td>
</tr>
<tr>
<td>PR009</td>
<td>Fuel Pressure</td>
</tr>
<tr>
<td>PR105</td>
<td>Vehicle Speed</td>
</tr>
<tr>
<td>PR118</td>
<td>Gearbox Oil Pressure Sensor Voltage</td>
</tr>
<tr>
<td>PR119</td>
<td>Lock-up Solenoid Valve Control Time</td>
</tr>
<tr>
<td>PR123</td>
<td>Reference Pressure</td>
</tr>
<tr>
<td>PR124</td>
<td>Difference between Specification and Oil Pressure</td>
</tr>
</tbody>
</table>
Fault finding - Interpretation of parameters

Vdiag no.: 14

COOLANT TEMPERATURE

NOTES

Special notes:
- Only apply the checks if parameter is inconsistent.

Test the multiplex network (see 88B, Multiplexing).

If parameter PR001 "Coolant temperature" is absent, refer to the interpretation of the parameter (see MR 366 Megane, 17B, Petrol injection or 13B, Diesel injection).

AFTER REPAIR
- Repeat the conformity check from the start.
Fault finding - Interpretation of parameters

SIEMENS TA2000

Vdiag no.: 14

PR003

OIL PRESSURE

NOTES

There must be no present or stored faults.

Immobilise the vehicle:
handbrake on and brake pedal depressed.

Check the oil pressure values on the diagnostic tool:
– engine not running: pressure reading less than 0.2 bar,
– engine at idle speed (~ 820 rpm) and selector lever at "D" or "R": pressure reading ~ 2.6 bar,
– engine speed ~ 1400 rpm and selector lever at "D" or "R": pressure reading ~ 8.7 bar.

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_PR003
There must be no present or stored faults.

Gearbox oil temperature values vary according to how the vehicle is used. Check the oil temperature values on the diagnostic tool:

Minimum temperature: \(-40 \, ^\circ C\).

Maximum temperature: \(+140 \, ^\circ C\).

These values relate to normal operation of the vehicle.

AFTER REPAIR
Repeat the conformity check from the start.
Fault finding - Interpretation of parameters

AUTOMATIC TRANSMISSION

There must be no present or stored faults.

Run a multiplex network test (see 88B, Multiplexing).

After these checks, if parameter PR006 "Engine speed" is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

AFTER REPAIR

Repeat the conformity check from the start.

DP0TA2000_V14_PR006
## AUTOMATIC TRANSMISSION

### Fault finding - Interpretation of parameters

**SIEMENS TA2000**

**Vdiag no.: 14**

**PR007**

### NOTES

There must be no present or stored faults.

Turbine speed varies according to oil temperature and pressure.

Turbine speed depends on engine speed.

Check the turbine speed on the diagnostic tool:

Selector lever in position "N".

- **Oil temperature** 43°C: engine speed ~ 762 rpm
  - Turbine speed ~ 681 rpm

- **Oil temperature** 45°C: engine speed ~ 743 rpm
  - Turbine speed ~ 654 rpm

### AFTER REPAIR

Repeat the conformity check from the start.

**DP0TA2000_V14_PR007**
There must be no present or stored faults.

All electrical consumers switched off.

Carry out a complete battery and charging circuit check (see TN 6014A, "Charging circuit fault finding").

Disconnect the computer.

Check the condition and cleanliness of the connector.

Check the insulation, continuity and absence of interference resistance:
- earth on computer track 28
- and the front left-hand side member of the vehicle.

Check the computer's 30A fuse.

Check the computer's 5A after ignition feed fuse.

With the ignition on, measure the computer feed voltage:
- Track 56: + 12 V
- Track 27: + 12 V

Then check the earths:
- Track 28 and track 46
- Earths on computer

Check the Protection and Switching Unit if necessary.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

23A-112

SIEMENS TA2000
Vdiag no.: 14
PR019
ENGINE TORQUE

NOTES
There must be no present or stored faults.
Run a multiplex network test (see 88B, Multiplexing).
If parameter PR019 "Engine torque" is absent, refer to the interpretation of the parameter (see MR 366 Megane, 17B, Petrol injection or 13B, Diesel injection).

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_PR019
There must be no present or stored faults.

Run a multiplex network test (see MR 366 Megane 8, 88B, Multiplexing).

If parameter PR105 "Vehicle speed" is absent, carry out fault finding on the system (see 38C, ABS system).

AFTER REPAIR
Repeat the conformity check from the start.
There must be no present or stored faults.

**ELECTRICAL CONFORMITY OF THE SENSOR:**

- **Check the continuity and absence of interference resistance on the following connections:**
  - **Computer track 24 Track C1**
  - **Computer track 55 Track C2**
  - **Computer track 25 Track C3**

If all these connections are correct, check for a gearbox oil pressure sensor power supply:

- **+ 5 V Track C1**
- **Earth Track C3**

Repair if necessary.

**AFTER REPAIR**

Repeat the conformity check from the start.
Fault finding - Interpretation of parameters

**SIEMENS TA2000**

**Vdiag no.: 14**

**PR123**

**CALCULATED ENGINE TORQUE**

**NOTES**

There must be no present or stored faults.

Run a multiplex network test (see 88B, Multiplexing).

If parameter **PR123 “Calculated engine torque”** is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

**AFTER REPAIR**

Repeat the conformity check from the start.

**DP0TA2000_V14_PR123**
Fault finding - Interpretation of parameters

SIEMENS TA2000
Vdiag no.: 14
PR124
ACCELERATOR PEDAL POSITION FOR DOWNSHIFTING

NOTES
There must be no present or stored faults.

Run a multiplex network test (see 88B, Multiplexing).

If parameter PR124 "Accelerator pedal position for downshifting" is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

PR126

SIEMENS TA2000
Vdiag no.: 14

CURRENT TURBINE SPEED

NOTES
There must be no present or stored faults.

Check the cleanliness and condition of the turbine speed sensor and its connections.

Check the insulation, continuity and the absence of interference resistance to earth, to +12 V and the following connections:

- Computer track 45 Track D1 of the turbine speed sensor (+12 V)
- Computer track 46 Track D2 of the turbine speed sensor (earth)

Repair if necessary.

Check the turbine speed on the diagnostic tool:

- Gear lever position at "N" or "P"
- Oil temperature 43 °C: engine speed ~ 681 rpm
- Oil temperature 45 °C: engine speed ~ 654 rpm

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

VIN: 23A

Vdiag no.: 14

PR128

ENGINE/TURBINE SPEED DIFFERENCE

NOTES
There must be no present or stored faults.

Check the cleanliness and condition of the engine speed sensor and its connections.

Run a multiplex network test (see 88B, Multiplexing).

After these checks, if parameter PR006 "Engine speed" is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

Check the cleanliness and condition of the turbine speed sensor and its connections.

This parameter is the difference between parameter PR006 "Engine speed" and parameter PR007 "Turbine speed".

Check the engine/turbine speed difference with the diagnostic tool:

Engine idling:

Engine speed: ~ 743 rpm
Turbine speed: ~ 654 rpm
difference = ~ 89 rpm.

Repair if necessary.

AFTER REPAIR
Repeat the conformity check from the start.
### Notes

There must be no present or stored faults.

Run a multiplex network test (see 88B, Multiplexing).

If parameter PR135 "Standard pedal position" is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

### After Repair

Repeat the conformity check from the start.

---

**PR135**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR135</td>
<td>Standard pedal position</td>
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</tbody>
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**Vdiag no.: 14**

- DP0TA2000_V14_PR135
Fault finding - Interpretation of parameters

PR136
RAW PEDAL POSITION

NOTES
There must be no present or stored faults.

Run a multiplex network test (see 88B, Multiplexing).

If parameter PR136 "Raw pedal position" is absent, refer to the interpretation of the parameter (see 17B, Petrol injection or 13B, Diesel injection).

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_PR136
There must be no present or stored faults.

The pressure setting is determined by the automatic transmission computer.

Check the reference pressure on the diagnostic tool:
– engine not running: pressure reading 21 bar,
– engine at idle speed (~700 rpm) and selector lever at "D" or "R": pressure reading ~ 2.7 bar,
– engine speed ~ 1400 rpm and selector lever at "D" or "R": pressure reading ~ 8.9 bar.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of parameters

PR146
Vdiag no.: 14
DIFFERENCE BETWEEN SETPOINT AND OIL PRESSURE

NOTES
There must be no present or stored faults.
The pressure setting values are stored in the gearbox computer memory and depend on how the vehicle is used.
The oil pressure is regulated according to the pressure setting. The oil pressure values must always be close to the pressure settings.

This parameter is the difference between parameter PR138 "Pressure setting" and parameter PR003 "Oil pressure".
– engine not running: reference pressure reading 21 bar, oil pressure reading = 0 bar.
– engine at idle speed (~ 700 rpm) and selector lever at "D" or "R": reference pressure reading ~ 2.7 bar, oil pressure reading = ~ 2.6 bar.
– engine speed ~ 1400 rpm and selector lever at "D" or "R": reference pressure reading ~ 8.9 bar, oil pressure reading = ~ 8.7 bar.

AFTER REPAIR
Repeat the conformity check from the start.

DP0TA2000_V14_PR146
Fault finding - Interpretation of commands

Before using these clearing commands, engine and vehicle speeds must be zero and the selector lever must be in position "P" or "N".

AC024 "Actuator sequential control"
This command activates the shift solenoid valves EVS1 to EVS6 simultaneously to check that they operate correctly.

RZ004 "Fault memory"
This command clears present and stored faults from the automatic transmission computer.

RZ005 "Self-adapting programs"
This command deletes the self-adapting programs in the automatic transmission computer. After running this command, carry out a road test with the vehicle before returning it to the customer. This is because the automatic transmission may malfunction during the time taken for the self-adapting programs to re-install.

AFTER REPAIR
Repeat the conformity check from the start.
AUTOMATIC TRANSMISSION
Fault finding - Interpretation of commands

SIEMENS TA2000
Vdiag no.: 14
AC024

ACTUATOR SEQUENTIAL CONTROL

NOTES

Check fuse 30 A for the permanent power supply of the computer in the Protection and Switching Unit.

Check fuse 5 A for the after ignition power supply of the computer in the Protection and Switching Unit.

Replace the fuses if necessary.

Engine speed zero and selector lever in position "P" or "N".

This command enables all the automatic transmission solenoid valve actuators to be operated.

Check the insulation, continuity and absence of interference resistance on the following connections:

- Computer Track 12 → Track E1 modular connector.
- Computer Track 26 → Track B12 modular connector.
- Computer Track 1 → Track B3 modular connector.
- Computer Track 10 → Track B11 modular connector.
- Computer Track 9 → Track B8 modular connector.
- Computer Track 7 → Track B10 modular connector.
- Computer Track 8 → Track B7 modular connector.
- Computer Track 13 → Track B5 modular connector.
- Computer Track 14 → Track B2 modular connector.

Test the solenoid valves then check the presence of faults on the computer.

AFTER REPAIR
Repeat the conformity check from the start.
<table>
<thead>
<tr>
<th>Notes</th>
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<tbody>
<tr>
<td>Only refer to &quot;Customer complaints&quot; after carrying out a complete fault finding procedure and the conformity check.</td>
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<table>
<thead>
<tr>
<th>Engine starting faults</th>
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<tbody>
<tr>
<td>Automatic transmission starting faults</td>
<td></td>
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<tr>
<td>Automatic transmission operating faults</td>
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<tbody>
<tr>
<td>Fluid leaks from the transmission</td>
<td></td>
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<tr>
<td>Oil present under the vehicle</td>
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</tbody>
</table>
Fault finding - Fault finding chart (ALP)

ALP1 No dialogue with the computer

NOTES
None

Try the diagnostic tool on another vehicle.
Check:
– the connection between the diagnostic tool and socket (connection and cable in good condition),
– the power supply to the computer,
– the engine and passenger compartment fuses.

Check that the CLIP sensor is fed via tracks 16 (+ 12 V), 4 and 5 (earth) of the diagnostic socket, as indicated by the illumination of two red warning lights on the sensor.

Make sure that the CLIP sensor is connected to the computer's USB port.

Make sure that the CLIP sensor is communicating properly with the vehicle's computers; this can be seen by the two green diodes on the sensor lighting up.

Use the diagnostic socket to check the following tracks:

- track 1 + After ignition
- track 16 + Battery feed
- tracks 4 Earth

Repair if necessary.

Disconnect the automatic transmission computer connector to check the insulation, continuity and the absence of interference resistance of the following connections:

- Computer track 27 + After ignition feed
- Computer track 56 + Battery feed
- Computer track 28 Earth
- Computer track 38 track 6 diagnostic socket (CAN H)
- Computer track 39 track 14 diagnostic socket (CAN L)

Repair if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR
Carry out a road test followed by a complete check with the diagnostic tool.
ALP2 Engine starting faults

ALP2/127

Fault finding - Fault finding chart (ALP)

ALP2/127

SIEMENS TA2000

Vdiag no.: 14

ALP2 Engine starting faults

NOTES

Only refer to “Customer complaints” after carrying out a complete fault finding procedure with the diagnostic tool and the conformity check.

Make sure that the diagnostic tool report, gear lever positions and instrument panel all indicate the same gear engaged.

Adjust the gear lever cable if it is faulty.

The engine will only start when the selector lever is at “P” or “N”.

Check the battery charge and the condition of the terminals (oxidation).

Check the multifunction switch mounting and that it is working.

Check the gear lever control cable, adjust it if necessary (see 23A, Automatic transmission).

Switch off the ignition and disconnect the automatic transmission computer connector. Make sure that the fuses are in good condition and replace them if necessary.

Ensure that the ignition switch is working properly.

Check the power circuit of the starter relay and the starter.

Carry out fault finding on the injection system.

If the engine still doesn’t start, contact the Techline.

AFTER REPAIR

Carry out a road test followed by a complete check with the diagnostic tool.
Fault finding chart (ALP)

### Notes

Only refer to "Customer complaints" after carrying out a complete fault finding procedure with the diagnostic tool and the conformity check.

Using the diagnostic tool, check the consistency between the display and the selector lever positions (ignition on and engine stopped).

Check the level, smell and colour of the oil and for the presence of particles in the oil.

Check the mountings of the multifunction switch.

Check the multifunction switch control wire (see 23A, Automatic transmission, Multifunction switch).

Carry out fault finding with the diagnostic tool:

- With the engine stopped, check the oil pressure value: 0 bar.
- With the engine running, oil temperature higher than 20°C, vehicle stationary and selector lever at "D", the oil pressure increases with the engine/turbine speed.
- Example: engine speed ~ 750 rpm pressure: ~ 3 bar.
- Engine speed ~ 1400 rpm pressure: ~ 9 bar.

If the pressure remains static, replace the oil pressure sensor.

Check the line pressure using a pressure gauge (see 23A, Automatic transmission, Line pressure reading).

If the oil pressure value is incorrect, there may be one or more causes:

- Clogged strainer or faulty pump.
- An internal leak (slave cylinders, brakes, clutch), carry out a road test to check there is no slipping.
- A hydraulic control valve fault may cause jerking or malfunctions when driving.

### After Repair

Carry out a road test followed by a complete check with the diagnostic tool.
Refer to the procedure and the safety instructions for carrying out a setting point check on the torque converter.

Selector lever in position "D".

Theoretical engine speed at setting point: 2300 ±±±± 150 rpm.

Oil pressure at engine speed ~ 1400 rpm 9 bar.

If the setting point value is incorrect, there may be one or more causes:

– the torque converter,
– the converter lock-up solenoid valve,
– internal oil leak.

Note:
A setting point which is too low may be due to a lack of engine power.

Carry out a road test, observing the engine speed on the instrument panel and the displays on the diagnostic tool.

If the fault is still present, contact the Techline.

AFTER REPAIR
Carry out a road test followed by a complete check with the diagnostic tool.
Automatic transmission malfunction when changing gears

Note: In case of 'transistor interconnects' after removing and connecting the transmission with the diagnosis tool and the diagnosis equipment.

SIEMENS TA2000

Vdiag no.: 14

ALP4 Automatic transmission malfunction when changing gears

NOTES

Only refer to “Customer complaints” after carrying out a complete fault finding procedure with the diagnostic tool and the conformity check.

Automatic transmission faults may be noted during gear changing without any fault being stored in the computer.

These malfunctions may be linked to:

– Connection faults (insulation: generates a fault, resistance) in the shift solenoid valve control wiring (EVS1 to EVS6).

  Check the tightness and condition of the clips on all the solenoid valve control wiring connections from the computer to each solenoid valve.

  Use command AC024 “Actuator sequential control” to find any faults.

– Hydraulic distributor faults (hydraulic slide valve seizing, strainer/distributor seal) preventing the shift solenoid valves from working.

  Check the oil’s condition (colour, burnt or not) its level and pressure: increasing with engine/turbine speed.

– Loss of pressure when changing gear (clutch brakes/receivers leak).

  Read the values of the following parameters (selector lever in position "D" or "R": vehicle stationary and handbrake on) on the CLIP tool:

  – PR003 “Oil pressure”,
  – PR006 “Engine speed”,
  – PR007 “Turbine speed”,
  – PR138 “Pressure setting”,
  – PR008 “Computer feed voltage”.

  These parameters are associated with automatic transmission operation.

  If one of the values is incorrect, note the fault it causes.

  Replace the faulty part if necessary and carry out a check.

  If the fault is still present, contact the Techline.

AFTER REPAIR

Carry out a road test followed by a complete check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Fault finding chart (ALP)

ALP5 Erratic gear changes

SIEMENS TA2000
Vdiag no.: 14

ALP5 Erratic gear changes

- PR135 "Standard pedal position"
- PR136 "Raw pedal position"

Carry out a road test using the diagnostic tool, making sure that status ET013 "Gear engaged" functions normally.

If the customer complaint occurs with the brake pedal released, check that status ET004 "Brake light switch (Closed)" is "NO".

If not, adjust the brake light switch and the brake pedal.

Make sure that the instrument panel display of the gear engaged matches the gear lever position.

Check the automatic transmission wiring harness (shift solenoid valve activation).

Replace it if necessary.

Check that the gear lever cable is working properly and adjust it if necessary.

Check that the multifunction switch is working correctly.

If the fault is still present, contact the Techline.

AFTER REPAIR
Carry out a road test followed by a complete check with the diagnostic tool.

DP0TA2000_V14_ALP05
Reversing lights inoperative

**Notes**
Only refer to "Customer complaints" after carrying out a complete fault finding procedure with the diagnostic tool and the conformity check.

**Check**:
– the condition of the fuses in the UPC.
– the condition of the bulbs.
– the condition of the bulb contacts. Repair if necessary.
– the rear lights earth. Rear right-hand light track 3 and rear left-hand light track 4.

Switch off the ignition and disconnect the modular connector.
Switch the ignition on again and check the presence of +12 V after ignition feed on track A2 of the modular connector.
Switch off the ignition and check the continuity between tracks A1 and A2 (gearbox side) with the selector lever in position "R".
Check that the gear lever cable is correctly adjusted and check the instrument panel display.
If the continuity is poor, replace the multifunction switch.
If the continuity is good, check the continuity between track A1 of the modular connector and track 2 of the Protection and Switching Unit brown 12-track connector.
Switch on the ignition.
With the selector lever in position "R", check the presence of +12 V after ignition feed on:
track 2 of the Protection and Switching Unit brown 12-track connector,
track 2 of the rear right-hand light,
track 5 of the rear left-hand light.

**After repair**
Carry out a road test followed by a complete check with the diagnostic tool.
AUTOMATIC TRANSMISSION
Fault finding - Fault finding chart (ALP)

SIEMENS TA2000
Vdiag no.: 14

ALP7 Oil present under the vehicle

NOTES
Only refer to "Customer complaints" after carrying out a complete fault finding procedure with the diagnostic tool and the conformity check.

Check the colour of the oil under the vehicle to determine the source of the leak (automatic transmission fluid is red).

Clean the engine and gearbox.

Check the oil levels in the engine and gearbox.

Top up if necessary (see 23A, Automatic transmission, Fill-up).

If there is no gearbox leak, look for a leak on the engine side.

If the leak is from the gearbox:
– Locate the source of the leak and carry out the necessary repairs.
– Replace any faulty parts.
– Check the oil level.

AFTER REPAIR
Carry out a road test followed by a complete check with the diagnostic tool.