

INITIALISING COMPUTER / XR25 DIALOGUE

Connect the XR25 to the diagnostic socket.

Ignition on.

Selector on 58

Enter **D13**

9.INJ

IDENTIFICATION OF THE COMPUTER

Identification of the computer is not connected to a diagnostic code, but is read directly from the computer Part Number. After setting up dialogue with the computer

ENTER **G70***

7700

XXX

XXX

The Part Number is displayed on the central display in three sequences.

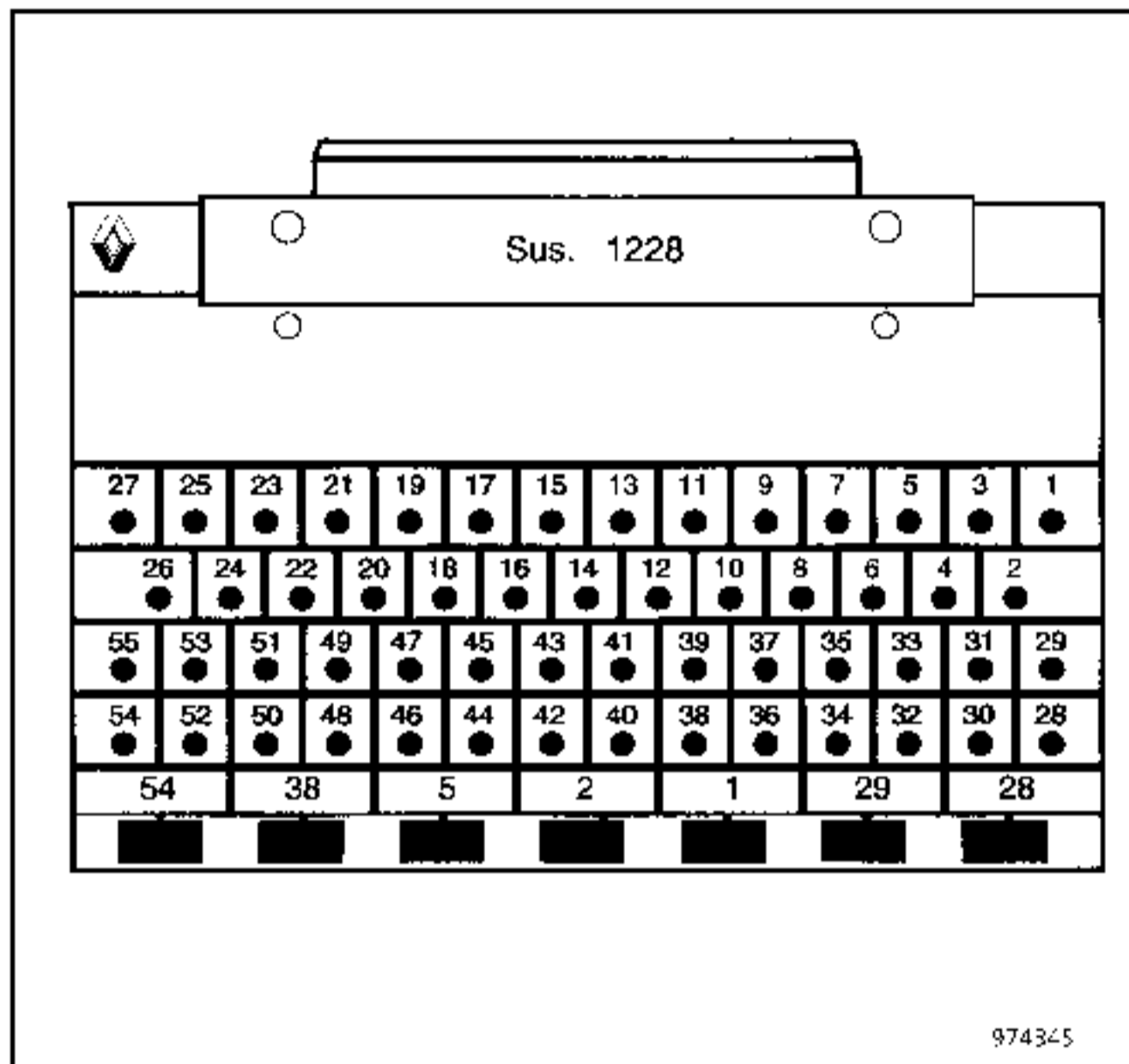
Each sequence remains displayed for approximately two seconds. The display is repeated twice. (For details on the number, refer to section 12 of the Workshop Repair Manual 12).

ERASING THE MEMORY (engine stopped, ignition on)

Following an operation on the injection system, the computer memory may be erased by using code G0** (Erases faults memorised in fault finding mode D13, selector on position 58, enter G0**).

This procedure does not erase the memory of any other component on the vehicle.

If the information provided by the XR25 requires electrical continuities to be checked, connect bornier **Sus. 1228**.



(Bornier **Sus. 1228** is a 55 track base with a printed circuit on which there are 55 copper coated surfaces numbered from 1 to 55).

Using the wiring diagrams, it is easy to identify the tracks connecting the component/s to be tested.

IMPORTANT :

- All tests using the bornier **Sus. 1228**, must be performed with the battery disconnected.
- The bornier is only designed to be used with an ohmmeter. Never apply 12 Volts to the test points.

PRESENTATION OF FICHE N° 27 SIDE 1/2 WITH FAULT BARGRAPHS

| | | | | |
|----------|---|---------------------|---------------------|---|
| N°27 1/2 | | S8 | code : D 1 3 | read : 9mJ |
| 1 | <input type="checkbox"/> ILLUMINATED → FAULT TEST <input type="checkbox"/> EXTINGUISHED → T.JRN CARD | | | CODE PRESENT <input type="checkbox"/> |
| 2 | <input type="checkbox"/> COMPUTER | | | ENG. IMMOB. * 22 <input type="checkbox"/> |
| 3 | <input type="checkbox"/> AIR TEMPERATURE | | | O2 SENSOR * 23 <input type="checkbox"/> |
| 4 | <input type="checkbox"/> COOLANT TEMP. | SENSOR CIRCUITS | | VEHICLE SPEED <input type="checkbox"/> |
| 5 | <input type="checkbox"/> PRESSURE | | | FLYWHEEL SIGNAL * 25 <input type="checkbox"/> |
| 6 | <input type="checkbox"/> * 06 PINKING | | | THROTTLE POSITION <input type="checkbox"/> |
| 7 | <input type="checkbox"/> CAMSHAFT | | | FUEL TANK PRESSURE <input type="checkbox"/> |
| 8 | <input type="checkbox"/> * 08 FUEL PUMP | RELAY CTRL CIRC. | | BLOCKING * 28 <input type="checkbox"/> |
| 9 | <input type="checkbox"/> * 09 ANTI-PERCOLATION | | | AIR PUMP * 29 <input type="checkbox"/> |
| 10 | <input type="checkbox"/> * 10 O2 SENSOR OVERHEAT. | | | BI MODE * 30 <input type="checkbox"/> |

INJECTION (FAULTS)

Erase fault memory : G 0 **
Status check request : G01 *

| | | |
|----|--|--|
| 11 | <input type="checkbox"/> * 11 INJECTOR CIRCUIT | CONNECTION A.T. → INJ <input type="checkbox"/> |
| 12 | <input type="checkbox"/> * 12 WARN. LAMP CIRC. DEF. | FUEL PUMP + INFO <input type="checkbox"/> |
| 13 | <input type="checkbox"/> SAVE DATA IN MEMORY | ADAC * 33 <input type="checkbox"/> |
| 14 | <input type="checkbox"/> * 14 IDLE SPEED REG CIRC. | BLEED CANISTER CIRC * 34 <input type="checkbox"/> |
| 15 | <input type="checkbox"/> * 15 CONNECTION INJ. → AC | EGR CIRCUI * 35 <input type="checkbox"/> |
| 16 | <input type="checkbox"/> * 16 IGNITION COILS | COLD START INJECTORS * 36 <input type="checkbox"/> |
| 17 | <input type="checkbox"/> * 17 MIL WARN. LIGHT | |
| 18 | | |
| 19 | | |
| 20 | <input type="checkbox"/> * 20 COMPUTER CONFIGURATION | XR25 MEMORY <input type="checkbox"/> |

ADDITIONAL CHECKS : # . .

- 01 PRESSURE mb
- 02 Coolant temp. °C
- 03 Air temp. °C
- 04 Computer feed V
- 05 O2 sensor V
- 06 Engine speed rpm
- 12 Idling RCO %
- 13 Pinking signal
- 14 Engine speed gap rpm
- 15 Pinking correct.
- 16 Atmos. pressure mb
- 17 Throttle pot.
- 18 Vehicle speed km/h
- 21 Auto. correct. of RCO idle speed %
- 23 Canister purge RCO %
- 24 RCO EGR %
- 30 Auto. correct. of rich. under high loads
- 31 Auto. correct. of rich. under low loads
- 35 Corr. richness
- 44 P. absorbed by AC compressor w

End of test: G 13 *

Part No : G 70 *

Diagnosed faults :

Press V and 9

Return to diagnostic mode : 0

16 ANG

PRESENTATION OF FICHE N° 27 SIDE 2/2 WITH STATUS BARGRAPHS

N°27 2/2

read : 10nJ

| | | | |
|--|---|---|--|
| 1 | <input type="checkbox"/> EXTINGUISHED <input type="checkbox"/> ILLUMINATED | → STATUS TEST → TURN CARD | CODE PRESENT <input checked="" type="checkbox"/> |
| 2 | <input type="checkbox"/> PG | ← THROTTLE POSITIONS → | <input checked="" type="checkbox"/> PL |
| 3 | <input type="checkbox"/> FLYWHEEL SIGNAL | ACTIVE ENG. IMMOB | <input checked="" type="checkbox"/> |
| 4 | <input checked="" type="checkbox"/> PARK/NEUTRAL POSITION | + APC COMPUTER | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> TORQUE ADJUSTMENT | RELAY CONTROL LOCKING | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> RICHNESS REGULATION | IDLING REGULATION | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> FUEL PUMP CONTROL | BLEED CANISTER AUTH. OR. | <input type="checkbox"/> |
| 8 | <input checked="" type="checkbox"/> ANTI-PERCOL. CTRL | ELEC. W/SCREEN REQUESTED | <input checked="" type="checkbox"/> |
| 9 | <input checked="" type="checkbox"/> SELECTION | ACCEL. IDLE SPEED | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> REQUEST | AIR COND. COMPRESSION AUTH. OR PROHIBITED | <input checked="" type="checkbox"/> |
| (WARNING : monitor bar graph 20 left) | | | |
| INJECTION (STATUS) | | | |
| Erase fault memory : G 0 ** Request fault test : G 02 * | | | |
| 11 | <input type="checkbox"/> CAMSHAFT SIGNAL | BLEED CANISTER - ACTIVE SOL VALVES | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> EGR SV CONTROL | MEMORISED FAULTS | <input type="checkbox"/> |
| 13 | <input checked="" type="checkbox"/> AIR PUMP CONTROL | POWER STEERING PRESSOSTAT | <input checked="" type="checkbox"/> |
| 14 | <input checked="" type="checkbox"/> BI-MODE INLET CTRL | COLD START INJECTORS | <input type="checkbox"/> |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | <input checked="" type="checkbox"/> Veh. with AT | COMPUTER CONFIGURATION | <input checked="" type="checkbox"/> Veh. with man. gearbox |
| 20 | <input checked="" type="checkbox"/> FAULT PRESENT | XR25 MEMORY | <input type="checkbox"/> |

- CONTROL MODES : G .. (IF ENGINE STOPPED)**
- 10* Fuel pump relay
 - 11* Blocking relay
 - 12* AC compressor
 - 14* Idle speed reg. valve
 - 16* Bleed canister valve
 - 17* Anti percolation relay
 - 21*1* Warn. light def.
 - 22* Air pump relay
 - 23* EGR valve
 - 24* Bi-mode inlet valve
 - 31* Injector control
 - 50*x* Computer set-up
 - 57*x* Idle speed adj
 - 58*x* Computer configuration
 - 59*x* INJ Lock/Unlock
 - 60* Zeroing validation

G..*x*
See procedure on REMINDER CARD C

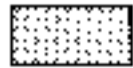
- ADDITIONAL CHECKS : # . .**
- 01 Pressure mb
 - 02 Coolant temp. °C
 - 03 Air temp. °C
 - 04 Computer feed V
 - 05 O2 Sensor V
 - 06 Engine speed rpm
 - 12 Idling RCO %
 - 13 Pinking signal
 - 14 Eng. speed gap rpm
 - 15 Pinking correct. r°
 - 16 Atmos. pressure mb
 - 17 Throttle pos.
 - 18 Vehicle speed km/h
 - 21 Auto. corr. RCO idle speed %
 - 23 RCO bleed canister %
 - 24 RCO EGR %
 - 30 Auto. correct. of rich. under high loads
 - 31 Auto. corr. of richness
 - 35 Mixture regulation
 - 44 P. absorbed by AC compressor W

End of test : G 13 *

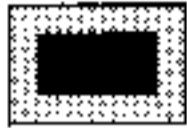
Part No : G 70 *

Diagnosed faults :
Press V and 9
Return to diagnostic mode : D

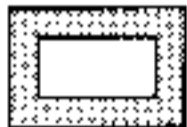
16 ANG

REPRESENTATION OF THE BARGRAPHS

- Illuminated when dialogue is established with the product computer. If it remains extinguished:
the code does not exist,
- there is a fault with the XR25, the computer or the line.

REPRESENTATION OF A FAULT (always on a coloured background)

If illuminated, there is a fault with the product tested. The associated text defines the fault.

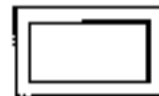


If extinguished, a fault has not been detected on the product tested.

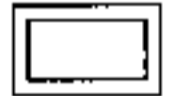
REPRESENTATION OF A STATUS (always on a white background)**Engine stopped, ignition on, no operator action**

The bargraphs on the fiche are shown in the status when the ignition is on, the engine is stopped, and there is no operator action.

- If on the fiche the bargraphs is shown as



the XR25 should show



- If on the fiche the bargraphs is shown as



the XR25 should show

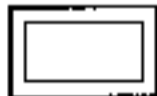


- If on the fiche the bargraphs is shown as

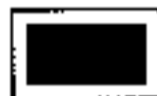
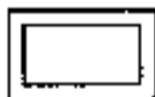


the XR25 should show

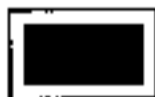
either



or

**Engine running**

Extinguished when the function or condition on the fiche is no longer met.



Illuminated when the function or condition on the fiche is met.

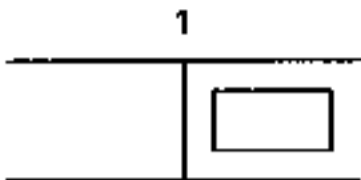
V9 FUNCTION

Fiche n° 27 side 1/2 and side 2/2 is a general fiche used for several engines.

Not all engines use all the bargraphs. To determine which bargraphs are used by the injection computer, after entering dialogue with the computer, press keys V and 9 at the same time. The bargraphs concerned will illuminate:

- fixed, for non-memorisable fault bargraphs or status bargraphs,
- flashing, for memorisable fault bargraphs.


To return to fault finding mode, press key D.

| | | |
|---|---|----------------------|
|  | <p>Bargraph 1 RH side extinguished</p> <p><u>XR25 CIRCUIT</u></p> <p>XR25 aid : no connection, CO, CC EARTH, CC + 12</p> | Fiche n° 27 side 1/2 |
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| NOTES | This bargraph must be illuminated for fault finding to be performed. |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------|----|-------|-----------------------------------|-------------------|--------|----|---|---|-------------------|--|---|---|-------|----------|--|---|---|-------|----------|--|----|---|------|-----------------------------------|--|----|---|---|----------|--|----|---|---|----------|--|----|---|---|---------------------|
| <p>Check:</p> <ul style="list-style-type: none"> - all the injection fuses, <li style="padding-left: 20px;">the connection between the XR25 and the diagnostic socket, - the position of the selector (S8), - the conformity of the cassette. <p>Repair if necessary.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Check:</p> <ul style="list-style-type: none"> - the presence of 12 V on track 16 and the earth on track 4 on the diagnostic socket. - the connection between the XR25 and the diagnostic socket. <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">Diagnostic socket</td> <td style="padding-right: 10px;">15</td> <td style="text-align: center;">→</td> <td style="padding-right: 10px;">4</td> <td style="padding-right: 20px;">XR25</td> </tr> <tr> <td style="padding-right: 20px;">socket</td> <td style="padding-right: 10px;">7</td> <td style="text-align: center;">→</td> <td style="padding-right: 10px;">8</td> <td style="padding-right: 20px;">socket</td> </tr> </table> <p>Repair if necessary.</p> | Diagnostic socket | 15 | → | 4 | XR25 | socket | 7 | → | 8 | socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diagnostic socket | 15 | → | 4 | XR25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| socket | 7 | → | 8 | socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Connect bornier Sus. 1228 instead of the computer and check the insulation and continuity between the tracks:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">Bornier</td> <td style="padding-right: 10px;">38</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">15</td> <td style="padding-right: 20px;">Diagnostic socket</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">11</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">7</td> <td style="padding-right: 20px;">Diagnostic socket</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">2</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">earth</td> <td style="padding-right: 20px;">Earth MH</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">3</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">earth</td> <td style="padding-right: 20px;">Earth MH</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">24</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">fuse</td> <td style="padding-right: 20px;">Engine + after ignition feed fuse</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">28</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">3</td> <td style="padding-right: 20px;">Coil 1-4</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">29</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">3</td> <td style="padding-right: 20px;">Coil 2-3</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">54</td> <td style="text-align: center;">→</td> <td style="padding-right: 20px;">2</td> <td style="padding-right: 20px;">Idle solenoid valve</td> </tr> </table> <p>Repair.</p> | Bornier | 38 | → | 15 | Diagnostic socket | | 11 | → | 7 | Diagnostic socket | | 2 | → | earth | Earth MH | | 3 | → | earth | Earth MH | | 24 | → | fuse | Engine + after ignition feed fuse | | 28 | → | 3 | Coil 1-4 | | 29 | → | 3 | Coil 2-3 | | 54 | → | 2 | Idle solenoid valve |
| Bornier | 38 | → | 15 | Diagnostic socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 | → | 7 | Diagnostic socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | → | earth | Earth MH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | → | earth | Earth MH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 | → | fuse | Engine + after ignition feed fuse | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 | → | 3 | Coil 1-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 | → | 3 | Coil 2-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 54 | → | 2 | Idle solenoid valve | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


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| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

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| <p>2</p>  | <p>Bargraph 2 LH side illuminated</p> <p>COMPUTER CIRCUIT</p> <p>XR25 aid : Computer fault if bargraph 2 LH side is illuminated</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|

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| <p>NOTES</p> | <p>None.</p> |
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| <p>Computer is not correct or is faulty.</p> <p>Replace the injection computer.</p> |
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| | |
|----------------------------|--------------------------------------|
| <p>AFTER REPAIR</p> | <p>Carry out a conformity check.</p> |
|----------------------------|--------------------------------------|

| | | |
|--|--|----------------------|
| <p>2</p>  | <p>Bargraph 2 RH side illuminated</p> <p>ENGINE IMMOBILISER CIRCUIT</p> <p>XR25 aid : *22 = X Def CO or CC + 12 V or CC- computer track 35</p> | Fiche n° 27 side 1/2 |
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| NOTES | None. |
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| <p>Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity of line:</p> | | |
| Bornier | 35 → 5 | Decoder unit |
| <p>Repair if necessary.</p> | | |
| <p>If the fault persists, refer to status bargraph 3 RH side.</p> | | |


| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | <p>Carry out a conformity check.</p> |
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| 3  | <p>Bargraph 3 LH side illuminated Fiche n° 27 side 1/2</p> <p>AIR TEMPERATURE SENSOR CIRCUIT</p> <p>XR25 aid : #03 40 CO LINE 20 or 46 ; CC = 5V LINE 20 #03 = 119 CC EARTH LINE 20 ; CC LINE 46/20</p> |
|--|--|

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| NOTES | <p>If BG3RH ; BG4LH ; BG6RH ; BG12RH are illuminated, refer to BG6RH If BG6RH is illuminated, refer to BG6RH</p> |
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| <p>Check the resistance of the air temperature sensor.</p> |
| <p>If the resistance is not correct, replace the air temperature sensor and erase the computer memory using G0**.</p> |
| <p>Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity of the electrical wiring between tracks:</p> <ul style="list-style-type: none"> 1 sensor connector 46 bornier 2 sensor connector 20 bornier |
| <p>If the electrical wiring is correct, replace the computer.</p> |


| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | <p>Carry out a conformity check.</p> |
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| 3  | <p>Bargraph 3 RH side illuminated Fiche n° 27 side 1/2</p> <p>OXYGEN SENSOR CIRCUIT</p> <p>XR25 aid : #35 = 252 CO LINE 17 or 18 ; CC - LINE 17 #05 > 1V CC + 12V LINE 17 ; #05 = 0.390 CO LINE 17 or 18 #05 = 0V CC EARTH LINE 17 #35 - 128 CC - 12V LINE 17 ; CC - 12V LINE 18</p> |
|--|---|

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| NOTES | If BG3LH ; BG4LH ; BG6RH ; BG12RH are illuminated, refer to BG6RH |
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|---|
| Check the connection and condition of the oxygen sensor connector. |
| Engine running, check for + 12V between tracks A and B on the oxygen sensor connector. |
| If there is not + 12V, repair the wiring for the sensor heating circuit. |
| Ignition off, connect bornier Sus. 1228 in place of the computer and check the continuity and insulation of the wiring between tracks : C/17 and C/18 (sensor connector /bornier) |
| If necessary, repair the wiring. |
| The fault persists ! Replace the oxygen sensor |
| The fault persists! Replace the computer. |


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| AFTER REPAIR | Carry out a conformity check. |
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| <p>4</p>  | <p>Bargraph 4 LH side illuminated Fiche n° 27 side 1/2</p> <p>COOLANT TEMPERATURE SENSOR CIRCUIT</p> <p>XR25 aid : #02 = -40°C CC 5V LINE 15 ; CO LINE 15 or 44 ; CC LINE 45/15 #02 119°C CC EARTH LINE 15 ; CC LINE 15/44</p> |
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| NOTES | <p>If BG5LH is illuminated, refer to BG4RH</p> <p>If BG3LH ; BG3RH ; BG6RH ; BG12RH are illuminated, refer to BG6RH</p> |
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|---|------------------------------|------------|------------------------------|------------|-------------------|------------|--------------------------|------------|
| Check the resistance of the coolant temperature sensor. | | | | | | | | |
| The resistance is not correct, replace the sensor. | | | | | | | | |
| <p>Connect the bornier Sus. 1228 instead of the computer and check the continuity and the insulation of the electrical wiring between the tracks:</p> <table style="margin-left: 40px;"> <tr> <td>1 coolant temperature sensor</td> <td>15 bornier</td> </tr> <tr> <td>2 coolant temperature sensor</td> <td>44 bornier</td> </tr> <tr> <td>C pressure sensor</td> <td>45 bornier</td> </tr> <tr> <td>B throttle potentiometer</td> <td>45 bornier</td> </tr> </table> | 1 coolant temperature sensor | 15 bornier | 2 coolant temperature sensor | 44 bornier | C pressure sensor | 45 bornier | B throttle potentiometer | 45 bornier |
| 1 coolant temperature sensor | 15 bornier | | | | | | | |
| 2 coolant temperature sensor | 44 bornier | | | | | | | |
| C pressure sensor | 45 bornier | | | | | | | |
| B throttle potentiometer | 45 bornier | | | | | | | |
| Repair if necessary. | | | | | | | | |
| The fault persists! Replace the computer. | | | | | | | | |


| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

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| <p>4</p>  | <p>Bargraph 4 RH side illuminated</p> <p><u>VEHICLE SPEED SENSOR CIRCUIT</u></p> <p>XR25 aid : CO or CC LINE 12</p> | Fiche n° 27 side 1/2 |
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| NOTES | None. |
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| Carry out a road test and check the speed on the speedometer . |
| If the speed is zero, repair the wiring of track 12 of the computer and B1 of the sensor. |
| Check the connection and the feed of the speed sensor: - 12V on track A earth on track B2 |
| Repair if necessary. |
| The fault persists! Replace the speed sensor. |

| | |
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| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a road test.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

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|--|---|----------------------|
| <p>5</p>  | <p>Bargraph 5 LH side illuminated</p> <p>ABSOLUTE PRESSURE SENSOR CIRCUIT</p> <p>XR25 aid : #01 - 103 mb CO LINE 16 or LINE 45 CC EARTH LINE 16 #01 - 928 mb CO LINE 44</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|

| | |
|--------------|---|
| NOTES | <p>If BG4LH is illuminated, refer to BG4LH If BG6RH is illuminated, refer to BG6RH</p> |
|--------------|---|


| |
|---|
| Check the pressure sensor is electrically and pneumatically connected . |
| Ignition on, check that there is + 5V between track C and earth on track A. |

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|--|
| There is not + 5V between track C and track A |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity between the tracks: A sensor connector 44 bornier C sensor connector 45 bornier |
| Repair if necessary. |
| There is not + 5V ! The fault persists! Replace the computer. |

| |
|--|
| There is + 5V between track C and track A |
| Ignition on, check the return voltage (0.2 to 5 V) on track B of the sensor. Note: For this measurement, a vacuum pump can be used to check the voltage variation. |
| If the voltage does not vary, replace the sensor. |

| |
|---|
| The voltage varies |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and the continuity between track B of the sensor and 16 of the bornier. |
| Repair if necessary. |
| The fault persists! Replace the computer. |


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
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| <p>5</p>  | <p>Bargraph 5 RH side illuminated</p> <p>FLYWHEEL SIGNAL CIRCUIT</p> <p>XR25 aid : *25 = CO CO or CC – LINE 33 or 34 or CC LINE 33:34 *25 CC.O INTERFERENCE</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | | | |
|---|------------|------------|----------|------------|
| Disconnect the sensor connector and check the resistance of the sensor between terminals A and B. | | | | |
| The resistance is not 200 ± 50 ohms. Replace the sensor. | | | | |
| The resistance is 200 ohms. | | | | |
| Connect the bornier Sus. 1228 instead of the computer and check the continuity and the insulation of the wiring between the tracks: | | | | |
| <table style="margin-left: 40px;"> <tr> <td>A sensor</td> <td>34 bornier</td> </tr> <tr> <td>B sensor</td> <td>33 bornier</td> </tr> </table> | A sensor | 34 bornier | B sensor | 33 bornier |
| A sensor | 34 bornier | | | |
| B sensor | 33 bornier | | | |
| Repair if necessary. | | | | |
| The fault persists! Replace the computer. | | | | |

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|--|----------------------|
| <p>6</p>  | <p>Bargraph 6 LH side illuminated</p> <p><u>PINKING SENSOR CIRCUIT</u></p> <p>XR25 aid : #13 – 0 CC EARTH LINE 8 or CO LINE 8 and 44</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | | | |
|---|------------|------------|----------|-----------|
| Check the wiring of the faulty sensor. | | | | |
| Repair if necessary. | | | | |
| <p>Connect the bornier Sus. 1228 instead of the computer and check the insulation and the continuity of the electrical wiring between the tracks:</p> <table style="margin-left: 40px;"> <tr> <td>1 sensor</td> <td>44 bornier</td> </tr> <tr> <td>2 sensor</td> <td>8 bornier</td> </tr> </table> | 1 sensor | 44 bornier | 2 sensor | 8 bornier |
| 1 sensor | 44 bornier | | | |
| 2 sensor | 8 bornier | | | |
| Repair if necessary. | | | | |
| The fault persists! Replace the pinking sensor. | | | | |

| | |
|---------------------|--|
| AFTER REPAIR | <p>Erase the computer memory using G0^{A*}.</p> <p>Carry out a conformity check.</p> |
|---------------------|--|

6

**Bargraph 6 RH side illuminated**

Fiche n° 27 side 1/2

THROTTLE POTENTIOMETER CIRCUIT

XR25 aid : #17 = 0 CO LINE 45 or 19 or CC EARTH LINE 19 or 45
 #17 = 255 CO LINE 46 or CC LINE 19/45 or CC + LINE 19

NOTES

If BG3LH, BG3RH are illuminated, refer to BG6RH
 If BG20RH is illuminated, refer to BG6RH
 If BG5LH is illuminated, refer to BG6RH
 If BG3LH ; BG3RH ; BG4LH ; BG12RH are illuminated, refer to BG6RH

Check the resistance of the throttle potentiometer between tracks A and B ($R = 1200\Omega \pm 20\%$).

Check the variation of the throttle potentiometer between tracks B and C.

A-B $< 1200\Omega \pm 20\%$ or B-C does not vary. Replace the throttle potentiometer.

A-B $> 1200\Omega \pm 20\%$ and B-C varies.

Connect the bornier **Sus. 1228** instead of the computer and check the insulation and the continuity between tracks:


| | |
|-----------------|------------|
| A potentiometer | 46 bornier |
| B potentiometer | 45 bornier |
| C potentiometer | 19 bornier |

Repair if necessary.

The fault persists! Replace the computer.

AFTER REPAIR

Erase the computer memory using G0*.*.
 Carry out a conformity check.


| | | |
|--|--|----------------------|
| 7  | Bargraph 7 LH side illuminated CAMSHAFT SENSOR CIRCUIT XR25 aid : CO or CC EARTH LINE 42 CC 42/52 | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|--|
| NOTES | If BG8LH is illuminated, refer to BG8LH If the vehicle does not start, refer to BG8LH |
|--------------|--|

| |
|--|
| Engine running, check for the presence of 12V on terminal 3 of the sensor and the earth on terminal 1 of the sensor. |
| Repair if necessary. |
| Exit fault finding. Connect a cable to terminal Vin and enter G on the XR25. |
| Engine running, check for the presence of a frequency by connecting to terminal 2 of the camshaft sensor connector which is still connected. |
| Enter V on the XR25 to measure the voltage. |
| There is no frequency or voltage at terminal 2. Replace the sensor. |

| |
|---|
| There is a frequency or voltage at terminal 2. |
| Connect the bornier Sus. 1228 instead of the computer and check the continuity of line 42 bornier / 2 sensor and the insulation of this line from terminal 52 on the computer, earth and 12 Volts. |
| Repair if necessary. |
| The fault persists! Replace the computer. |

| | |
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| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
|---------------------|--|

| | | |
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| <p>8</p>  | <p>Bargraph 8 LH side illuminated</p> <p>FUEL PUMP RELAY COMMAND CIRCUIT</p> <p>XR25 aid : *08 CO.O CC EARTH LINE 48 *08 - CC.1 CC i 12V LINE 48 *08 = Def CO LINE 48</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|


| | |
|--------------|---|
| NOTES | If BG7LH is illuminated, refer to BG8LH |
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|--|
| Check the impact sensor is correctly clipped in. |
| On the fuel pump relay, check for + 12V between tracks 1 and 2, during the timed phase when the ignition is turned on. |

| |
|--|
| If there is + 12V between 1 and 2, replace the relay. |
| If there is not + 12V between 1 and 2, ignition on, check for + 12V on track 1 of the fuel pump relay. |
| If there is not + 12V on track 1, check the line of track 1 to the fuse. |
| If there is + 12V on track 1, connect bornier Sus. 1228 instead of the computer and check the continuity and insulation between track 2 of the relay and track 48 of the bornier. |
| Repair if necessary. |

| |
|---|
| The fault persists! Replace the injection computer. |
|---|

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
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| | | |
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| <p>9</p>  | <p>Bargraph 9 LH side illuminated</p> <p>ANTIPERCOLATION CIRCUIT</p> <p>XR25 aid : *9 CC.1 CC + 12V LINE 23 *9 = CC.0 CO or CC - LINE 23</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|


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| NOTES | None. |
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On the antipercolation relay, check for + 12V between tracks 1 and 2.

| |
|---|
| If there is + 12V between tracks 1 and 2, replace the relay. |
| If there is not + 12V between tracks 1 and 2, check for + 12V on track 1 of the antipercolation relay. |
| If there is not + 12V on track 1, check the line for track 1 to the fuse. |
| If there is + 12V on track 1, connect bornier Sus. 1228 in place of the computer and check the insulation and continuity between track 2 on the relay and track 23 on the bornier. |
| Repair if necessary. |

The fault persists! Replace the injection computer.

| | |
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| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
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| <p>11</p>  | <p>Bargraph 11 LH side illuminated Fiche n° 27 side 1/2</p> <p>INJECTION CIRCUIT</p> <p>XR25 aid :</p> <ul style="list-style-type: none"> *11 = X.CC.1 CC - 12V LINE 53 or 25 or 4 or 30 *11 = Def MEMORISED FAULT *11 = X.CO.0 CO or CC EARTH LINE 53 or 25 or 4 or 30 *11 = X.CO.0 CC 25/4 or 25/30 or 4/30 or 25/53 |
|---|--|

| | |
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| NOTES | <p>X represents the cylinder N°.</p> <p>Starter motor operating, bargraph illuminates for 10 seconds.</p> |
|--------------|---|

Check the resistance of each injector (R ≈ 15 Ω).


The resistance is not correct
Replace the faulty injector(s).

The resistance is correct
Connect the bonnier Sus. 1228 instead of the computer and check the continuity and insulation between the injector connectors on track 2 and tracks 53, 25, 4 and 30.

Repair the wiring if necessary.

The fault persists! Replace the computer.


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|---|--|----------------------|
| <p>12</p>  | <p>Bargraph 12 LH side illuminated</p> <p>FAULT WARNING LIGHT CIRCUIT</p> <p>XR25 aid : ^12 = CC.1 CC - 12V LINE 26</p> | Fiche n° 27 side 1/2 |
|---|--|----------------------|

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| NOTES | <p>BG12LH only illuminates when there is a fault on the warning light circuit and another fault simultaneously (<i>which normally illuminates the warning light</i>).</p> |
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| |
|---|
| Turn on the ignition and check that the fault warning light illuminates for 3 seconds. |
| If it does not illuminate, refer to the fault finding section for the instrument panel. |
| Repair if necessary. |
| The fault persists! Replace the computer. |

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Disconnect the pressure sensor and check the bargraphs using the XR25.</p> <p>Erase the computer memory and carry out a conformity check.</p> |
|---------------------|---|

| | | |
|---|--|----------------------|
| <p>12</p>  | <p>Bargraph 12 RH side illuminated</p> <p><u>FUEL PUMP INFORMATION CIRCUIT</u></p> <p>XR25 aid : CO LINE 52</p> | Fiche n° 27 side 1/2 |
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| NOTES | If BG3LH ; BG3RH ; BG4LH ; BG6RH are illuminated, refer to BG6RH |
|--------------|--|

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| Check for the presence of - 12V on track 3 of the fuel pump relay. |
| Repair if necessary. |
| During the timed phase when the ignition is turned on, check for the presence of + 12V on track 5 of the relay. |

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|---|
| There is no + 12V on track 5 of the relay Replace the fuel pump relay. |
|---|

| |
|--|
| There is + 12V on track 5 of the relay Connect the bornier Sus. 1228 instead of the computer and check the continuity between track 5 of the fuel pump relay and track 52 of the computer. |
| Repair if necessary. |

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|---|
| The fault persists! Replace the computer. |
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| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
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14

**Bargraph 14 LH side illuminated**

Fiche n° 27 side 1/2

IDLE REGULATION VALVE CIRCUIT

XR25 aid : *14 -- Def CO or CC EARTH LINE 54
 *14 = CC.1 CC + 12V LINE 54

NOTES

With no fault, #12 should vary.

Check the resistance of the winding between tracks 1 and 2 of the idle speed valve ($R \approx 20 \Omega$).

If the resistance is not correct, replace the idle speed regulation valve.

When the ignition is turned on, check during the timed phase for the presence of 12V on track 1 of the idle speed regulation valve.

There is not + 12V on track 1
 Check the continuity between track 1 of the idle speed regulation valve connector and track 5 of the fuel pump relay.

Repair if necessary.


There is + 12V on track 1
 Connect the bornier **Sus. 1228** instead of the computer.
 Check the insulation and the continuity of the wiring between track 2 of the idle speed regulation valve connector and track 54 of the bornier.

Repair if necessary.

The fault persists! Replace the computer.

AFTER REPAIR

Erase the computer memory using G0**.
 Carry out a conformity check.

| | | |
|---|--|----------------------|
| 14  | Bargraph 14 RH side illuminated CANISTER BLEED CIRCUIT XR25 aid : *34 - CO.0 CO or CC EARTH LINE 50 *34 = CC.1 CC - 12V LINE 50 *34 = Def MEMORISED FAULT | Fiche n° 27 side 1/2 |
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| NOTES | #23 variable. |
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| Check the resistance of the canister bleed valve between tracks A and B ($R = 36 \Omega$). |
| The resistance is not correct. Replace the canister bleed valve. |
| The resistance is correct. Engine idling, check for the presence of + 12V on track A of the canister bleed valve. |

| |
|--|
| There is not + 12V on track A Repair the wiring between track A of the canister bleed valve and track 5 on the fuel pump relay. |
|--|

| |
|---|
| There is + 12V on track A Connect the bornier Sus. 1228 instead of the computer and check the insulation and the continuity of the electrical wiring between track B of the canister bleed valve and 50 of the bornier. |
| Repair if necessary. |

| |
|---|
| The fault persists! Replace the injection computer. |
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| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
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| <p>15</p>  | <p>Bargraph 15 LH side illuminated Fiche n° 27 side 1/2</p> <p><u>AIR CONDITIONING INJECTION CONNECTION CIRCUIT</u></p> <p>XR25 aid : CC + 12 V on LINE 51 of the computer</p> |
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| NOTES | <p>Check that the vehicle has air conditioning and that it is operating, and if not, examine the other bargraphs</p> |
|--------------|--|

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|---|--|
| <p>Connect bornier Sus. 1228 in place of the computer and bornier ELE. 1391 in place of the driver's air conditioning and heating control.</p> <p>Bornier Sus. 1228 track 51 → Bornier ELE. 1391 track A6</p> <p>Check the insulation and continuity of the line.</p> <p>Repair if necessary.</p> | |
| <p>The fault persists, refer to checking the status bargraphs 9LH, 10LH, 10RH.</p> | |


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| AFTER REPAIR | <p>Carry out a conformity check.</p> |
|---------------------|--------------------------------------|

| | | |
|---|---|----------------------|
| <p>16</p>  | <p>Bargraph 16 LH side illuminated</p> <p>IGNITION COIL CIRCUIT</p> <p>XR25 aid : *16 = 1.4 CC CO ON LINE 28 *16 = 2.3 CC CO ON LINE 29</p> | Fiche n° 27 side 1/2 |
|---|---|----------------------|

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| NOTES | If there is CC EARTH, the fuse has blown and there is no dialogue with the XR25 |
|--------------|---|

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|---|--|
| Check the resistance of the faulty coil ($R = 1 \Omega$). | |
| | |
| The resistance is not correct. Replace the faulty coil. | |
| The resistance is correct | |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity of line 28/3 for coil 1 or 29/3 for coil 2 (bornier / coil). | |
| Repair the faulty line. | |
| The fault persists! Replace the computer. | |


| | |
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| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
|---------------------|--|

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| 2  | Bargraph 2 LH, 2 RH, incorrect illumination Fiche n° 27 side 2/2 <u>THROTTLE POSITION CIRCUIT</u> XR25 aid : BG 2LH illuminated if full load BG 2RH illuminated if no load BG 2LH and BG 2RH extinguished if middle position. |
|---|--|

| | |
|--------------|---|
| NOTES | No fault bargraph should be illuminated |
|--------------|---|

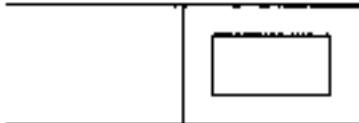
The fault is not electrical.
Check the mechanics of the accelerator circuit (cable, accelerator pedal, ...).

| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

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| <p style="text-align: center;">3</p>  | <p>Bargraph 3 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>FLYWHEEL SIGNAL CIRCUIT</u></p> <p>XR25 aid : BG 3LH illuminated engine running</p> |
|--|--|

| | |
|---|---|
| <p style="text-align: center;">NOTES</p> | <p>Dealt with in the fault bargraph 5RH side.</p> |
|---|---|

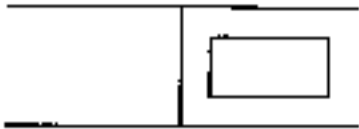
| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

| | |
|--|---|
| <p style="text-align: center;">3</p>  | <p>Bargraph 3 RH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>ENGINE IMMOBILISER CIRCUIT</u></p> <p>XR25 aid : BG 3RH side illuminated, engine immobiliser active</p> |
|--|---|

| | |
|---|---|
| <p style="text-align: center;">NOTES</p> | <p>Check the use of the correct PLIP if no fault bargraph is illuminated.</p> |
|---|---|

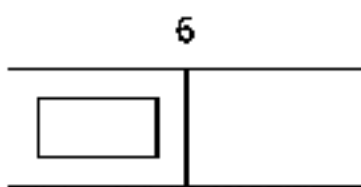
| |
|--|
| <p>XR25 as a pulse detector, G and Vin.</p> <p>Connect bornier Sus. 1228 in place of the computer. Check for pulses on track 35 of the bornier when the PLIP is pressed</p> <p>If pulses are noted, replace the injection computer.</p> <p>If no pulses are noted, refer to the immobiliser fault finding section.</p> |
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| | |
|--|--------------------------------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>Carry out a conformity check.</p> |
|--|--------------------------------------|

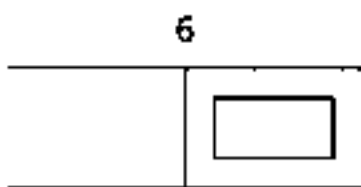
| | |
|--|---|
| <p>4</p>  | <p>Bargraph 4 RH side, incorrect illumination <u>+ AFTER IGNITION CIRCUIT</u></p> <p>XR25 aid : BG 4RH illuminated if 1 after ignition</p> <p>Fiche n° 27 side 2/2</p> |
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|---------------------|--|
| <p>NOTES</p> | <p>Deal1 with under fault bargraphs.</p> |
|---------------------|--|

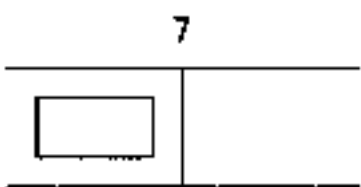
| | |
|----------------------------|--------------|
| <p>AFTER REPAIR</p> | <p>None.</p> |
|----------------------------|--------------|

| | |
|---|--|
|  | <p>Bargraph 6 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>RICHNESS REGULATION CIRCUIT</u></p> <p>XR25 aid : BG 6LH illuminated when the richness is regulated (Engine running)</p> |
|---|--|

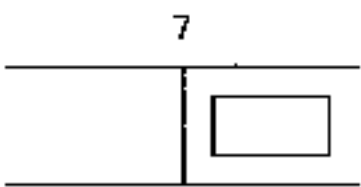
| | |
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| <p>NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
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|  | <p>Bargraph 6 RH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>IDLE REGULATION CIRCUIT</u></p> <p>XR25 aid : BG 6RH illuminated engine running</p> |
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| <p>NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
|---------------------|--|

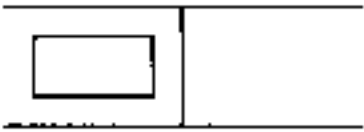
| | |
|---|--|
|  | <p>Bargraph 7 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>FUEL PUMP COMMAND CIRCUIT</u></p> <p>XR25 aid : BG 7LH illuminated ignition on</p> |
|---|--|

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|---------------------|--|
| <p>NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
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| | |
|---|--|
|  | <p>Bargraph 7 RH side, incorrect illumination fiche n° 27 side 2/2</p> <p><u>CANISTER BLEED CIRCUIT</u></p> <p>XR25 aid : BG 7RH illuminated when canister bleed authorised</p> |
|---|--|

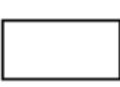

| | |
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| <p>NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
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|----------------------------|--------------|
| <p>AFTER REPAIR</p> | <p>None.</p> |
|----------------------------|--------------|

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|--|---|
| <p style="text-align: center;">8</p>  | <p>Bargraph 8 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>ANTIPERCOLATION COMMAND CIRCUIT</u></p> <p>XR25 aid : BG 8LH illuminated when antipercolation active</p> |
|--|---|

| | |
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| <p style="text-align: center;">NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
|---|--|

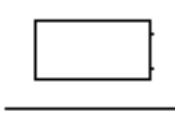
| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

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|---|---|
| <p>9</p>  | <p>Bargraphs 9LH, 10LH, 10RH incorrect illumination Fiche n° 27 side 2/2</p> <p>AIR CONDITIONING CIRCUIT</p> <p>XR25 aid : 9LH illuminated if air conditioning selected 10LH illuminated if air conditioning requested 10RH illuminated if air conditioning authorised</p> |
| <p>10</p>  | |

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| NOTES | All fault bargraphs must be dealt with, air conditioning must be fitted on the vehicle and selected |
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|--|--|-----|---|--------------------------|--|--------------------------|----|---|----|--|--|
| <p>Connect bornier SUS. 1228 in place of the computer and bornier ELE. 1391 in place of the driver's air conditioning and heating control and check the insulation and continuity between track :</p> | | | | | | | | | | | |
| <p>Bornier SUS. 1228</p> | <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">→</td> <td style="text-align: center;">B15</td> <td style="width: 20px;"></td> <td style="text-align: center;">Bornier ELE. 1391</td> </tr> <tr> <td style="text-align: center;">51</td> <td style="text-align: center;">→</td> <td style="text-align: center;">A6</td> <td></td> <td></td> </tr> </table> | 6 | → | B15 | | Bornier ELE. 1391 | 51 | → | A6 | | |
| 6 | → | B15 | | Bornier ELE. 1391 | | | | | | | |
| 51 | → | A6 | | | | | | | | | |
| <p>Repair if necessary.</p> | | | | | | | | | | | |
| <p>XR25 on voltmeter <input type="checkbox"/> V , check on track 6 of the bornier for the presence of 12 V. There is not 12 V, refer to the air conditioning fault finding section.</p> | | | | | | | | | | | |
| <p>XR25 on voltmeter <input type="checkbox"/> V , injection computer connected, check for the presence of 12 V on track A6 of bornier ELE. 1391.</p> <p>There is not 12 V, replace the injection computer.</p> <p>There is 12 V, refer to the air conditioning fault finding section.</p> | | | | | | | | | | | |

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|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|---|--|
| <p style="text-align: center;">11</p>  | <p>Bargraph 11 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>CAMSHAFT SIGNAL CIRCUIT</u></p> <p>XR25 aid : BG 11LH illuminated engine running</p> |
|---|--|

| | |
|---|---|
| <p style="text-align: center;">NOTES</p> | <p>Deal with under fault bargraphs.</p> |
|---|---|

| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

NOTES

Only refer to these customer complaints after having performed a complete test using the XR25

STARTING PROBLEMS

| | |
|----------------------|---------|
| Does not start | Chart 1 |
| Starts but stalls | Chart 2 |
| Starting is too long | Chart 3 |

IDLE PROBLEMS

| | |
|-----------------|---------|
| Too fast | Chart 4 |
| Too slow | Chart 5 |
| Engine unstable | Chart 6 |
| Hunting | Chart 7 |

BEHAVIOUR WHEN DRIVING

| | |
|--------------------------|---------|
| Lacks performance | Chart 8 |
| Misfiring and hesitation | Chart 9 |

SMOKE - POLLUTION

| | |
|-----------------------|----------|
| CO and/or HC too high | Chart 10 |
|-----------------------|----------|

HIGH PETROL CONSUMPTION

Chart 11

ENGINE NOISE

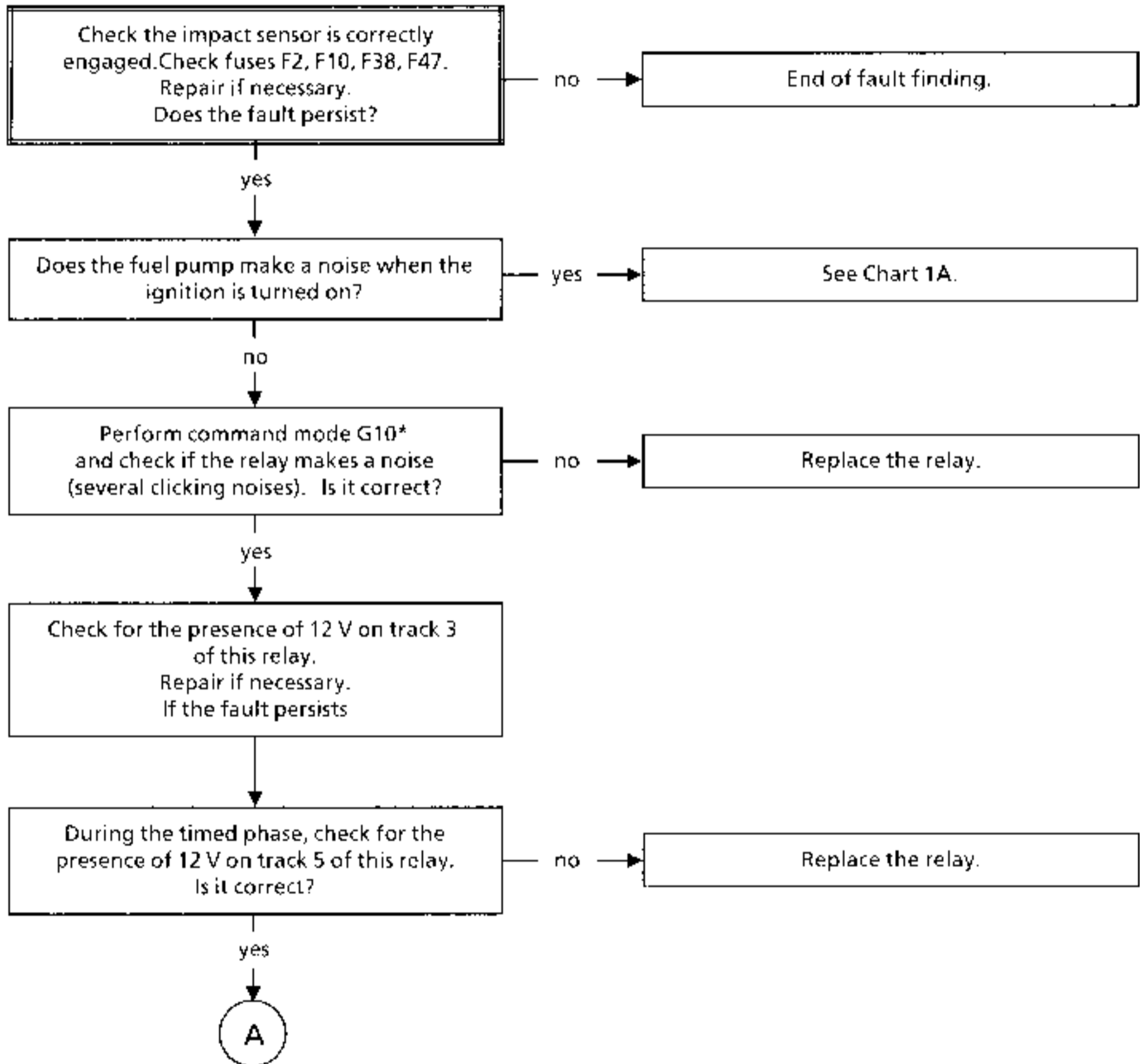
| | |
|---------|----------|
| Pinking | Chart 12 |
|---------|----------|

Chart 1

STARTING PROBLEMS
Does not start

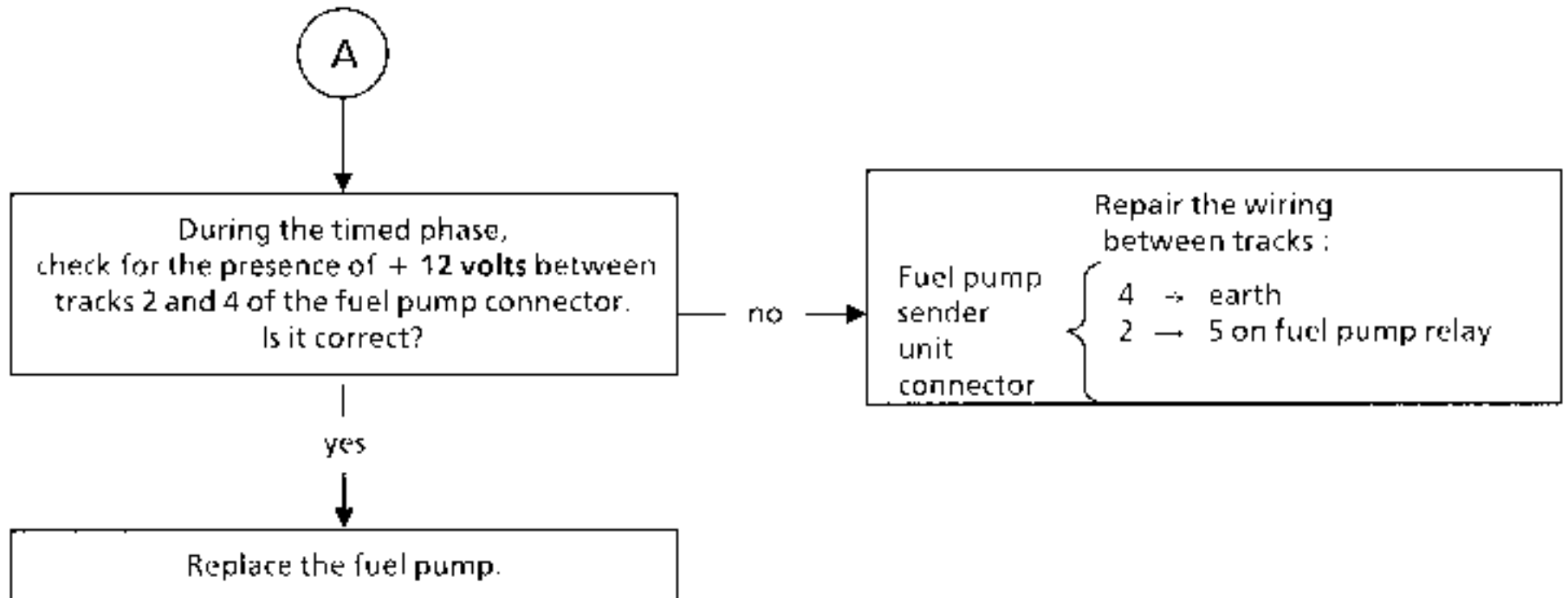
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 1
CONT**AFTER REPAIR**

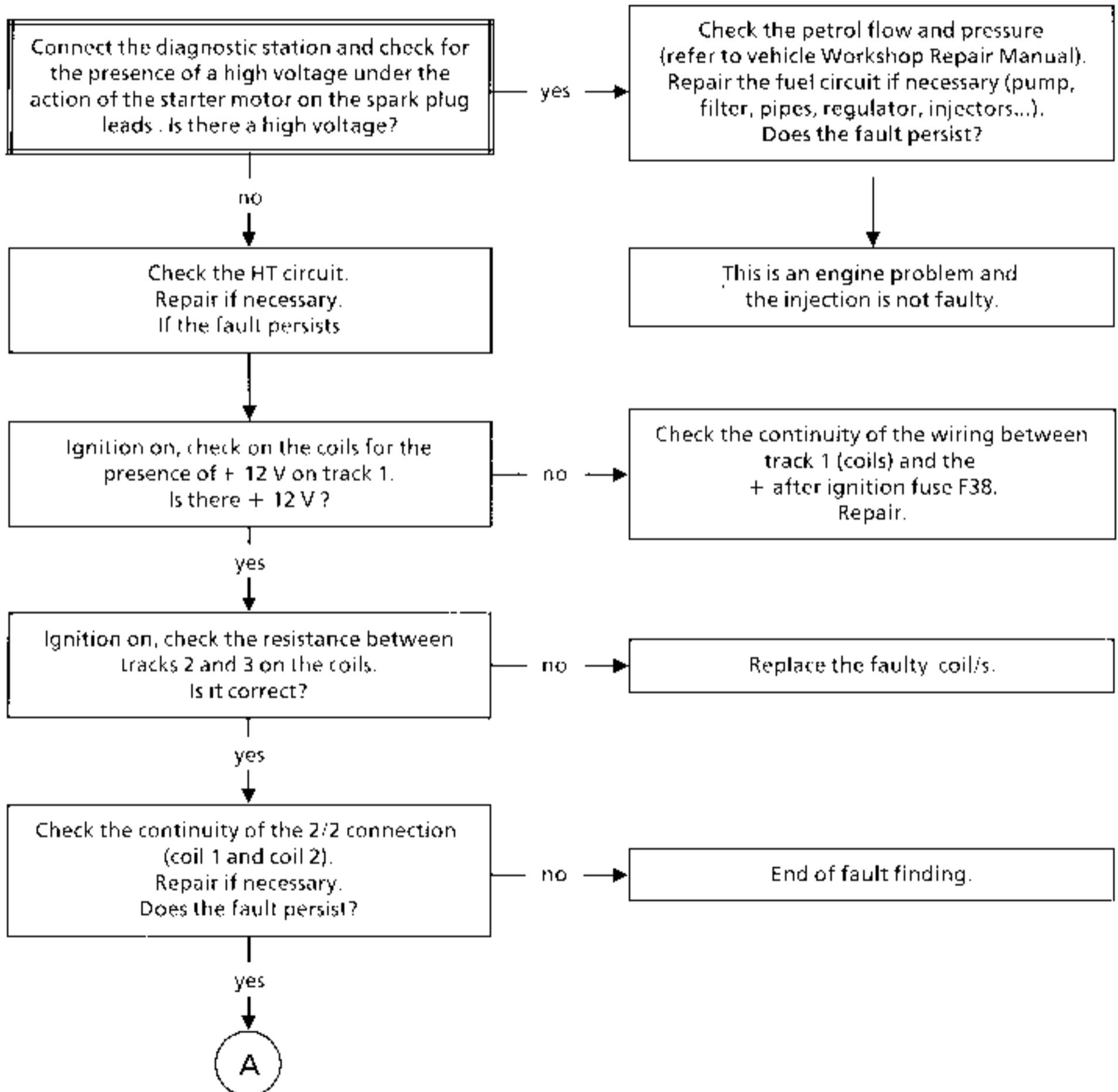
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 1A

STARTING PROBLEMS
Does not start

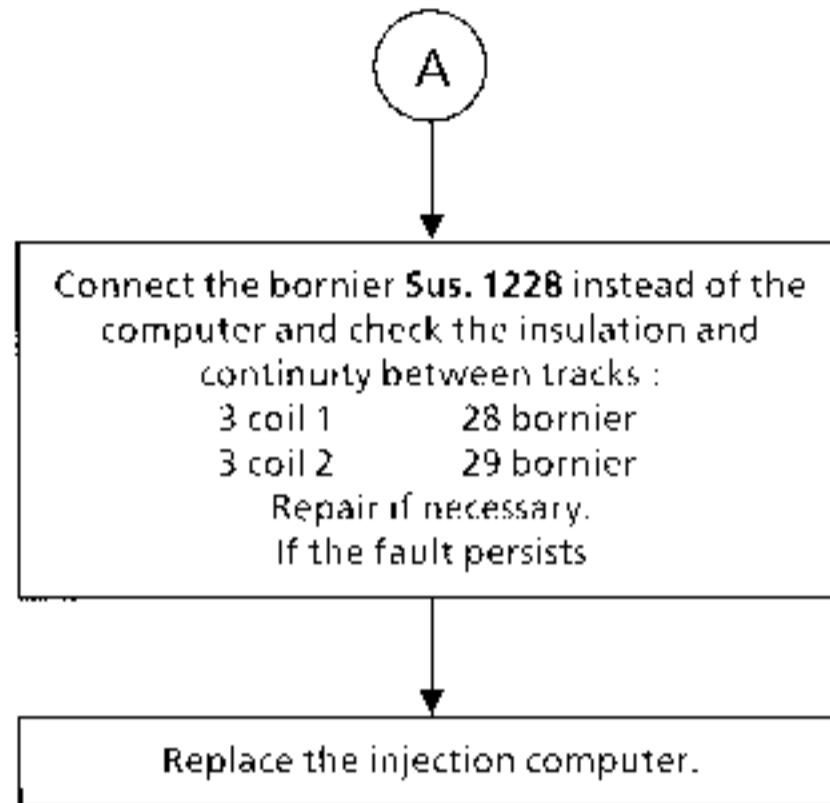
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

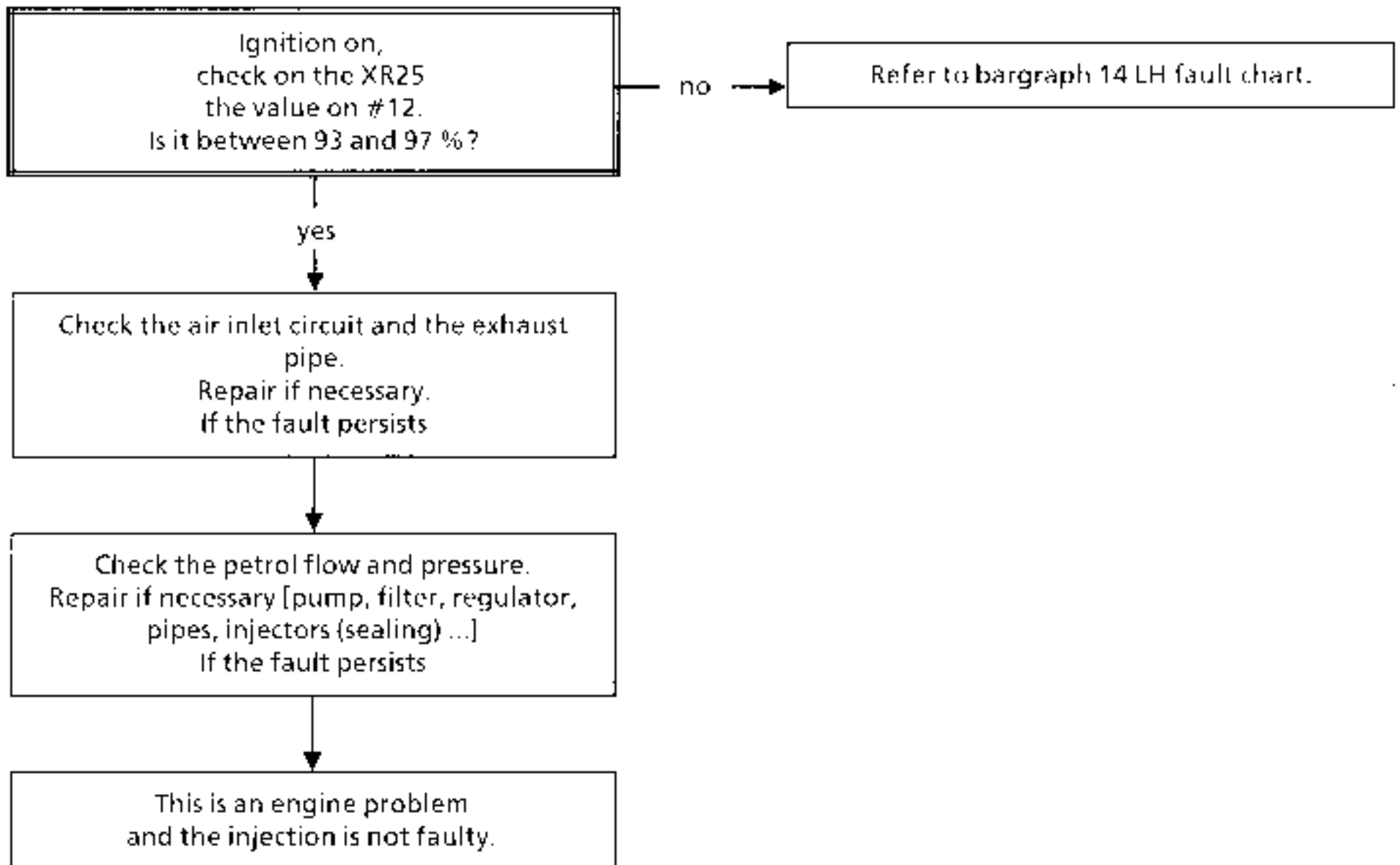
Chart 1A
CONT**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 2

STARTING PROBLEMS
The engine starts but stalls**NOTES**

Only refer to this customer complaint after having performed a complete test using the XR25

**AFTER REPAIR**

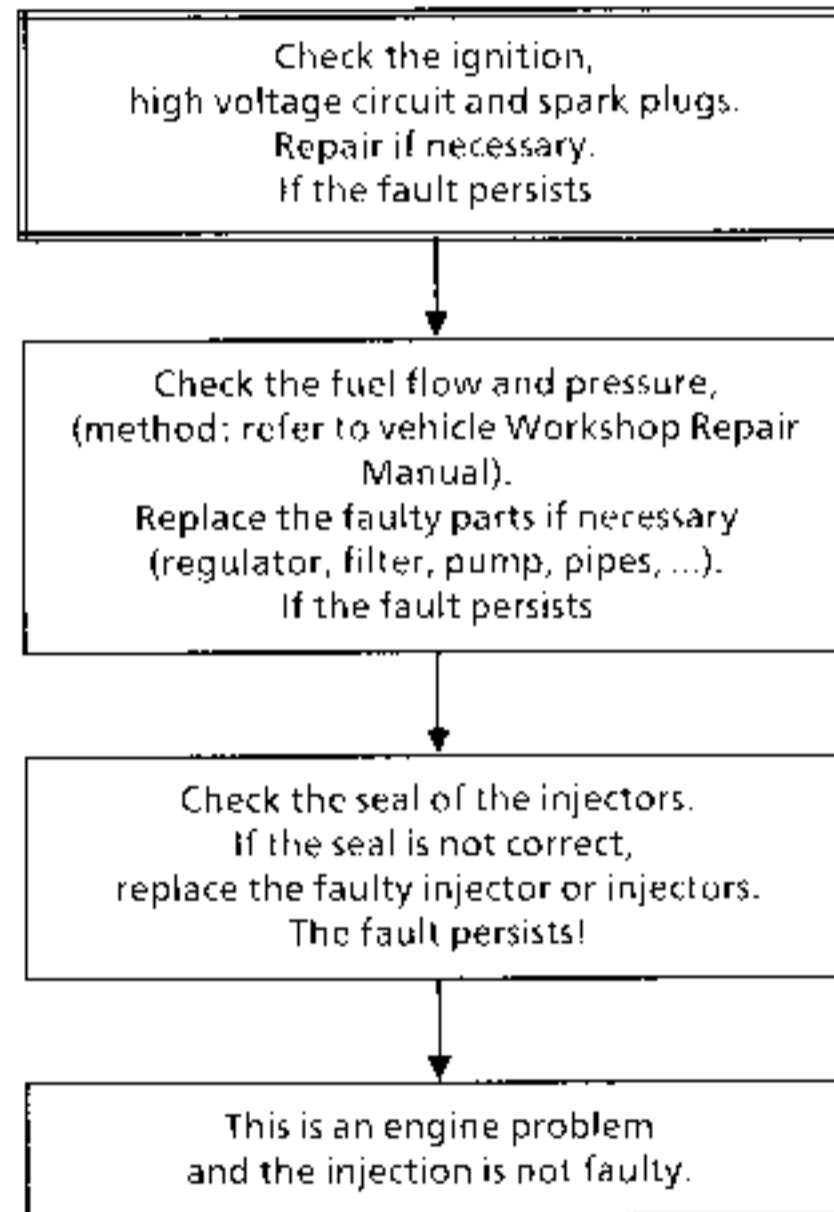
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using GO**
Carry out a conformity check

Chart 3

STARTING PROBLEMS
Starting is too long

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 4

IDLE PROBLEMS
Idle too fast

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25
R > 750 rpm or #12 < 27 %

Check there is no air leak on the inlet (seals, take-off points on the inlet manifold, plugs, ...).
Repair if necessary.
If the fault persists

Check on the throttle body that it is up against the lower mechanical stop (#17 < 47). Also check the accelerator control.
Repair if necessary.
If the fault persists

Check the fuel pressure is not too high.
Repair if necessary
(injectors, pump, pressure regulator, pipes, ...).
The fault persists!

The injection is not faulty.
Check the engine.

AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 5

IDLE PROBLEMS
Idle too slow

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25
 $R < 650 \text{ rpm}$ or $\#12 > 37 \%$

Check the ignition, high voltage leads, coil and power stages.
 Repair if necessary.
 If the fault persists

Check the fuel pressure is not too low.
 Repair if necessary
 (injectors, pump, regulator,
 pipes, ...).
 The fault persists!

The injection is not faulty.
 Check the engine.

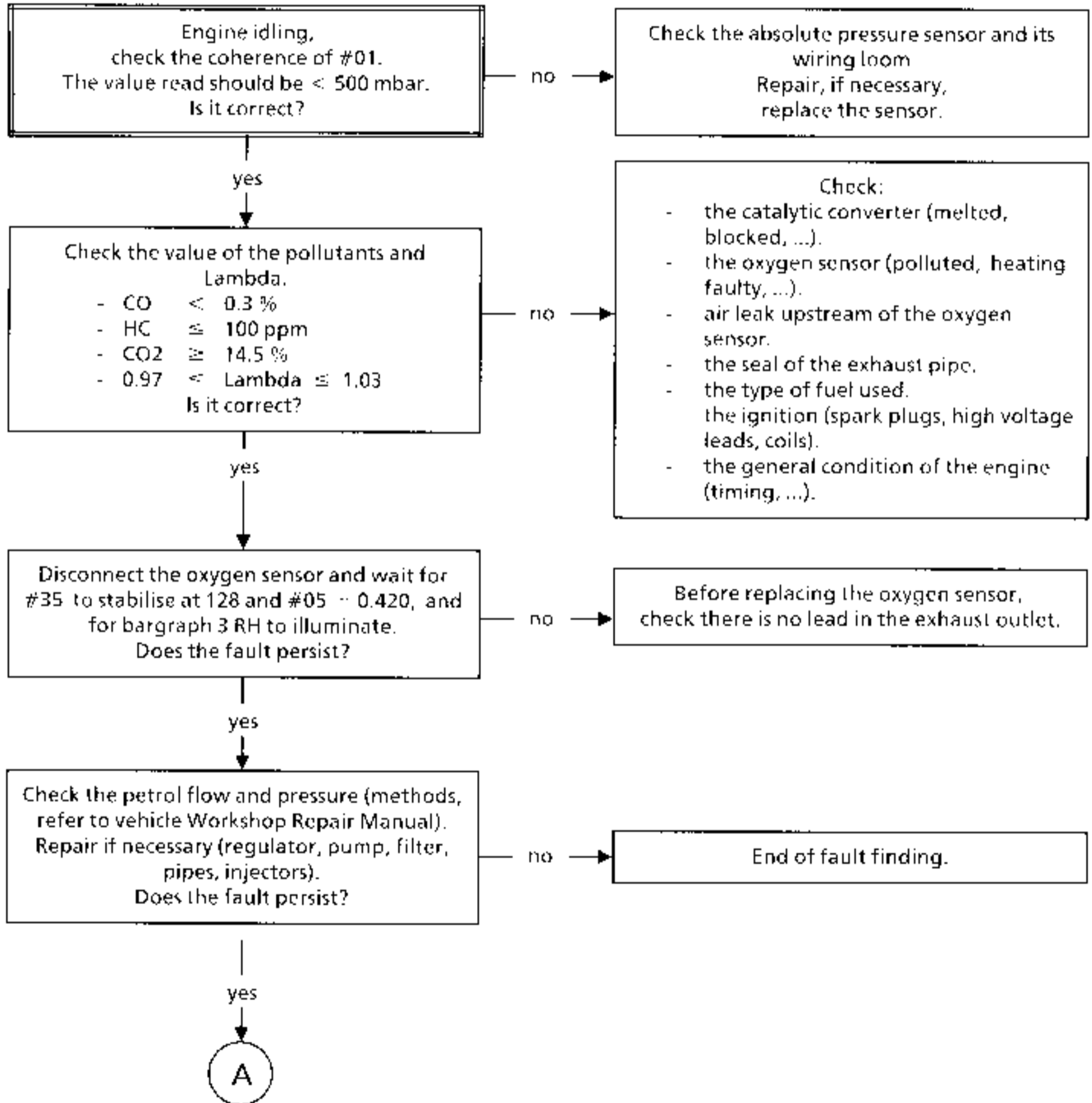
AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
 Erase the computer memory using G0**
 Carry out a conformity check

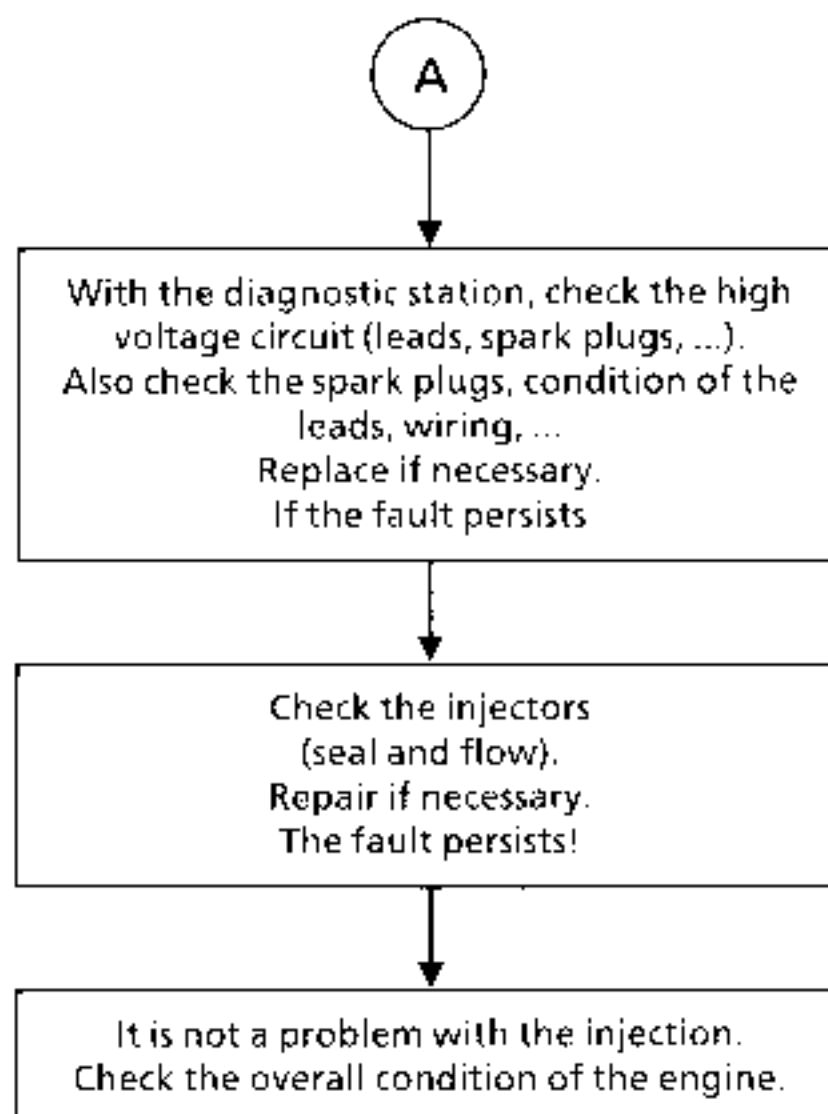
Chart 6

IDLE PROBLEMS
Engine unstable**NOTES**

Only refer to this customer complaint after having performed a complete test using the XR25

**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 6
CONT**AFTER REPAIR**

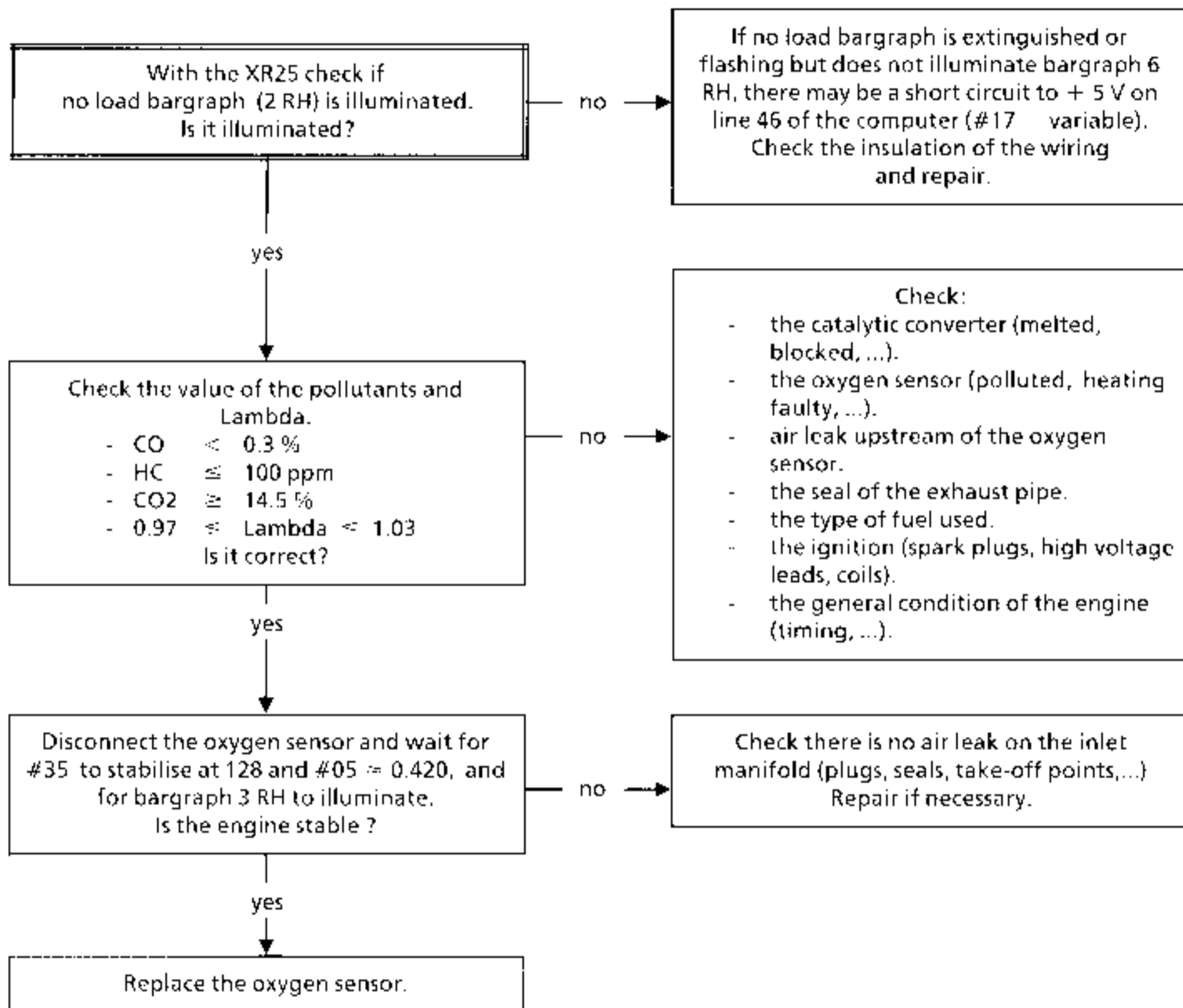
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 7

IDLE PROBLEMS
Hunting

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

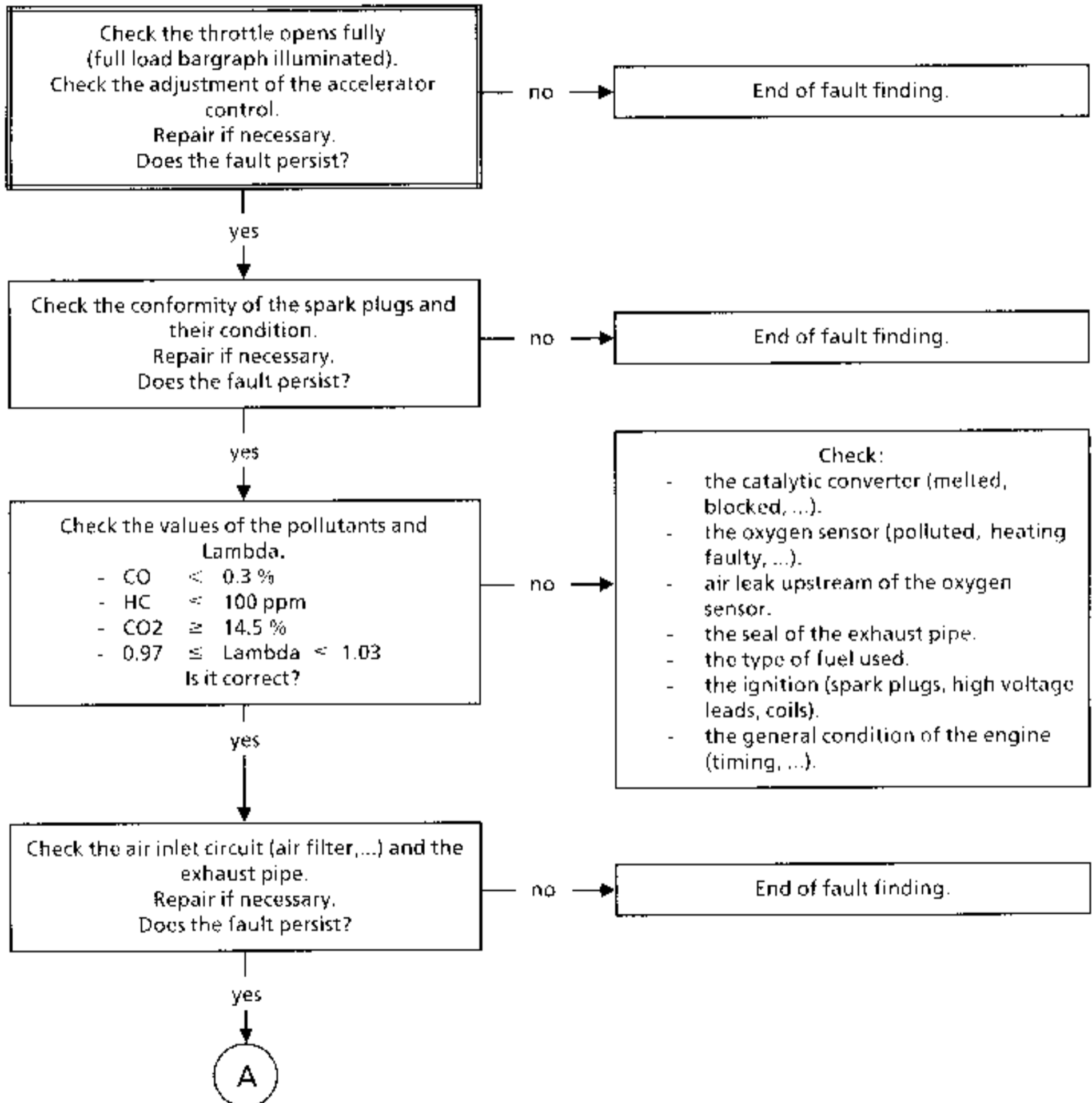
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 8

BEHAVIOUR WHEN DRIVING
Lacks performance

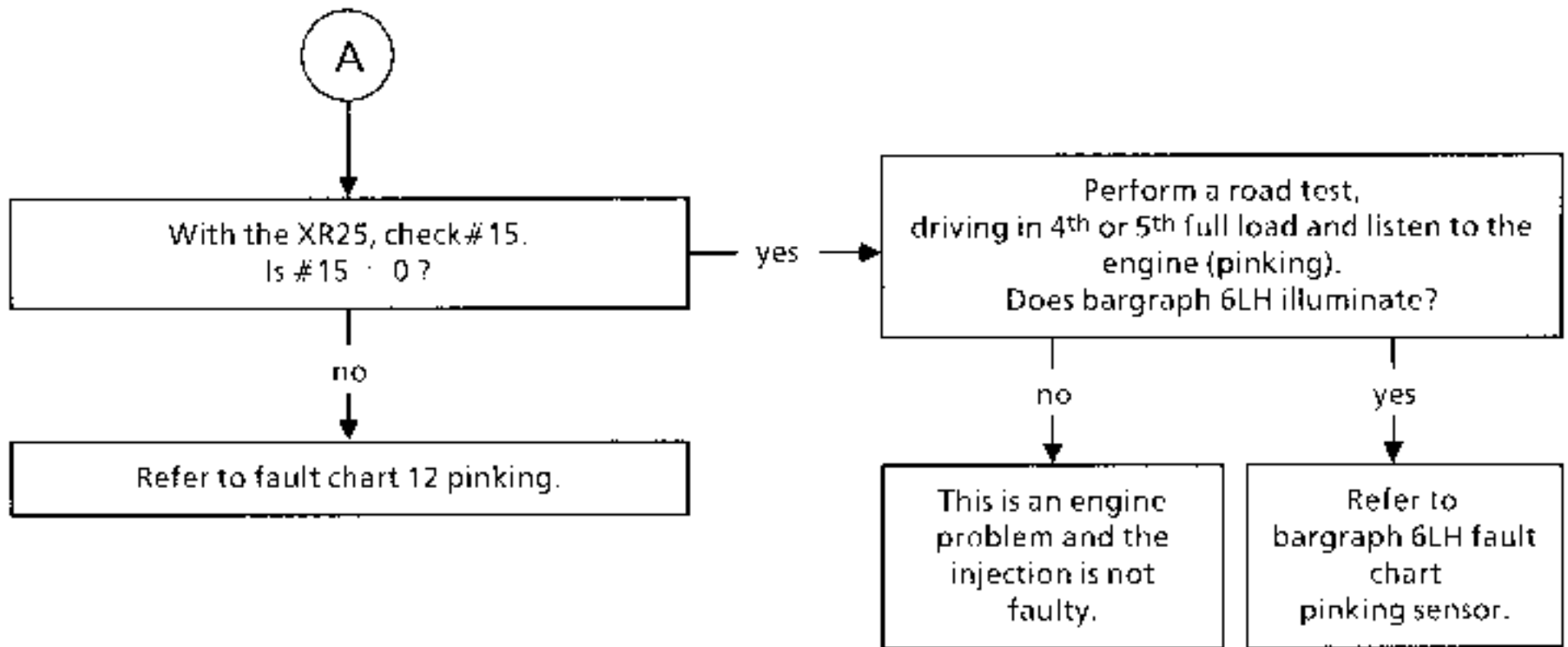
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 8
CONT**AFTER REPAIR**

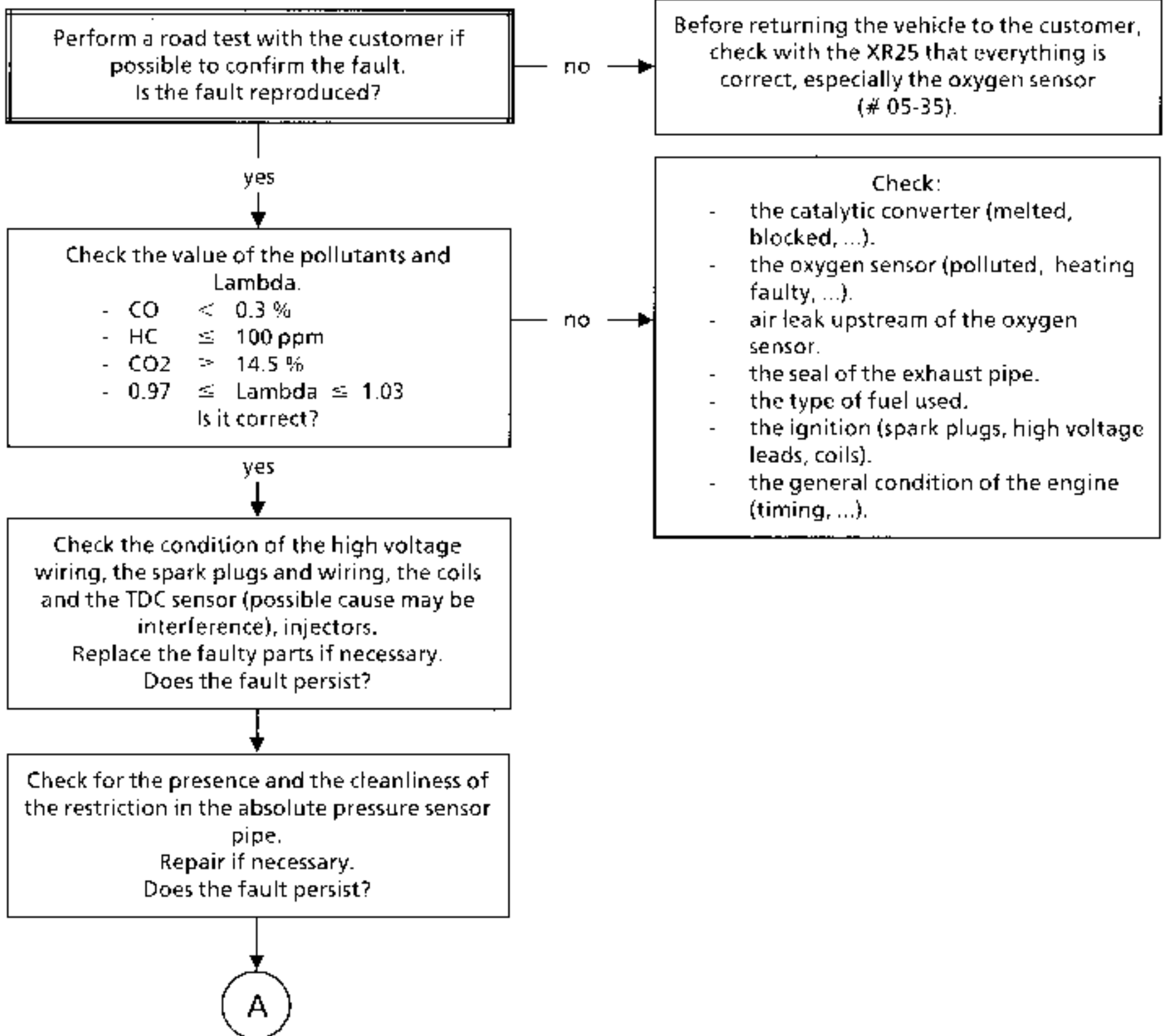
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using GO**
Carry out a conformity check

Chart 9

BEHAVIOUR WHEN DRIVING
Misfiring and hesitation

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 9
CONT

A

Disconnect the oxygen sensor and wait for #35 to stabilise at 128 and #05 = 0.420, and for bargraph 3 RH to illuminate.
Perform a road test.
Does the fault persist?

no

Replace the oxygen sensor.

yes

Check the condition of the flywheel target.
Repair if necessary.
If the fault persists

Check the petrol flow and pressure (methods, refer to vehicle Workshop Repair Manual).
Replace the faulty parts (fuel pump, regulator, filter, pipes ...).
If the fault persists

Clean the injectors
If the fault persists

Check the valves are not clogged.
Clean the valves if necessary.
After cleaning, does the fault persist?

no

End of fault finding.

yes

This is an engine problem,
the injection is not faulty.

AFTER REPAIR

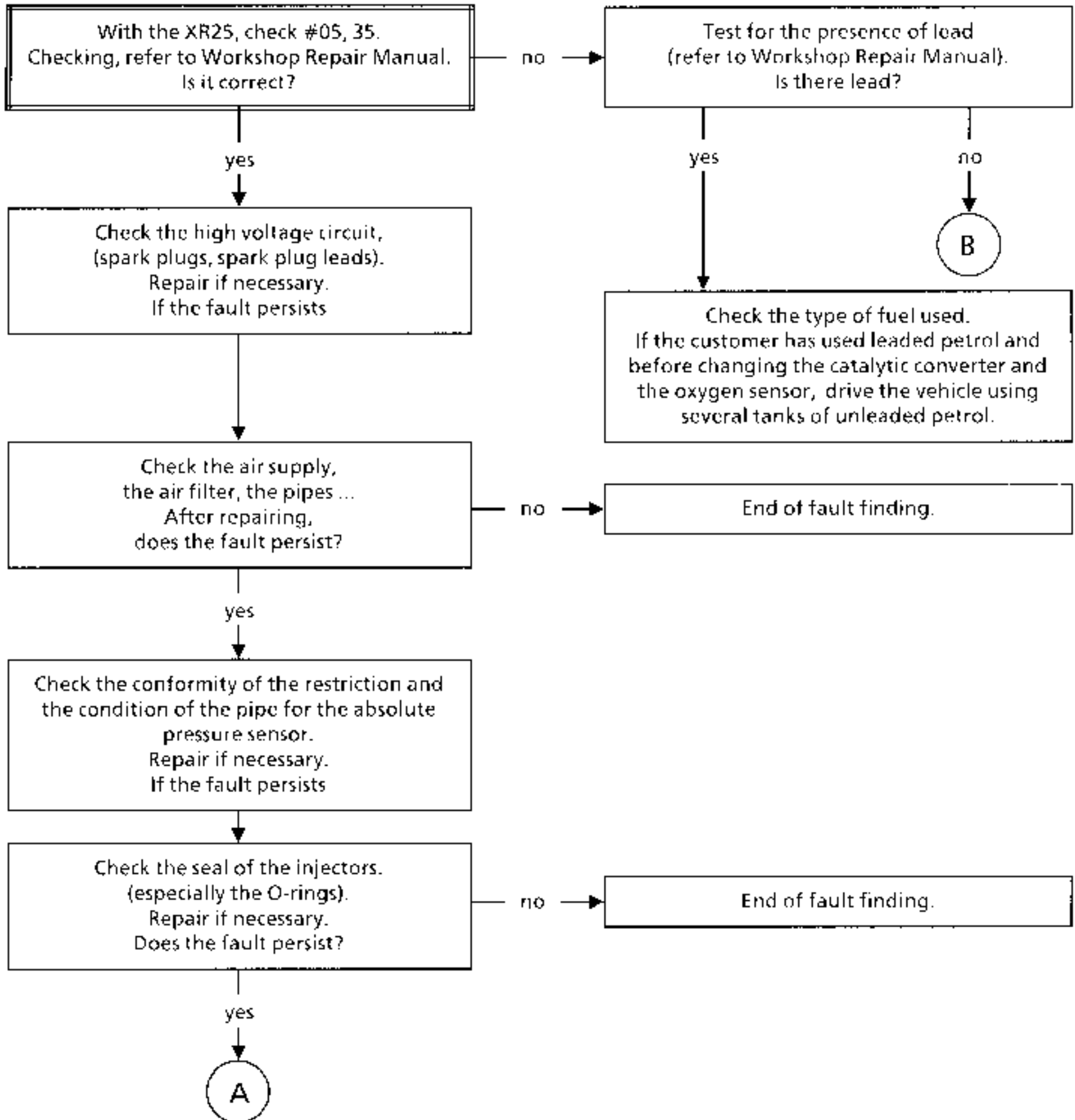
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using GO**
Carry out a conformity check

Chart 10

SMOKE - POLLUTION
CO and/or HC too high

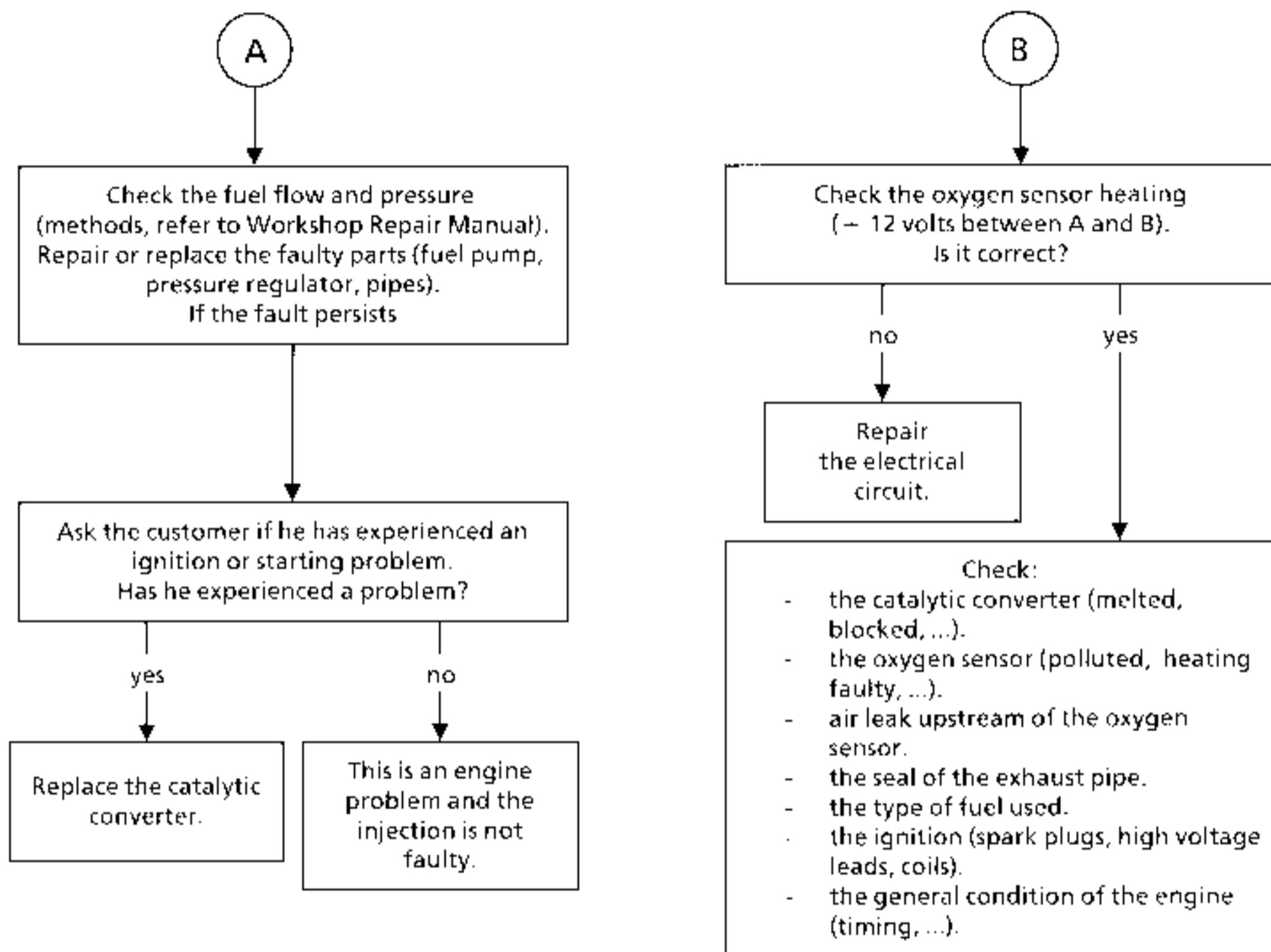
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25
CO and / or HC too high CO > 0.3 % - HC > 100 ppm



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 10
CONT**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 11

HIGH PETROL CONSUMPTION

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

Check there are no fuel leaks.
Repair if necessary.
Does the fault persist?

no

End of fault finding.

yes

Check the idle speed
(# 06 on the XR25).
Is it correct?

no

Refer to fault chart 4 or 5, idle problems
(Idle speed too fast or too slow).

yes

Check the vehicle complies with its definition
and is in good condition.
Repair if necessary.
If the fault persists

no

End of fault finding.

yes

Check the value of the pollutants and
Lambda.

- CO < 0.3 %
 - HC < 100 ppm
 - CO2 \approx 14.5 %
 - 0.97 \leq Lambda \leq 1.03
- Is it correct?

no

- Check:
- the catalytic converter (melted, blocked, ...).
 - the oxygen sensor (polluted, heating faulty, ...).
 - air leak upstream of the oxygen sensor.
 - the seal of the exhaust pipe.
 - the type of fuel used.
 - the ignition (spark plugs, high voltage leads, coils).
 - the general condition of the engine (timing, ...).

yes

A

AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 11
CONT

A

Check the petrol flow and pressure
(methods, refer to vehicle Workshop Repair
Manual) and the canister bleed circuit.
Repair if necessary
(regulator, pump, filter, pipes).
Does the fault persist?

no

End of fault finding.

yes

This is not an injection problem,
this is an engine problem,
check :

- the engine oil level
- engine cooling
- axle assemblies
- the general condition of the engine.

If necessary, perform a consumption test with
the ECONOTEST consumption device.

AFTER REPAIR

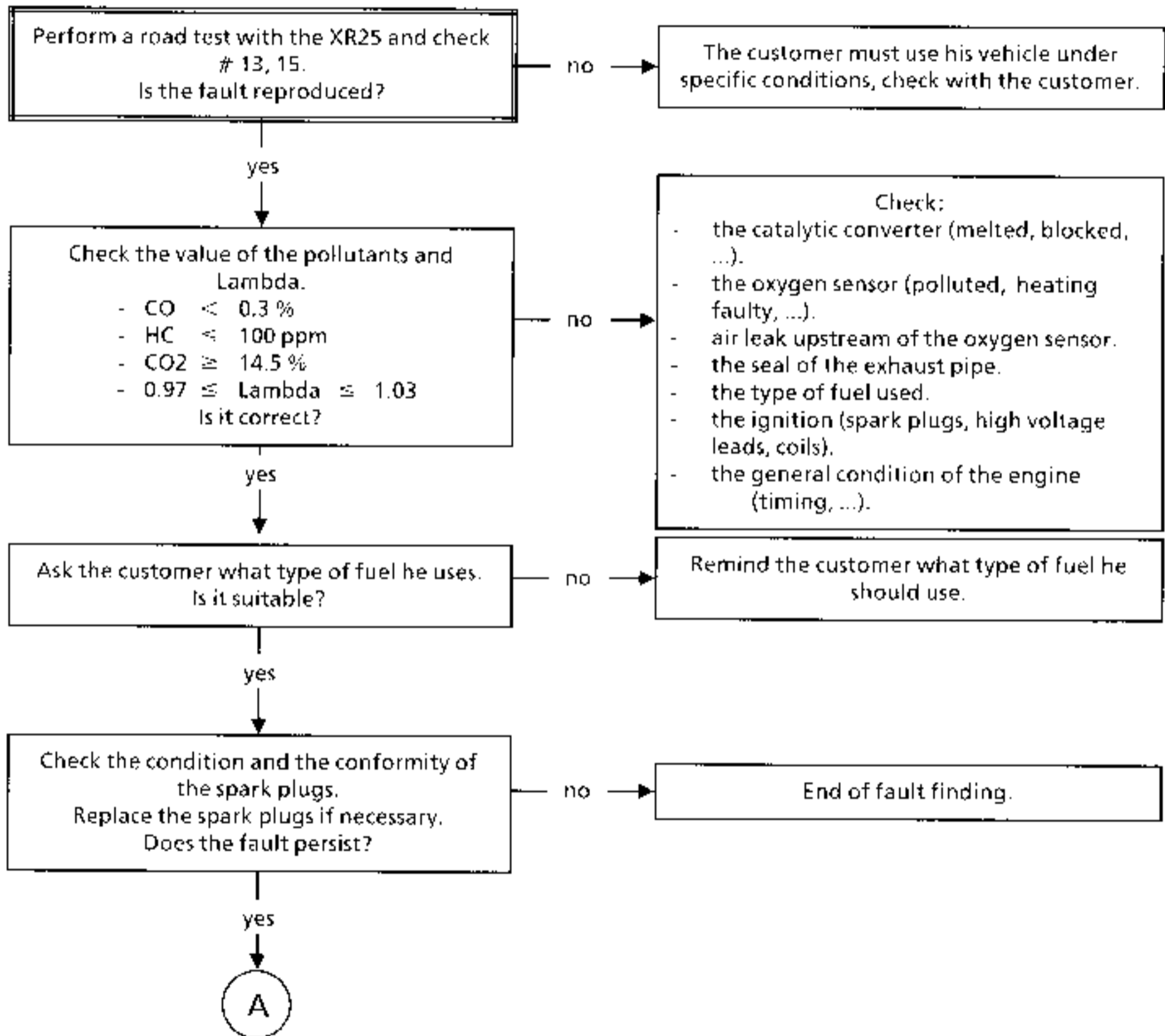
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using GO**
Carry out a conformity check

Chart 12

ENGINE NOISE
Pinking

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

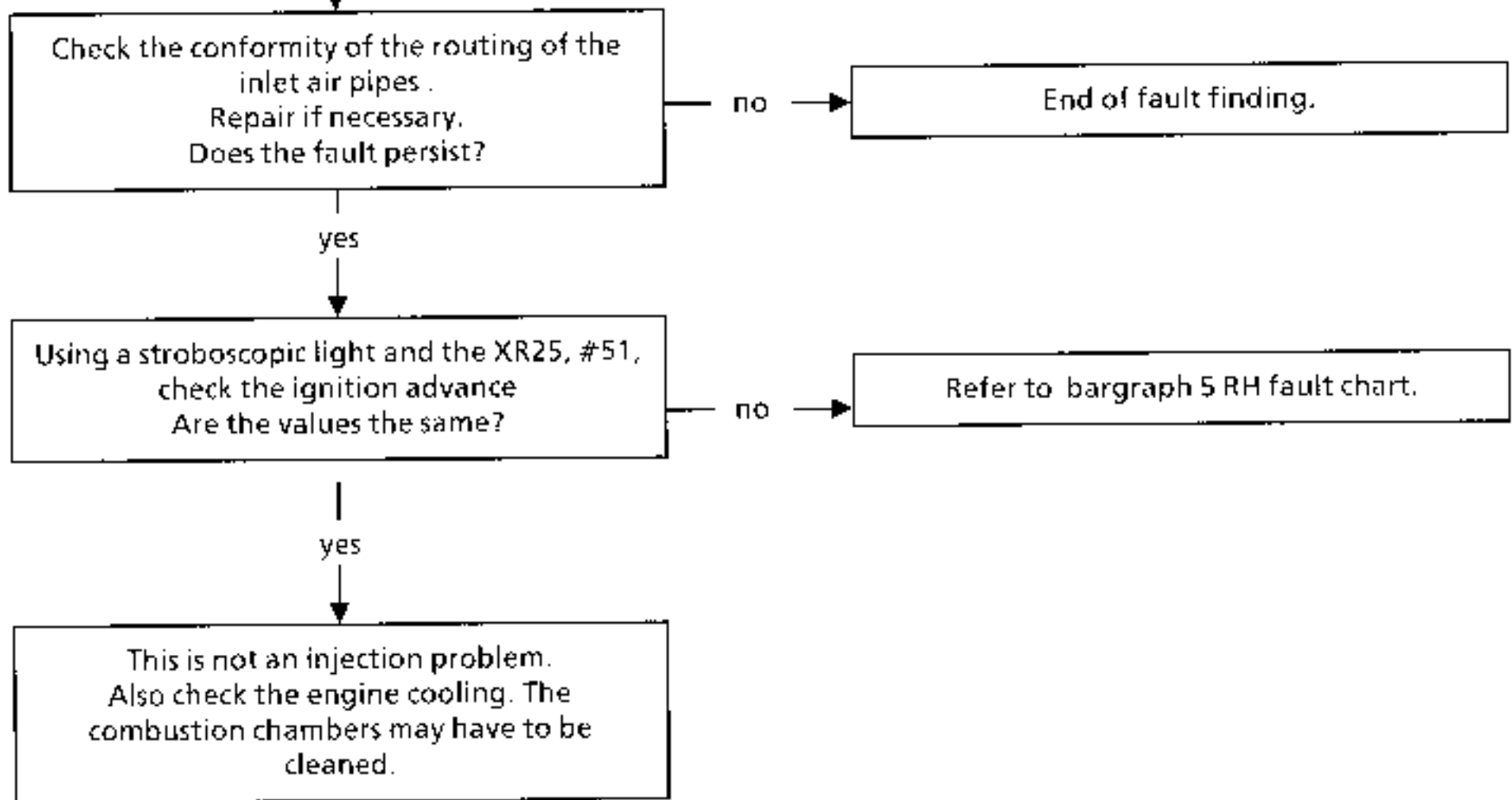


AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 12
CONT

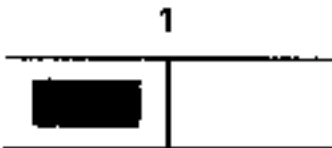
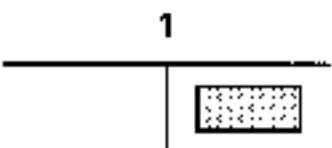
A

**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check





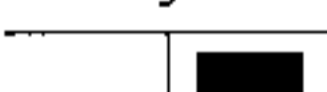



NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|-------------------------|---|--|
| 1 | Dialogue with XR25 | D13 (selector on S8) | | 9.NJ Use fiche n° 27 fault test side |
| 2 | Interpretation of normally illuminated bargraphs | |   | Fault test Code present |
| 3 | Conformity of computer | G70* | | XXXX Part Number number displayed in three sequences (refer to section 12) |
| 4 | Switching to status test | G01* | | 10.NJ Use fiche n° 27 status test side |




NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes | |
|---------------------|--|--------|----------|---|---|
| 5 | Interpretation of normally illuminated bargraphs | | 1 |  | Code present |
| | | | 2 |  | No load recognition |
| | | | 4 |  | Receiving + after ignition information |
| | | | 4 |  | Illuminated for AT regardless of selector lever position |
| | | | 5 |  | Locking relay command effective (Do not take this information into account) |
| | | | 11 |  | Camshaft sensor information not effective (Do not take this information into account) |
| | | | 19 |  | Computer configured to operate with: Manual gearbox (G60*) |
| | | | 19 |  | Automatic transmission (G50*) |


NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---------------------------------|-----------------------------------|--|--|
| 6 | Throttle position potentiometer | No load # 17 | <div style="text-align: center;">2</div>  | $8 < X < 38$ |
| | | Accelerator pedal lightly pressed | <div style="text-align: center;">2</div>  | |
| | | Full load # 17 | <div style="text-align: center;">2</div>  | $188 < X < 246$ |
| 7 | Absolute pressure sensor | # 01 | | $X = \text{Local atmospheric pressure}$ |
| 8 | Coolant temperature sensor | # 02 | | $X = \text{Ambient temperature} + 5^{\circ}\text{C}$ |
| 9 | Air temperature sensor | # 03 | | $X = \text{Ambient temperature} \pm 5^{\circ}\text{C}$ |
| 10 | Idle regulation solenoid valve | # 12 | | The value read is fixed and is between $17\% < X < 99.9\%$ |
| 11 | Engine speed | # 06 | | $X = 0 \text{ rpm}$ |
| 12 | Canister bleed | # 23 | | $X = 0.7\%$ |






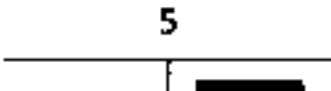
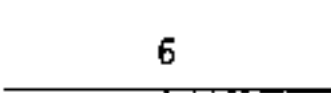
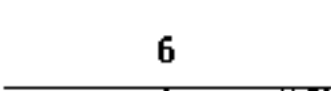
NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--------------------------|---|--|--|
| 1 | Switching to status test | G01* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">10.NJ</div> Use fiche n° 27 status test side |
| 2 | No fault | | 20  | Check this bargraph is not flashing; otherwise type G02* and turn the fiche over. Repair the faulty component then erase the fault memory (G0***) and return to status test (G01*) |
| 3 | Battery voltage | # 04 if in # 04 otherwise in # 06 | | 13 volts < X < 14.5 volts X < 12.7 volts Nominal engine speed < X < 910 rpm |





NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes | |
|---------------------|--|--------|----------|---|--|
| 4 | Interpretation of normally illuminated bargraphs | - | 1 |  | Code present |
| | | | 2 |  | No load recognition |
| | | | 3 |  | Receiving engine speed information |
| | | | 4 |  | Receiving + after ignition information |
| | | | 4 |  | Illuminated in Park or Neutral position |
| | | | 5 |  | Locking relay command effective (Do not take this information into account) |
| | | | 6 |  | Idle regulation active |
| | | | 6 |  | Richness regulation active |






NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---|--------|--|--|
| 4 (cont) | Interpretation of normally illuminated bargraphs (cont) | — | <p style="text-align: center;">7</p>  | Fuel pump active |
| | | | <p style="text-align: center;">11</p>  <p style="text-align: center;">flashing</p> | Camshaft sensor information effective (Do not take this information into account) |
| | | | <p style="text-align: center;">19</p>  | Computer configured to operate with: Manual gearbox (G60*) |
| | | | <p style="text-align: center;">19</p>  | Automatic transmission (G50*) |

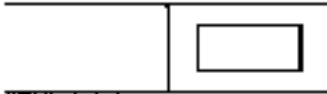


NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--------------------------------|---|---|---|
| 5 | Idle speed | <p>Without air conditioning</p> <p># 06</p> <p># 12</p> <p>Air conditioning selected</p> <p># 06</p> <p>Heated windscreen selected. Air conditioning not selected</p> <p># 06</p> | <p>6</p>  <p>9</p>  <p>10</p>  <p>8</p>  <p>9</p>  | <p>$X = 770 \pm 50 \text{ rpm}$</p> <p>$20\% < X < 40\%$ (F3R 750) $18\% < X < 38\%$ (F3R 751)</p> <p>Illuminated depending on the status of the air conditioning</p> <p>$X = 900 \pm 50 \text{ rpm}$</p> <p>If coolant temperature $> 60^\circ\text{C}$ then $X = 770 \pm 50 \text{ rpm}$</p> <p>If coolant temperature $< 60^\circ\text{C}$ then $X = 1000 \pm 50 \text{ rpm}$</p> |
| 6 | Anti-pinking noise measurement | # 13 (3500 rpm, no load) | | X variable and not zero |

NOTES

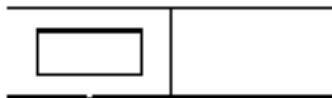

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|-----------------------------|--|--|--|
| 7 | Manifold pressure | # 01 without consumer | | X is variable and is around 360 = 60 mbars (this pressure varies as a function of the altitude) |
| 8 | Richness regulation | With stable engine speed of 2500 rpm. then at idle speed # 05 # 35 | <p style="text-align: center;">6</p>  <p style="text-align: center;">6</p>  | <p>X varies in a range of 50 to 900 mV approximately</p> <p>X is around and varies slightly about 128 with a maximum of 255 and a minimum of 0</p> |
| 9 | Adaptive idle correction | # 21 | | $- 8.6 \%^{(1)} < X < 6.2 \%$ (average value after erasing memory: 0) |
| 10 | Canister bleed | # 23 | <p style="text-align: center;">7</p>  | <p>Canister bleed is forbidden. The solenoid valve remains closed X = 0.7 %</p> |

⁽¹⁾ This value is from definitive calibration. The first vehicles marketed have a minimum threshold of - 6.2 %.


NOTES

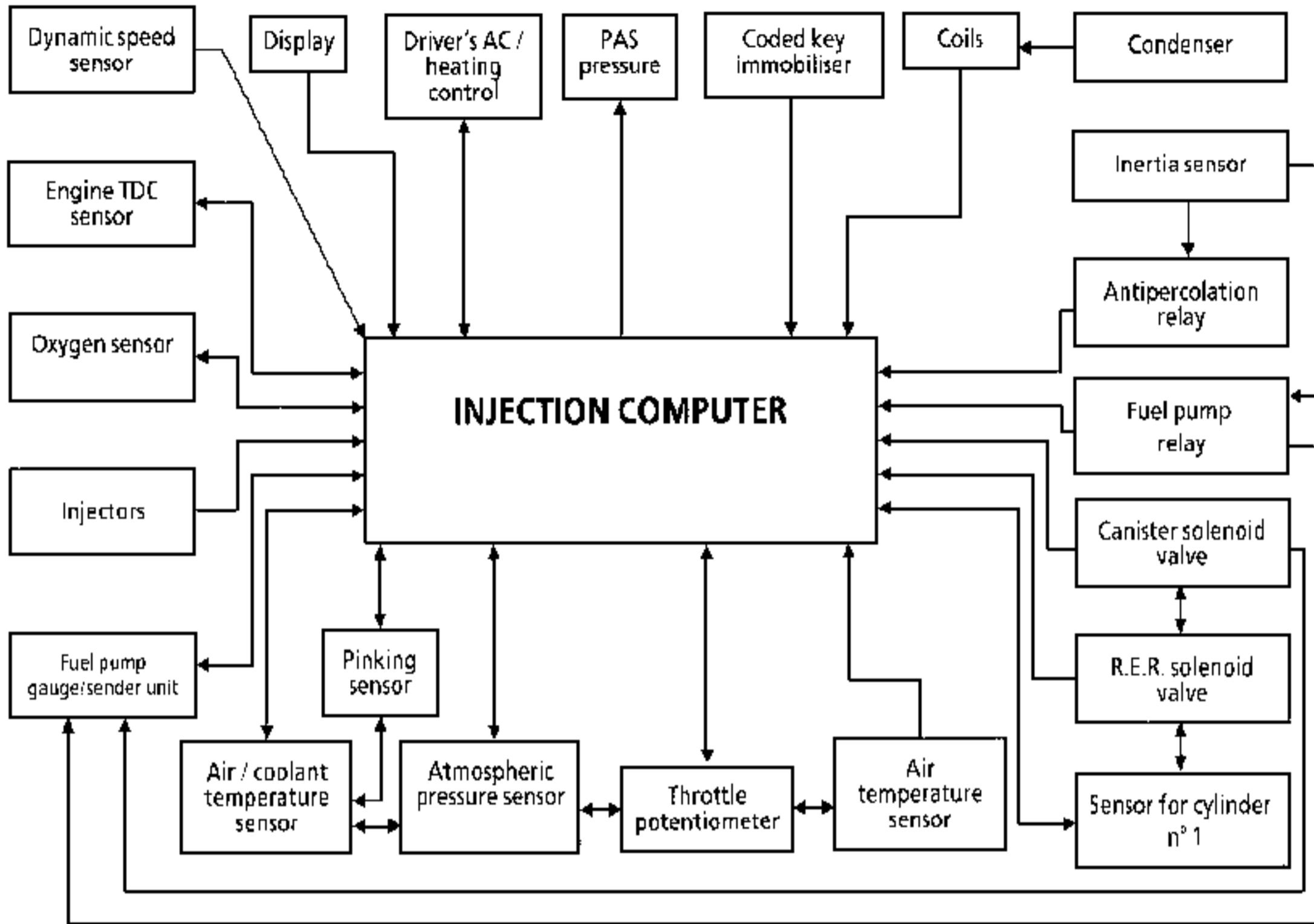
Test to be performed during a road test

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---------------------------|---|--|---|
| 1 | Switching to status test | G01* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">10.NJ</div> Use fiche n° 27 status test side |
| 2 | No fault | |  | Check this bargraph is not flashing; otherwise type G02* and turn the fiche over. Repair the faulty component then erase the fault memory (G0**) and return to status test (G01*) |
| 3 | Canister bleed | # 23 | <div style="text-align: center;">7</div>  | Canister bleed is authorised X = variable |
| 4 | Vehicle speed information | # 18 | | X vehicle speed read on the speedometer |
| 5 | Pinking sensor | Vehicle loaded and engine speed of 2000 rpm.. # 13 # 15 | | X = variable and not zero $0 \leq X \leq 6$ (if the sensor is faulty, the advance is systematically retarded by 4° which is not visible on # 15) |

NOTES

Test to be performed during a road test

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|------------------------|---|--|--|
| 6 | Adaptive richness | After programming phase # 30 # 31 | | $82 \leq X \leq 224$ (average value after erasing the memory: 128) $32 \leq X \leq 224$ (average value after erasing the memory: 128) |
| 7 | Torque reduction (AT) | | 5  | Illuminates when changing gear if the speed is greater than 6 mph (10 km/h) |



INITIALISING COMPUTER / XR25 DIALOGUE

- Connect the XR25 to the diagnostic socket.
- Ignition on.
- Selector on S8
- Enter **D13**

9.INJ**IDENTIFICATION OF THE COMPUTER**

Identification of the computer is not connected to a diagnostic code, but is read directly from the computer Part Number. After setting up dialogue with the computer

ENTER G70***7700****XXX****XXX**

The Part Number is displayed on the central display in three sequences.

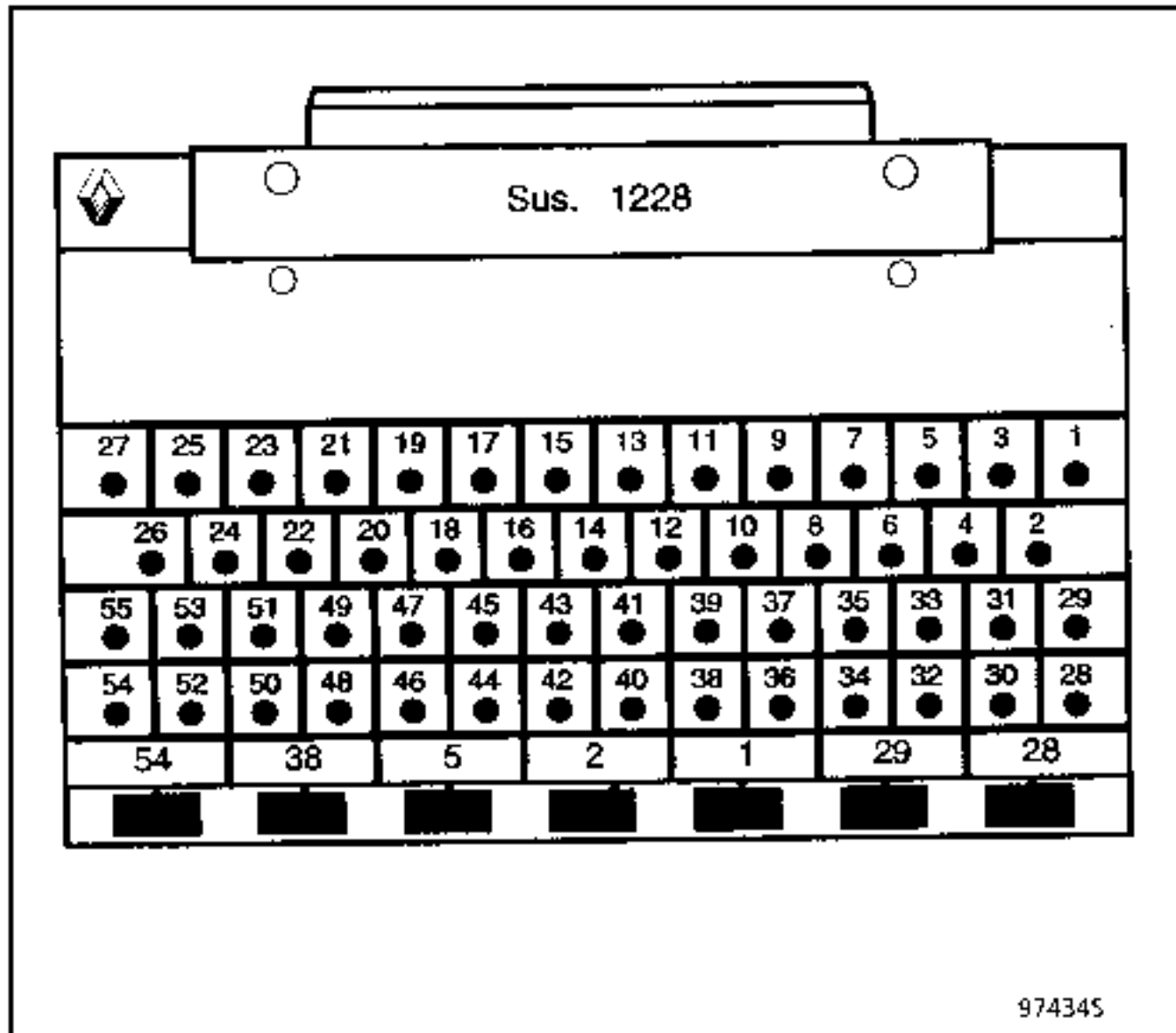
Each sequence remains displayed for approximately two seconds. The display is repeated twice. (For details on the number, refer to section 12 of the Workshop Repair Manual).

ERASING THE MEMORY (engine stopped, ignition on)

Following an operation on the injection system, the computer memory may be erased by using code G0** (Erases faults memorised in fault finding mode D13, selector on position S8, enter G0**).

This procedure does not erase the memory of any other component on the vehicle.

If the information provided by the XR25 requires electrical continuities to be checked, connect **bornier Sus. 1228**.



(Bornier **Sus. 1228** is a 55 track base with a printed circuit on which there are 55 copper coated surfaces numbered from 1 to 55).

Using the wiring diagrams, it is easy to identify the tracks connecting the component/s to be tested.

IMPORTANT :

- All tests using the bornier **Sus. 1228**, must be performed with the battery disconnected.
- The bornier is only designed to be used with an ohmmeter. Never apply 12 Volts to the test points.

PRESENTATION OF FICHE N° 27 SIDE 1/2 WITH FAULT BARGRAPHS

N°27 1/2 S8 code : **D** **1** **3** read : **9.0 J**

| | | | | |
|----|--------------------------|--|----------------------|--------------------------|
| 1 | <input type="checkbox"/> | ILLUMINATED → FAULT TEST EXTINGUISHED → TURN CARD | CODE PRESENT | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | COMPUTER | ENG. IMMOB. * 22 | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | AIR TEMPERATURE | O2 SENSOR * 23 | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> | COOLANT TEMP. | VEHICLE SPEED | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> | PRESSURE | FLYWHEEL SIGNAL * 25 | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> | * 06 PINKING | THROTTLE POSITION | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> | CAMSHAFT | FUEL TANK PRESSURE | <input type="checkbox"/> |
| 8 | <input type="checkbox"/> | * 08 FUEL PUMP | BLOCKING * 28 | <input type="checkbox"/> |
| 9 | <input type="checkbox"/> | * 09 ANTI-PERCOLATION | AIR PUMP * 29 | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> | * 10 O2 SENSOR OVERHEAT. | BI MODE * 30 | <input type="checkbox"/> |

INJECTION (FAULTS)

Erase fault memory : G 0 **
Status check request : G01 *

| | | | | |
|----|--------------------------|-----------------------------|--------------------------------------|--------------------------|
| 11 | <input type="checkbox"/> | * 11 INJECTOR CIRCUIT | CONNECTION A.T. → INJ | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> | * 12 WARN. LAMP CIRC. DEF | FUEL PUMP + INFO | <input type="checkbox"/> |
| 13 | <input type="checkbox"/> | SAVE DATA IN MEMORY | ADAC * 33 | <input type="checkbox"/> |
| 14 | <input type="checkbox"/> | * 14 IDLE SPEED REG CIRC. | BLEED CANISTER CIRC. * 34 | <input type="checkbox"/> |
| 15 | <input type="checkbox"/> | * 15 CONNECTION INJ. → AC | EGR CIRCUIT * 35 | <input type="checkbox"/> |
| 16 | <input type="checkbox"/> | * 16 IGNITION COILS | COLD START INJECTORS * 36 | <input type="checkbox"/> |
| 17 | <input type="checkbox"/> | * 17 MIL WARN. LIGHT | | |
| 18 | | | | |
| 19 | | | | |
| 20 | <input type="checkbox"/> | * 20 COMPUTER CONFIGURATION | XR25 MEMORY <input type="checkbox"/> | <input type="checkbox"/> |

ADDITIONAL CHECKS : # . .

| | | |
|----|---------------------------------------|------|
| 01 | PRESSURE | mb |
| 02 | Coolant temp. | °C |
| 03 | Air temp. | °C |
| 04 | Computer feed | V |
| 05 | O2 sensor | V |
| 06 | Engine speed | rpm |
| 12 | Idling RCO | % |
| 13 | Pinking signal | |
| 14 | Engine speed gap | rpm |
| 15 | Pinking correct. | |
| 16 | Atmos. pressure | mb |
| 17 | Throttle pot. | |
| 18 | Vehicle speed | km/h |
| 21 | Auto correct of RCO idle speed | % |
| 23 | Canister purge RCO | % |
| 24 | RCO EGR | % |
| 30 | Auto correct of rich under high loads | |
| 31 | Auto correct of rich under low loads | |
| 35 | Corr richesse | |
| 44 | P absorbed by AC compressor | " |

End of test: G 13 *


Part No : G 70 *

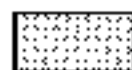
Diagnosed faults :
Press V and 9

Return to diagnostic mode : D

16 ANG

PRESENTATION OF FICHE N° 27 SIDE 2/2 WITH STATUS BARGRAPHS

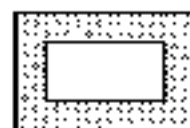
| N°27 2/2 | | read : 1000 | |
|---|---|---------------------------------------|--|
| 1 | <input type="checkbox"/> EXTINGUISHED <input type="checkbox"/> ILLUMINATED | STATUS TEST TURN CARD | CODE PRESENT <input type="checkbox"/> |
| 2 | <input type="checkbox"/> PG ← | THROTTLE POSITIONS → | PL <input type="checkbox"/> |
| 3 | <input type="checkbox"/> FLYWHEEL SIGNAL | ACTIVE ENG MMDB | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> PARK/NEUTRAL POSITION | + APC COMPUTER | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> TORQUE ADJUSTMENT | RELAY CONTROL LOCKING | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> RICHNESS REGULATION | IDLING REGULATION | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> FUEL PUMP CONTROL | BLEED CANISTER AUTHOR. | <input type="checkbox"/> |
| 8 | <input type="checkbox"/> ANTI-PERCOL. CTRL | ELEC. W/SCREEN REQUESTED | <input type="checkbox"/> |
| 9 | <input type="checkbox"/> SELECTION | ACCEL. IDLE SPEED AIR COND. | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> REQUEST | COMPRESSION AUTHOR. OR PROHIBITED | <input type="checkbox"/> |
| (WARNING : monitor bar graph 20 left) | | | |
| INJECTION (STATUS) | | | |
| Erase fault memory : G 0 ** Request fault test : G 02 * | | | |
| 11 | <input type="checkbox"/> CAMSHAFT SIGNAL | BLEED CANISTER + ACTIVE SOL VALVES | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> EGR SV CONTROL | MEMORISED FAULTS | <input type="checkbox"/> |
| 13 | <input type="checkbox"/> AIR PUMP CONTROL | POWER STEERING PRESSOSTAT | <input type="checkbox"/> |
| 14 | <input type="checkbox"/> BI-MODE NLET CTRL | COLD START INJECTORS | <input type="checkbox"/> |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | <input type="checkbox"/> Veh with AT | COMPUTER CONFIGURATION | <input type="checkbox"/> Veh with man. gbox |
| 20 | <input type="checkbox"/> FAULT PRESENT | XR25 MEMORY | <input type="checkbox"/> |
| CONTROL MODES : G.. (IF ENGINE STOPPED) 10* Fuel pump relay 11* Blocking relay 12* AC compressor 14* Idle speed reg. valve 16* Bleed canister valve 17* Anti percolation relay 21*1* Warm light def. 22* Air pump relay 23* EGR valve 24* Bi-mode inlet valve 31* Injector control 50*x* Computer set-up 57*x* Idle speed adj. 58*x* Computer configuration 59*x* INJ Lock/Unlock 60* Zeroing validation | | | |
|  G..x* See procedure on REMINDER CARD C | | | |
| ADDITIONAL CHECKS : # . . 01 Pressure mb 02 Coolant temp. °C 03 Air temp. °C 04 Computer feed V 05 O2 Sensor V 06 Engine speed rpm 12 Idling RCO % 13 Pinking signal 14 Eng. speed gap rpm 15 Pinking correct. d° 16 Atmos. pressure mb 17 Throttle pot. 18 Vehicle speed km/h 21 Auto. corr. RCO idle speed % 23 RCO bleed canister % 24 RCO EGR % 30 Auto. correct. rich. under high loads 31 Auto. corr. of richness 35 Mixture regulation 44 P. absorbed by W AC compressor | | | |
| End of test: G 13 * | | | |
| Part No : G 70 * | | | |
| Diagnosed faults : Press V and 9 | | | |
| Return to diagnostic mode : D | | | |
| 16 ANG | | | |

REPRESENTATION OF THE BARGRAPHS

- Illuminated when dialogue is established with the product computer. If it remains extinguished:
- the code does not exist,
 - there is a fault with the XR25, the computer or the line.

REPRESENTATION OF A FAULT (always on a coloured background)

If illuminated, there is a fault with the product tested. The associated text defines the fault.

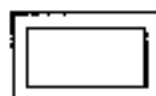


If extinguished, a fault has not been detected on the product tested.

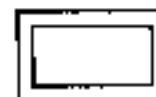
REPRESENTATION OF A STATUS (always on a white background)**Engine stopped, ignition on, no operator action**

The bargraphs on the fiche are shown in the status when the ignition is on, the engine is stopped, and there is no operator action.

If on the fiche the bargraphs is shown as



the XR25 should show



- If on the fiche the bargraphs is shown as



the XR25 should show

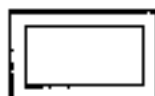


- If on the fiche the bargraphs is shown as

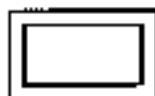


the XR25 should show

either



or

**Engine running**

Extinguished when the function or condition on the fiche is no longer met.



Illuminated when the function or condition on the fiche is met.

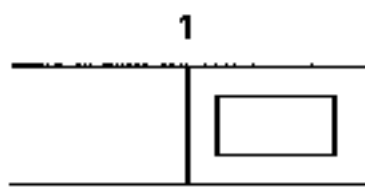
V9 FUNCTION

Fiche n° 27 side 1/2 and side 2/2 is a general fiche used for several engines.

Not all engines use all the bargraphs. To determine which bargraphs are used by the injection computer, after entering dialogue with the computer, press keys V and 9 at the same time. The bargraphs concerned will illuminate:

- fixed, for non-memorisable fault bargraphs or status bargraphs,
- flashing, for memorisable fault bargraphs.

To return to fault finding mode, press key D.

| | | |
|---|--|----------------------|
|  | <p>Bargraph 1 RH side extinguished</p> <p><u>XR25 CIRCUIT</u></p> <p>XR25 aid : no connection, CO, CC MASSE, CC 1 12</p> | Fiche n° 27 side 1/2 |
|---|--|----------------------|

| | |
|--------------|--|
| NOTES | This bargraph must be illuminated for fault finding to be performed. |
|--------------|--|

Check:

- all the injection fuses,
- the connection between the XR25 and the diagnostic socket,
- the position of the selector (S8),
- the conformity of the cassette.

Repair if necessary.

Check:

- the presence of + 12 V on track 16 and the earth on track 4 on the diagnostic socket.
- the connection between the XR25 and the diagnostic socket.

| | | | | |
|-------------------|----|---|---|-------------|
| Diagnostic socket | 15 | → | 4 | XR25 socket |
| | 7 | → | 8 | |


Repair if necessary.

Connect bornier **Sus. 1228** instead of the computer and check the insulation and continuity between the tracks:

| | | | | |
|---------|----|---|-------|-----------------------------------|
| Bornier | 38 | → | 15 | Diagnostic socket |
| | 11 | → | 7 | Diagnostic socket |
| | 2 | → | earth | Earth MH |
| | 3 | → | earth | Earth MH |
| | 24 | → | fuse | Engine – after ignition feed fuse |
| | 28 | → | 3 | Coil 1-5 |
| | 29 | → | 3 | Coil 2-6 |
| | 1 | → | 3 | Coil 3-4 |
| | 54 | → | 2 | Idle solenoid valve |

Repair.

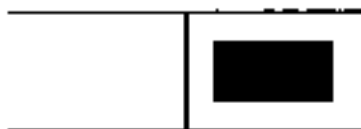
| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|--|--|
| <p style="text-align: center;">2</p>  | <p style="text-align: right;">Fiche n° 27 side 1/2</p> <p>Bargraph 2 LH side illuminated</p> <p><u>COMPUTER CIRCUIT</u></p> <p>XR25 aid : Computer fault if bargraph 2 LH side is illuminated</p> |
|--|--|

| | |
|---|--------------|
| <p style="text-align: center;">NOTES</p> | <p>None.</p> |
|---|--------------|

| |
|---|
| <p>Computer is not correct or is faulty.</p> <p>Replace the injection computer.</p> |
|---|


| | |
|--|--------------------------------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>Carry out a conformity check.</p> |
|--|--------------------------------------|

| | | |
|--|---|----------------------|
| 2  | Bargraph 2 RH side illuminated ENGINE IMMOBILISER CIRCUIT XR25 aid : *22 = X Def CO or CC + 12 V or CC- computer track 35 | Fiche n° 27 side 1/2 |
|--|---|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | |
|--|-----------|--------------|
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity of line: | | |
| Bornier | 35 ———▶ 5 | Decoder unit |
| Repair if necessary. | | |
| If the fault persists, refer to status bargraph 3 RH side. | | |


| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | | |
|--|---|----------------------|
| <p>3</p>  | <p>Bargraph 3 LH side illuminated</p> <p>AIR TEMPERATURE SENSOR CIRCUIT</p> <p>XR25 aid : #03 = -40 CO LINE 20 or 46 ; CC = 5V LINE 20 #03 = 119 CC EARTH LINE 20 ; CC LINE 46/20</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|

| | |
|--------------|--|
| NOTES | <p>If BG3RH ; BG4LH ; BG6RH ; BG12RH are illuminated, refer to BG6RH If BG6RH is illuminated, refer to BG6RH</p> |
|--------------|--|

| |
|---|
| Check the resistance of the air temperature sensor. |
| If the resistance is not correct, replace the air temperature sensor and erase the computer memory using G0**. |
| <p>Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity of the electrical wiring between tracks:</p> <p style="padding-left: 20px;">1 sensor connector 46 bornier 2 sensor connector 20 bornier</p> |
| If the electrical wiring is correct, replace the computer. |


| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|--|---|
| 3  | <p>Bargraph 3 RH side illuminated Fiche n° 27 side 1/2</p> <p>OXYGEN SENSOR CIRCUIT</p> <p>XR25 aid : #35 - 252 CO LINE 17 or 18 ; CC - LINE 17 #05 > 1V CC - 12V LINE 17 ; #05 = 0.390 CO LINE 17 or 18 #05 = 0V CC EARTH LINE 17 #35 = 128 CC - 12V LINE 17 ; CC + 12V LINE 18</p> |
|--|---|

| | |
|--------------|--|
| NOTES | <p>If BG3LH ; BG4LH ; BG6RH ; BG12RH are illuminated, refer to BG6RH</p> |
|--------------|--|

| |
|---|
| Check the connection and condition of the oxygen sensor connector. |
| Engine running, check for - 12V between tracks A and B on the oxygen sensor connector. |
| If there is not 1 12V, repair the wiring for the sensor heating circuit. |
| Ignition off, connect bornier Sus. 1228 in place of the computer and check the continuity and insulation of the wiring between tracks : C/17 and C/18 (sensor connector /bornier) |
| If necessary, repair the wiring. |
| The fault persists ! Replace the oxygen sensor |
| The fault persists! Replace the computer. |


| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | <p>Carry out a conformity check.</p> |
|---------------------|--------------------------------------|

| | |
|--|---|
| <p>4</p>  | <p>Bargraph 4 LH side illuminated</p> <p style="text-align: right;">Fiche n° 27 side 1/2</p> <p><u>COOLANT TEMPERATURE SENSOR CIRCUIT</u></p> <p>XR25 aid : #02 = -40°C CC = 5V LINE 15 ; CO LINE 15 or 44 ; CC LINE 45/15 #02 = 119°C CC EARTH LINE 15 ; CC LINE 15/44</p> |
|--|---|

| | |
|--------------|--|
| NOTES | <p>If BG5LH is illuminated, refer to BG4RH If BG3LH ; BG3RH ; BG6RH ; BG12RH are illuminated, refer to BG6RH</p> |
|--------------|--|

| | | | | | | | | |
|---|------------------------------|------------|------------------------------|------------|-------------------|------------|--------------------------|------------|
| Check the resistance of the coolant temperature sensor. | | | | | | | | |
| The resistance is not correct, replace the sensor. | | | | | | | | |
| <p>Connect the bornier Sus. 1228 instead of the computer and check the continuity and the insulation of the electrical wiring between the tracks:</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 40px;">1 coolant temperature sensor</td> <td style="padding-left: 100px;">15 bornier</td> </tr> <tr> <td style="padding-left: 40px;">2 coolant temperature sensor</td> <td style="padding-left: 100px;">44 bornier</td> </tr> <tr> <td style="padding-left: 40px;">C pressure sensor</td> <td style="padding-left: 100px;">45 bornier</td> </tr> <tr> <td style="padding-left: 40px;">C throttle potentiometer</td> <td style="padding-left: 100px;">45 bornier</td> </tr> </table> | 1 coolant temperature sensor | 15 bornier | 2 coolant temperature sensor | 44 bornier | C pressure sensor | 45 bornier | C throttle potentiometer | 45 bornier |
| 1 coolant temperature sensor | 15 bornier | | | | | | | |
| 2 coolant temperature sensor | 44 bornier | | | | | | | |
| C pressure sensor | 45 bornier | | | | | | | |
| C throttle potentiometer | 45 bornier | | | | | | | |
| Repair if necessary. | | | | | | | | |
| The fault persists! Replace the computer. | | | | | | | | |

| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | | |
|--|--|----------------------|
| <p>4</p>  | <p>Bargraph 4 RH side illuminated</p> <p><u>VEHICLE SPEED SENSOR CIRCUIT</u></p> <p>XR25 aid : CO or CC LINE 12</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

Carry out a road test and check the speed on the speedometer .

If the speed is zero, repair the wiring of track 12 of the computer and B of the sensor.


Check the connection and the feed of the speed sensor:

- 12V on track A
- earth on track C

Repair if necessary.

The fault persists! Replace the speed sensor.

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a road test.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|--|----------------------|
| 5  | <p>Bargraph 5 LH side illuminated</p> <p>ABSOLUTE PRESSURE SENSOR CIRCUIT</p> <p>XR25 aid : #01 = 103 mb CO LINE 16 or LINE 45 ; CC EARTH LINE 16</p> <p>#01 928 mb CO LINE 44</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|---|
| NOTES | <p>If BG4LH is illuminated, refer to BG4LH</p> <p>If BG6RH is illuminated, refer to BG6RH</p> |
|--------------|---|


| |
|---|
| Check the pressure sensor is electrically and pneumatically connected . |
| Ignition on, check that there is 1 5V between track C and earth on track A. |

| |
|--|
| There is not - 5V between track C and track A |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and continuity between the tracks: A sensor connector 44 bornier C sensor connector 45 bornier |
| Repair if necessary. |
| There is not + 5V ! The fault persists! Replace the computer. |

| |
|--|
| There is + 5V between track C and track A |
| Ignition on, check the return voltage (0.2 to 5 V) on track B of the sensor. Note: For this measurement, a vacuum pump can be used to check the voltage variation. |
| If the voltage does not vary, replace the sensor. |

| |
|---|
| The voltage varies |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and the continuity between track B of the sensor and 16 of the bornier. |
| Repair if necessary. |
| The fault persists! Replace the computer. |


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | |
|--|---|
| 5  | <p>Bargraph 5 RH side illuminated Fiche n° 27 side 1/2</p> <p><u>FLYWHEEL SIGNAL CIRCUIT</u></p> <p>XR25 aid : *25 = CO CO or CC + LINE 33 or 34 or CC LINE 33/34 *25 = CC.O INTERFERENCE</p> |
|--|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | |
|--|------------|
| Disconnect the sensor connector and check the resistance of the sensor between terminals A and B. | |
| The resistance is not 200 Ω. 50 ohms. Replace the sensor. | |
| The resistance is 200 ohms. | |
| Connect the bornier Sus. 1228 instead of the computer and check the continuity and the insulation of the wiring between the tracks: | |
| A sensor | 34 bornier |
| B sensor | 33 bornier |
| Repair if necessary. | |
| The fault persists! Replace the computer. | |


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|--|----------------------|
| <p>6</p>  | <p>Bargraph 6 LH side illuminated</p> <p>PINKING SENSOR CIRCUIT</p> <p>XR25 aid : #13 0 CC EARTH LINE 8 or 36 or CO LINE 8 or 36 or 44 *06 = CL1 FAULT WITH SENSOR 1 CL2 FAULT WITH SENSOR 2</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | | | | | | | | | | | | | |
|--|----------|-----------------------|-----------------------|----------|----------|-----------------------|-----------------------|--|--|----------------------|--|--|--|-----------------------|
| Check the wiring of the faulty sensor. | | | | | | | | | | | | | | |
| Repair if necessary. | | | | | | | | | | | | | | |
| <p>Connect bornier Sus. 1228 instead of the computer and check the insulation and the continuity of the electrical wiring between the tracks:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; vertical-align: middle;">Sensor 1</td> <td style="font-size: 3em; vertical-align: middle;">{</td> <td style="padding-left: 10px;">1 sensor / 44 bornier</td> <td style="width: 50px;"></td> <td style="text-align: center; vertical-align: middle;">Sensor 2</td> <td style="font-size: 3em; vertical-align: middle;">{</td> <td style="padding-left: 10px;">1 sensor / 44 bornier</td> </tr> <tr> <td></td> <td></td> <td style="padding-left: 10px;">2 sensor / 8 bornier</td> <td></td> <td></td> <td></td> <td style="padding-left: 10px;">2 sensor / 36 bornier</td> </tr> </table> | Sensor 1 | { | 1 sensor / 44 bornier | | Sensor 2 | { | 1 sensor / 44 bornier | | | 2 sensor / 8 bornier | | | | 2 sensor / 36 bornier |
| Sensor 1 | { | 1 sensor / 44 bornier | | Sensor 2 | { | 1 sensor / 44 bornier | | | | | | | | |
| | | 2 sensor / 8 bornier | | | | 2 sensor / 36 bornier | | | | | | | | |
| Repair if necessary. | | | | | | | | | | | | | | |
| The fault persists! Replace the pinking sensor. | | | | | | | | | | | | | | |


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | |
|---|--|
| 6 | Fiche n° 27 side 1/2 |
|  | <p>Bargraph 6 RH side illuminated</p> <p>THROTTLE POTENTIOMETER CIRCUIT</p> <p>XR25 aid : #17 = 0 CO LINE 45 or 19 or CC EARTH LINE 19 or 45 #17 = 255 CO LINE 46 or CC LINE 19/45 or CC + LINE 19</p> |

| | |
|--------------|---|
| NOTES | <p>If BG3LH is illuminated, refer to BG6RH If BG20RH is illuminated, refer to BG6RH If BG5LH is illuminated, refer to BG6RH If BG3LH ; BG3RH ; BG4LH ; BG12RH are illuminated, refer to BG6RH</p> |
|--------------|---|

| | | | | | | |
|--|-----------------|------------|-----------------|------------|-----------------|------------|
| Check the resistance of the throttle potentiometer between tracks B and C ($R = 1200\Omega \pm 20\%$). | | | | | | |
| Check the variation of the throttle potentiometer between tracks A and C. | | | | | | |
| B-C $< 1200\Omega \pm 20\%$ or A-C does not vary. Replace the throttle potentiometer. | | | | | | |
| B-C $> 1200\Omega \pm 20\%$ and A-C varies. | | | | | | |
| Connect the bornier Sus. 1228 instead of the computer and check the insulation and the continuity between tracks: | | | | | | |
| <table> <tr> <td>A potentiometer</td> <td>19 bornier</td> </tr> <tr> <td>B potentiometer</td> <td>46 bornier</td> </tr> <tr> <td>C potentiometer</td> <td>45 bornier</td> </tr> </table> | A potentiometer | 19 bornier | B potentiometer | 46 bornier | C potentiometer | 45 bornier |
| A potentiometer | 19 bornier | | | | | |
| B potentiometer | 46 bornier | | | | | |
| C potentiometer | 45 bornier | | | | | |
| Repair if necessary. | | | | | | |
| The fault persists! Replace the computer. | | | | | | |

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|---|----------------------|
| 8  | <p>Bargraph 8 LH side illuminated</p> <p>FUEL PUMP RELAY COMMAND CIRCUIT</p> <p>XR25 aid : *08 = CO.O CCEARTH LINE 48 *08 = CC.1 CC + 12V LINE 48 *08 = Def CO LINE 48</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|


| | |
|--------------|---|
| NOTES | If BG7LH is illuminated, refer to BG8LH |
|--------------|---|

| |
|--|
| Check the impact sensor is correctly clipped in. |
| On the fuel pump relay, check for + 12V between tracks 1 and 2, during the timed phase when the ignition is turned on. |

| |
|--|
| If there is - 12V between 1 and 2, replace the relay. |
| If there is not + 12V between 1 and 2, ignition on, check for + 12V on track 1 of the fuel pump relay. |
| If there is not + 12V on track 1, check the line of track 1 to the fuse. |
| If there is + 12V on track 1, connect bornier Sus. 1228 instead of the computer and check the continuity and insulation between track 2 of the relay and track 48 of the bornier. |
| Repair if necessary. |

| |
|---|
| The fault persists! Replace the injection computer. |
|---|

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|--|----------------------|
| 8  | Bargraph 8 RH side illuminated LOCKING RELAY CIRCUIT XR25 aid : *28 - CC.1 CC + 12V LINE 47 *28 - CC.0 CO or CC - LINE 47 | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

On the locking relay, when the ignition is turned on, check for + 12V between tracks 1 and 2.

If there is - 12V between tracks 1 and 2, replace the relay.

If there is not - 12V between tracks 1 and 2, ignition on, check for - 12V on track 1 of the locking relay.

If there is not + 12V on track 1, check the line for track 1 to the fuse.

If there is + 12V on track 1, connect **bornier Sus. 1228** in place of the computer and check the insulation and continuity between track 2 on the relay and track 47 on the bornier.


Repair if necessary.

The fault persists! Replace the injection computer.

AFTER REPAIR

Erase the computer memory using G0**.

Carry out a conformity check.

| | | |
|--|--|----------------------|
| <p>9</p>  | <p>Bargraph 9 LH side illuminated</p> <p>ANTIPERCOLATION CIRCUIT</p> <p>XR25 aid : *9 – CC.1 CC + 12V LINE 23 *9 – CC.0 CO or CC – LINE 23</p> | Fiche n° 27 side 1/2 |
|--|--|----------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

On the antipercolation relay, check for - 12V between tracks 1 and 2.

If there is - 12V between tracks 1 and 2, replace the relay.

If there is not + 12V between tracks 1 and 2, check for + 12V on track 1 of the antipercolation relay.


If there is not + 12V on track 1, check the line for track 1 to the fuse.

If there is + 12V on track 1, connect bornier **Sus. 1228** in place of the computer and check the insulation and continuity between track 2 on the relay and track 23 on the bornier.

Repair if necessary.

The fault persists! Replace the injection computer.

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|--|---|----------------------|
| <p>9</p>  | <p>Bargraph 9 RH side illuminated</p> <p>AIR PUMP RELAY CIRCUIT</p> <p>XR25 aid : *29 = CC.0 CO or CC EARTH LINE 49 *29 = CC.1 CC : 12V LINE49 or CC 49/52</p> | Fiche n° 27 side 1/2 |
|--|---|----------------------|


| | |
|--------------|--|
| NOTES | If BG 12RH is illuminated, refer to BG 12RH. |
|--------------|--|

On the air pump relay, check when the ignition is turned on for – 12V between tracks 1 and 2.

| |
|---|
| If there is + 12V between tracks 1 and 2, replace the relay. |
| If there is not + 12V between tracks 1 and 2, check for – 12V on track 1 of the air pump relay. |
| If there is + 12V on track 1, connect bornier Sus. 1228 in place of the computer and check the insulation and continuity between track 1 on the relay and track 52 on the bornier. |
| If there is - 12V on track 1, check the insulation and continuity between track 2 on the relay and track 49 on the bornier. |
| Repair if necessary. |

The fault persists! Replace the injection computer.


| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | |
|---|--|
| <p>11</p>  | <p>Bargraph 11 RH side illuminated Fiche n° 27 side 1/2</p> <p><u>AUTOMATIC TRANSMISSION --> INJECTION CONNECTION CIRCUIT</u></p> <p>XR25 aid : BG 11RH illuminated if there is a connection fault present, with AT.</p> |
|---|--|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>For automatic transmission only.</p> |
|---------------------|---|

| |
|--|
| <p>Connect bornier Sus. 1228 in place of the injection computer and check the insulation and continuity of computer line 7 and AT computer line 37.</p> <p>Repair.</p> |
| <p>The fault persists! Refer to AT fault finding.</p> |

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|----------------------------|---|

| | | |
|---|---|----------------------|
| <p>11</p>  | <p>Bargraph 11 LH side illuminated</p> <p>INJECTION CIRCUIT</p> <p>XR25 aid : *11 = X.CO.0 CO or CC EARTH LINE 4 or 30 *11 = X.CC.1 CC = 12V LINE 4 or 30 or CC 30/52 *11 = Def MEMORISED FAULT</p> | Fiche n° 27 side 1/2 |
|---|---|----------------------|

| | |
|--------------|---|
| NOTES | <p>X represents the cylinder N°.</p> <p>Starter motor operating, bargraph illuminates for 10 seconds.</p> |
|--------------|---|


Check the resistance of each injector ($R = 15 \Omega$).

The resistance is not correct
Replace the faulty injector(s).

The resistance is correct
Connect the barrier **Sus. 1228** instead of the computer and check the continuity and insulation between the injector connectors on track 7 and tracks 4 and 30.
Repair the wiring if necessary.

The fault persists! Replace the computer.

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|---|---|----------------------|
| <p>12</p>  | <p>Bargraph 12 LH side illuminated</p> <p><u>FAULT WARNING LIGHT CIRCUIT</u></p> <p>XR25 aid : *12 = CC.1 CC – 12V LINE 26</p> | Fiche n° 27 side 1/2 |
|---|---|----------------------|

| | |
|--------------|---|
| NOTES | <p>BG12LH only illuminates when there is a fault on the warning light circuit and another fault simultaneously (<i>which normally illuminates the warning light</i>).</p> |
|--------------|---|


Turn on the ignition and check that the fault warning light illuminates for 3 seconds.

If it does not illuminate, refer to the fault finding section for the instrument panel.

Repair if necessary.

The fault persists! Replace the computer.

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> <p>Disconnect the pressure sensor and check the bargraphs using the XR25.</p> <p>Erase the computer memory and carry out a conformity check.</p> |
|---------------------|---|

| | | |
|---|---|----------------------|
| 12  | Bargraph 12 RH side illuminated FUEL PUMP INFORMATION CIRCUIT XR25 aid : CO LINE 52 | Fiche n° 27 side 1/2 |
|---|---|----------------------|

| | |
|--------------|--|
| NOTES | If BG3LH ; BG3RH ; BG4LH ; BG6RH are illuminated, refer to BG6RH |
|--------------|--|


| |
|---|
| Check for the presence of + 12V on track 3 of the fuel pump relay. |
| Repair if necessary. |
| During the timed phase when the ignition is turned on, check for the presence of + 12V on track 5 of the relay. |

| |
|---|
| There is no + 12V on track 5 of the relay Replace the fuel pump relay. |
|---|

| |
|--|
| There is + 12V on track 5 of the relay Connect the bornier Sus. 1228 instead of the computer and check the continuity between track 5 of the fuel pump relay and track 52 of the computer. |
| Repair if necessary. |

| |
|---|
| The fault persists! Replace the computer. |
|---|

| | |
|---------------------|--|
| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
|---------------------|--|

| | | |
|---|---|----------------------|
| <p>14</p>  | <p>Bargraph 14 LH side illuminated</p> <p>IDLE REGULATION VALVE CIRCUIT</p> <p>XR25 aid : *14 = Def CO or CC EARTH LINE 54 *14 ... CC.1 CC + 12V LINE 54</p> | Fiche n° 27 side 1/2 |
|---|---|----------------------|

| | |
|--------------|---|
| NOTES | <p>With no fault, #12 should vary. If BG 8RH is illuminated, refer to BG 8RH</p> |
|--------------|---|


| |
|--|
| <p>Check the resistance of the winding between tracks 1 and 2 of the idle speed valve ($R = 20 \Omega$).</p> |
| <p>If the resistance is not correct, replace the idle speed regulation valve.</p> |
| <p>When the ignition is turned on, check during the timed phase for the presence of 12V on track 1 of the idle speed regulation valve.</p> |

| |
|--|
| <p>There is not +12V on track 1 Check the continuity between track 1 of the idle speed regulation valve connector and track 5 of the locking relay.</p> |
| <p>Repair if necessary.</p> |

| |
|---|
| <p>There is +12V on track 1 Connect the bornier 5us. 1228 instead of the computer. Check the insulation and the continuity of the wiring between track 2 of the idle speed regulation valve connector and track 54 of the bornier.</p> |
| <p>Repair if necessary.</p> |

| |
|--|
| <p>The fault persists! Replace the computer.</p> |
|--|

| | |
|---------------------|---|
| AFTER REPAIR | <p>Erase the computer memory using G0**. Carry out a conformity check.</p> |
|---------------------|---|

| | | |
|---|--|----------------------|
| 14 | Bargraph 14 RH side illuminated CANISTER BLEED CIRCUIT | Fiche n° 27 side 1/2 |
|  | XR25 aid : *34 = CO.0 CO or CC EARTH LINE 50 *34 = CC.1 CC + 12V LINE 50 *34 Def MEMORISED FAULT | |

| | |
|--------------|--------------|
| NOTES | #23 variable |
|--------------|--------------|

Check the resistance of the canister bleed valve between tracks A and B ($R \approx 36 \Omega$).

The resistance is not correct.
Replace the canister bleed valve.

The resistance is correct.
Engine idling, check for the presence of + 12V on track A of the canister bleed valve.


There is not + 12V on track A
Repair the wiring between track A of the canister bleed valve and track 5 on the fuel pump relay.

There is + 12V on track A
Connect the bornier **Sus. 1228** instead of the computer and check the insulation and the continuity of the electrical wiring between track B of the canister bleed valve and 50 of the bornier.

Repair if necessary.

The fault persists! Replace the injection computer.


| | |
|---------------------|--|
| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
|---------------------|--|

| | |
|---|---|
| <p>15</p>  | <p>Bargraph 15 LH side illuminated Fiche n° 27 side 1/2</p> <p><u>AIR CONDITIONING INJECTION CONNECTION CIRCUIT</u></p> <p>XR25 aid : CC + 12 V on computer line 51</p> |
|---|---|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Check that the vehicle has air conditioning and that it is operating, and if not, examine the other bargraphs</p> |
|---------------------|--|

| | |
|--|--|
| <p>Connect bornier Sus. 1228 in place of the computer and bornier ELE. 1391 in place of the driver's air conditioning and heating control.</p> <p>Bornier Sus. 1228 track 51 \longrightarrow Bornier ELE. 1391 track A6</p> <p>Check the insulation and continuity of the line.</p> <p>Repair if necessary.</p> | |
| <p>The fault persists, refer to checking the status bargraphs 9LH, 10LH, 10RH.</p> | |

| | |
|----------------------------|--------------------------------------|
| <p>AFTER REPAIR</p> | <p>Carry out a conformity check.</p> |
|----------------------------|--------------------------------------|

| | | |
|---|---|----------------------|
| <p>16</p>  | <p>Bargraph 16 LH side illuminated</p> <p>IGNITION COIL CIRCUIT</p> <p>XR25 aid : *16 = 1.5 CC CO ON LINE 28 *16 = 2.6 CC CO ON LINE 29 *16 = 3.4 CC CO ON LINE 1</p> | Fiche n° 27 side 1/2 |
|---|---|----------------------|

| | |
|--------------|---|
| NOTES | If there is CC EARTH, the fuse has blown and there is no dialogue with the XR25 |
|--------------|---|

Check the resistance of the faulty coil ($R \approx 1 \Omega$).

The resistance is not correct.
Replace the faulty coil.


The resistance is correct

Connect the bornier **Sus. 1228** instead of the computer and check the insulation and continuity of line 28/3 for coil 1 or 29/3 for coil 2 or 1/3 for coil 3 (bornier / coil).

Repair the faulty line.

The fault persists! Replace the computer.

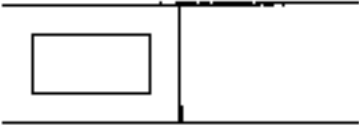
| | |
|---------------------|--|
| AFTER REPAIR | Erase the computer memory using G0**. Carry out a conformity check. |
|---------------------|--|

| | |
|--|--|
| <p>2</p>  | <p>Bargraph 2 LH, 2 RH, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>THROTTLE POSITION CIRCUIT</u></p> <p>XR25 aid : BG 2LH illuminated if full load BG 2RH illuminated if no load BG 2LH and BG 2RH extinguished if middle position.</p> |
|--|--|

| | |
|--------------|--|
| NOTES | No fault bargraph should be illuminated. |
|--------------|--|

| |
|---|
| The fault is not electrical. Check the mechanics of the accelerator circuit (cable, accelerator pedal, ...). |
|---|

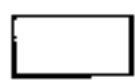
| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|--|--|
| <p style="text-align: center;">3</p>  | <p>Bargraph 3 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>FLYWHEEL SIGNAL CIRCUIT</u></p> <p>XR25 aid : BG 3LH illuminated engine running</p> |
|--|--|

| | |
|---|---|
| <p style="text-align: center;">NOTES</p> | <p>Dealt with in the fault bargraph 5RH side.</p> |
|---|---|

| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

3

**Bargraph 3 RH side, incorrect illumination**

Fiche n° 27 side 2/2

ENGINE IMMOBILISER CIRCUIT

XR25 aid : BG 3RH side illuminated, engine immobiliser active

NOTES

Check the use of the correct PLIP if no fault bargraph is illuminated.


XR25 as a pulse detector, **G** and Vin.Connect bornier **Sus. 1228** in place of the computer. Check for pulses on track 35 of the bornier when the PLIP is pressed

If pulses are noted, replace the injection computer.

If no pulses are noted, refer to the immobiliser fault finding section.

AFTER REPAIR


Carry out a conformity check.

| | |
|--|---|
| <p>4</p>  | <p>Bargraph 4 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>PARK/NEUTRAL POSITION CIRCUIT</u></p> <p>XR25 aid : Illuminated if transmission is in Park or Neutral position</p> |
|--|---|

| | |
|--------------|--|
| NOTES | <p>Only with automatic transmission.</p> |
|--------------|--|

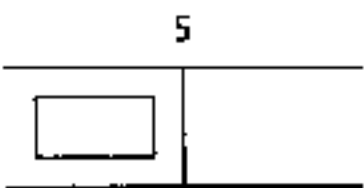
| |
|---|
| <p>XR25 as voltmeter V and Vin.</p> <p>Connect bornier Sus. 1228 in place of the computer.</p> <p>Connect a wire to Vin and track 7 on the injection computer.</p> <p>Ignition on, move the selector lever into and out of position P/N - the reading should change from 0 V to 5 V.</p> |
| <p>If correct, replace the injection computer.</p> |
| <p>If you do not note 0 V / 5 V, check the insulation and continuity of the line:</p> <p style="text-align: center;">Injection computer 7 \longrightarrow 37 AT computer</p> <p>Repair if necessary.</p> |
| <p>The fault persists! Refer to the automatic transmission fault finding.</p> |

| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | <p>Carry out a conformity check.</p> |
|---------------------|--------------------------------------|

| | |
|--|--|
| <p style="text-align: center;">4</p>  | <p>Bargraph 4 RH side, incorrect illumination Fiche n° 27 side 2/2 + AFTER IGNITION CIRCUIT</p> <p>XR25 aid : BG 4RH illuminated if + after ignition is present</p> |
|--|--|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
|---------------------|--|

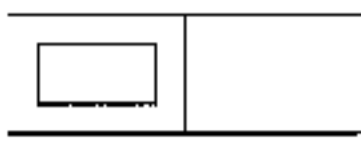
| | |
|----------------------------|--------------|
| <p>AFTER REPAIR</p> | <p>None.</p> |
|----------------------------|--------------|

| | |
|---|--|
|  <p>The diagram shows a rectangular bargraph with a horizontal line across the top and bottom. A vertical line divides it into two halves. The number '5' is centered above the top line. The left half contains a smaller rectangle, representing an illuminated indicator.</p> | <p>Bargraph 5 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>TORQUE REDUCTION CIRCUIT</u></p> <p>XR25 aid : Illuminated each time the gear is changed for automatic transmission</p> |
|---|--|

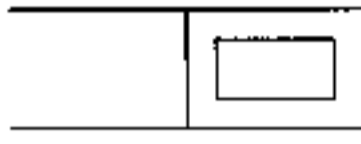
| | |
|---------------------|---|
| <p>NOTES</p> | <p>Only with automatic transmission. Status bargraph 4 LH side must illuminate correctly.</p> |
|---------------------|---|

If status bargraph 4 LH side illuminates correctly, the injection computer is not at fault.
Refer to the automatic transmission fault finding.

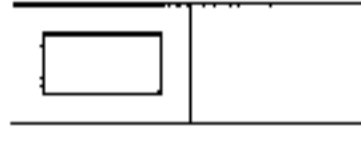
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Carry out AT fault finding if status bargraph 4 LH side is illuminated correctly.</p> |
|----------------------------|--|

| | |
|--|---|
| <p>6</p>  | <p>Bargraph 6 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>RICHNESS REGULATION CIRCUIT</u></p> <p>XR25 aid : BG 6LH illuminated when the richness is regulated (Engine running)</p> |
|--|---|


| | |
|---------------------|-----------------------------------|
| <p>NOTES</p> | Dealt with under fault bargraphs. |
|---------------------|-----------------------------------|

| | |
|---|--|
| <p>6</p>  | <p>Bargraph 6 RH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>IDLE REGULATION CIRCUIT</u></p> <p>XR25 aid : BG 6RH illuminated engine running</p> |
|---|--|

| | |
|---------------------|-----------------------------------|
| <p>NOTES</p> | Dealt with under fault bargraphs. |
|---------------------|-----------------------------------|

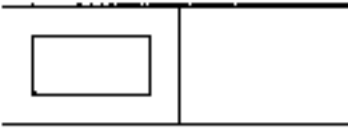
| | |
|--|---|
| <p>7</p>  | <p>Bargraph 7 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>FUEL PUMP COMMAND CIRCUIT</u></p> <p>XR25 aid : BG 7LH illuminated ignition on</p> |
|--|---|

| | |
|---------------------|-----------------------------------|
| <p>NOTES</p> | Dealt with under fault bargraphs. |
|---------------------|-----------------------------------|

| | |
|--|---|
| <p>7</p>  | <p>Bargraph 7 RH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>CANISTER BLEED CIRCUIT</u></p> <p>XR25 aid : BG 7RH illuminated when canister bleed authorised</p> |
|--|---|



| | |
|---------------------|-----------------------------------|
| <p>NOTES</p> | Dealt with under fault bargraphs. |
|---------------------|-----------------------------------|

| | |
|----------------------------|-------|
| <p>AFTER REPAIR</p> | None. |
|----------------------------|-------|

| | |
|--|--|
| <p style="text-align: center;">8</p>  | <p>Bargraph 8 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>ANTIPERCOLATION COMMAND CIRCUIT</u></p> <p>XR25 aid : BG 8LH illuminated when antipercolation active</p> |
|--|--|

| | |
|---|--|
| <p style="text-align: center;">NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
|---|--|

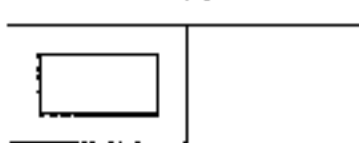
| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

| | |
|---|---|
| <p>9</p>  | <p>Bargraphs 9LH, 10LH, 10RH incorrect illumination Fiche n° 27 side 2/2</p> <p>AIR CONDITIONING CIRCUIT</p> <p>XR25 aid : 9LH illuminated if air conditioning selected 10LH illuminated if air conditioning requested 10RH illuminated if air conditioning authorised</p> |
| <p>10</p>  | |

| | |
|--------------|---|
| NOTES | All fault bargraphs must be dealt with, air conditioning must be fitted on the vehicle and selected |
|--------------|---|

| | |
|--|---|
| <p>Connect bornier SUS. 1228 in place of the computer and bornier ELE. 1391 in place of the driver's air conditioning and heating control and check the insulation and continuity between track :</p> | |
| <p>Bornier SUS. 1228</p> | <p>6 —————> B15 51 —————> A6 Bornier ELE. 1391</p> |
| <p>Repair if necessary.</p> | |
| <p>XR25 on voltmeter <input type="text" value="V"/> , check on track 6 of the bornier for the presence of 12 V. There is not 12 V, refer to the air conditioning fault finding section.</p> | |
| <p>XR25 on voltmeter <input type="text" value="V"/> , injection computer connected, check for the presence of 12 V on track A6 of bornier ELE. 1391.</p> <p>There is not 12 V, replace the injection computer.</p> <p>There is 12 V, refer to the air conditioning fault finding section.</p> | |

| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|---|--|
| <p style="text-align: center;">11</p>  | <p>Bargraph 11 LH side, incorrect illumination Fiche n° 27 side 2/2</p> <p><u>CAMSHAFT SIGNAL CIRCUIT</u></p> <p>XR25 aid : BG 11LH illuminated engine running</p> |
|---|--|

| | |
|---|--|
| <p style="text-align: center;">NOTES</p> | <p>Dealt with under fault bargraphs.</p> |
|---|--|

| | |
|--|--------------|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>None.</p> |
|--|--------------|

NOTES

Only refer to these customer complaints after having performed a complete test using the XR25

STARTING PROBLEMS

| | |
|----------------------|---------|
| Does not start | Chart 1 |
| Starts but stalls | Chart 2 |
| Starting is too long | Chart 3 |

IDLE PROBLEMS

| | |
|-----------------|---------|
| Too fast | Chart 4 |
| Too slow | Chart 5 |
| Engine unstable | Chart 6 |
| Hunting | Chart 7 |

BEHAVIOUR WHEN DRIVING

| | |
|--------------------------|---------|
| Lacks performance | Chart 8 |
| Misfiring and hesitation | Chart 9 |

SMOKE - POLLUTION

| | |
|-----------------------|----------|
| CO and/or HC too high | Chart 10 |
|-----------------------|----------|

HIGH PETROL CONSUMPTION

Chart 11

ENGINE NOISE

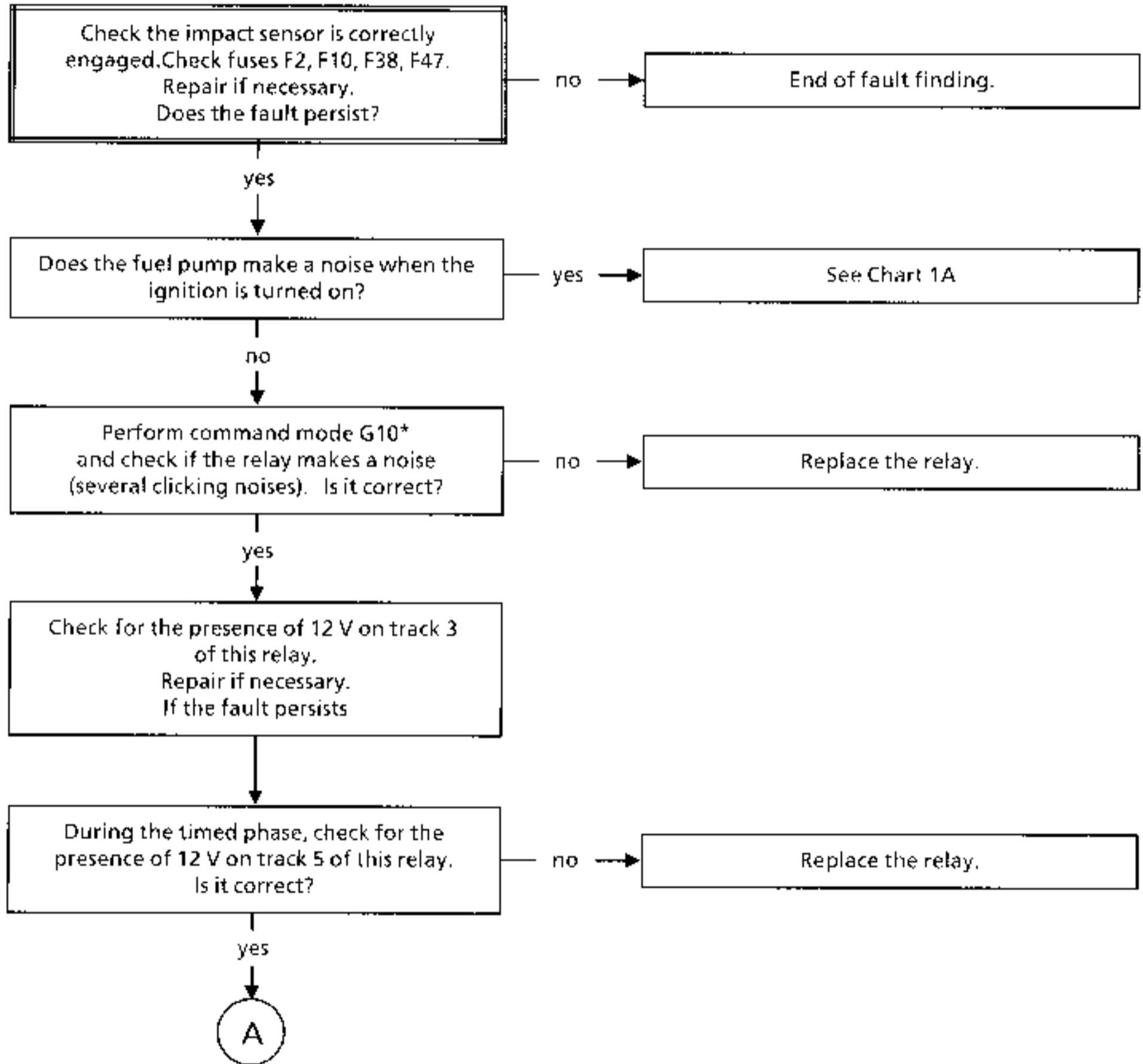
| | |
|---------|----------|
| Pinking | Chart 12 |
|---------|----------|

Chart 1

STARTING PROBLEMS
Does not start

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 1
CONT

A

During the timed phase,
check for the presence of + 12 volts between
tracks 2 and 4 of the fuel pump connector.
Is it correct?

no

Repair the wiring
between tracks :

| | | |
|--|---|--------------------------|
| Fuel pump sender unit connector | } | 4 → earth |
| | | 2 → 5 on fuel pump relay |

yes

Replace the fuel pump.

AFTER REPAIR

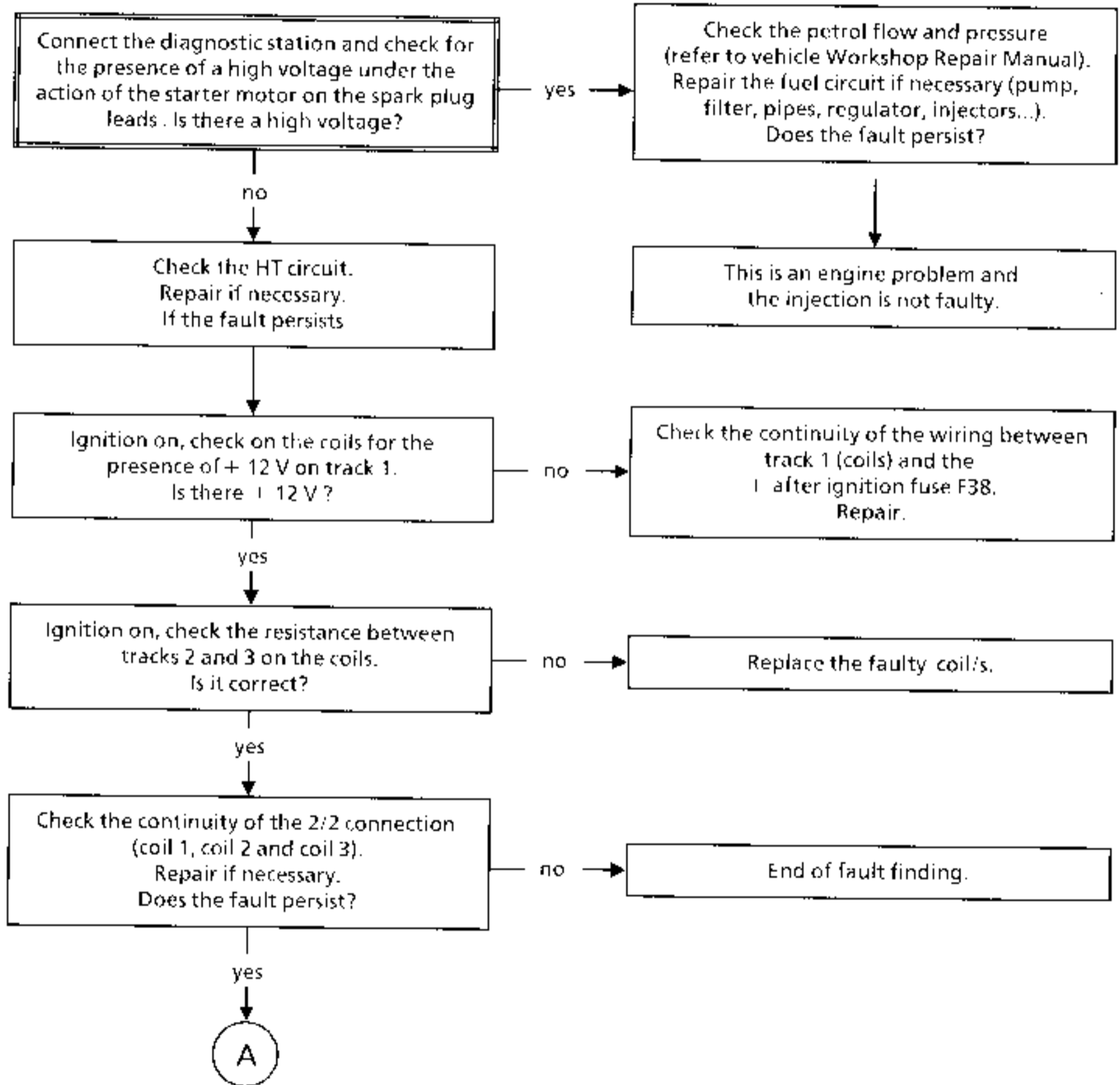
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 1A

STARTING PROBLEMS
Does not start

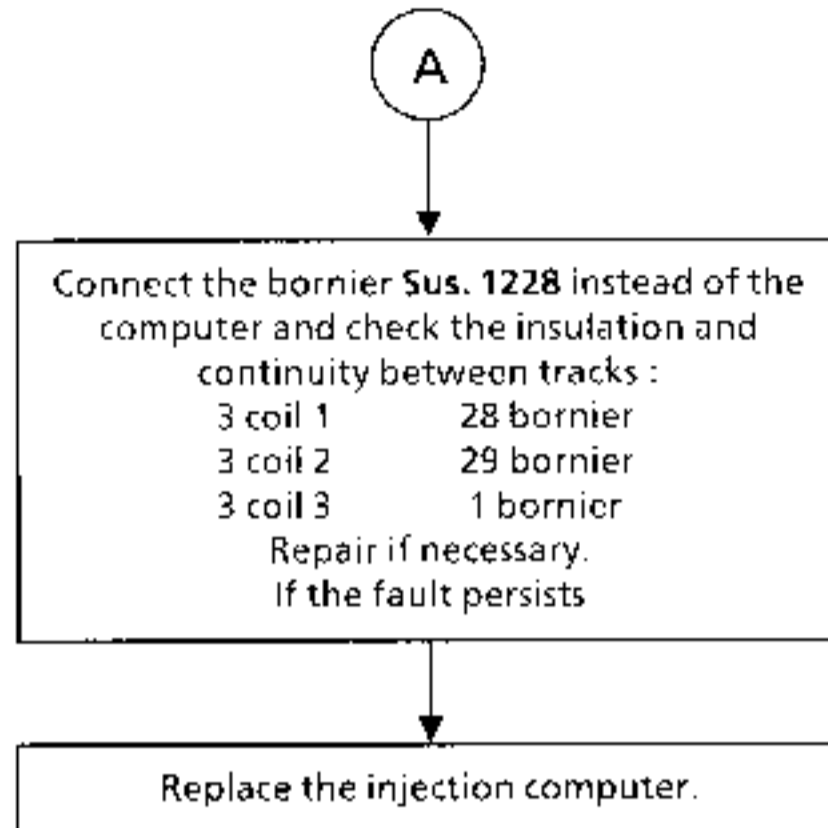
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25.



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 1A
CONT**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 2

STARTING PROBLEMS
The engine starts but stalls**NOTES**

Only refer to this customer complaint after having performed a complete test using the XR25

Ignition on,
check on the XR25
the value on #12.
Is it between 93 and 97 %?

no

Refer to bargraph 14 LH fault chart.

yes

Check the air inlet circuit and the exhaust
pipe.
Repair if necessary.
If the fault persists

Check the petrol flow and pressure.
Repair if necessary [pump, filter, regulator,
pipes, injectors (scaling) ...]
If the fault persists

This is an engine problem
and the injection is not faulty.

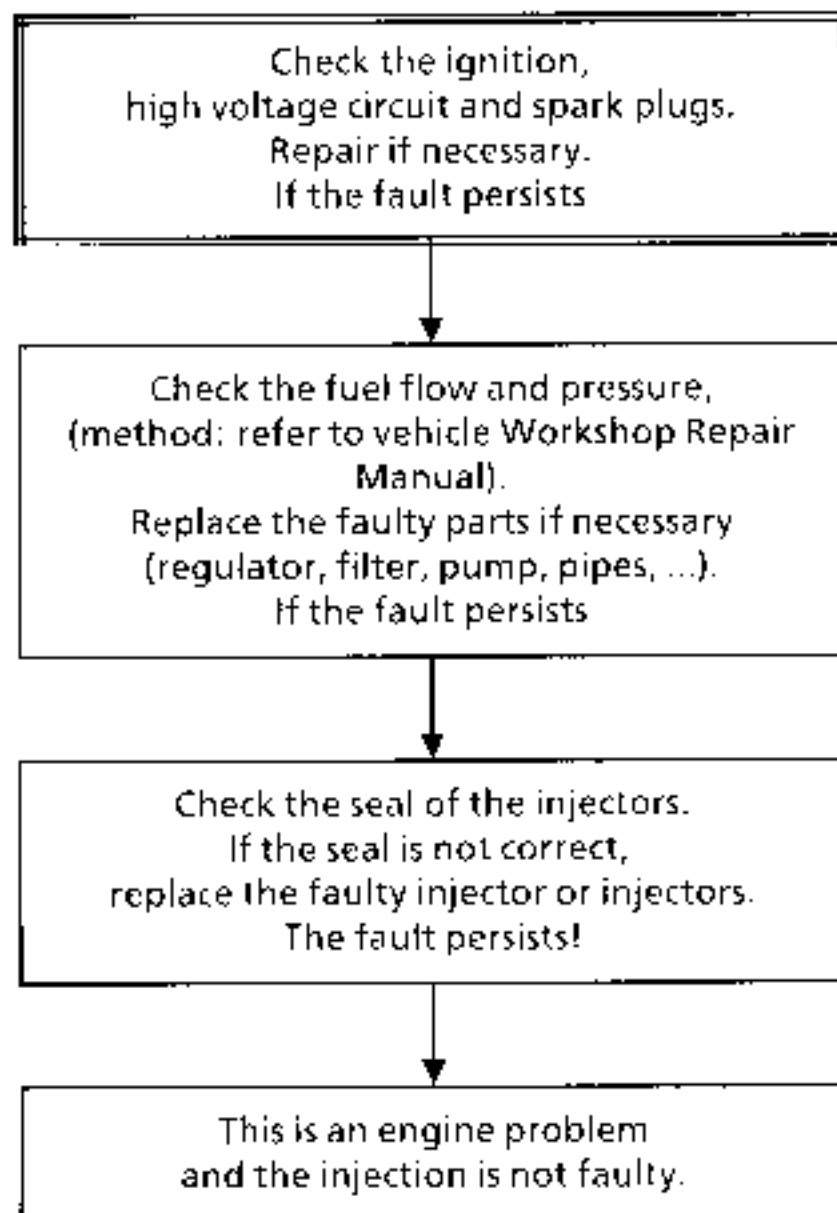
AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using GO**
Carry out a conformity check

Chart 3

STARTING PROBLEMS
Starting is too long**NOTES**

Only refer to this customer complaint after having performed a complete test using the XR25

**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 4

IDLE PROBLEMS
Idle too fast

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25.
R > 750 rpm or #12 < 27 %

Check there is no air leak on the inlet (seals, take-off points on the inlet manifold, plugs, ...).
Repair if necessary.
If the fault persists

Check on the throttle body that it is up against the lower mechanical stop (#17 < 47). Also check the accelerator control.
Repair if necessary.
If the fault persists

Check the fuel pressure is not too high.
Repair if necessary
(injectors, pump, pressure regulator, pipes, ...).
The fault persists!

The injection is not faulty.
Check the engine.

AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 5

IDLE PROBLEMS
Idle too slow

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25
R < 650 rpm or #12 > 37 %

Check the ignition, high voltage leads, coil and power stages.
Repair if necessary.
If the fault persists

Check the fuel pressure is not too low.
Repair if necessary
(injectors, pump, regulator,
pipes, ...).
The fault persists!

The injection is not faulty.
Check the engine.

AFTER REPAIR

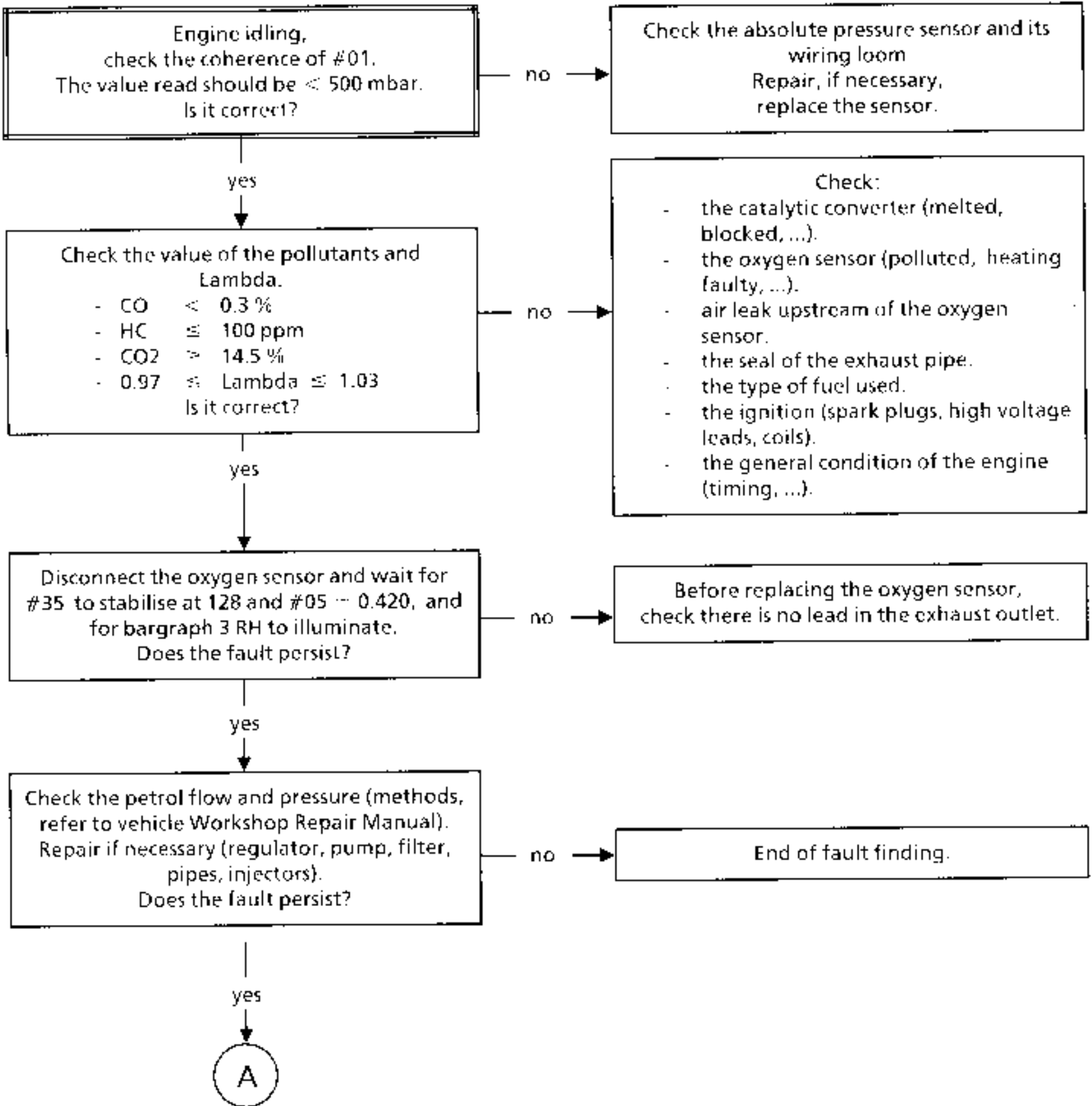
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 6

IDLE PROBLEMS
Engine unstable

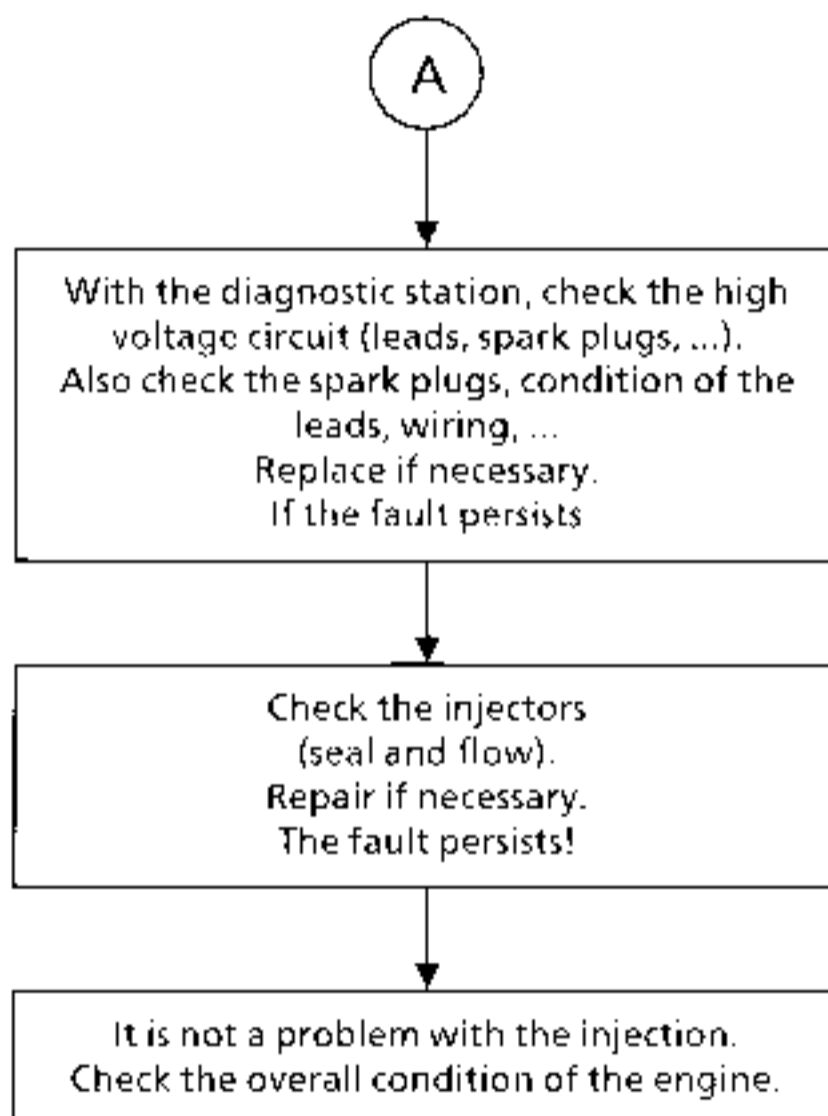
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 6
CONT**AFTER REPAIR**

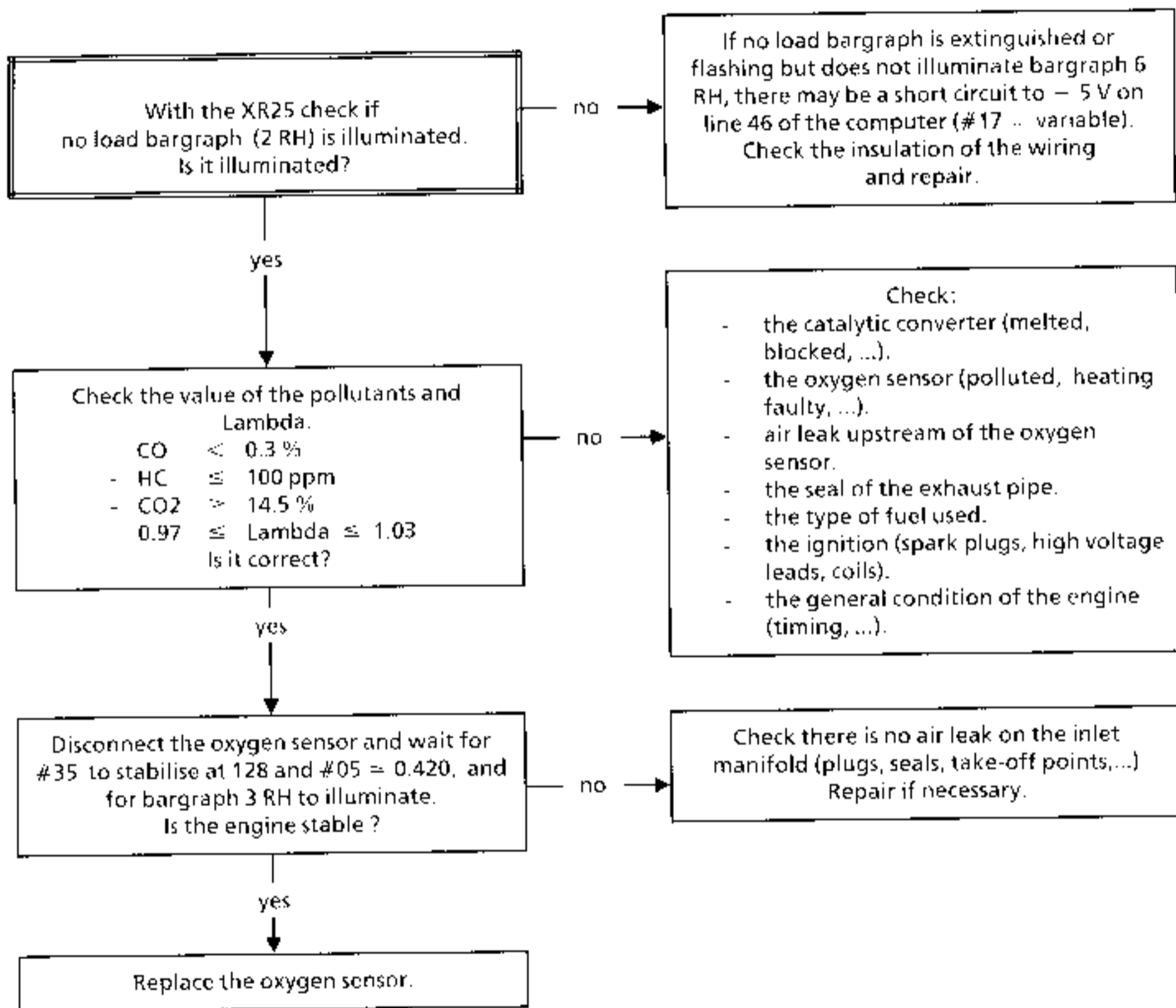
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 7

IDLE PROBLEMS
Hunting

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

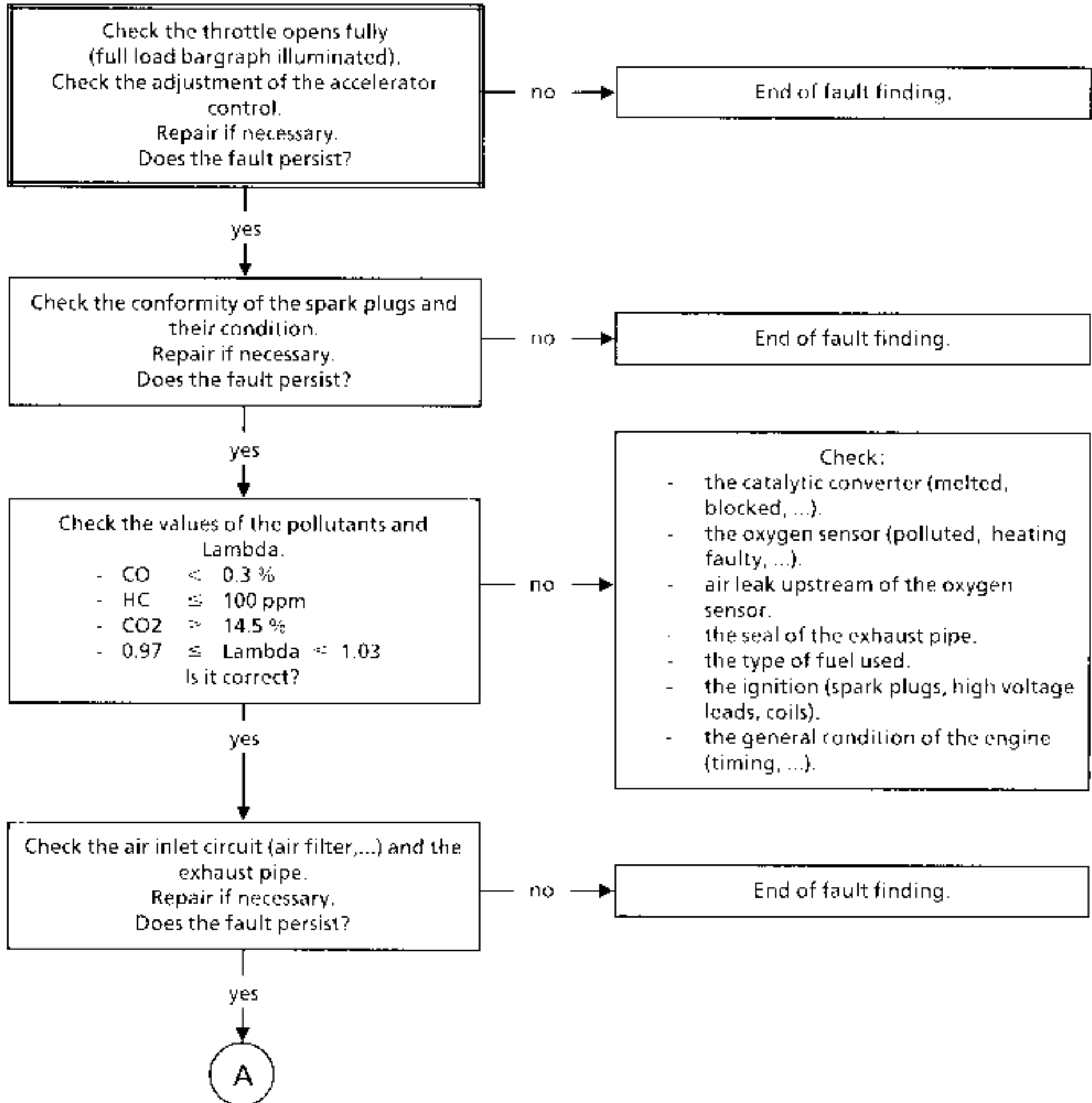
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 8

BEHAVIOUR WHEN DRIVING
Lacks performance

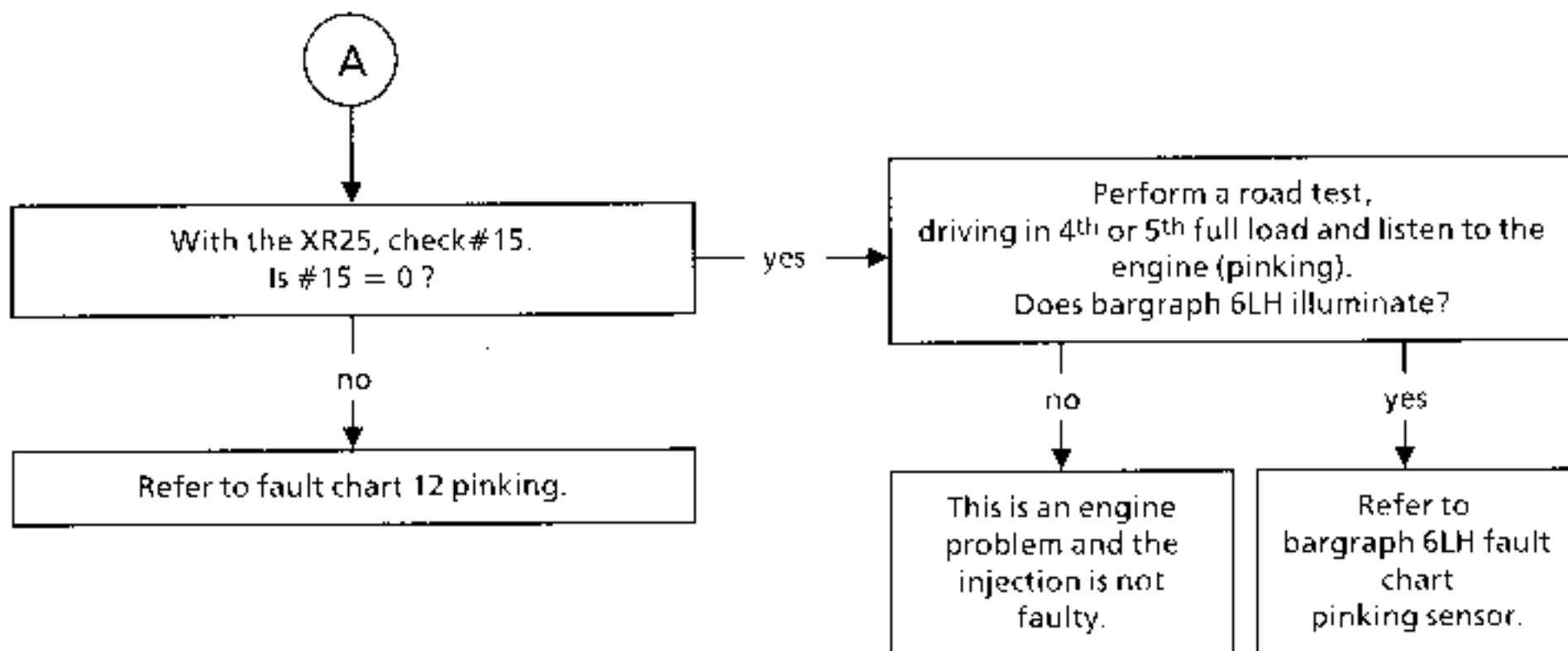
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 8
CONT**AFTER REPAIR**

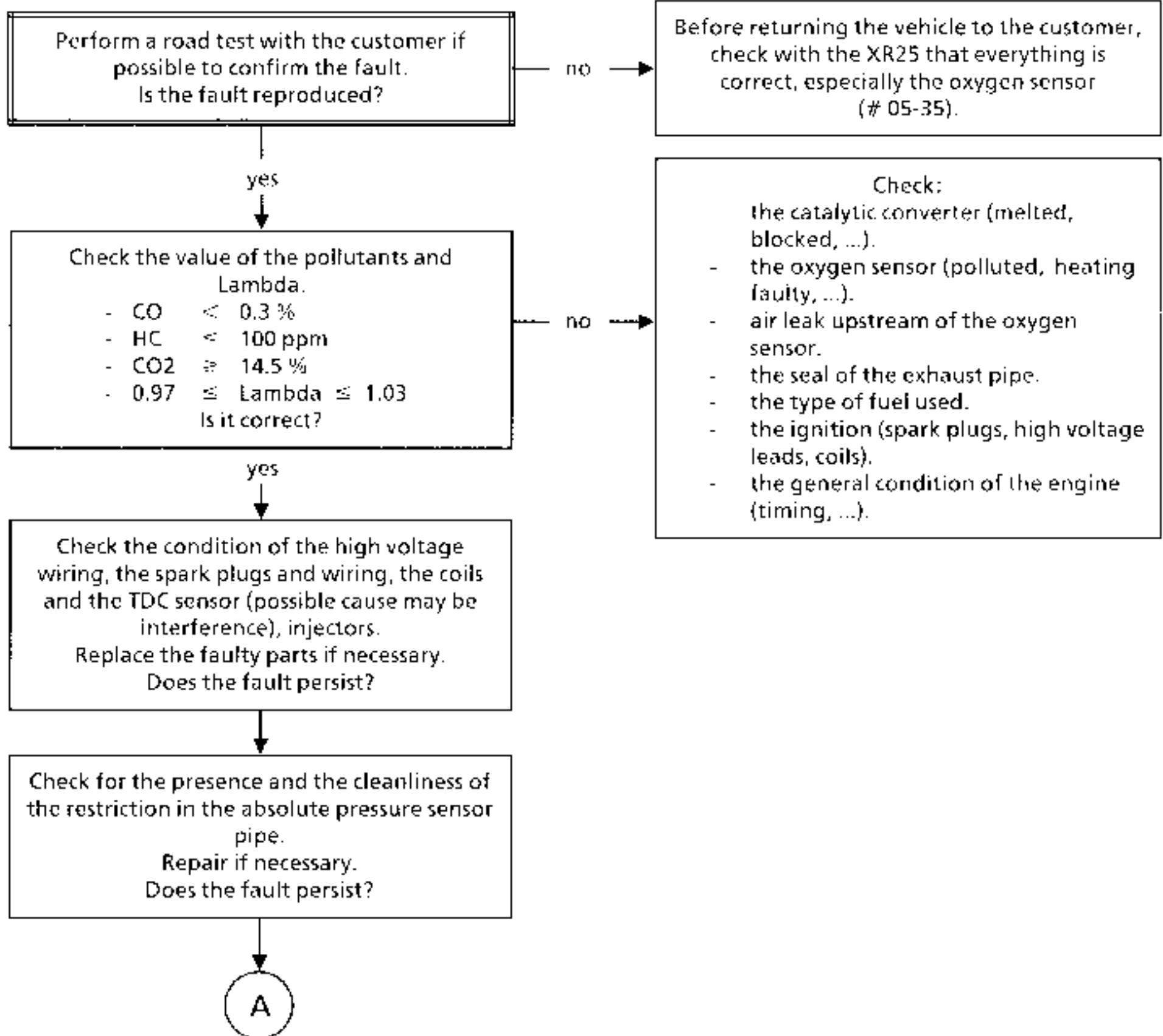
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 9

BEHAVIOUR WHEN DRIVING
Misfiring and hesitation

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

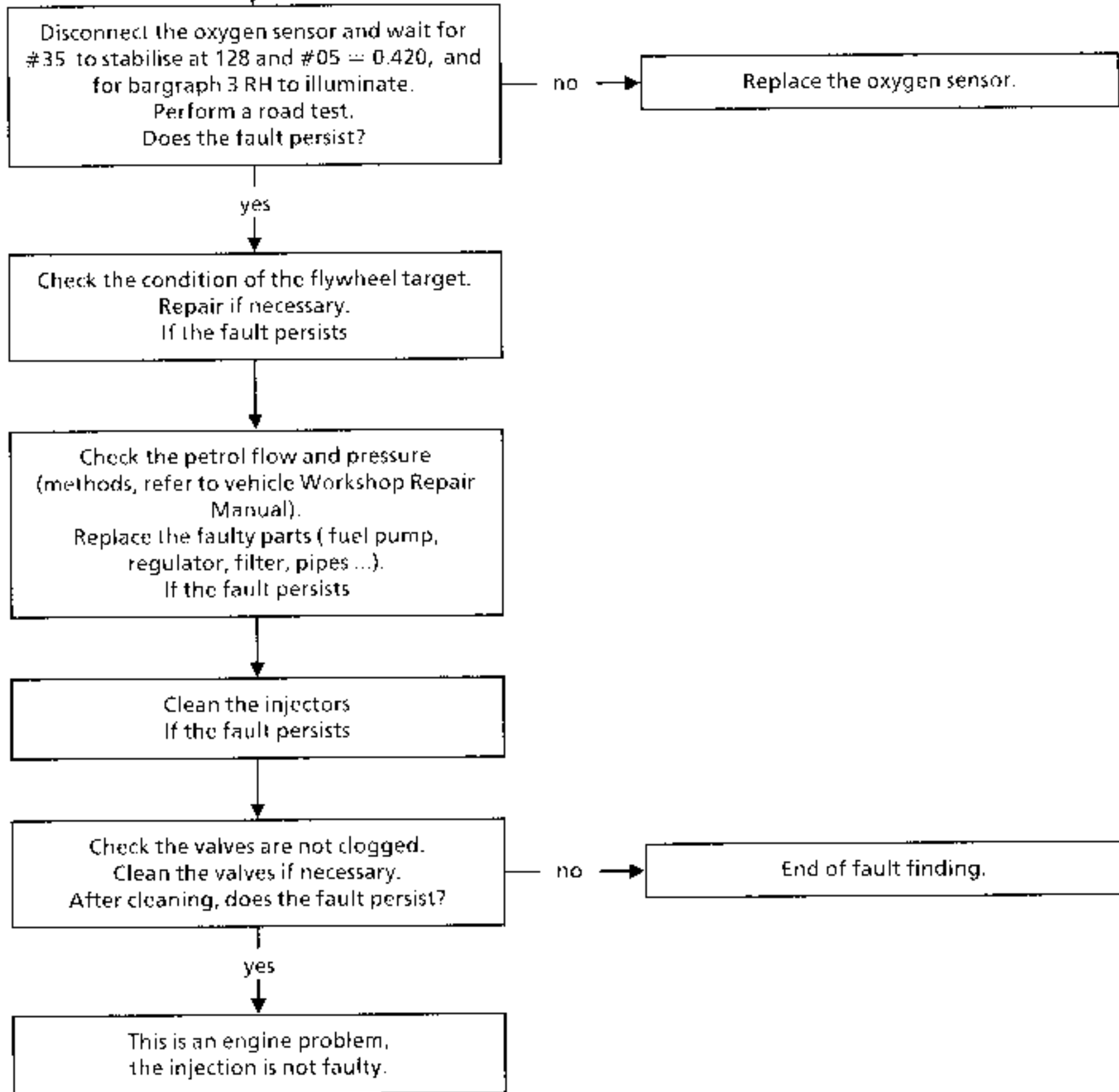


AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

| | |
|------------------------|--|
| Chart 9 CONT | |
|------------------------|--|

A

**AFTER REPAIR**

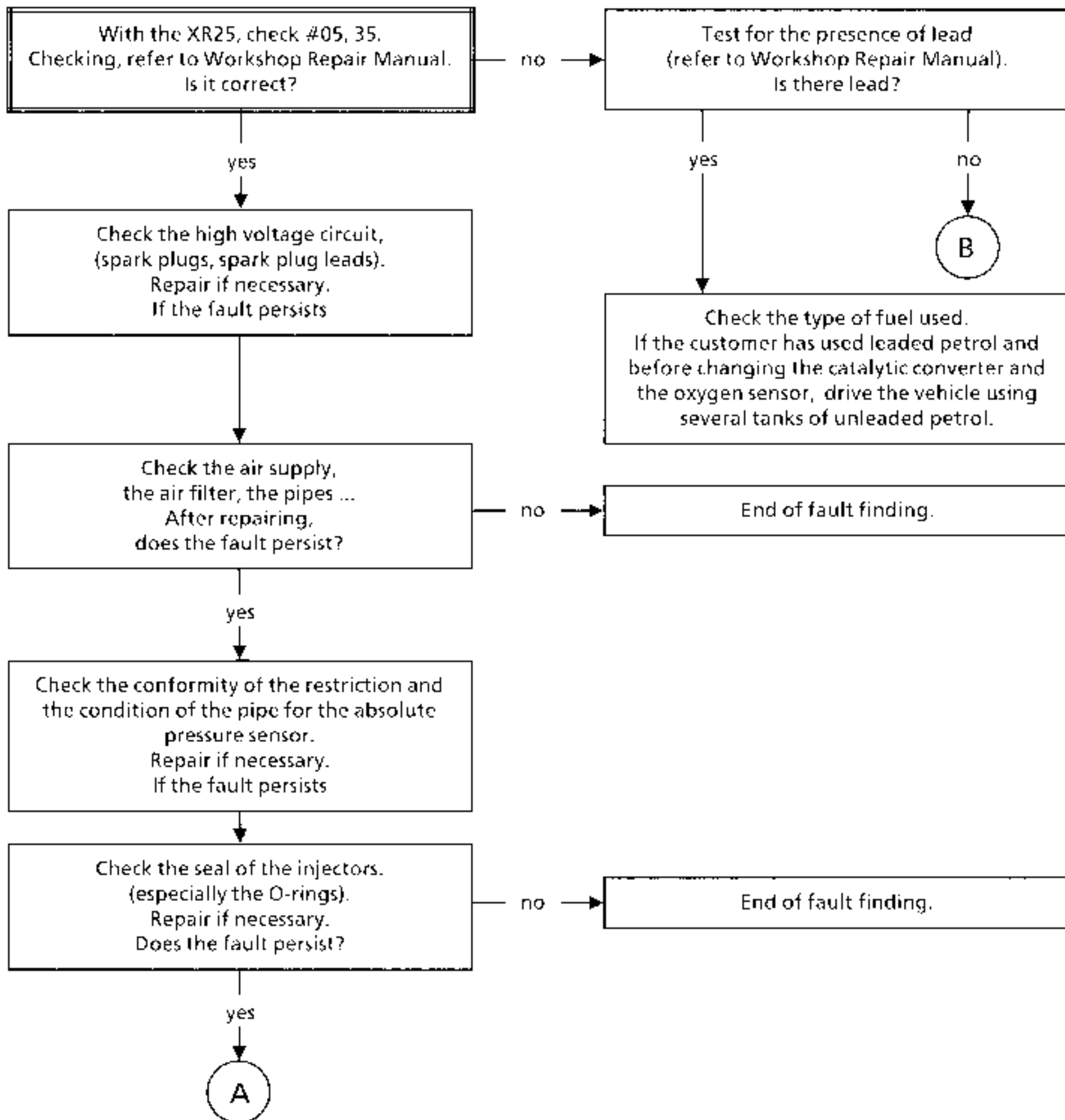
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 10

SMOKE - POLLUTION
CO and/or HC too high

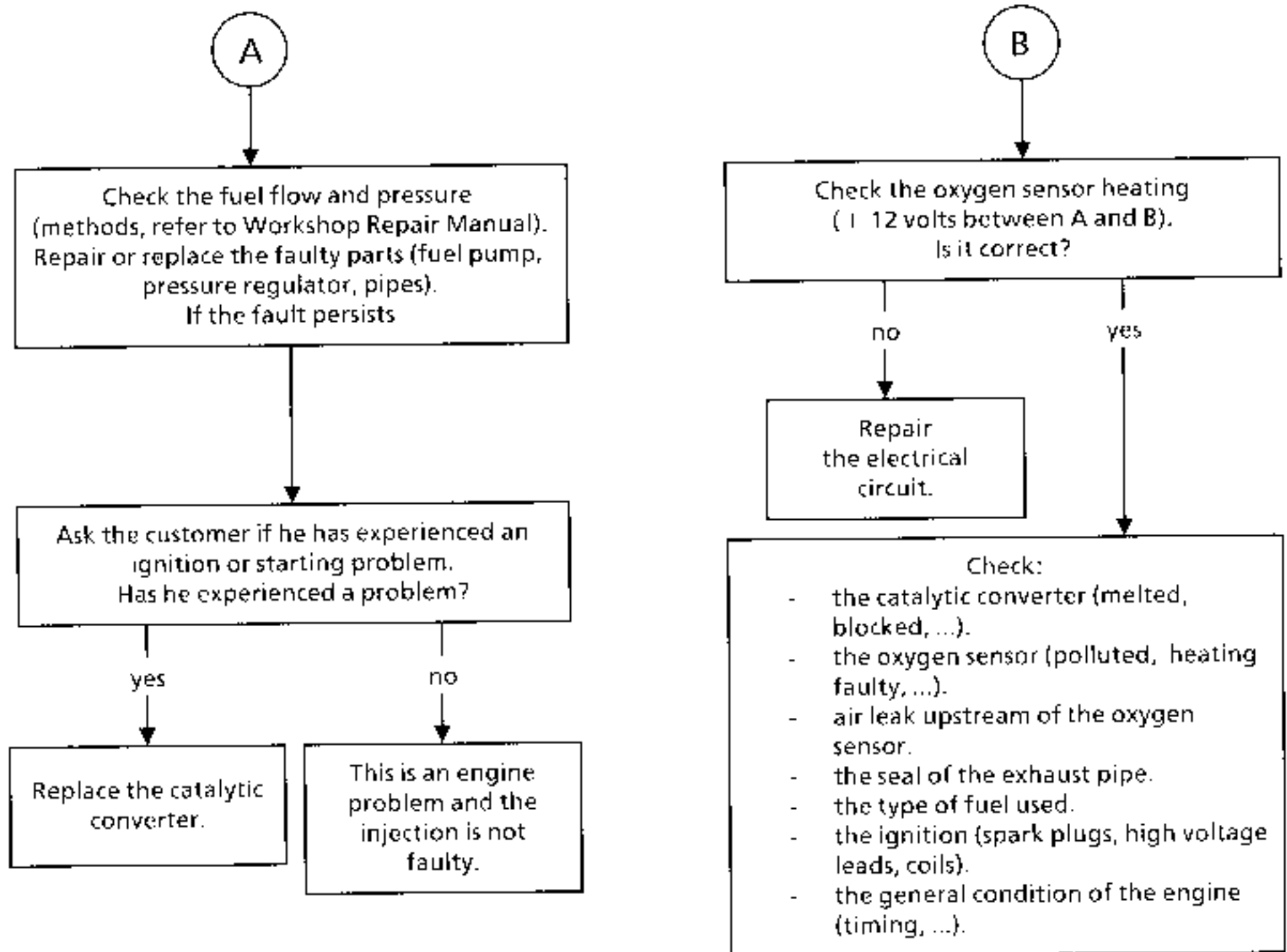
NOTES

Only refer to this customer complaint after having performed a complete test using the XR25
CO and / or HC too high CO > 0.3 % HC > 100 ppm



AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 10
CONT**AFTER REPAIR**

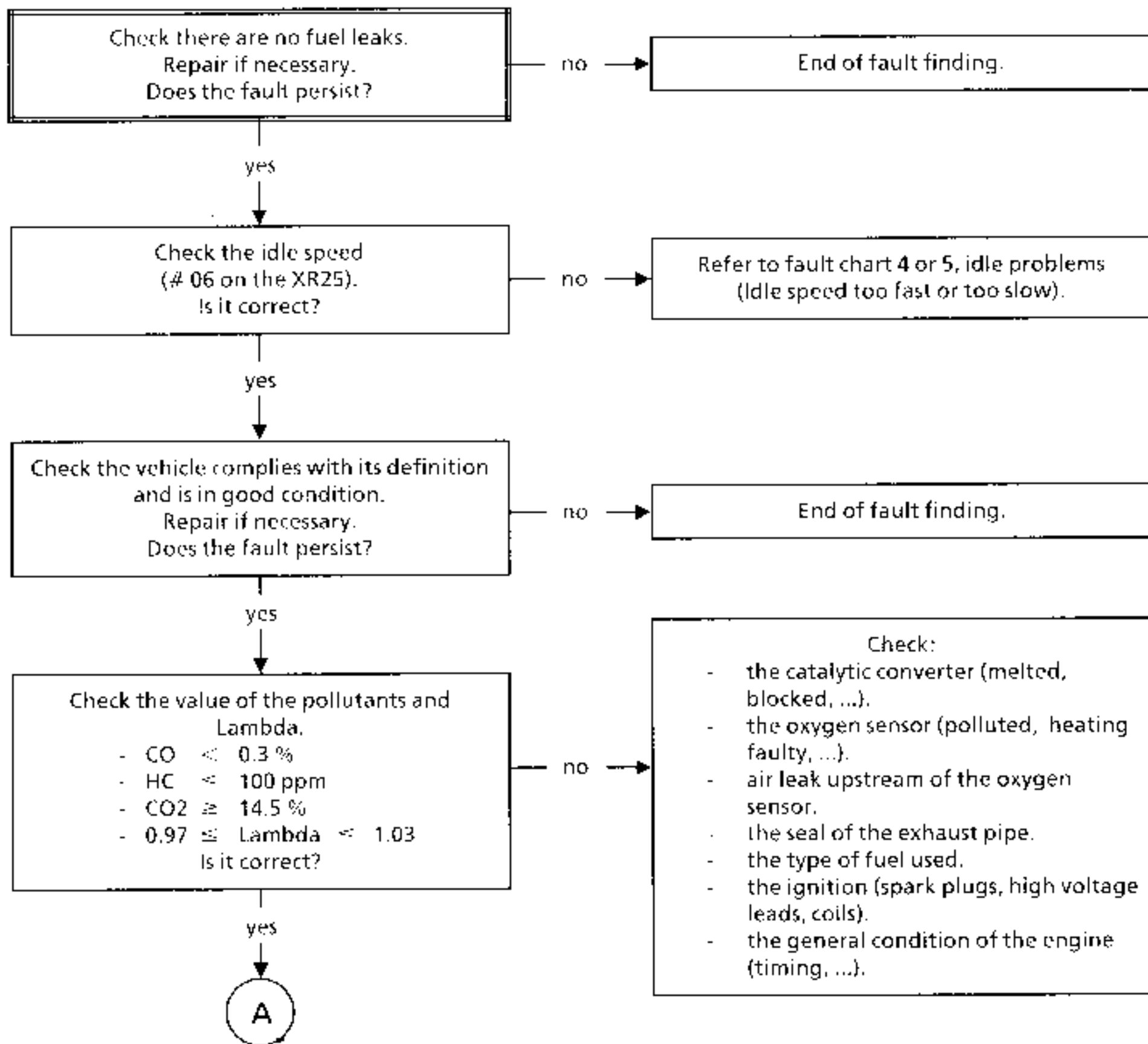
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 11

HIGH PETROL CONSUMPTION

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 11
CONT

A

Check the petrol flow and pressure (methods, refer to vehicle Workshop Repair Manual) and the canister bleed circuit.
Repair if necessary (regulator, pump, filter, pipes).
Does the fault persist?

no

End of fault finding.

yes

This is not an injection problem, this is an engine problem, check :

- the engine oil level
- engine cooling
- axle assemblies
- the general condition of the engine.

If necessary, perform a consumption test with the ECONOTEST consumption device.

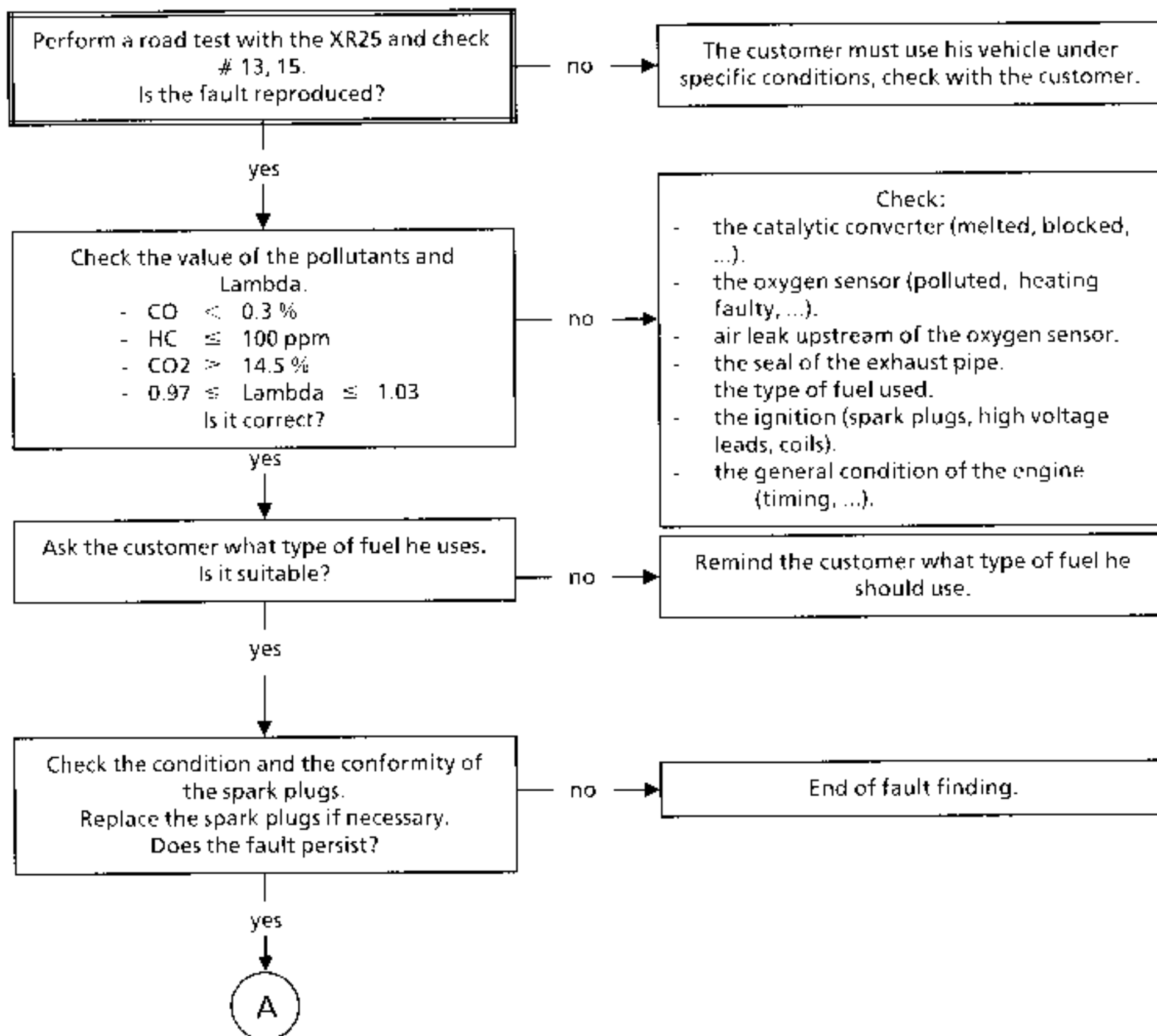
AFTER REPAIR

Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

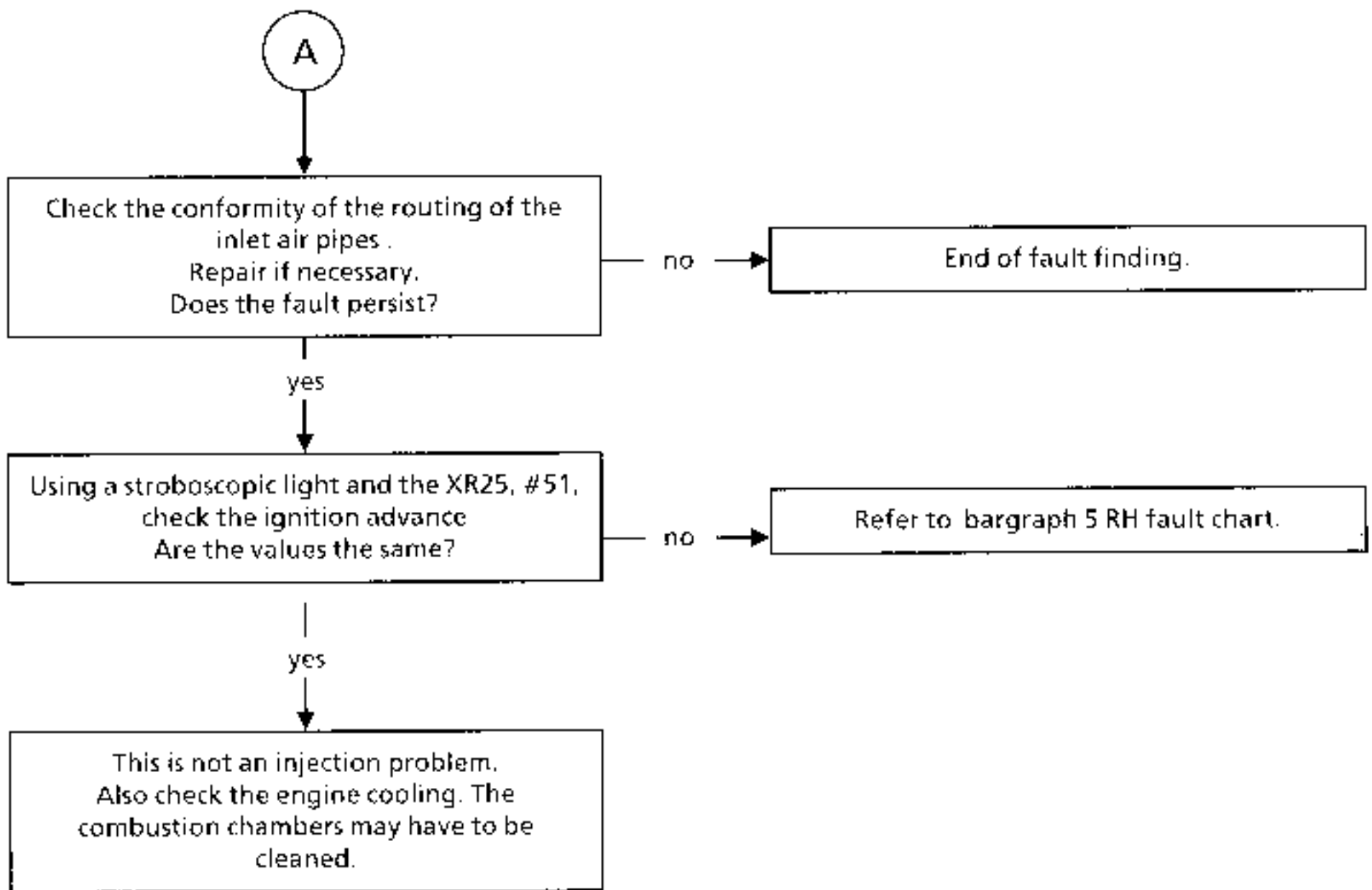
Chart 12

ENGINE NOISE
Pinking**NOTES**

Only refer to this customer complaint after having performed a complete test using the XR25

**AFTER REPAIR**


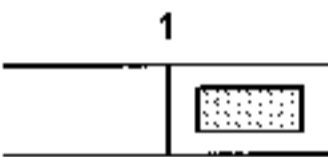
Check the sensors disconnected during the operation are correctly reconnected
Erase the computer memory using G0**
Carry out a conformity check

Chart 12
CONT
**AFTER REPAIR**

Check the sensors disconnected during the operation are correctly reconnected
 Erase the computer memory using G0**
 Carry out a conformity check









NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|-------------------------|---|--|
| 1 | Dialogue with XR25 | D13 (selector on 58) | | 9.NJ Use fiche n° 27 fault test side |
| 2 | Interpretation of normally illuminated bargraphs | |   | Fault test Code present |
| 3 | Conformity of computer | G70* | | XXXX Part Number number displayed in three sequences (refer to section 12) |
| 4 | Switching to status test | G01* | | 10.NJ Use fiche n° 27 status test side |

NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|--------|---|---|
| 5 | Interpretation of normally illuminated bargraphs | | <p>1</p>  | Code present |
| | | | <p>2</p>  | No load recognition |
| | | | <p>4</p>  | Receiving 1 after ignition information |
| | | | <p>4</p>  | Illuminated for AT regardless of selector lever position |
| | | | <p>5</p>  | Locking relay command effective (Do not take this information into account) |
| | | | <p>11</p>  | Camshaft sensor information not effective (Do not take this information into account) |
| | | | <p>19</p>  | Computer configured to operate with: Manual gearbox (G60*) |
| | | | <p>19</p>  | Automatic transmission (G50*) |

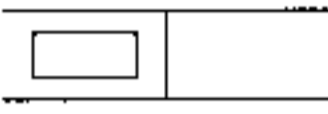
NOTES

Engine cold, ignition on

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---------------------------------|-----------------------------------|--|--|
| 6 | Throttle position potentiometer | No load # 17 | <div style="text-align: center;">2</div> | $8 < X < 38$ |
| | | Accelerator pedal lightly pressed | <div style="text-align: center;">2</div> | |
| | | Full load # 17 | <div style="text-align: center;">2</div> | |
| 7 | Absolute pressure sensor | # 01 | | X – Local atmospheric pressure |
| 8 | Coolant temperature sensor | # 02 | | X Ambient temperature $\pm 5^{\circ}\text{C}$ |
| 9 | Air temperature sensor | # 03 | | X Ambient temperature $\pm 5^{\circ}\text{C}$ |
| 10 | Idle regulation solenoid valve | # 12 | | The value read is fixed and is between $17\% < X < 99.9\%$ |
| 11 | Engine speed | # 06 | | X = 0 rpm |
| 12 | Canister bleed | # 23 | | X – 0.7 % |





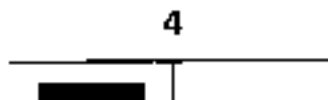
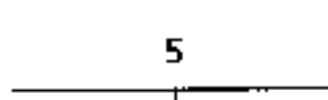
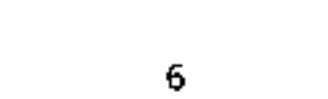
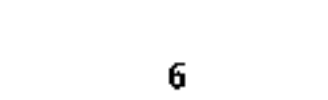
NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning and heated windscreen not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--------------------------|---|--|--|
| 1 | Switching to status test | G01* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">10.NJ</div> Use fiche n° 27 status test side |
| 2 | No fault | | <div style="text-align: center;">20</div>  | Check this bargraph is not flashing; otherwise type G02* and turn the fiche over. Repair the faulty component then erase the fault memory (G0***) and return to status test (G01*) |
| 3 | Battery voltage | # 04 if in # 04 otherwise in # 06 | | 13 volts < X < 14.5 volts X < 12.7 volts Nominal engine speed < X < 910 rpm |





NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning and heated windscreen not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|--------|--|--|
| 4 | Interpretation of normally illuminated bargraphs | - | 1  | Code present |
| | | | 2  | No load recognition |
| | | | 3  | Receiving engine speed information |
| | | | 4  | Receiving + after ignition information |
| | | | 4  | Illuminated in Park or Neutral position |
| | | | 5  | Locking relay command effective (Do not take this information into account) |
| | | | 6  | Idle regulation active |
| | | | 6  | Richness regulation active |





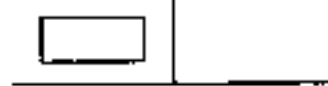
NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning and heated windscreen not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---|--------|--|--|
| 4 (cont) | Interpretation of normally illuminated bargraphs (cont) | — | <p style="text-align: center;">7</p>  | Fuel pump active |
| | | | <p style="text-align: center;">11</p>  <p style="text-align: center;">flashing</p> | Camshaft sensor information effective (Do not take this information into account) |
| | | | <p style="text-align: center;">19</p>  | Computer configured to operate with: Manual gearbox (G60*) |
| | | | <p style="text-align: center;">19</p>  | Automatic transmission (G50*) |




NOTES

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning and heated windscreen not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--------------------------------|---|---|---|
| 5 | Idle speed | <p>Without air conditioning</p> <p># 06</p> <p># 12</p> <p>Air conditioning selected</p> <p># 06</p> <p>Heated windscreen selected. Air conditioning not selected</p> <p># 06</p> | <p>6</p>  <p>9</p>  <p>10</p>  <p>8</p>  <p>9</p>  | <p>$X = 770 \pm 50$ rpm</p> <p>$20\% < X < 40\%$ (F3R 750) $18\% < X < 38\%$ (F3R 751)</p> <p>Illuminated depending on the status of the air conditioning</p> <p>$X = 900 \pm 50$ rpm</p> <p>If coolant temperature $> 60^{\circ}\text{C}$ then $X = 770 \pm 50$ rpm</p> <p>If coolant temperature $< 60^{\circ}\text{C}$ then $X = 1000 \pm 50$ rpm</p> |
| 6 | Anti-pinking noise measurement | # 13 3500 rpm, no load) | | X variable and not zero |

NOTES

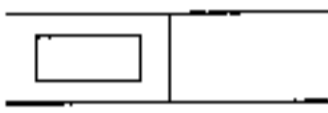

Engine warm, at idle speed after the fan unit has operated at least once (air conditioning and heated windscreen not selected, automatic transmission in Park or Neutral position)

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|-----------------------------|--|--|--|
| 7 | Manifold pressure | # 01 without consumer | | X is variable and is around 360 ± 60 mbars (this pressure varies as a function of the altitude) |
| 8 | Richness regulation | With stable engine speed of 2500 rpm, then at idle speed # 05 # 35 | <p style="text-align: center;">6</p>  <p style="text-align: center;">6</p>  | <p>X varies in a range of 50 to 900 mV approximately</p> <p>X is around and varies slightly about 128 with a maximum of 255 and a minimum of 0</p> |
| 9 | Adaptive idle correction | # 21 | | <p>- 8.6 %⁽¹⁾ < X < 6.2 % (average value after erasing memory: 0)</p> |
| 10 | Canister bleed | # 23 | <p style="text-align: center;">7</p>  | <p>Canister bleed is forbidden. The solenoid valve remains closed X = 0.7 %</p> |

(1) This value is from definitive calibration. The first vehicles marketed have a minimum threshold of - 6.2 %.


NOTES

Test to be performed during a road test

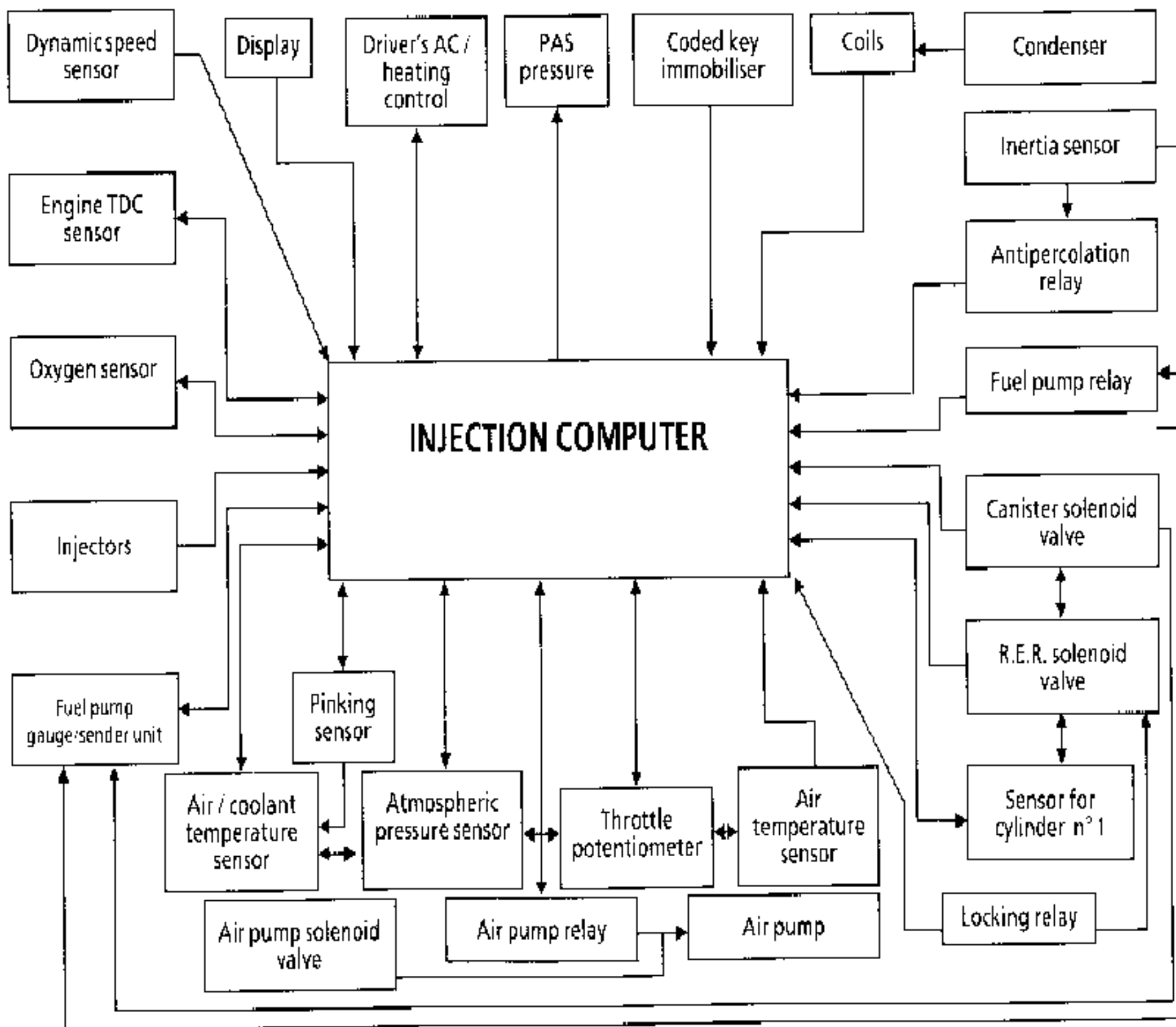
| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---------------------------|--|--|--|
| 1 | Switching to status test | G01* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">10.NJ</div> Use fiche n° 27 status test side |
| 2 | No fault | |  | Check this bargraph is not flashing; otherwise type G02* and turn the fiche over. Repair the faulty component then erase the fault memory (G0**) and return to status test (G01*) |
| 3 | Canister bleed | # 23 | <div style="text-align: center;">7</div>  | Canister bleed is authorised X = variable |
| 4 | Vehicle speed information | # 18 | | X = vehicle speed read on the speedometer |
| 5 | Pinking sensor | Vehicle loaded and engine speed of 2000 rpm. # 13 # 15 | | X = variable and not zero $0 < X \leq 6$ (if the sensor is faulty, the advance is systematically retarded by 4° which is not visible on # 15) |

NOTES

Test to be performed during a road test

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|------------------------|---|--|--|
| 6 | Adaptive richness | After programming phase # 30 # 31 | | $82 \leq X \leq 224$ (average value after erasing the memory: 128) $32 \leq X \leq 224$ (average value after erasing the memory: 128) |
| 7 | Torque reduction (AT) | | <p style="text-align: center;">5</p>  | Illuminates when changing gear if the speed is greater than 6 mph (10 km/h) |

Z7X ENGINE SUMMARY



CONDITIONS FOR APPLICATION OF THE TESTS DEFINED IN THIS FAULT FINDING SECTION

The tests defined in this fault finding section should only be applied to the vehicle if the title of the fault concerned corresponds exactly to the display noted on the XR25.

If a bargraph is only interpreted when it is permanently illuminated, applying the tests recommended for when the bargraph is flashing will not allow the cause of the fault being stored to be detected. In this case, only checking of the wiring and connections on the component at fault must be carried out.

Note : The ignition must be turned off before the XR25 is used.

TOOLING REQUIRED FOR OPERATIONS ON THE SAGEM EGR TPP DIESEL INJECTION SYSTEM.

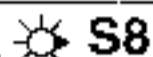
XR25 test kit.

- XR25 cassette N° 15 minimum.

TPP : Pre-postheating timing.

EGR : Exhaust gas recycling.

N°34



S8

code :

D

3

4

read :

1d 1E

| | | | | |
|----|-------------------------------------|----------------------|-------------------------|-------------------------------------|
| 1 | <input checked="" type="checkbox"/> | COMPUTER | CODE PRESENT | <input checked="" type="checkbox"/> |
| 2 | <input checked="" type="checkbox"/> | * 02 COOLANT TEMP. | AIR TEMPERATURE * 22 | <input checked="" type="checkbox"/> |
| 3 | <input checked="" type="checkbox"/> | * 03 LOAD LEVER POS | FLYWHEEL SIGNAL | <input checked="" type="checkbox"/> |
| 4 | <input checked="" type="checkbox"/> | * 04 VEHICLE SPEED | ATMOS. PRESSURE | <input checked="" type="checkbox"/> |
| 5 | <input checked="" type="checkbox"/> | WARN. LIGHT CIRC. | START UP INFO | <input checked="" type="checkbox"/> |
| 6 | <input checked="" type="checkbox"/> | * 06 OVERRIDE | ACCEL. IDLING * 26 | <input checked="" type="checkbox"/> |
| 7 | <input checked="" type="checkbox"/> | * 07 ADVANCE RETARD | E.G.R. * 27 | <input checked="" type="checkbox"/> |
| 8 | <input checked="" type="checkbox"/> | * 08 AIR FLAP | | |
| 9 | <input checked="" type="checkbox"/> | * 09 PREHEATER PLUGS | | |
| 10 | <input checked="" type="checkbox"/> | SAVE DATA IN MEMORY | PL or PF NOT REGISTERED | <input checked="" type="checkbox"/> |

SAGEM DIESEL INJECTION

Erase fault memory : G 0 **
End of test : G13 *

| | | | | | |
|----|-------------------------------------|------------------|-------------------------|--------------------------|-------------------------------------|
| 11 | <input checked="" type="checkbox"/> | N°1 | PREHEATER RELAY CONTROL | N°2 | <input checked="" type="checkbox"/> |
| 12 | <input type="checkbox"/> | OVERRIDE | SOLENOID CONTROL | ACCEL. IDLING | <input checked="" type="checkbox"/> |
| 13 | <input type="checkbox"/> | ADVANCE RETARD | SOLENOID CONTROL | E.G.R. | <input type="checkbox"/> |
| 14 | <input checked="" type="checkbox"/> | WARN. LIGHT CTRL | AIR FLAP | | <input checked="" type="checkbox"/> |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | <input checked="" type="checkbox"/> | WITH AC | CONFIGURATION | WITHOUT AC | <input checked="" type="checkbox"/> |
| 20 | | | XR25 MEMORY | <input type="checkbox"/> | <input type="checkbox"/> |

ADDITIONAL CHECKS : # . .

| | | |
|----|-----------------|-----|
| 02 | Coolant temp. | °C |
| 03 | Air temperature | °C |
| 04 | Computer feed | V |
| 06 | Engine speed | rpm |
| 16 | Atmos. pressure | mh |
| 17 | Load pot. | % |
| 24 | EGR opening | % |

ADDITIONAL CHECKS : G . . *

(if engine stopped)

| | |
|-------|------------------------|
| 10*1* | Preheater relay No. 1 |
| *2* | Preheater relay No.2 |
| 14* | SV override |
| 15* | Advance retard SV |
| 16* | Accel idling SV |
| 17* | Air flap SV |
| 21*1* | Warn. light del |
| 31* | PL and PF validation |
| 50*x* | Programming computer |
| 58*x* | Computer configuration |

End of test : G13 *

Part No. : G70 *

Diagnosed faults :
Press V and 9

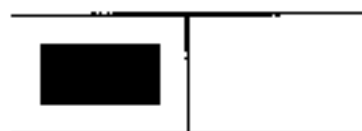
Return to diag. mode :

SEE REMINDER CARD C

16 ANG

BARGRAPH SYMBOLS

FAULT (always on a coloured background)

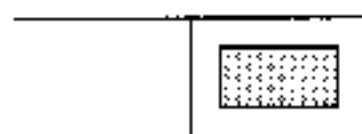


If illuminated, there is a fault with the product tested. The associated text defines the fault.

This bargraph may be :

- Permanently illuminated : fault present.
- Flashing : fault memorised
- Extinguished : fault absent or not tested

STATUS (always on a white background)



Bargraph always at the top right.

If illuminated, dialogue has been established with the computer for the product.

If it remains extinguished :

- The code does not exist.
- There is a fault in the tool, the computer or the XR25 / computer connection.

The following bargraphs are represented according to their initial status:

Initial status: (ignition on, engine stopped, no operator action)



or



Indefinite

illuminated when the function or condition on the fiche is met.



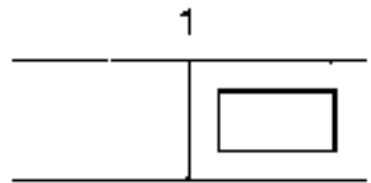
Extinguished



Illuminated - extinguishes when the function or condition on the fiche is no longer met.

ADDITIONAL NOTES

Certain bargraphs have a *. The command *., when the bargraph is illuminated, displays additional information on the type of fault or status which has arisen.

| | | |
|---|--|-------------|
|  | <p>Bargraph 1 RH side extinguished</p> <p><u>Code present</u></p> | Fiche n° 34 |
|---|--|-------------|

| | |
|--------------|------|
| NOTES | None |
|--------------|------|

Ensure that the XR25 is not the cause of the fault by trying to communicate with the computer on another vehicle.

Check that the ISO interface is in position S8, that the latest cassette for the XR25 is being used together with the correct code (D34).

Check the battery voltage and carry out any operations required to ensure the correct voltage (U battery > 10.5 volts).

Check that fuses F24 : 15 A and F38 : 30 A on the passenger compartment connection unit have not blown.

Check the connection and condition of the connections on the computer connector and the engine / structure connection.

Check that the computer is correctly fed:

- Earth on track A3 of the black computer connector.
- after ignition feed on track A4 of the black computer connector (70A fuse on engine connection unit I relay I after ignition feed to be tested).

Also check earth MH near the oil filter.

Check that the diagnostic socket is correctly fed:

- Earth on track 2.
- before ignition feed on track 6.

Check and ensure the continuity and insulation of the lines in the connection diagnostic socket / computer:

- Between track A1 of the black computer connector and track 11 on the diagnostic socket.
- Between track C2 of the black computer connector and track 10 on the diagnostic socket.

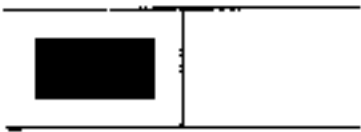
If dialogue is still not established after these tests, replace the computer.

Erase the memory of the new computer at the end of the operation.

Programme the no load and full load values using command G31^.

Programme "without air conditioning" using command G30* if necessary.

| | |
|---------------------|---|
| AFTER REPAIR | When communication has been established, deal with any illuminated fault bargraphs. |
|---------------------|---|

| | | |
|--|--|-------------|
| 1  | Bargraph 1 LH side illuminated <u>Computer fault</u> | Fiche n° 34 |
|--|--|-------------|


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| NOTES | None |
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Replace the SAGEM injection computer. Erase the memory of the new computer at the end of the operation.

Programme the no load and full load values using command G31*.

Programme "without air conditioning" using command G30* if necessary.

| | |
|---------------------|---|
| AFTER REPAIR | Carry out a road test followed by a check using the XR25. |
|---------------------|---|

| | | |
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| <p>2</p>  | <p>Bargraph 2 LH side illuminated</p> <p><u>Coolant temperature sensor circuit</u></p> <p>XR25 aid : *02 : co.1 : Open circuit or short circuit to 12 volts cc.0 : Short circuit to earth</p> | Fiche n° 34 |
|--|---|-------------|

| | |
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| NOTES | None |
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| | | |
|-------------|--------------|------|
| co.1 | NOTES | None |
|-------------|--------------|------|

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|--|
| <p>Ensure continuity and insulation from 12 volts for the following connections:</p> <ul style="list-style-type: none"> - Between track B2 on the grey computer connector and track 2 on the coolant temperature sensor connector. - Between track B3 on the grey computer connector and track 1 on the coolant temperature sensor connector. <p>Test the connections on the 2 connectors.</p> <p>If the fault persists after these tests, replace the coolant temperature sensor, then erase the computer memory.</p> <p>If the "coolant temperature sensor circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.</p> |
|--|

| | | |
|-------------|--------------|------|
| cc.0 | NOTES | None |
|-------------|--------------|------|

| |
|---|
| <p>Ensure the insulation from earth of the following connection:</p> <ul style="list-style-type: none"> - Between track B2 on the grey computer connector and track 1 on the coolant temperature sensor connector. <p>Check if the sensor circuit (or the sensor) is in short circuit (resistance at 60°C = 1.2 Kohms).</p> <p>Test the connections on the 2 connectors.</p> <p>If the fault persists after these tests, replace the coolant temperature sensor, then erase the computer memory.</p> <p>If the "coolant temperature sensor circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.</p> |
|---|

| | |
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| AFTER REPAIR | <p>Erase the computer memory (G0*), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
|---------------------|---|

| | | |
|--|--|-------------|
| 2  | Bargraph 2 RH side illuminated <u>Air temperature sensor circuit</u> XR25 aid : *22 : co.1 : Open circuit or short circuit to 12 volts cc.0 : Short circuit to earth | Fiche n° 34 |
|--|--|-------------|

| | |
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| NOTES | None |
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|-------------|--------------|------|
| co.1 | NOTES | None |
|-------------|--------------|------|

Ensure continuity and insulation from 12 volts for the following connections:

- Between track A2 on the grey computer connector and track 2 on the air temperature sensor connector.
- Between track B3 on the grey computer connector and track 1 on the air temperature sensor connector.

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the air temperature sensor, then erase the computer memory.

If the "air temperature sensor circuit" fault reappears, replace the computer.

Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.

| | | |
|-------------|--------------|------|
| cc.0 | NOTES | None |
|-------------|--------------|------|

Ensure the insulation from earth of the following connection:

- Between track A2 on the grey computer connector and track 1 on the air temperature sensor connector.

Check if the sensor circuit (or the sensor) is in short circuit (resistance at 60°C – 1.2 Kohms).


Test the connections on the 2 connectors.

If the fault persists after these tests, replace the air temperature sensor, then erase the computer memory.

If the "air temperature sensor circuit" fault reappears, replace the computer.

Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.

| | |
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| AFTER REPAIR | Erase the computer memory (G0**), turn the ignition off, then carry out a road test End the operation by checking using the XR25. |
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|  | <p>Bargraph 3 LH side illuminated</p> <p><u>Load potentiometer circuit</u></p> <p>XR25 aid : *03 : co.0 : Open circuit or short circuit to earth cc.1 : Short circuit to 5 volts or 12 volts</p> | Fiche n° 34 |
|---|--|-------------|

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| NOTES | None |
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| co.0 | NOTES | None |
|-------------|--------------|------|

Ensure the continuity and insulation from earth for the following connections:

- Between track A1 on the grey computer connector and track 2 on the load potentiometer connector.
- Between track C3 on the grey computer connector and track 3 on the load potentiometer connector.

Also ensure the insulation of these connections in relation to the connection between track B4 on the grey computer connector and track 1 on the load potentiometer connector (potentiometer earth).

Look for a possible potentiometer short circuit (between tracks 1 and 3 on the 3 track connector).

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the load potentiometer following the method in the Technical Note. Erase the memory of the computer at the end of the operation. Programme the no load and full load values.

If the "load potentiometer circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.

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| cc.1 | NOTES | None |
|-------------|--------------|------|

Ensure insulation from 5 volts and 12 volts of the connection between track A1 on the grey computer connector and track 2 on the load potentiometer connector.

Also ensure the insulation of these connections in relation to the connection between track C3 on the grey computer connector and track 3 on the load potentiometer connector (+5 volts potentiometer).


Ensure the continuity of the connection between track B4 on the grey computer connector and track 1 on the load potentiometer connector (potentiometer earth).

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the load potentiometer following the method in the Technical Note. Erase the memory of the computer at the end of the operation. Programme the no load and full load values.

If the "load potentiometer circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.

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| AFTER REPAIR | <p>Erase the computer memory (G0*), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| 3 |  | Fiche n° 34 |
| Bargraph 3 RH side flashing <u>Engine speed sensor code</u> | | |

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| NOTES | <p>Even if present at the moment of testing, this fault will always be shown by a flashing BG3 RH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, erase the computer memory, start the engine and accelerate to more than 30 % (# 17) for over 60 seconds. The fault is present if Bargraph 3 RH side reappears, permanently illuminated.</p> |
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| <p>Measure the resistance of the flywheel signal sensor at its connector. Replace the sensor if the resistance is not approximately 250 ohms.</p> <p>Ensure the continuity and insulation of the following connections:</p> <ul style="list-style-type: none"> - Between track A4 on the grey computer connector and track A on the flywheel signal sensor connector. - Between track A3 on the grey computer connector and track B on the flywheel signal sensor connector. <p>Also check the insulation between these two connections.</p> <p>Test the connections on the 2 connectors.</p> <p>Visually check the condition of the wiring and its routing to ensure there is no interference.</p> |
| <p>Check the position and condition of the sensor.</p> <p>Check the condition of the target (deformation, mounting, noise, ...).</p> <p>Check the conformity of the target : 2 slots at 180°.</p> |

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| <p>If the fault persists after these tests, replace the flywheel signal sensor.</p> <p>If the "engine speed sensor circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values then programme "without air conditioning" if necessary.</p> |
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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| <p>5</p>  | <p>Fiche n° 34</p> |
| <p>Bargraph 5 LH side illuminated <u>Preheating warning light circuit</u></p> | |

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| <p>NOTES</p> | <p>If the warning light is illuminated, look for a short circuit to earth in the warning light circuit.</p> |
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| <p>Check the condition of the bulb in the preheating warning light and check for + after ignition feed to the warning light.</p> <p>Ensure the continuity of the following connections:</p> <ul style="list-style-type: none">- Between track C1 of the black computer connector and track 6C of connector 262.12C (engine / structure connection).- Between track 6C of connector 262.32C (engine / structure connection) and track 12 of connector C2 (15 track green instrument panel connector). <p>Test the connections on the computer connector and the other connectors.</p> <p>If the fault persists, check the instrument panel display (see fault finding for the display).</p> |
|---|

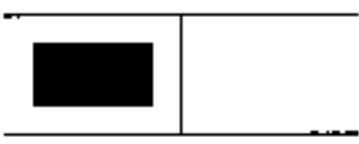
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| 5  | Fiche n° 34 |
| Bargraph 5 RH side flashing <u>Ignition information circuit</u> | |

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| NOTES | <p>Even if present at the moment of testing, this fault will always be shown by a flashing BG 5 RH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, erase the computer memory and start the engine. The fault is present if the bargraph reappears flashing.</p> |
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| <p>Ensure the continuity of the line between the ignition switch (+ starting) and track A2 on the black computer connector, i.e. check the following connections:</p> <ul style="list-style-type: none"> - Between track A2 of the black computer connector and track A4 of connection 262.12F (engine structure). - Between track A4 of this connection and the ignition switch. <p>Check the condition of the connections on the complete line.</p> |
| <p>If the fault persists after these tests, replace the computer.</p> <p>Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.</p> |

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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| <p>6</p>  | <p>Bargraph 6 LH side flashing Fiche n° 34</p> <p><u>Cold start solenoid circuit</u></p> <p>XR25 aid : *06 : cc.0 : Short circuit to earth co.1 : Open circuit or short circuit to 12 volts</p> |
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|--------------|---|
| NOTES | <p>Even if present at the moment of testing this fault will always be shown by a flashing BG 6 LH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, follow the instructions for the type of fault shown.</p> |
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| cc.0 | NOTES | <p>Start command mode G0**. The fault is present if BG 6 LH side illuminates permanently for 20 seconds.</p> |
|-------------|--------------|--|

Measure the resistance of the cold start solenoid coil at the connection pump / engine 711AA (between earth and track 1)

If the resistance is not approximately 8 ohms, look for a short circuit to earth in the connection between track 1 of 711AA and the solenoid valve or a short circuit in the solenoid valve.

Ensure the insulation from earth of the connection between track B2 of the black computer connector and track 1 of the connection pump / engine 711AA.

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the cold start solenoid.

If the "cold start solenoid circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.

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|-------------|--------------|---|
| co.1 | NOTES | <p>Start command mode G14*. The fault is present if BG 6 LH side illuminates permanently.</p> |
|-------------|--------------|---|

Measure the resistance of the cold start solenoid coil at the connection pump / engine 711AA (between earth and track 1)

If the resistance is not approximately 8 ohms, look for a break in the connection between track 1 of 711AA and the solenoid valve or an open circuit in the solenoid valve.

Ensure the continuity and insulation from - 12 volts of the connection between track B2 of the black computer connector and track 1 of the connection pump / engine 711AA.

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the cold start solenoid.

If the "cold start solenoid circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.

| | |
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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| 6 | <p>Bargraph 6 RH side illuminated (CO.1) or flashing (CC.0) Fiche n° 34</p> <p><u>Fast idle solenoid valve circuit</u></p> <p>XR25 aid : *26 : cc.0 : Short circuit to earth co.1 : Open circuit or short circuit to 12 volts</p> |
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| NOTES | Ignore the permanent illumination of this bargraph when the fast idle is operating via the air conditioning control unit. |
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| cc.0 | NOTES | <p>Even if present at the moment of testing this fault will always be shown by a flashing BG 6 RH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, turn the ignition off and disconnect the coolant and air temperature sensors (the associated defect mode will operate the fast idle solenoid valve). Turn the ignition on and check using the XR25.</p> <p>Start command mode G0**. The fault is present if Bargraph 6 RH side illuminates permanently for 20 seconds.</p> |
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Measure the resistance of the fast idle solenoid valve coil at its connector. Replace the fast idle solenoid valve if the resistance is not approximately 50 ohms.

Ensure the insulation from earth of the connection between track B1 of the black computer connector and track 2 on the fast idle solenoid valve connector.

Test the connections on the 2 connectors.

If the fault persists after these tests, replace the fast idle solenoid valve.

If the fast idle solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.

| | |
|---------------------|--|
| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
|---------------------|--|



CO.1

NOTES

None

Measure the resistance of the fast idle solenoid valve coil at its connector. Replace the fast idle solenoid valve if the resistance is not approximately 50 ohms.

Ensure continuity and insulation from +12 volts of the connection between track B1 of the black computer connector and track 2 on the fast idle solenoid valve connector.

Ensure insulation from +12 volts of the connection between track B15 (using bornier **Elé. 1391**) on the air conditioning control unit and track 2 on the fast idle solenoid valve connector.

Check and ensure the continuity in relation to earth on track 2 of the solenoid valve connector on the wiring side.

Test the connections on the 2 connectors.


If the fault persists after these tests, replace the fast idle solenoid valve.

If the "fast idle solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.

AFTER REPAIR

Erase the computer memory (G0**), turn the ignition off, then carry out a road test.

End the operation by checking using the XR25.

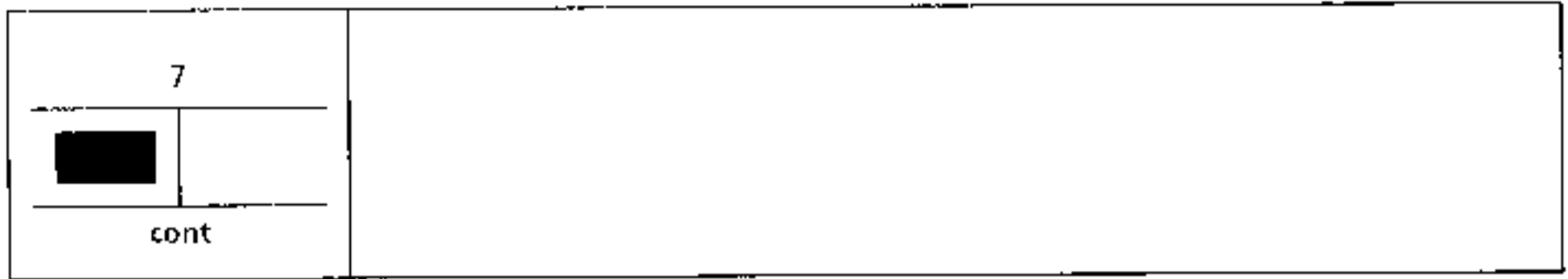
| | | |
|--|--|-------------|
| <p>7</p>  | <p>Bargraph 7 LH side illuminated or flashing</p> <p><u>Advance retard solenoid valve circuit</u></p> <p>XR25 aid : *06 : cc.0 : Short circuit to earth co.1 : Open circuit or short circuit to 12 volts</p> | Fiche n° 34 |
|--|--|-------------|

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| NOTES | None |
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|-------------|--------------|--|
| cc.0 | NOTES | <p>Even if present at the moment of testing this fault will always be shown by a flashing BG 7 LH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, turn the ignition off and disconnect the coolant temperature sensor (the associated defect mode will operate the advance retard solenoid valve).</p> <p>Turn the ignition on and check using the XR25.</p> <p>Start command mode G0**. The fault is present if Bargraph 7 LH side illuminates permanently for 20 seconds.</p> |
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|---|
| <p>Measure the resistance of the coil of the advance retard solenoid valve at the connection pump / engine 711AA (between earth and track 2).</p> <p>If the resistance is not approximately 8 ohms, look for a short circuit to earth on the connection between track 2 of 711AA and the solenoid valve or a short circuit of the solenoid valve.</p> |
| <p>Ensure the insulation from earth of the connection between track C4 of the black computer connector and track 2 of connection pump / engine 711AA.</p> <p>Test the connections on the 2 connectors.</p> |
| <p>If the fault persists after these tests, replace the advance retard solenoid valve.</p> <p>If the "advance retard solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.</p> |

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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
|---------------------|--|



co.1

NOTES

If BG 7 LH side is flashing, confirm the presence of the fault and the necessity of applying the fault finding below by running the engine to heat it to stop operation of the advance retard solenoid valve (BG 13 LH side extinguished). The fault is present if BG 7 LH side is permanently illuminated.

Measure the resistance of the coil of the advance retard solenoid valve at the connection pump / engine 711AA (between earth and track 2).

If the resistance is not approximately 8 ohms, look for a break in the connection between track 2 of 711AA and the solenoid valve or an open circuit of the solenoid valve.

Ensure continuity and insulation from -12 volts of the connection between track C4 of the black computer connector and track 2 of the connection pump / engine 711AA.

Test the connections on the 2 connectors.

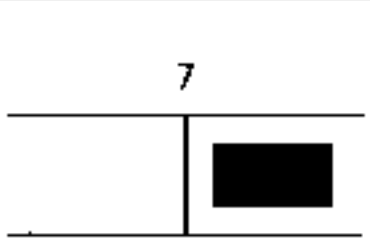
If the fault persists after these tests, replace the advance retard solenoid valve.

If the "advance retard solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary

AFTER REPAIR

Erase the computer memory (G0[^]*), turn the ignition off, then carry out a road test.

End the operation by checking using the XR25.

| | |
|---|---|
|  | <p>Bargraph 7 RH side flashing Fiche n° 34</p> <p><u>EGR SOLENOID VALVE CIRCUIT</u></p> <p>XR25 aid : *27 : co.0 : Open circuit or short circuit to earth cc.1 : Short circuit to 12 volts</p> |
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| | |
|--------------|--|
| NOTES | <p>Even if present at the moment of testing, this fault will always be shown by a flashing BG 7 RH side. To confirm the presence of the fault, and therefore the necessity of applying the fault finding below, start the engine and accelerate sharply to force operation of the EGR (BG 13 RH side illuminates). If necessary, run the engine to heat it up if the EGR cannot be operated. The fault is present if Bargraph 7 RH side reappears, permanently illuminated after 8 seconds EGR operation and during the operation period.</p> |
|--------------|--|


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|-------------|--------------|------|
| co.0 | NOTES | None |
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|--|
| <p>Measure the resistance of the coil of the EGR solenoid valve at its connector. Replace the EGR solenoid valve if the resistance is not approximately 5 ohms.</p> <p>Ensure continuity and insulation from earth of the connection between track C3 of the black computer connector and track 1 of the EGR solenoid valve connector.</p> <p>Ensure the presence of + after ignition feed on track 2 of the EGR solenoid valve connector, wiring side.</p> <p>Test the connections on the 2 connectors.</p> |
| <p>If the fault persists after these tests, replace the EGR solenoid valve.</p> <p>If the "EGR solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.</p> |

| | | |
|-------------|--------------|------|
| cc.1 | NOTES | None |
|-------------|--------------|------|

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| <p>Measure the resistance of the coil of the EGR solenoid valve at its connector. Replace the EGR solenoid valve if the resistance is not approximately 5 ohms.</p> <p>Ensure insulation from +12 volts of the connection between track C3 of the black computer connector and track 1 of the EGR solenoid valve connector.</p> |
| <p>If the fault persists after these tests, replace the EGR solenoid valve.</p> <p>If the "EGR solenoid valve circuit" fault reappears, replace the computer. Erase the memory of the new computer at the end of the operation. Programme the no load and full load values, then programme "without air conditioning" if necessary.</p> |

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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| <p>9</p>  | <p>Bargraph 9 LH side illuminated</p> <p><u>Heater plugs (Groups 1 and 2)</u></p> <p>XR25 aid : *09 : 1.cc.0 : Heater plugs for cylinders 1 and 3 2.cc.0 : Heater plugs for cylinders 2 and 4</p> | Fiche n° 34 |
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| NOTES | None |
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The only fault which may be detected for the heater plugs is a short circuit to earth.

The illumination of bargraph 9 LH side may however be linked to a short circuit to earth on another component since the detection of a short circuit is measured by a drop in voltage (the battery may be the cause of the fault).

The use of a battery charger or a starting booster may also cause this fault to be memorised (in this case simply erase the computer memory).


To ensure that the fault is present on the heater plugs themselves, erase the computer memory, then turn off the ignition. On the computer disconnect the 2 track heater plug feed connector and try to start the engine, followed by a check using the XR25.

- If the fault reappears, look for a fault with the battery or a short circuit to earth on an electrical component.
- If the fault does not reappear, turn the ignition off and reconnect the 2 track heater plug feed connector. Try to start the engine to confirm the fault on the plug circuit.

If the fault is confirmed:

- Disconnect the heater plugs for cylinders 1 and 3 (1.cc.0) or 2 and 4 (2.cc.0) and check / ensure the insulation from earth of the wiring between the computer and the heater plugs in question.
- Check the condition of the plugs wiring.
- Check and replace any faulty plug/s (CC).

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| AFTER REPAIR | <p>Erase the computer memory (G0**), turn the ignition off, then carry out a road test.</p> <p>End the operation by checking using the XR25.</p> |
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| 10  | Bargraph 10 LH side illuminated <u>Memory fault</u> | Fiche n° 34 |
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| NOTES | None |
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Replace the SAGEM injection computer. Erase the memory of the new computer at the end of the operation.

Programme the no load and full load values using command G31*.

Programme "without air conditioning" using command G30* if necessary.

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| AFTER REPAIR | Carry out a road test followed by a check using the XR25. |
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10

**Bargraph 10 RH side illuminated**

Fiche n° 34

Full load or no load programming not carried out**NOTES**

Deal with bargraph 3 LH side first if this is also illuminated.

Apply the following procedure:

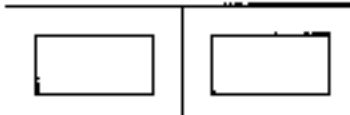
- Enter code G31* on the XR25 (engine speed zero).
- Press the accelerator pedal until the display shows "PF", flashing.
The display then shows "bon", then flashes "PL".
- Release the accelerator pedal. The display shows "bon", "Fin", then "1.dIE" when the procedure has been carried out correctly.
Bargraph 10 RH side should be extinguished.
- Turn off the ignition.

If the values cannot be programmed, a load value is outside the permitted limits:

- Check the conformity of the diesel injection computer.
- Check the accelerator control.
- Repeat the procedure.

AFTER REPAIR

Carry out a road test followed by a check using the XR25.


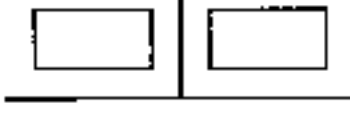
| | | |
|---|--|-------------|
| <p>11</p>  | <p>Bargraphs 11 RH and LH sides</p> <p><u>Preheating relay control</u></p> | Fiche n° 34 |
|---|--|-------------|

| | |
|--------------|------|
| NOTES | None |
|--------------|------|

These relays show the operation of the various relays:

- Relay for heater plugs in group N° 1.
- Relay for heater plugs in group N° 2.

| | |
|---------------------|--|
| AFTER REPAIR | Ensure the bargraphs operate coherently. |
|---------------------|--|

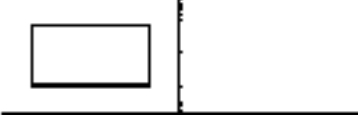
| | |
|---|--|
| 12 | <p style="text-align: right;">Fiche n° 34</p> <p>Bargraphs 12 and 13 RH and LH sides</p> <p><u>Solenoid valve control</u></p> |
|  | |
| 13 | |
|  | |

| | |
|--------------|------|
| NOTES | None |
|--------------|------|

These bargraphs show the operation of the various solenoid valves:

- Cold start solenoid valve.
- Fast idle solenoid valve.
- Advance retard solenoid valve.
- EGR solenoid valve.

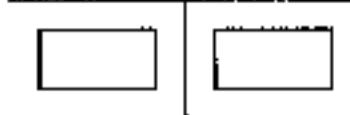
| | |
|---------------------|--|
| AFTER REPAIR | Ensure the bargraphs operate coherently. |
|---------------------|--|

| | |
|--|-------------|
| 14  | Fiche n° 34 |
| Bargraph 14 LH side <u>Warning light control</u> | |

| | |
|--------------|------|
| NOTES | None |
|--------------|------|

This bargraphs shows the control of the preheating and fault warning light.

| | |
|---------------------|--|
| AFTER REPAIR | Ensure the bargraphs operate coherently. |
|---------------------|--|

| | |
|---|-------------|
| <p>19</p>  | Fiche n° 34 |
| <p>Bargraphs 19 RH and LH sides</p> <p><u>Computer configuration for with and without air conditioning</u></p> | |

| | |
|--------------|------|
| NOTES | None |
|--------------|------|

These bargraphs show the configuration of the computer for the air conditioning option.

Computers from the Parts Department are supplied configured for vehicles with air conditioning.

If the vehicle is not fitted with air conditioning, use command mode G30* to reverse the configuration of the computer.

The reverse command exists, but is not shown on the fiche for the XR25 (G40*).

| | |
|---------------------|--|
| AFTER REPAIR | Ensure the bargraphs operate coherently. |
|---------------------|--|

NOTES

Only consult these customer complaints after a complete check using the XR25.

No dialogue between the computer and the XR25

Chart 1

No fast idle when the air conditioning compressor is operating

Chart 2

Starting fault (engine will not start or is difficult to start)

Chart 3

Incorrect engine operation at low engine speed / low load

Chart 4

Chart 1

NO DIALOGUE BETWEEN THE COMPUTER AND THE XR25

NOTES

None

Ensure that the XR25 is not the cause of the fault by trying to communicate with the computer on another vehicle.

Check that the ISO interface is in position S8, that the latest cassette for the XR25 is being used together with the correct code (D34).

Check the battery voltage and carry out any operations required to ensure the correct voltage (U battery > 10.5 volts).

Check that the 30 A fuse on the passenger compartment connection unit has not blown.

Check the connection and condition of the connections on the computer connector and the engine / dashboard R34 connection.

Check that the computer is correctly fed:

- Earth on track A3 of the black computer connector.
- after ignition feed on track A4 of the black computer connector (70A fuse on engine connection unit - relay + after ignition feed to be tested).

Also check earth MH near the oil filter.

Check that the diagnostic socket is correctly fed:

- Earth on track 2.
- - before ignition feed on track 6.

Check and ensure the continuity and insulation of the lines in the connection diagnostic socket / computer:

- Between track A1 of the black computer connector and track 11 on the diagnostic socket.
- Between track C2 of the black computer connector and track 10 on the diagnostic socket.

If dialogue is still not established after these tests, replace the computer.

Erase the memory of the new computer at the end of the operation.

Programme the no load and full load values using command G31*.

Programme "without air conditioning" using command G30* if necessary.

END OF FAULT
FINDING

Carry out a road test then check using the XR25.
Deal with any illuminated fault bargraphs.

Chart 2

NO FAST IDLE WHEN THE AIR CONDITIONING COMPRESSOR IS OPERATING

NOTES

Only consult this customer complaint after a complete check using the XR25.

This fault corresponds to an open circuit or a short circuit to earth on the fast idle control line via the air conditioning control unit.

Connection concerned: Between track 2 on the fast idle solenoid valve and track B15 on the air conditioning control unit (using bornier Elé. 1391).

END OF FAULT FINDING

Carry out a road test then check using the XR25.

Chart 3

STARTING FAULT
(engine will not start or is difficult to start)

NOTES

Only consult this customer complaint after a complete check using the XR25.

If no fault is shown by the XR25, ensure there is not a fault with the immobiliser system.

Check the preheating operation:

- Start command modes G10* (cylinders 1 and 3), then G11* (cylinders 2 and 4) and check for a voltage at the plugs concerned.
 - . If the relays operate correctly but no plugs are fed, check the connection of the 2 track connector.
 - . If the relays do not operate correctly, check the tightness of the + battery terminal on the computer.

Test the heater plugs (CO).

If the fault persists, check the fuel supply circuits (to the pump and injectors).

If necessary, carry out a complete check of the engine (starter motor drive speed, pump timing, condition of injectors, valve clearances, compression,...).

END OF FAULT
FINDING

Carry out a road test then check using the XR25.

Chart 4

INCORRECT ENGINE OPERATION AT LOW ENGINE SPEED / LOW LOAD

NOTES

Only consult this customer complaint after a complete check using the XR25.

Check the value of the load lever position under #17.

If the value is not zero for no load, differs from 99.45 % for full load and bargraph 3 LH side is not illuminated, look for a short circuit in the load potentiometer (potentiometer short circuit between tracks 1 and 3 or in the circuit between tracks B4 and C3 on the grey connector).

Check the pneumatic connection on the EGR solenoid valve (RCO solenoid valve supplying EGR valve) :

- Take-off marked VAC to vacuum pump.
- Take-off marked OUT to EGR valve.


Check the presence of the maximum flow calibration washer for exhaust gas recycling at the connection on the exhaust manifold.

END OF FAULT FINDING

Carry out a road test then check using the XR25.

NOTES

Only carry out a conformity check after a complete check using the XR25 (no faults present).

| Order of operations | Function to be checked | Action | Bargraph | Display and notes |
|---------------------|---|-------------------------|--|---|
| 1 | Dialogue with XR25 | D34 (selector on 58) | | 1.dIE |
| 2 | Computer configuration | | <p style="text-align: center;">19</p>  | Ensure that the computer configuration is coherent with the equipment fitted to the vehicle |
| 3 | Operation of preheating and warning light | Ignition on | | Warning light illuminates for a minimum of 2 seconds when the ignition is turned on |

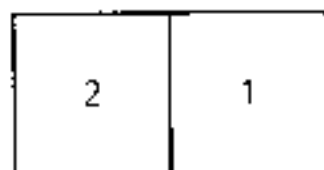
ALLOCATION OF COMPUTER INPUTS/OUTPUTS

CONNECTOR N° 4



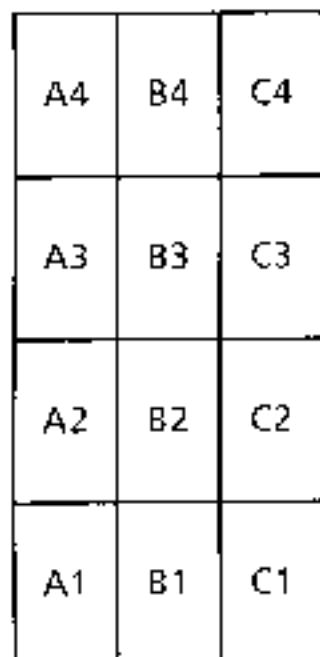
1 : BATTERY POSITIVE, PROTECTED (+ VBD)

CONNECTOR N° 3

1 : HEATER PLUGS CONTROL 1-3
2 : HEATER PLUGS CONTROL 2-4

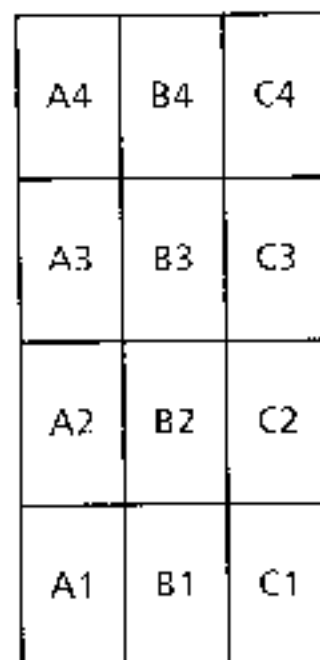
CONNECTOR N° 2

(BLACK dip holder)

A4 : POSITIVE AFTER IGNITION, AFTER RELAY
B4 : Not used for this version
C4 : ALFB LOW LOAD ADVANCE ACTUATOR COMMANDA3 : POWER EARTH
B3 : Not used for this version
C3 : EGR SOLENOID VALVE CONTROLA2 : STARTER INFORMATION INPUT
B2 : KSB ACTUATOR OUTPUT
C2 : DIAGNOSTIC INPUT : LINE LA1 : DIAGNOSTIC INPUT / OUTPUT : LINE K
B1 : FAST IDLE SOLENOID VALVE CONTROL
C1 : PREHEATING WARNING LIGHT CONTROL

CONNECTOR N° 1

(GREY dip holder)



A4 : INPUT FOR SIGNAL (SD +) FROM FLYWHEEL SENSOR (Track A)

B4 : ANALOGUE EARTH (load potentiometer)
C4 : VEHICLE SPEED INPUTA3 : INPUT FOR SIGNAL (SD -) FROM FLYWHEEL SENSOR (Track B)
B3 : ANALOGUE EARTH FOR AIR / COOLANT SENSOR
C3 : LOAD POTENTIOMETER FEEDA2 : AIR TEMPERATURE SENSOR INPUT
B2 : COOLANT TEMPERATURE SENSOR INPUT
C2 : Not used for this versionA1 : LOAD POTENTIOMETER SLIDE INPUT
B1 : Not used for this version
C1 : Not used for this version

REPLACING THE COMPUTER

SAGEM diesel injection computers are supplied configured for "with air conditioning".

If the vehicle does not have air conditioning, use command G30* on the XR25 to programme "without air conditioning".

INITIALISING XR25 / COMPUTER DIALOGUE

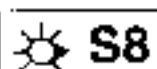
- Connect the XR25 to the diagnostic socket.
- Ignition on.
- Selector on 58
- Enter **D11**

n 53

TOOLING REQUIRED

- **XR25** test kit (with cassette 16 minimum).

N°53



code : **D 1 1**

read : **n53**

| | | | | |
|----|-------------------------------------|-----------------|-------------------------------|---|
| 1 | <input checked="" type="checkbox"/> | FEED / COMPUTER | CODE PRESENT | <input checked="" type="checkbox"/> |
| 2 | <input checked="" type="checkbox"/> | FR LH | INLET SOL. VALVE CIRCUIT | FR RH <input checked="" type="checkbox"/> |
| 3 | <input checked="" type="checkbox"/> | RR LH | | RR RH <input checked="" type="checkbox"/> |
| 4 | <input checked="" type="checkbox"/> | FR LH | EXHAUST SOL. VALVE CIRCUIT | FR RH <input checked="" type="checkbox"/> |
| 5 | <input checked="" type="checkbox"/> | RR LH | | RR RH <input checked="" type="checkbox"/> |
| 6 | <input checked="" type="checkbox"/> | FR LH | WHEEL SPEED SENSOR CIRCUIT | FR RH <input checked="" type="checkbox"/> |
| 7 | <input checked="" type="checkbox"/> | RR LH | | RR RH <input checked="" type="checkbox"/> |
| 8 | <input checked="" type="checkbox"/> | FR LH | WHEEL SPEED SIGNAL SENSORS | FR RH <input checked="" type="checkbox"/> |
| 9 | <input checked="" type="checkbox"/> | RR LH | | RR RH <input checked="" type="checkbox"/> |
| 10 | | | PUMP MOTOR CIRCUITS *30 | <input checked="" type="checkbox"/> |

BOSCH ABS

Erase fault memory : G 0 **
 End of test : G13 *

| | | | | |
|----|-------------------------------------|--------------------------------------|----------------------|-------------------------------------|
| 11 | <input checked="" type="checkbox"/> | SOL VALVES | FEED DEFECT | <input checked="" type="checkbox"/> |
| 12 | <input checked="" type="checkbox"/> | STOP CIRCUIT (CO) | TARGET FOR ONE WHEEL | <input checked="" type="checkbox"/> |
| 13 | <input type="checkbox"/> | BRAKE PEDAL DEPRESSE ← → RELEASED | | <input checked="" type="checkbox"/> |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

ADDITIONAL CHECKS : # . .

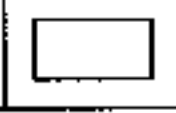
- (see note)
- 01 FR RH wheel speed Km/h
 - 02 FR LH wheel speed Km/h
 - 03 RR RH wheel speed Km/h
 - 04 RR LH wheel speed Km/h
 - 06 feed volts
 - 12 computer identification
 - 2 5 6. 5 if X66
 - 2 2 0. 5 if X65 / 76
 - 2 14. 5 if X54 PH2
 - 90 card number (53)

CONTROL MODES : G...*

- (if veh. speed is zero and for SV tests, depress brake pedal)
- 03 Test FR LH sol. valves
 - 04 Test FR RH sol. valves
 - 05 Test RR LH sol. valves
 - 06 Test RR RH sol. valves
 - 20 Engine and sol. valve static test

NOTE : for safety, the computer can exit diag. when driving along


16 ANG

| | | |
|--|--|--------------------|
| <p>1</p>  | <p>Bargraph 1 RH side extinguished</p> <p><u>Code present</u></p> | <p>Fiche n° 53</p> |
|--|--|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>This bargraph must be illuminated for fault finding to be performed.</p> |
|---------------------|---|

| |
|---|
| <p>Check:</p> <ul style="list-style-type: none"> - battery voltage (> 9 volts), - fuse F37 : 7.5 A, - the connection between the XR25 and the diagnostic socket, - the position of the selector (S8), - the conformity of the cassette. <p>Repair if necessary.</p> |
| <p>Check for - 12 volts on track 16 (fuse F7) and earth on track 4 of the diagnostic socket.</p> |
| <p>Check the connection and condition of the connections on the computer connector.</p> |
| <p>Check that the computer is correctly fed:</p> <ul style="list-style-type: none"> - earth on track 1, - + after ignition feed on track 4 (F37). |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p>1</p>  | <p>Bargraph 1 LH side illuminated <u>Computer circuit</u></p> <p>fiche n° 53</p> |
|--|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Computer is incorrect or faulty.
Replace the computer.


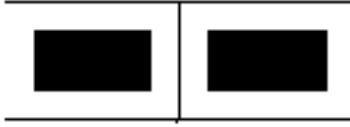
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|---|
| <p>2 - 3 - 4 - 5</p>  | <p>Bargraphs 2 - 3 - 4 - 5 <u>Solenoid valves circuit</u></p> <p>Fiche n° 53</p> |
|--|---|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>If BG 12 LH side is illuminated, refer to BG 12 LH side .</p> |
|---------------------|--|

| |
|--|
| <p>Check the operation of the solenoid valves using the functions on the XR25 :</p> <ul style="list-style-type: none">- G03* → Front left- G04* → Front right- G05* → Rear left- G06* → Rear right <p>If no solenoid valves are operating, refer to Bargraph 12 LH side.</p> <p>If one or more solenoid valves are not operating, replace the ABS assembly.</p> |
|--|


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|--------------------|
| <p>6</p>  <p>7</p>  | <p>Bargraphs 6 RH, 6 LH, 7 RH, 7 LH illuminated</p> <p><u>Sensors circuit</u> XR25 aid : Open circuit</p> | <p>Fiche n° 53</p> |
|---|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| | | | | | | | | | | | | | | |
|---|--------------|----------------|----------------|---|-----------------|-----------------|---|----------------|--------------|---|----------------|--------------|---|----------------|
| <p>Check the connector of the sensor at fault.</p> <p>If the connector is correct, check the resistance of the sensor:</p> <ul style="list-style-type: none"> front sensor resistance = 1.1 kΩ - rear sensor resistance = 1.6 kΩ | | | | | | | | | | | | | | |
| <p>Check the continuity between the connector for the faulty sensor and the computer:</p> <table style="border: none;"> <tr> <td style="padding-right: 10px;">- FLH sensor</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">tracks 16 - 17</td> <td rowspan="4" style="font-size: 3em; padding: 0 10px;">}</td> <td rowspan="4" style="vertical-align: middle;">A.B.S. assembly</td> </tr> <tr> <td style="padding-right: 10px;">- FRH sensor</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">tracks 22 - 24</td> </tr> <tr> <td style="padding-right: 10px;">- RRH sensor</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">tracks 20 - 21</td> </tr> <tr> <td style="padding-right: 10px;">- RLH sensor</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">tracks 18 - 19</td> </tr> </table> | - FLH sensor | → | tracks 16 - 17 | } | A.B.S. assembly | - FRH sensor | → | tracks 22 - 24 | - RRH sensor | → | tracks 20 - 21 | - RLH sensor | → | tracks 18 - 19 |
| - FLH sensor | → | tracks 16 - 17 | } | | | A.B.S. assembly | | | | | | | | |
| - FRH sensor | → | tracks 22 - 24 | | | | | | | | | | | | |
| - RRH sensor | → | tracks 20 - 21 | | | | | | | | | | | | |
| - RLH sensor | → | tracks 18 - 19 | | | | | | | | | | | | |
| <p>Check the target / sensor gap for the wheel at fault:</p> <ul style="list-style-type: none"> - front wheel 0.8 mm ± 0.6 - rear wheel 0.8 mm ± 0.5 | | | | | | | | | | | | | | |
| <p>After the operation, check the operation of the sensor using functions #01, #02, #03, #04 on the XR25.</p> | | | | | | | | | | | | | | |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p style="text-align: center;">8 - 9</p>  | <p>Bargraphs 8 - 9 illuminated <u>Wheel speed sensors signals</u></p> <p style="text-align: right;">Fiche n° 53</p> |
|--|--|

| | |
|---|--|
| <p style="text-align: center;">NOTES</p> | <p>If BG 6 or BG 7 are illuminated, refer to BG 6 or BG 7.</p> |
|---|--|

| |
|---|
| <p>These bargraphs illuminate when the signal to the sensors is poor or does not exist.</p> <p>Check the connector for the sensor at fault, its resistance (1.1 kΩ for the front , 1.6 kΩ for the rear).</p> <p>Check its operation using functions #01, #02, #03, #04 on the XR25.</p> <p>If the fault persists, replace the sensor.</p> |
|---|


| | |
|--|--|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|--|--|

| | | |
|---|---|--------------------|
| <p>10</p>  | <p>Bargraph 10 RH side illuminated</p> <p><u>Pump motor circuit</u></p> <p>XR25 aid : *30 : 1.dEF CO earth</p> | <p>Fiche n° 53</p> |
|---|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| |
|--|
| <p>Check the continuity to earth of the motor.</p> |
| <ul style="list-style-type: none"> - Erase the computer memory (G0**). - Enter the code for ending fault finding (G13*). - Turn the ignition off then on again. - Enter code D11 again. <p>Does Bargraph 10 RH side illuminate?</p> <p>If it does, replace the ABS assembly.</p> |

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|--|-------------|
| 11  | Bargraph 11 LH side illuminated <u>Stop switch circuit</u> | Fiche n° 53 |
|---|--|-------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|


Check the stop lights fuse F40 (20 A).

Does Bargraph 13 RH side illuminate when the brake pedal is pressed ?

| | |
|------------|--|
| YES | The stop lights do not illuminate: - check the condition of the bulbs, - check the earth for the bulbs, - check the continuity between track 3 on the switch and the bulbs. |
|------------|--|

| | |
|-----------|--|
| NO | The stop lights operate : - check the continuity between track 3 on the switch and computer track 28. |
|-----------|--|


| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|---|--|--------------------|
| <p>12</p>  | <p>Bargraph 12 RH side illuminated <u>Wheel target</u></p> | <p>Fiche n° 53</p> |
|---|--|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| |
|--|
| <p>Incorrect target sensor signal.</p> |
| <p>Check the gaps:</p> <ul style="list-style-type: none"> - front wheels 0.8 mm ± 0.6 - rear wheels 0.8 mm ± 0.5 |
| <p>Check the conformity of the targets:</p> <ul style="list-style-type: none"> condition, - number of teeth. |
| <p>Check the quality of the sensor mountings (tightened to correct torque).</p> |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|--------------------|
| <p>12</p>  | <p>Bargraph 12 LH side illuminated</p> <p>Solenoid valve relay feed circuit</p> <p>XR25 aid : *12 : 2.dEF CO track 3 solenoid valve cannot be controlled</p> | <p>Fiche n° 53</p> |
|---|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| |
|---|
| <p>Check fuse F51 : 60 A.</p> |
| <p>Check the continuity between fuse 51 and computer track 3.</p> <p>Repair if necessary.</p> |
| <p>If the fault persists, replace the computer.</p> |

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|--------------------|
| <p>13</p>  | <p>Bargraphs 13 RH side, 13 LH side <u>Brake pedal status</u></p> | <p>Fiche n° 53</p> |
|---|---|--------------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Illuminated on LH side: brake pedal depressed. Illuminated on RH side: brake pedal released.</p> |
|---------------------|--|

- Check that Bargraph 13 illuminates alternately on the LH and RH sides when the brake pedal is pressed and released.
- Check that the stop lights illuminate when the brake pedal is pressed.
- Check the condition and adjustment of the stop switch and the lights fuse F40 (20 A).
- Check the continuity between track 3 on the switch and track 28 on the computer.
- Repair or replace the switch if necessary.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

NOTES

Only refer to these customer complaints after having performed a complete test using the XR25

WHEN THE IGNITION IS TURNED ON

Warning light does not illuminate

Chart 1

Warning light illuminates permanently

Chart 2

Warning light flashes

Chart 3

WHEN THE ENGINE IS STARTED, THE WARNING LIGHT ILLUMINATES AGAIN

Chart 4

DURING BRAKING WITH ABS REGULATION

Warning light illuminates

Chart 5

One or more wheels lock

Chart 6

Vehicle pulls

Chart 7

Pedal action is hard

Chart 10

"UNEXPECTED" ABS OPERATION

On poor roads

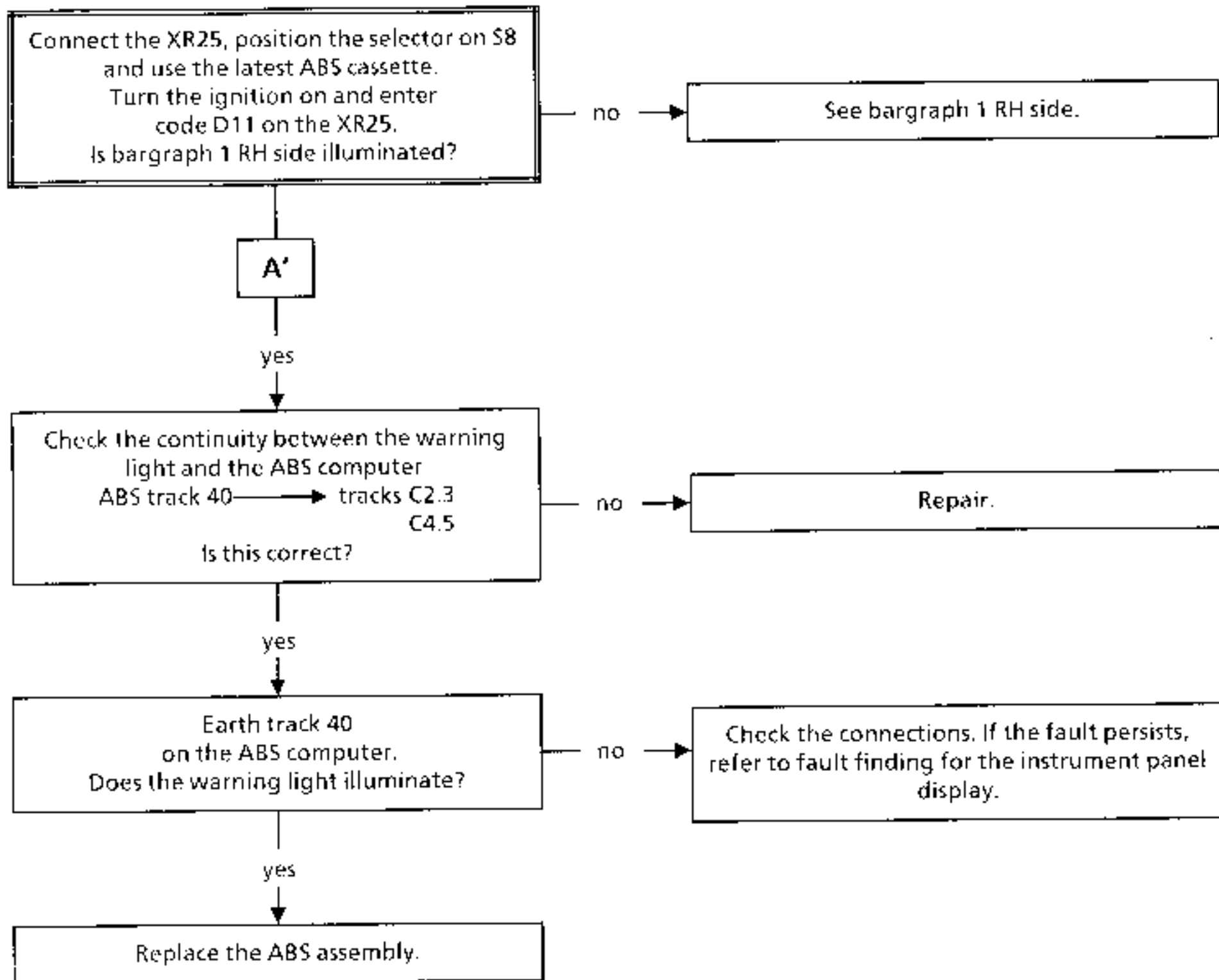
Chart 8

When using special equipment (radio telephone, CB, ...)

Chart 9

| | |
|----------------|---|
| Chart 1 | WHEN THE IGNITION IS TURNED ON Warning light does not illuminate |
|----------------|---|

| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|---|
| Chart 2 | WHEN THE IGNITION IS TURNED ON Warning light illuminates permanently |
|----------------|---|

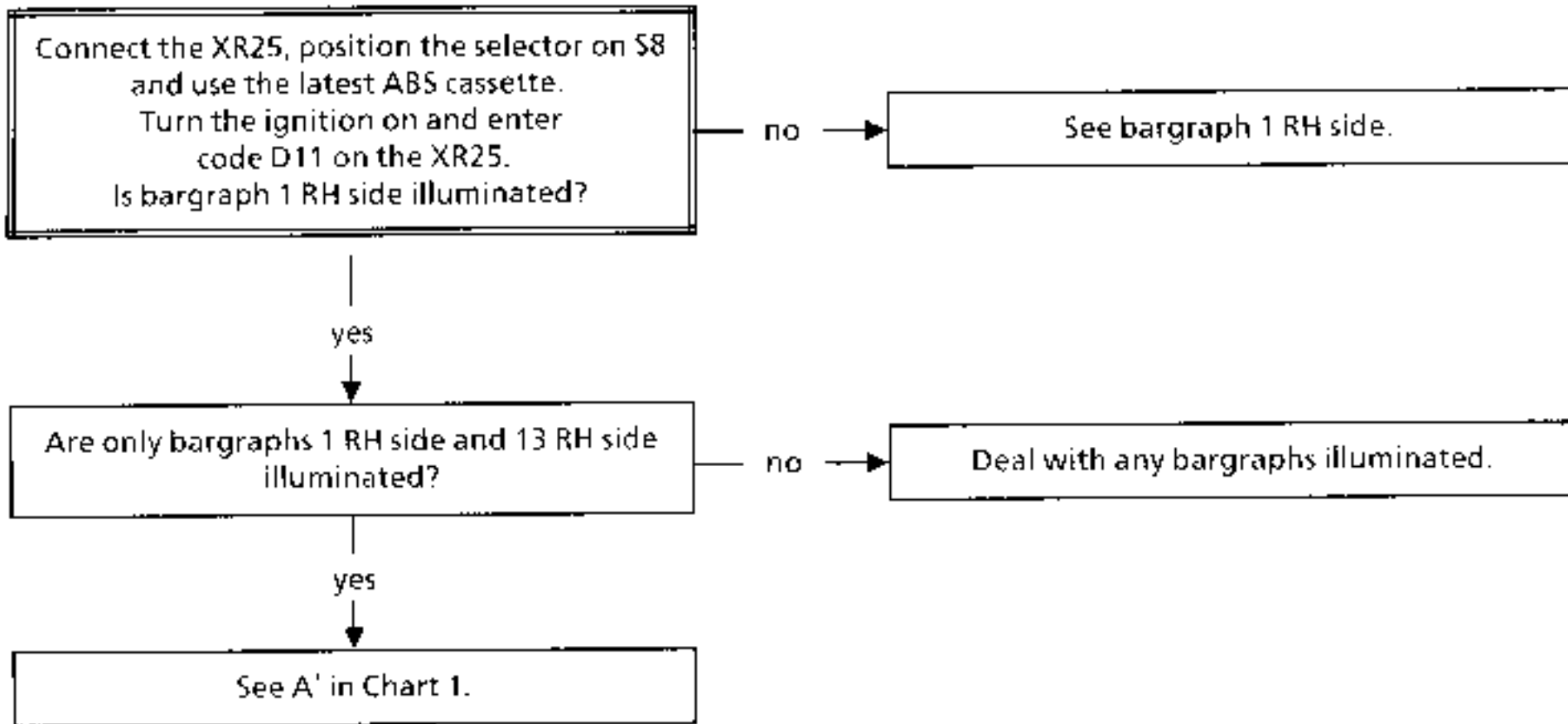
| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|

Check the battery voltage (> 9 volts),
the computer feed voltage (#06 on the
XR25).
Check the insulation of the
warning light circuit:
display C2.3 } track 40
 C4.5 } ABS computer
If the fault persists, replace the ABS assembly.

| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|--|
| Chart 3 | WHEN THE IGNITION IS TURNED ON, Warning light flashes |
|----------------|--|

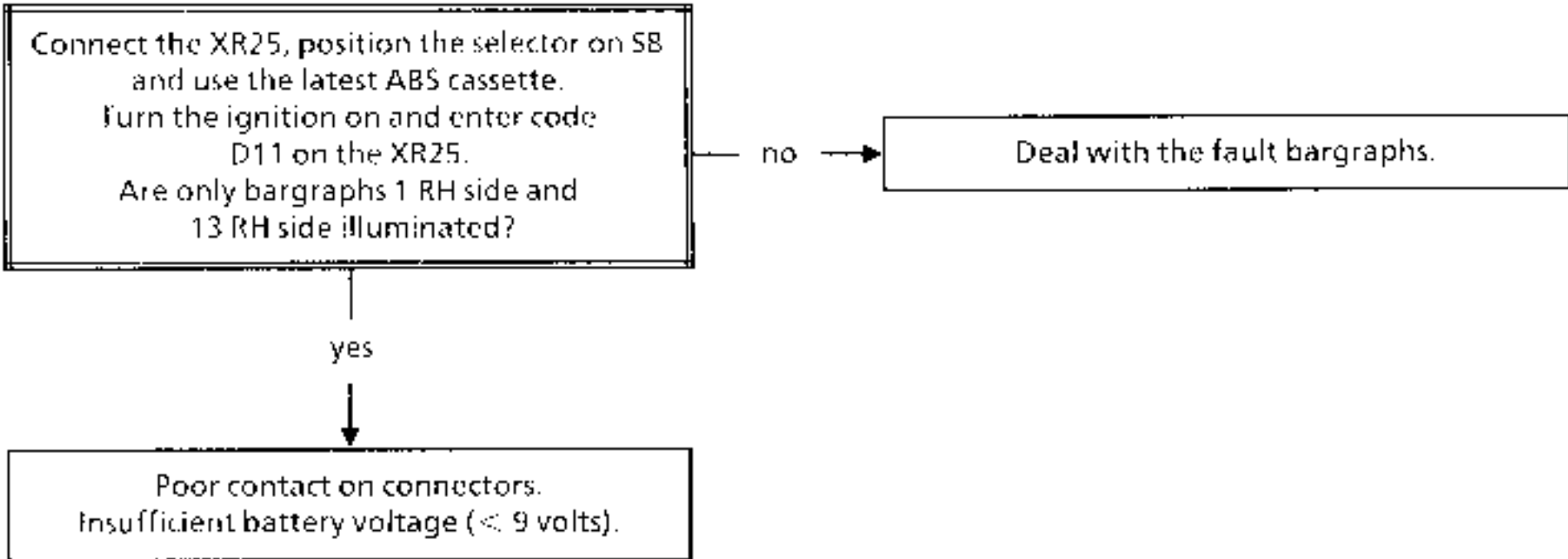
| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|--|
| Chart 4 | WHEN THE ENGINE IS STARTED, THE WARNING LIGHT ILLUMINATES AGAIN |
|----------------|--|

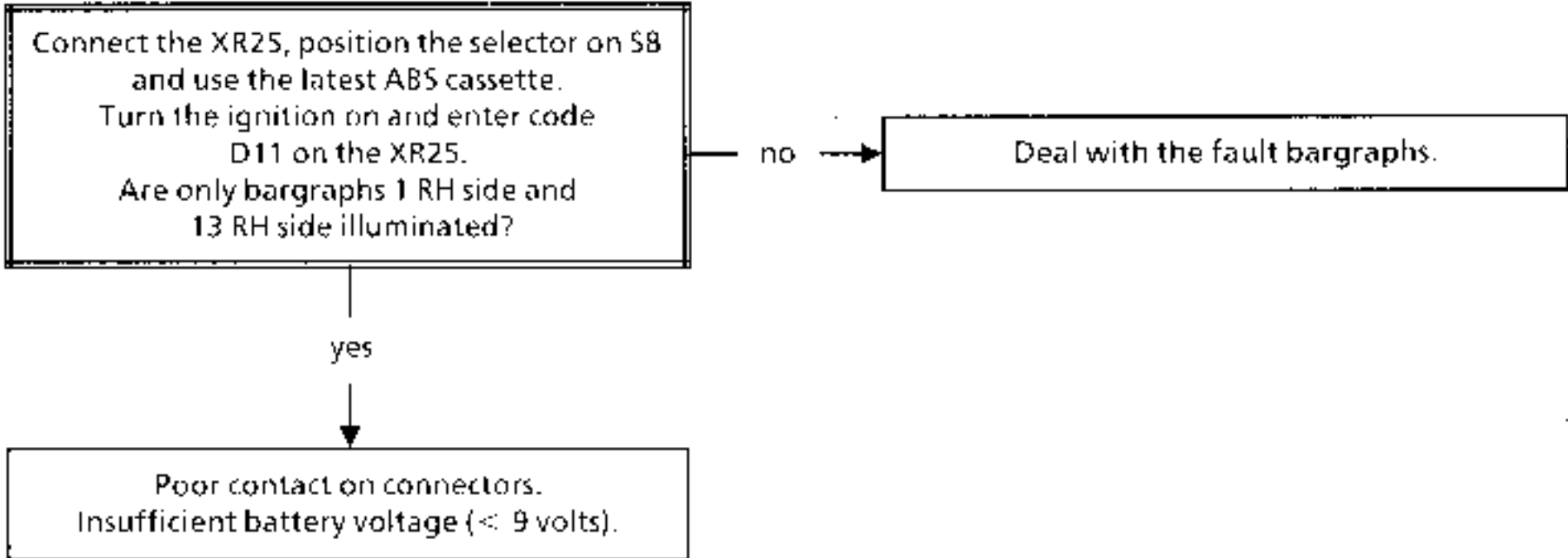
| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|---|
| Chart 5 | DURING BRAKING WITH ABS REGULATION Warning light illuminates |
|----------------|---|

| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|---|
| Chart 6 | DURING BRAKING WITH ABS REGULATION One or more wheels lock |
|----------------|---|

| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|

Reminder: Locking of the wheels on a vehicle fitted with ABS or tyre squeal, which the customer assumes to be wheels locking, may be due to a normal reaction of the system and should not be automatically considered as a fault:

- locking is permitted below 6 mph (10 km/h) (system is not active),
- braking with ABS regulation on very poor road surfaces (high degree of tyre squeal).



If, on the other hand, the wheels really are locking, lift the vehicle so that the wheels may be turned and check:

- for a possible incorrect connection of the speed sensors. Use functions #1, #2, #3 and #4 while turning the associated wheel and ensure the results obtained are correct.
- for a possible incorrect connection of the pipes on the hydraulic assembly. Use functions G3*, G4*, G5 and G06* while pressing the brake pedal and check that the locking / release cycles occur at the wheel/s concerned.

Also check the target / sensor gap over one turn on each wheel:

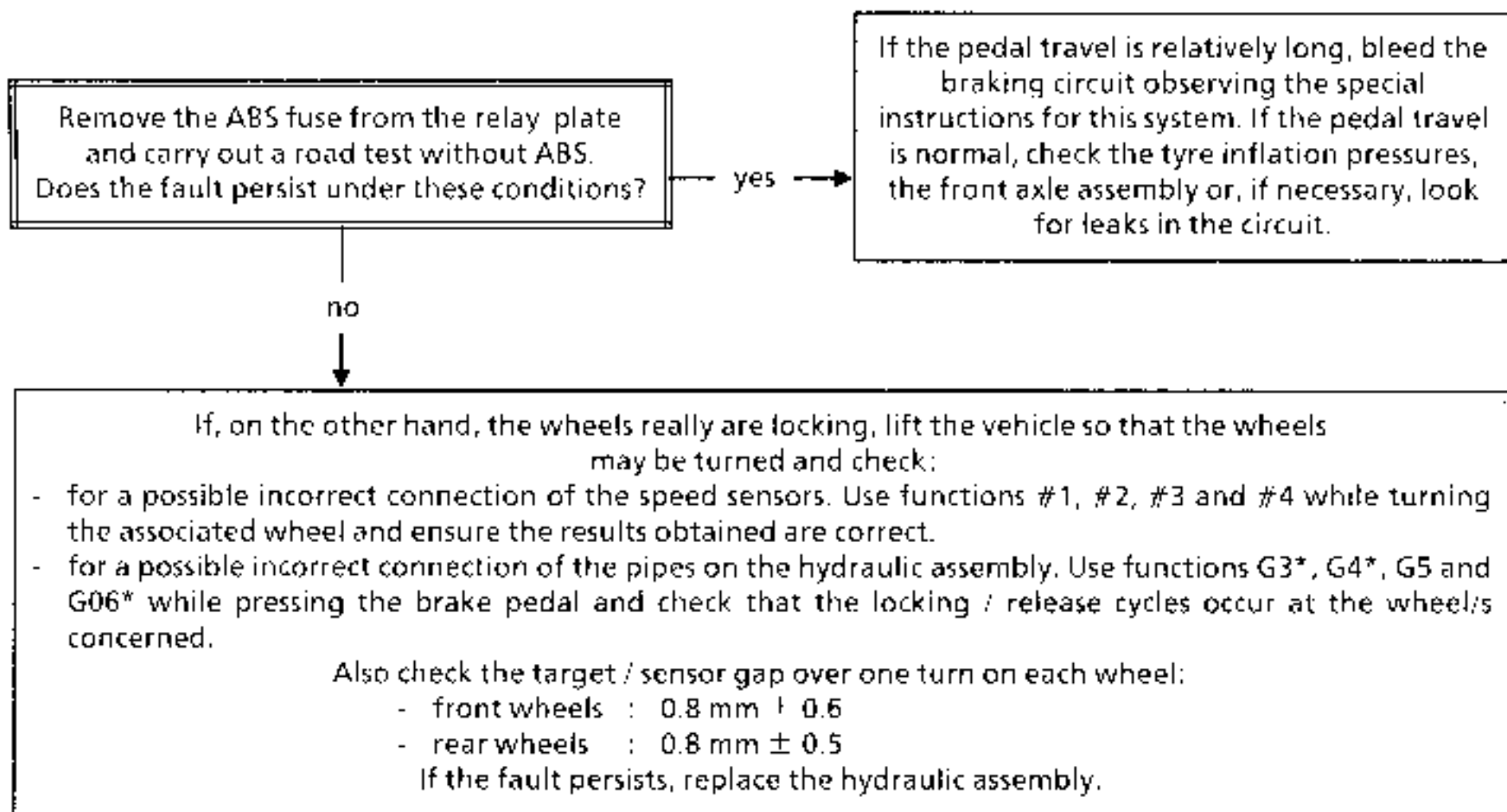
- front wheels : 0.8 mm ± 0.6
- rear wheels : 0.8 mm ± 0.5

If the fault persists, replace the hydraulic assembly.

| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|--|
| Chart 7 | DURING BRAKING WITH ABS REGULATION Vehicle pulls |
|----------------|--|

| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

Chart 8

UNEXPECTED" ABS OPERATION
On poor roads

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

On poor road surfaces, it is normal to feel jerky action and vibrations of the pedal together with a higher degree of tyre squeal than on good roads. This gives an impression of variation in efficiency and should be considered as normal.

AFTER REPAIR

Check the system operates correctly.

Chart 9

UNEXPECTED" ABS OPERATION
When using special equipment (radio telephone, CB, ...)

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

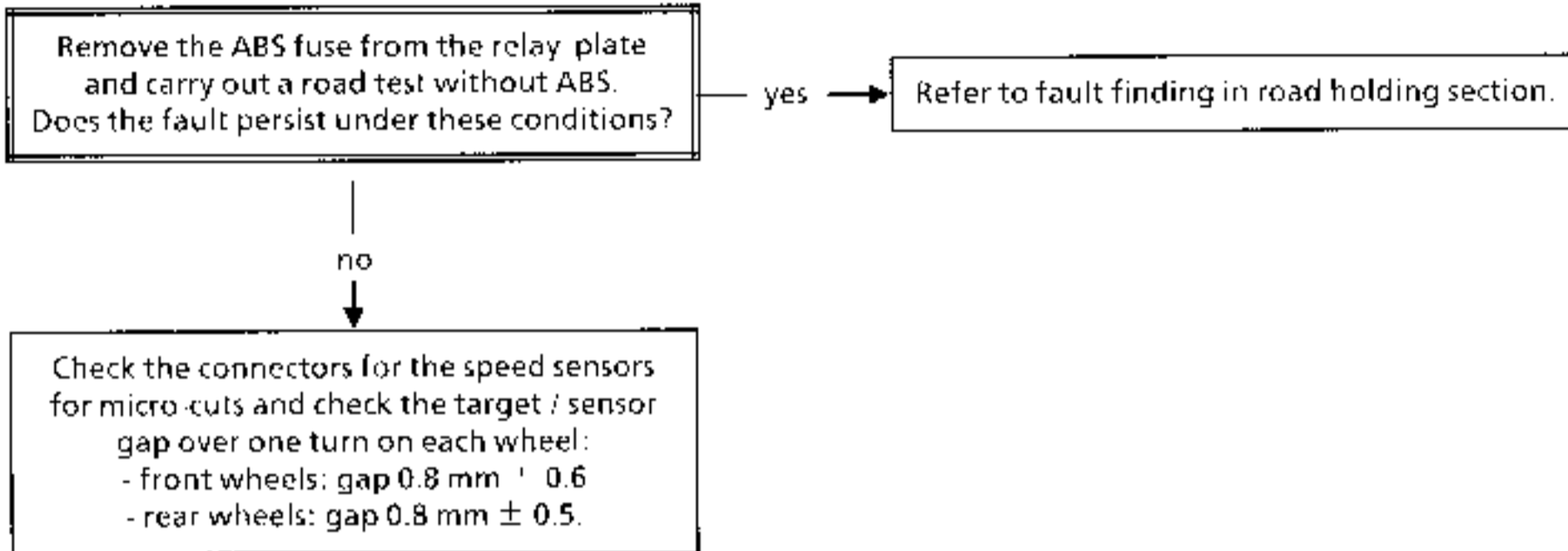
Check that this equipment has been correctly installed with no modifications to the original wiring, in particular that for the ABS system.

AFTER REPAIR

Check the system operates correctly.

| | |
|-----------------|---|
| Chart 10 | DURING BRAKING WITH ABS REGULATION Pedal action is hard |
|-----------------|---|



| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

NOTES

Before checking conformity, check that the fault bargraphs are not illuminated and that there are no customer complaints.

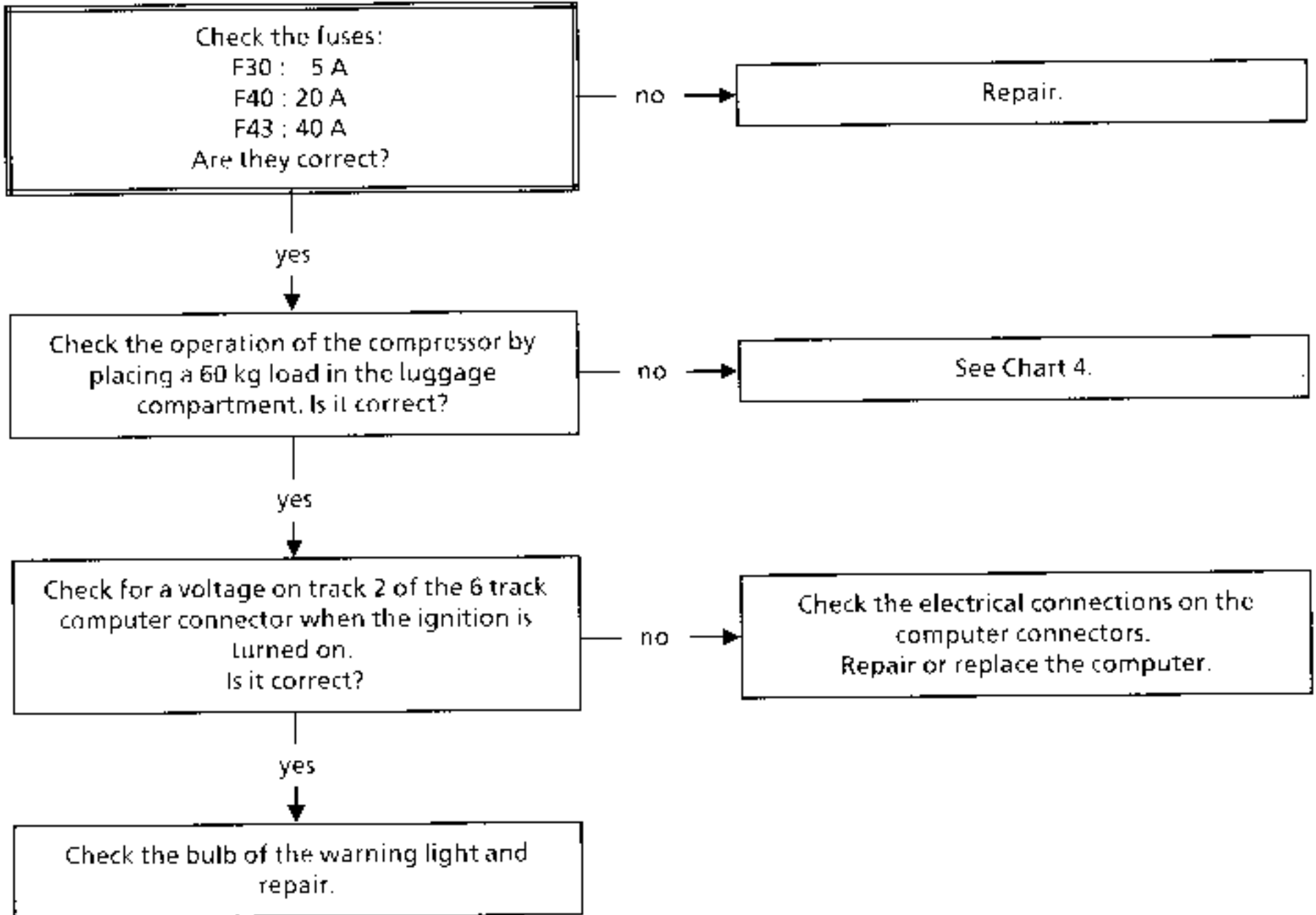
| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|--|---|--|
| 1 | Dialogue with XR25 | D11 (selector on S8) | | n53 Use fiche n° 53 |
| 2 | Interpretation of normally illuminated bargraphs | | <p style="text-align: center;">1</p>  <p style="text-align: center;">13</p>  | Code present Brake pedal released |
| 3 | Solenoid valve operation | G03* : FLH G04* : FRH G05* : RLH G06* : RRH | | TES FIN |
| 4 | Wheel speed | #01 : FRH #02 : FLH #03 : RRH #04 : RLH | | FRH wheel ↓ I XXX ↑ speed in km/h |
| 5 | Voltage downstream of solenoid valve relay | #06 | | bon voltage ≥ 9 V |

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

- | | | |
|--|---|---------|
| | WARNING LIGHT DOES NOT ILLUMINATE WHEN THE IGNITION IS TURNED ON | Chart 1 |
| | WARNING LIGHT REMAINS ILLUMINATED AFTER IGNITION TURNED ON | Chart 2 |
| | WARNING LIGHT ILLUMINATES WHEN IGNITION IS OFF AND EXTINGUISHES WHEN IGNITION IS TURNED ON | Chart 3 |
| | WARNING LIGHT ILLUMINATES DURING DRIVING (with no modification to vehicle suspension level) | Chart 4 |

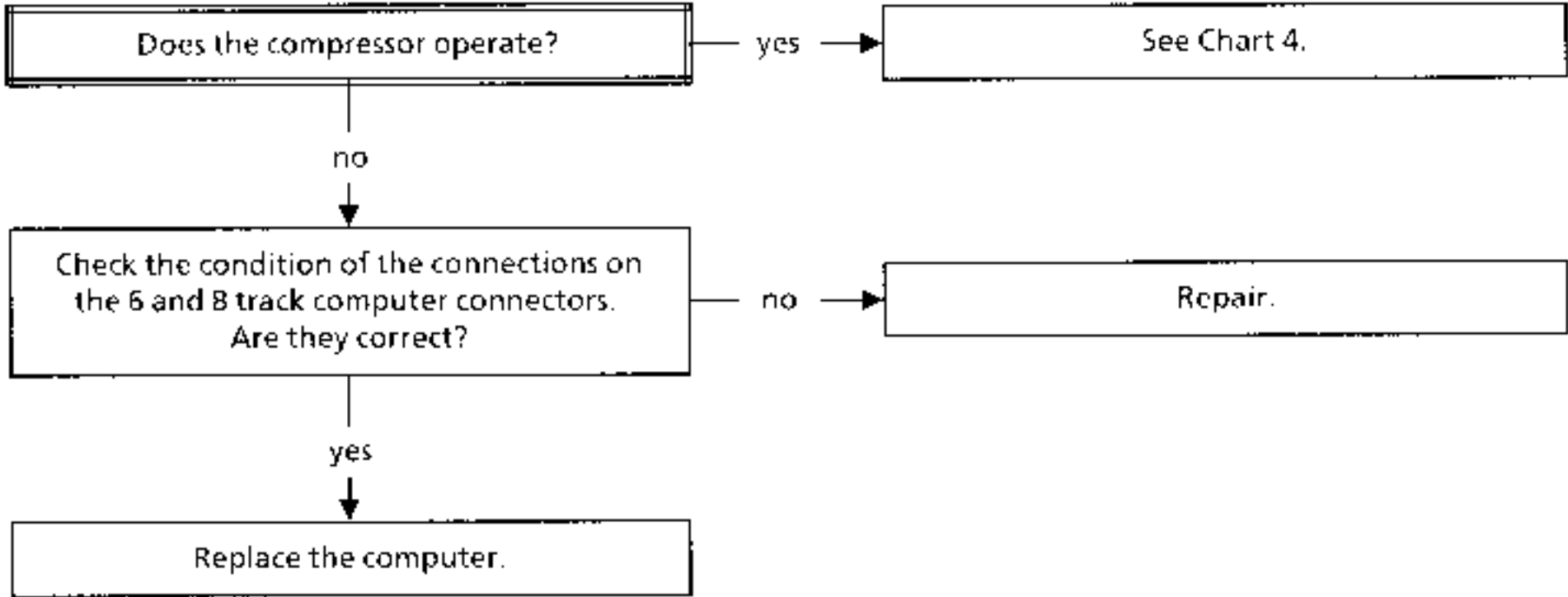
| | |
|----------------|---|
| Chart 1 | WARNING LIGHT DOES NOT ILLUMINATE WHEN THE IGNITION IS TURNED ON |
|----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



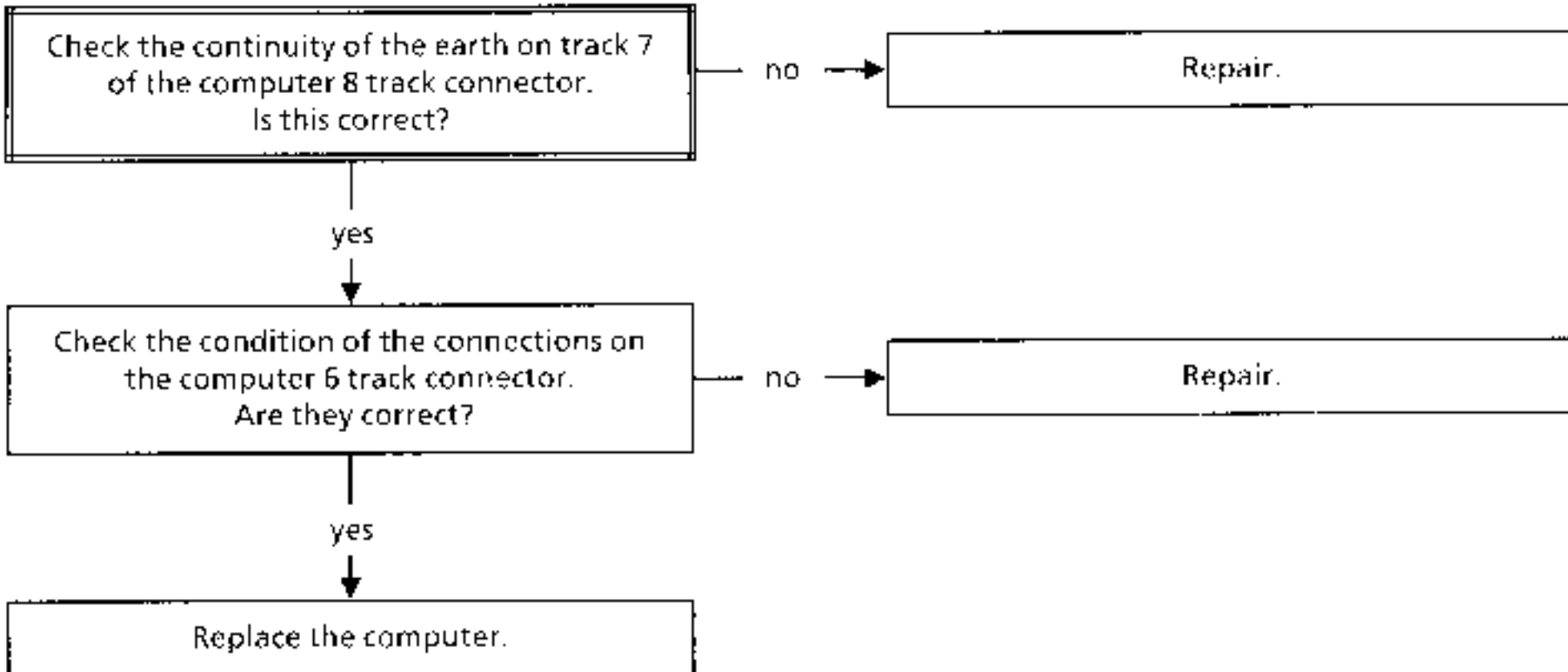
| | |
|----------------|--|
| Chart 2 | WARNING LIGHT REMAINS ILLUMINATED AFTER IGNITION TURNED ON (> 3 seconds) |
|----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



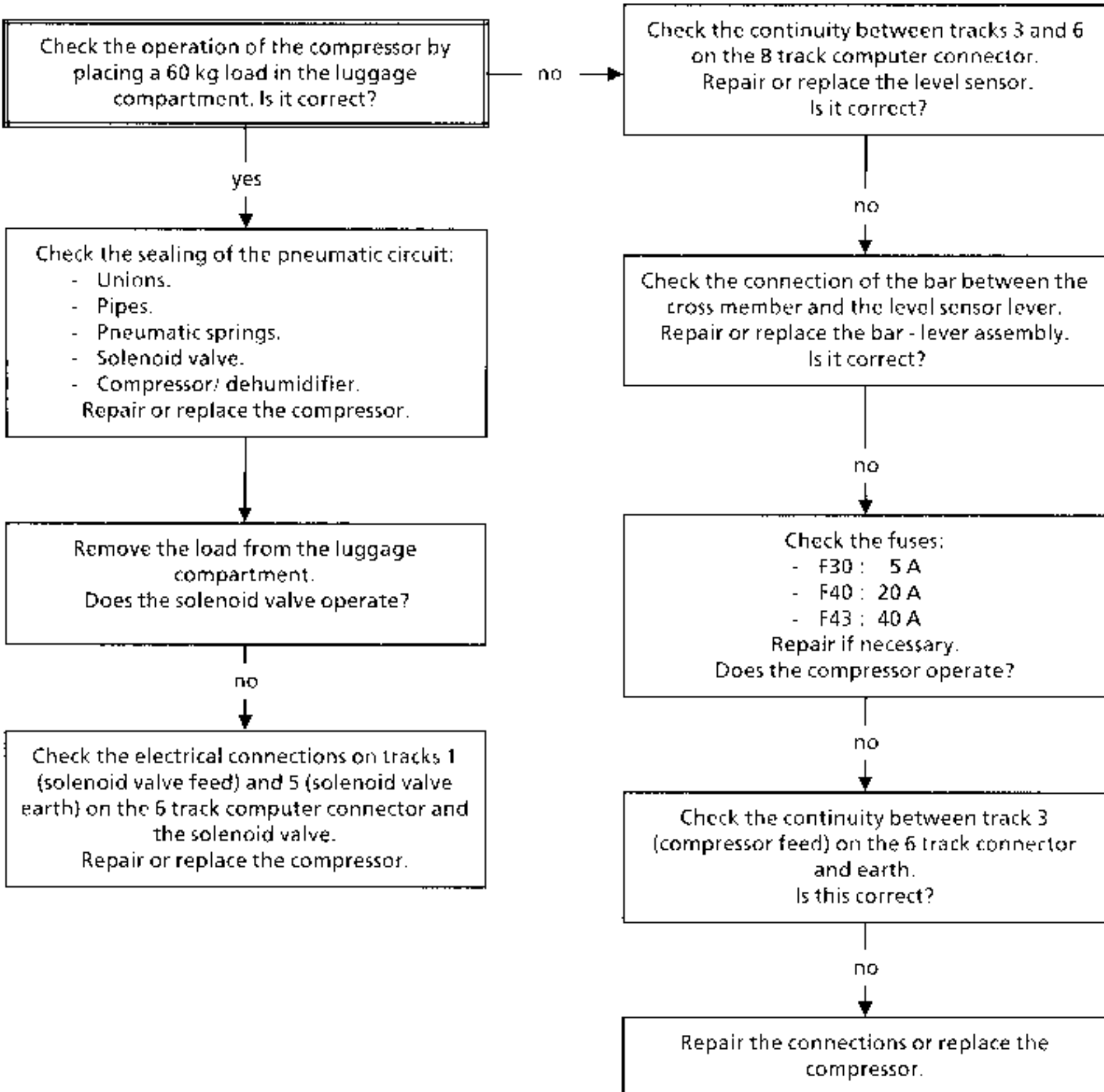
| | |
|----------------|---|
| Chart 3 | WARNING LIGHT ILLUMINATES WHEN IGNITION IS OFF AND EXTINGUISHES WHEN IGNITION IS TURNED ON |
|----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|----------------|---|
| Chart 4 | WARNING LIGHT ILLUMINATES WITH NO MODIFICATION TO SUSPENSION LEVEL |
|----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

AIR FLOW FAULT

- | | | |
|---|---|---------|
| — | Passenger compartment fan does not operate | Chart 1 |
| — | Passenger compartment fan does not operate on certain positions | Chart 2 |
| — | Passenger compartment fan operates at all speeds | Chart 3 |

AIR DISTRIBUTION FAULT Chart 4

HEATING INEFFICIENT Chart 5

NO HEATING Chart 6

TOO MUCH HEATING Chart 7

HEATING INSUFFICIENT TO REAR SEATS Chart 8

THE RECYCLING FLAP DOES NOT OPERATE Chart 9

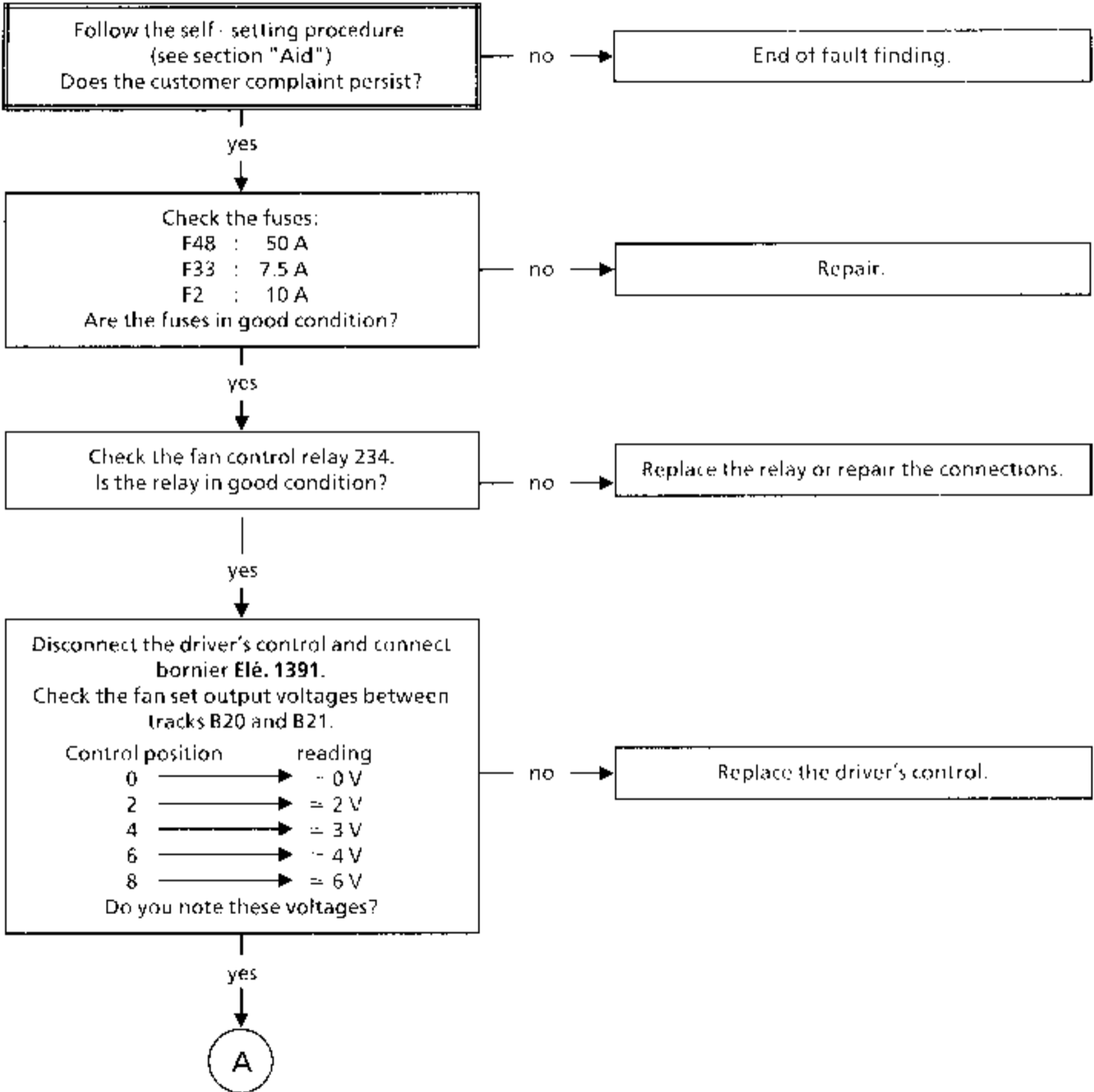
DE-ICING / DEMISTING INEFFICIENT Chart 10

REAR VIEW MIRRORS DE-ICING INEFFICIENT Chart 11

HEATED REAR SCREEN DE-ICING INEFFICIENT Chart 12

| | |
|----------------|--|
| Chart 1 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN DOES NOT OPERATE |
|----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 1
CONT

A

Chart 1A

Check the voltages at the connector terminals on the fans.

| Slide position | Reading |
|----------------|---------|
| 0 | = 0 V |
| 2 | = 4.5 V |
| 4 | = 7.5 V |
| 6 | = 9 V |
| 8 | = 11 V |

Do you note these voltages?

no

Check the connections on the regulator and the motors.
Are they correct?

yes

no

Replace the regulator.

Repair.

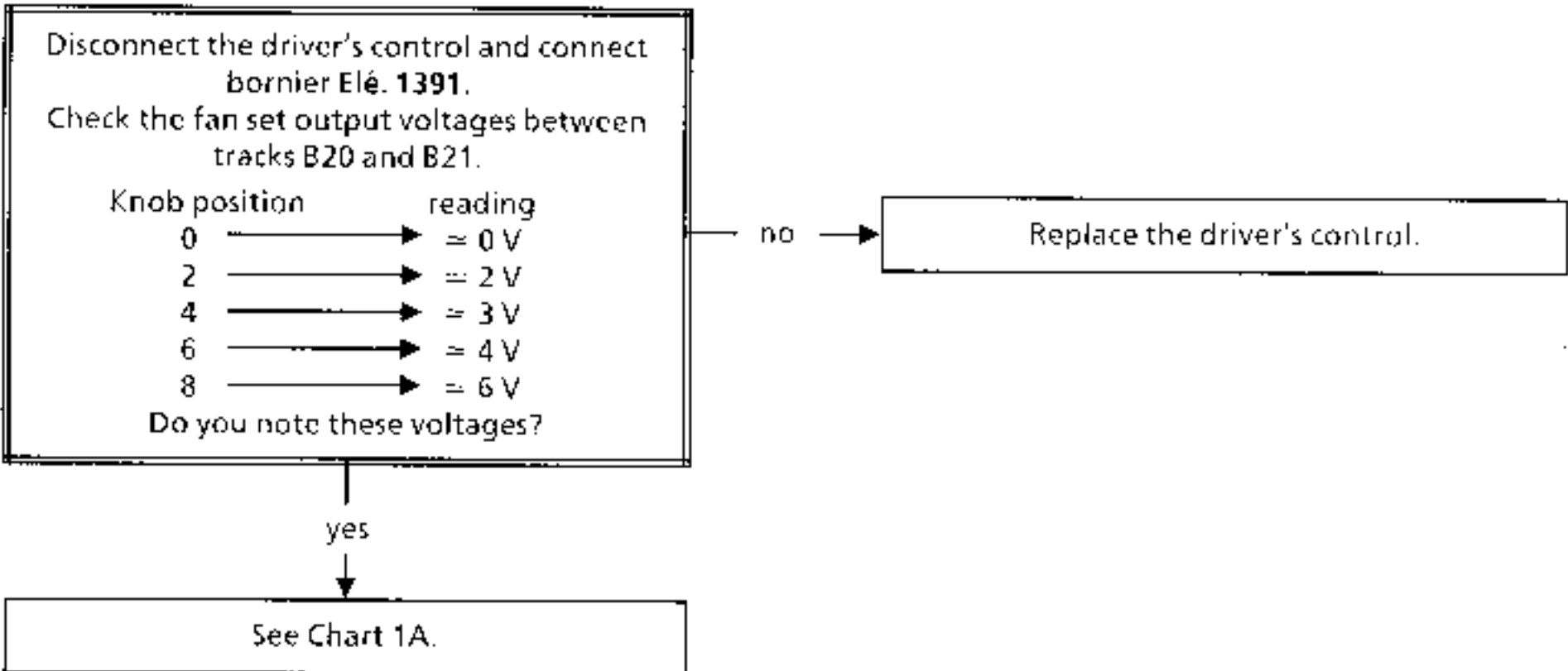
yes

Replace the faulty fan/s.

AFTER REPAIR Carry out a road test.

| | |
|---------|---|
| Chart 2 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN DOES NOT OPERATE ON CERTAIN POSITIONS |
|---------|---|

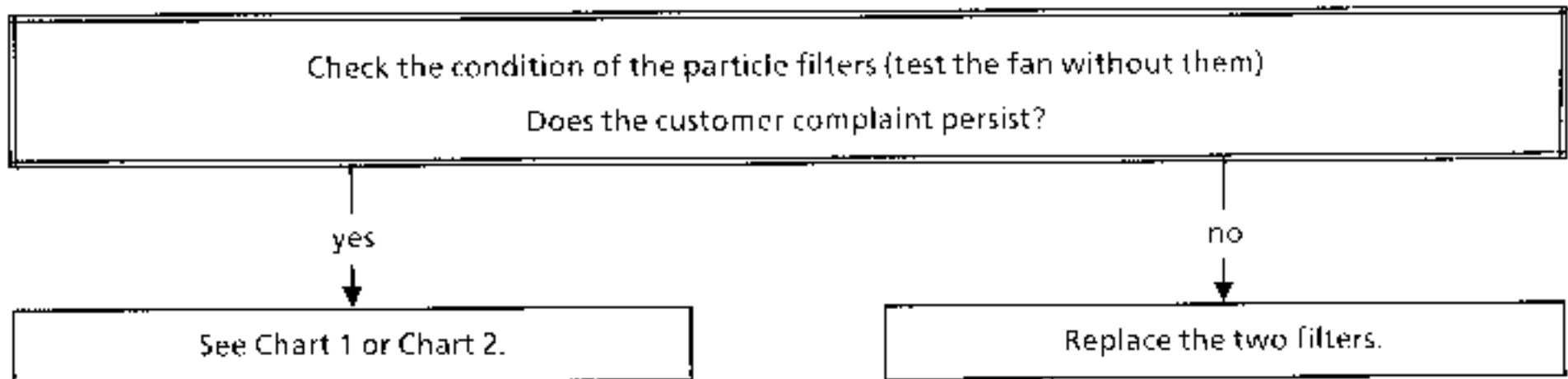
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|--|
| Chart 3 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN OPERATES AT ALL SPEEDS |
|----------------|--|

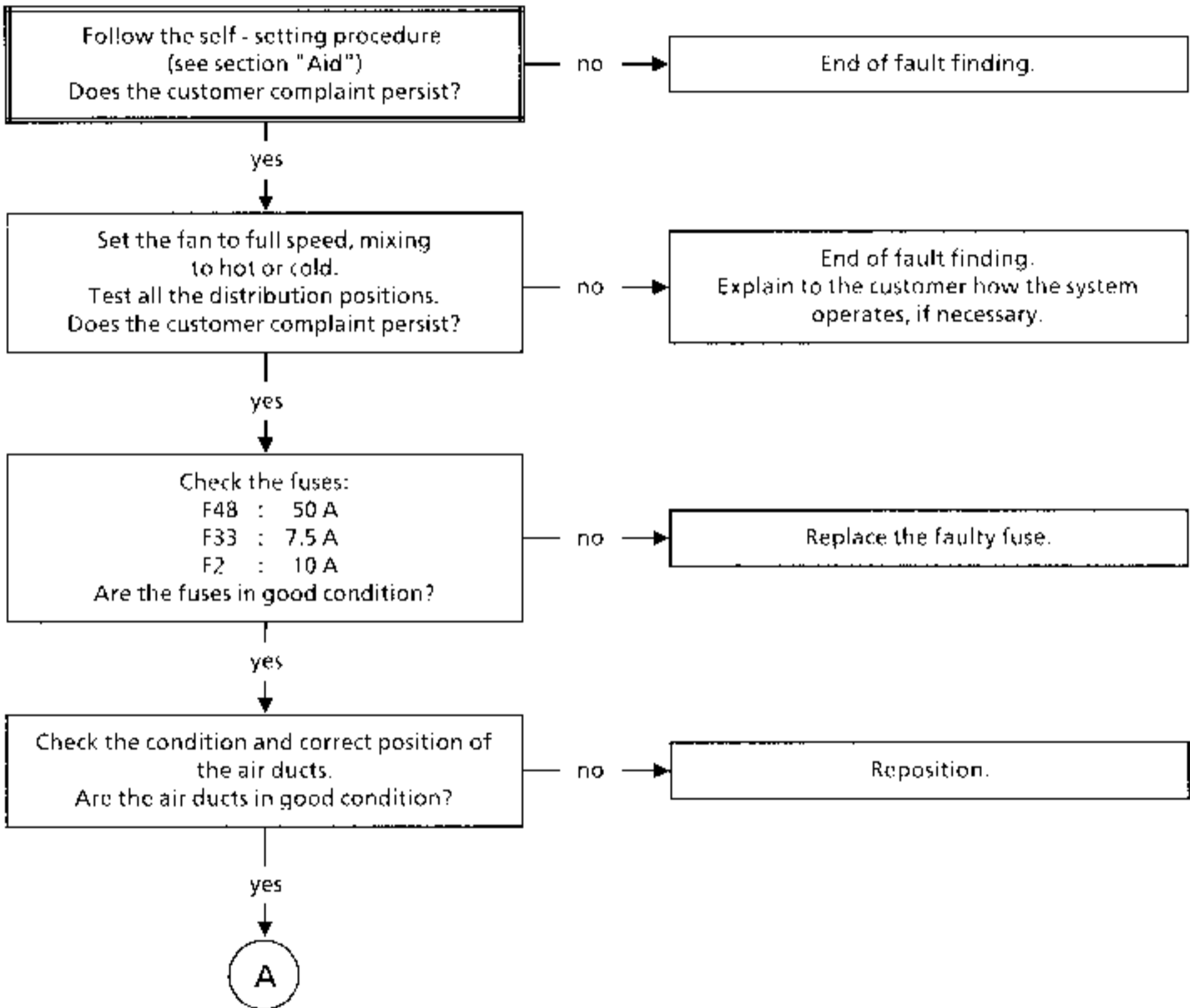
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|-------------------------------|
| Chart 4 | AIR DISTRIBUTION FAULT |
|----------------|-------------------------------|

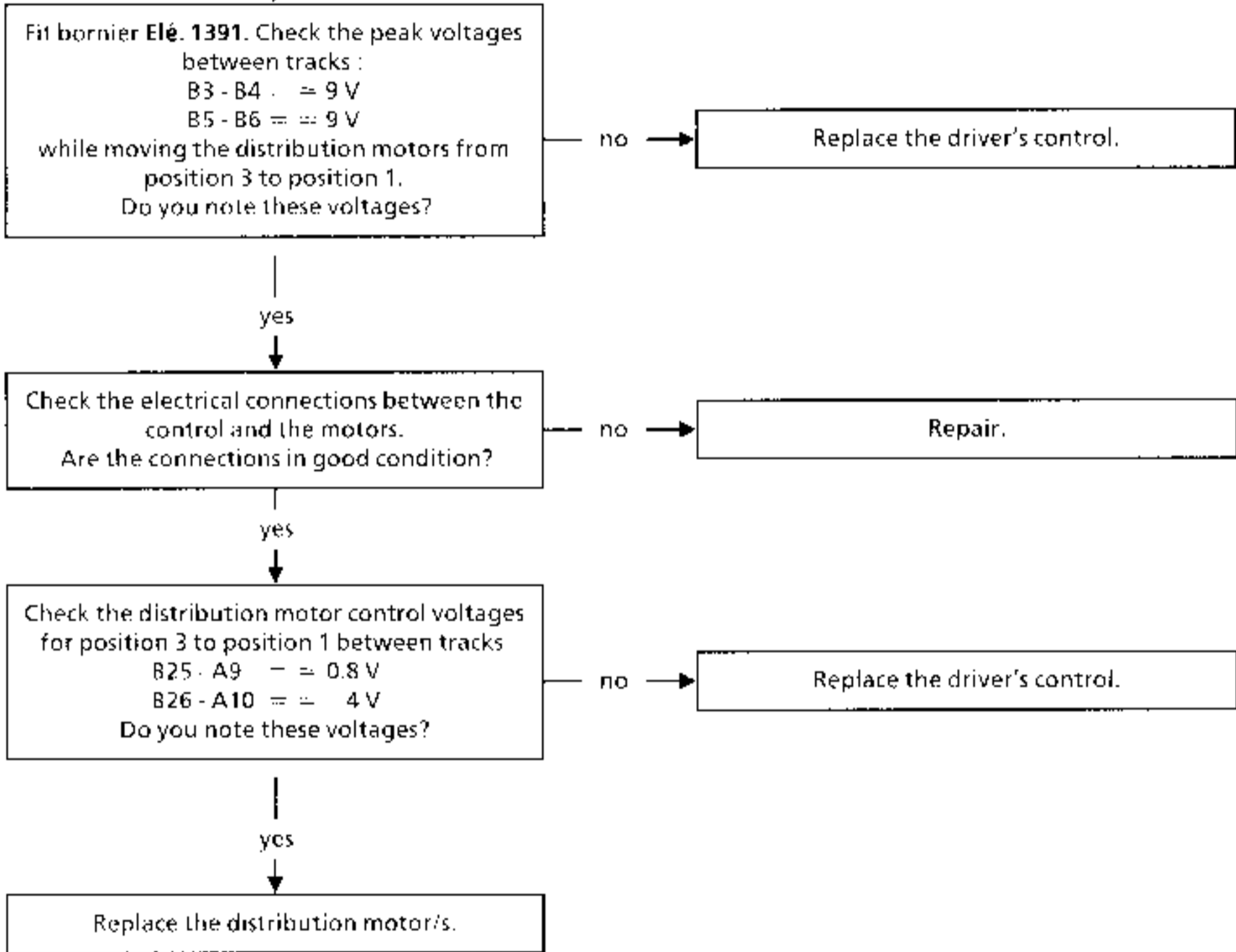
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

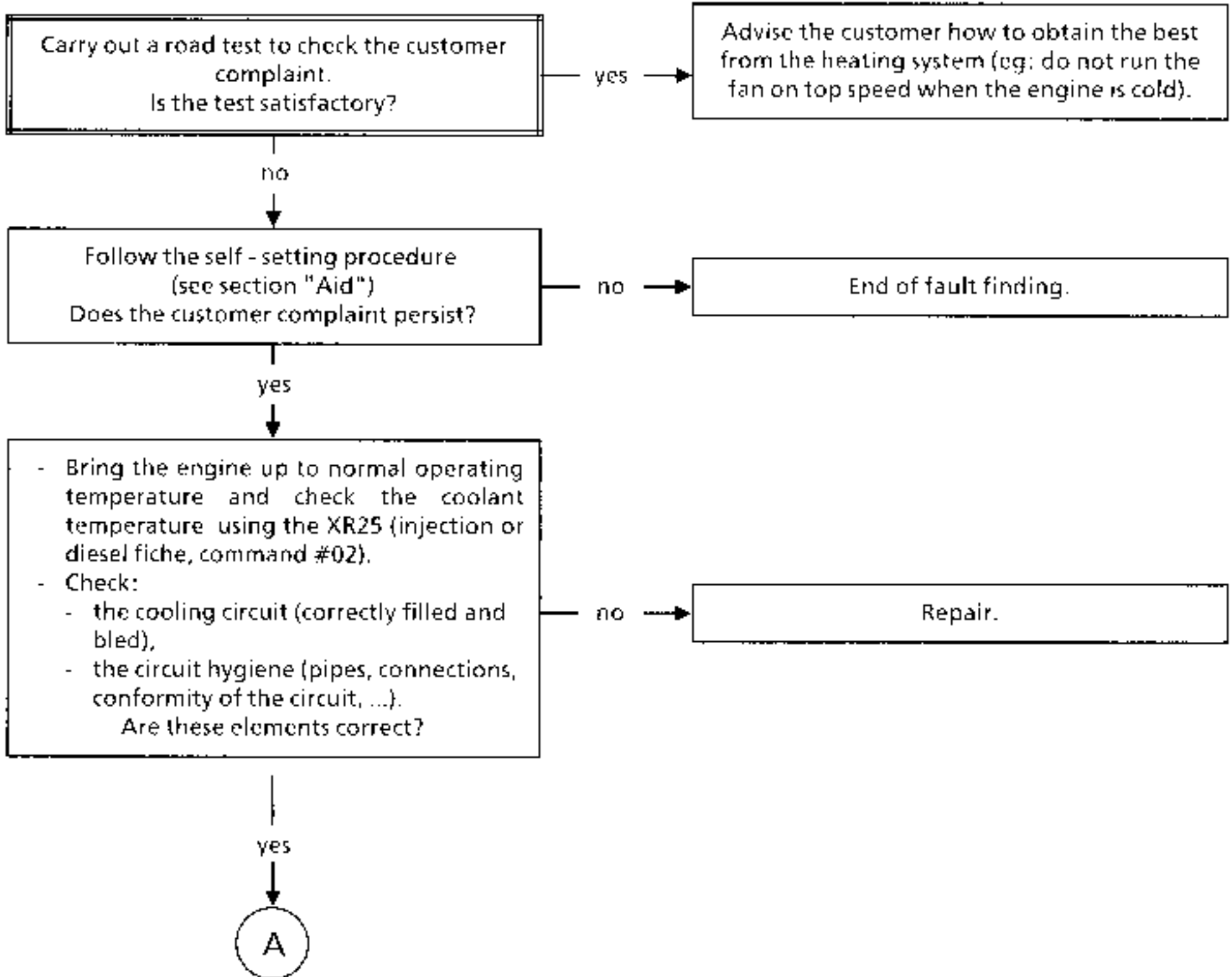
Chart 4
CONT

A



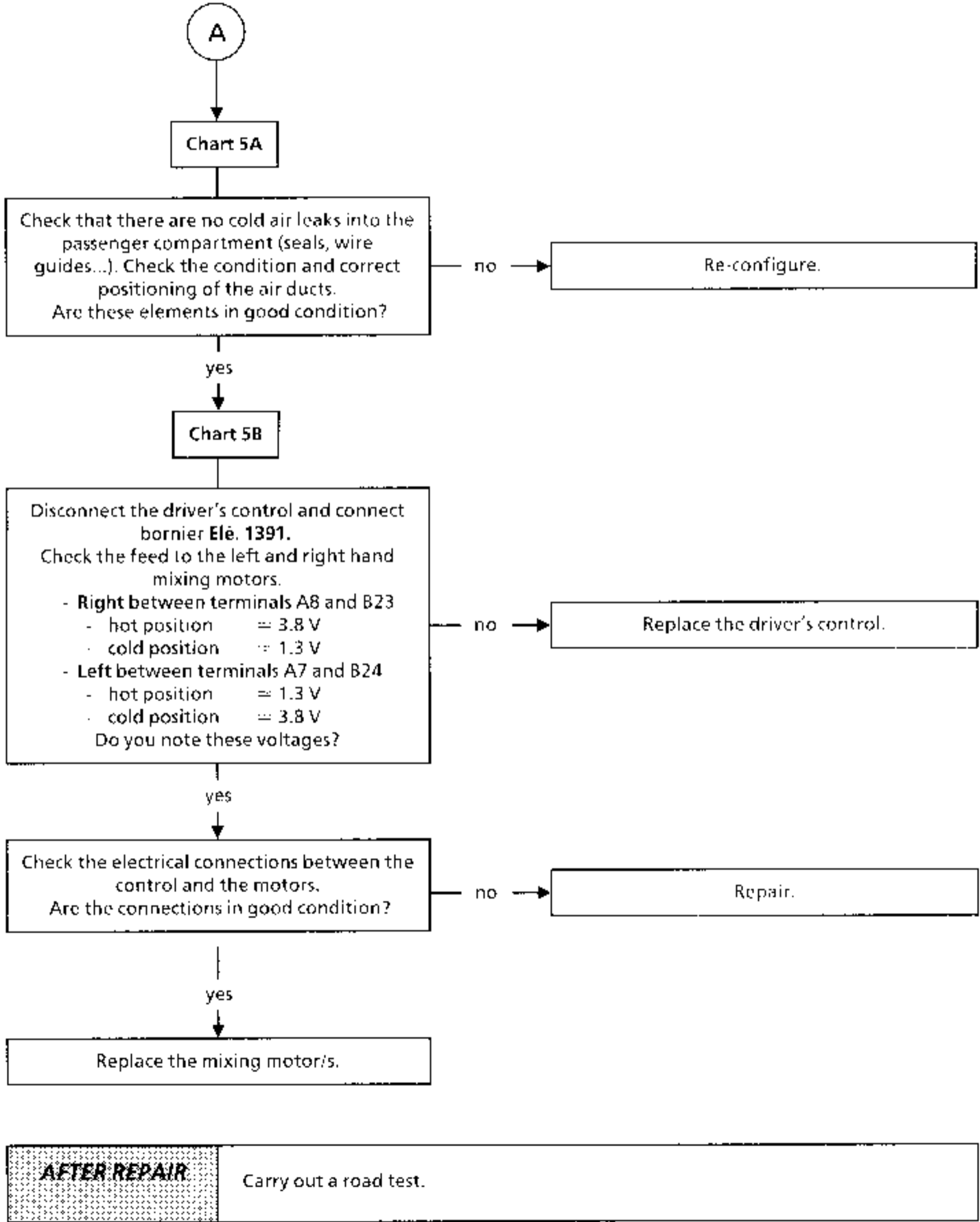
AFTER REPAIR Carry out a road test.

| | |
|----------------|----------------------------|
| Chart 5 | HEATING INEFFICIENT |
| NOTES | None. |



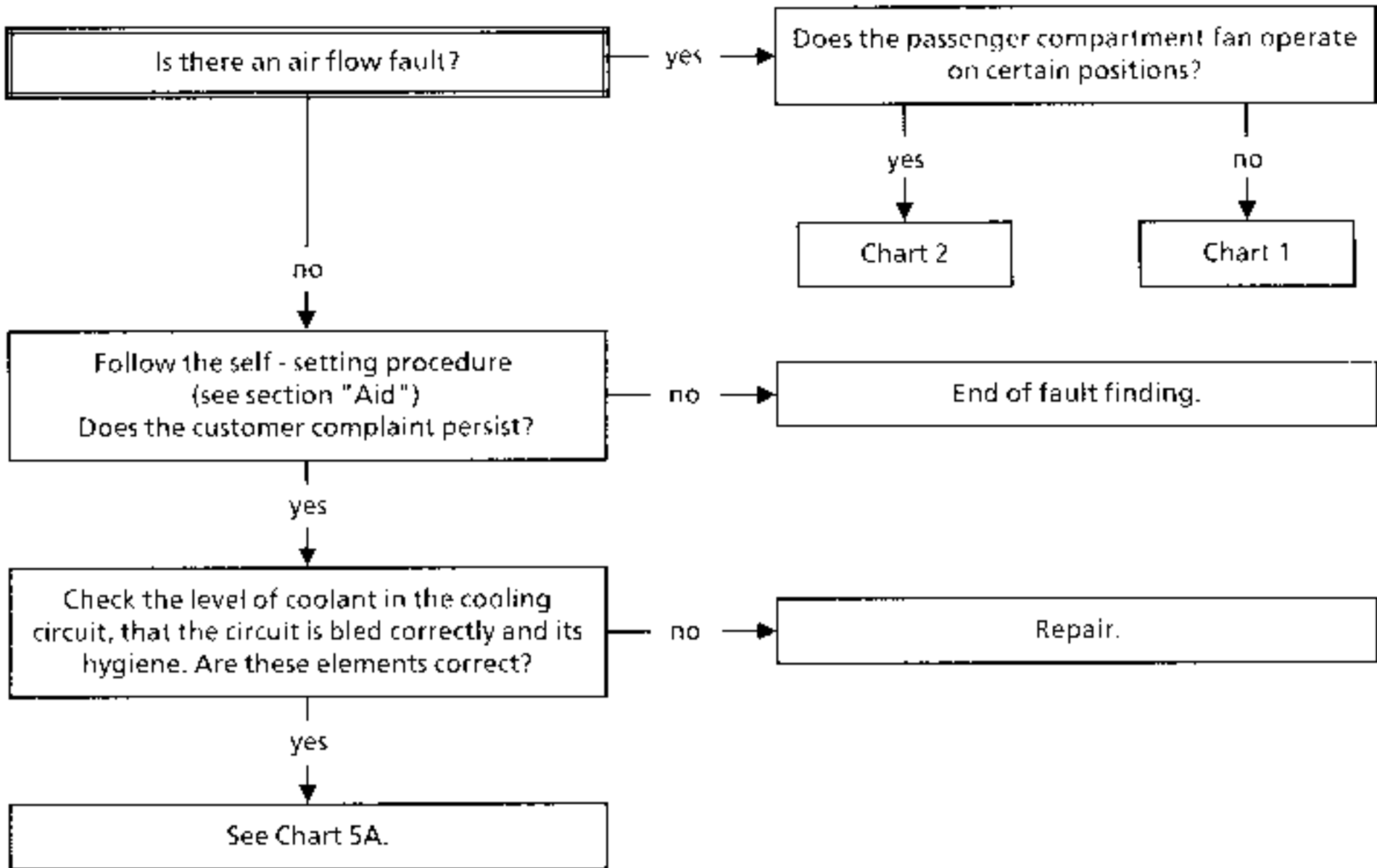
| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 5
CONT



| | |
|----------------|-------------------|
| Chart 6 | NO HEATING |
|----------------|-------------------|

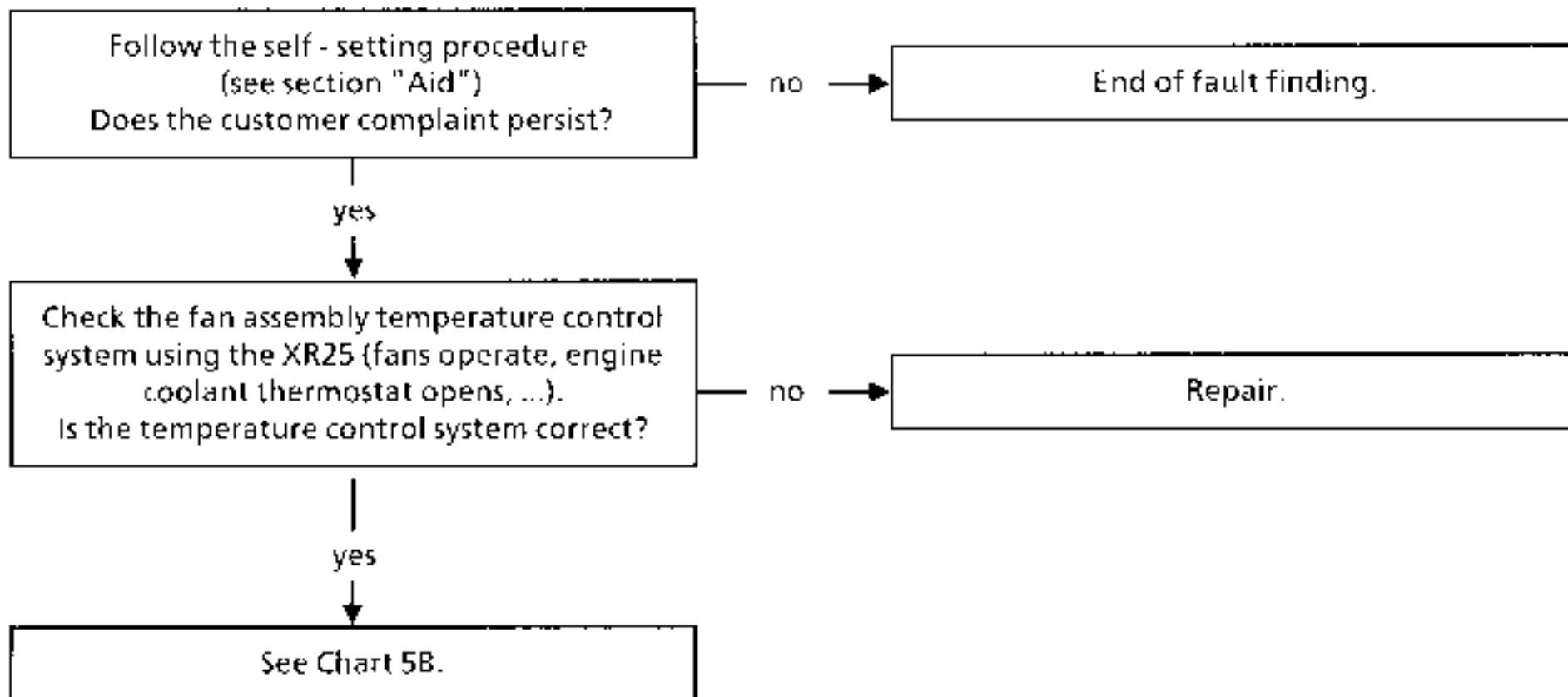
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|-------------------------|
| Chart 7 | TOO MUCH HEATING |
|----------------|-------------------------|

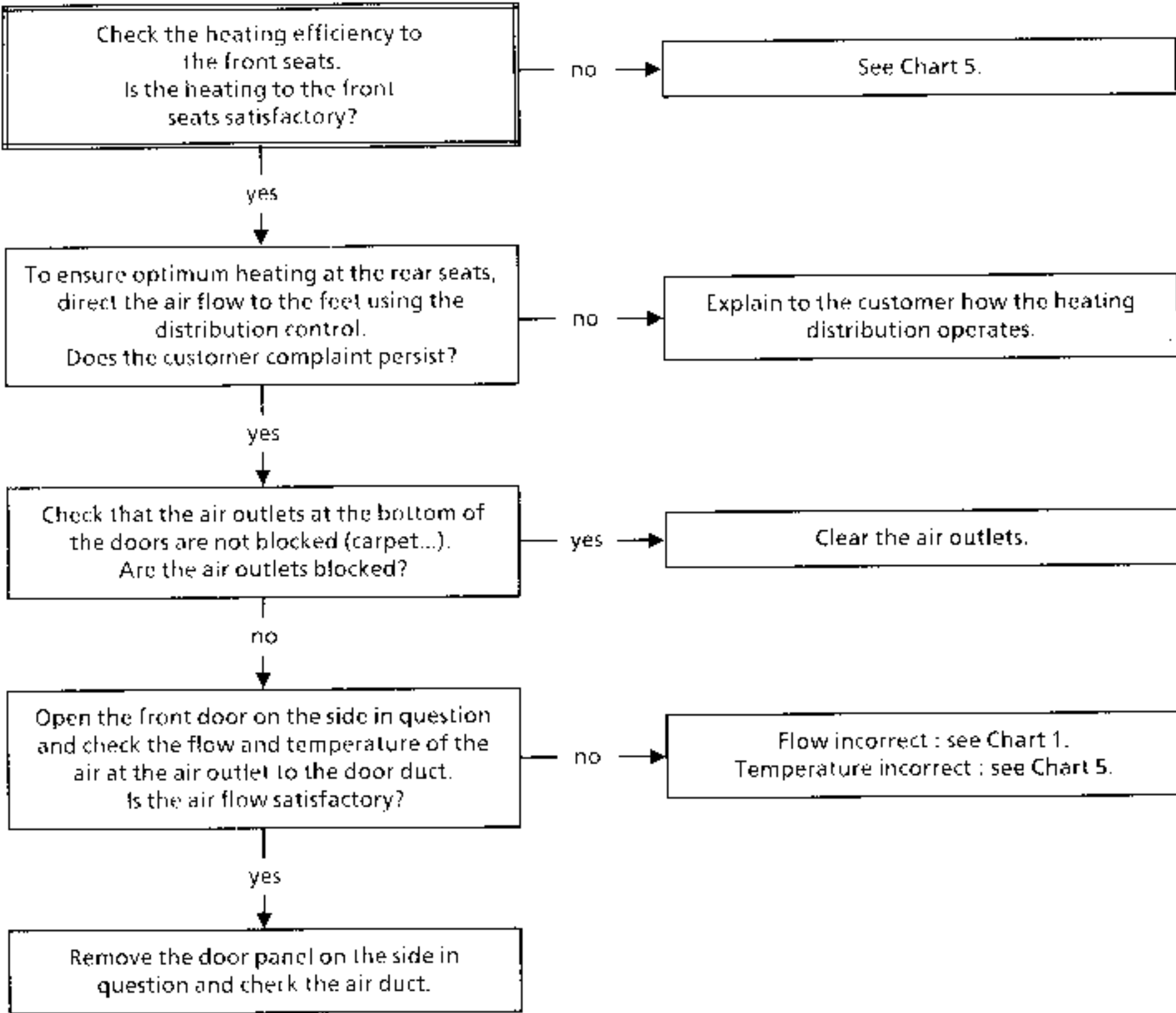
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|---|
| Chart 8 | HEATING INSUFFICIENT TO REAR SEATS |
|----------------|---|

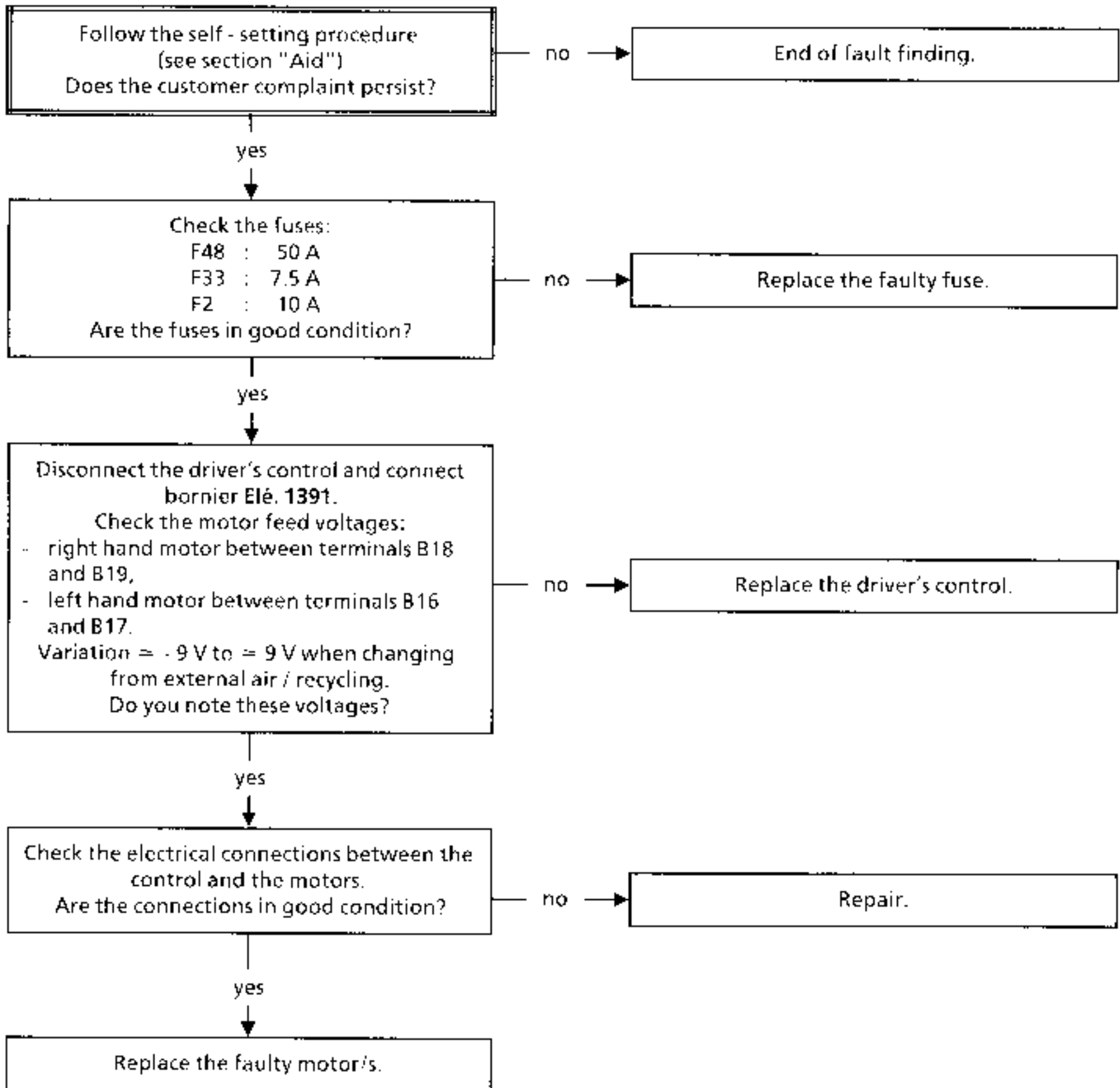
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|--|
| Chart 9 | THE RECYCLING FLAP DOES NOT OPERATE |
|----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

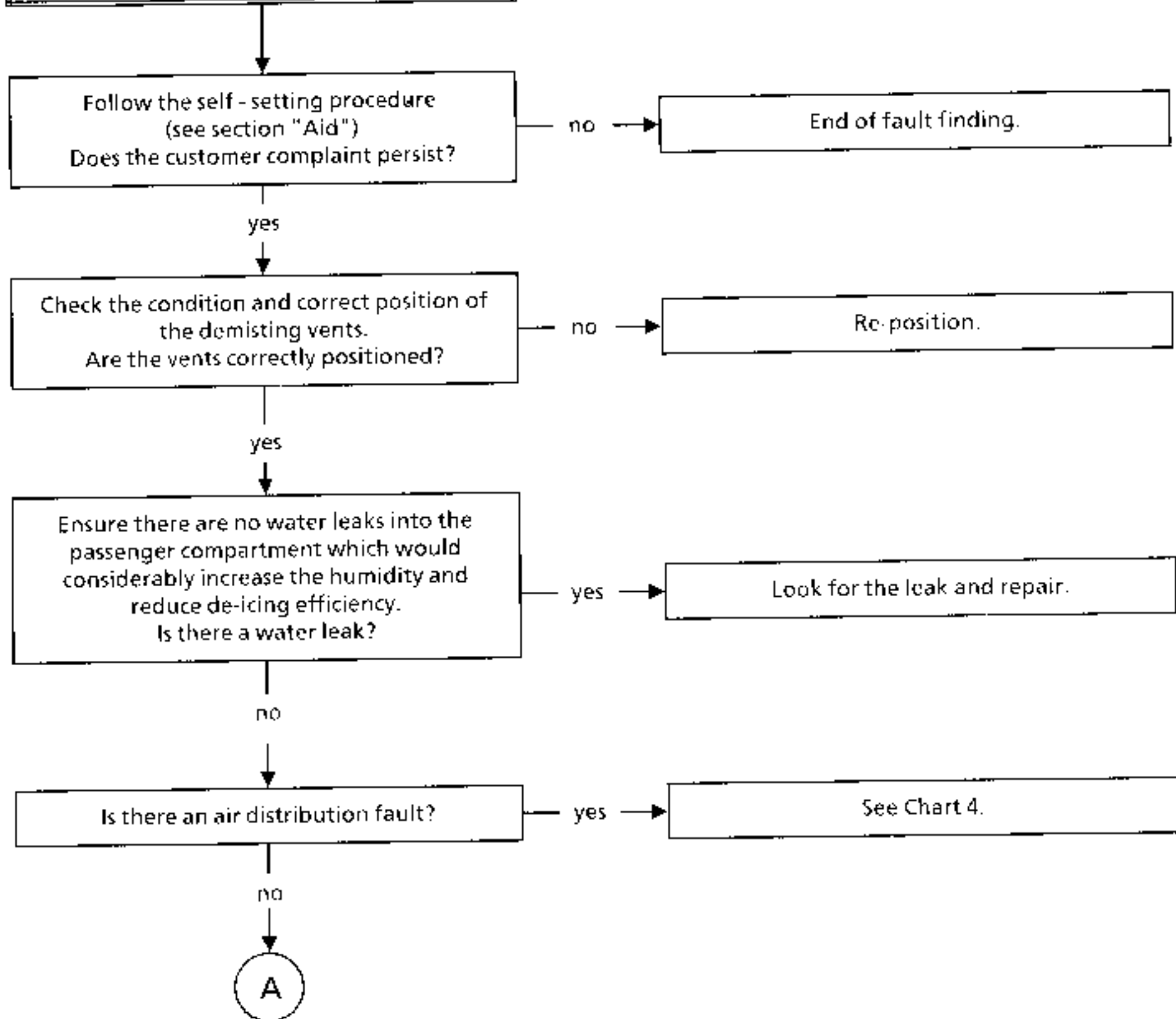


| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|-----------------|---|
| Chart 10 | DE-ICING / DEMISTING INEFFICIENT |
|-----------------|---|

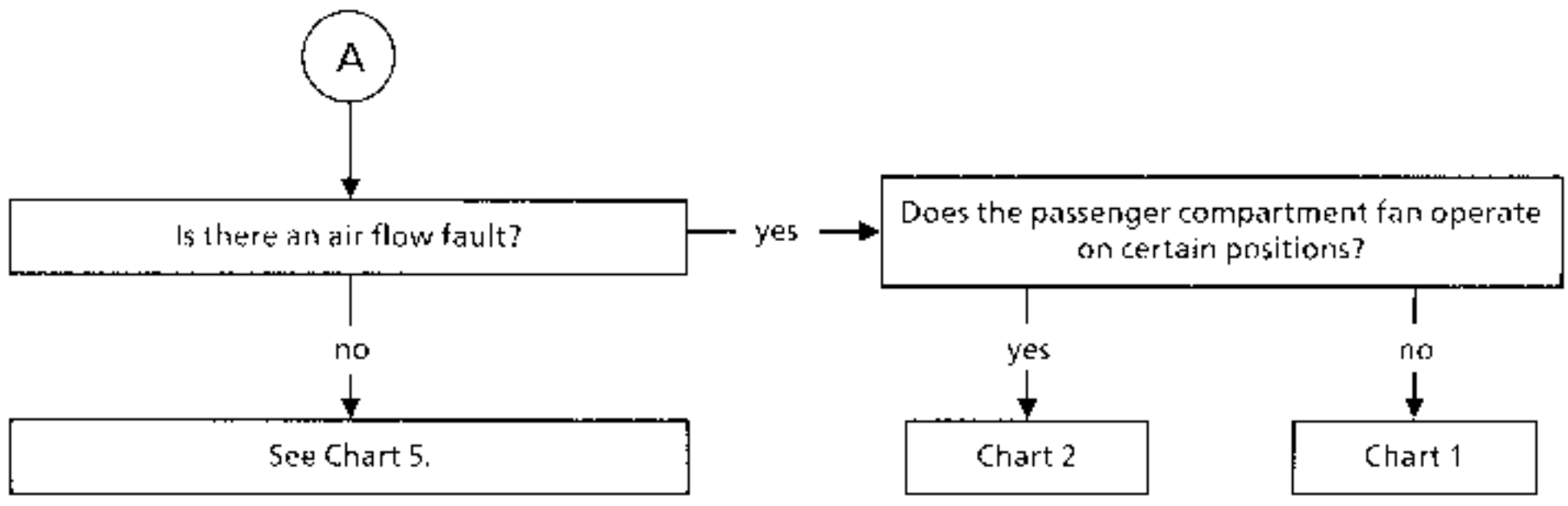
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

Before any operation, check that the customer is using the system correctly. Also check that the inside of the windows is clean (greasy windows reduce demisting efficiency).



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

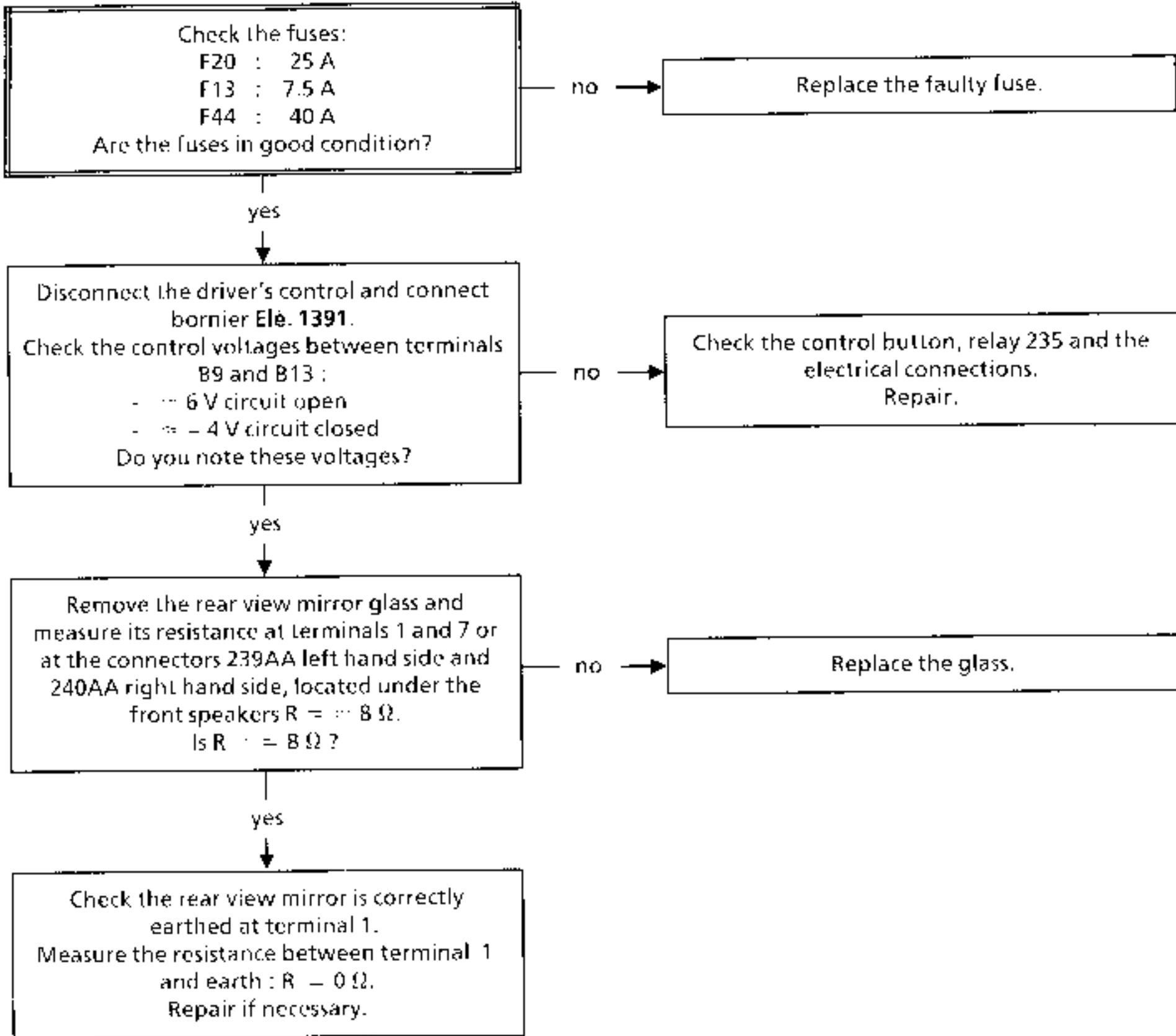
Chart 10
CONT



AFTER REPAIR Carry out a road test.

| | |
|-----------------|---|
| Chart 11 | REAR VIEW MIRRORS DE-ICING INEFFICIENT |
|-----------------|---|

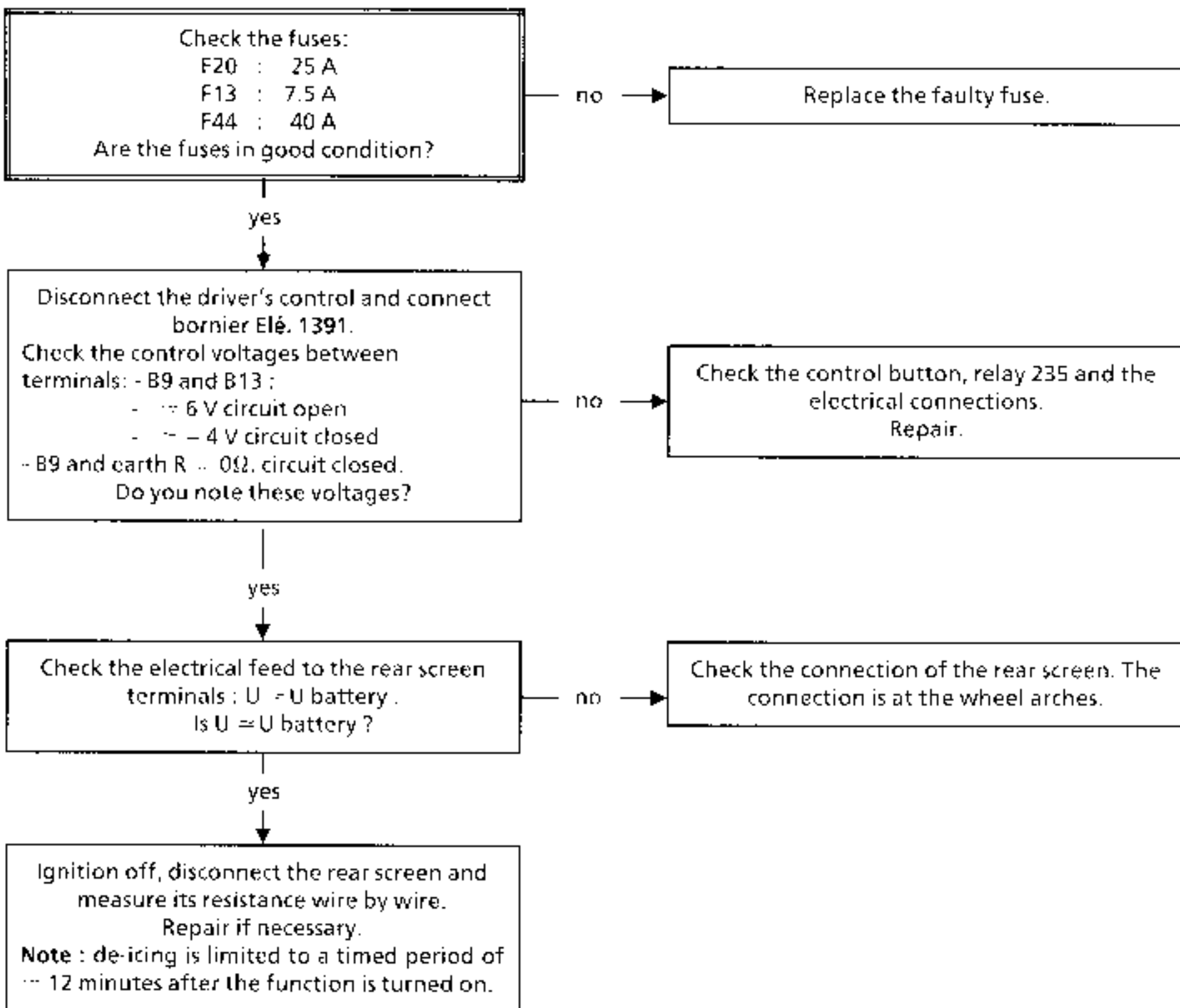
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|-----------------|--|
| Chart 12 | HEATED REAR SCREEN DE-ICING INEFFICIENT |
|-----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

AIR FLOW FAULT

- Passenger compartment fan does not operate Chart 1
- Passenger compartment fan does not operate on certain positions Chart 2
- Passenger compartment fan operates at all speeds Chart 3

AIR DISTRIBUTION FAULT

Chart 4

HEATING INEFFICIENT

Chart 5

NO HEATING

Chart 6

TOO MUCH HEATING

Chart 7

HEATING INSUFFICIENT TO REAR SEATS

Chart 8

THE RECYCLING FLAP DOES NOT OPERATE

Chart 9

DE-ICING / DEMISTING INEFFICIENT

Chart 10

REAR VIEW MIRRORS DE-ICING INEFFICIENT

Chart 11

HEATED REAR SCREEN DE-ICING INEFFICIENT

Chart 12

AIR CONDITIONING DOES NOT OPERATE (diesel version)

Chart 13

AIR CONDITIONING DOES NOT OPERATE (petrol version)

Chart 14

AIR CONDITIONING INEFFICIENT

Chart 15

AIR CONDITIONING PRODUCES TOO MUCH COLD

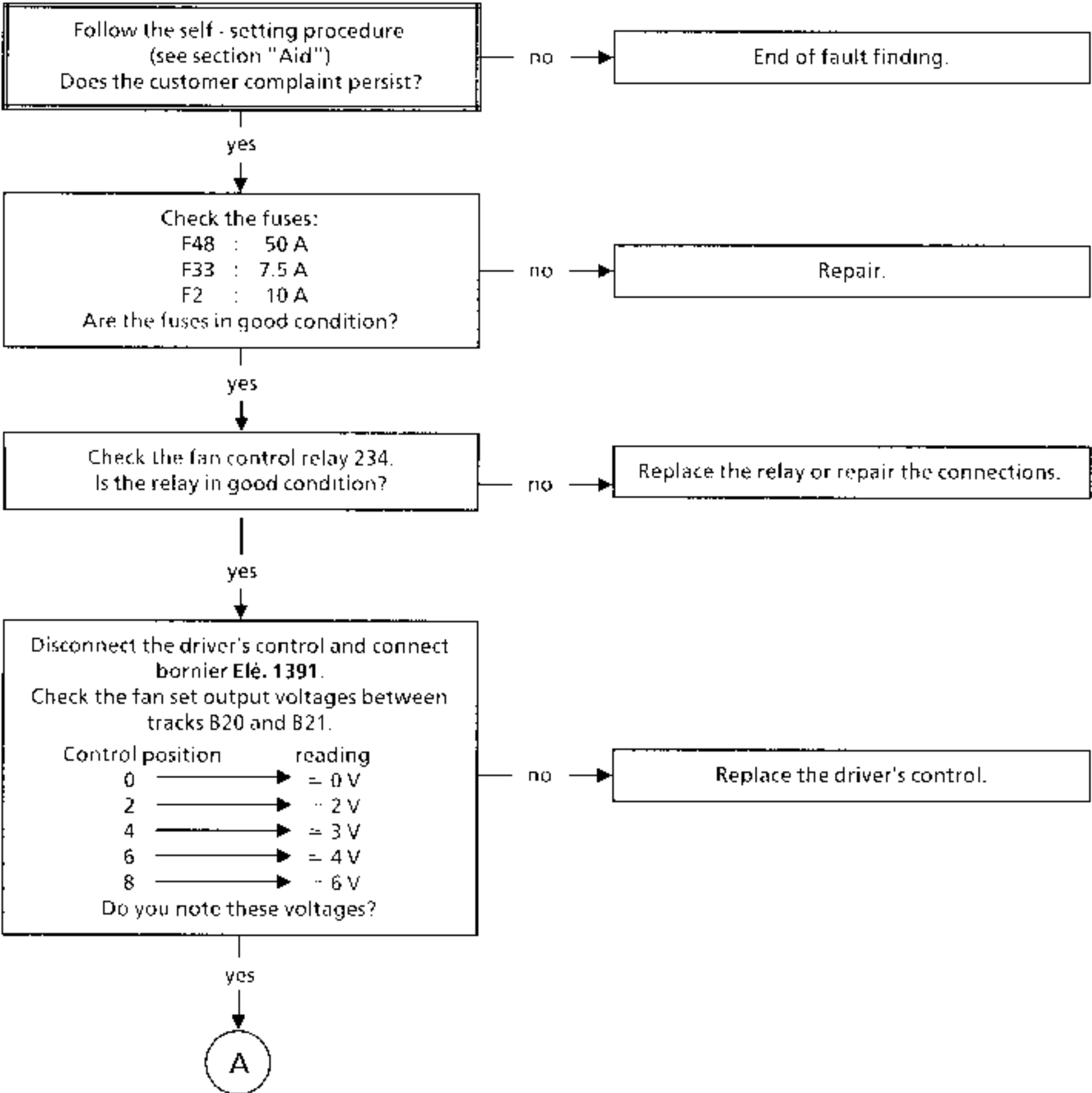
Chart 16

COOLING FANS DO NOT OPERATE FOR SLOW SPEED (air conditioning operating)

Chart 17

| | |
|----------------|--|
| Chart 1 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN DOES NOT OPERATE |
|----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 1
CONT

A

Chart 1A

Check the voltages at the connector terminals on the fans.

| Slide position | Reading |
|----------------|---------|
| 0 | = 0 V |
| 2 | = 4.5 V |
| 4 | = 7.5 V |
| 6 | = 9 V |
| 8 | = 11 V |

Do you note these voltages?

yes

Replace the faulty fan/s.

no

Check the connections on the regulator and the motors.
 Are they correct?

yes

Replace the regulator.

no

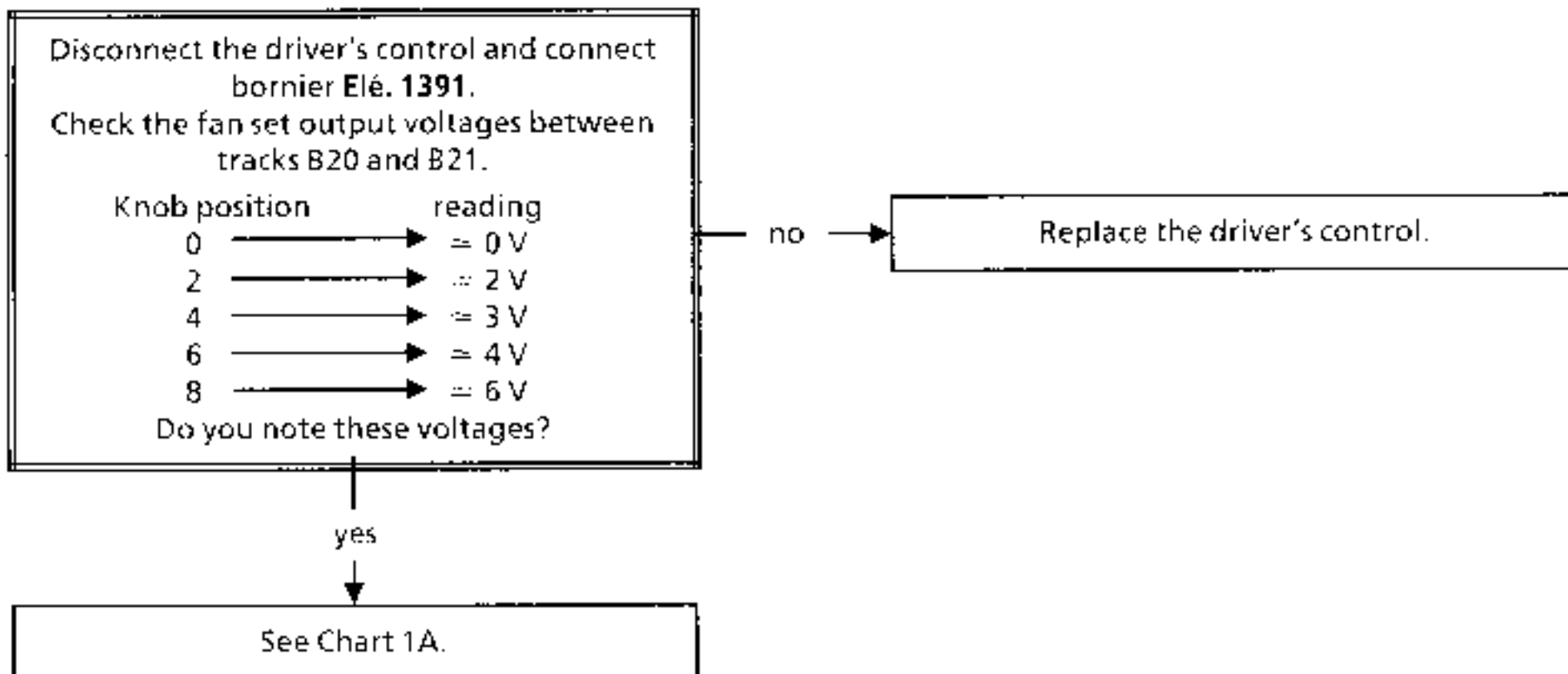
Repair.

AFTER REPAIR

Carry out a road test.

| | |
|----------------|---|
| Chart 2 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN DOES NOT OPERATE ON CERTAIN POSITIONS |
|----------------|---|

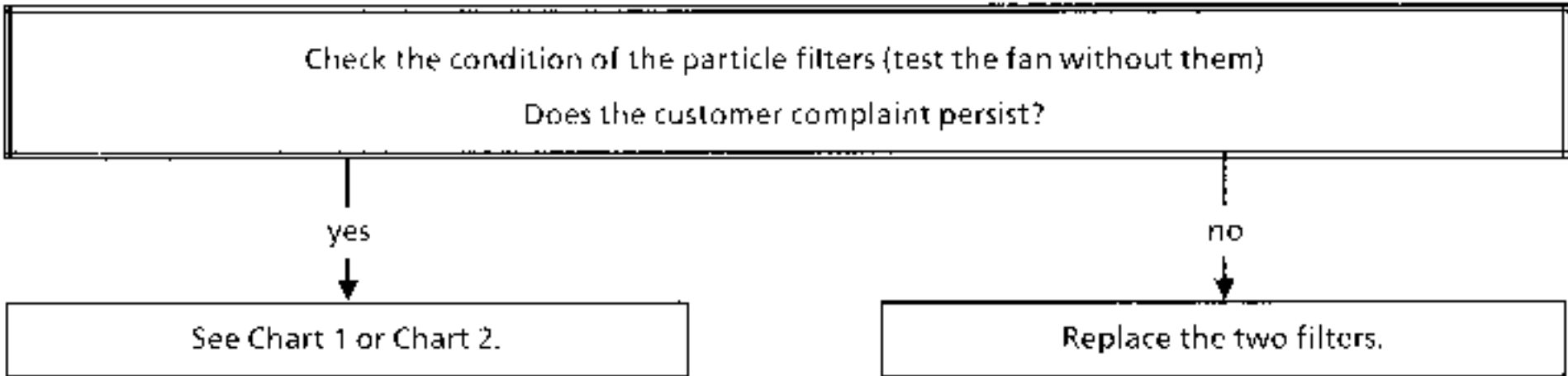
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|--|
| Chart 3 | AIR FLOW FAULT PASSENGER COMPARTMENT FAN OPERATES AT ALL SPEEDS |
|----------------|--|

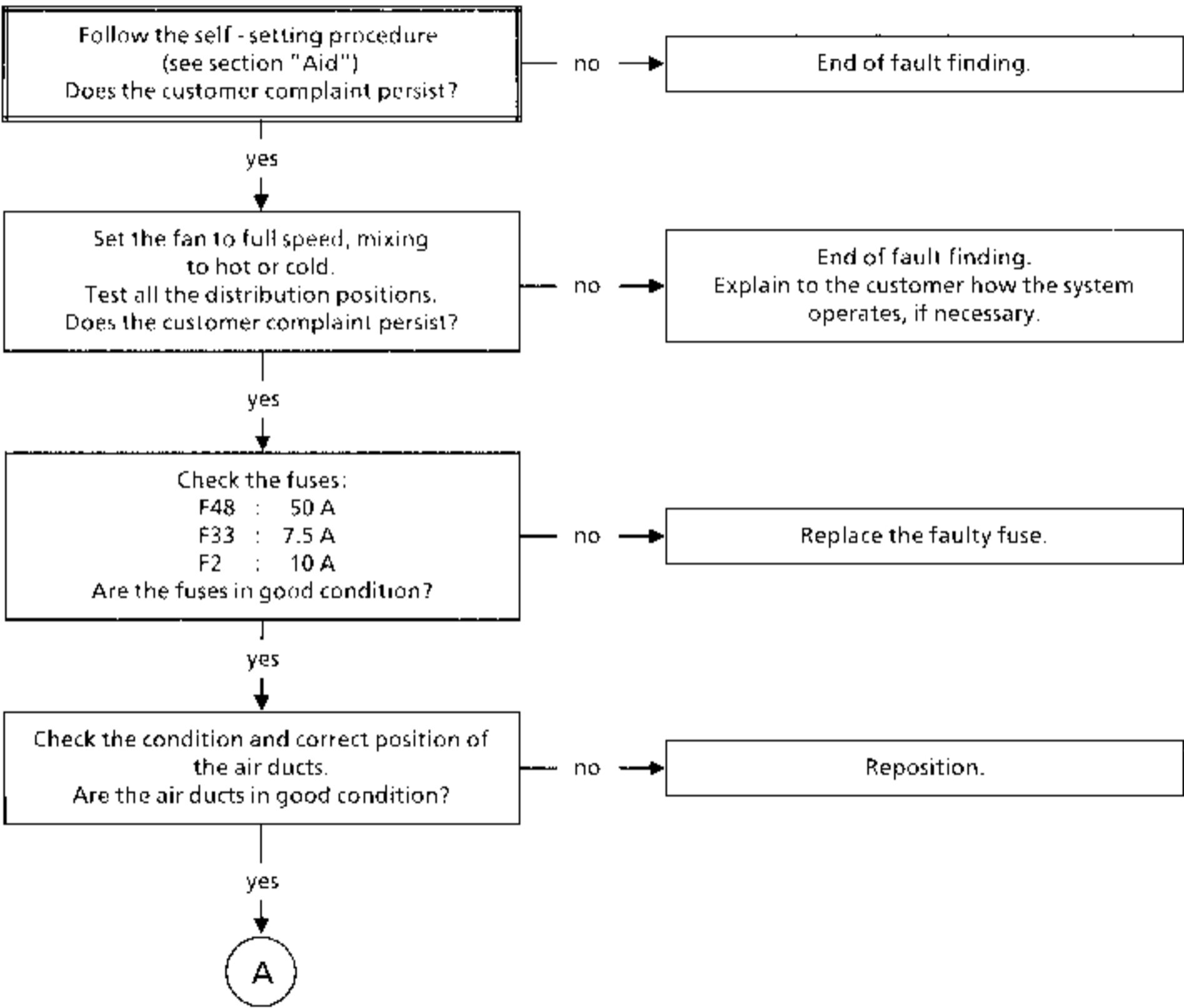
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|-------------------------------|
| Chart 4 | AIR DISTRIBUTION FAULT |
|----------------|-------------------------------|

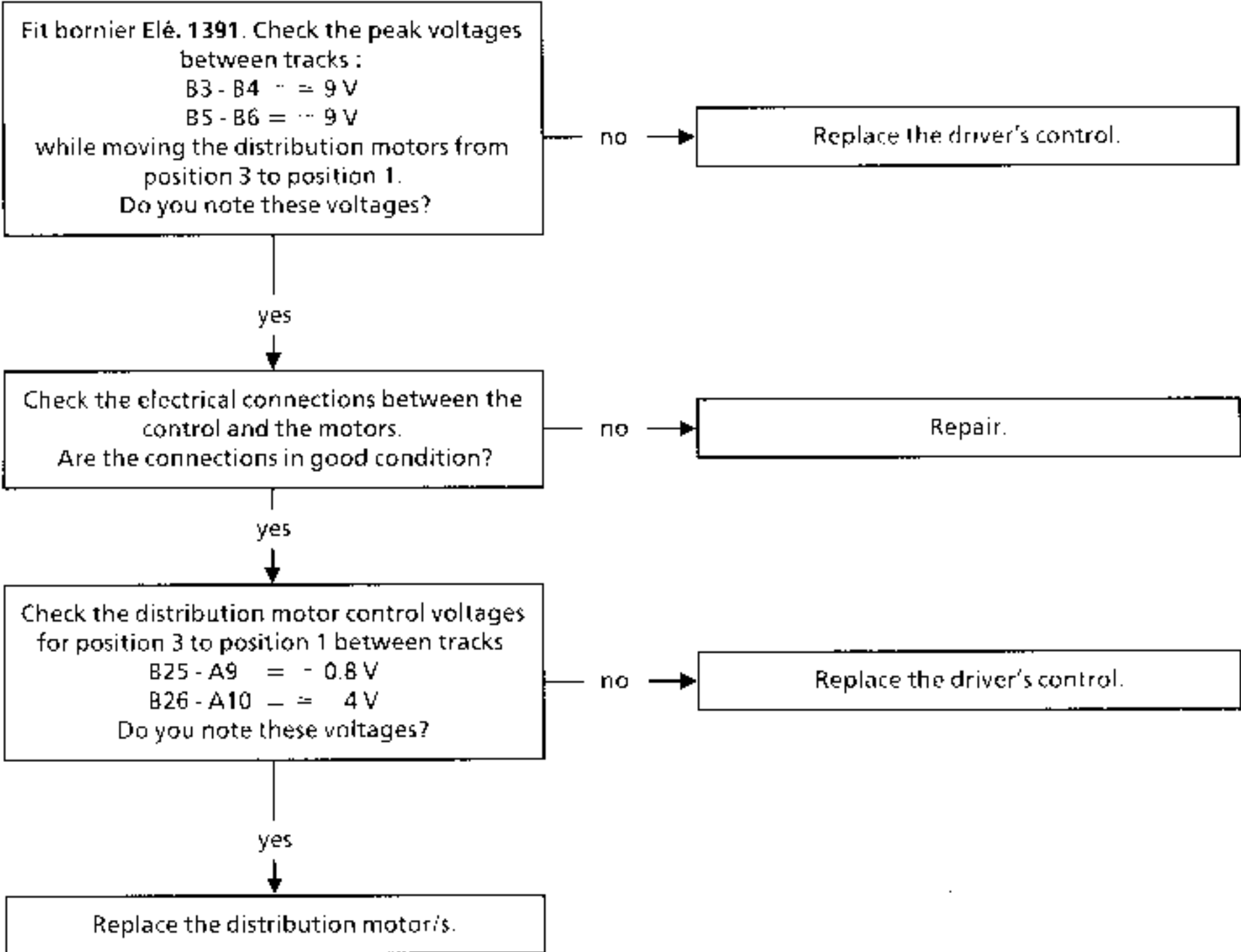
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 4
CONT

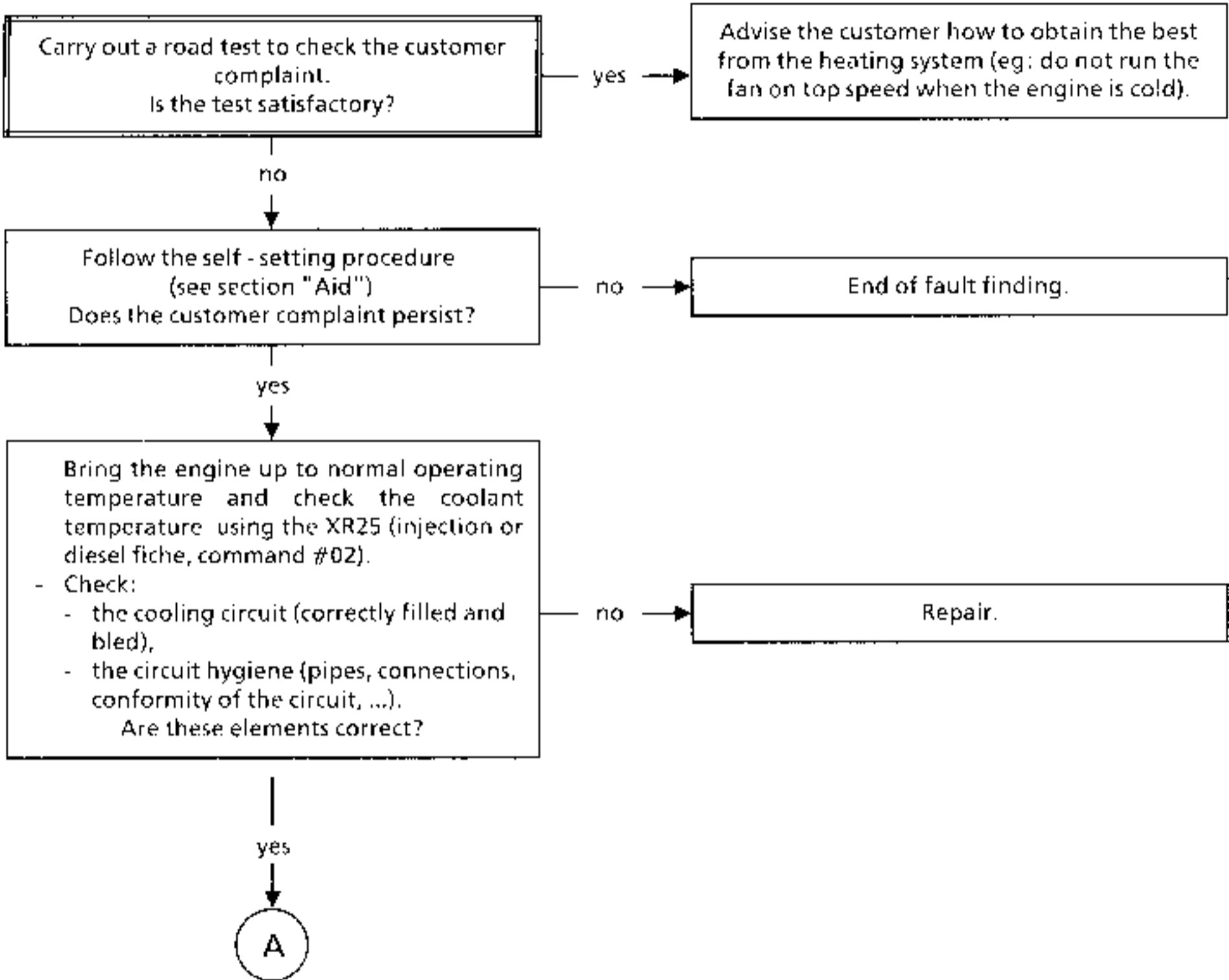
A



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

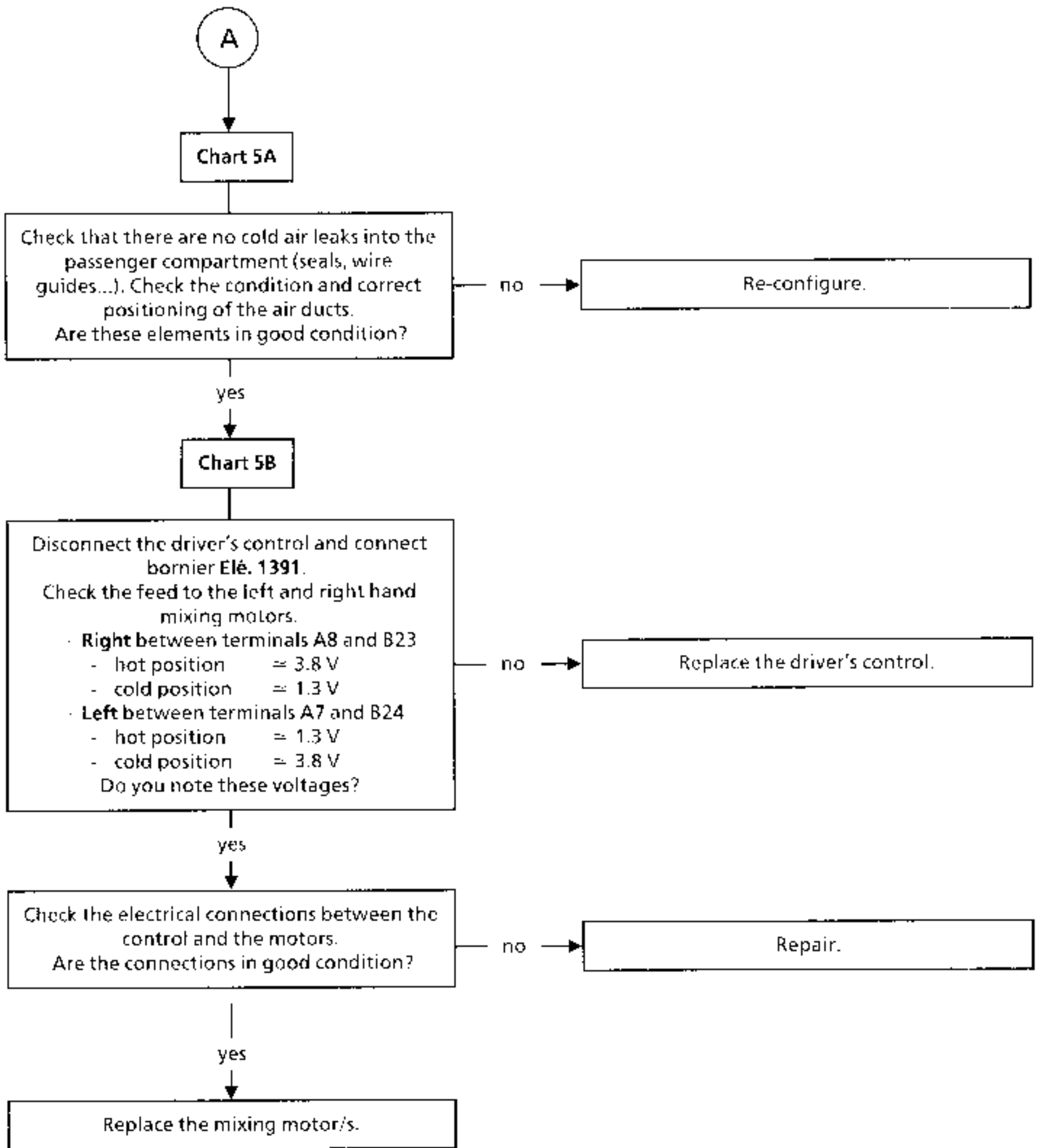
| | |
|----------------|----------------------------|
| Chart 5 | HEATING INEFFICIENT |
|----------------|----------------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

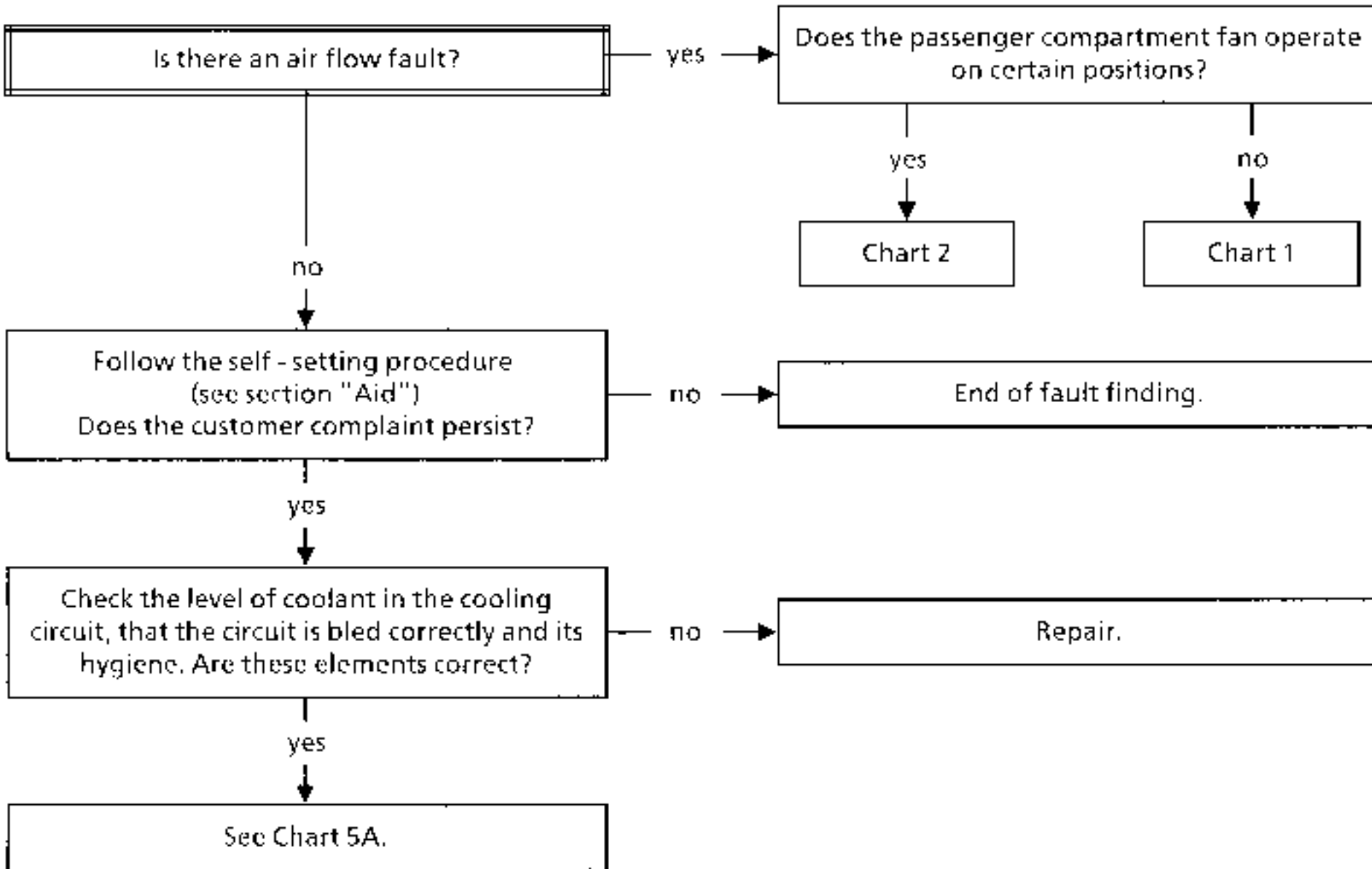
| | |
|------------------------|--|
| Chart 5 CONT | |
|------------------------|--|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|-------------------|
| Chart 6 | NO HEATING |
|----------------|-------------------|

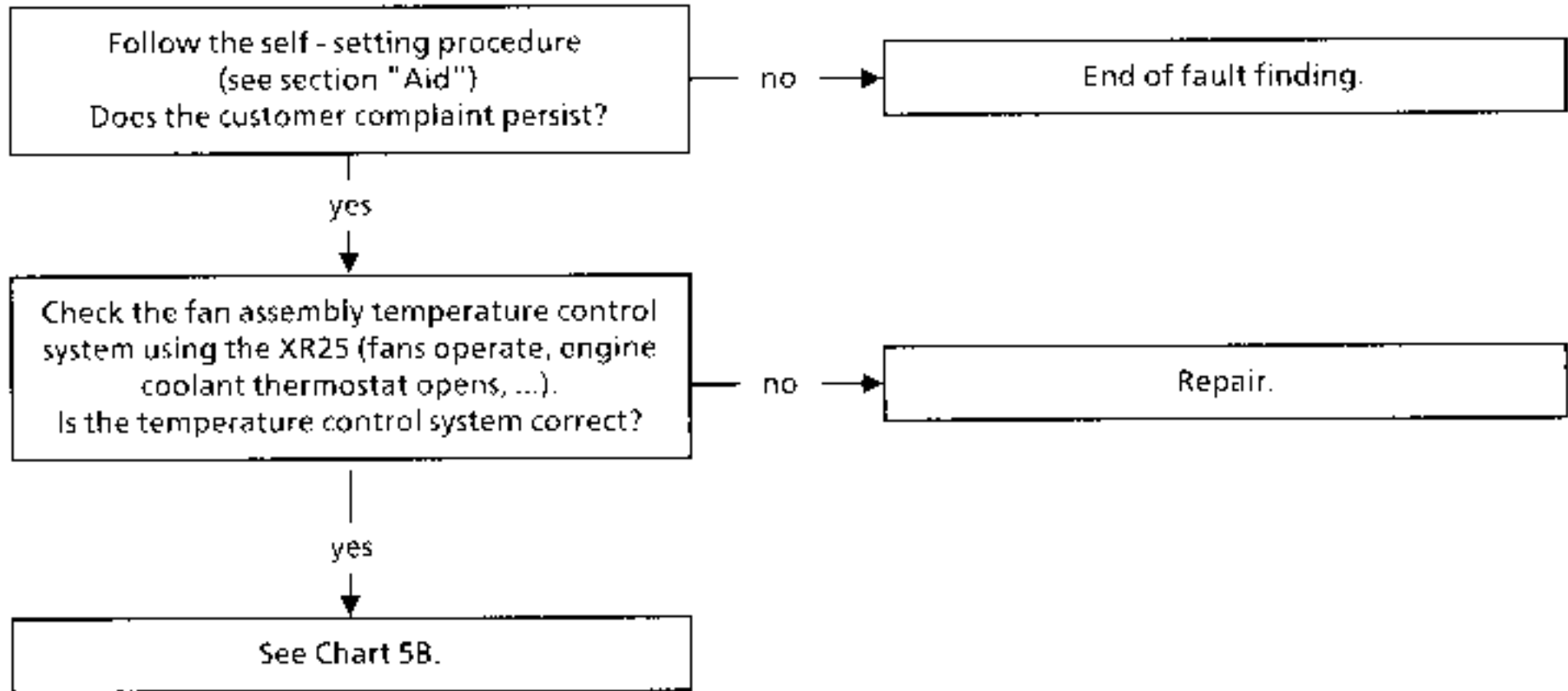
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|-------------------------|
| Chart 7 | TOO MUCH HEATING |
|----------------|-------------------------|

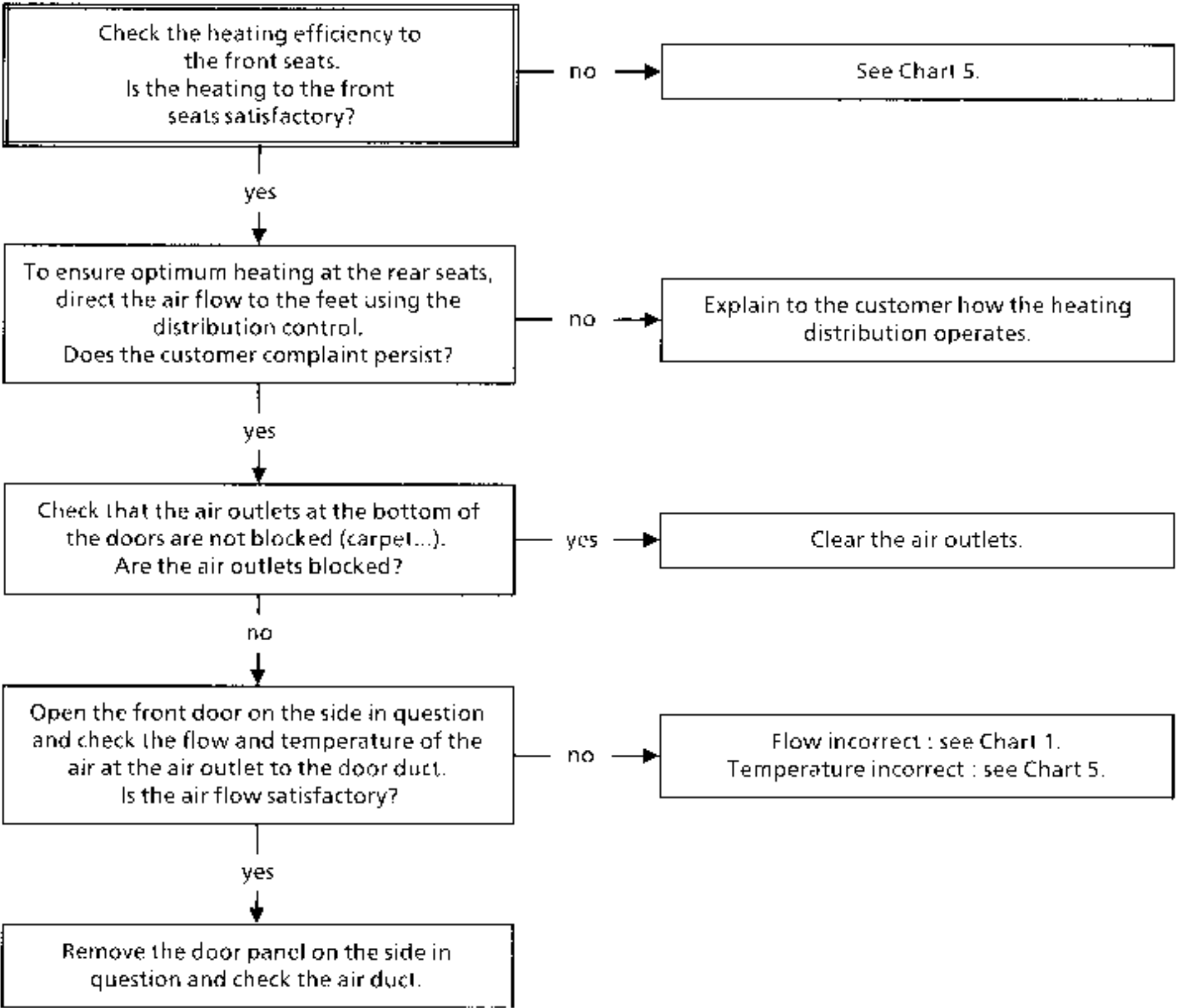
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|---|
| Chart 8 | HEATING INSUFFICIENT TO REAR SEATS |
|----------------|---|

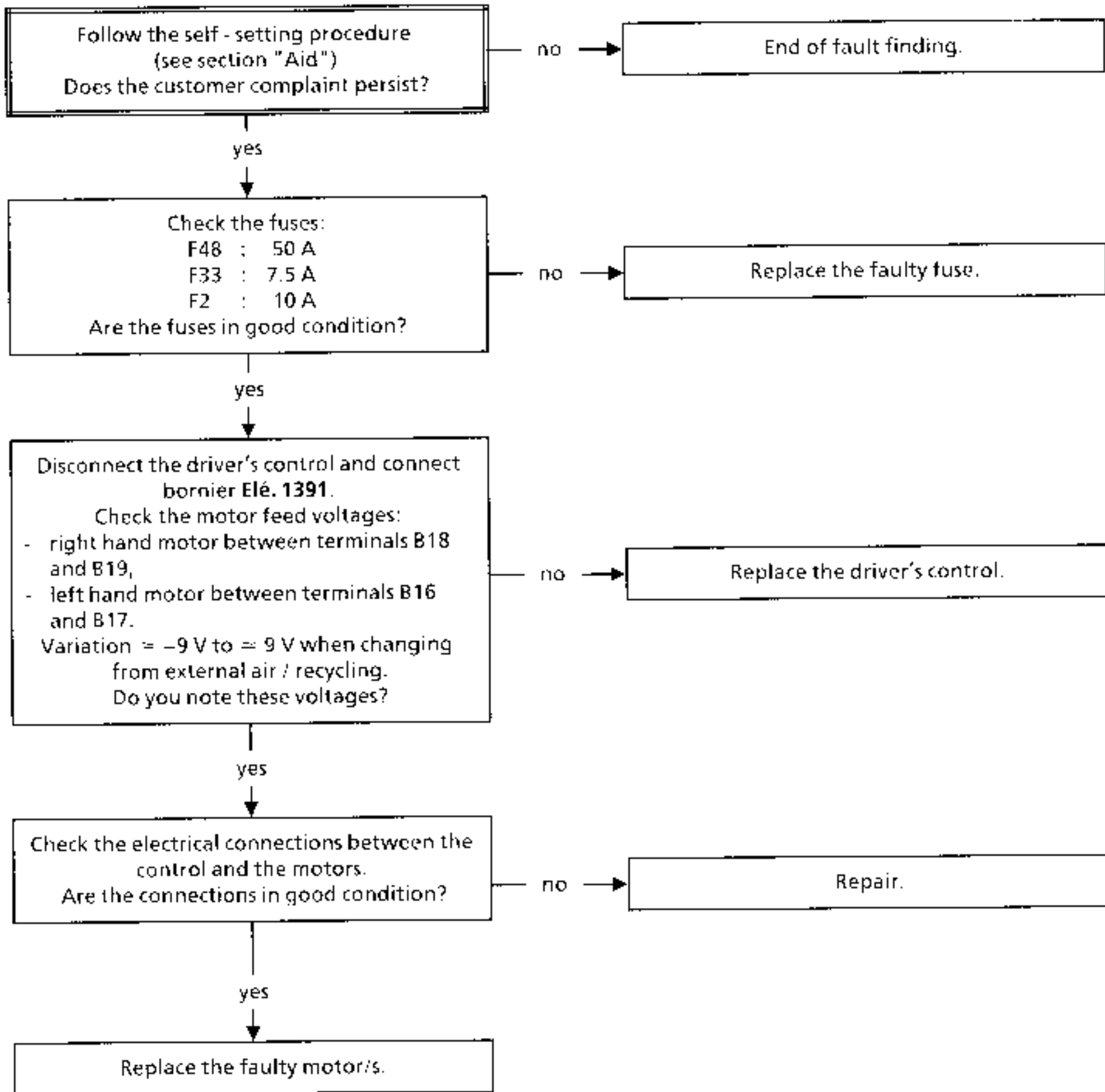
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|----------------|--|
| Chart 9 | THE RECYCLING FLAP DOES NOT OPERATE |
|----------------|--|

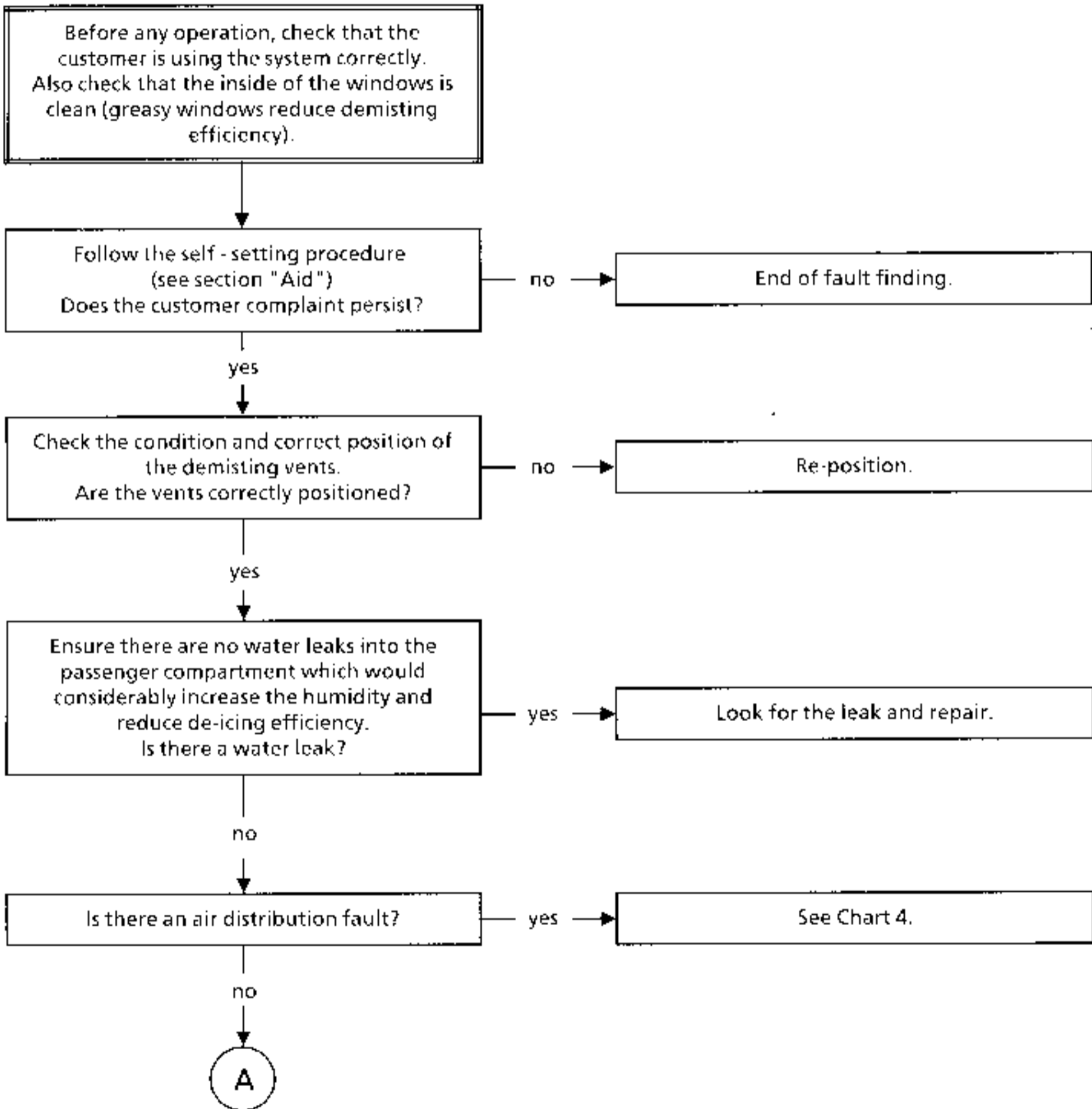
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

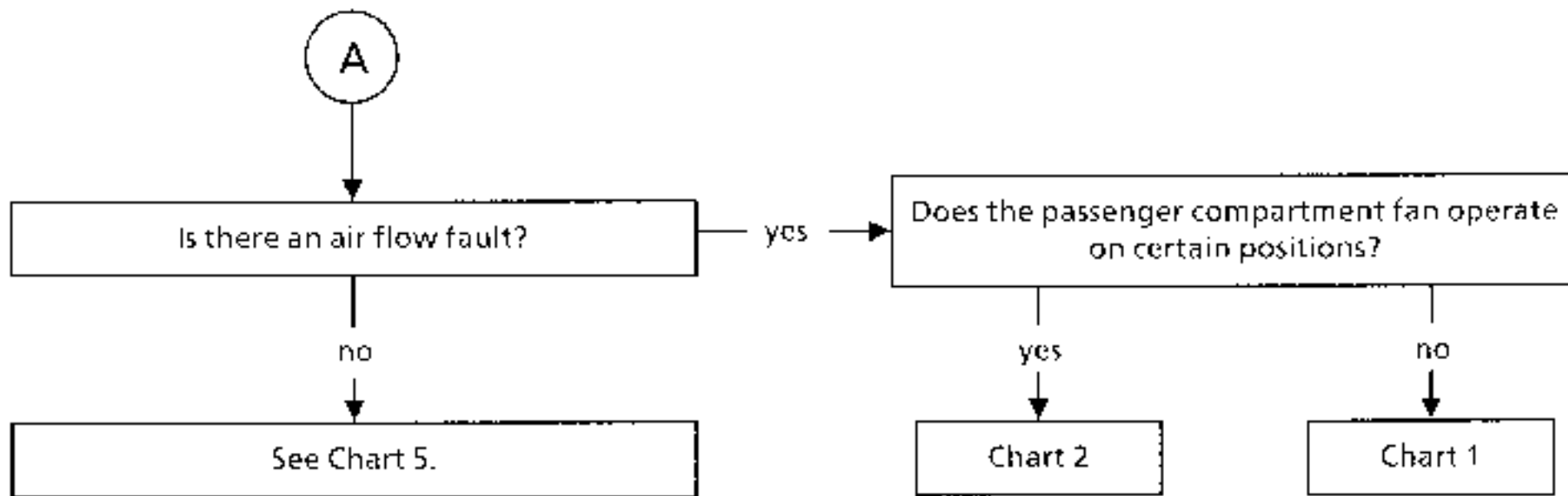
| | |
|-----------------|---|
| Chart 10 | DE-ICING / DEMISTING INEFFICIENT |
|-----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

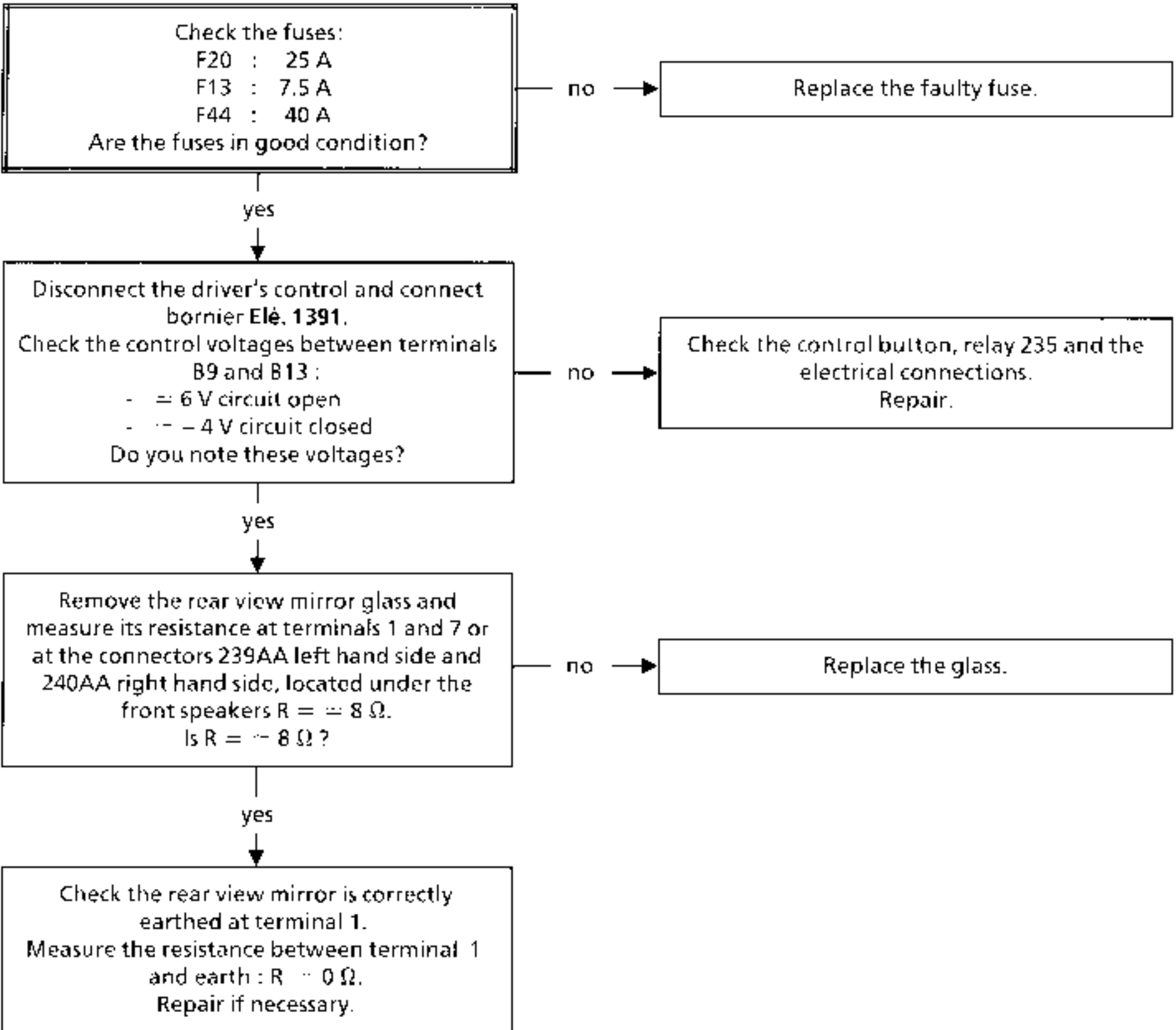
| | |
|--------------------------------|--|
| Chart 10 CONT | |
|--------------------------------|--|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|-----------------|---|
| Chart 11 | REAR VIEW MIRRORS DE-ICING INEFFICIENT |
|-----------------|---|

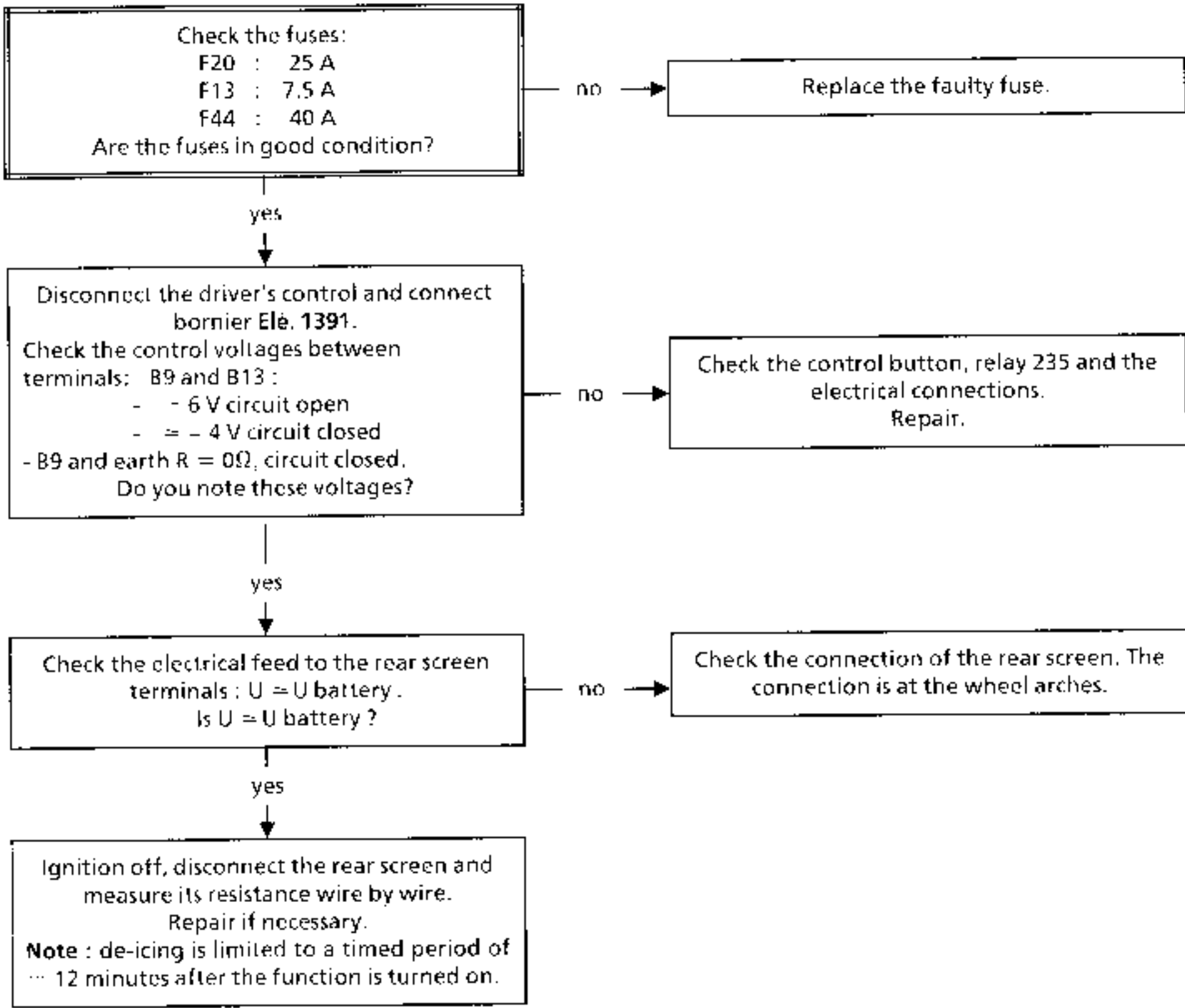
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|-----------------|--|
| Chart 12 | HEATED REAR SCREEN DE-ICING INEFFICIENT |
|-----------------|--|

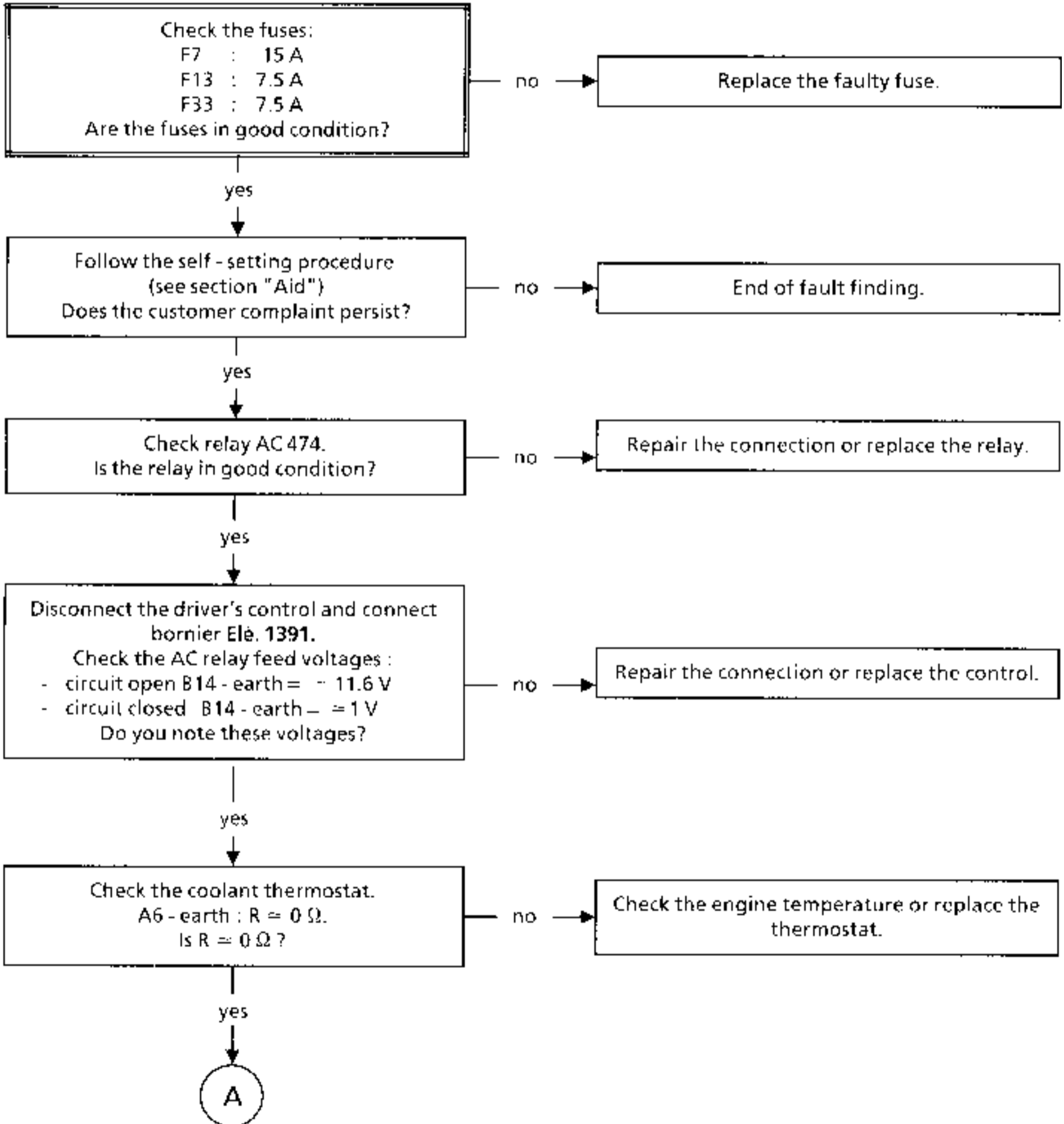
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

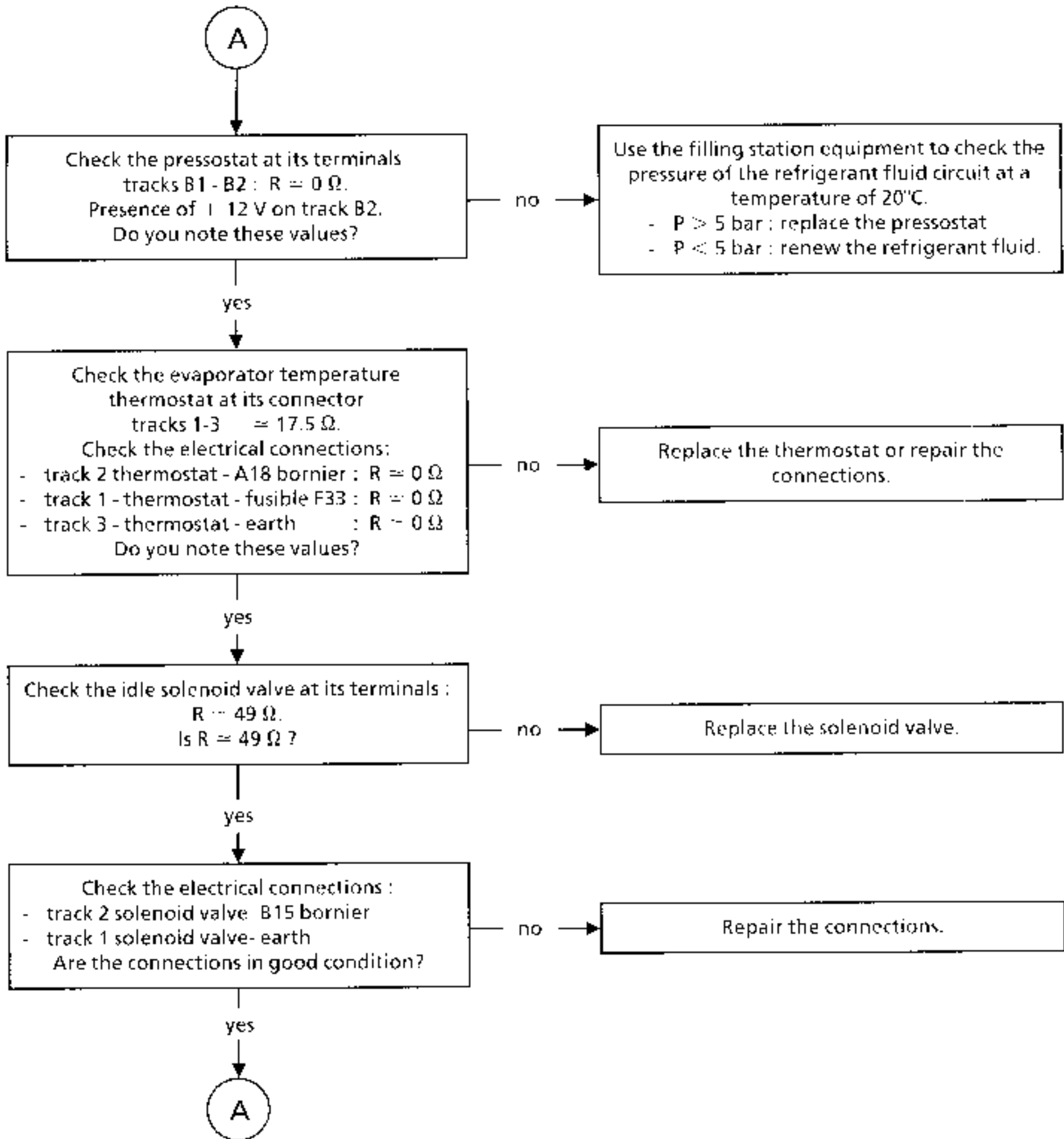
| | |
|-----------------|---|
| Chart 13 | AIR CONDITIONING DOES NOT OPERATE DIESEL VERSION |
|-----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



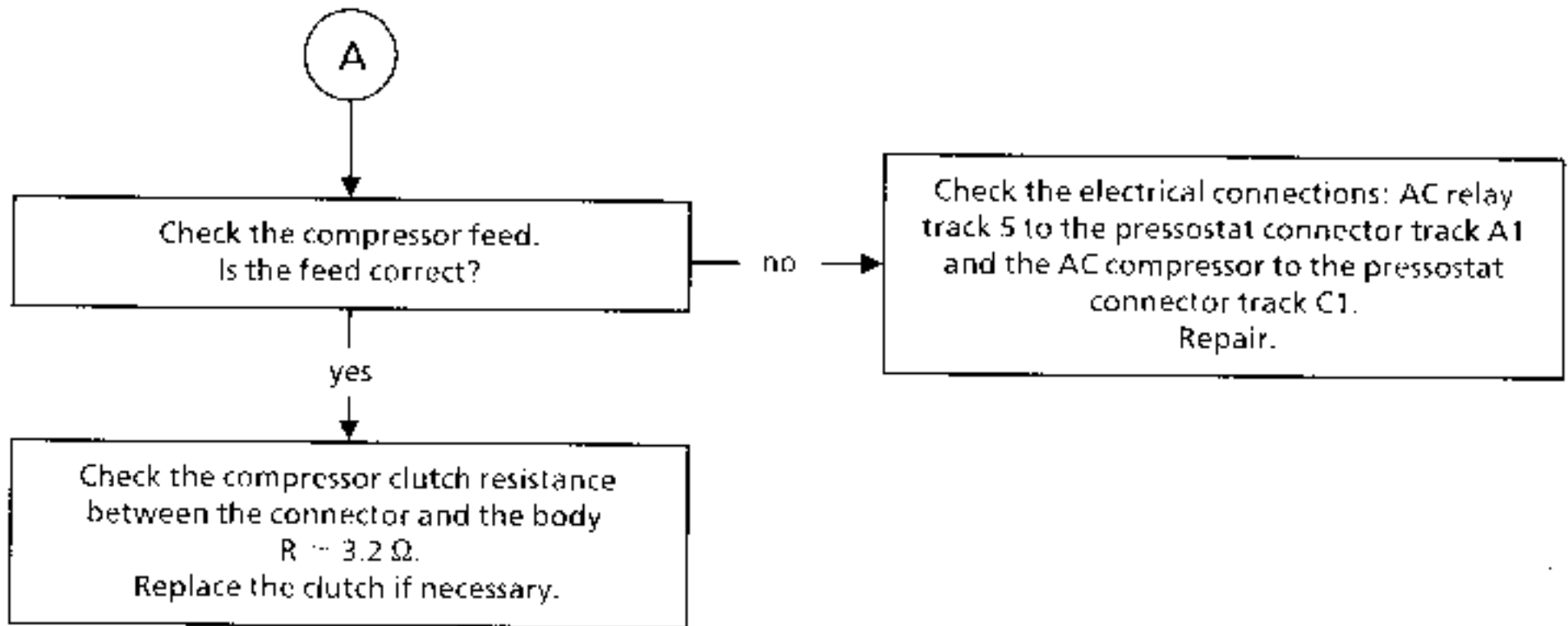
| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 13
CONT 1



AFTER REPAIR Carry out a road test.

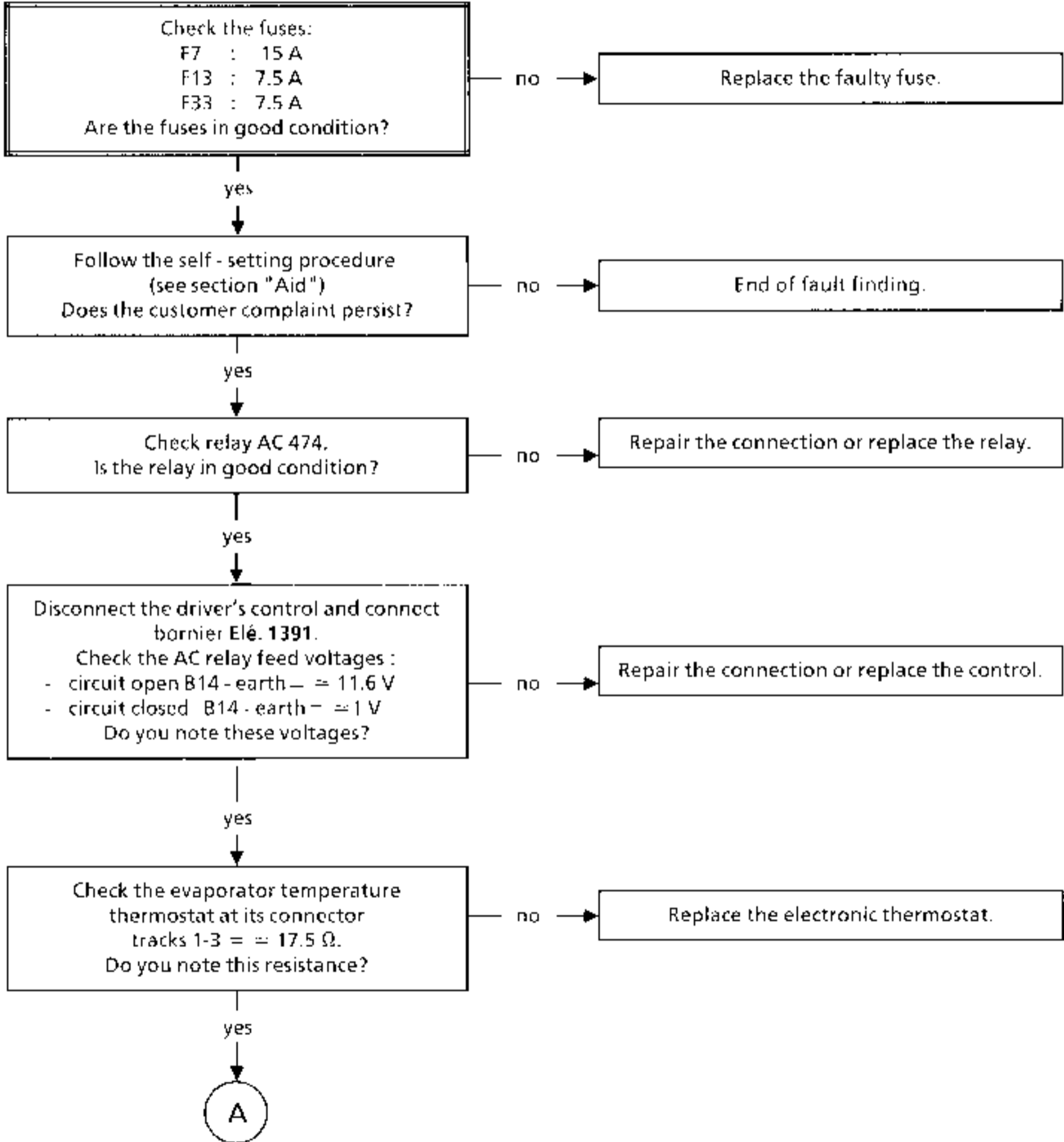
Chart 13
CONT 2



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

| | |
|-----------------|---|
| Chart 14 | AIR CONDITIONING DOES NOT OPERATE PETROL VERSION |
|-----------------|---|

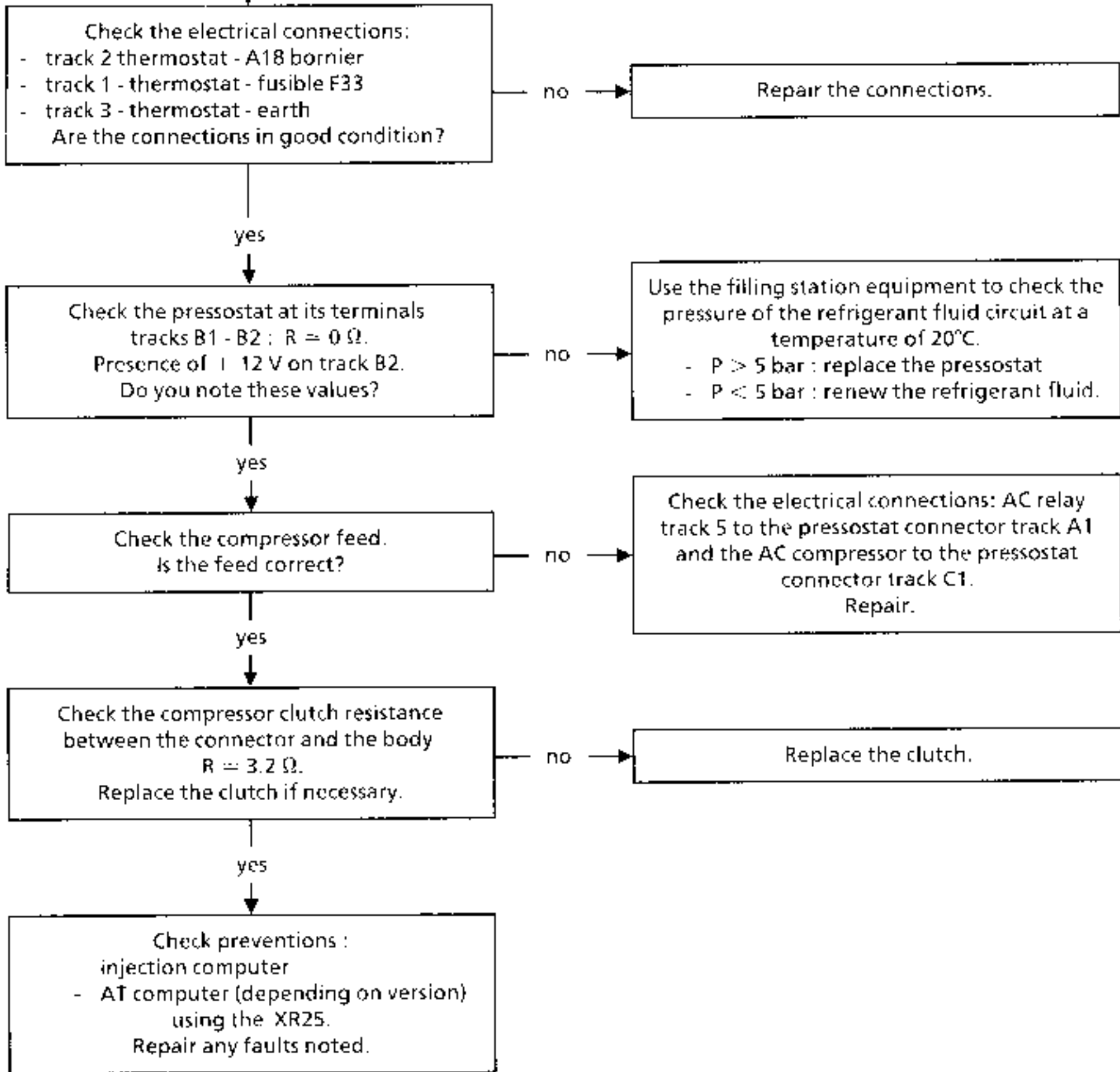
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 14
CONT

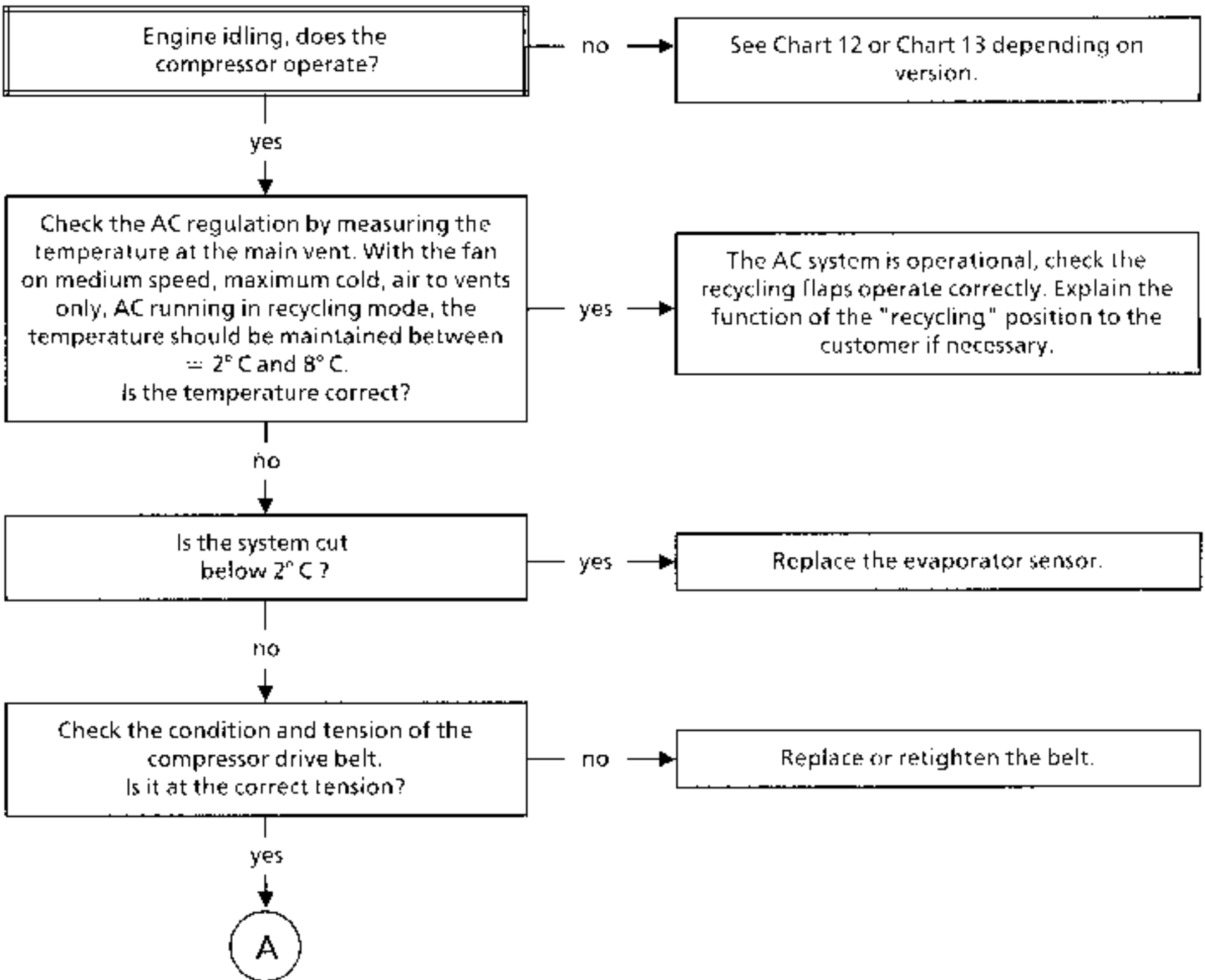
A



AFTER REPAIR Carry out a road test.

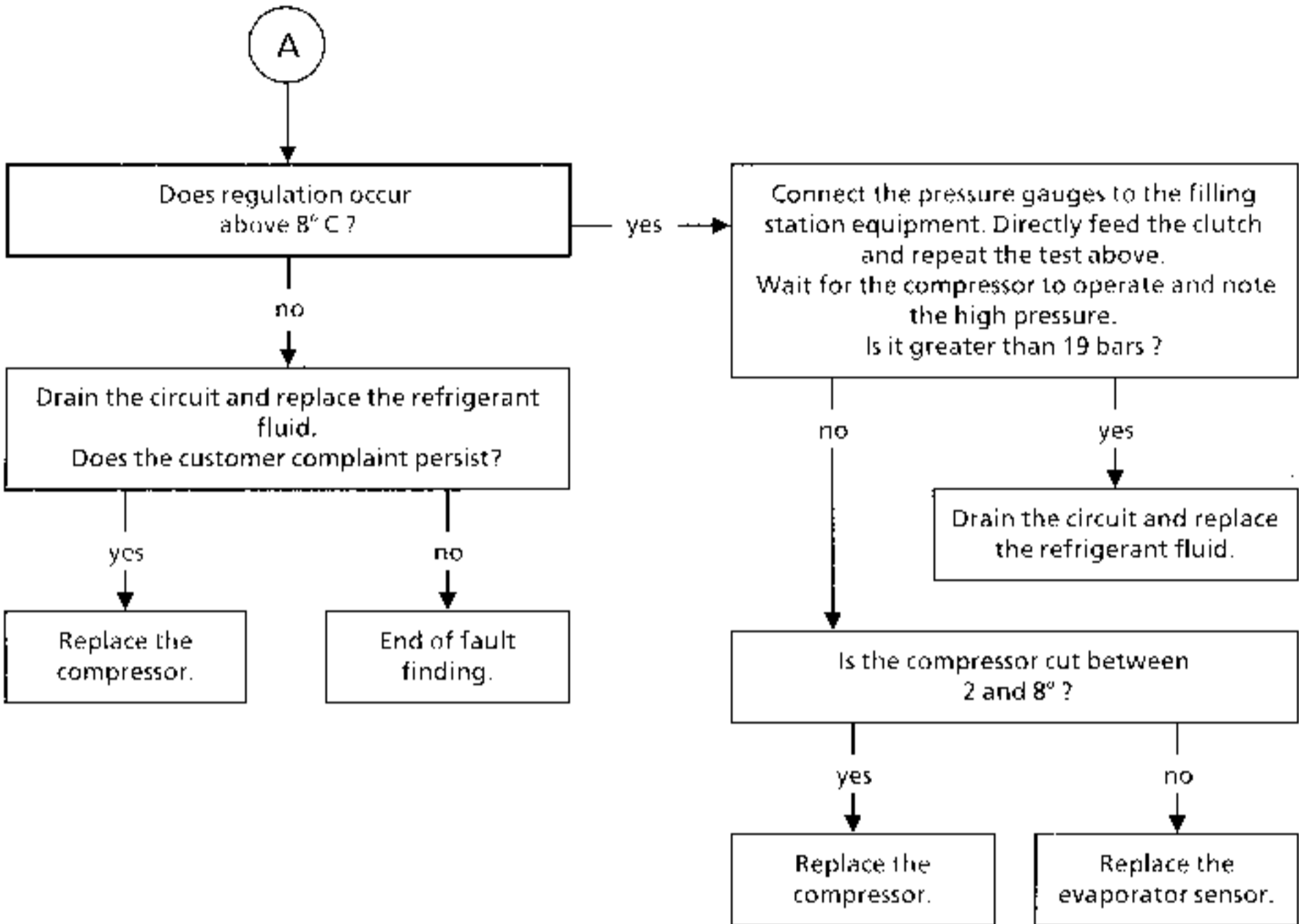
| | |
|-----------------|-------------------------------------|
| Chart 15 | AIR CONDITIONING INEFFICIENT |
|-----------------|-------------------------------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

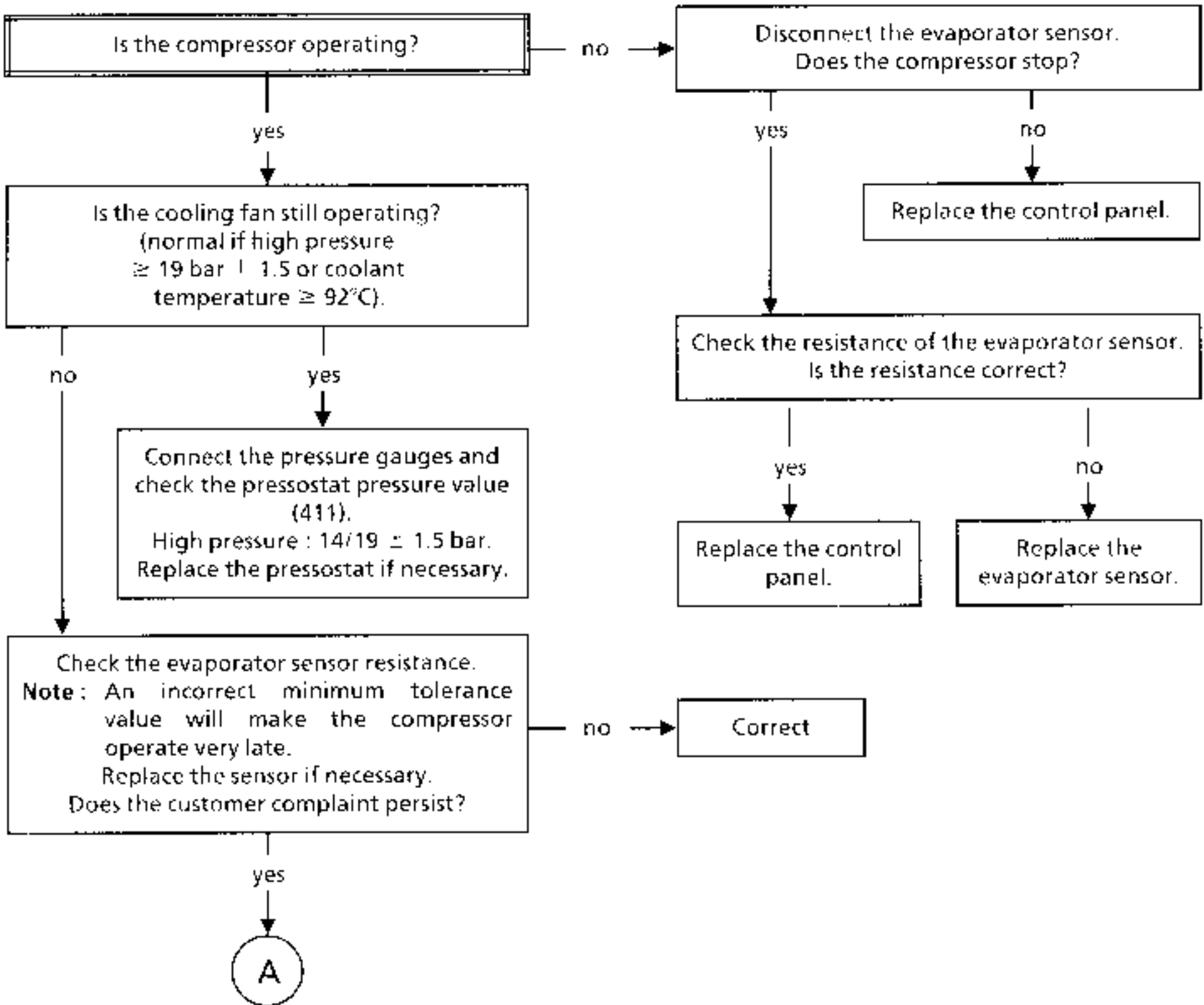
Chart 15
CONT



AFTER REPAIR Carry out a road test.

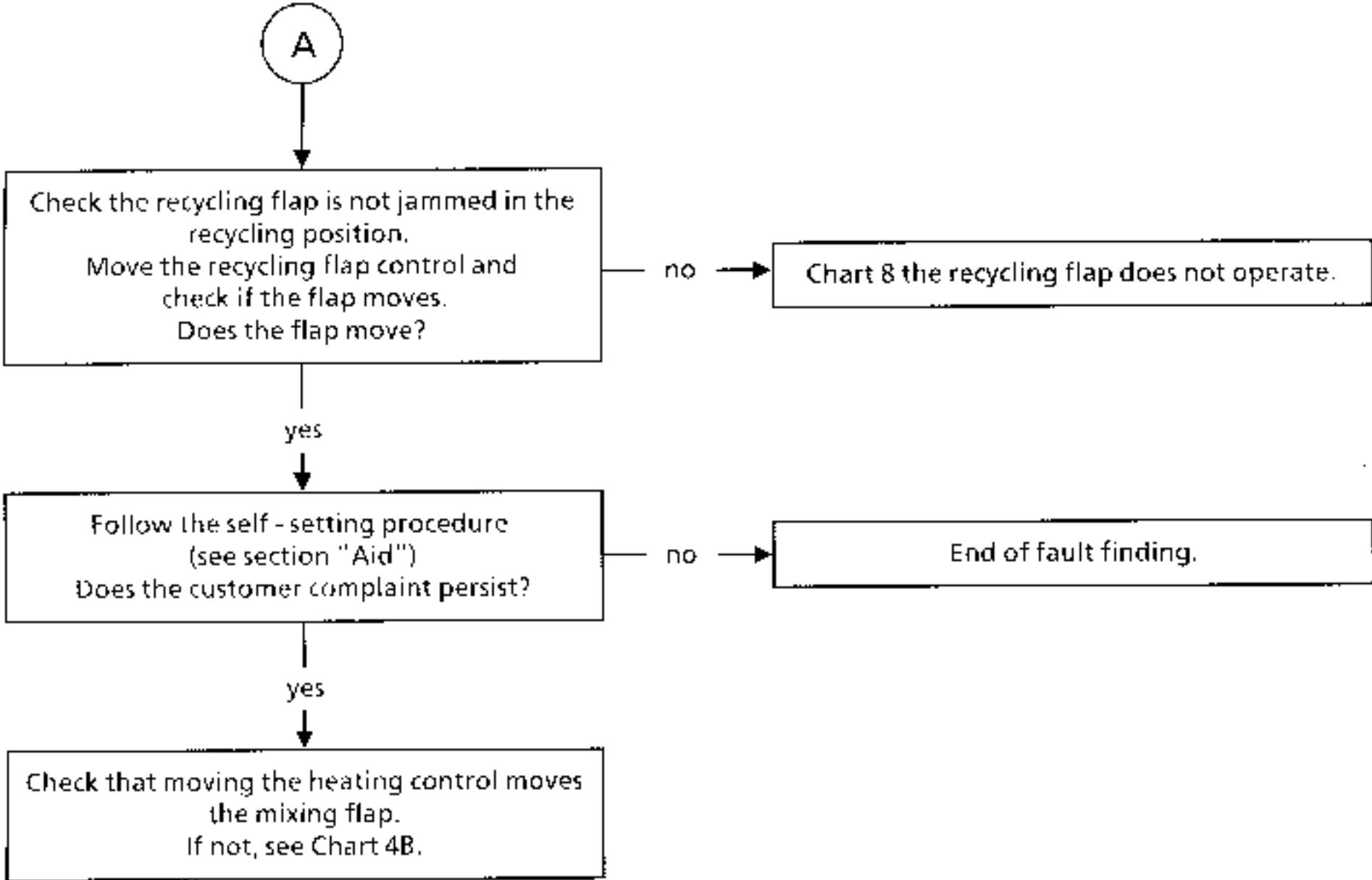
| | |
|-----------------|--|
| Chart 16 | AIR CONDITIONING PRODUCES TOO MUCH COLD |
|-----------------|--|

| | |
|--------------|---|
| NOTES | Only consult this customer complaint after a complete check using the XR25. |
|--------------|---|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

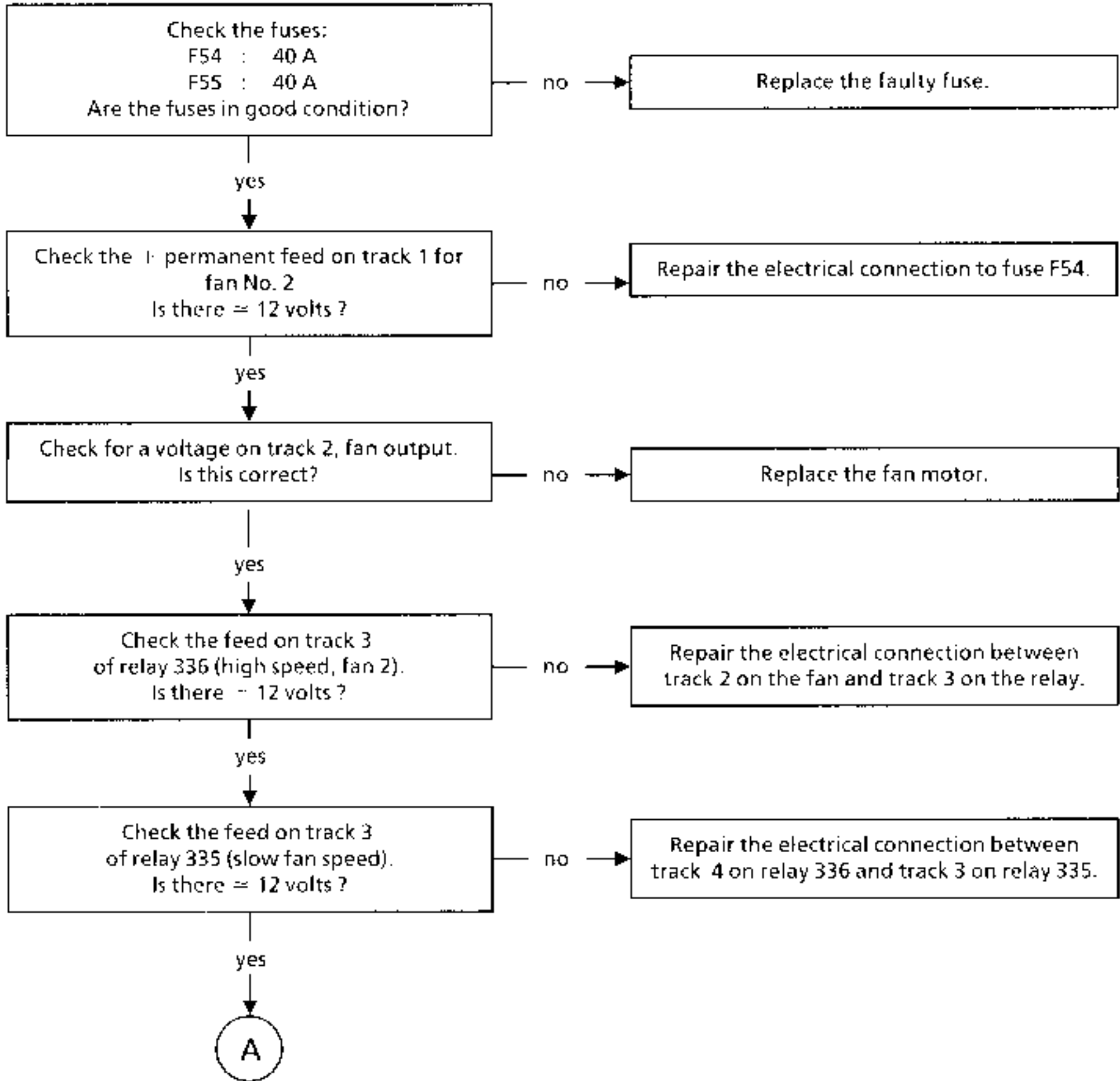
Chart 16
CONT



AFTER REPAIR Carry out a road test.

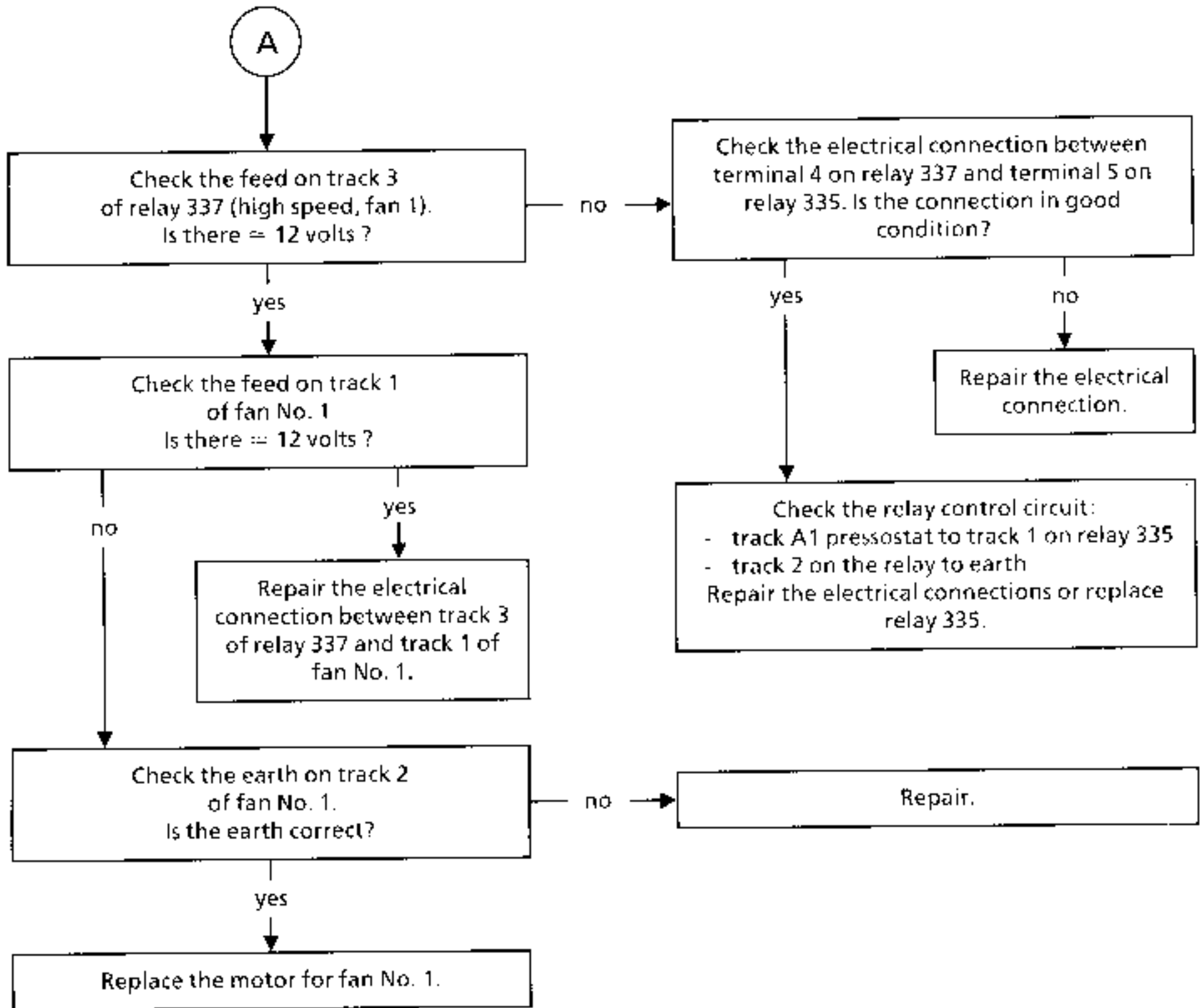
| | |
|-----------------|--|
| Chart 17 | COOLING FANS DO NOT OPERATE FOR SLOW SPEED - AIR CONDITIONING OPERATING |
|-----------------|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|------------------------|
| AFTER REPAIR | Carry out a road test. |
|---------------------|------------------------|

Chart 17
CONT



AFTER REPAIR Carry out a road test.

PROCEDURE FOR AUTOMATICALLY SETTING THE DRIVER'S CONTROL

Ignition off.

Driver's control:

- Mixing to all cold.
- Fan speed to "0".
- Press **de-icing** (or "see clear" for AC versions) and **head/feet**, hold these buttons down, then turn on accessories feed.

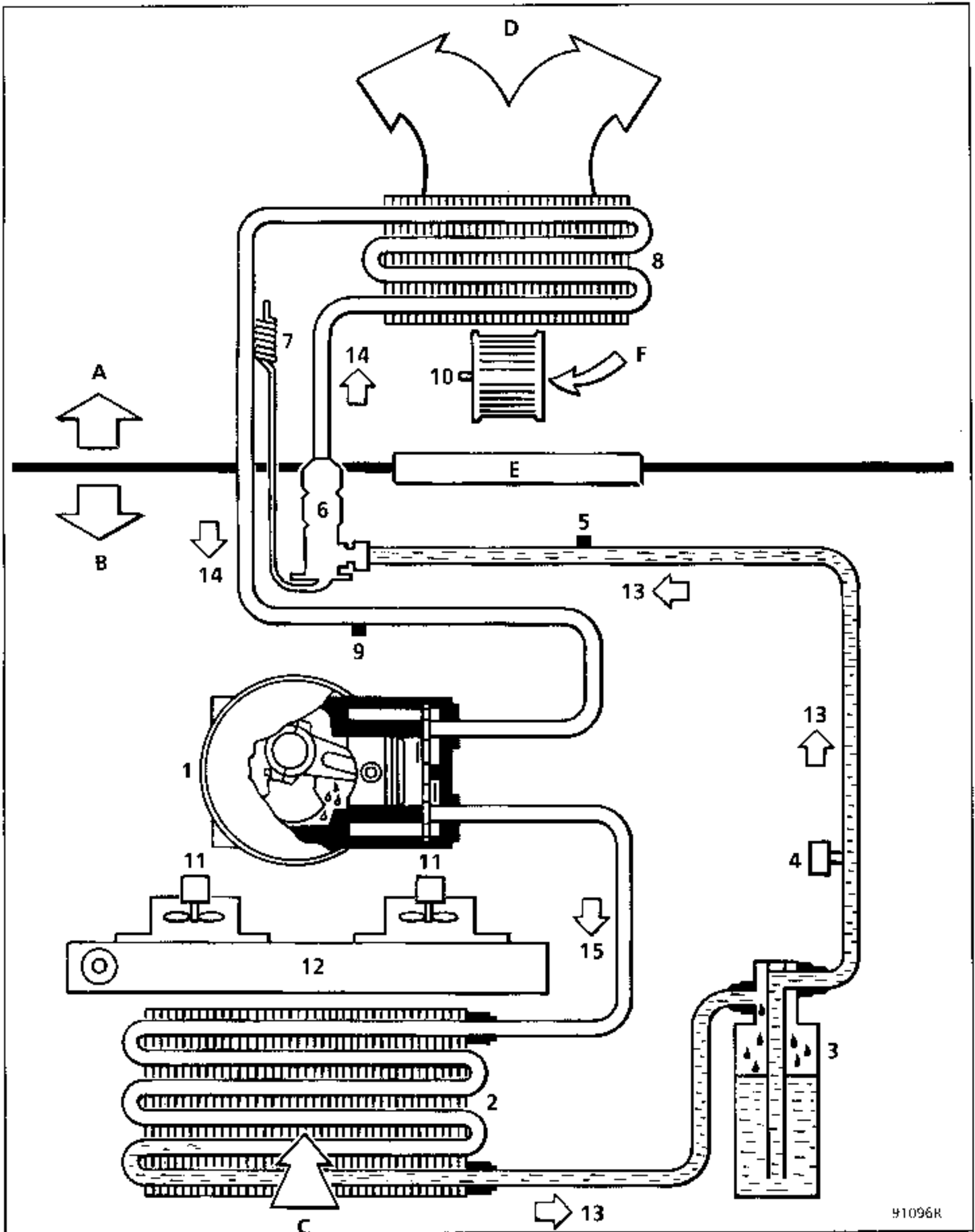
While the control is setting itself, the driver's "mixing" warning light will flash. As soon as the warning lights flash, release the pressure on the buttons.

- **Setting completed and correct:**
driver's control, "mixing" and "head ventilation" warning lights illuminated.
- **Setting completed but incorrect:**
driver's control, "feet ventilation" and "head and feet ventilation" warning lights illuminated

Checks to make when the test is incorrect:

Check there is no mechanical blockage of the flaps or the motor gearing and that the distribution and mixing connectors are correctly connected.

DIAGRAM OF AIR CONDITIONING CIRCUIT



91096R

S66011.0

- A Passenger compartment
 - B Engine compartment
 - C External air
 - D To air mixing unit
 - E Scuttle panel
 - F External or recycled air
-
- 1 Compressor
 - 2 Condenser
 - 3 Refrigerant fluid reservoir
 - 4 Trifunction pressostat
 - 5 High pressure bleed
 - 6 Pressure relief valve
 - 7 Pressure relief valve temperature regulation
 - 8 Evaporator
 - 9 Low pressure bleed
 - 10 Air conditioning fan
 - 11 Cooling fan
 - 12 Engine radiator
 - 13 High pressure liquid
 - 14 Low pressure vapour
 - 15 High pressure vapour

Consumables:

- Compressor oil
SANDEN SP 20 (PAG)
135 cm³ ± 15
- Refrigerant fluid
R134a

INITIALISING DIALOGUE WITH THE XR25

- Connect the XR25 to the diagnostic socket.

Ignition on.

Selector on S8

Enter **D38**

I.cLE

IDENTIFICATION OF THE COMPUTER

The computer is not identified by reading a diagnostic code, but by directly reading the Part Number. After entering dialogue with the computer

ENTER **G70***

7700

XXX

XXX

The Part Number is shown on the display in three sequences.

Each sequence is displayed for approximately two seconds. The display is repeated twice. (To determine the number, refer to the Workshop Repair Manual, section 82).

ERASING THE MEMORY (engine stopped, ignition on)

Following an operation on the cruise control system, the computer's memory may be erased by using code G0** (Erases faults memorised in fault finding mode D38, selector on position S8, enter G0**).

This operation does not affect the memory of any other component on the vehicle.

| | | | | |
|-------------|--|---|---------------------------------|-------------------------------------|
| N°38 | | S8 | code : D 3 8 | read : 12LE |
| 1 | | | CODE PRESENT | <input checked="" type="checkbox"/> |
| 2 | <input checked="" type="checkbox"/> ENG. IMMOB 1 | COMPUTER CONFIGURATION (FIXED DISPLAY) | ENG IMMOB 2 | <input checked="" type="checkbox"/> |
| 3 | | | CODED DIESEL SOLENOID (SOL) | <input checked="" type="checkbox"/> |
| 4 | <input checked="" type="checkbox"/> WARN. LIGHT OPERATION (LED) ENG. IMMOB 1 ONLY | | | |
| 5 | <input checked="" type="checkbox"/> + APC PRESENT | | FEED RING CC EARTH | <input checked="" type="checkbox"/> |
| 6 | <input checked="" type="checkbox"/> DIESEL SOL. ACQUITTAL | FAULTS | CODED LINE * 26 | <input checked="" type="checkbox"/> |
| 7 | <input checked="" type="checkbox"/> KEY INTERROGATION (CC) | | LED WARN LIGHT * 27 | <input checked="" type="checkbox"/> |
| 8 | <input type="checkbox"/> SOL TEST MODE SET | | PROTECT MODE SET | <input type="checkbox"/> |
| 9 | <input type="checkbox"/> IF <input checked="" type="checkbox"/> TEST <input type="checkbox"/> IF <input type="checkbox"/> NO TEST | | RE-READ DIESEL SOL ACKNOWLEDGE. | <input checked="" type="checkbox"/> |
| 10 | <input type="checkbox"/> ACTIVE ENG IMMOB. | | CODED LINE REREAD FAULT | <input checked="" type="checkbox"/> |

ENG. IMMOB. (KEY)

Erase memory : G 0 **
End of test : G 13 *

| | | | |
|----|---|-------------|--------------------------|
| 11 | | KEY PRESENT | <input type="checkbox"/> |
| 12 | KEY CODE | RECEIVED | <input type="checkbox"/> |
| 13 | | VALIDATED | <input type="checkbox"/> |
| 14 | 12 AND 13 CAN ONLY BE INTERPHETED IF + APC PRESENT (5L) <input checked="" type="checkbox"/> | | |
| 15 | | | |
| 16 | | | |

CONTROL MODES : G...*

01 Diesel sol. mechanical check only if line 3 RH and line 6 RH/LH

Test Switch off ignition, enter : G01*
Switch on ignition again. Valve will open and shut for 30 secs (listen to check).

Enter immobiliser code
40 *...*

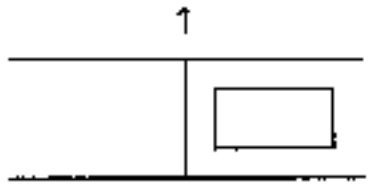
72 Write A/Sales date
73 Read A/Sales date

Part No. : G70 *

| | | | |
|----|--|--------------------------|-------------------------------------|
| 17 | <input checked="" type="checkbox"/> 'MANUAL MODE' BUTTON PRESSED | BUTTON DEFECT | <input checked="" type="checkbox"/> |
| 18 | <input type="checkbox"/> VALIDATING FIRST KEY | | |
| 19 | <input type="checkbox"/> VALIDATION AUTHORISED | VALIDATION NOT PERFORMED | <input type="checkbox"/> |
| 20 | | XR25 MEMORY 0 | <input type="checkbox"/> |

SEE REPAIR MANUEL


16 ANG

| | |
|---|--|
|  | <p>Bargraph 1 RH side extinguished</p> <p>Fiche n° 38</p> <p><u>Code present</u></p> <p>XR25 aid : No connection CO, CC.0, CC.1</p> |
|---|--|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>This bargraph must be illuminated for fault finding to be performed.</p> |
|---------------------|---|

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|----|----------|-------|-------|-------------|----|---|---|-------|----------|----|---|----------|--|--|----|---|---------|--|--|----|---|-------|--|
| <p>Check the selector is in position 58.</p> <p>Check the conformity of the cassette (access code: D38).</p> <p>Check the fuses:</p> <ul style="list-style-type: none"> - F7 : 15 A - F39 : 15 A | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Check the diagnostic socket is correctly fed:</p> <ul style="list-style-type: none"> - Earth on tracks 4 and 5 of the OBD socket. - 12 volts on track 16 of the OBD. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Check the connection between the XR25 and OBD socket.</p> <p>Check the connections:</p> <table border="0" data-bbox="327 1498 1059 1722"> <tr> <td style="padding-right: 10px;">Coded key</td> <td>A5</td> <td>→</td> <td>15</td> <td>OBD 2</td> </tr> <tr> <td>immobiliser</td> <td>B4</td> <td>→</td> <td>7</td> <td>OBD 2</td> </tr> <tr> <td>computer</td> <td>A1</td> <td>→</td> <td>fuse F39</td> <td></td> </tr> <tr> <td></td> <td>B5</td> <td>→</td> <td>fuse F7</td> <td></td> </tr> <tr> <td></td> <td>B6</td> <td>→</td> <td>earth</td> <td></td> </tr> </table> | Coded key | A5 | → | 15 | OBD 2 | immobiliser | B4 | → | 7 | OBD 2 | computer | A1 | → | fuse F39 | | | B5 | → | fuse F7 | | | B6 | → | earth | |
| Coded key | A5 | → | 15 | OBD 2 | | | | | | | | | | | | | | | | | | | | | |
| immobiliser | B4 | → | 7 | OBD 2 | | | | | | | | | | | | | | | | | | | | | |
| computer | A1 | → | fuse F39 | | | | | | | | | | | | | | | | | | | | | | |
| | B5 | → | fuse F7 | | | | | | | | | | | | | | | | | | | | | | |
| | B6 | → | earth | | | | | | | | | | | | | | | | | | | | | | |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p>2</p>  | <p>Bargraph 2 RH side extinguished <u>Computer configuration</u></p> <p>Fiche n° 38</p> |
|--|--|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>This bargraph must be illuminated.</p> |
|---------------------|---|

| |
|---|
| <p>If bargraph 2 RH side is extinguished, replace the computer.</p> |
|---|


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|--|-------------|
| 2  | Bargraph 2 LH side illuminated <u>Computer configuration</u> | Fiche n° 38 |
|--|--|-------------|

| | |
|--------------|-------------------------------------|
| NOTES | This bargraph must be extinguished. |
|--------------|-------------------------------------|

If bargraph 2 LH side is illuminated, replace the computer.


| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|--|---|
| <p style="text-align: center;">3</p>  | <p>Bargraph 3 RH side extinguished <u>Coded solenoid valve circuit</u></p> <p style="text-align: right;">Fiche n° 38</p> |
|--|---|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Bargraph used for diesel engine only.</p> |
|---------------------|--|

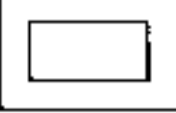
If bargraph 3 RH side is extinguished, check the connection between track 1 of the coded solenoid valve and track B2 on the coded key immobiliser computer.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|---|
| <p style="text-align: center;">4</p> <hr/>  <hr/> | <p>Bargraph 4 LH side illuminated Fiche n° 38</p> |
|--|---|

| | |
|---|---|
| <p style="text-align: center;">NOTES</p> | <p style="text-align: center;">NOT USED</p> |
|---|---|

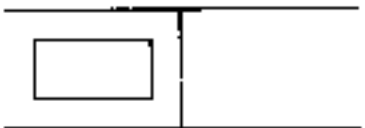
| | |
|--|---|
| <p style="text-align: center;">AFTER REPAIR</p> | <p>Eraser the computer memory using G0**.</p> |
|--|---|

| | | |
|--|---|-------------|
| <p>5</p>  | <p>Bargraph 5 RH side extinguished</p> <p><u>Coded key immobiliser ring feed circuit</u></p> <p>XR25 aid :</p> | Fiche n° 38 |
|--|---|-------------|

| | |
|--------------|--|
| NOTES | If Bargraph 5 LH side is extinguished, refer to Bargraph 5LH side. |
|--------------|--|

| | | | | |
|--|----|---|---|-------------------------------|
| Check the connections between the computer and the coded key immobiliser ring: | | | | |
| Transponder computer | A9 | → | 1 | Coded key immobiliser ring |
| | A8 | → | 5 | |
| | A5 | → | 4 | |
| | A7 | → | 3 | |


| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|--|--|
| <p style="text-align: center;">5</p>  | <p>Bargraph 5 RH side extinguished <u>+ after ignition feed circuit</u></p> <p style="text-align: right;">Fiche n° 38</p> |
|--|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Check the connection between track A1 on the coded key immobiliser computer and fuse F39.


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|-------------|
| <p>6</p>  | <p>Bargraph 6 LH side illuminated</p> <p><u>Coded solenoid valve circuit</u></p> | Fiche n° 38 |
|--|---|-------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Bargraph used for diesel engine only.</p> |
|---------------------|--|

| | | | | | | | | | | |
|---|---|-----------------------------------|---|-----------------------------------|---|---|----------------------------|---|---|-------|
| <p>Check the continuity of the connections:</p> | | | | | | | | | | |
| Solenoid valve | <table><tr><td>1</td><td>→</td><td>B2 Coded key immobiliser computer</td></tr><tr><td>2</td><td>→</td><td>+ 12 V after ignition feed</td></tr><tr><td>3</td><td>→</td><td>earth</td></tr></table> | 1 | → | B2 Coded key immobiliser computer | 2 | → | + 12 V after ignition feed | 3 | → | earth |
| 1 | → | B2 Coded key immobiliser computer | | | | | | | | |
| 2 | → | + 12 V after ignition feed | | | | | | | | |
| 3 | → | earth | | | | | | | | |

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|-------------|
| 6  | Bargraph 6 RH side illuminated <u>Coded line circuit</u> XR25 aid : *26 : bon CC.1 : track B2 computer to + 12 V CC.0 : CO or CC earth on track B2 | Fiche n° 38 |
|--|---|-------------|

| | |
|--------------|--|
| NOTES | If Bargraph 6 RH side flashes, the fault is not present. If the fault is present when testing, bargraph 10 RH side must be illuminated. |
|--------------|--|

| | | |
|-------------|--------------|-------|
| CC.1 | NOTES | None. |
|-------------|--------------|-------|

Check the insulation of the coded line (B2) in relation to - 12 V, disconnecting the computer connections.

Repair or replace the computer.

| | | |
|-------------|--------------|-------|
| CC.0 | NOTES | None. |
|-------------|--------------|-------|

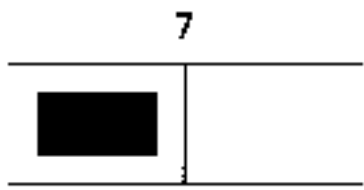
Check the insulation from earth and the continuity of the coded line (B2 computer ---> 1 coded solenoid valve), disconnecting the computer connections.

Repair or replace the computer.

To check continuity to the injection computer fit bornier **Sus. 1228** to the injection computer and check track B2 for coded key immobiliser to track 35 of the injection computer.

Important: After repair, wait for Bargraph 6 RH side to flash (approximately 16 seconds) before erasing the fault using G0**, memorised in the decoder unit, and also erasing the fault memorised in the injection computer by disconnecting the battery for = 30 seconds (see D13 fiche n° 23, Bargraph 2 RH side).

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|---|--|
|  | <p>Bargraph 7 LH side illuminated fiche n° 38</p> <p><u>Coded key immobiliser interrogation circuit</u></p> <p>XR25 aid : *07 : bon CC.1 : track A7 to - 12 V CC.0 : CO or CC earth track A7</p> |
|---|--|

| | |
|--------------|--|
| NOTES | If bargraph 7 LH side flashes, the fault is not present. |
|--------------|--|

| | | |
|-------------|--------------|-------|
| CC.0 | NOTES | None. |
|-------------|--------------|-------|

Check the insulation from earth and the continuity of the clock line A7 (coded key immobiliser) to track 3 (ring), disconnecting the computer.

Repair or replace the computer.

| | | |
|-------------|--------------|-------|
| CC.1 | NOTES | None. |
|-------------|--------------|-------|


Check the insulation of the clock line A7 from + 12 V, disconnecting the computer connections.

Repair or replace the computer.

Using the XR25 as a pulse detector, check that on track A7 of the coded key immobiliser, there is a pulse when 1 after ignition feed is supplied. If there is no pulse, replace the ring, otherwise replace the computer.

Important: If this bargraph illuminates during a programming procedure, ignore it (erase it).

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|--|---|-------------|
| <p>7</p>  | <p>Bargraph 7 RH side illuminated</p> <p><u>Warning light circuit</u></p> <p>XR25 aid : *27 : bon CC.1 : track A4 to + 12 V CC.0 : CO or CC earth track A4</p> | Fiche n° 38 |
|--|---|-------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | |
|-------------|--------------|-------|
| CC.1 | NOTES | None. |
|-------------|--------------|-------|

Check the insulation of the warning light line, track A4 on the computer from + 12 V , disconnecting the computer connections.

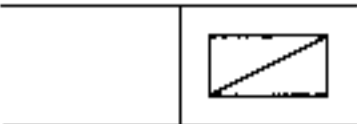
Repair or replace the computer.

| | | |
|-------------|--------------|-------|
| CC.0 | NOTES | None. |
|-------------|--------------|-------|

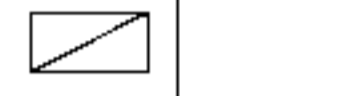
Check the insulation from earth and the continuity of the LED line track A4 for the coded key immobiliser and track 6 on the infra red receiver.

Repair or replace the computer.


| | |
|---------------------|--|
| AFTER REPAIR | Erase the computer memory using G0*.*. |
|---------------------|--|

| | |
|--|--|
| 8  | <p>Bargraph 8 RH side Fiche n° 38</p> <p><u>Coded line circuit</u></p> <p>XR25 aid : illuminates if coding is forced by G04*, entry into forced protection mode.</p> |
|--|--|

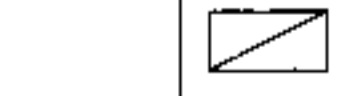
| | |
|--------------|--|
| NOTES | Forced protection mode deactivates at the end of fault finding or when I after ignition feed is cut. |
|--------------|--|

| | |
|---|--|
| 8  | <p>Bargraph 8 LH side Fiche n° 38</p> <p><u>Solenoid valve circuit (diesel)</u></p> <p>XR25 aid : illuminates if coding is forced by G01*.</p> |
|---|--|

| | |
|--------------|--|
| NOTES | Forced protection mode deactivates at the end of fault finding or when + after ignition feed is cut. |
|--------------|--|

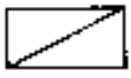
| | |
|--|---|
| 9  | <p>Bargraph 9 LH side Fiche n° 38</p> <p><u>Coded solenoid valve circuit</u></p> <p>XR25 aid : illuminates if there is a coded solenoid valve</p> |
|--|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|


| | |
|--|---|
| 9  | <p>Bargraph 9 RH side Fiche n° 38</p> <p><u>Coded solenoid valve circuit</u></p> <p>XR25 aid : illuminates if the coded solenoid valve has received the code.</p> |
|--|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|---|---|
| <p>10</p>  | <p>Bargraph 10 LH side <u>Coded line circuit</u> XR25 aid : Illuminates if the immobiliser is active.</p> <p>Fiche n° 38</p> |
| <p>NOTES</p> | <p>None.</p> |

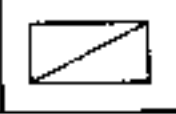
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|-------------|
| <p>10</p>  | <p>Bargraph 10 RH side illuminated</p> <p><u>Coded line circuit</u></p> <p>XR25 aid : Bargraph illuminates if a fault is present on the coded line Incorrect reading of the code</p> | Fiche n° 38 |
|---|---|-------------|

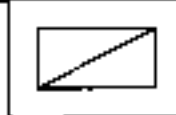
| | |
|--------------|--|
| NOTES | <p>The illumination of this Bargraph is only of significance when the key is recognised (Bargraph 11 RH side illuminates).</p> |
|--------------|--|

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------------|----|---|---|----------------------------|----------------------------|--|----|---|---|--|--|--|----|---|---|--|--|--|----|---|---|--|--|
| Re-insert the key. | | | | | | | | | | | | | | | | | | | | | | | | |
| Check the ring is correctly positioned. | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Check the continuity and insulation between:</p> <table style="margin-left: 40px;"> <tr> <td style="padding-right: 10px;">Coded key immobiliser computer</td> <td style="padding-right: 10px;">A7</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">3</td> <td style="padding-right: 20px;"></td> <td style="padding-right: 10px;">Coded key immobiliser ring</td> </tr> <tr> <td></td> <td>A6</td> <td>→</td> <td>4</td> <td></td> <td></td> </tr> <tr> <td></td> <td>A8</td> <td>→</td> <td>5</td> <td></td> <td></td> </tr> <tr> <td></td> <td>A9</td> <td>→</td> <td>1</td> <td></td> <td></td> </tr> </table> <p>Insert the key ---> Bargraph 11 RH side illuminates, otherwise replace the ring.</p> <p>Note : Bargraph 11 RH side only illuminates if the immobiliser is active : Bargraph 10 LH side illuminated</p> | Coded key immobiliser computer | A7 | → | 3 | | Coded key immobiliser ring | | A6 | → | 4 | | | | A8 | → | 5 | | | | A9 | → | 1 | | |
| Coded key immobiliser computer | A7 | → | 3 | | Coded key immobiliser ring | | | | | | | | | | | | | | | | | | | |
| | A6 | → | 4 | | | | | | | | | | | | | | | | | | | | | |
| | A8 | → | 5 | | | | | | | | | | | | | | | | | | | | | |
| | A9 | → | 1 | | | | | | | | | | | | | | | | | | | | | |

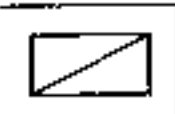
| | |
|---------------------|--|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> |
|---------------------|--|

| | |
|---|--|
| <p>11</p>  | <p>Bargraph 11 RH side illuminated Fiche n° 38</p> <p><u>Key circuit</u></p> <p>XR25 aid : Bargraph 11 RH side illuminates when the key is inserted, as long as bargraph 10 RH side is illuminated.</p> |
|---|--|

| | |
|--------------|--|
| NOTES | This bargraph remains illuminated when the ignition is turned off. |
|--------------|--|


| | |
|---|---|
| <p>12 - 13</p>  | <p>Bargraphs 12 - 13 RH side illuminated Fiche n° 38</p> <p><u>Key code circuit</u></p> <p>XR25 aid : Illuminates when the key with the correct format and the correct code is inserted with - after ignition feed present (bargraph 5 LH side illuminated).</p> |
|---|---|

| | |
|--------------|---|
| NOTES | This bargraph remains illuminated when the ignition is turned off. In normal operation, bargraphs 11 - 12 - 13 RH side should be illuminated together. |
|--------------|---|

| | |
|---|---|
| <p>17</p>  | <p>Bargraph 17 LH side Fiche n° 38</p> <p><u>Button circuit</u></p> <p>XR25 aid : This bargraph illuminates each time the central door locking button is pressed when manually entering the code</p> |
|---|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|


| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|---|--|-------------|
| <p>17</p>  | <p>Bargraph 17 RH side illuminated</p> <p><u>Button code</u></p> <p>XR25 aid : Open circuit or CC</p> | Fiche n° 38 |
|---|--|-------------|


| | |
|--------------|--|
| NOTES | If the bargraph flashes, the fault is not present. |
|--------------|--|

| | | | | |
|---|----|---|----|---------------------|
| Check the continuity and insulation of the coded key immobiliser computer line to the interior locking control. | | | | |
| Code key immobiliser computer | A2 | → | B3 | Interior control |
| | A3 | → | A1 | |

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|--|---|
| <p>18 - 19</p>  | <p>Bargraphs 18 - 19 LH side Fiche n° 38</p> <p><u>Programming circuit</u></p> <p>XR25 aid : The bargraphs illuminate during programming using the 1st key with I after ignition feed present.</p> |
|--|---|

| | |
|--------------|--|
| NOTES | See programming procedure (Workshop Repair Manual section 82). |
|--------------|--|

| | |
|--|---|
| <p>19</p>  | <p>Bargraph 19 RH side Fiche n° 38</p> <p><u>Programming circuit</u></p> <p>XR25 aid : If the bargraph is illuminated, the unit has not been programmed.</p> |
|--|---|

| | |
|--------------|--|
| NOTES | See programming procedure (Workshop Repair Manual section 82). Ignore the illumination of bargraphs 6 - 10 - 11 - 12 - 13 RH side as long as programming has not been successful. |
|--------------|--|

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

NOTES

Only consult these customer complaints after a complete check using the XR25.

WHEN THE IGNITION IS TURNED ON, THE IMMOBILISER WARNING LIGHT FLASHES, REMAINS ILLUMINATED OR DOES NOT ILLUMINATE.

Chart 1

WHEN DRIVING (DECELERATION) AND AT IDLE SPEED, THE INJECTION WARNING LIGHT FLASHES

Chart 2

BARGRAPH 2 RH SIDE ILLUMINATES ON THE INJECTION FICHE (IMMOBILISER FAULT)

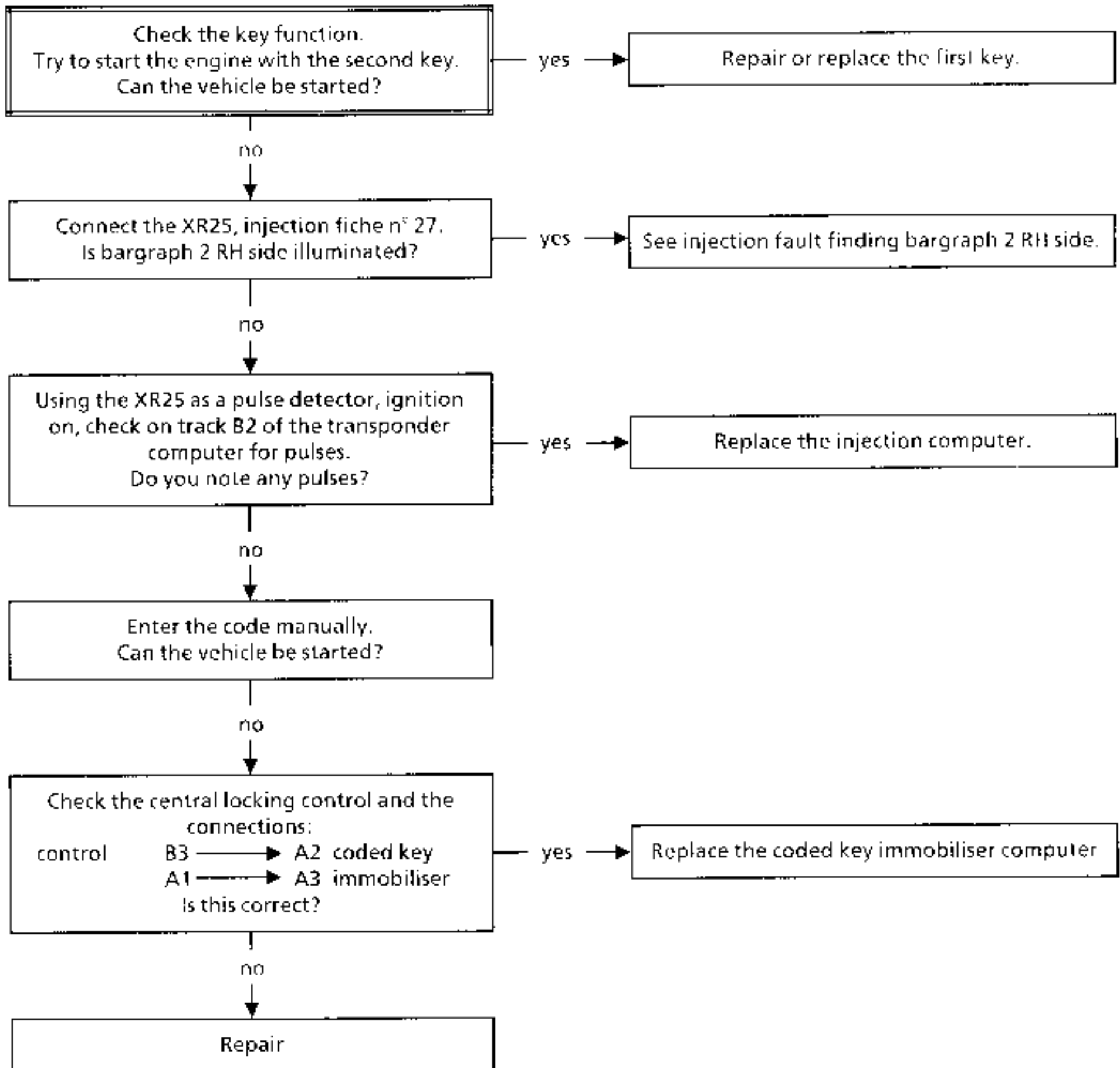
Chart 3

Chart 1

WHEN THE IGNITION IS TURNED ON, THE IMMOBILISER WARNING LIGHT FLASHES, REMAINS ILLUMINATED OR DOES NOT ILLUMINATE.

NOTES

Only consult this customer complaint after a complete check using the XR25.

**AFTER REPAIR**

Check the system operates correctly.

Chart 2

WHEN DRIVING (DECELERATION) AND AT IDLE SPEED, THE INJECTION WARNING LIGHT FLASHES

NOTES

Only consult this customer complaint after a complete check using the XR25.

Connect the XR25, injection fiche n° 27.
Is bargraph 2 RH side illuminated?

yes

See injection fault finding bargraph 2 RH side.

no

Using the XR25 as a pulse detector, ignition on, check on track B2 of the coded key immobiliser for pulses.
Do you note any pulses?

no

Replace the coded key immobiliser

yes

Replace the injection computer

AFTER REPAIR

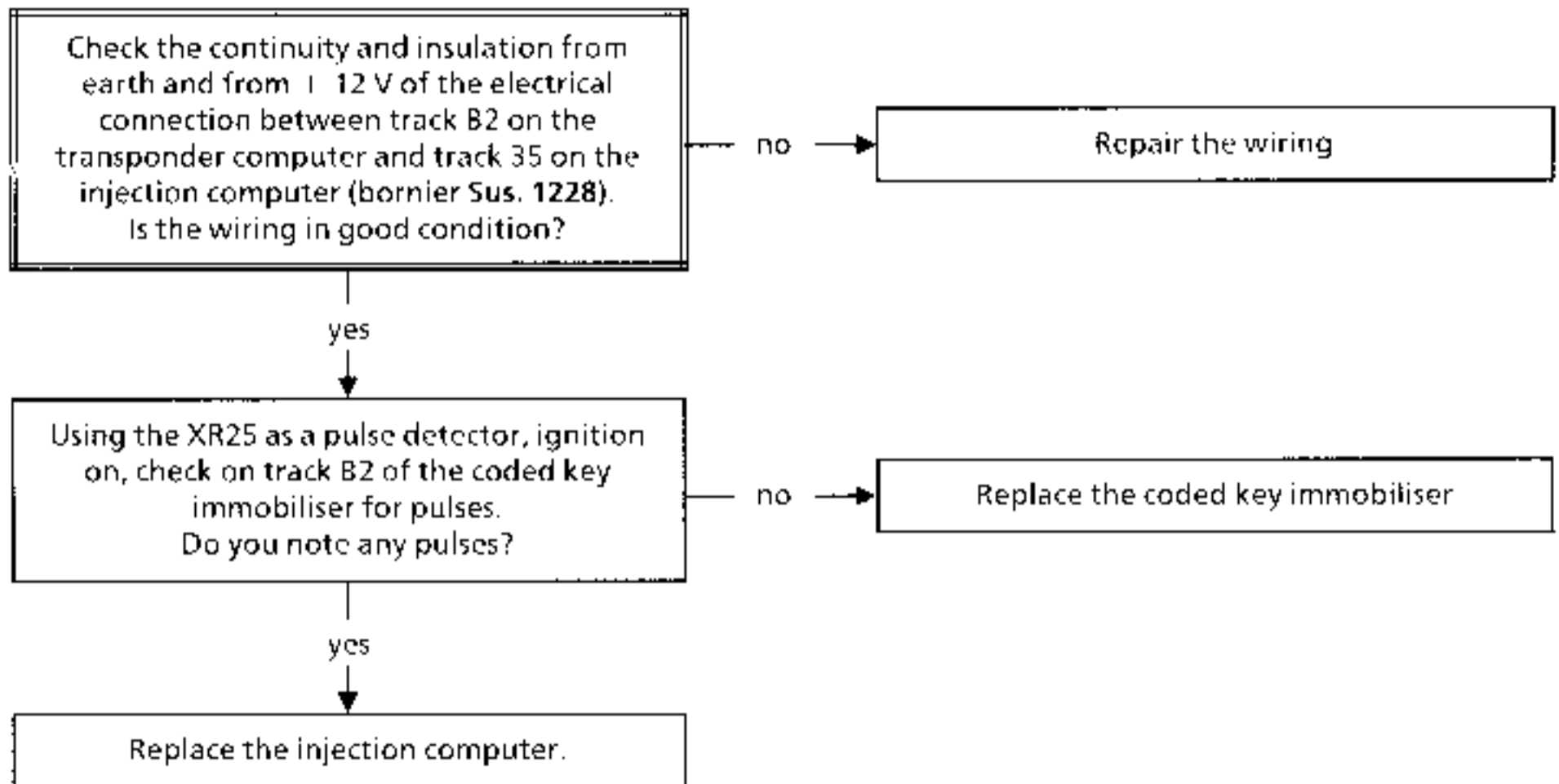
Check the system operates correctly.

Chart 3

BARGRAPH 2 RH SIDE ILLUMINATES ON THE INJECTION FICHE
(IMMOBILISER FAULT)

NOTES

Only consult this customer complaint after a complete check using the XR25.



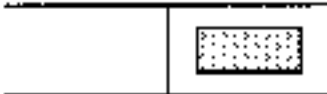
- Note :**
- After repairing the immobiliser system, on the XR25, wait for bargraph 2 RH side to flash, then enter G0** to erase the memory or disconnect the battery = 30 seconds.
 - After repair, check the immobiliser system operates correctly.

AFTER REPAIR

Check the system operates correctly.

NOTES

Before checking conformity, check that the fault bargraphs are not illuminated and that there are no customer complaints.

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|-------------------------|--|--|
| 1 | Dialogue with XR25 | D38 (selector on 58) | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">I.cLE</div> Use fiche n° 38 fault test side |
| 2 | Interpretation of bargraphs normally illuminated | | 1  | Code present |
| 3 | Computer conformity | G70* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">X X X X</div> Displays the Part Number in three sequences |

INITIALISING XR25 / COMPUTER DIALOGUE

- Connect the XR25 to the diagnostic socket.
- Ignition on.
- Selector on S8
- Enter **D58**

2.uit**IDENTIFICATION OF THE COMPUTER**

Identification of the computer is not connected to a diagnostic code, but is read directly from the computer Part Number. After setting up dialogue with the computer

ENTER G70***7700****XXX****XXX**

The Part Number is **displayed** on the central display in three sequences.

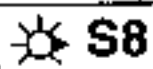
Each sequence remains displayed for **approximately two seconds**. The display is repeated twice. (For details on the number, refer to section 83 of the Workshop Repair Manual).

ERASING THE MEMORY (engine stopped, ignition on)

Following an operation on the injection system, the computer memory may be erased by using code G0** (Erases faults memorised in fault finding mode D58, selector on position S8, enter G0**).

This procedure does not erase the memory of any other component on the vehicle.

N°58



code : **D 5 8**

read : **2016**

| | | | | |
|----|-------------------------------------|---|---|-------------------------------------|
| 1 | <input type="checkbox"/> | COMPUTER | CODE PRESENT | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | SOL. VALVE or CONNECTOR (CO) or cc battery on lines 1/12/9 | REGUL. SOL. VALVE CC | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | PUMP OG OR CO OR LINE 1 CO | | |
| 4 | <input checked="" type="checkbox"/> | ILLUM. IF CLUTCH OR BRAKE PRESSED | | |
| 5 | | | BRAKE PRESSED . STOP LIGHTS ILLUM | <input checked="" type="checkbox"/> |
| 6 | <input type="checkbox"/> | AT SELECTOR IN P/N | | |
| 7 | | | | |
| 8 | <input checked="" type="checkbox"/> | (+) ACCEL | KEY CONTROL DEFECT IF ILLUM. WHEN PRESSING KEY CONTROLS | <input type="checkbox"/> |
| 9 | <input checked="" type="checkbox"/> | (-) DECEL | | |
| 10 | <input checked="" type="checkbox"/> | O / Resume | | |

CRUISE CONTROL

Erase fault memory : G 0 **
 End of test : G 13 *

| | | |
|----|--------------------------|---|
| 11 | | (ROAD TEST) |
| 12 | <input type="checkbox"/> | EXTING. IF REAL SPEED IS GREATER THAN MIN. SPEED THRESHOLD |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |

ADDITIONAL CHECKS : # . .


01 vehicle speed km/h

11 display of last number of the
action which deactivated the
regulator

- * (A/T) selection in pos. P/N
- 8 speed < 33km/h
- 10 acceleration > 4m/s
- 15 action on brake/clutch
- 16 action on brake
- 19 speed < 75% of memorized
speed
- 25 steering wheel key error
- 26 action on resume/off key

(01) number : see Repair Manual

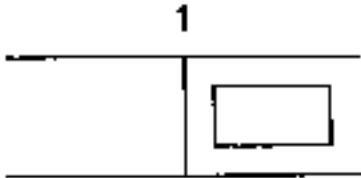
Part. no.: G70 * (IF RENAULT)
 If MATRA 388 do not request
 this n° 7706 see Repair Manual

| | |
|--|--|
| <p>1</p>  | <p>Bargraph 1 LH side illuminated Fiche n° 58</p> <p><u>Computer circuit</u></p> <p>XR25 aid : Computer fault if BG 1 LH side is illuminated</p> |
|--|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| |
|--|
| <p>Computer is not correct or is faulty.</p> <p>Replace the cruise control computer.</p> |
|--|


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|---|--|
|  | <p>Bargraph 1 RH side extinguished Fiche n° 58</p> <p><u>XR25 circuit</u></p> <p>XR25 aid : No connection CO, CC-, CC-</p> |
|---|--|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>This bargraph must be illuminated for fault finding to be performed.</p> |
|---------------------|---|

| | | | | | | | | | | | | | | | | | | |
|---|----------------|---|----------|----|---|-------------------|-------------------|----|---|---|--|----|---|-------|--|----|---|----------|
| <p>Check:</p> <ul style="list-style-type: none"> - the fuse F40, <li style="padding-left: 20px;">the position of the selector on 58, - the conformity of the cassette. <p>Repair if necessary.</p> | | | | | | | | | | | | | | | | | | |
| <p>Check for the presence of - 12 V on track 16 and the earth on track 4 on the diagnostic socket.</p> <p>Check the connection between the XR25 and the diagnostic socket:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 10px;">cruise control</td> <td style="padding-right: 10px;">8</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">15</td> <td rowspan="4" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="4" style="padding-left: 10px;">Diagnostic socket</td> </tr> <tr> <td style="padding-right: 10px;">computer</td> <td style="padding-right: 10px;">14</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">7</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">10</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">Earth</td> </tr> <tr> <td></td> <td style="padding-right: 10px;">11</td> <td style="padding-right: 10px;">→</td> <td style="padding-right: 10px;">fuse F40</td> </tr> </table> <p>Repair if necessary.</p> | cruise control | 8 | → | 15 | } | Diagnostic socket | computer | 14 | → | 7 | | 10 | → | Earth | | 11 | → | fuse F40 |
| cruise control | 8 | → | 15 | } | | | Diagnostic socket | | | | | | | | | | | |
| computer | 14 | → | 7 | | | | | | | | | | | | | | | |
| | 10 | → | Earth | | | | | | | | | | | | | | | |
| | 11 | → | fuse F40 | | | | | | | | | | | | | | | |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

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| <p>2</p>  | <p>Bargraph 2 LH side illuminated <u>Solenoid valve feed circuit</u></p> | <p>Fiche n° 58</p> |
|--|--|--------------------|

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|---------------------|---|
| <p>NOTES</p> | <p>If BG 2 LH and BG 12 LH are illuminated at the same time, refer to BG 12 LH.</p> |
|---------------------|---|

| |
|--|
| <p>If BG 2 LH and BG 2 RH are illuminated at the same time, check the insulation of track 12 on the computer in relation to 1 12 V and track 7 on the cruise control computer.</p> |
| <p>Check the continuity between track 12 on the cruise control computer and track 3 on the pneumatic control.</p> |
| <p>Check the insulation of track 1 and of track 7 on the cruise control computer.</p> |
| <p>Check the insulation of track 9 on the cruise control computer in relation to earth.</p> |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|--------------------|
| <p>2</p>  | <p>Bargraph 2 RH side illuminated <u>Regulation circuit</u></p> | <p>Fiche n° 58</p> |
|--|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

- If BG 2 RH and BG 3LH are illuminated at the same time, check the insulation between tracks 9 and 12 on the cruise control computer.
- If BG 2 RH and BG 2LH are illuminated at the same time, check the insulation from + 12 V of track 12 on the cruise control computer.
- Check the insulation of track 12 on the cruise control computer in relation to tracks 1, 7, 9 and earth.
- Disconnect the connections on the pump and check the insulation. If no fault is found, replace the cruise control computer.

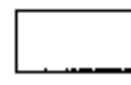
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|--------------------|
| <p>3</p>  | <p>Bargraph 3 LH side illuminated</p> <p><u>Pump circuit</u></p> | <p>Fiche n° 58</p> |
|--|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
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| |
|---|
| <p>If BG 3LH and BG 5RH are illuminated at the same time, check the continuity of track 7 on the cruise control computer.</p> |
| <p>If BG 3LH and BG 2RH are illuminated, check the insulation of tracks 9 and 12 on the cruise control computer.</p> |
| <p>Check the continuity of tracks 1 and 9 on the cruise control computer.</p> |
| <p>Check the insulation of tracks 7 and 9 on the cruise control computer.</p> |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|---|
| <p>4</p>  | <p>Bargraph 4 LH side remains extinguished brake pedal depressed</p> <p><u>Cruise control stop switch circuit</u></p> <p>Fiche n° 58</p> |
|--|---|

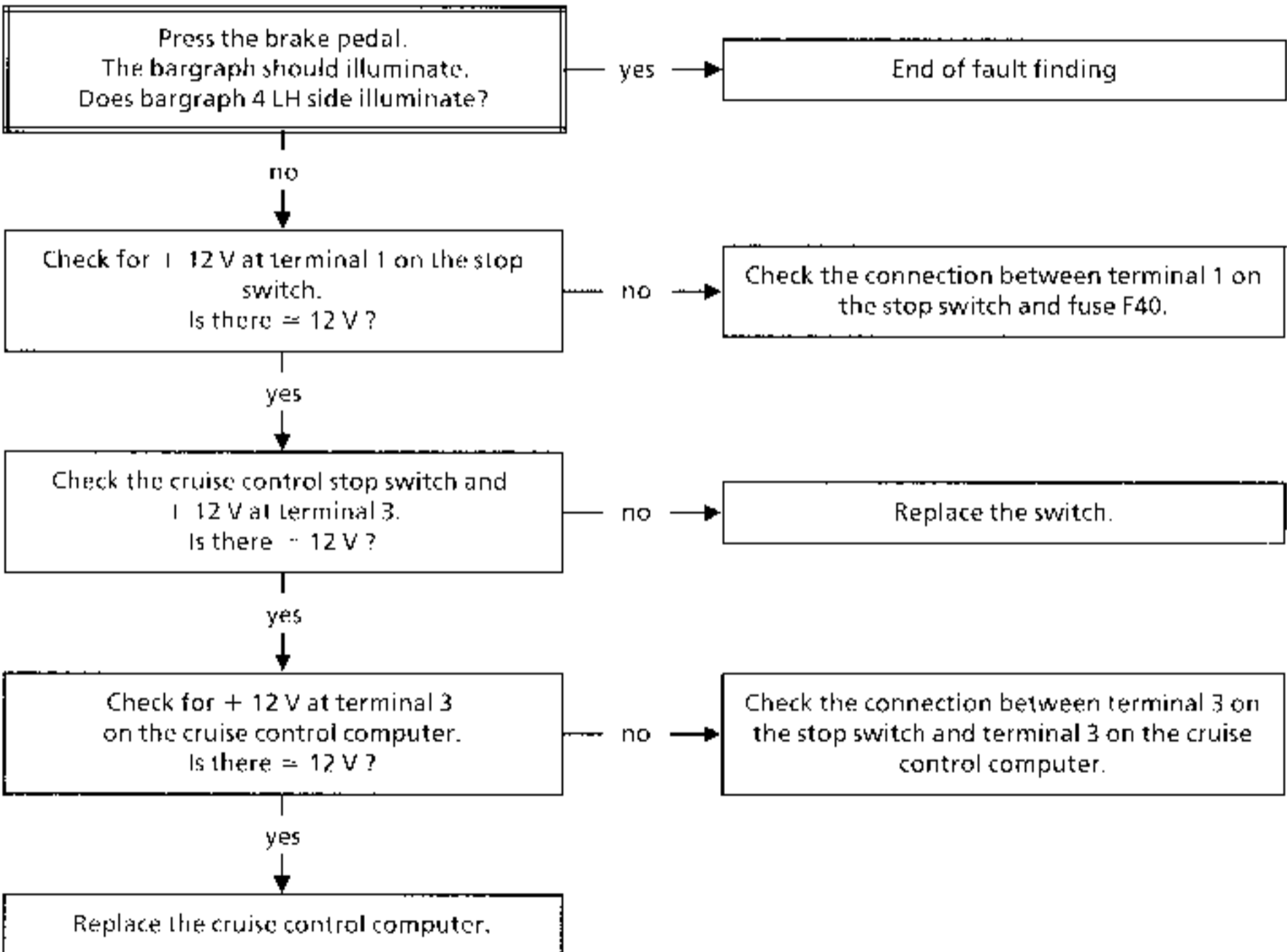
| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

- Check the continuity of track 3 on the cruise control computer to track 3 on the cruise control stop switch.
- Check the condition of the stop switch.
- Check the feed on track 1 of the stop switch from terminal B3 of the On/Off control.


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|--|--------------------|
| <p>4</p>  | <p>Bargraph 4 LH side remains illuminated brake pedal released</p> <p>Check bargraphs 4LH, 5RH, 6LH, 8LH, 8RH, 9LH, 10LH by action at the <u>components concerned</u></p> | <p>Fiche n° 58</p> |
|--|--|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|




| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p>5</p>  | <p>Bargraph 5 RH side remains extinguished brake pedal depressed <u>Stop switch circuit</u></p> <p>fiche n° 58</p> |
|--|--|

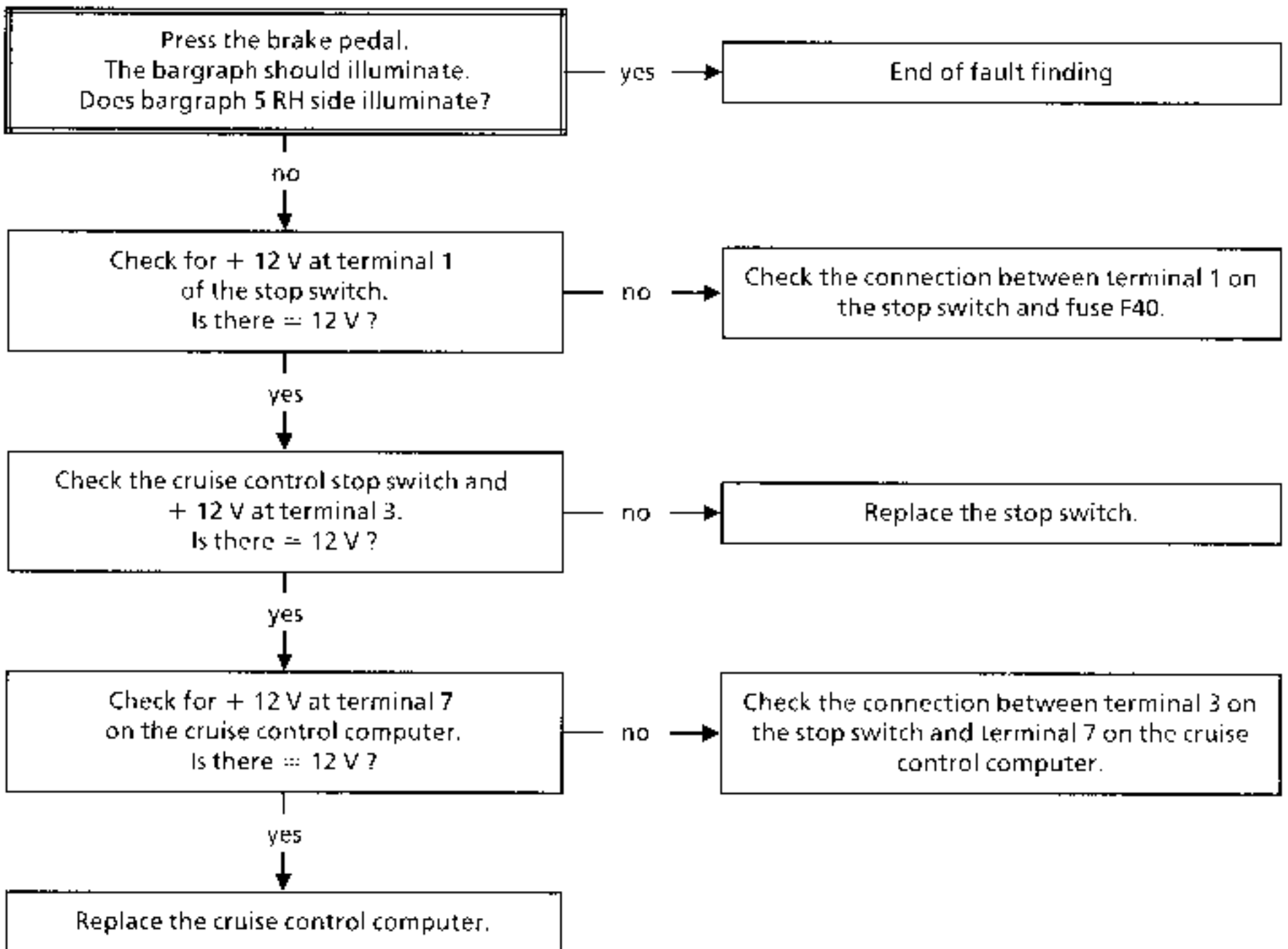
| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

- Check the continuity between track 7 on the cruise control computer and track 3 on the stop switch.
- Check the condition of the stop switch and its feed on track 1 via fuse F40.

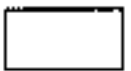
| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| 5  | <p>Bargraph 5 RH side remains illuminated brake pedal released</p> <p style="text-align: right;">Fiche n° 58</p> <p><u>Check bargraphs 4LH, 5RH, 6LH, 8LH, 8RH, 9LH, 10LH by action at the components concerned</u></p> |
|--|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



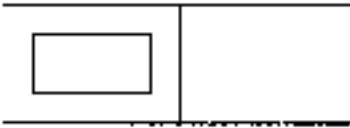
| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|--|--|
| <p>6</p>  | <p>Bargraph 6 LH side remains extinguished AT selector on position P or N <u>Automatic transmission information circuit</u></p> <p>Fiche n° 58</p> |
|--|--|

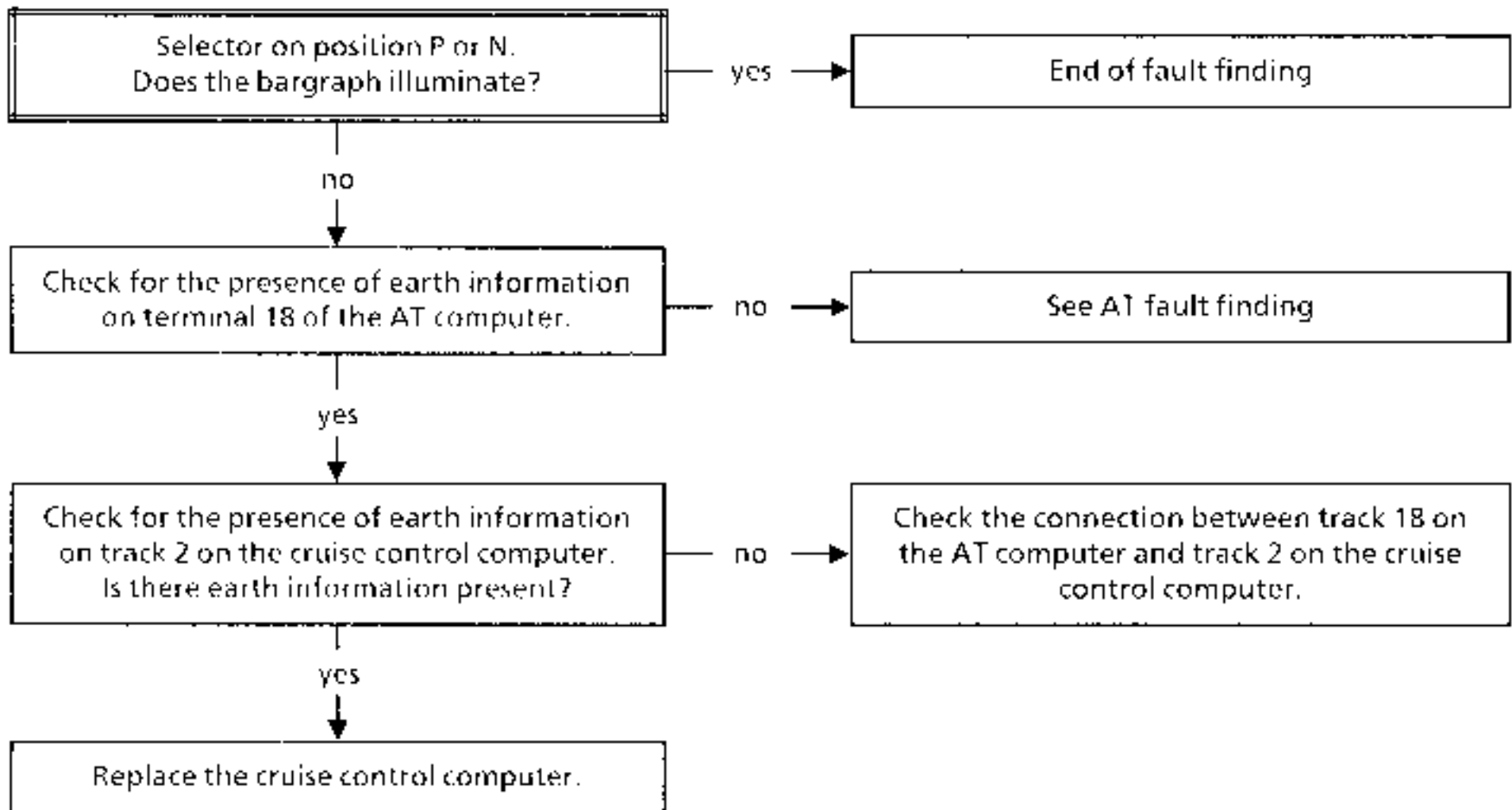
| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Check the continuity of track 2 on the cruise control computer and track 18 on the automatic transmission computer.


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|--------------------|
| <p>6</p>  | <p>Bargraph 6 LH side remains extinguished AT selector on position P or N <u>Automatic transmission information circuit</u></p> | <p>Fiche n° 58</p> |
|--|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|




| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p>8</p>  | <p>Bargraph 8 RH side illuminated <u>Cruise control button control circuit</u></p> <p>Fiche n° 58</p> |
|--|--|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>BG 8RH side illuminates for CC+ or CC- of tracks 5 and 6 on the cruise control computer.</p> |
|---------------------|---|

Check the insulation from 12 V and earth on tracks 5 and 6 on the cruise control computer.


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|---|--|
| <p>8 - 9 - 10</p>  | <p>Bargraphs 8 - 9 - 10 LH side Fiche n° 58</p> <p><u>Cruise control button control circuit</u></p> <p>XR25 aid : BG 8 LH illuminates for action on Acceleration BG 9 LH illuminates for action on Deceleration and BG 10 LH illuminates for action on Resume (O/R)</p> |
|---|--|

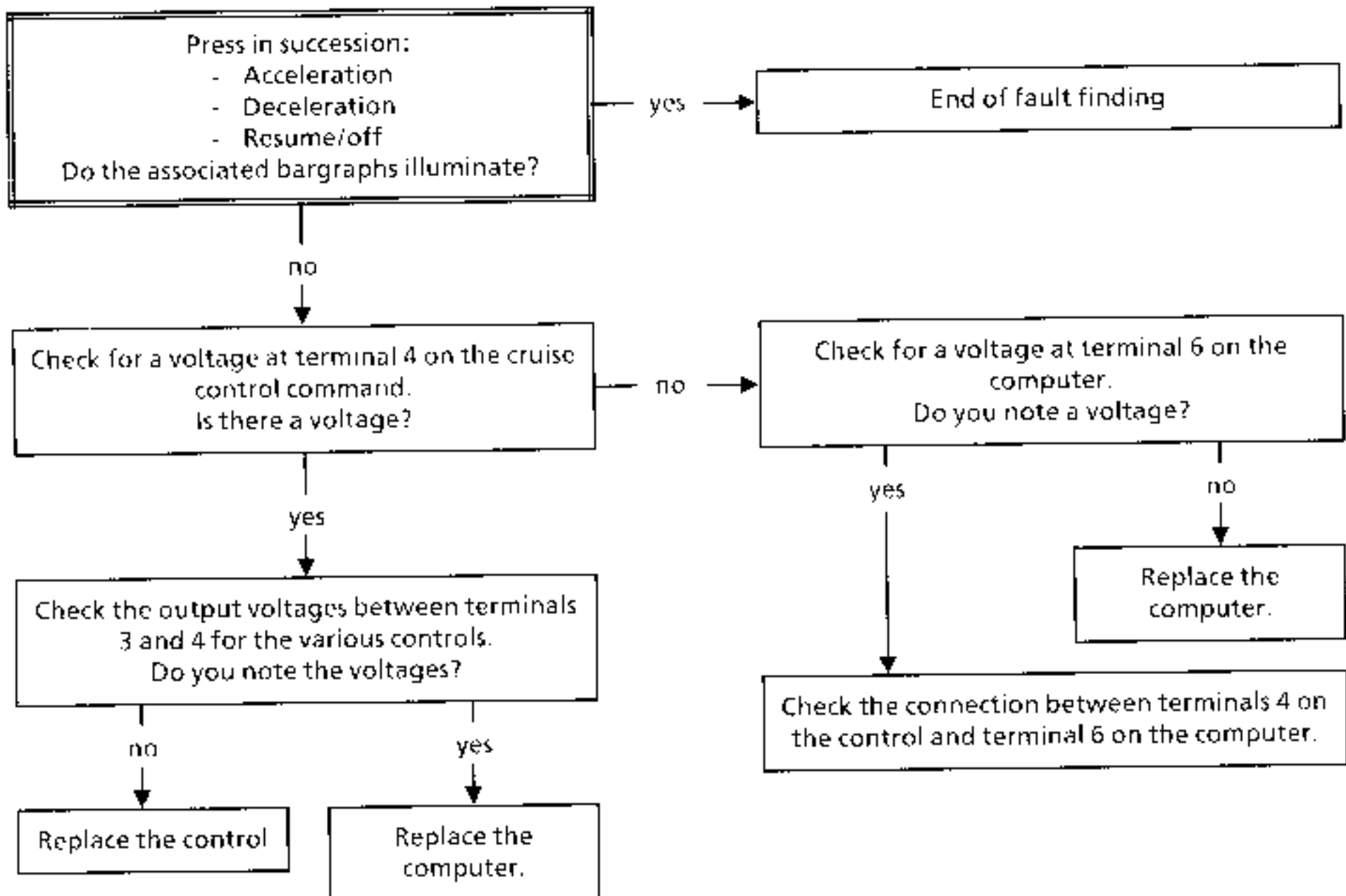
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| |
|--|
| If no bargraph illuminates when the buttons are pressed, check the continuity of tracks 5 and 6 on the cruise control computer. |
| If BG 8LH or BG 9LH does not illuminate, check the resistance at terminals 3 and 4 on the control <ul style="list-style-type: none"> - R = 260 Ω for BG 8LH. - R = 900 Ω for BG 9LH. |
| If BG 10 LH does not illuminate, check the continuity at terminals 3 and 4 on the control. |
| Note : Use a corresponding command for these tests. |


| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|---|---|-------------|
| 8 - 9 - 10  | Bargraphs 8 - 9 - 10 LH side <u>Cruise control button control circuit</u> | Fiche n° 58 |
|---|---|-------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | |
|---|--|
| <p>12</p>  | <p>Bargraph 12 LH side illuminated Fiche n° 58</p> <p><u>Vehicle speed circuit</u></p> <p>XR25 aid : The BG extinguishes when the vehicle speed reaches 21 mph (35 km/h).</p> |
|---|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Check the continuity and insulation (from 12 V and earth) of track 13 on the computer.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

NOTES

Only refer to these customer complaints after having performed a complete test using the XR25

THE CRUISE CONTROL DOES NOT OPERATE

- On/off switch warning light extinguished.
- On/off switch warning light illuminated.

Chart 1

Chart 2

THE ON/OFF WARNING LIGHT DOES NOT ILLUMINATE, BUT THE FUNCTION IS OPERATIVE

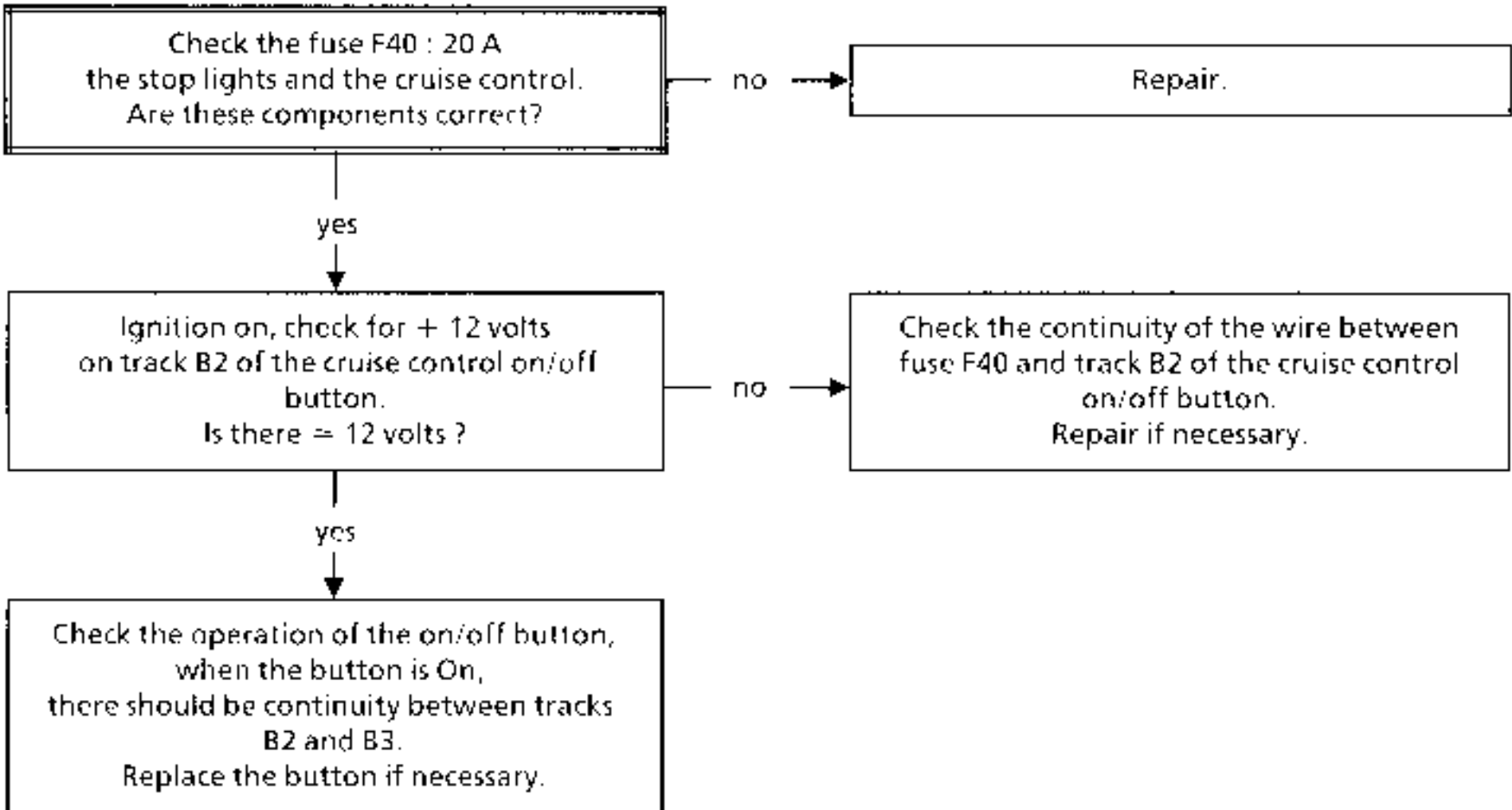
Chart 3

REGULATION IS CANCELLED FOR NO APPARENT REASON

Chart 4

| | |
|----------------|---|
| Chart 1 | THE CRUISE CONTROL DOES NOT OPERATE On/off switch warning light extinguished. |
|----------------|---|

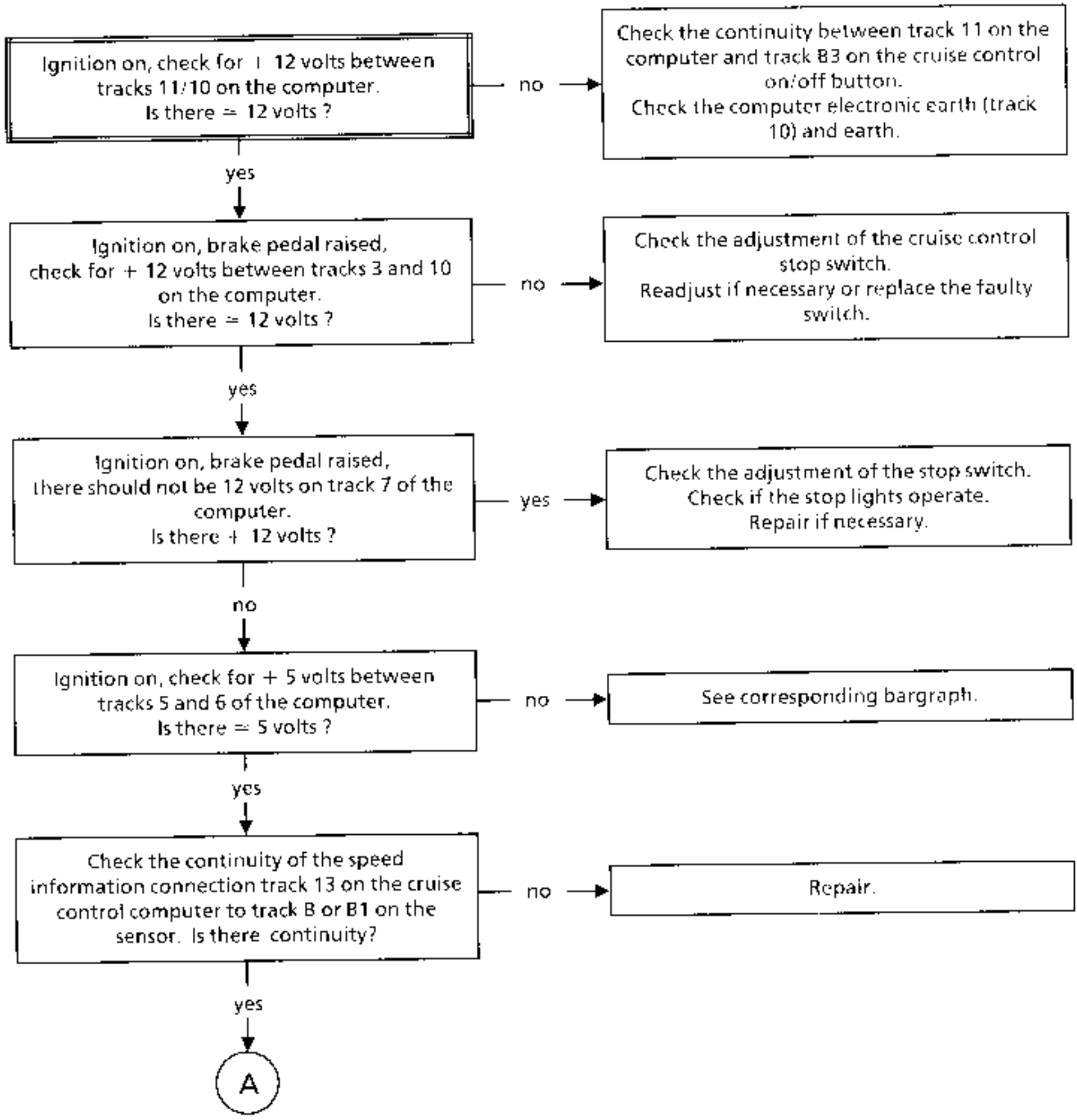
| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|---|
| AFTER REPAIR | Check that the system operates correctly. |
|---------------------|---|

Chart 2 **THE CRUISE CONTROL DOES NOT OPERATE**
On/off switch warning light illuminated.

NOTES Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR Check that the system operates correctly.

Chart 2
 CONT

A

Cruise control switch on.
 On the computer connector, earth tracks 9/7/12 in turn and check the vacuum pump and the solenoid valves operate correctly:

- 9 earthed → vacuum pump
- 9+7 earthed → vacuum pump + safety solenoid valve (cylinder pulled)
- 9+7+12 earthed → vacuum pump + solenoid valves (cylinder returns).

Do the components operate correctly?

yes

Replace the computer.

no

Turn the ignition off and check on the computer connector the resistances for the vacuum pump and the solenoid valves.
 Measure the resistances between tracks:

- 1 and 9 $R \approx 30 \Omega$
- 1 and 12 $R \approx 90 \Omega$
- 1 and 7 $R \approx 50 \Omega$

Do you note these resistances?

yes

no

Replace the pneumatic control.

Check the pneumatic part of the circuit:
 pipe between cylinder and vacuum pump,
 - cylinder,
 safety solenoid valve.
 Repair if necessary.

AFTER REPAIR

Check that the system operates correctly.

Chart 3

THE ON/OFF WARNING LIGHT DOES NOT ILLUMINATE, BUT THE FUNCTION IS OPERATIVE

NOTES

Only refer to this customer complaint after having performed a complete test using the XR25

Turn the side lights on and check the illumination of the switch.
Does the switch illuminate?

no

Check the earth on track A1 of the switch.

yes

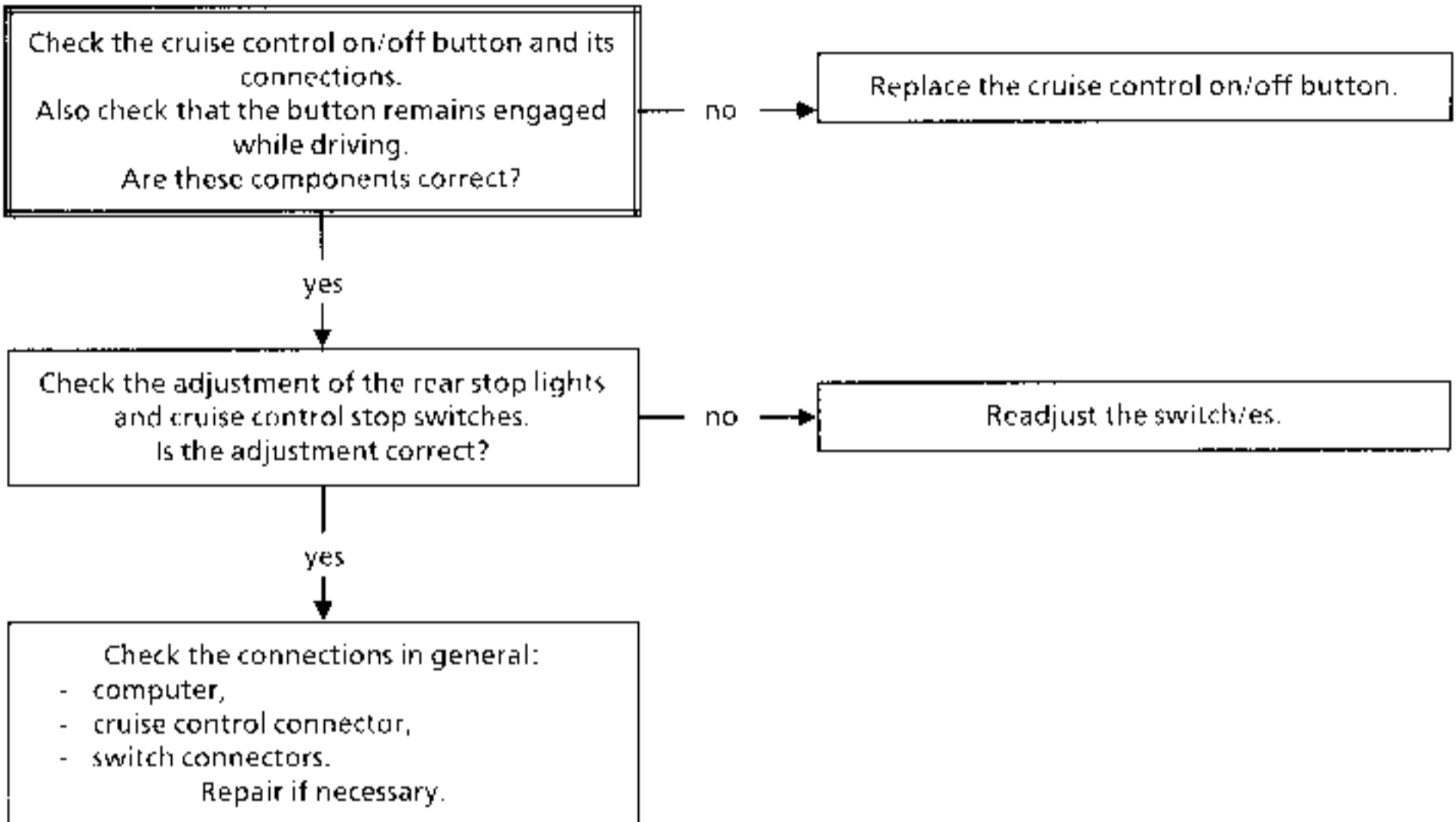
Replace the cruise control on/off switch warning light bulb.

AFTER REPAIR

Check that the system operates correctly.

| | |
|----------------|---|
| Chart 4 | REGULATION IS CANCELLED FOR NO APPARENT REASON |
|----------------|---|



| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|---|
| AFTER REPAIR | Check that the system operates correctly. |
|---------------------|---|

NOTES

Before checking conformity, check that the fault bargraphs are not illuminated and that there are no customer complaints.

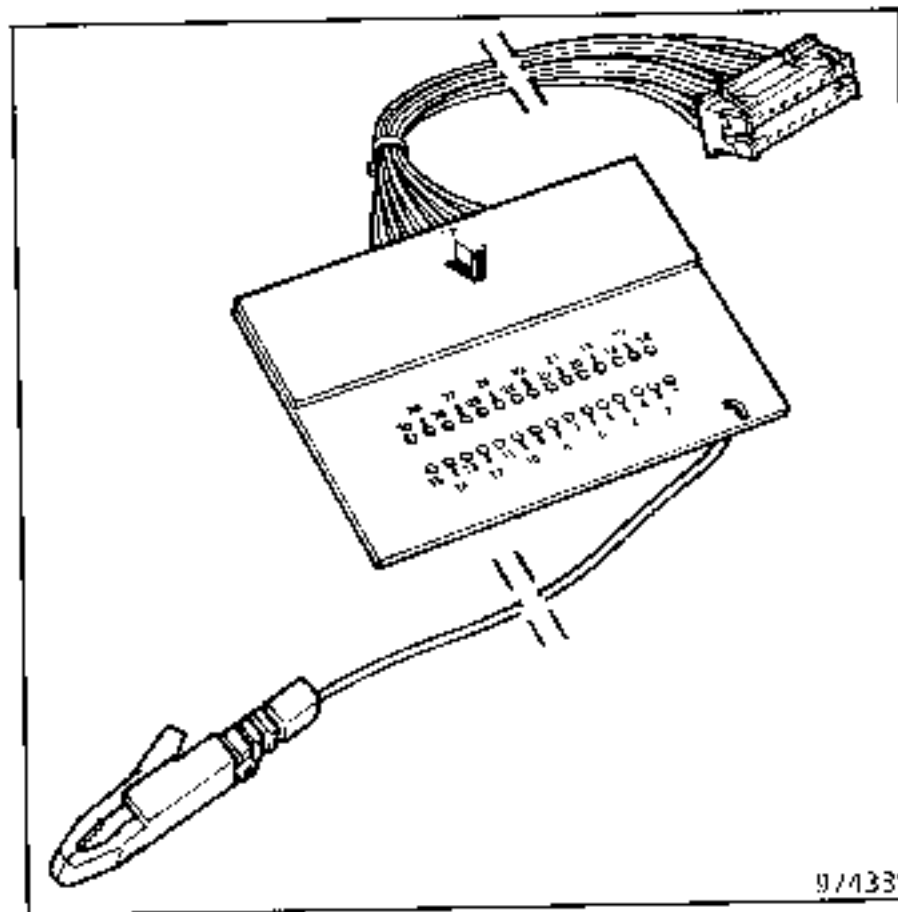
| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|--|-------------------------|--|---|
| 1 | Dialogue with XR25 | D58 (selector on S8) | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2uit</div> Use fiche n° 58 fault test side |
| 2 | Interpretation of normally illuminated bargraphs | | <div style="text-align: center;">1</div>  <div style="text-align: center;">1</div>  | Fault test Code present |
| 3 | Computer conformity | G70* | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">XXXX</div> Part number displayed in three sequences |

INITIALISING DIALOGUE WITH THE XR25

- Connect the XR25 to the diagnostic socket.
- Ignition on.
- Selector on S8
- Enter **D20**

3.tdb

If information obtained using the XR25 requires electrical continuities to be checked, connect bornier ELE 1302.



The bornier is only designed to be used with an ohmmeter. Never apply 12 Volts to the test points.

N°55 | S8 code : **D 2 0** read : **3c db**

| | | | |
|---|--|---|--------------------------|
| 1 | <input type="checkbox"/> NO PARAMETERS | CODE PRESENT | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> * 02 catalytic conv. OVERHEATING (1) BRAKE PAD to earth (2) | TEMP. : COOLANT (cc) | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> * 09 OIL LEVEL | COOL. FAN FUSE (OR COOLANT TEMP.) | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> BRAKE FLUID LOW | OIL PRESSURE * 24 | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> * 05 BATTERY CHARGE | FUEL LOW (1) OIL LEVEL LOW (2) * 25 | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> * 06 FUEL GAUGE | CALCULATED FLOW (1) TEMP. : EXTERNAL (2) * 26 | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> + APC PRESENT | + ACCESSORIES PRESENT | <input type="checkbox"/> |
| 8 | <input type="checkbox"/> SIDE LIGHTS ON | CHECKS DRIVER'S DOOR OPEN | <input type="checkbox"/> |
| 9 | | DEFILEMENT ADAC | <input type="checkbox"/> |

J 66 INSTRUMENT PANEL

Erase fault memory : G 0 **
End of test : G13 *

| | | | |
|----|---|-----------------------------------|--|
| 11 | <input type="checkbox"/> INJECTION | (exting. when driving) AT | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> ABS | CONNECTIONS TO RADIO SET (■ 3sec) | COA (E1) <input type="checkbox"/> |
| 13 | <input type="checkbox"/> DIESEL PRFHEAT | | AIR BAG <input type="checkbox"/> |
| 14 | <input type="checkbox"/> ENGINE SPEED | Calc. FLOW ACTIVE (f : E3) | <input type="checkbox"/> |
| 15 | <input type="checkbox"/> BATTERY CHARGE | (□) Engine running | OIL PRESSURE <input type="checkbox"/> |
| 16 | <input type="checkbox"/> AIR BAG | | ABS <input type="checkbox"/> |
| 17 | <input type="checkbox"/> COA | CONFIGURATION (fixed display) | AT <input type="checkbox"/> |
| 18 | <input type="checkbox"/> CAT CONV | | N.I/VP20 <input type="checkbox"/> |
| 19 | | | RADIO DISPLAY <input type="checkbox"/> |
| 20 | <input type="checkbox"/> METRIC | | INIT COOLANT <input type="checkbox"/> |

ADDITIONAL CHECKS : # . .

- 04 ENGINE TYPE
PETROL (E)
DIESEL (D)
- 09 NUMBER OF CYLINDERS
- 11 TYPE OF PANEL
- 90 card identification

CONTROL MODES : G . . *

- panel configuration
- 20*1* WITH AIRBAG
- 21*1* WITH ABS
- 22*1* WITH INJECTION
- 23*1* WITH COA
- 24*1* WITH AT
- 25*1* WITH CAT CONV JAPAN (0 IF ABSENT)

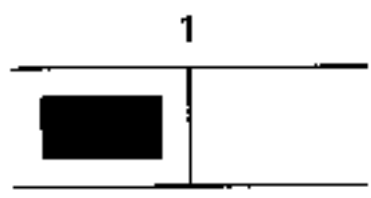
panel configuration G10 * . *

- | | |
|------------------|-------------|
| Right hand drive | 1 IF 4CYL |
| | 2 IF 6CYL |
| | 3 IF DIESEL |
| Left hand drive | 4 IF 4CYL |
| | 5 IF 6CYL |
| | 6 IF DIESEL |

Help : V 9

Return to diag. mode : D

16 ANG

| | | |
|---|--|--------------------|
|  | <p>Bargraph 1 LH side illuminated</p> <p><u>Setting the instrument panel parameters</u></p> | <p>Fiche n° 55</p> |
|---|--|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>This bargraph must be extinguished for fault finding to be performed</p> |
|---------------------|---|

Set the instrument panel parameters according to drive version and engine.

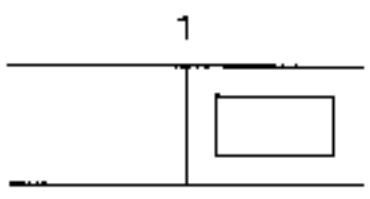
Left hand drive:

- 4 cylinders (F3R) enter G10*1*
- 6 cylinders (Z7X) enter G10*2*
- diesel (G8T Turbo) enter G10*3*

Right hand drive:

- 4 cylinders (F3R) enter G10*4*
- 6 cylinders (Z7X) enter G10*5*
- diesel (G8T Turbo) enter G10*6*

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>The speedo should no longer be flashing.</p> |
|----------------------------|---|

| | | |
|--|--|-------------|
|  <p>1</p> | <p>Bargraph 1 RH side extinguished <u>XR25 circuit</u></p> | Fiche n° 55 |
|--|--|-------------|

| | |
|--------------|--|
| NOTES | This bargraph must be illuminated for fault finding to be performed. |
|--------------|--|

Check:

- all the fuses,
- the connection between the XR25 and the diagnostic socket,
- the presence of 12 V on track 16 and earth on track 4 of the diagnostic socket.

Repair if necessary.

Check:

- the position of the selector,
- the conformity of the cassette,
- the connection between the XR25 and the diagnostic socket.

| | | | | |
|-------------------|----|---|---|--------|
| Diagnostic socket | 15 | → | 4 | XR25 |
| | 7 | → | 6 | socket |


Repair if necessary.

Connect bornier **ELÉ 1302** in place of the instrument panel and check insulation and continuity between :

| | | | |
|-----------------|-------|---|--------------------------------|
| Bornier | C1-1 | → | F29 |
| Elé 1302 | C1-2 | → | F39 |
| | C1-3 | → | F34 |
| | C1-15 | → | Earth N |
| | C1-6 | → | 15 HL on the diagnostic socket |
| | C1-8 | → | 7 HK on the diagnostic socket |

Repair the faulty wiring.

| | |
|---------------------|-------------------------------|
| AFTER REPAIR | Carry out a conformity check. |
|---------------------|-------------------------------|

| | |
|--|--|
| <p>2</p>  | <p>Bargraph 2 LH side illuminated Fiche n° 55</p> <p><u>Brake pad wear and catalytic converter overheating warning light</u></p> <p>XR25 aid : *02 : 1.dEF catalytic converter overheating 2.dEF brake pads</p> |
|--|--|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | |
|--------------|--------------|-------|
| 1.dEF | NOTES | None. |
|--------------|--------------|-------|

NOT USED


| | | |
|--------------|--------------|-------|
| 2.dEF | NOTES | None. |
|--------------|--------------|-------|

Disconnect the connector for the instrument panel display and connect bornier **ELE 1302**. Check the insulation between C2-7 and earth.

Check the condition of the brake pad wear sensors.

Repair if necessary.

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|--|--|--------------------|
| <p>2</p>  | <p>Bargraph 2 RH side illuminated</p> <p><u>Coolant temperature gauge</u></p> | <p>Fiche n° 55</p> |
|--|--|--------------------|


| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Fit bornier **ELE 1302** in place of the instrument panel display and check the insulation of the sensor between C1-29 and earth.
 Repair if necessary.

Reconnect the display. Disconnect the sensor and enter G0**, the sensor should indicate the minimum temperature, i.e. 1 segment.

If this is not the case, replace the display.

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**. Carry out a conformity check.</p> |
|----------------------------|---|

| | | |
|--|---|--------------------|
| <p>3</p>  | <p>Bargraph 3 LH side illuminated</p> <p><u>Oil level circuit</u></p> <p>XR25 aid : *03 : CO : open circuit CC : short circuit bon</p> | <p>Fiche n° 55</p> |
|--|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| | | |
|------------------|---------------------|--------------|
| <p>CO</p> | <p>NOTES</p> | <p>None.</p> |
|------------------|---------------------|--------------|

Disconnect the connector for the instrument panel display and connect bornier **ELE 1302**. Check the resistance of the sensor between C1-4 and C1-5, it should be between 7 and 15 ohms.


Repair if necessary.

| | | |
|------------------|---------------------|--------------|
| <p>CC</p> | <p>NOTES</p> | <p>None.</p> |
|------------------|---------------------|--------------|

Check the insulation and that there is no clear continuity between C1-4 and C1-5.

Repair if necessary.


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|--|
| <p>3</p>  | <p>Bargraph 3 RH side illuminated <u>Fan assembly fuse</u></p> <p>Fiche n° 55</p> |
|--|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| |
|---|
| <p>Check the fuses F31, F54, F55.</p> |
| <p>Check the thermostat, then using the corresponding engine fiche, check the temperature at which the cooling fan assembly operates.</p> <p>Repair if necessary.</p> |


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|---|-------------|
| 4  | Bargraph 4 LH side illuminated <u>Brake fluid level</u> | Fiche n° 55 |
|--|---|-------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| |
|---|
| Check the brake fluid level. |
| Disconnect the connector and connect bornier ELE 1302 . Check the insulation between C2-5 and earth. |
| Repair if necessary. |

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|--|--|--------------------|
| <p>4</p>  | <p>Bargraph 4 RH side illuminated</p> <p><u>Oil pressure</u></p> <p>XR25 aid : *24 : CC.0 : short circuit to earth CC.1 : open circuit or to 1 12 V bon</p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>If bargraph 5 LH is illuminated, check the engine speed circuit.</p> |
|---------------------|---|


| | | |
|--------------------|---------------------|--------------|
| <p>CC.0</p> | <p>NOTES</p> | <p>None.</p> |
|--------------------|---------------------|--------------|

Fit bornier ELE 1302 in place of the instrument panel display.
 Check the insulation of C2-6 from earth.

| | | |
|--------------------|---------------------|--------------|
| <p>CC.1</p> | <p>NOTES</p> | <p>None.</p> |
|--------------------|---------------------|--------------|

Fit bornier ELE 1302 in place of the instrument panel display.
 Check the continuity between C2-6 and earth and check the insulation from 1 12 V.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|--|--|--------------------|
| <p>5</p>  | <p>Bargraph 5 LH side illuminated</p> <p><u>Load circuit</u></p> <p>XR25 aid : *05 : CC.0 : short circuit to earth CO.1 : open circuit or to + 12 V bon</p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

| | |
|--------------|---|
| NOTES | <p>Check if bargraph 5 LH side is illuminated, if so, check the information from C1-28.</p> |
|--------------|---|

| | | |
|-------------|--------------|--------------|
| CC.0 | NOTES | <p>None.</p> |
|-------------|--------------|--------------|

Disconnect the connector for the instrument panel display and connect bornier ELE 1302. Check the insulation of C2-2 from earth.


Repair if necessary.

| | | |
|-------------|--------------|--------------|
| CO.1 | NOTES | <p>None.</p> |
|-------------|--------------|--------------|

Disconnect the connector for the instrument panel display and connect bornier ELE 1302. Check the continuity between C2-2 and earth and check the insulation from + 12 V.

Repair if necessary.

| | |
|---------------------|--|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> |
|---------------------|--|

| | | |
|--|---|-------------|
| 5  | <p>Bargraph 5 RH side illuminated Fuel and oil level</p> <p>XR25 aid : *25 : 1.dEF : low fuel level 2.dEF : minimum oil level 3.dEF : 1.dEF - 2.dEF bon</p> | Fiche n° 55 |
|--|---|-------------|

| | |
|--------------|---|
| NOTES | If bargraph 2 LH side is illuminated, refer to 2 LH side first. |
|--------------|---|

| | | |
|--------------|--------------|-------|
| 1.dEF | NOTES | None. |
|--------------|--------------|-------|

Connect bornier **ELE 1302** in place of the instrument panel display.
 Check that the resistance value is between 350 and 415 measuring between tracks C1-11 and C1-12.


| | | |
|--------------|--------------|-------|
| 2.dEF | NOTES | None. |
|--------------|--------------|-------|

Connect bornier **ELE 1302** in place of the instrument panel display.
 Check the level on the dipstick, then check that the resistance is 15 ohms between tracks C1-4 and C1-5.
 If this is correct, replace the instrument panel display. Otherwise repair.

| | | |
|--------------|--------------|-------|
| 3.dEF | NOTES | None. |
|--------------|--------------|-------|

Refer to 1.dEF, then 2.dEF.

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|--|---|--------------------|
| <p>6</p>  | <p>Bargraph 6 LH side illuminated</p> <p><u>Fuel circuit</u></p> <p>XR25 aid : *06 : CO : sender unit open circuit 1.dEF : sender unit blocked 2.dEF : CO + 1.dEF bon</p> | <p>Fiche n° 55</p> |
|--|---|--------------------|

| | |
|--------------|--------------|
| NOTES | <p>None.</p> |
|--------------|--------------|

| | | |
|-----------|--------------|--------------|
| CO | NOTES | <p>None.</p> |
|-----------|--------------|--------------|

Disconnect the connector for the instrument panel display and connect bornier **ELE 1302**. Check the resistance of the gauge between C1.11 and C1.12, it should be between 30 and 375 ohms.

Repair if necessary.

| | | |
|--------------|--------------|--------------|
| 1.dEF | NOTES | <p>None.</p> |
|--------------|--------------|--------------|


See removal of the sender unit and check it is operating correctly.

Repair or replace the sender unit if necessary.

| | | |
|--------------|--------------|--------------|
| 2.dEF | NOTES | <p>None.</p> |
|--------------|--------------|--------------|

Refer to CO, then 1.dEF.

| | |
|---------------------|--|
| AFTER REPAIR | <p>Erase the computer memory using G0**.</p> |
|---------------------|--|

| | | |
|--|---|--------------------|
| <p>6</p>  | <p>Bargraph 6 RH side illuminated</p> <p><u>External temperature circuit and fuel flow circuit</u></p> <p>XR25 aid : *26 : 1.dEF : fuel flow 2.dEF : external temperature</p> | <p>Fiche n° 55</p> |
|--|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

| | | |
|---------------------|---------------------|---|
| <p>1.dEF</p> | <p>NOTES</p> | <p>With ADAC only Check if bargraph 16 RH is extinguished when the engine is running</p> |
|---------------------|---------------------|---|

Disconnect the injection computer socket and connect bornier **SUS 1228**. Disconnect the connector for the instrument panel display and connect bornier **ELE 1302**. Check the connection:

13 injection → C1-27 instrument panel display


If this is correct and there is no flow information displayed, replace the instrument panel display. If all is correct however, check the function with the corresponding engine fiche. Repair if necessary.

| | | |
|---------------------|---------------------|--------------|
| <p>2.dEF</p> | <p>NOTES</p> | <p>None.</p> |
|---------------------|---------------------|--------------|

Fit bornier **ELE 1302** in place of the instrument panel display and check the insulation between C1-9 and C1 10.

Repair if necessary.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> <p>If the instrument panel has been replaced, remember to set its parameters.</p> |
|----------------------------|--|

| | | |
|--|--|--------------------|
| <p>6</p>  | <p>Bargraph 6 RH side illuminated <u>Fuel flow circuit</u></p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

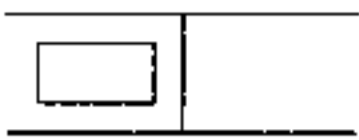
| | |
|---------------------|---|
| <p>NOTES</p> | <p>With ADAC only Check if bargraph 16 RH is extinguished when the engine is running</p> |
|---------------------|---|

Disconnect the injection computer socket and connect bornier **SUS 1228**. Disconnect the connector for the instrument panel display and connect bornier **ELE 1302**. Check the connection:

13 injection \longrightarrow C1-27 instrument panel display

If this is correct and there is no flow information displayed, replace the instrument panel display. If all is correct however, check the function with the corresponding engine fiche. Repair if necessary.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**. If the instrument panel has been replaced, remember to set its parameters.</p> |
|----------------------------|--|


| | | |
|--|--|--------------------|
| <p>7</p>  | <p>Bargraph 7 LH side extinguished, ignition on</p> <p><u>Presence of + after ignition feed</u></p> <p>XR25 aid : Illuminated if + after ignition feed is present</p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Check fuse F39 : 15 A.

Check the continuity between track 2 on the 30 track connector using bornier ELE 1302 and fuse F39.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|


| | |
|--|---|
| <p>7</p>  | <p>Bargraph 7 RH side extinguished ignition key in position + ACC</p> <p><u>Presence of + accessories feed</u></p> <p>XR25 aid : Illuminated if + accessories feed is present</p> <p>Fiche n° 55</p> |
|--|---|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

Check fuse F34 : 5 A.

Check the continuity between track 3 on the 30 track connector using bornier **ELE 1302** and fuse F34.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | |
|--|---|
| <p style="text-align: center;">8</p>  | <p>Bargraph 8 LH side, incorrect illumination Fiche n° 55</p> <p><u>Side lights</u></p> <p>XR25 aid : Illuminated if side lights are selected Extinguished if side lights are not selected</p> |
|--|---|


| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

If extinguished, check the illumination of the side lights.

Check fuse F2.

Check the continuity between track 18 on the 30 track connector and fuse F2.

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0*⁴.</p> |
|----------------------------|---|

| | | |
|--|--|--------------------|
| <p>8</p>  | <p>Bargraph 8 RH side, incorrect illumination</p> <p><u>Driver's door</u></p> <p>XR25 aid : Illuminated when door is open Extinguished when door is closed</p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Two cases are possible:</p> <ul style="list-style-type: none"> - BG 8 RH side remains extinguished, driver's door open : case 1. - BG 8 RH side illuminates, driver's door closed : case 2. |
|---------------------|--|

Case 1

If the bargraph is extinguished when the door is open, check:

- the switch and its connection,
- the presence of an earth on track 2 of the switch,
- the continuity between track 17 on the 30 track connector and track 1 on the door switch.


Case 2

If the bargraph is illuminated when the door is closed, check:

- the switch,
- the insulation of the wire on track 17 on the 30 track connector from earth.

AFTER REPAIR

Erase the computer memory using G0**.

| | | |
|--|--|--------------------|
| <p>9</p>  | <p>Bargraph 9 RH side, incorrect illumination</p> <p><u>ADAC sequence</u></p> <p>XR25 aid : Illuminates each time the ADAC key is pressed</p> | <p>Fiche n° 55</p> |
|--|--|--------------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Two cases are possible:</p> <ul style="list-style-type: none"> - BG 9 RH side remains extinguished when the ADAC key is pressed : case 1. - BG 9 RH side remains illuminated when the ADAC key is not pressed : case 2. |
|---------------------|--|

Case 1


Check the continuity between track 13 on the 30 track connector of the instrument panel display and track B7 on the wiper control.

Case 2

Check the insulation of the wire on track 13 on the 30 track connector from earth.

AFTER REPAIR


Erase the computer memory using G0**.

| | | |
|---|---|-------------|
| 10  | Bargraph 10 LH side <u>Seat belt connection</u> | Fiche n° 55 |
|---|---|-------------|

| | |
|--------------|--|
| NOTES | |
|--------------|--|

| |
|-----------------|
| NOT USED |
|-----------------|

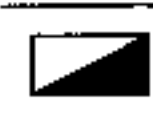
| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | | |
|---|--|-------------|
| 10  | Bargraph 10 RH side <u>Diagnostic socket (OBD)</u> | Fiche n° 55 |
|---|--|-------------|

| | |
|--------------|--|
| NOTES | |
|--------------|--|

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|-----------------|
| NOT USED |
|-----------------|

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|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | | |
|---|---|--------------------|
| <p>11</p>  | <p>Bargraph 11 LH side, incorrect illumination</p> <p><u>Injection connection</u></p> <p>XR25 aid : Illuminates for 3 seconds, ignition on</p> | <p>Fiche n° 55</p> |
|---|---|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>For petrol engines only. Two cases are possible:</p> <ul style="list-style-type: none"> - BG 11 H side remains extinguished when the ignition is turned on : case 1. - BG 11 H side remains illuminated for more than 3 seconds : case 2. |
|---------------------|---|

Case 1

The bargraph does not illuminate, check:

- the continuity between track 9 on the 15 track connector and track 26 on the injection computer.


Case 2

If the bargraph remains illuminated, check:

- the insulation between track 9 on the instrument panel display 15 track connector and earth.

AFTER REPAIR

Erase the computer memory using G0**.

| | |
|---|--|
| <p>11</p>  | <p>Bargraph 11 RH side, incorrect illumination Fiche n° 55</p> <p><u>AT connection</u></p> <p>XR25 aid : Illuminates when the ignition is turned on, extinguishes when the engine is running.</p> |
|---|--|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Vehicle with automatic transmission only.</p> <p>Two cases are possible:</p> <ul style="list-style-type: none"> - BG 11 RH side remains extinguished when the ignition is turned on : case 1. - BG 11 RH side remains illuminated when there is no fault, engine running: case 2. |
|---------------------|--|

Case 1

If the bargraph does not illuminate when the ignition is turned on, check:


- the continuity between track 8 on the instrument panel display 15 track connector and track 12 on the AT computer connector.

Case 2

If the bargraph remains illuminated when the engine is running and there is no fault, check:

- the insulation between track 8 on the instrument panel display 15 track connector and earth.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|--------------------|
| <p>12</p>  | <p>Bargraph 12 LH side, incorrect illumination</p> <p><u>ABS connection</u></p> <p>XR25 aid : Illuminates for 3 seconds, ignition on</p> | <p>Fiche n° 55</p> |
|---|---|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>For vehicle with ABS only. Two cases are possible:</p> <ul style="list-style-type: none"> - BG 12 LH side remains extinguished when the ignition is turned on : case 1. - BG 12 LH side remains illuminated when there is no fault: case 2. |
|---------------------|---|

Case 1

If the bargraph does not illuminate when the ignition is turned on, check:


- the continuity between track 3 on the 15 track connector and track 40 on the ABS computer connector.

Case 2

If the bargraph remains illuminated when there is no fault, check:

- the insulation between track 3 on the instrument panel display 15 track connector and earth.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|---|--------------------|
| <p>12</p>  | <p>Bargraph 12 RH side, incorrect illumination <u>COA (self levelling suspension) connection</u> XR25 aid : Illuminates for 3 seconds, ignition on</p> | <p>Fiche n° 55</p> |
|---|---|--------------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>For vehicle with COA only. Two cases are possible: - BG 12 RH side remains extinguished when the ignition is turned on : case 1. - BG 12 RH side remains illuminated when there is no fault: case 2.</p> |
|---------------------|--|

Case 1

If the bargraph does not illuminate when the ignition is turned on, check:


- continuity between track 4 on the instrument panel display 15 track connector and track 2 on the 6 track COA computer connector.

Case 2

If the bargraph remains illuminated when there is no fault, check:

- insulation between track 4 on the instrument panel display 15 track connector and earth.

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|

| | | |
|---|--|--------------------|
| <p>13</p>  | <p>Bargraph 13 LH side, incorrect illumination</p> <p><u>Diesel preheating connection</u></p> <p>XR25 aid : Illuminates for 3 seconds, ignition on</p> | <p>Fiche n° 55</p> |
|---|--|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>For diesel vehicle only. Two cases are possible: - BG 13 LH side remains extinguished when the ignition is turned on : case 1. - BG 13 LH side remains illuminated when there is no preheating: case 2.</p> |
|---------------------|---|

Case 1

If the bargraph does not illuminate when the ignition is turned on, check:

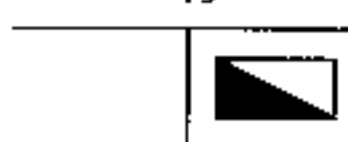
- continuity between track 12 on the 15 track connector and track C1 on the black 12 track computer connector for the pre-postheating timer and the exhaust gas recycling

Case 2

If the bargraph remains illuminated when there is no preheating, check:
 the insulation between track 12 on the instrument panel display 15 track connector and earth.

AFTER REPAIR

Erase the computer memory using G0^x.

| | | |
|---|---|--------------------|
| <p>13</p>  | <p>Bargraph 13 RH side, incorrect illumination</p> <p><u>AIRBAG connection</u></p> <p>XR25 aid : Illuminates for 3 seconds, ignition on.</p> | <p>Fiche n° 55</p> |
|---|---|--------------------|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>Two cases are possible:</p> <ul style="list-style-type: none"> - BG 13 RH side remains extinguished when the ignition is turned on : case 1. - BG 13 RH side remains illuminated when there is no fault: case 2. |
|---------------------|---|

Case 1

If the bargraph does not illuminate when the ignition is turned on, check:

- continuity between track 13 on the instrument panel display 15 track connector and track 8 on the airbag computer.

Case 2


If the bargraph remains illuminated when there is no fault, check:

- the insulation between track 13 on the instrument panel display 15 track connector and earth.

The bargraph also illuminates when the airbag computer is locked.

AFTER REPAIR

Erase the computer memory using G0**.


| | | |
|---|--|--------------------|
| <p>14</p>  | <p>Bargraph 14 LH side illuminated, engine running</p> <p><u>Engine speed information</u></p> <p>XR25 aid : Extinguishes when the engine is running</p> | <p>Fiche n° 55</p> |
|---|--|--------------------|

| | |
|---------------------|--|
| <p>NOTES</p> | <p>Dealt with under fault bargraphs 5 RH side and 5 LH side.</p> |
|---------------------|--|

If this bargraph remains illuminates when the engine is running, check:

- continuity between track 9 on the instrument panel display 15 track connector and track 26 on the injection computer connector.
- the insulation of track 9 on the instrument panel display 15 track connector .

| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
|----------------------------|--|


| | |
|---|---|
| <p>14</p>  | <p>Bargraph 14 RH side illuminated, engine running Fiche n° 55</p> <p><u>Flowmeter circuit</u></p> <p>XR25 aid : Illuminated when the engine is running.</p> |
|---|---|

| | |
|---------------------|---|
| <p>NOTES</p> | <p>Dealt with under fault bargraph 4 LH side (E3 only).</p> |
|---------------------|---|


If the bargraph remains extinguished, check:

- continuity between track 27 on the 30 track connector for the instrument panel display and track 13 on the injection computer connector,
- insulation of track 27 on the 30 track connector for the instrument panel display .


| | |
|----------------------------|--|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0*^.</p> |
|----------------------------|--|

| | | |
|---|---|-------------|
| 15  | Bargraph 15 LH side, incorrect illumination <u>Battery charge</u> XR25 aid : Extinguished, engine running. | Fiche n° 55 |
|---|---|-------------|


| | |
|--------------|--|
| NOTES | Dealt with under fault bargraph 5 LH side. |
|--------------|--|

| | | |
|--|--|-------------|
| 15  | Bargraph 15 RH side, incorrect illumination <u>Oil pressure</u> XR25 aid : Extinguished, engine running | Fiche n° 55 |
|--|--|-------------|

| | |
|--------------|--|
| NOTES | Dealt with under fault bargraph 4 RH side. |
|--------------|--|


| | | |
|---|--|-------------|
| 18  | Bargraph 18 LH side illuminated | Fiche n° 55 |
|---|--|-------------|

| | |
|--------------|----------|
| NOTES | NOT USED |
|--------------|----------|


| | | |
|---|---|-------------|
| 19  | Bargraph 19 RH side <u>Message "RADIO OFF"</u> XR25 aid : Illuminated when message is absent. Extinguished when message is displayed. | Fiche n° 55 |
|---|---|-------------|

| | |
|--------------|--|
| NOTES | Only if radio is fitted with E2 or E3. |
|--------------|--|

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

| | | |
|---|--|-------------|
| 20  | Bargraph 20 LH side <u>Metric configuration</u> XR25 aid : Illuminated - speed in km/h. Extinguished - speed in Mph. | Fiche n° 55 |
|---|--|-------------|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

| | | |
|--|---|-------------|
| 20  | Bargraph 20 RH side <u>Coolant temperature display</u> XR25 aid : Illuminated - coolant temperature prevented from being displayed. Extinguished - coolant temperature displayed. | Fiche n° 55 |
|--|---|-------------|

| | |
|--------------|--------------------|
| NOTES | Only for E2 or E3. |
|--------------|--------------------|

| | |
|---------------------|---------------------------------------|
| AFTER REPAIR | Erase the computer memory using G0**. |
|---------------------|---------------------------------------|

NOTES

Only consult these customer complaints after a complete check using the XR25.

SPEEDOMETER DOES NOT OPERATE

Chart 1

EXTERNAL TEMPERATURE DISPLAY DOES NOT OPERATE

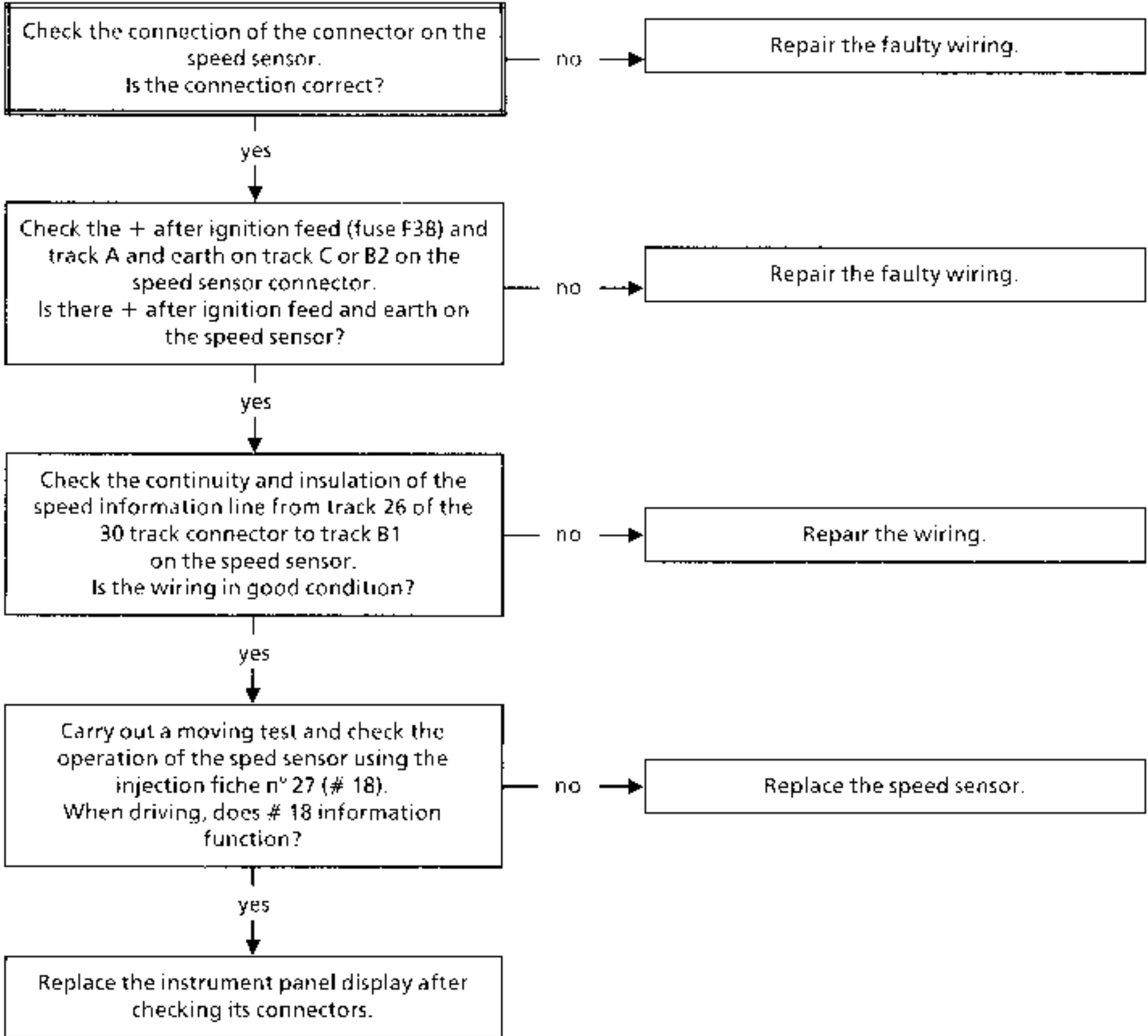
Chart 2

COOLANT TEMPERATURE DISPLAY ONLY SHOWS ONE SEGMENT

Chart 3

| | |
|----------------|-------------------------------------|
| Chart 1 | SPEEDOMETER DOES NOT OPERATE |
|----------------|-------------------------------------|

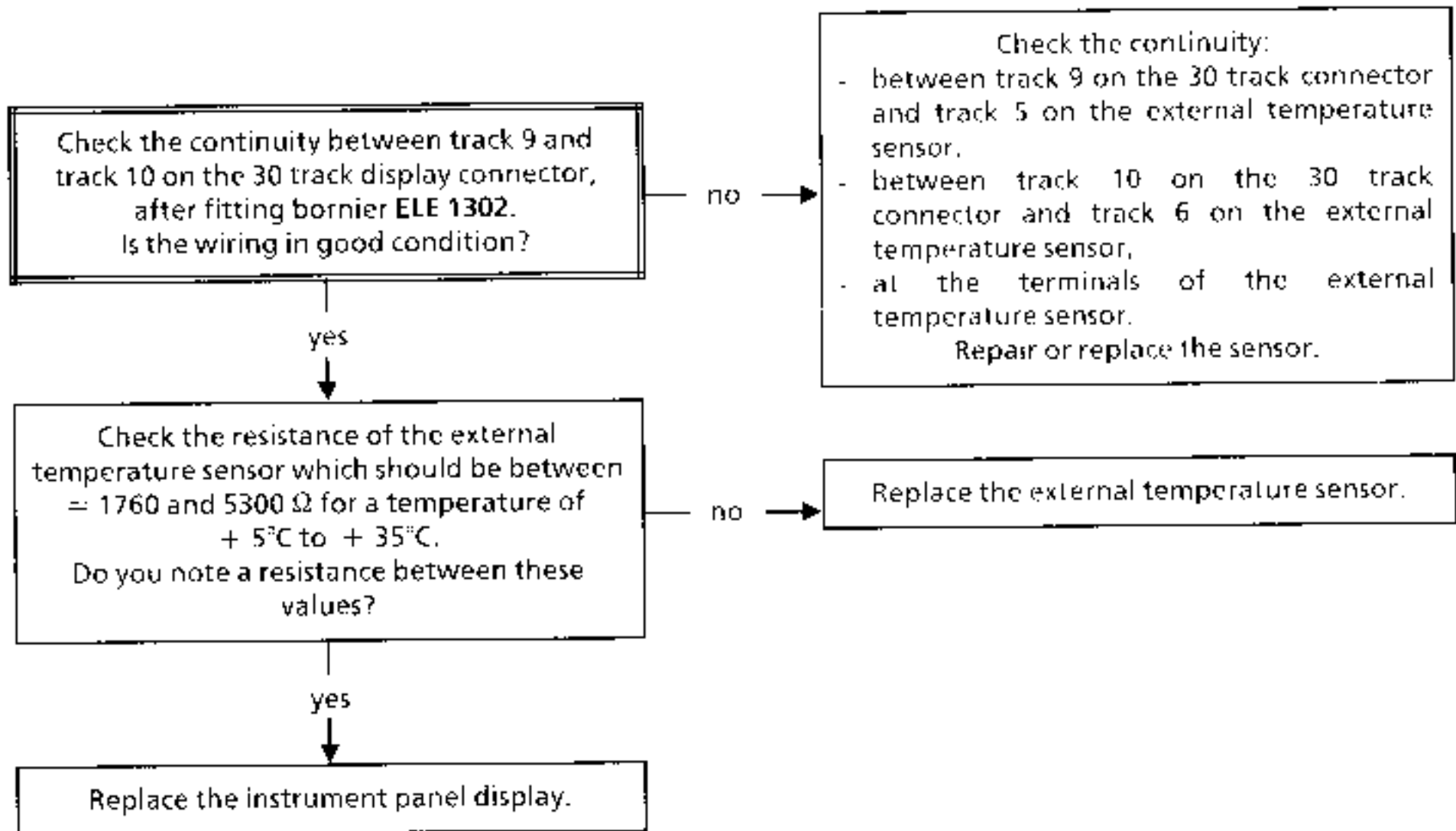
| | |
|--------------|---|
| NOTES | Only consult this customer complaint after a complete check using the XR25. |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

| | |
|----------------|--|
| Chart 2 | EXTERNAL TEMPERATURE DISPLAY IS INCORRECT OR NO DISPLAY |
|----------------|--|

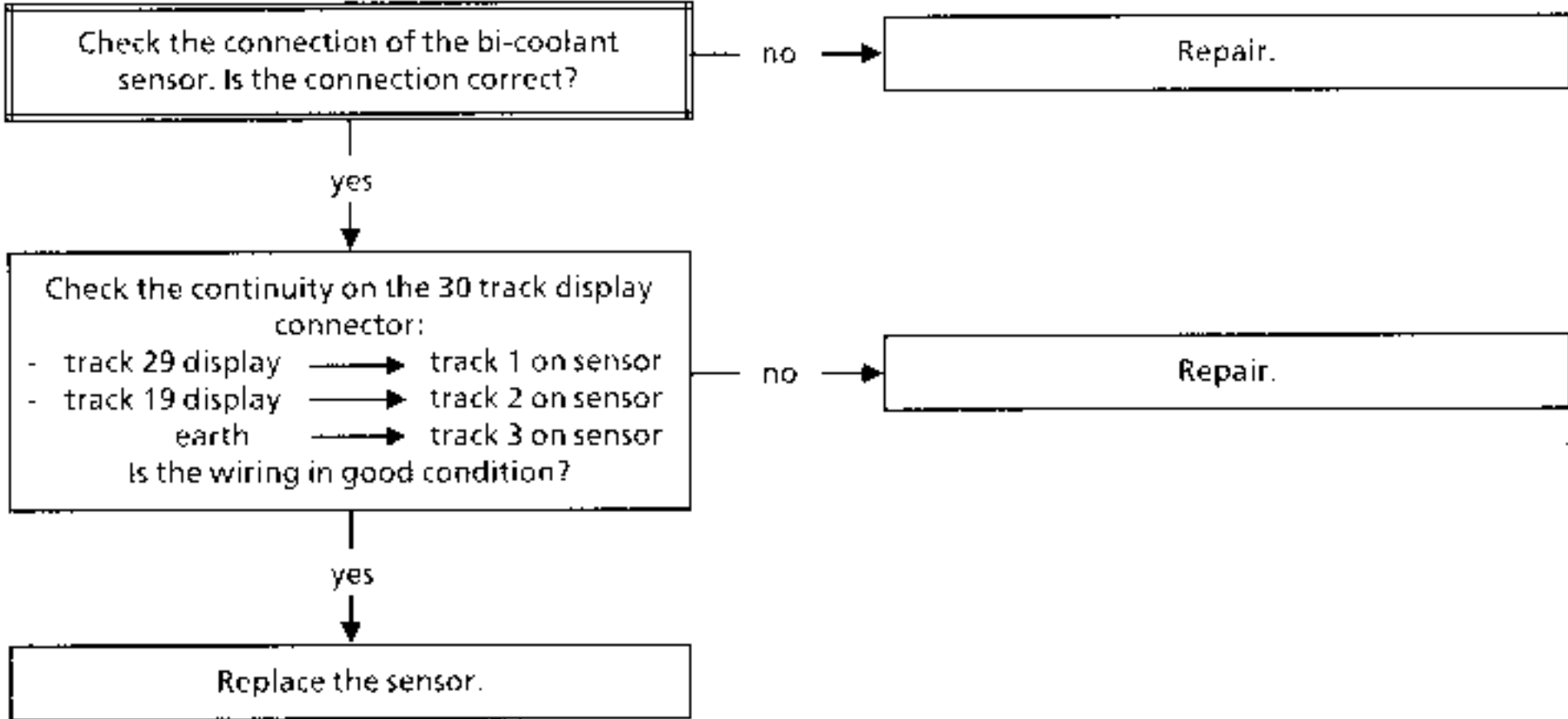
| | |
|--------------|---|
| NOTES | Only consult this customer complaint after a complete check using the XR25. |
|--------------|---|



| | |
|---------------------|--------------------------------------|
| AFTER REPAIR | Check the system operates correctly. |
|---------------------|--------------------------------------|

Chart 3 **COOLANT TEMPERATURE DISPLAY ONLY SHOWS ONE SEGMENT**

NOTES Only consult this customer complaint after a complete check using the XR25.



AFTER REPAIR Check the system operates correctly.

NOTES

Before checking conformity, check that the fault bargraphs are not illuminated and that there are no customer complaints.

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|------------------------|-------------------------|----------|---|
| 1 | Dialogue with XR25 | D20 (selector on S8) | | <div style="border: 1px solid black; display: inline-block; padding: 2px;">3.tdb</div> Use fiche n° 55 |
| 2 | Display parameters | # 04 | | E : Petrol D : Diesel |

IMPORTANT

Before any operation (removing the driver's seat), lock the airbag and pretensioners computer using command **G80*** on the XR25 :

Fiche n° 49 - Cassette 15 BG.14

After the repair, unlock the computer using command **G81***.

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|

FAULT WITH THE RADIO

| | | |
|---|--|---------|
| — | Does not operate and set does not illuminate | Chart 1 |
| — | Operates, but set remains on OFF | Chart 2 |
| — | Does not operate, and set remains on OFF | Chart 3 |
| — | No radio reception | Chart 4 |
| — | Satellite control does not operate | Chart 5 |
| — | One or more speakers do not operate | Chart 6 |
| — | Sound cut during broadcast | Chart 7 |
| — | Infrared remote control does not operate | Chart 8 |

FAULT WITH THE CASSETTE READER

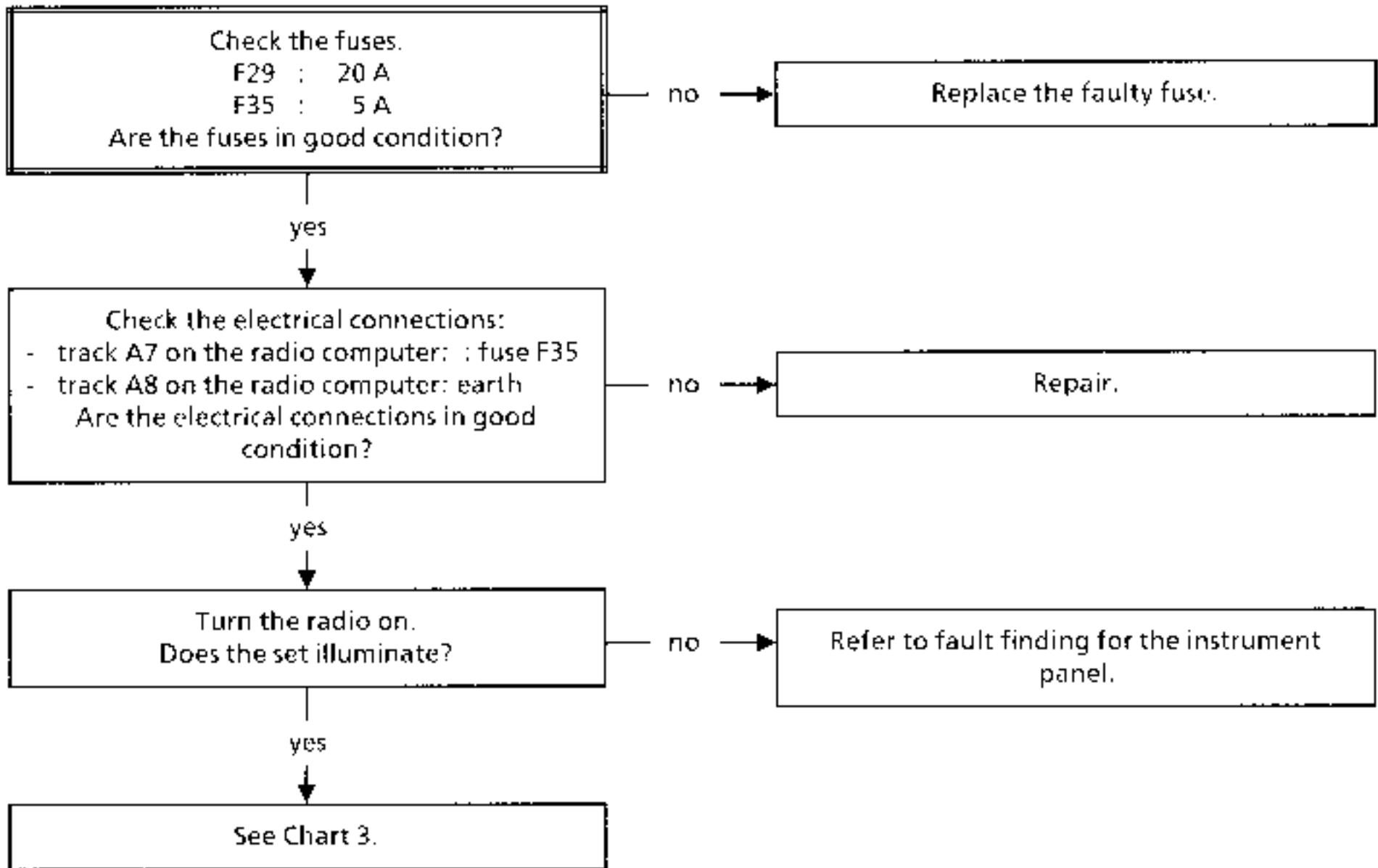
| | | |
|---|---|----------|
| — | Cassette reader cannot be selected | Chart 9 |
| — | The front panel of the reader does not illuminate | Chart 10 |

FAULT WITH THE COMPACT DISC READER

| | | |
|---|--|----------|
| — | Compact disc reader cannot be selected | Chart 11 |
|---|--|----------|

| | |
|----------------|---|
| Chart 1 | FAULT WITH THE RADIO SET DOES NOT ILLUMINATE |
|----------------|---|

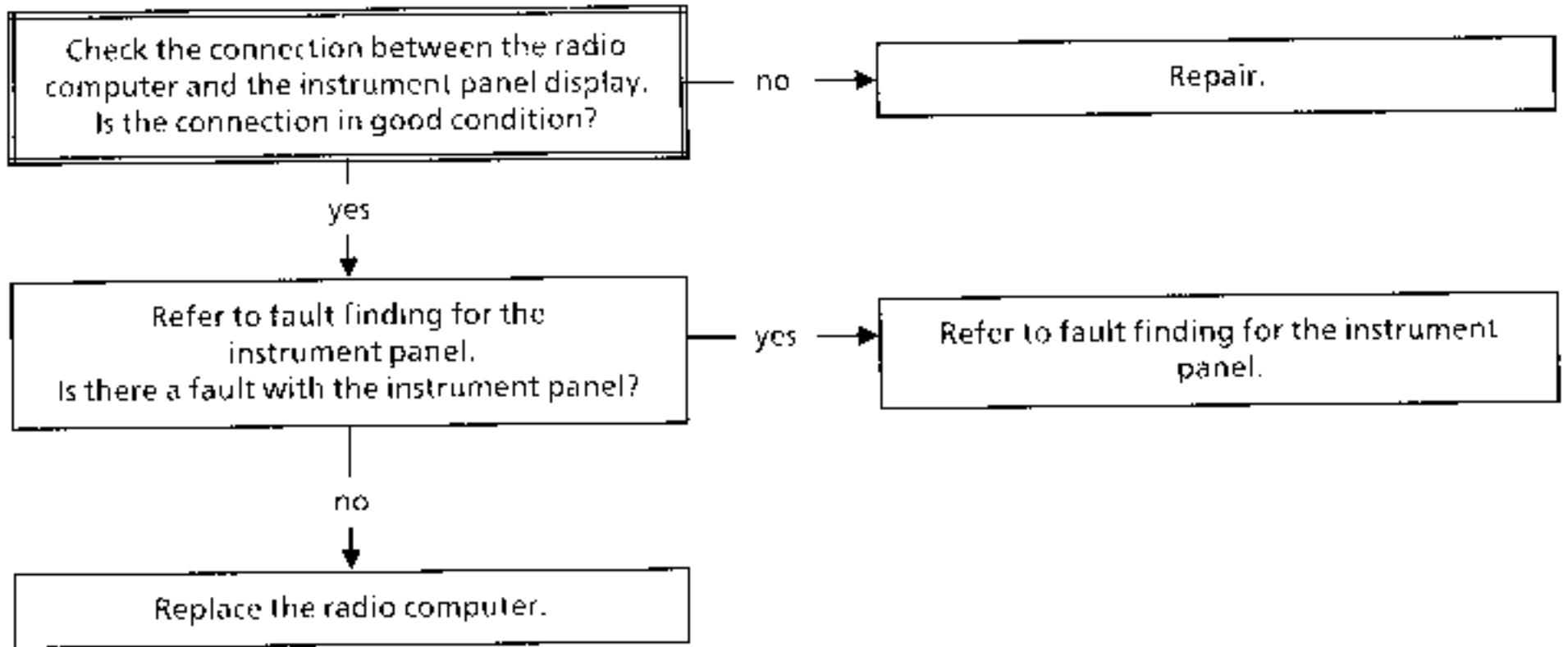
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|----------------|---|
| Chart 2 | THE RADIO OPERATES BUT THE SET REMAINS OFF |
|----------------|---|

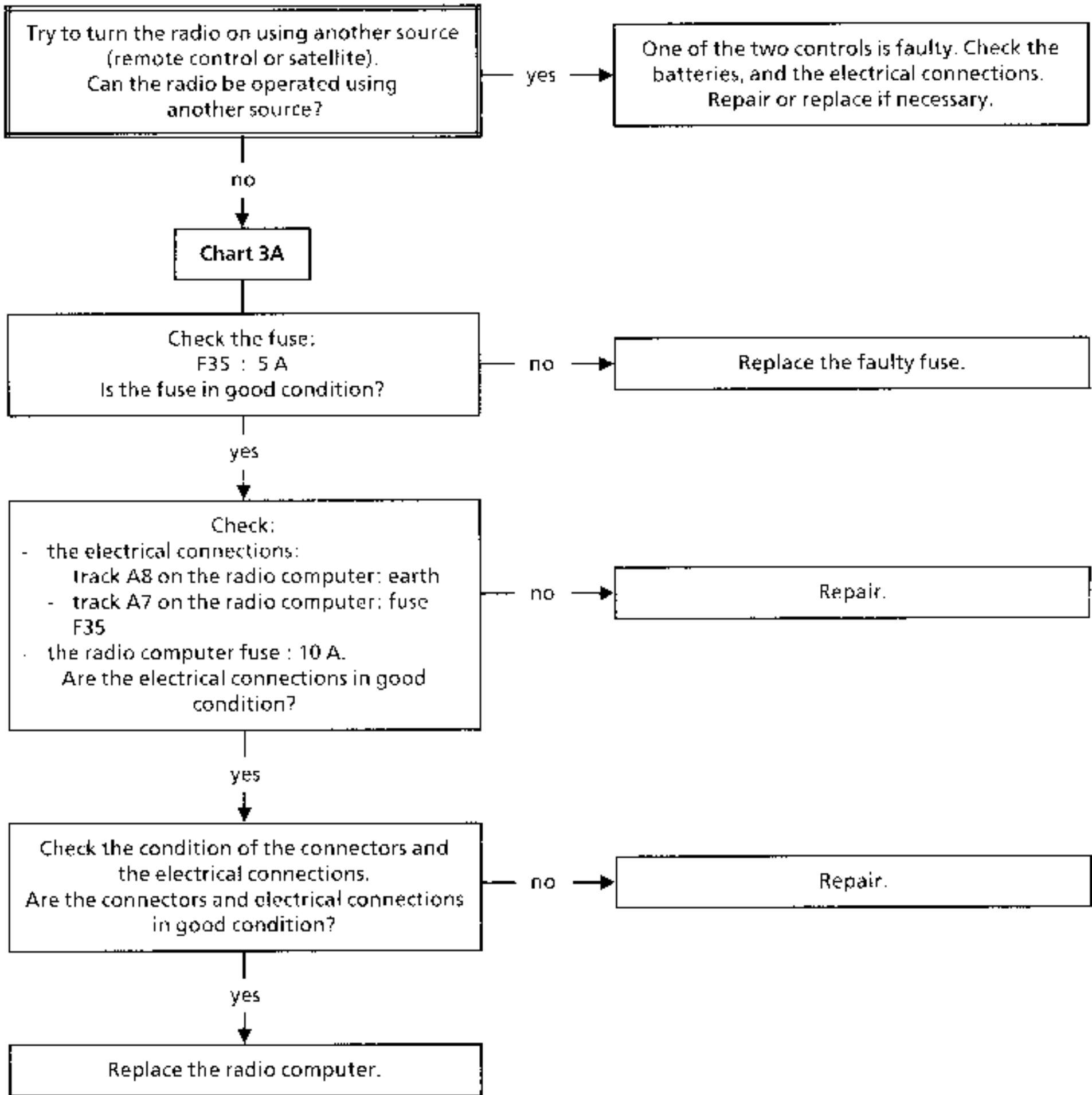
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|----------------|--|
| Chart 3 | FAULT WITH THE RADIO SET REMAINS ON OFF |
|----------------|--|

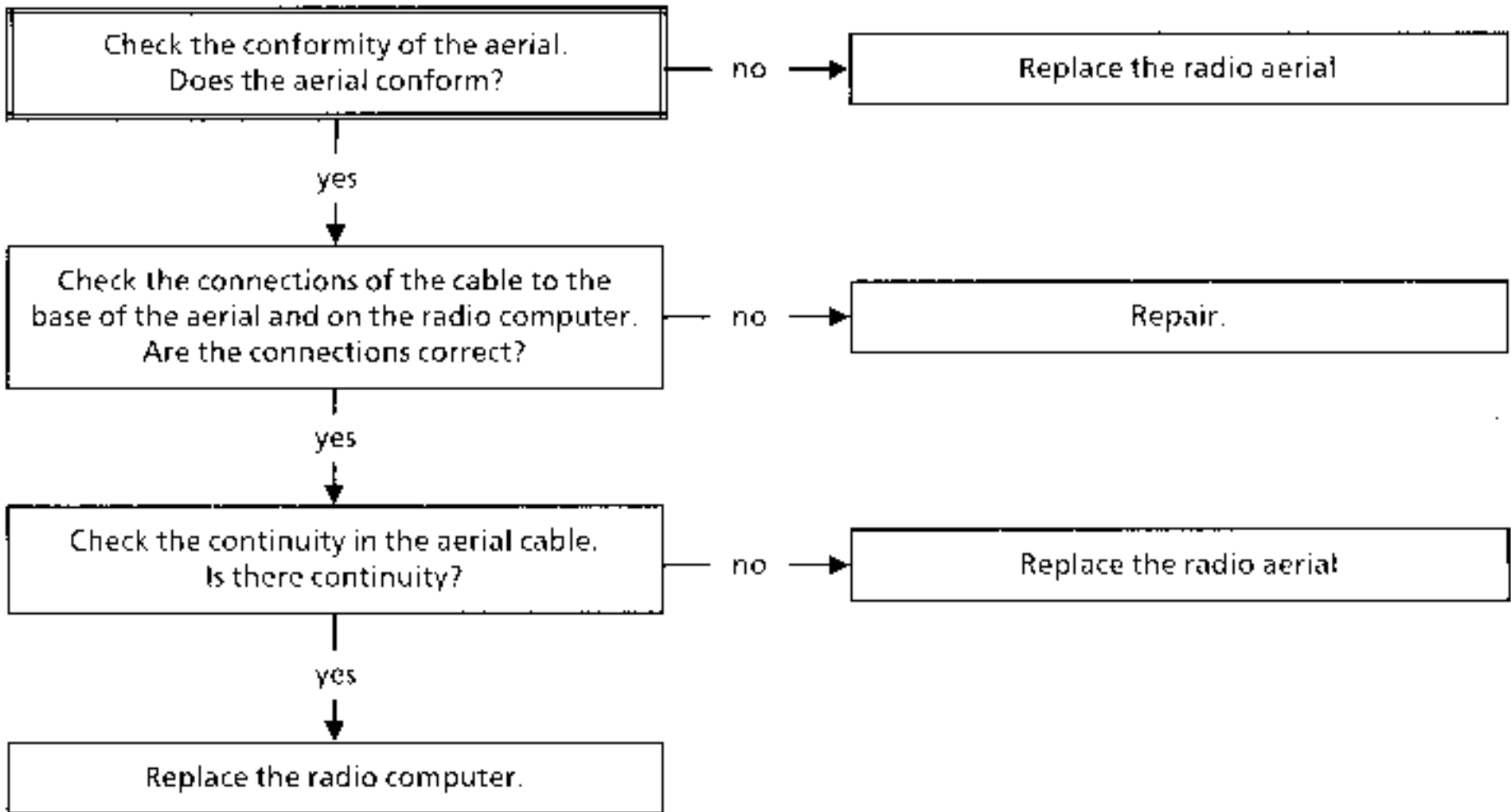
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|----------------|---|
| Chart 4 | NO RADIO RECEPTION (PO-GO-FM) OTHER MODES (CD, CASSETTE AUDIO) OPERATE |
|----------------|---|

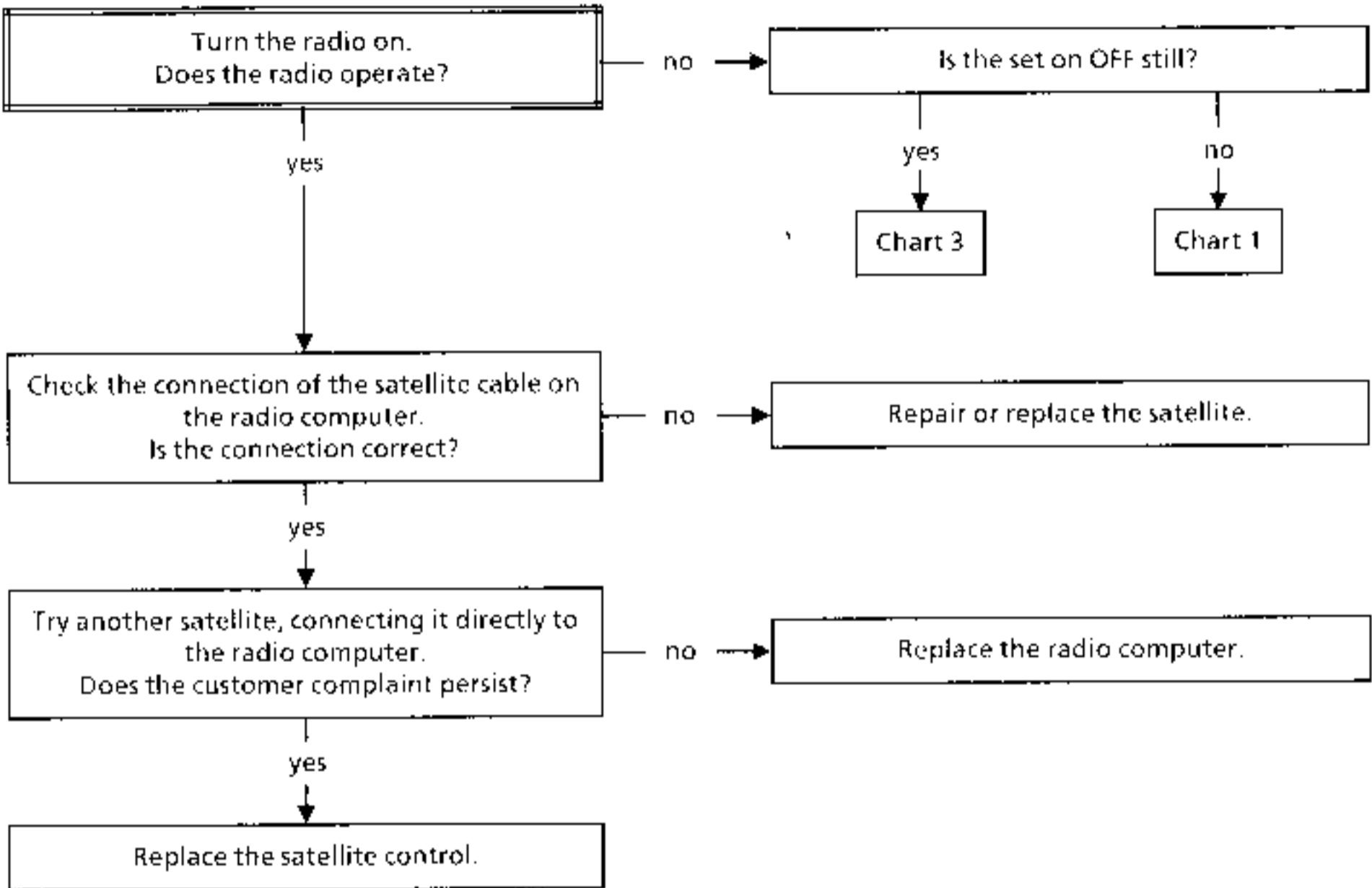
| | |
|--------------|---|
| NOTES | Only refer to this customer complaint after having performed a complete test using the XR25 |
|--------------|---|



| | |
|---------------------|-------|
| AFTER REPAIR | None. |
|---------------------|-------|

| | |
|----------------|---|
| Chart 5 | SATELLITE CONTROL DOES NOT OPERATE |
|----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



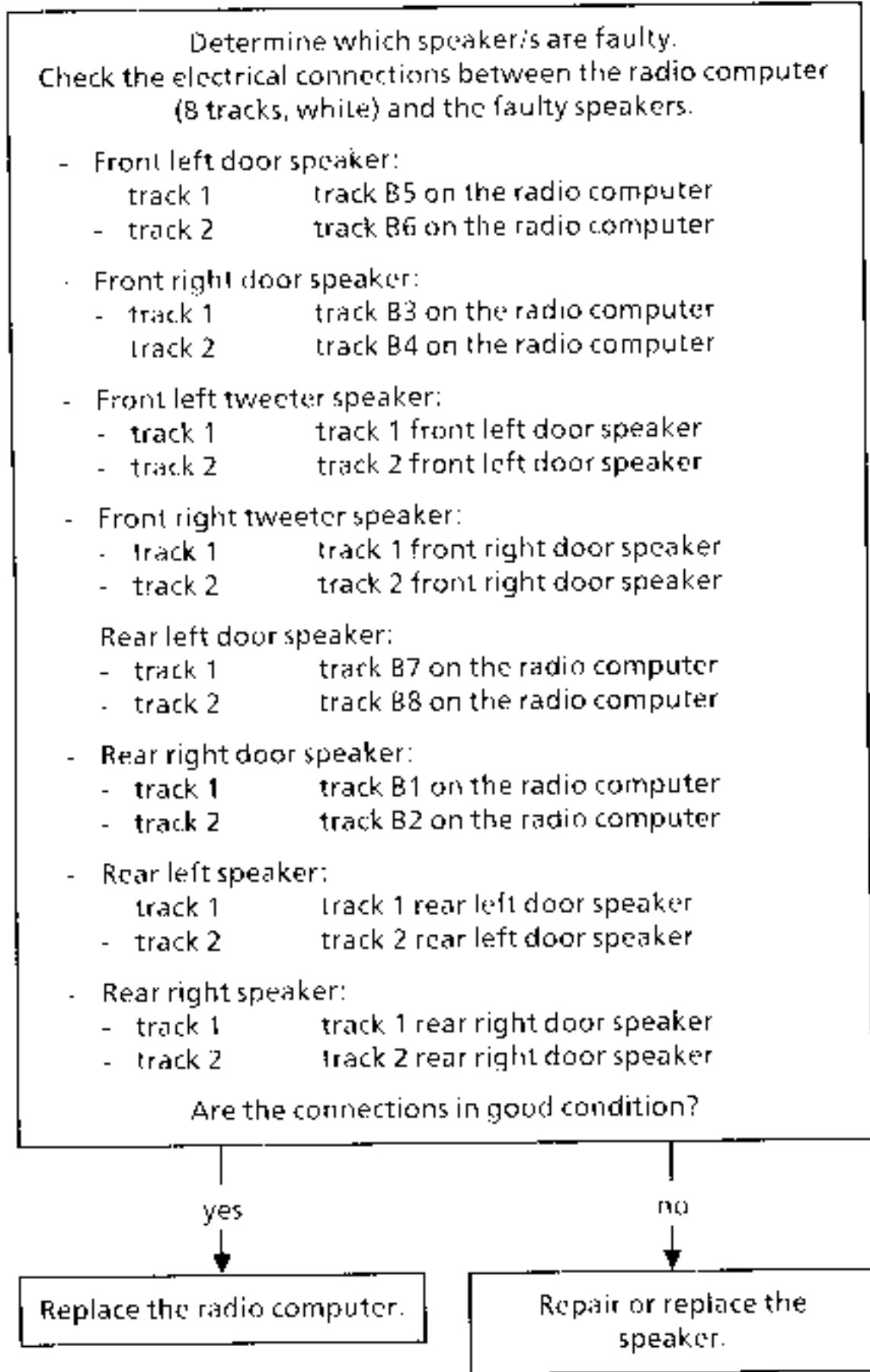
| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

Chart 6

ONE OR MORE SPEAKERS DO NOT OPERATE

NOTES

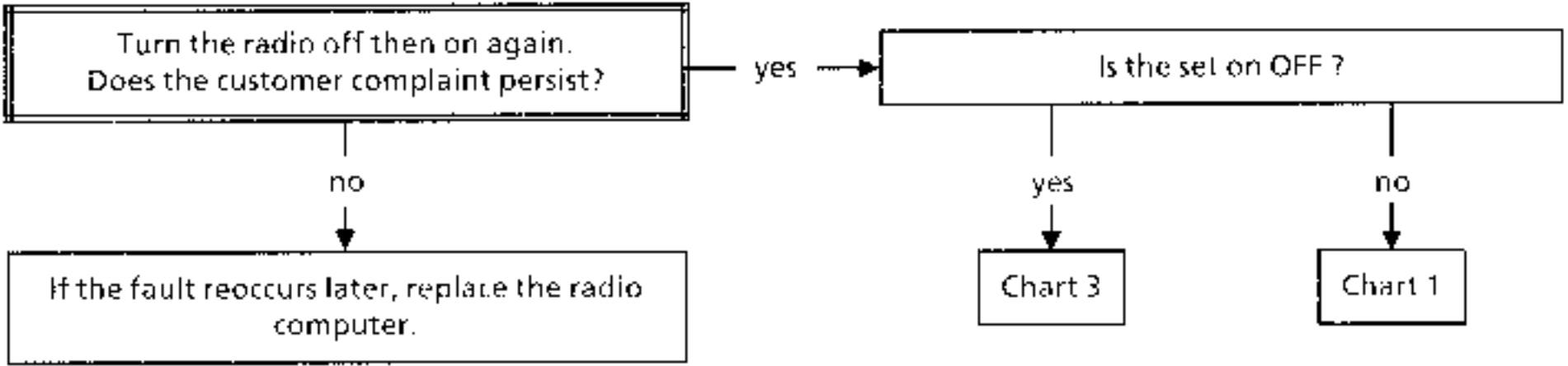
Only refer to this customer complaint after having performed a complete test using the XR25



AFTER REPAIR

| | |
|---------|----------------------------|
| Chart 7 | SOUND CUT DURING BROADCAST |
|---------|----------------------------|

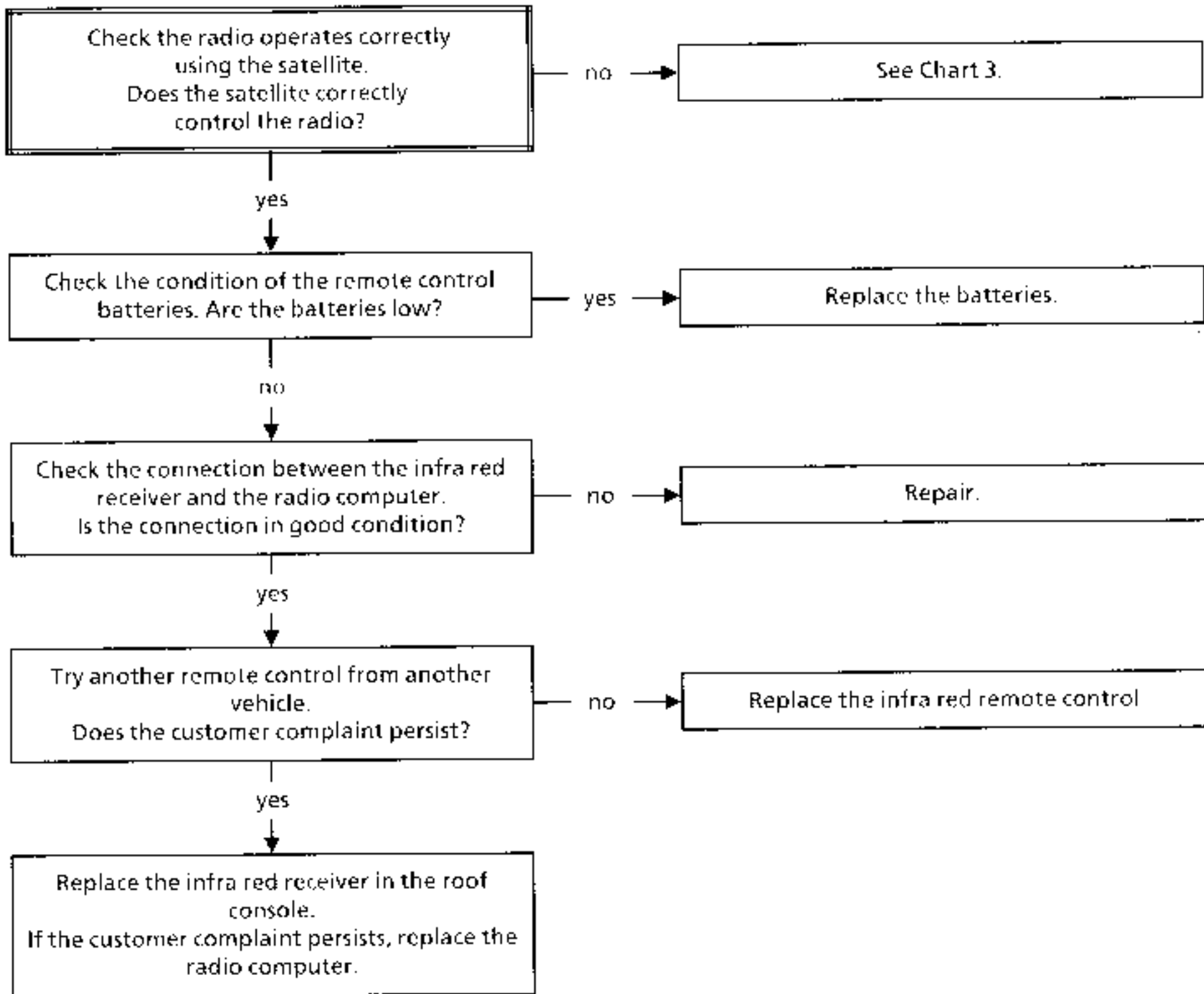
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|----------------|--|
| Chart 8 | INFRA RED REMOTE CONTROL DOES NOT OPERATE |
|----------------|--|

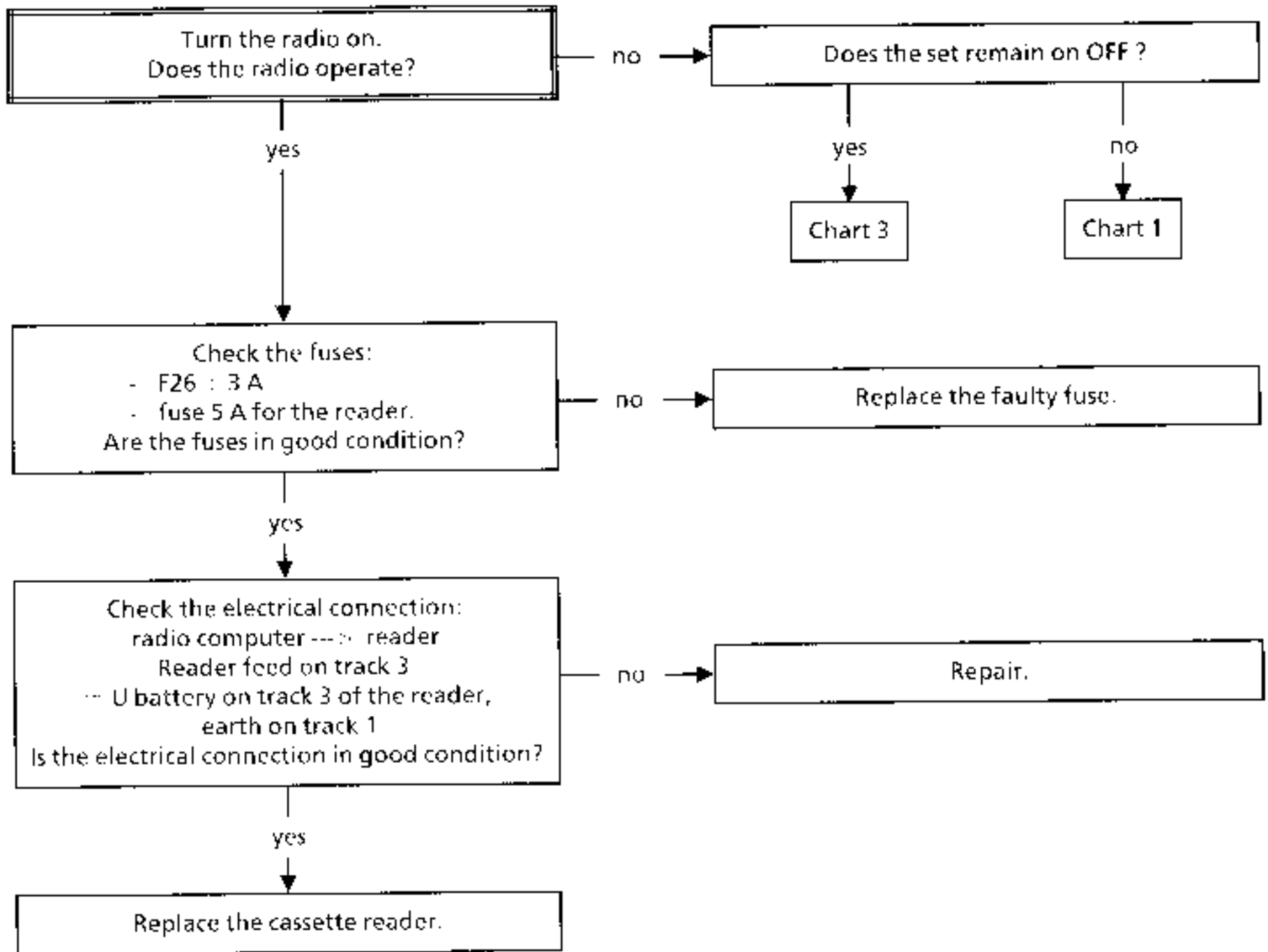
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|----------------|---|
| Chart 9 | CASSETTE READER CANNOT BE SELECTED |
|----------------|---|

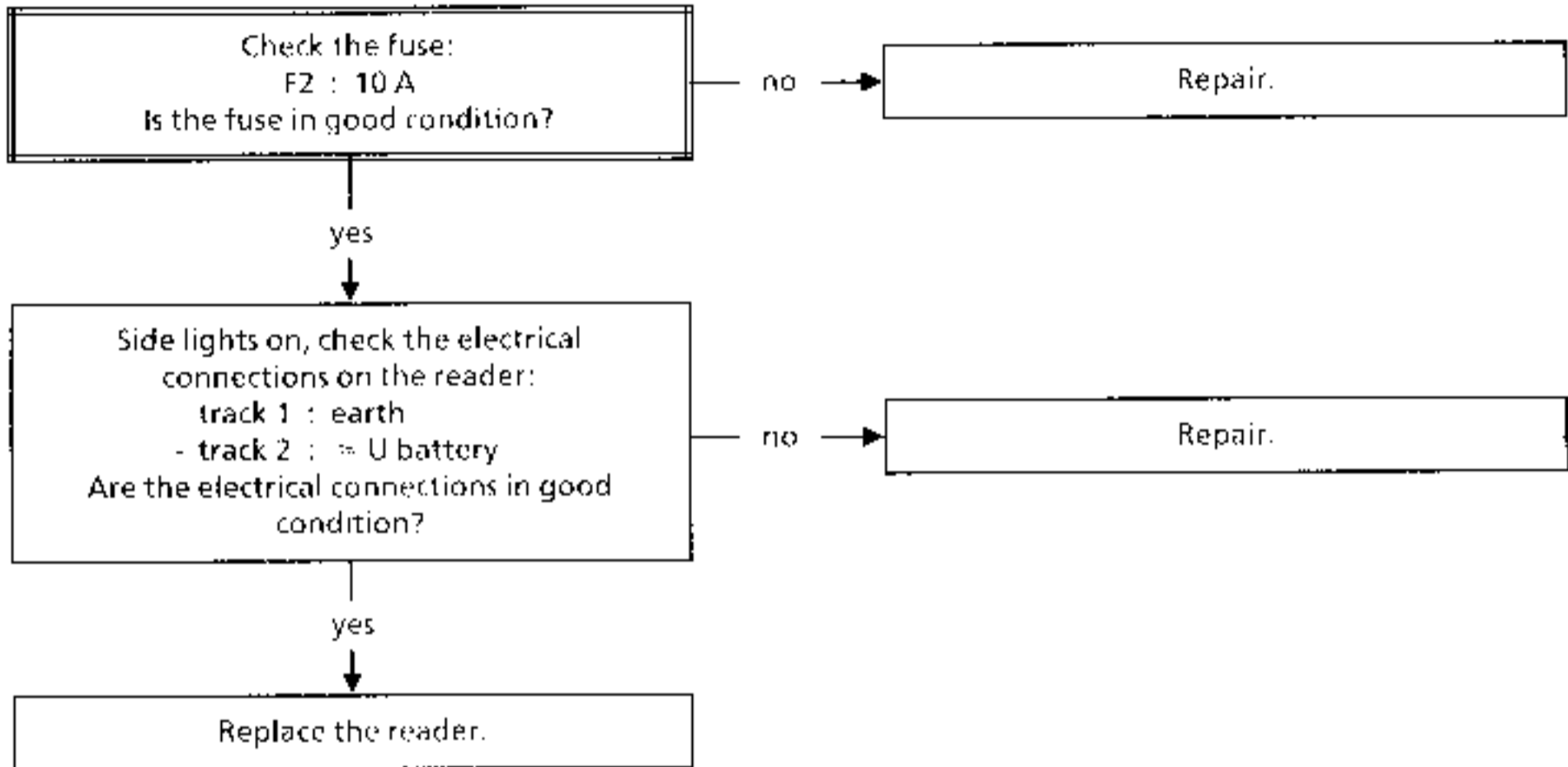
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|-----------------|--|
| Chart 10 | THE FRONT PANEL OF THE READER DOES NOT ILLUMINATE |
|-----------------|--|

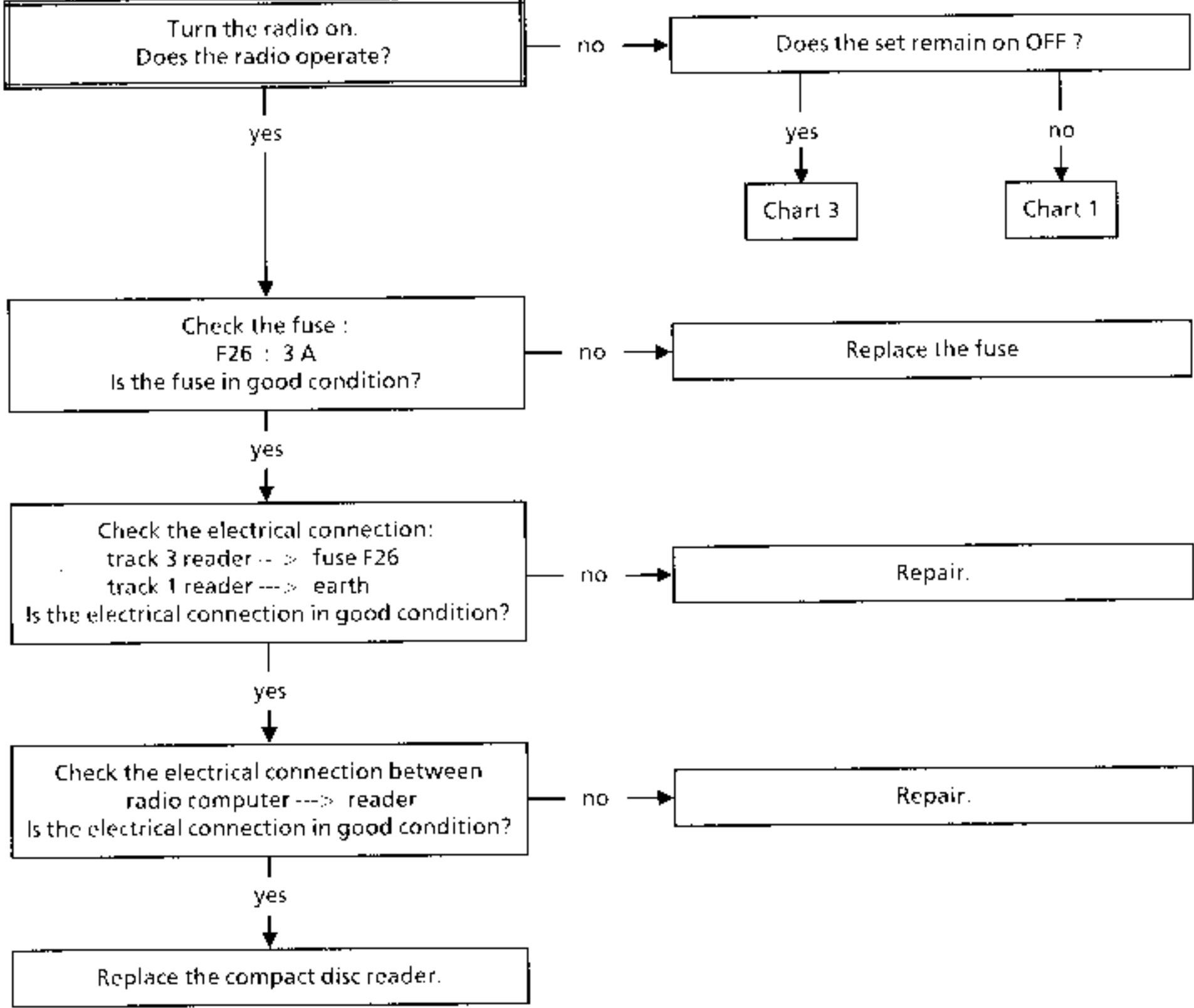
| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



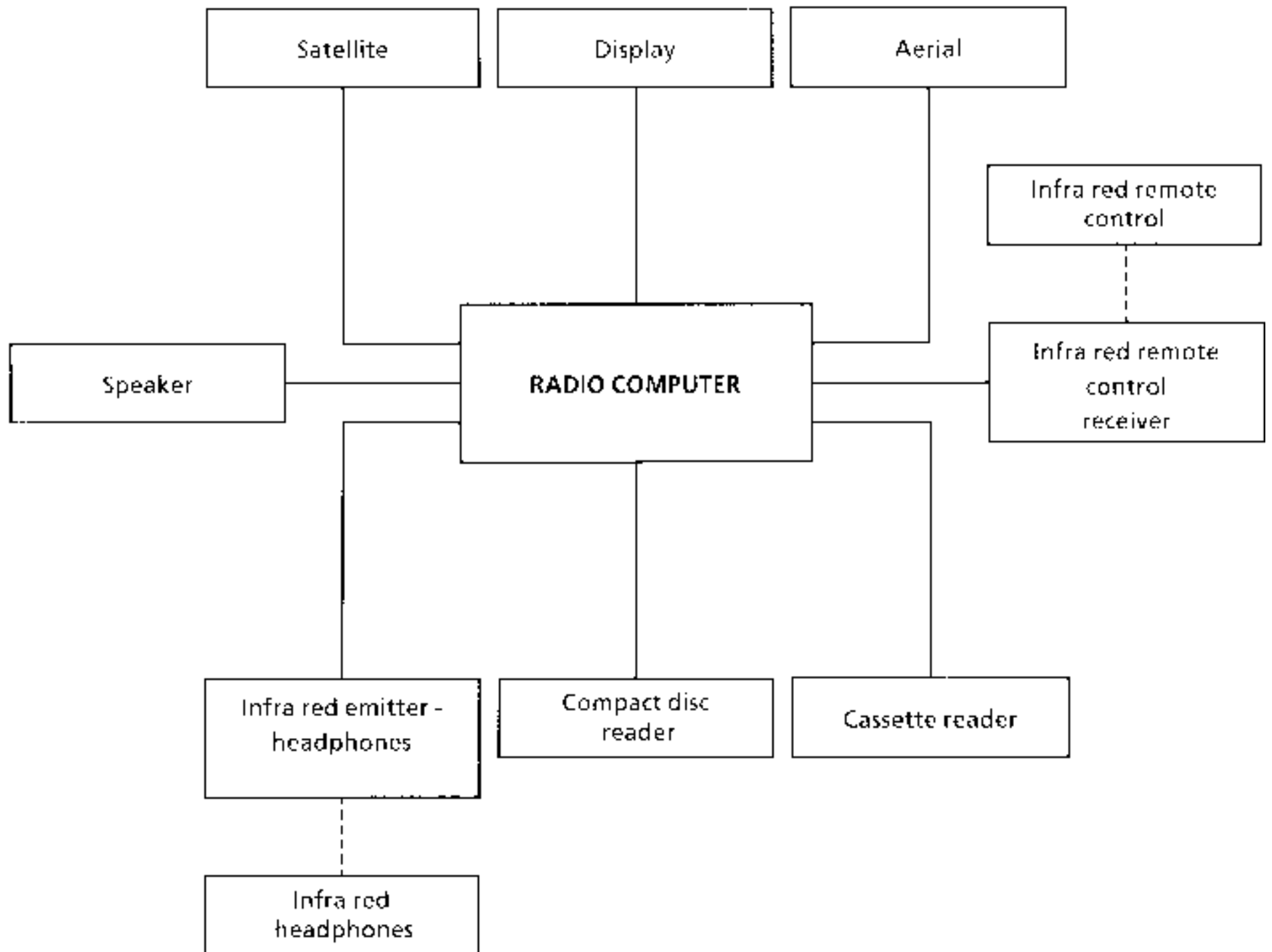
| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|

| | |
|-----------------|---|
| Chart 11 | COMPACT DISC READER CANNOT BE SELECTED |
|-----------------|---|

| | |
|--------------|-------|
| NOTES | None. |
|--------------|-------|



| | |
|---------------------|--|
| AFTER REPAIR | |
|---------------------|--|



CONDITIONS FOR APPLICATION OF THE TESTS DEFINED IN THIS FAULT FINDING SECTION

The tests defined in this fault finding section should only be applied if the fault bargraph is permanently illuminated, indicating that the fault is present on the vehicle at the moment of testing. Only a computer fault should require the computer to be replaced, whether the bargraph is permanently illuminated or flashing.

If the fault is not present, but is only memorised, the bargraph flashes and applying the tests recommended in the fault finding section will not allow the cause of the fault being stored to be detected. In this case, only checking of the wiring and connections on the component at fault must be carried out (the wiring concerned may be tested in the fault finding mode to try to illuminate the bargraph permanently).

TOOLING REQUIRED FOR WORKING ON THE AIRBAG AND SEAT BELT PRETENSIONER SYSTEMS

- XR25 test kit (with cassette N° 15 minimum).
- XRBAG test kit at update level N° 3 (with the new measuring cable and adaptors, together with the 30 track adaptor for operations on the computer connector).

REMINDER

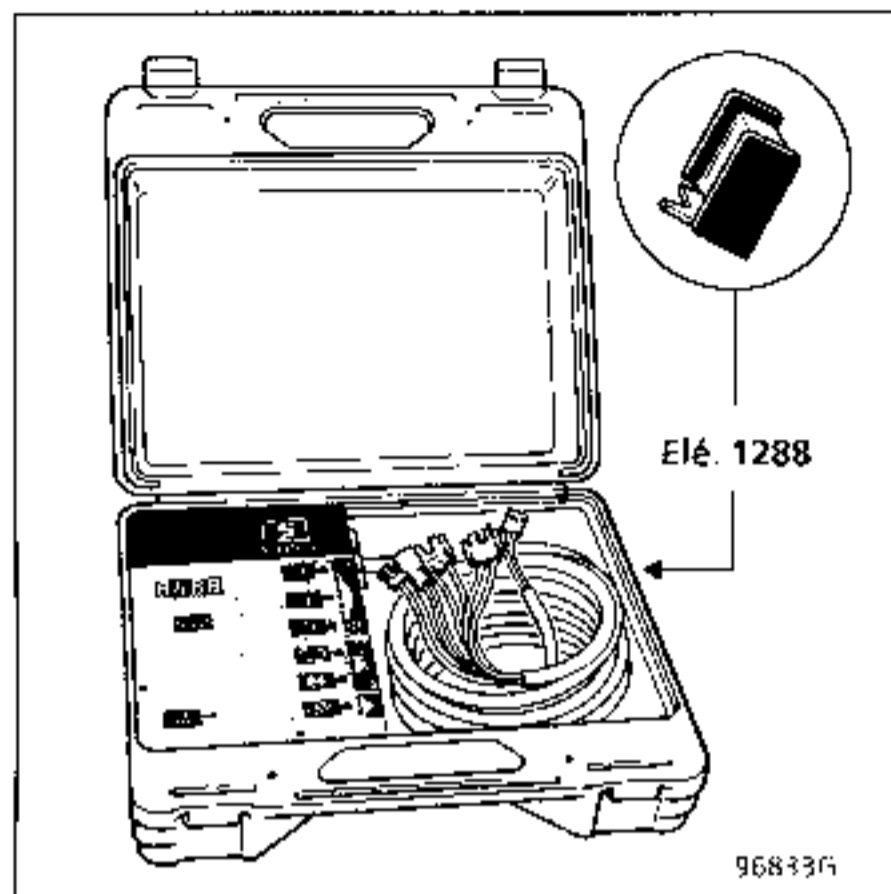
Never take measurements on the airbag and pretensioner ignition lines with equipment other than the XRBAG.

Before using a dummy ignition module, check its resistance is between 1.8 and 2.5 ohms.

Only 30 track computers with the airbag function can be diagnosed using the XR25. Computers with only the pretensioner function must be checked using the XRBAG, following the tests described in this fault finding section.

The ignition must be turned off then on again to extinguish the warning light, following erasing of the memory using the command GO*^.

XR BAG TEST KIT (Elé. 1288)

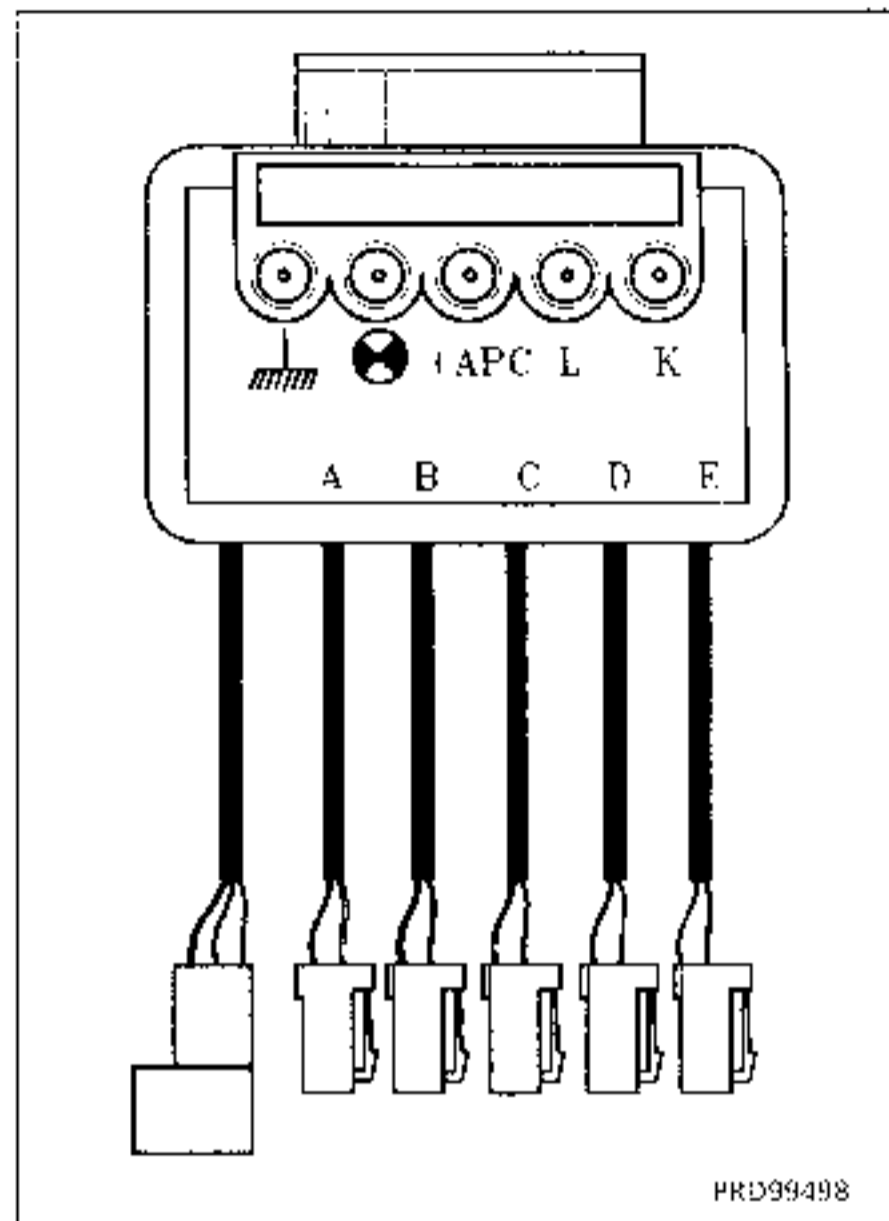


This is a special piece of equipment for testing and fault finding for airbag and seat belt pretensioner systems.

It allows electrical measurements to be made on the various lines in the systems.

IMPORTANT: Measurements may not be made on these systems using an ohmmeter or any other electrical measuring equipment: there is a risk of triggering due to the operational current of the equipment (refer to the "Fault finding" section).

XR BAG 30 TRACK ADAPTOR



This bornier connects in place of the computers fitted with a single 30 track connector.

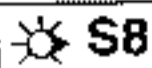
Using the XR BAG, it is used to check all the ignition lines, to measure the feed voltage to the computer and to force the illumination of the airbag warning light on the instrument panel.

Terminals allow continuity checks of fault finding lines, warning light and feed lines to the computer.

Allocation of ignition lines:

- A : line 2 passenger Airbag (tracks 13 and 14)
- B : driver Airbag line (tracks 10 and 11)
- C : line 1 passenger Airbag (tracks 6 and 7)
- D : passenger pretensioner line (tracks 3 and 4)
- E : driver pretensioner line (tracks 1 and 2)

N°49



code : **D 4 9**

read : **(R b)**

| | | | | |
|----|--------------------------|---------------------------------|--------------------------|---|
| 1 | <input type="checkbox"/> | COMPUTER | CODE PRESENT | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | * 02 FEED VOLTAGE | | |
| 3 | | | | |
| 4 | | | | |
| 5 | <input type="checkbox"/> | * 05 RESISTANCE | Circuit DRIVER'S AIRBAG | INSULATION * 25 <input type="checkbox"/> |
| 6 | <input type="checkbox"/> | * 06 LINE 1 RESISTANCE | Circuits DRIVER'S AIRBAG | LINE 2 RESISTANCE * 26 <input type="checkbox"/> |
| 7 | <input type="checkbox"/> | | | LINES 1 OR 2 INSULATION * 27 <input type="checkbox"/> |
| 8 | <input type="checkbox"/> | * 08 DEF. IN LINE DRIVER'S SIDE | Circuits PRETENSIONERS | DEF. IN LINE PASS. SIDE * 28 <input type="checkbox"/> |
| 9 | <input type="checkbox"/> | | | INSULATION * 29 <input type="checkbox"/> |
| 10 | <input type="checkbox"/> | CC LEAKAGE AT 12V | Circuit WARN. LIGHT DEF. | OPEN CIRCUIT LEAKAGE AT OV <input type="checkbox"/> |

AIRBAG / PRETENSIONERS

Erase fault memory : G 0 **
 End of test : G13 *

| | | | |
|----|--------------------------|--|---|
| 11 | | | |
| 12 | | | |
| 13 | | computer STATUS | |
| 14 | <input type="checkbox"/> | COMPUTER LOCKED | DEF. PRESENT BEFORE IMPACT <input type="checkbox"/> |
| 15 | | | |
| 16 | | Computer CONFIGURATION (fixed display) | |
| 17 | <input type="checkbox"/> | WITH PASS. AIRBAG (to be checked) | |
| 18 | <input type="checkbox"/> | WITH SEATBELT PRETENSIONERS | |
| 19 | <input type="checkbox"/> | WITH DRIVER'S AIR BAG | |
| 20 | | | |

ADDITIONAL CHECKS : # . .

01 Computer feed : V

CONTROL MODES : G . . *

80 computer locking
 81 computer unlocking

72 Write A/Sales date
 73 Read A/Sales date

Help : V 9

Return to diag.mode : D

Part No. : G 70 *

16 ANG

BARGRAPH SYMBOLS

FAULT (always on a coloured background)

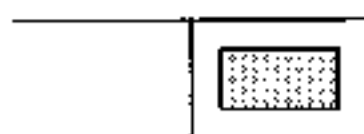


If illuminated, there is a fault with the product tested. The associated text defines the fault.

This bargraph may be :

- Permanently illuminated : fault present.
- Flashing : fault memorised
- Extinguished : fault absent or not tested

STATUS (always on a white background)



Bargraph always at the top right.

If illuminated, dialogue has been established with the computer for the product.

If it remains extinguished :

- The code does not exist.
- There is a fault in the tool, the computer or the XR25 / computer connection.

The following bargraphs are represented according to their initial status:

Initial status: (ignition on, engine stopped, no operator action)

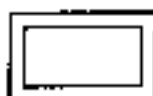


or



Indefinite

illuminated when the function or condition on the fiche is met.



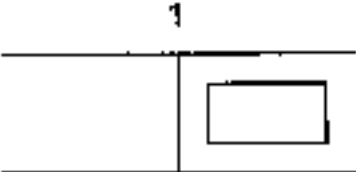
Extinguished



Illuminated - extinguishes when the function or condition on the fiche is no longer met.

ADDITIONAL NOTES

Certain bargraphs have a *. The command *.., when the bargraph is illuminated, displays additional information on the type of fault or status which has arisen.

| | | |
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|  | <p>Bargraph 1 RH side extinguished</p> <p><u>Code present</u></p> | <p>Fiche n° 49</p> |
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| NOTES | <p>Computers which only manage the seat belt pretensioner function do not have XR25 fault finding (check using the XRBAG).</p> |
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Ensure that the XR25 is not the cause of the fault by trying to communicate with the computer on another vehicle.
 Check that the ISO selector is on position 58, that you are using the latest cassette for the XR25 and the correct code.
 Check the battery voltage and carry out any operations required to ensure correct voltage (10.5 volts < U battery < 16 volts).

Check the presence and condition of the 15 Amp airbag fuse in the passenger compartment connection unit.
 Check the connection of the computer connector and the condition of its connections.
 Check the computer is correctly fed:

- Disconnect the airbag computer and connect the 30 track XRBAG adaptor in its place.
- Check and ensure the presence of + after ignition feed between the terminals marked earth and - APC.

Check that the diagnostic socket is correctly fed:


- + before ignition feed on track 16 (fuse F7) and track 1 (fuse F38)
- Earth on tracks 4 and 5.

Check the continuity and insulation of the lines in the connection diagnostic socket / airbag computer:

- Between the terminal marked L and track 15 on the diagnostic socket.
- Between the terminal marked K and track 7 on the diagnostic socket.

If dialogue is still not established after these tests, replace the airbag computer (refer to the "Aid" section for this operation).


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| AFTER REPAIR | <p>When communication has been established, deal with any fault bargraphs illuminated.</p> |
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| <p>1</p>  | <p>Bargraph 1 LH side illuminated or flashing <u>Computer</u></p> <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>None.</p> |
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Replace the airbag computer (refer to the "Aid" section for this operation).

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| <p>AFTER REPAIR</p> | <p>None.</p> |
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| <p>2</p>  | <p>Bargraph 2 LH side illuminated</p> <p>Feed voltage</p> <p>XR25 aid : *02 :</p> <ul style="list-style-type: none"> 1.dEF : Voltage too low 2.dEF : Voltage too high 3.dEF : Too many micro-cuts dEF : More than one fault 1.dEF/2.dEF/3.dEF | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Use the XRBAG 30 track adaptor for operations on the computer connector.</p> |
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| <p>1.dEF - 2.dEF</p> | <p>NOTES</p> | <p>None.</p> |
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Carry out the operations required to ensure the computer feed voltage is correct:
 10.5 volts ± 0.1 < correct voltage < 16 volts + 0.1.

- Check the battery charge.
- Check the charging circuit.
- Check the tightness and condition of the battery terminals.
- Check the computer earth.

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| <p>3.dEF</p> | <p>NOTES</p> | <p>None.</p> |
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For a micro-cut fault, check the computer feed lines:

- Condition of the connections on the computer.
- Condition of the computer earth (track 9 on 30 track connector).
- Condition / position of fuse F39.
- Condition and tightness of the battery terminals.


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| <p>dEF</p> | <p>NOTES</p> | <p>None.</p> |
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The display **dEF** on the XR25 indicates that a minimum of 2 faults shown by **1.dEF**, **2.dEF** and **3.dEF** have been memorised (bargraph flashing).

Operation:

- Check the battery charge.
- Check the charging circuit.
- Check the tightness and condition of the battery terminals
- Check the condition of the connections on the computer.
- Check the condition of the computer earth.
- Check the condition / position of fuse F39.

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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0**.</p> |
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| <p>5</p>  | <p>Bargraph 5 LH side illuminated</p> <p><u>Driver's airbag line resistance</u></p> <p>XR25 aid : *05 : CC : Short circuit CO : Open circuit</p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Never take measurements on the ignition lines with equipment other than the XR25.</p> |
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| <p>Lock the computer using command G80* on the XR25. Turn the ignition off and remove the 2 steering wheel cushion mounting bolts. Check that it is correctly connected.</p> |
| <p>Disconnect the steering wheel cushion and connect a dummy ignition module to the module connector. Turn the ignition on and test using the XR25. Replace the airbag cushion if the fault is memorised (fault no longer declared as present).</p> |
| <p>Ignition off, disconnect then reconnect the connector for the rotary switch under the steering wheel. If bargraph 5 LH side starts to flash, repair the connections.</p> |
| <p>The XR25 must be used to measure the resistance at point C2 in the driver's airbag circuit. If the value obtained is not correct, replace the rotary switch under the steering wheel.</p> |
| <p>Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the 30 track adapter. The XR25 must be used to measure the resistance of the wire marked B on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 10 and 11) and replace the wiring if necessary.</p> |

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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the driver's airbag ignition module and refit the cushion to the steering wheel.</p> |
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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the airbag cushion if it has been replaced (tool Elé. 1287).</p> |
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| <p>5</p>  | <p>Bargraph 5 RH side illuminated</p> <p><u>Driver's airbag line insulation</u></p> <p>XR25 aid : *25 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth</p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Never take measurements on the ignition lines with equipment other than the XRBAG.</p> |
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| <p>Lock the computer using command G80* on the XR25. Turn the ignition off and remove the 2 steering wheel cushion mounting bolts. Check the condition of the ignition wire.</p> |
| <p>The XRBAG must be used to measure the insulation appropriate to the type of fault at point C2 on the driver's airbag circuit. If the value obtained is not correct, replace the rotary switch under the steering wheel.</p> |
| <p>Reconnect the rotary switch under the steering wheel, disconnect the computer connector and fit the 30 track adapter. The XRBAG must be used to measure the insulation appropriate to the type of fault on the wire marked B on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 10 and 11) and replace the wiring if necessary.</p> |

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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the driver's airbag ignition module and refit the cushion to the steering wheel.</p> |
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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the airbag cushion if it has been replaced (tool Elé. 1287).</p> |
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| <p>6</p>  | <p>Bargraph 6 LH side illuminated Fiche n° 49</p> <p><u>Passenger airbag line 1 resistance</u></p> <p>XR25 aid : *06 : CC : Short circuit CO : Open circuit</p> |
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| <p>NOTES</p> | <p>Never disconnect the connectors at the rear of the airbag module. They are disconnected in the passenger compartment connection unit.</p> |
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| <p>Lock the computer using command G80* on the XR25.</p> <p>Remove the passenger compartment cover plate and connect the adapter for the XRBAG to the brown connector. Connect a dummy ignition module to the ignition module connector. Turn the ignition on and test using the XR25. Replace the passenger airbag module if the fault has been memorised (fault no longer declared as present).</p> <p>Disconnect the computer connector and fit the 30 track adapter. The XRBAG must be used to measure the resistance of the cable marked C on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 6 and 7) and replace the wiring if necessary.</p> | |
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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the passenger's airbag ignition module.</p> |
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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the passenger airbag module if it has been replaced (tool Elé. 1287).</p> |
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| <p>6</p>  | <p>Bargraph 6 RH side illuminated</p> <p><u>Passenger airbag line 2 resistance</u></p> <p>XR25 aid : *26 : CC : Short circuit CO : Open circuit</p> | <p>Fiche n° 49</p> |
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| NOTES | <p>Never disconnect the connectors at the rear of the airbag module. They are disconnected in the passenger compartment connection unit.</p> |
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| <p>Lock the computer using command G80* on the XR25.</p> |
| <p>Remove the passenger compartment cover plate and connect the adapter for the XRBAG to the green connector. Connect a dummy ignition module to the ignition module connector. Turn the ignition on and test using the XR25. Replace the passenger airbag module if the fault has been memorised (fault no longer declared as present).</p> |
| <p>Disconnect the computer connector and fit the 30 track adapter. The XRBAG must be used to measure the resistance of the cable marked A on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 13 and 14) and replace the wiring if necessary.</p> |

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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the passenger's airbag ignition module.</p> |
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| AFTER REPAIR | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the passenger airbag module if it has been replaced (tool Elé. 1287).</p> |
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| <p>7</p>  | <p>Bargraph 7 RH side illuminated</p> <p><u>Passenger airbag line 1 or 2 insulation</u></p> <p>XR25 aid : *27 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth</p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Never take measurements on the ignition lines with equipment other than the XRBAG.</p> |
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Lock the computer using command G80* on the XR25.

Disconnect the computer connector and fit the 30 track adapter.
 The XRBAG must be used to measure the insulation appropriate to the type of fault on the cables marked A and C on the adapter.
 If one of the values obtained is not correct, check the connections on the 30 track connector (tracks 13 and 14 for cable A and tracks 6 and 7 for cable C) and replace the wiring if necessary.

If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation).
 Reconnect the passenger's airbag ignition modules.

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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the passenger airbag module if it has been replaced (tool Elé. 1287).</p> |
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| <p>8</p>  | <p>Bargraph 8 LH side illuminated</p> <p><u>Driver's pretensioner line resistance</u></p> <p>XR25 aid : *08 : CC : Short circuit CO : Open circuit</p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Never take measurements on the ignition lines with equipment other than the XRBAG.</p> |
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| <p>Lock the computer using command G80* on the XR25. Turn the ignition off and check that the driver's pretensioner ignition module is correctly connected.</p> |
| <p>Disconnect the driver's pretensioner ignition module and connect a dummy ignition module to the ignition module connector. Turn the ignition on and test using the XR25. Replace the driver's pretensioner if the fault has been memorised (fault no longer declared as present).</p> |
| <p>The XRBAG must be used to measure the resistance at point C1 (seat connector) on the driver's pretensioner line. If the value obtained is not correct, replace the wiring between points C1 and C3 (seat wiring).</p> |
| <p>Disconnect the computer connector and fit the 30 track adapter. The XRBAG must be used to measure the resistance on the cable marked E on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 1 and 2) and replace the wiring if necessary.</p> |

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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the driver's pretensioner ignition module.</p> |
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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the pretensioner if it has been replaced (tool Elé. 1287).</p> |
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| <p>8</p>  | <p>Bargraph 8 RH side illuminated Fiche n° 49</p> <p><u>Passenger's pretensioner line resistance</u></p> <p>XR25 aid : *28 : CC : Short circuit CO : Open circuit</p> |
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| NOTES | <p>Never take measurements on the ignition lines with equipment other than the XRBAG.</p> |
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| <p>Lock the computer using command G80* on the XR25. Turn the ignition off and check that the passenger's pretensioner ignition module is correctly connected.</p> |
| <p>Disconnect the passenger's pretensioner ignition module and connect a dummy ignition module to the ignition module connector. Turn the ignition on and test using the XR25. Replace the passenger's pretensioner if the fault has been memorised (fault no longer declared as present).</p> |
| <p>The XRBAG must be used to measure the resistance at point C1 (seat connector) on the passenger's pretensioner line. If the value obtained is not correct, replace the wiring between points C1 and C3 (seat wiring).</p> |
| <p>Disconnect the computer connector and fit the 30 track adapter. The XRBAG must be used to measure the resistance on the cable marked D on the adapter. If the value obtained is not correct, check the connections on the 30 track connector (tracks 3 and 4) and replace the wiring if necessary.</p> |

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| <p>If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation). Reconnect the passenger's pretensioner ignition module.</p> |
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| AFTER REPAIR | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the pretensioner if it has been replaced (tool Elé. 1287).</p> |
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| <p>9</p>  | <p>Bargraph 9 RH side illuminated <u>Pretensioner lines insulation</u></p> <p>XR25 aid : *29 : CC.1 : Short circuit to 12 volts CC.0 : Short circuit to earth</p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Never take measurements on the ignition lines with equipment other than the XR25.</p> |
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Lock the computer using command G80* on the XR25.
 Disconnect the driver's pretensioner ignition module and connect a dummy ignition module to the ignition module connector.
 Turn the ignition on and test using the XR25.
 If the fault has been memorised (fault no longer declared as present), check the condition of the seat wiring.
 Replace the driver's pretensioner if the wiring is not faulty.
 Carry out the same operation for the passenger pretensioner (if there is no fault on the driver's side).

The XR25 must be used to measure the insulation appropriate to the type of fault at point C1 (seat connector) on the driver's pretensioner line.
 If the value is not correct, replace the wiring between points C1 and C3 (seat wiring).
 Carry out the same measurement for the passenger pretensioner line (if there is no fault on the driver's side).

Disconnect the computer connector and fit the 30 track adapter.
 The XR25 must be used to measure the insulation appropriate to the type of fault on the cables marked D (passenger) and E (driver) on the adapter.
 If one of the values obtained is not correct, check the connections on the 30 track connector (tracks 3 and 4 for cable D and tracks 1 and 2 for cable E) and replace the wiring if necessary.

If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation).
 Reconnect the seat belt pretensioner ignition modules.

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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and if no faults are found, unlock the computer using command G81*. Destroy the pretensioner/s if replaced (tool Elé. 1287).</p> |
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| <p>10</p>  | <p>Bargraph 10 LH side illuminated</p> <p><u>Short circuit or insulation to 12 Volts on warning light line</u></p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Use the XRBAG 30 track adaptor for operations on the computer connector.</p> |
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Lock the computer using command G80* on the XR25.
 Check the operation of the warning light using the XRBAG.
 Ensure insulation from 12 volts of the connection between the instrument panel (connector C2, track 13) and track 8 on the 30 track connector after fitting bornier **Elé. 1302** to connector C2 on the instrument panel.

If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation).

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| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and, if there is no fault, unlock the computer using command G81*.</p> |
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| <p>10</p> | <p>Bargraph 10 RH side illuminated</p> <p><u>Open circuit or insulation from earth on warning light line</u></p> | <p>Fiche n° 49</p> |
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| <p>NOTES</p> | <p>Use the XR25 30 track adaptor for operations on the computer connector.</p> |
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| <p><i>Light out, + APC present</i></p> | <p>NOTES</p> | <p>None.</p> |
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Lock the computer using command G80* on the XR25.
 Check the condition of the warning light using the XR25.
 Ensure the continuity of the connection between the instrument panel track 13 on connector C2 (bornier Elé. 1302) and track 8 on the 30 track connector.


If the tests carried out have not shown a fault is present, disconnect the computer connector and fit the 30 track adaptor from the XR25.
 Use the XR25 function to test the operation of the warning light.
 If it is possible to illuminate the warning light using the XR25, replace the airbag computer (refer to the "Aid" section for this operation).
 If the warning light cannot be operated, repeat the tests described above.

| | | |
|---------------------------------------|---------------------|--------------|
| <p><i>Light on, + APC present</i></p> | <p>NOTES</p> | <p>None.</p> |
|---------------------------------------|---------------------|--------------|

Lock the computer using command G80* on the XR25.
 Ensure the insulation from earth of the connection between the warning light and track 8 on the 30 track connector.

If the tests carried out have not shown a fault is present, replace the airbag computer (refer to the "Aid" section for this operation).

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and, if there is no fault, unlock the computer using command G81*.</p> |
|----------------------------|---|

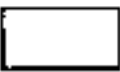
| | | |
|---|---|--------------------|
| <p>14</p>  | <p>Bargraph 14 LH side <u>Computer locked</u></p> | <p>Fiche n° 49</p> |
|---|---|--------------------|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

This bargraph 14 LH side shows the locked status of the computer.
 When illuminated, all the ignition lines are inhibited, preventing the airbags and seat belt pretensioners from being triggered.
 This bargraph is normally illuminated in 2 cases:

- The computer is new (it is supplied locked).
- The computer locking command on the XR25 has been used during an operation on the vehicle (G80*).

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25 and, if there is no fault, unlock the computer using command G81*.</p> |
|----------------------------|---|

| | |
|---|--|
| <p>17-18-19</p>  | <p>Bargraphs 17, 18 and 19 LH side <u>Computer configuration</u></p> <p style="text-align: right;">Fiche n° 49</p> |
|---|--|

| | |
|---------------------|--------------|
| <p>NOTES</p> | <p>None.</p> |
|---------------------|--------------|

These bargraphs 17, 18 and 19 LH side show the computer configuration and ensure it is adapted to suit the vehicle.

| | |
|----------------------------|---|
| <p>AFTER REPAIR</p> | <p>Erase the computer memory using G0** then turn the ignition off. Test again using the XR25.</p> |
|----------------------------|---|

| | |
|--------------|--|
| NOTES | Only carry out a conformity check after a complete check using the XR25. |
|--------------|--|

| Order of operations | Function to be checked | Action | Bargraph | Display and Notes |
|---------------------|---|-------------------------|--|---|
| 1 | Dialogue with XR25 | D49 (selector on 58) | | 1.Ab |
| 2 | Computer conformity | #02 | | J66 11 |
| 3 | Computer configuration | | <div style="border-bottom: 1px solid black; display: inline-block; padding: 2px 10px;">17 / 18 / 19</div> <div style="display: inline-block; width: 20px; height: 15px; background-color: black; margin-right: 5px;"></div> | Ensure that the computer configuration defined by these 3 bargraphs corresponds to the vehicle equipment. |
| 4 | Operation of warning light - checking computer initialisation | Ignition turned on | | Warning light illuminates for 3 seconds when the ignition is turned on (refer to fault finding if it remains illuminated or does not illuminate). |






REPLACING THE AIRBAG COMPUTER

Airbag computers are supplied locked to avoid any risk of incorrect triggering (all the ignition lines are inhibited). This mode of operation is indicated by the illumination of the warning light on the instrument panel.

When replacing the airbag computer, follow this procedure:



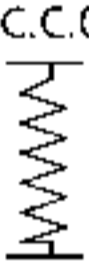
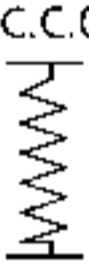
- Ensure the ignition is off.
- Replace the computer.
- Test using the XR25.
- Unlock the computer using command G81*, only if no faults are shown by the XR25.

XR25 READINGS FOR THE AIRBAG FUNCTION

| | Circuit open | | | Circuit closed | | | Fault |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| | driver | passenger | | driver | passenger | | |
| | B | C | A | B | C | A | |
| Measure Ω  | 9999 | 9999 | 9999 | 3.7 Ω | 2.4 Ω | 2.4 Ω | CC0 track 2 CC0 track 1 CC1 track 1 or 2 |
|  | 9999 | 9999 | 9999 | 0000 | 0000 | 0000 | |
| | 9999 | 9999 | 9999 | 3.7 Ω | 2.4 Ω | 2.4 Ω | |
| C.C.1 +  | 9999 | 9999 | 9999 | 9999 | 9999 | 9999 | R.A.S. |
|  | = 207 Ω | = 207 Ω | = 207 Ω | = 0002 Ω | = 0002 Ω | - 0002 Ω | C.C.1 |
| | 9999 | 9999 | 9999 | 9999 | 9999 | 9999 | R.A.S. |
|  | = 200 Ω | = 200 Ω | = 200 Ω | 0000 | 0000 | 0000 | C.C.0 |
| | 9999 | 9999 | 9999 | 9999 | 9999 | 9999 | R.A.S. |

Note : 9999 → Flashing

XR25 READINGS FOR THE PRETENSIONER FUNCTION

| | Circuit open | | Circuit closed | | Fault |
|---|-----------------|-----------------|----------------|--------------|------------------|
| | Driver | Passenger | Driver | Passenger | |
| Measure Ω  | 9999 | 9999 | 2.1 Ω | 2.3 Ω | |
|  | 9999 | 9999 | 2.6 Ω | 2.3 Ω | CC0 track 1 |
| | | | 0000 | 0000 | CC0 track 2 |
| | | | 9999 | 9999 | CC1 track 1 or 2 |
|  | 9999 | 9999 | 9999 | 9999 | R.A.S. |
| | - 207 Ω | = 207 Ω | - 0003 | = 0003 | C.C.1 |
|  | 9999 | 9999 | 9999 | 9999 | R.A.S. |
| | - 200 Ω | = 200 Ω | 0000 | 0000 | C.C.0 |

Note : 9999 \rightarrow Flashing

REPLACING THE AIRBAG COMPUTER

Airbag computers are supplied locked to avoid any risk of incorrect triggering (all the ignition lines are inhibited). This mode of operation is indicated by the illumination of the warning light on the instrument panel.

When replacing the airbag computer, follow this procedure:

- Ensure the ignition is off.
- Replace the computer.
- Test using the XR25.
- Unlock the computer using command G81*, only if no faults are shown by the XR25.

