

twingo

Kangoo

Master

T.N. 3545A

PASSENGER COMPARTMENT CONNECTION UNIT FAULT FINDING

***This note cancels and replaces section 82 of repair manual 323
and Technical Notes 3112A and 3083A***

77 11 306 462

JULY 2001

EDITION ANGLAISE

"The repair methods given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The methods may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed."

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**ELECTRONIC ASSISTANCE
EQUIPMENT**

Passenger compartment connection unit

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FAULT FINDING - INTRODUCTION

This document contains fault finding features applicable to all decoder units fitted to TWINGO, KANGOO and MASTER vehicles.

To undertake fault finding on this system, it is essential to have the following items available:

- This fault finding technical note.
- The wiring diagrams for the function on the vehicle concerned.
- The Clip or NXR fault finding tool.

GENERAL APPROACH TO FAULT FINDING

- Use one of the fault finding tools to identify the immobiliser system equipping the vehicle (to read the computer family, the program number, the Vdiag, etc.).
- Locate the Fault finding documents corresponding to the system identified.
- Take note of information contained in the introductory sections.

DESCRIPTION OF THE FAULT FINDING PHASES

1 - CHECKING THE FAULTS

It is essential to start with this stage before any work is done on the vehicle.

- Read the faults stored in the computer memory and use the "Fault interpretation" section of the documents.

Reminder: Each fault is interpreted for a particular type of storage (fault present, fault stored in memory, fault present or stored). The checks defined for dealing with each fault are therefore only to be performed if the fault declared by the fault finding tool is interpreted in the document for the way it is stored. The storage type should be considered when using the fault finding tool after the ignition has been switched off and switched back on.

If a fault is interpreted when it is declared as stored, the conditions for applying fault finding appear in the notes box. When the conditions are not satisfied, use fault finding to check the circuit of the faulty part since the fault is no longer present on the vehicle. Perform the same operation when a fault is declared as stored by the fault finding tool but is only interpreted in the documentation as a present fault.

2 - CONFORMITY CHECK

The conformity check is designed to check the states and parameters which do not display any faults on the fault finding tool when they are outside the permitted tolerance values. This stage:

- diagnoses faults that do not have a fault display, and which may correspond to a customer complaint.
- checks that the immobiliser is working correctly and ensures that a fault will not reappear after repair.

FAULT FINDING - INTRODUCTION

This section gives the fault finding procedures for states and parameters and the conditions for checking them.

If a state is not operating normally or a parameter is outside permitted tolerance values, you should consult the corresponding diagnostic page.

3 - RECTIFYING THE CUSTOMER COMPLAINT

If the fault finding tool check is correct, but the customer complaint is still present, the problem should be dealt with according to the customer complaint.

This section has fault finding charts, which suggest a series of possible causes of the problem. These lines of investigation must only be used in the following cases:

- No faults appear on the fault finding tool.
- No faults are detected during the conformity check.
- The immobiliser or electric door locking is not working properly.

4 - ABBREVIATIONS

CAR: automatic door locking when driving

TIR: Infrared remote control

TRF: Radio frequency remote control

CPE: Electric external door locking (switch)

FAULT FINDING - FAULT INTERPRETATION

DF003 PRESENT or STORED	<u>ELECTRIC DOOR LOCKING CIRCUIT</u>
NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the ignition has been switched on.
	Special notes: When there is a short circuit in the electric door locking connection (between the electric door lock button and the decoder unit), the immobiliser warning light lights up continuously when the ignition is switched off and the doors are locked.

Display state: **ET038** external door locking /unlocking. This should display **INACTIVE**.

If this state is **ACTIVE**, test the electric door lock button:

Toggle switch on the Master and Kangoo:

When the switch is not depressed, there should be no continuity between **track B2** and **tracks B3** and **A1**.

When the switch is depressed (on the side of the door opening symbol):

Continuity between **track B2** and **track A1** (opening instruction).

When the switch is depressed (on the side without a symbol):

Continuity between **track B2** and **track B3** (closing instruction).

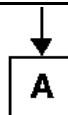
One touch switch on the Twingo:

When the switch is not depressed, there should be no continuity between **track 3** and **track 6**.

When the switch is depressed:

Continuity between **track 3** and **track 6**.

Replace the external door locking switch if it does not work as above.



AFTER REPAIR	Follow the instructions to confirm repair. Clear the fault memory. Deal with any other possible faults.
---------------------	---

FAULT FINDING - FAULT INTERPRETATION

DF003

Cont'd

A

Disconnect the decoder unit and, **with the ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance** :

Toggle switch on the Master and Kangoo:

Door locking switch **track B3** —————> **track B2** of the decoder unit.

One touch switch on the Twingo:

Door locking switch **track 6** —————> **track B5** of the decoder unit.

Repair if necessary.

If the above checks did not solve the problem, replace the decoder unit.

AFTER REPAIR

Follow the instructions to confirm repair.
Clear the fault memory.
Deal with any other possible faults.

FAULT FINDING - FAULT INTERPRETATION

DF005 PRESENT OR STORED	<u>OIL PRESSURE SENSOR CIRCUIT</u>
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NOTES	None.
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This fault is not active on these vehicles (fault specific to the multi-timer unit).

AFTER REPAIR	None.
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FAULT FINDING - FAULT INTERPRETATION

DF009 PRESENT	<u>IMPACT INFORMATION CONNECTION</u>
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NOTES	Special notes: The fault is present 10 seconds after the ignition is switched on and disappears when the ignition is switched off. If the vehicle is not fitted with the impact connection (no wire on track B7), the fault is PERMANENT. <u>It should therefore be disregarded.</u>
	NOTE: If this fault is present, the door locking function while driving is prevented from working.

Disconnect the decoder unit and, **with the ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance** :

Decoder unit **track B7** —————> Airbag computer (see relevant vehicle and AIRBAG diagrams).

Repair if necessary.

If the above checks did not solve the problem, carry out an airbag fault finding procedure.

AFTER REPAIR	Follow the instructions to confirm repair. Clear the fault memory. Deal with any other possible faults.
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FAULT FINDING - FAULT INTERPRETATION

DF025 PRESENT OR STORED	<u>RELAY</u> (indicator lighting relay or infrared remote control relay)
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present if: when the ignition is switched off and the doors are locked, the fault appears after an opening or locking command from the remote control.
	Special notes: This fault is not indicated by continuous illumination of the immobiliser warning light. This faults prevents the indicators from being lit when the doors are unlocked or locked by the remote control.

Check the **condition of the clips** on the infrared remote control relay on the passenger compartment fuse/relay plate.
Replace the clips if necessary.

Check for the **presence of + 12 volts** before ignition on **track 86** and on **track 30** of the infrared remote control relay.
Repair if necessary.

Disconnect the decoder unit and, **with the ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance**:
 Indicator lighting relay (infrared remote control relay) **track 85** —————> **track B3** of the decoder unit.
 Repair if necessary.

Check **the resistance value** of the relay by measuring between:
Track 85 and **track 86** of the infrared remote control relay.
 Replace the relay if the value is not approximately: **85 Ω ± 5 Ω** at 25°C.

If the fault persists, **change** the infrared remote control relay.

AFTER REPAIR	Follow the instructions to confirm repair. Clear the fault memory. Deal with any other possible faults.
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FAULT FINDING - FAULT INTERPRETATION

DF026 PRESENT OR STORED	<u>ELECTRIC DOOR UNLOCKING CIRCUIT</u>
NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after the ignition has been switched on.
	Special notes: When there is a short circuit in the electric door unlocking connection (between the electric door lock button and the decoder unit), the immobiliser warning light lights up when the ignition is switched off and the doors are locked.

Display state: **ET038** external door locking /unlocking. This should display **INACTIVE**.

If this state is **ACTIVE**, test the electric door lock button:

Toggle switch on the Master and Kangoo:

When the switch is not depressed, there should be no continuity between **track B2** and **tracks B3** and **A1**.

When the switch is depressed (on the side of the door opening symbol):

Continuity between **track B2** and **track A1** (opening command).

When the switch is depressed (on the side without a symbol):

Continuity between **track B2** and **track B3** (closing command).

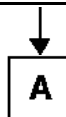
One touch button on the Twingo:

When the switch is not depressed, there should be no continuity between **track 3** and **track 6**.

When the switch is depressed:

Continuity between **track 3** and **track 6**.

Replace the external door locking button if it does not work as above.



AFTER REPAIR	Follow the instructions to confirm repair. Clear the fault memory. Deal with any other possible faults.
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FAULT FINDING - FAULT INTERPRETATION

DF026

Cont'd

A

Disconnect the decoder unit and, **with the ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance** :

Toggle switch on the Master and Kangoo:

Door locking switch **track A1** —————→ **track B5** of the decoder unit.

One touch switch on the Twingo:

Door locking switch **track 6** —————→ **track B5** of the decoder unit.

Repair if necessary.

If the above checks did not solve the problem, replace the decoder unit.

AFTER REPAIR

Follow the instructions to confirm repair.
Clear the fault memory.
Deal with any other possible faults.

FAULT FINDING - FAULT INTERPRETATION

DF127 PRESENT	<u>COMPUTER</u>
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NOTES	None.
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The computer fault indicates an internal memory fault. Try to **erase the fault**, and switch the ignition on and off again.

If the fault reappears, check **the connection and condition** of the decoder unit connector.
Repair if necessary.

Disconnect the decoder unit and, **with the ignition on**, check the conformity of its supply (it should be equal to the battery voltage $\pm 0,5$ volts) by testing the connections:

decoder unit **track A7** —————> **+ after ignition**
decoder unit **track A8** —————> **earth**
decoder unit **track A9** —————> **+ before ignition**

Repair if necessary.

If the previous checks did not erase the fault, **replace** the decoder unit.

AFTER REPAIR	Clear the fault memory. Deal with any other possible faults.
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FAULT FINDING - CONFORMITY CHECK

NOTES	<p>Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present).</p> <p>Checking application conditions: Ignition switched off and immobiliser ACTIVE.</p>
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
1	Supplies	ET002: +12 volts after ignition	INACTIVE	If there is a problem check, the conformity of the decoder unit supplies. If the problem persists, carry out a fault finding test on the charging circuit .
2	Programming of remote controls	ET106: Infrared/ radiofrequency remote control programming or resynchronisation	INACTIVE	ACTIVE during programming or resynchronisation.
		ET011: Infrared/ radiofrequency remote control key programmed	ACTIVE	If the state is INACTIVE , the remote controls must be programmed (refer to the technical note on programming).
3	Decoder unit configurations	ET081: Radiofrequency function configuration	ACTIVE with radiofrequency remote controls INACTIVE with infrared remote controls	If the state display does not match the vehicle remote controls, reconfigure the decoder unit (Command mode: configuration service).
		ET048: Configuration with courtesy light timer	ACTIVE or INACTIVE	The state is ACTIVE or INACTIVE depending on the configuration of the decoder unit.
		ET216: Electric door lock button	State 1: One touch central locking switch State 2: Central locking toggle switch	If the state is not correct for the type of electric door lock button fitted to the vehicle, the decoder unit must be reconfigured.

FAULT FINDING - CONFORMITY CHECK

NOTES	Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present). Checking application conditions: Ignition switched off and immobiliser ACTIVE .
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
4	Switches	ET038: Central Locking/ Unlocking button	INACTIVE	Switches to ACTIVE state when the electric door lock button is pressed for 3 seconds.
		ET205: Door opening contacts	ACTIVE: Doors open INACTIVE: Doors closed	This state is ACTIVE when any of the doors are opened. If this does not happen, the switch on the door concerned is faulty and it should be tested along with its connections (see vehicle diagrams).
5	Opening elements command	ET012: Source of last opening element command	Central locking/ unlocking button: Radiofrequency remote control :	Central locking button or radiofrequency remote control depending on the last opening or closing command.
		ET105: Last opening element command	OPEN or CLOSE (depending on the last command)	None.
		ET208: Motor action	The state is ACTIVE for three seconds after an opening or closing command then it goes back to INACTIVE .	None.

FAULT FINDING - CONFORMITY CHECK

NOTES	<p>Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present).</p> <p>Checking application conditions: Ignition switched off and immobiliser ACTIVE.</p>
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
6	Radio frequency remote control	ET061: Infrared/ radiofrequency remote control signal information: signal received	YES or NO	After a door opening or closing command with the remote control, state ET061 should display: YES and state ET062 should display: ACTIVE . If this is not the case, refer to the interpretation of states.
		ET062: Infrared/ radiofrequency remote control signal information: signal working	ACTIVE or INACTIVE	
7	Automatic door locking function while driving (CAR function)	ET018: CAR function authorisation by fault finding	ACTIVE or INACTIVE	<p>ACTIVE if the decoder unit has been configured with the CAR function and INACTIVE if it has not.</p> <p>For more information, refer to the interpretation of states.</p> <p>NOTE: the CAR function is only available on the Twingo and Kangoo.</p>
		ET019: CAR function authorisation by central locking button	ACTIVE or INACTIVE	
8	Impact signal	ET238: Impact signal	INACTIVE	<p>If the state is ACTIVE the airbag computer has detected an impact. In this event, carry out a fault finding procedure on the airbag and make the necessary repairs.</p> <p>NOTE: the impact signal disappears when the ignition is switched off</p>

FAULT FINDING - CONFORMITY CHECK

NOTES	Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present). Checking application conditions: Ignition switched off and immobiliser ACTIVE .
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
9	Vehicle speed	PR001: Vehicle speed	X = 0 mph	None.
10	8 Equipment level	PR014: 8 Equipment level	1, 2, 3, 4, 5 or 6	None.

FAULT FINDING - CONFORMITY CHECK

NOTES	<p>Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present).</p> <p>Checking application conditions: Ignition switched on and immobiliser INACTIVE.</p>
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
1	Power supply	ET002: +12 volts after ignition	ACTIVE	If there is a problem check, the conformity of the decoder unit supplies. If the problem persists, carry out a fault finding test on the charging circuit .
2	Programming of remote controls	ET106: Infrared/ radiofrequency remote control programming or resynchronisation	INACTIVE	ACTIVE during programming or resynchronisation.
		ET011: Infrared/ radiofrequency remote control key programmed	ACTIVE	If the state is INACTIVE , the remote controls must be programmed (refer to the technical note on programming).
3	Decoder unit configurations	ET081: Radiofrequency function configuration	ACTIVE with radiofrequency remote controls INACTIVE with infrared remote controls	If the state display does not conform with the vehicle remote controls, reconfigure the decoder unit (Command mode: configuration service).
		ET048: Configuration with courtesy light timer	ACTIVE or INACTIVE	The state is ACTIVE or INACTIVE depending on the configuration of the decoder unit.
		ET216: Central locking button	State 1: One touch central locking button State 2: Toggle central locking switch	If the state is not correct for the type of electric door lock button fitted to the vehicle, the decoder unit must be reconfigured.

FAULT FINDING - CONFORMITY CHECK

NOTES	Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present). Checking application conditions: Ignition switched on and immobiliser INACTIVE .
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
4	Switches	ET038: Central Locking/ Unlocking button	INACTIVE	Switches to ACTIVE state when the electric door lock button is pressed for 3 seconds.
		ET205: Door opening contacts	ACTIVE: Doors open	This state is ACTIVE when any of the doors are opened. If this does not happen, the switch on the door concerned is faulty and it should be tested along with its connections (see vehicle diagrams).
			INACTIVE: Doors closed	
5	Opening elements command	ET012: Source of last opening element command	Central locking/ unlocking button	Central locking switch or radiofrequency remote control depending on the last opening or closing command.
		ET105: Last opening element command	Radiofrequency remote control	
			OPEN or CLOSE (depending on the last command)	None.
		ET208: Motor action	The state is ACTIVE for three seconds after an opening or closing command then it goes back to INACTIVE .	None.

FAULT FINDING - CONFORMITY CHECK

NOTES	<p>Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present).</p> <p>Checking application conditions: Ignition switched on and immobiliser INACTIVE.</p>
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
6	Radiofrequency remote control	ET061: Infrared/ radiofrequency remote control signal information: signal received	YES or NO	After a door opening or closing command with the remote control, state ET061 should display: YES and state ET062 should display: ACTIVE . If this is not the case, refer to the state interpretation.
		ET062: Infrared/ radiofrequency remote control signal information: signal working	ACTIVE or INACTIVE	
7	Automatic door locking function while driving (CAR function)	ET018: CAR function authorisation by fault finding	ACTIVE or INACTIVE	ACTIVE if the decoder unit has been configured with the CAR function and INACTIVE if it has not. For more information, refer to the interpretation of states. NOTE: the CAR function is only available on the Twingo and Kangoo.
		ET019: CAR function authorisation by central locking button	ACTIVE or INACTIVE	
8	Impact signal	ET238: Impact signal	INACTIVE	If the state is ACTIVE , the airbag computer has detected an impact. In this event, carry out a fault finding procedure on the airbag and make the necessary repairs. NOTE: the impact signal disappears when the ignition is switched off

FAULT FINDING - CONFORMITY CHECK

NOTES	Only carry out this conformity check after a complete check with the fault finding tool (no faults should be present). Checking application conditions: Ignition switched on and immobiliser INACTIVE .
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Order	Function	Parameter or state Check or action	Display and notes	Fault finding
9	Vehicle speed	PR001: Vehicle speed	X = 0 km/h if the vehicle is stationary X = vehicle speed if the vehicle is moving	This parameter applies only to vehicles with equipment level No.4.
10	8 Equipment level	PR014: 8 Equipment level	1, 2, 3, 4, 5 or 6	None.

FAULT FINDING - State INTERPRETATION

<p>ET061</p> <p>ET062</p>	<p><u>INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL RECEIVED</u></p> <p><u>INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL WORKING</u></p>
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<p>NOTES</p>	<p>Special notes: Before looking for possible state problems, check that the remote controls have been properly programmed by displaying state: "ET011 Infrared/radiofrequency remote control key programmed". This should display ACTIVE, if not, refer to the technical note for programming remote controls.</p>
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UNDER NORMAL OPERATION:

NO ACTION ON THE REMOTE CONTROL:

- **ET061:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL RECEIVED → **NO**
- **ET062:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL WORKING → **inactive**

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL RECEIVED → **YES**
- **ET062:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL WORKING → **ACTIVE**

If these two states do not function as above, there are **two possible scenarios** :

1

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION: SIGNAL RECEIVED → **YES**
- **ET062:** INFRARED/RADIOFREQUENCY REMOTE CONTROL INFORMATION: SIGNAL WORKING → **inactive**

The key head chip is working, the remote control receiver is receiving the signal and sending it to the decoder unit but the signal is incorrect:

- The key used does not belong to the vehicle,
or
- The remote control must be resynchronised (refer to the technical note on programming remote controls).

If resynchronisation does not solve the problem, the key head chip must be replaced.

<p>AFTER REPAIR</p>	<p>Restart the conformity check from the beginning.</p>
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FAULT FINDING - State INTERPRETATION

ET061
ET062
Cont'd

2

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL RECEIVED → **NO**
- **ET062:** INFRARED/RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL WORKING → **inactive**

The problem has four possible causes:

- The key head chip does not work,
- The radiofrequency (or infrared) receiver does not work,
- The connection between the radiofrequency (or infrared) receiver and the decoder unit is faulty,
- The decoder unit does not work.

To locate the faulty part, **refer to fault finding chart No.3** (CHART3 remote control door locking/unlocking problems).

AFTER REPAIR

Restart the conformity check from the beginning.

FAULT FINDING - INTERPRETATION OF STATES

ET018 ET019	<u>CAR FUNCTION AUTHORISATION BY FAULT FINDING</u> <u>CAR FUNCTION AUTHORISATION BY CENTRAL LOCKING SWITCH</u>
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NOTES	REMINDER: The CAR function enables the doors to be automatically locked above 5 mph.
	NOTE: If the CAR function is deactivated by the fault finding tool, it cannot be activated by the electric door lock button. The CAR (automatic door locking when driving) function is only available on Twingo and Kangoo vehicles.

CONFIGURATION WITHOUT CAR FUNCTION (with the fault finding tool):

To cancel the CAR function: in the COMMAND MODE menu, choose the CONFIGURATION service and enter the command **CANCEL CAR FUNCTION**.

After configuring the decoder unit without the CAR function, you will see (on the state screen):

- **ET019:** CAR FUNCTION AUTHORISATION BY CENTRAL LOCKING BUTTON → **inactive**
- **ET018:** CAR FUNCTION AUTHORISATION BY FAULT FINDING → **inactive**

CONFIGURATION WITH CAR FUNCTION (by the fault finding tool):

To activate the CAR function: in the COMMAND MODE menu, choose the CONFIGURATION service and enter the command **AUTHORISE CAR FUNCTION**.

After configuring the decoder unit with CAR function, you will see (on the state screen):

- **ET019:** CAR FUNCTION AUTHORISATION BY CENTRAL LOCKING SWITCH → **ACTIVE**
- **ET018:** CAR FUNCTION AUTHORISATION BY FAULT FINDING → **ACTIVE**

CONFIGURATION WITHOUT CAR FUNCTION (by the electric door lock button):

To cancel the CAR function: press the electric door lock button down for 5 seconds with the ignition on:

After configuring the decoder unit without CAR function (by the electric door lock button), you will see (on the state screen):

- **ET019:** CAR FUNCTION AUTHORISATION BY CENTRAL LOCKING SWITCH → **inactive**
- **ET018:** CAR FUNCTION AUTHORISATION BY FAULT FINDING → **ACTIVE**

If the CAR function is not working, refer to CHART 6.

AFTER REPAIR	Restart the conformity check from the beginning.
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FAULT FINDING - CUSTOMER COMPLAINTS

NOTES

Only refer to this customer complaint after a complete check using the fault finding tool.

NO COMMUNICATION WITH THE COMPUTER

CHART 1

PROBLEM LOCKING AND UNLOCKING DOORS WITH THE
ELECTRIC DOOR LOCK BUTTON

CHART 2

PROBLEM LOCKING AND UNLOCKING DOORS WITH THE
REMOTE CONTROL

CHART 3

INDICATOR LIGHTING PROBLEM WHEN LOCKING AND
UNLOCKING

CHART 4

INTERIOR COURTESY LIGHT PROBLEM

CHART 5

THE CAR FUNCTION IS NOT WORKING
(CAR: automatic door locking when driving)

CHART 6

FAULT FINDING - FAULT FINDING CHARTS

CHART 1	NO COMMUNICATION WITH THE COMPUTER
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NOTES	None.
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Check that the vehicle battery is properly charged.
Charge the battery if necessary.

Try the fault finding tool on another vehicle (to confirm that it is working).

Check:
– the connection between the fault finding tool and the diagnostic socket (wiring in good condition),
– the injection fuses.

Check for the presence of **+ 12 volts before ignition** on **track 16**, **+ 12 volts after ignition** on **track 1** and an **earth** on **tracks 4** and **5** of the diagnostic socket.
Repair if necessary.

Check that the decoder unit is properly supplied and adapted to the diagnostic socket by checking **the insulation, continuity and absence of interference resistance** in the connections:

decoder unit **track A9** —————> **before ignition** (passenger compartment fuse box).
decoder unit **track A7** —————> **+ after ignition** (passenger compartment fuse box)
decoder unit **track A8** —————> **earth**
decoder unit **track A4** —————> **track 15** of the diagnostic socket (line L).
decoder unit **track A3** —————> **track 7** of the diagnostic socket (line K).

Repair if necessary.

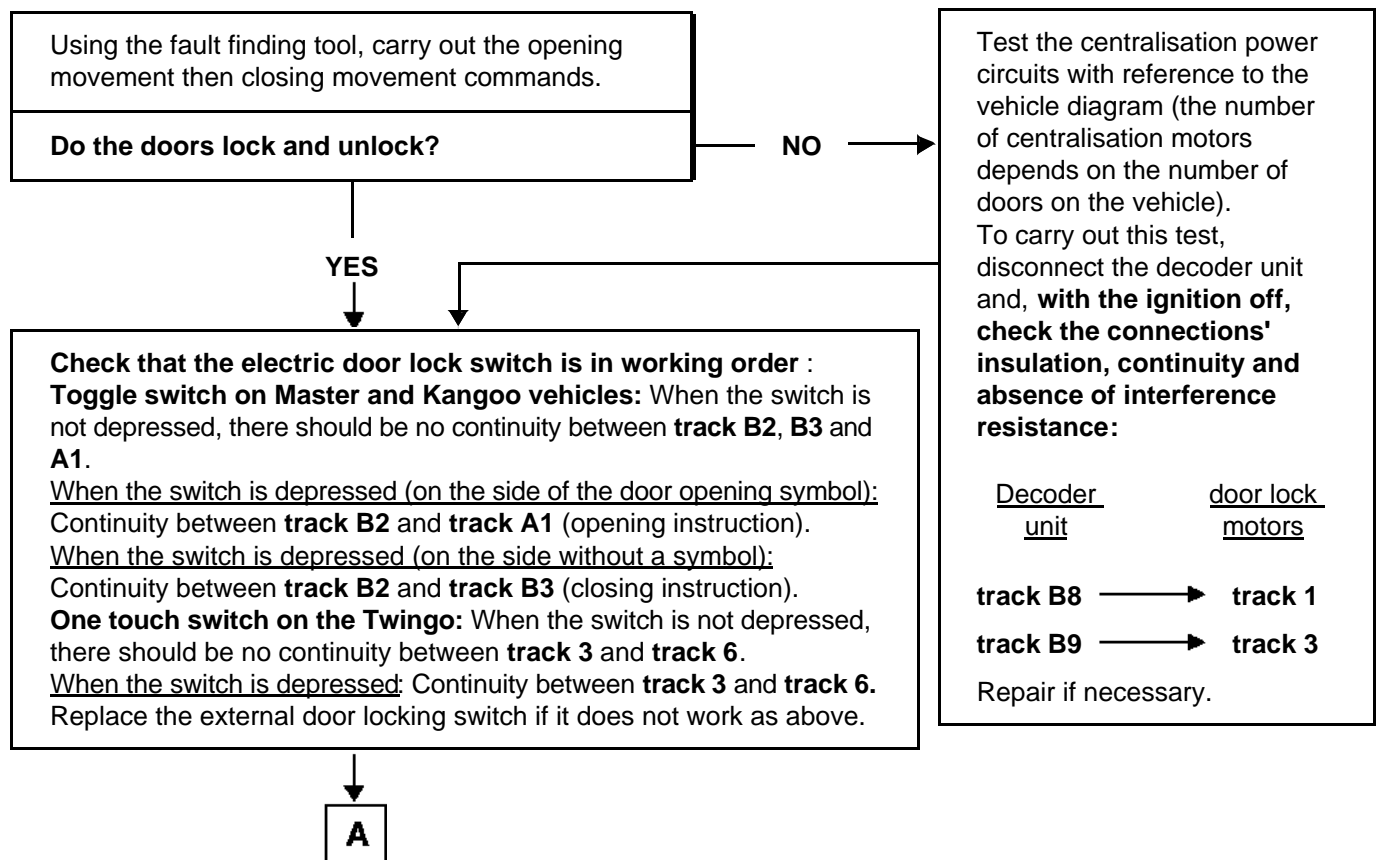
If the above checks did not solve the problem, replace the decoder unit.

AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the technical note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

CHART 2	PROBLEM LOCKING AND UNLOCKING DOORS WITH THE ELECTRIC DOOR LOCK SWITCH
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NOTES	Only refer to this customer complaint after a complete check with the fault finding tool (no faults should be present) .
	Special notes: Before carrying out this fault finding procedure, check that the configuration of the electric door lock switch matches the switch on the vehicle by displaying state ET216 ELECTRIC DOOR LOCK BUTTON . Reconfigure the decoder unit if necessary (if the configuration is not correct the system will not work properly).



AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

CHART 2
CONTINUED 1



Check for the presence of an earth on the connector of the electric door lock switch (**track B2** for toggle switches, **track 3** for one touch switches).
Repair if necessary.

Disconnect the decoder unit and, **with the ignition off, check the connections' insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance**:

Toggle switch on the Master and Kangoo:

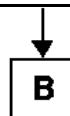
Door locking switch **track B3** —> **track B2** of the decoder unit.
Door locking switch **track A1** —> **track B5** of the decoder unit.

One touch switch on the Twingo:

Door locking switch **track 6** —> **track B5** of the decoder unit.

Repair if necessary.

If the electric door lock switch and the connections tested previously match but the problem persists, check that **none of the door motors have short circuited** by disconnecting them all and measuring, with the connectors disconnected, between **track 1** and **track 3**: their resistance should not be zero or limitless (on average, this resistance is between **2.5** and **10 Ω** depending on the type of motors fitted to the vehicle).
Replace the faulty motor(s).



AFTER REPAIR

Carry out a complete check using the fault finding tool.
If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.

FAULT FINDING - FAULT FINDING CHARTS

CHART 2
CONTINUED 2

B



Check that the motors are in good working order:

- Disconnect all the motor connectors,
- Remove the faults using the fault finding tool,
- Switch on the ignition,
- Connect the connector of one of the motors,
- Test locking or unlocking with the electric door lock switch,
- If the motor is not working, replace it,
- If you hear the motor running but the door does not lock properly, check the mechanical locking part (linkage),
- Repeat the procedure for each motor.

AFTER REPAIR

Perform a complete check using the fault finding tool.
If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.

FAULT FINDING - FAULT FINDING CHARTS

CHART 3	REMOTE CONTROL DOOR LOCKING/UNLOCKING PROBLEM
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NOTES	Only refer to this customer complaint after a complete check with the fault finding tool (no faults should be present) .
	Special notes: Before carrying out this fault finding procedure, check that the configuration of the remote control is correct by displaying state ET081 RADIO FREQUENCY REMOTE CONTROL FUNCTION CONFIGURATION (see conformity check). Reconfigure the decoder unit if necessary. Check that the remote control(s) are programmed by displaying state ET011 INFRARED/RADIO FREQUENCY REMOTE CONTROL KEY PROGRAMMING COMPLETE, this should be ACTIVE . Reprogram if necessary (refer to the technical note on programming).
	NOTE: The decoder unit can be fitted with two types of remote control: infrared or radiofrequency. The decoder unit input track does not change (track B1). The remote control receiver, allocation of its tracks and location in the vehicle vary.. In the Twingo, it is located behind the ashtray or is part of the antenna ring. In the Kangoo and Master with infrared remote control, the receiver is in the interior lights. In the Kangoo with radio frequency remote control, the receiver is located under the assembly (next to the decoder unit). In the Master with radio frequency remote control, the receiver is located behind the glovebox.

With the fault finding tool connected, refer to the state screen and check that they work as below:

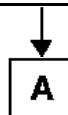
NO ACTION ON THE REMOTE CONTROL:

- **ET061:** INFRARED/RADIO FREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL RECEIVED —————> **NO**
- **ET062:** INFRARED/RADIO FREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL WORKING —————> **inactive**

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED/ RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL RECEIVED —————> **YES**
- **ET062:** INFRARED / RADIO FREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL WORKING —————> **ACTIVE**

If these two states do not function as above, there are two possible scenarios:



AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

CHART 3

CONTINUED 1

A

1

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED/ RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL RECEIVED → **YES**
- **ET062:** INFRARED / RADIO FREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL WORKING → **inactive**

The key head chip is working, the radiofrequency (or infrared) remote control receiver is receiving the signal and sending it to the decoder unit but the signal is incorrect:

- The key used does not belong to the vehicle,
or
- The remote control must be resynchronised (refer to the technical note on programming).

If resynchronisation does not solve the problem, the key head chip must be replaced.

2

REMOTE CONTROL OPENING OR CLOSING COMMAND:

- **ET061:** INFRARED / RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL RECEIVED → **NO**
- **ET062:** INFRARED / RADIOFREQUENCY REMOTE CONTROL SIGNAL INFORMATION:
SIGNAL WORKING → **inactive**

- Check that the remote control **battery is working** and replace it if necessary.
- Check for the presence of an earth and + 12 volts before ignition on the receiver connector (see vehicle and relevant remote control diagrams): Repair if necessary.
- Disconnect the remote control receiver connector and, **with ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance** de la liaison:

decoder unit **track B1** → remote control receiver

(refer to the relevant vehicle and remote control diagrams).

Repair if necessary.

Is the fault still present?

YES

Carry out a test with a new remote control receiver.
If the problem is solved, replace the remote control receiver
If the problem persists, change the remote control.
If the problem persists, change the decoder unit.

NO

End of fault finding.

AFTER REPAIR

Perform a complete check using the fault finding tool.
If the decoder unit has been changed, reprogram and reconfigure it with reference to the technical note for programming.

FAULT FINDING - FAULT FINDING CHARTS

CHART 4	INDICATOR LIGHTING PROBLEM WHEN LOCKING AND UNLOCKING
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NOTES	Only refer to this customer complaint after a complete check with the fault finding tool (no faults should be present) .
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Check that the indicators and hazard warning light circuit are working.
Repair if necessary (see the vehicle's wiring diagrams).

Disconnect the decoder unit and, **with the ignition off, check the connection's insulation** (in relation to +12 volts and the earth), **continuity and absence of interference resistance** :

decoder unit **track B3** —————→ **track 85** of the indicator lighting relay (in the passenger compartment fuse box).

Repair if necessary.

Verify the presence of + 12 volts before ignition on **track 30 and 86** of the indicator lighting relay. Repair if necessary.

Check that the indicator lighting relay has not short-circuited by measuring its resistance between **tracks 85 and 86**. Replace the relay if its resistance is not **85 ± 5 Ω**.

Disconnect the decoder unit and reconnect the indicator lighting relay, then connect track B3 to the earth.

Is the relay heard to operate correctly?

NO

Replace the indicator lighting relay.

YES

When **track B3** is shunted to the earth, do the indicators come on permanently?

YES

Replace the decoder unit.

NO

Replace the indicator lighting relay.

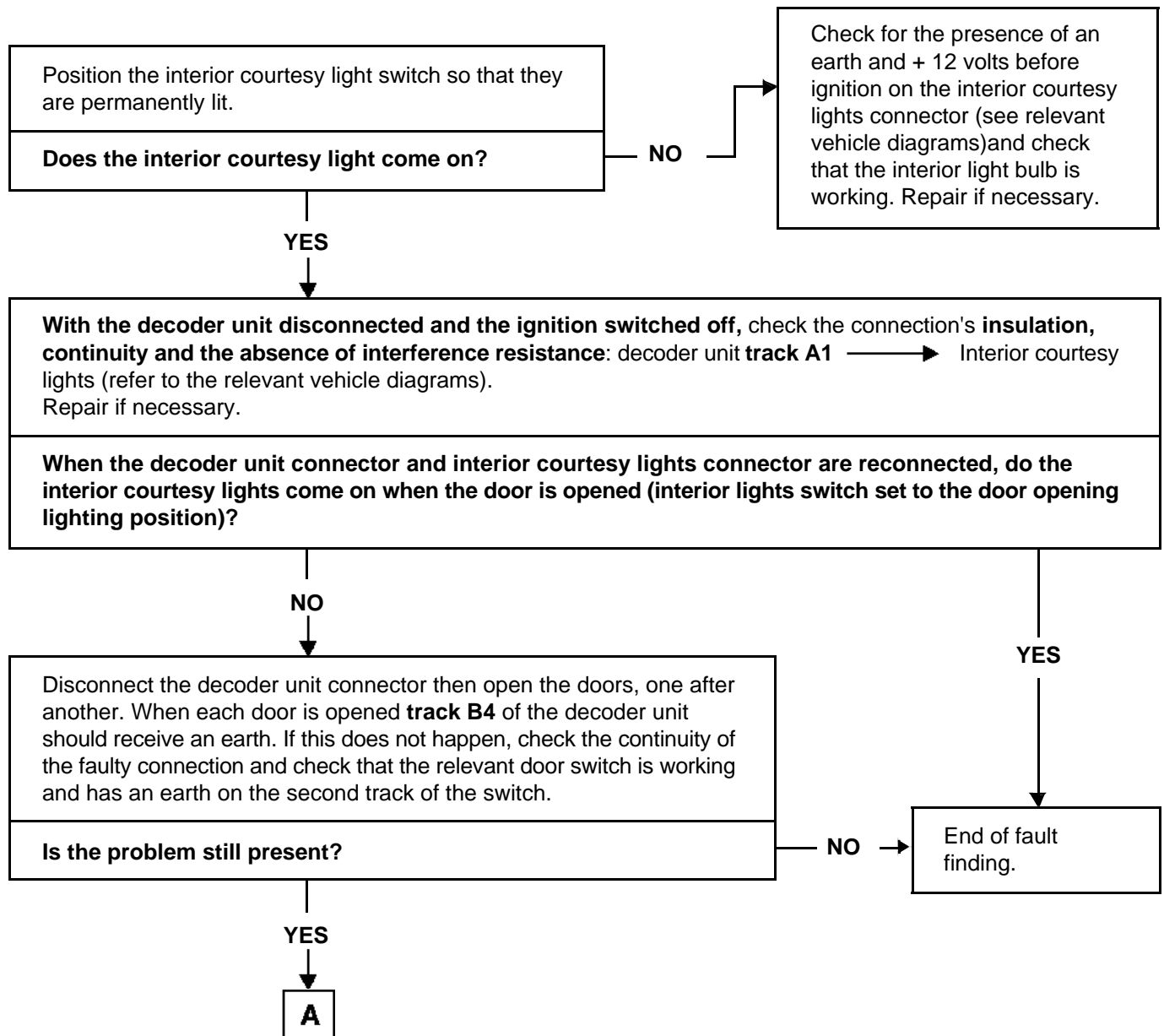
AFTER REPAIR

Perform a complete check using the fault finding tool.
If the decoder unit has been changed, reprogram and reconfigure it with reference to the technical note for programming.

FAULT FINDING - FAULT FINDING CHARTS

CHART 5	INTERIOR COURTESY LIGHT PROBLEM
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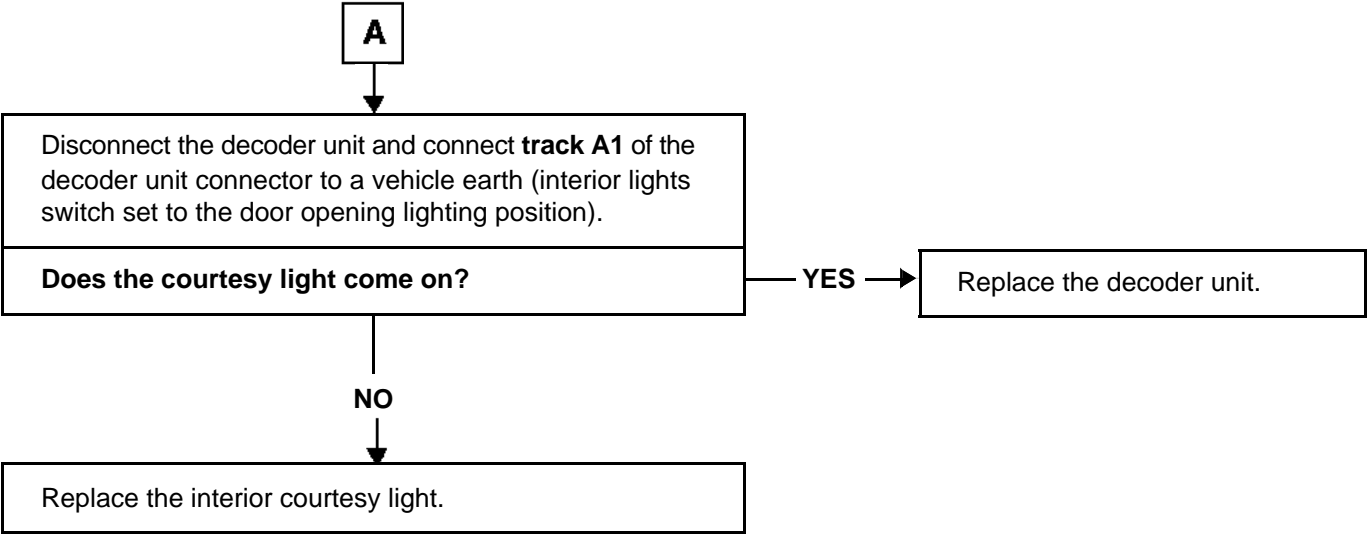
NOTES	Only refer to this customer complaint after a complete check with the fault finding tool (no faults should be present) .
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AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

CHART 5 Cont'd	
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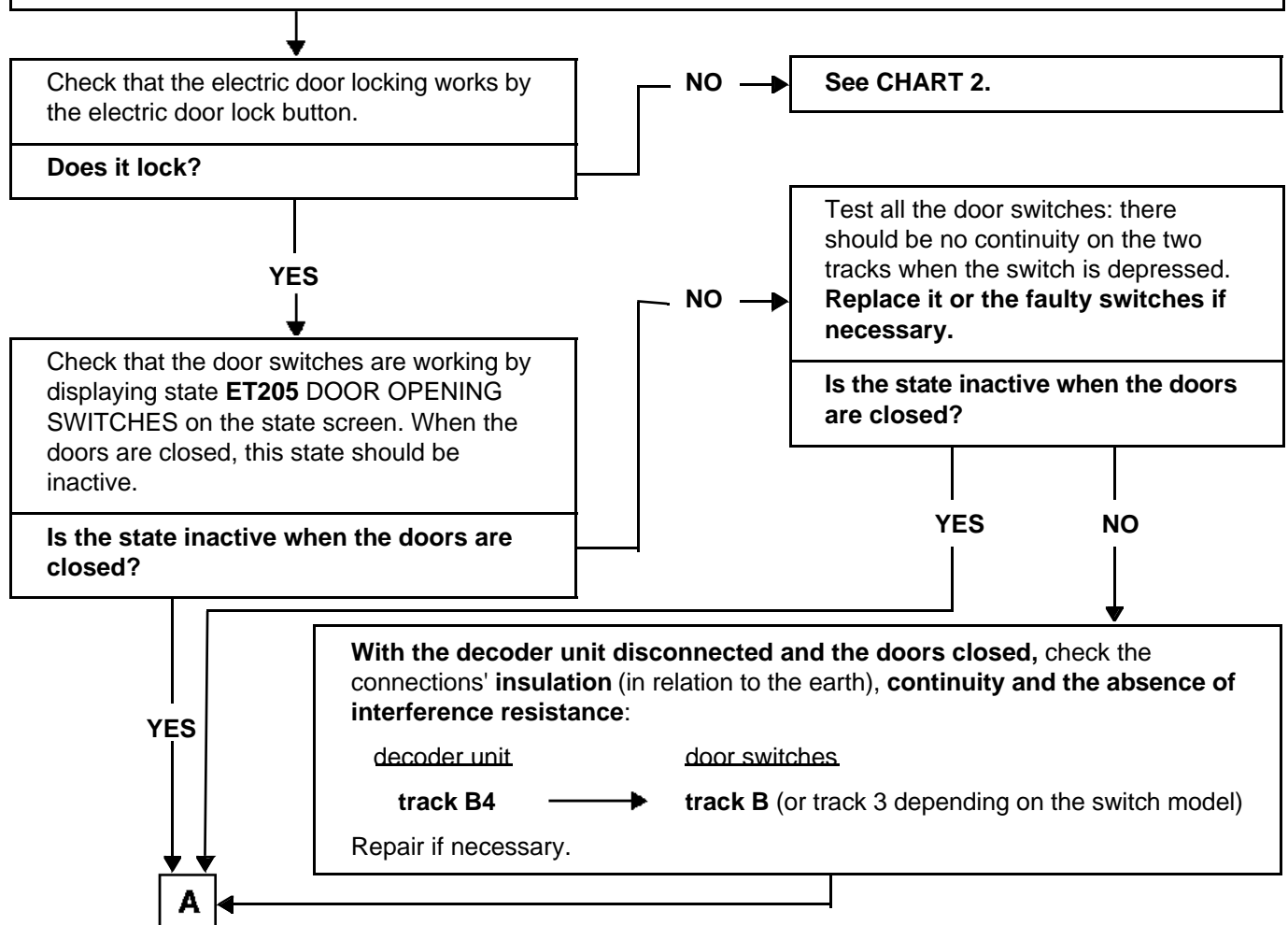
AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

Chart 6	THE CAR FUNCTION IS NOT WORKING (CAR: automatic door locking when driving).
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NOTES	Only refer to this customer complaint after a complete check with the fault finding tool (no faults should be present) .
	Special notes: The CAR function (automatic door locking when driving) is only available on vehicles fitted with an impact signal connection (Twingo and Kangoo). If the impact signal connection fault is present, the CAR function is prevented from working.

Check that the CAR function is correctly configured using the state screen (see state interpretation **ET018** and **ET019**). Reconfigure the decoder unit if necessary.



AFTER REPAIR	Perform a complete check using the fault finding tool. If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.
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FAULT FINDING - FAULT FINDING CHARTS

Chart 6

Cont'd

A

Disconnect the decoder unit and, with the ignition off, check the connection's insulation (in relation to +12 volts and the earth), **continuity and absence of interference resistance** :

decoder unit **track B6** —————→ **track B1** of the vehicle speed sensor (or **track 3** depending on the sensor model).

Repair if necessary.

Check for the presence of an **earth** on **track B2** (or **track 2**) and **+ 12 volts after ignition** on **track A** (or **track 1** depending on the sensor model). Repair if necessary.

Reconnect the decoder unit and the vehicle speed sensor to confirm that the sensor is sending a vehicle speed signal to the decoder unit. To do this, you must carry out a road test or lift the front of the vehicle and spin the wheels above 5 mph (engine running at idle speed, first gear engaged). There are two ways of measuring it:

- With a voltmeter (set to continuous voltage measuring position). By measuring between **track B6** of the decoder unit and the earth, a continuous voltage of around **7 volts** should be measured.
- With an oscilloscope (part of the fault finding tool). By measuring between **track B6** of the decoder unit and the earth (the oscilloscope time base should be set to **100 m/s** divisions with a gauge of **5 volt** divisions). A square wave signal should be obtained (with a high state equivalent to the battery voltage) whose frequency varies with the vehicle speed.

If no signal is sent out by the vehicle speed sensor to the decoder unit: **replace the vehicle speed sensor**.

Is the fault still present?

YES

Replace the decoder unit.

NO

End of fault finding.

AFTER REPAIR

Perform a complete check using the fault finding tool.
If the decoder unit has been changed, reprogram and reconfigure it with reference to the Technical Note for programming.