

Failure tree

IVECO



Subject to technical changes

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Abbreviations - Contents

Abbreviation	Meaning
ABS	Anti-locking system
ADVP	Digital output power supply (+)
alpha_fp	Accelerator pedal position (value in %)
AL	Insufficient air (air deficiency)
ASR	Anti-slip control
aux_stat_zbr	CAN message
BN	Vehicle power supply
Buka	Terminal tester
CAN	Controller Area Network (CAN)
ECU	Electronic control unit (Transmission control)
EDC	Electronic-diesel-control (EDC) (engine electronics)
Eol_Parameter	End of line (entry of vehicle parameter e.g. rear axle ratio)
ERC1_DR	CAN message
EST	Electronic control (e.g. Intarder control EST 48)
FFR	Vehicle controller
Fzg	Vehicle
GA	Gate
GB	Transmission brake
GV	Splitter group
GVL	Splitter group, low
GVS	Splitter group, high
GP	Range change group (planetary group)
GPL	Range change group, low
GPS	Range change group, high
GS	Transmission actuator
HG	Main transmission
i_HA	Rear axle ratio
i.O	OK
Ink	Incremental (step)
Kitas	Active output speed sensor for speedo
K1	Constant 1
K2	Constant 2
KM	Short circuit to earth/ground
KP	Short circuit to positive
KS	Clutch actuator
m_dd_edc	Calculated EDC injection rate (driver's request)
m_mbr	Current engine brake torque
m_mot_akt	Current injection quantity for EDC engine
m_sekret	Secondary retarder brake torque from CAN message ERC1 taken from Intarder (Driveline Retarder)
n_mot	Engine speed (rpm)
n_sek	Transmission output shaft speed
OEM	Original equipment manufacturer
PTO	Power-take-off
TC1_FT	CAN message
UFB	Faultfinding, rectification
v_cc_set	Cruise control set requested speed
Valeo	Clutch manufacturer
VM	Supply ground
WSI	Wheel speed information (CAN message)
z_Fbr	Foot brake signal
z_kd	Kickdown signal
z_low_idle	Idling switch signal
z_ret_rück	Intarder down-shifting request



Error number	
ZF	IVECO
2	2 - A
3	2 - A
4	2 - A
5	2 - A
6	2 - A
7	2 - A
8	2 - A
9	2 - A
10	2 - A
11	B
12	C
13	E
14	E
17	11
18	12
19	13
20	14
21	15
22	16
25	19
26	1A
27	1B
28	1C
29	1D
30	1E
31	1F
32	20
33	21
34	22 - 2A
35	22 - 2A
36	22 - 2A
37	22 - 2A
38	22 - 2A
39	22 - 2A
40	22 - 2A
41	22 - 2A
42	22 - 2A
43	2B
44	2C
45	2D
46	2E
49	31
50	32
51	33
52	34
53	35
54	36
59	3B
60	3C
61	3D
62	3E
63	3F



Error number	
ZF	IVECO
64	40
65	
66	42 - 4A
67	42 - 4A
68	42 - 4A
69	42 - 4A
70	42 - 4A
71	42 - 4A
72	42 - 4A
73	42 - 4A
74	42 - 4A
75	4B
76	4C
77	4D
78	4E
81	51
82	52
83	53
84	54
85	55
86	56
89	59
90	59
91	5B
92	5C
93	5D
94	5E
95	5F
96	60
97	61
98	62
99	63
100	64
101	65
102	66
103	67
104	68
105	69
107	6B
108	6C
110	6E
113	71
114	72
117	75
118	76
119	77
120	78
121	79
122	7A
123	7B
124	7C
126	7E



Error number	
ZF	IVECO
127	7F
128	80
129	81
130	82
131	83
132	84
133	85
134	86
135	87
136	88
137	89
138	8A
139	8B
140	8C
141	8D
142	8E
143	8F
144	90
145	91
146	92
147	93
148	94
149	95
150	96
151	97
152	98
153	99
154	9A
155	9B
156	9C
157	9D
158	9E
159	9F
160	A0
163	A3
164	A4
165	A5
166	A6
168	A8
169	A9
170	AA
171	AB
174	AE
175	AF
177	B1
178	B2
179	B3
180	B4
181	B5
182	B6
183	B7
184	B8



Error number	
ZF	IVECO
188	BC
190	BE
191	BF
192	C0
193	C1
194	C2
197	C5
199	C7
226	E2
227	E3



Error number	
IVECO	ZF
11	17
12	18
13	19
14	20
15	21
16	22
19	25
20	32
21	33
31	49
32	50
33	51
34	52
35	53
36	54
40	64
51	81
52	82
53	83
54	84
55	85
56	86
59	89
59	90
60	96
61	97
62	98
63	99
64	100
65	101
66	102
67	103
68	104
69	105
71	113
72	114
75	117
76	118
77	119
78	120
79	121
80	128
81	129
82	130
83	131
84	132
85	133
86	134
87	135
88	136
89	137
90	144
91	145
92	146



Error number	
IVECO	ZF
93	147
94	148
95	149
96	150
97	151
98	152
99	153
AA	170
1A	26
1B	27
1C	28
1D	29
1E	30
1F	31
2 - A	2
2 - A	3
2 - A	4
2 - A	5
2 - A	6
2 - A	7
2 - A	8
2 - A	9
2 - A	10
22 - 2A	34
22 - 2A	35
22 - 2A	36
22 - 2A	37
22 - 2A	38
22 - 2A	39
22 - 2A	40
22 - 2A	41
22 - 2A	42
2B	43
2C	44
2D	45
2E	46
3B	59
3C	60
3D	61
3E	62
3F	63
42 - 4A	66
42 - 4A	67
42 - 4A	68
42 - 4A	69
42 - 4A	70
42 - 4A	71
42 - 4A	72
42 - 4A	73
42 - 4A	74
4B	75
4C	76
4D	77
4E	78



Error number	
IVECO	ZF
5B	91
5C	92
5D	93
5E	94
5F	95
6B	107
6C	108
6E	110
7A	122
7B	123
7C	124
7E	126
7F	127
8A	138
8B	139
8C	140
8D	141
8E	142
8F	143
9A	154
9B	155
9C	156
9D	157
9E	158
9F	159
A0	160
A3	163
A4	164
A5	165
A6	166
A8	168
A9	169
AB	171
AE	174
AF	175
B	11
B1	177
B2	178
B3	179
B4	180
B5	181
B6	182
B7	183
B8	184
BC	188
BE	190
BF	191
C	12
C0	192
C1	193
C2	194
C5	197
C7	199
E	13



Error number	
IVECO	ZF
E	14
E2	226
E3	227



Iveco error number: 2 – A, 22 – 2A, 42 – 4A

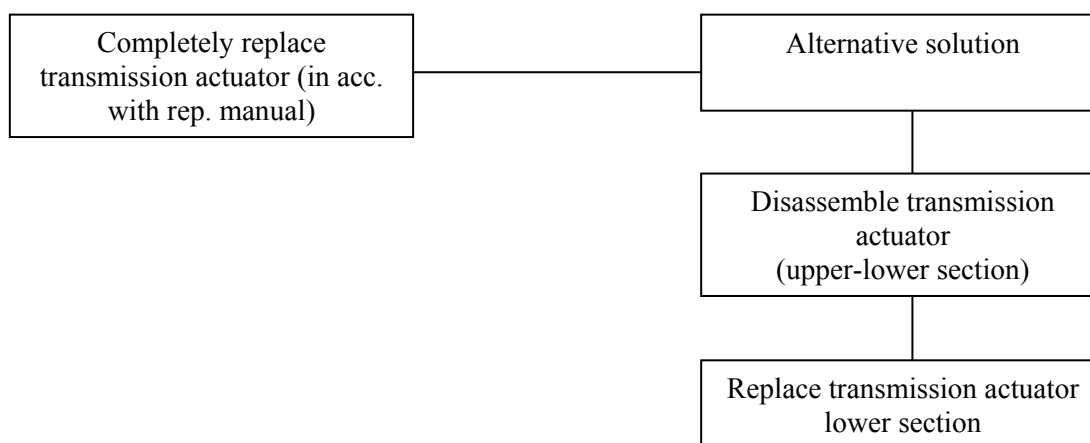
Error display:	In vehicle display:	Error 2 – A Error 22 – 2A Error 42 – 4A
	MobiDig/ Testman:	Error 02 – 10 Error 34 – 42 Error 66 – 74

Error description: Error 02 – 10: Short circuit to ground at output to valve Y2 – Y10.
Error 34 - 42: Interruption at output to valve Y2 – Y10.
Error 66 -74: Short circuit to plus (+) at output to valve Y2 – Y10

Error detection: By ECU hardware, if output is activated.

System response: The automatic shift unit is deactivated. If the error occurs during shifting, the selected gear remains engaged, depending on the driving condition, or the ECU tries to shift to an equivalent gear. If both options are not possible, the main transmission (HG) shifts into neutral. Engagement of selected substitute gears during standstill and driving is possible.
Short-circuited shift valve outputs are deactivated.
Error present during ignition on, engine start impossible.
Follow-up error possible, ZF error number: 155 (9B), 152 (98) , 150 (96) 148 (94), 144 (90), 136 (88). If 2 errors do occur, then, the system is not available!

Error rectification:





Iveco error number: **B, 2B, 4B**

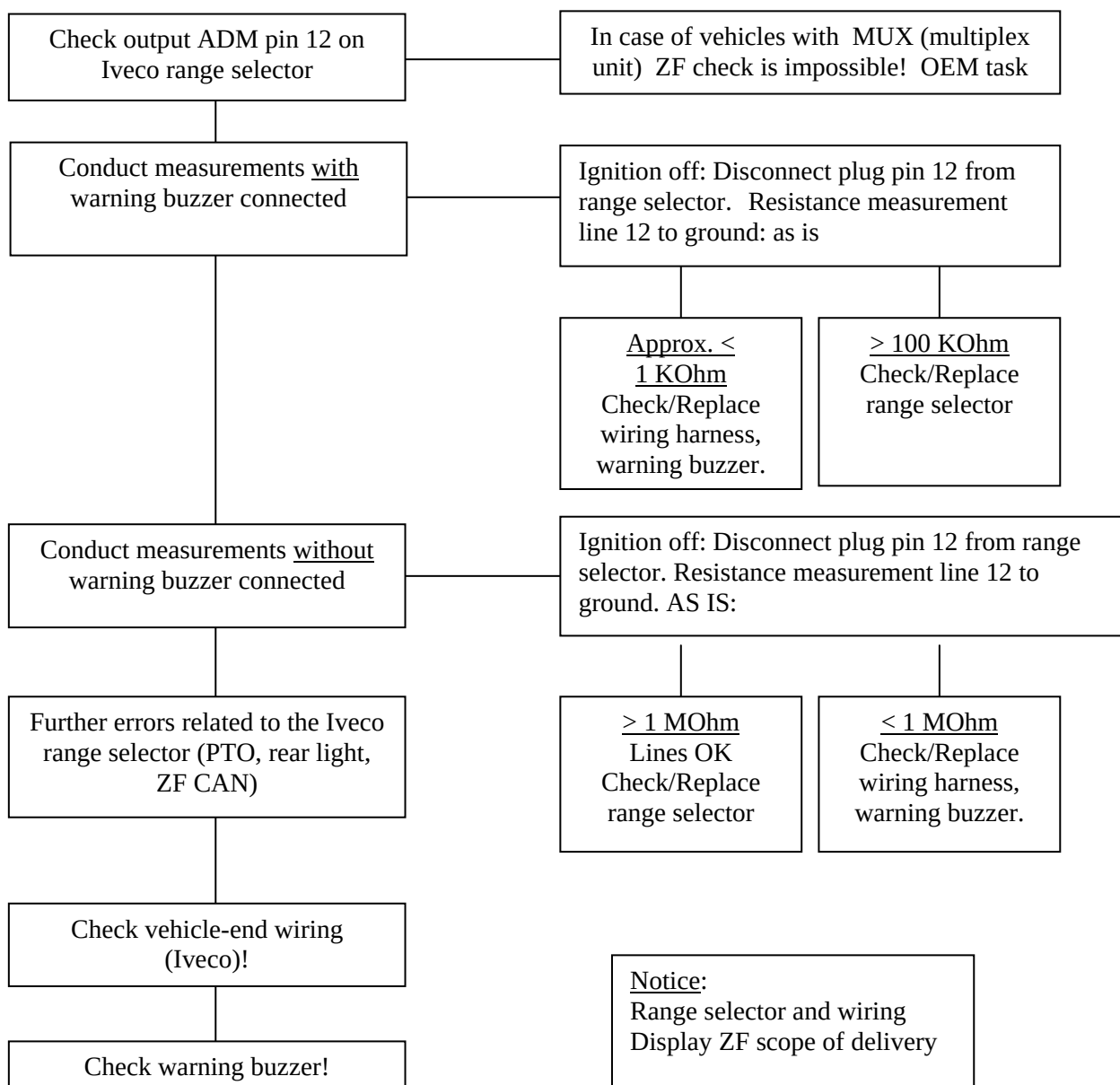
Error display: In vehicle display: **B, 2B, 4B**
MobiDig/ Testman: **11, 43, 75**

Error description: Error 11: Short circuit to plus (+) at output to warning buzzer.
Error 43: Interruption at output to warning buzzer.
Error 74: Short circuit to ground at output to warning buzzer.

Error detection: By ECU hardware, by error 11 if output is activated and by error 43/75, if output is not activated.

System response: In case of error 11, the warning buzzer is permanently active, and by error 43/75 the warning buzzer cannot be controlled.

Error rectification:





Iveco error number: C, 2C, 4C

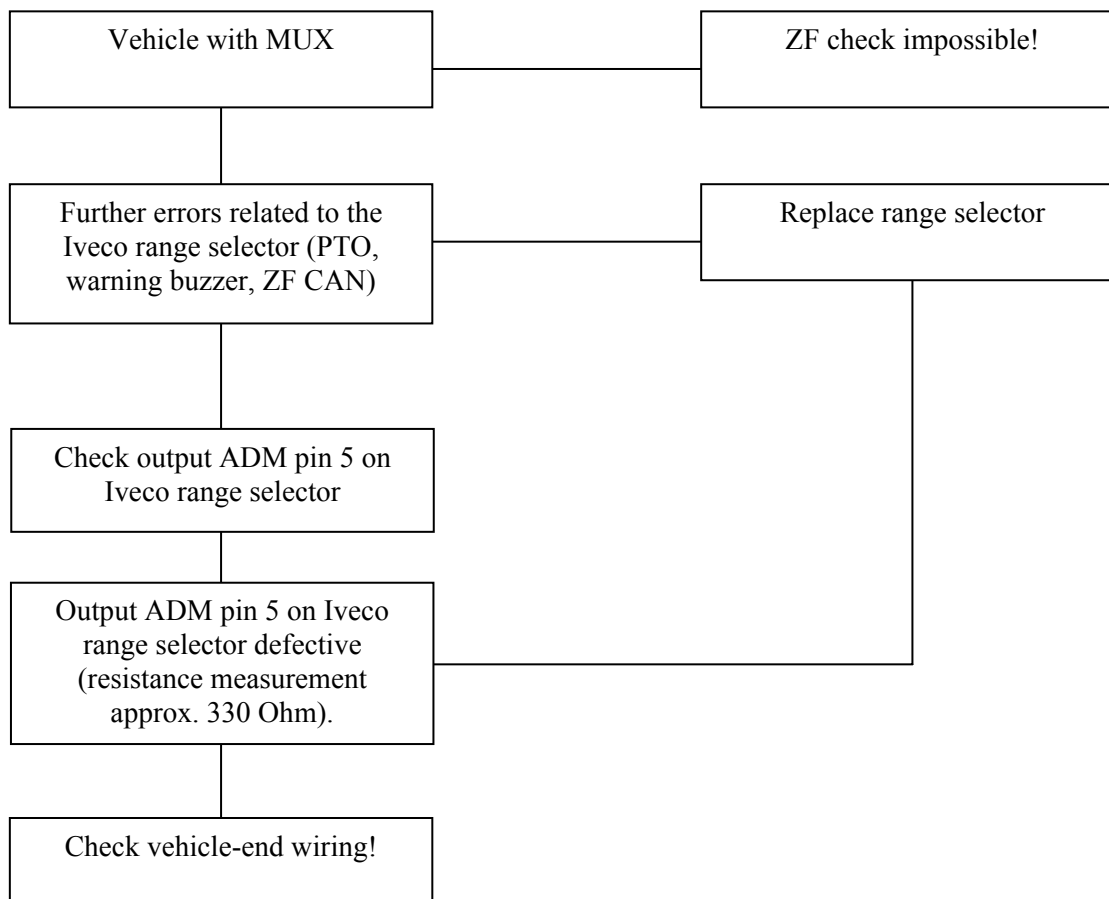
Error display: In vehicle display: C, 2C, 4C
MobiDig/ Testman: 12, 44, 76

Error description: Error 12: Short circuit to ground at output to rear light relay
Error 44: Interruption at output to rear light relay
Error 76: Short circuit to plus (+) at output to rear light relay

Error detection: By ECU hardware, if output is activated.

System response: ECU output is deactivating. Rear light does not function anymore.
No further system restrictions.

Error rectification:





Iveco error number: D, E

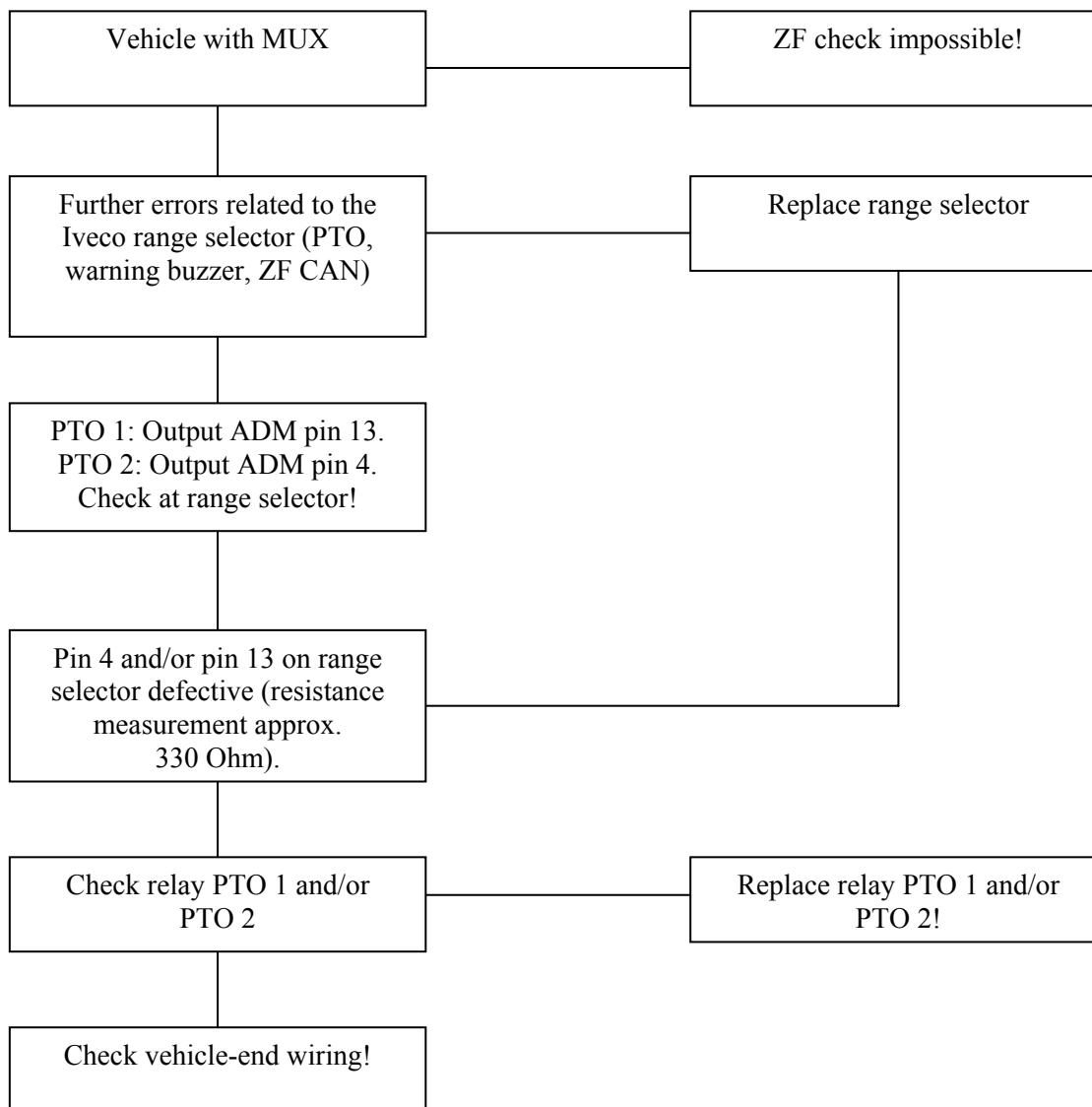
Error display: In vehicle display: D, E
MobiDig/ Testman: 13, 14

Error description: Error 13: Short circuit to ground at output to PTO 1.
Error 14: Short circuit to ground at output to PTO 2.

Error detection: By ECU hardware, if output is activated.

System response: During travel, gear shifts are blocked. If the vehicle is at a standstill, the clutch opens and a shift is automatically made to neutral. Other gear shifts not possible.

Error rectification:





Iveco error number: 11, 31, 51

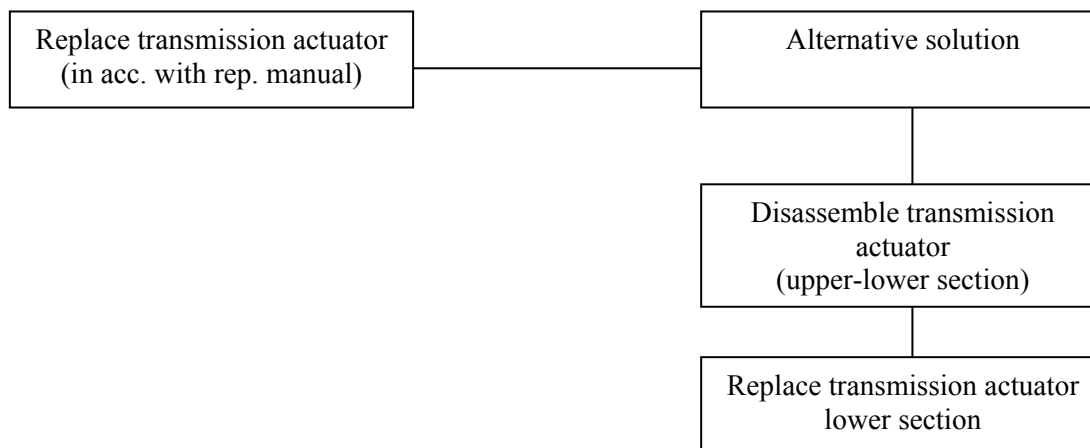
Error display: In vehicle display: 11, 31, 51
MobiDig/ Testman: 17, 49, 81

Error description: Error 17 Short circuit to ground at output to valve Y1 (GB).
Error 49 Interruption at output to valve Y1 (GB).
Error 81 Short circuit to plus (+) at output to valve Y1 (GB).

Error detection: By ECU hardware, if output is activated.

System response: **During travel**, upshifts are handled just as downshifts. Input speed is synchronized by engine speed.
Upshifts are inhibited if target speed is smaller than engine idling speed.
Prolonged shift time. **Stationary:** Prolonged teach-in time. Prolonged shift time when shifting out of neutral. Prolonged shift time out of PTO mode.
The automatic shift unit is deactivated. Driving in manual mode possible.
In case of ZF error 81 (51), gear shifts are inhibited. Shifting into starting gears and driving off is possible.
Follow-up error possible: ZF error number 155 (9B).

Error rectification:





Iveco error number: 12, 32, 52

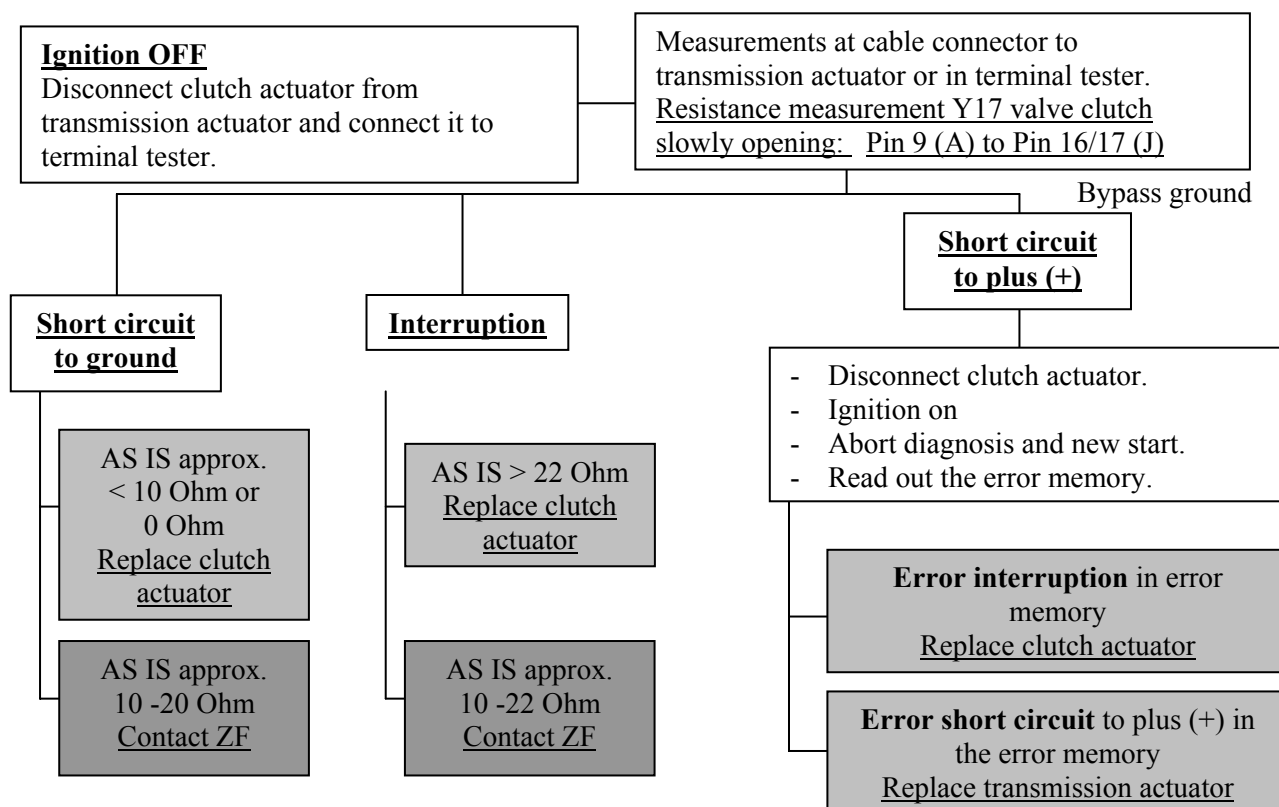
Error display: In vehicle display: 12, 32, 52
MobiDig/ Testman: 18, 50, 82

Error description: Error 18: Short circuit to ground Y17 valve clutch slowly opening.
Error 50: Interruption. Y17 valve clutch slowly opening.
Error 82: Short circuit to plus (+) Y17 valve clutch slowly opening.

Error detection: By ECU hardware, if output is activated.

System response: ECU output is deactivating. Two valves are responsible for opening and two valves are responsible for closing (fast, slow). If one Close/Open valve fails, this function is adopted by the other Close/Open valve. Reduced comfort when maneuvering and starting. If both closing and opening valve fail, the system is not available. The automatic shift unit is deactivated. Driving in manual mode possible.
In case of **error 82** gear shifting is completely inhibited. The system is not available. If the error occurs during travel, attempts are made to keep the clutch engaged. As soon as the vehicle comes to a standstill and the clutch opens, the system automatically shifts to neutral.

Error rectification:



Note

Correct value = 15.6 Ohm. However, to take proper account of temperature-related factors and measurement errors and/or measurement conditions, ensure system stays within the above-mentioned tolerance limits!



Iveco error number: 13, 33, 53

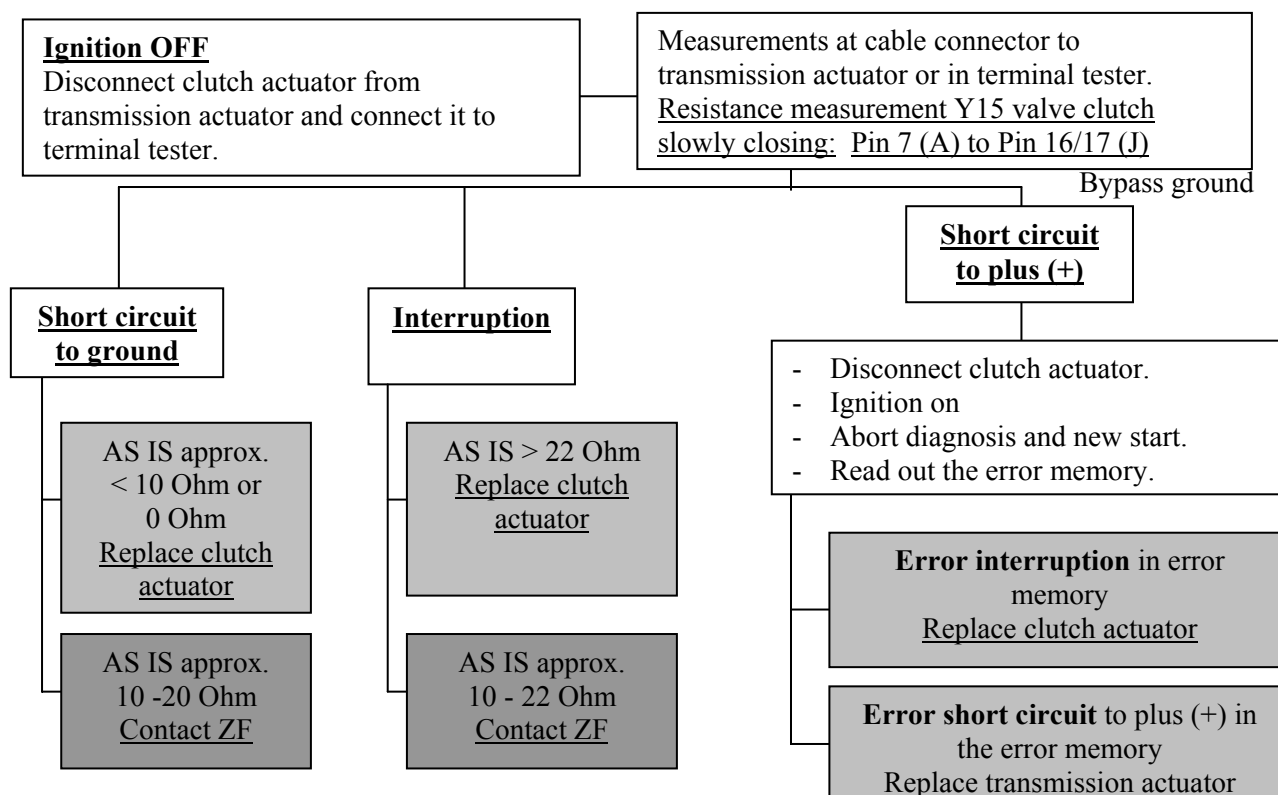
Error display: In vehicle display: 13, 33, 53
MobiDig/ Testman: 19, 51, 83

Error description: Error 19: Short circuit to ground Y15 valve clutch slowly closing.
Error 51: Interruption Y15 valve clutch slowly closing.
Error 83: Short circuit to plus (+) Y15 valve clutch slowly closing.

Error detection: By ECU hardware, if output is activated.

System response: ECU output is deactivating. Two valves are responsible for opening and two valves are responsible for closing (fast, slow). If one Close/Open valve fails, this function is adopted by the other Close/Open valve. Reduced comfort when maneuvering and starting. If both closing and opening valve fail, the system is not available. The automatic shift unit is deactivated. Driving in manual mode possible.
In case of **error 83** gear shifting is completely inhibited. The system is not available. If the error occurs during travel, attempts are made to keep the clutch engaged. As soon as the vehicle comes to a standstill and the clutch opens, the system automatically shifts to neutral.

Error rectification:



Note

Correct value = 15.6 Ohm. However, to take proper account of temperature-related factors and measurement errors and/or measurement conditions, ensure system stays within the above-mentioned tolerance limits!



Iveco error number: 14, 34, 54

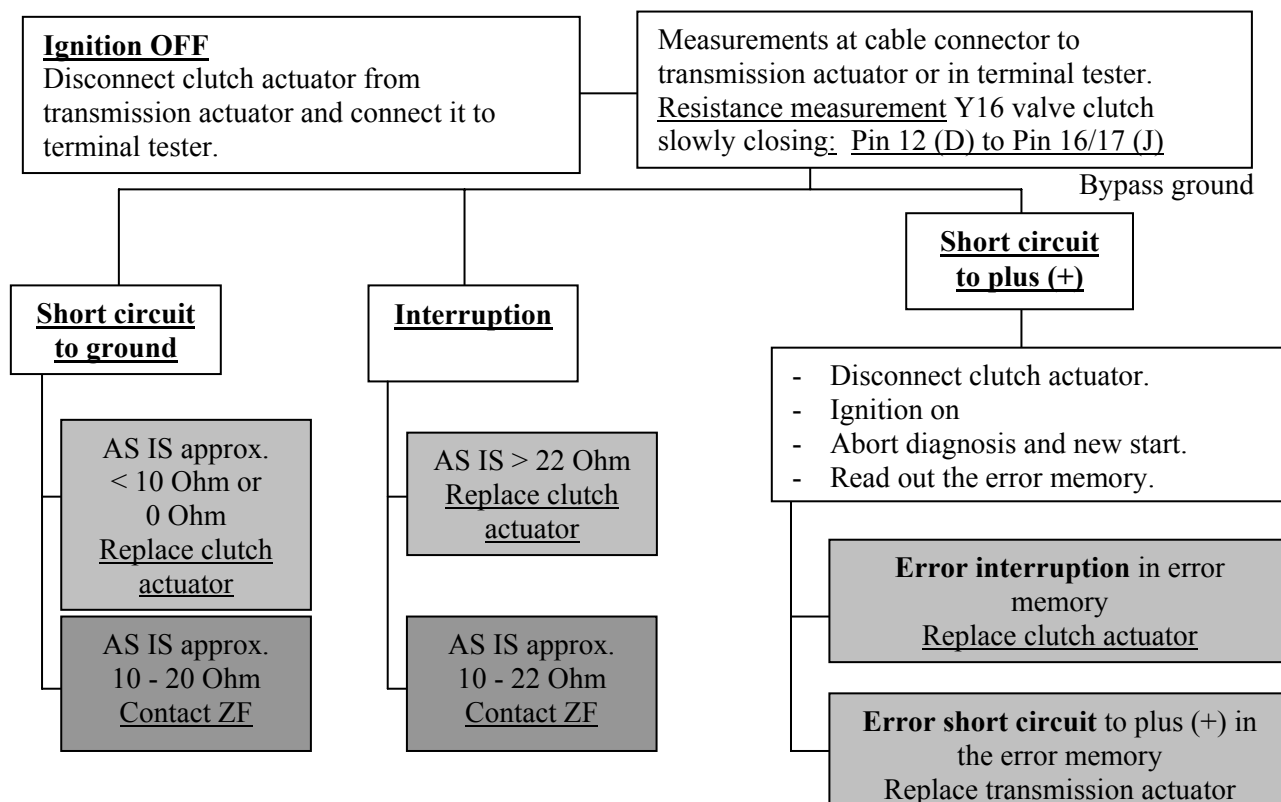
Error display: In vehicle display: 14, 34, 54
MobiDig/ Testman: 20, 52, 84

Error description: Error 20: Short circuit to ground Y16 valve, fast opening clutch.
Error 52: Interruption.
Error 84: Short circuit to plus (+)

Error detection: By ECU hardware, if output is activated.

System response: ECU output is deactivating. Two valves are responsible for opening and two valves are responsible for closing (fast, slow). If one Close/Open valve fails, this function is adopted by the other Close/Open valve. Reduced comfort when maneuvering and starting. If both closing and opening valve fail, the system is not available. The automatic shift unit is deactivated. Driving in manual mode possible.
In case of **error 84** gear shifting is completely inhibited. The system is not available. If the error occurs during travel, attempts are made to keep the clutch engaged. As soon as the vehicle comes to a standstill and the clutch opens, the system automatically shifts to neutral.

Error rectification:



Note

Correct value = 15.6 Ohm. However, to take proper account of temperature-related factors and measurement errors and/or measurement conditions, ensure system stays within the above-mentioned tolerance limits!



Iveco error number: 15, 35, 55

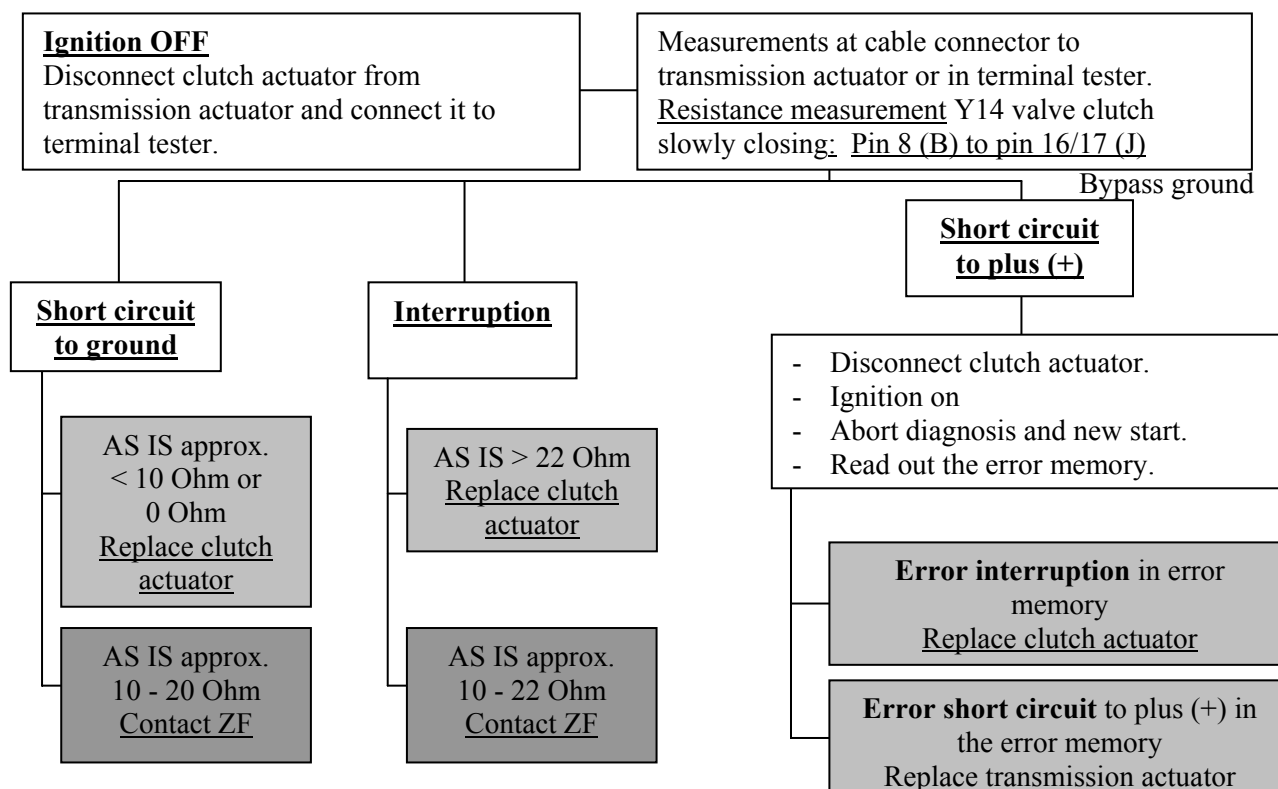
Error display: In vehicle display: 15, 35, 55
MobiDig/ Testman: 21, 53, 85

Error description: Error 21: Short circuit to ground Y14 valve clutch fast closing.
Error 53: Interruption Y14 valve clutch fast closing.
Error 85: Short circuit to plus (+) Y14 valve clutch fast closing.

Error detection: By ECU hardware, if output is activated.

System response: ECU output is deactivating. Two valves are responsible for opening and two valves are responsible for closing (fast, slow). If one Close/Open valve fails, this function is adopted by the other Close/Open valve. Reduced comfort when maneuvering and starting. If both closing and opening valve fail, the system is not available. The automatic shift unit is deactivated. Driving in manual mode possible.
In case of **error 85** gear shifting is completely inhibited. The system is not available. If the error occurs during travel, attempts are made to keep the clutch engaged. As soon as the vehicle comes to a standstill and the clutch opens, the system automatically shifts to neutral.

Error rectification:



Note

Correct value = 15.6 Ohm. However, to take proper account of temperature-related factors and measurement errors and/or measurement conditions, ensure system stays within the above-mentioned tolerance limits!



Iveco error number: 16, 36, 56

Error display: In vehicle display: 16, 36, 56
MobiDig/ Testman 22, 54, 86

Error description: Error 22: Short circuit to ground at ADVP output.
Error 54: Interruption at ADVP output.
Error 86: Short circuit to plus (+) at ADVP output.

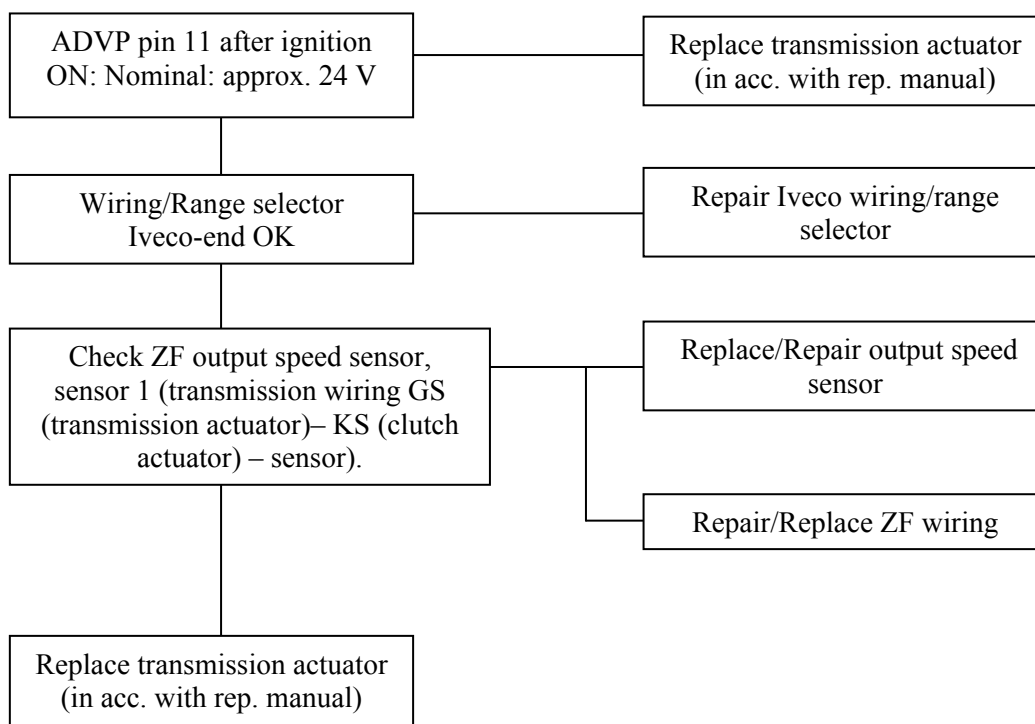
Error detection: By ECU hardware.

System response: **Error 22, 54:** During driving, gear shifts are inhibited.
The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible.
System not available.

Notice: Regardless of the location where the short circuit is produced (whether at the n_ab1 sensor, range selector, on the GS (transmission actuator) or at a location at the wiring harness), with the current system configuration in place, this will result in the vehicle being stranded.

Error 86: System still available.

Error rectification:





Iveco error number: 19

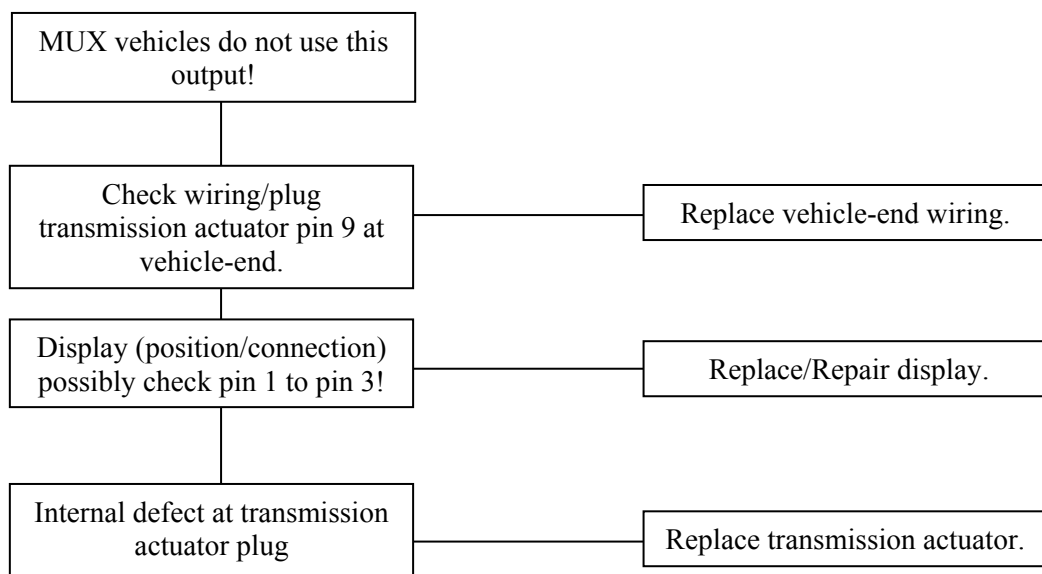
Error display: In vehicle display: 19
MobiDig/ Testman 25

Error description: Short circuit to ground at SD output to display.

Error detection: Repeated reading of the signal to be transferred.

System response: "EE" message flashing on display. No further system responses.

Error rectification:





Iveco error number: 1A

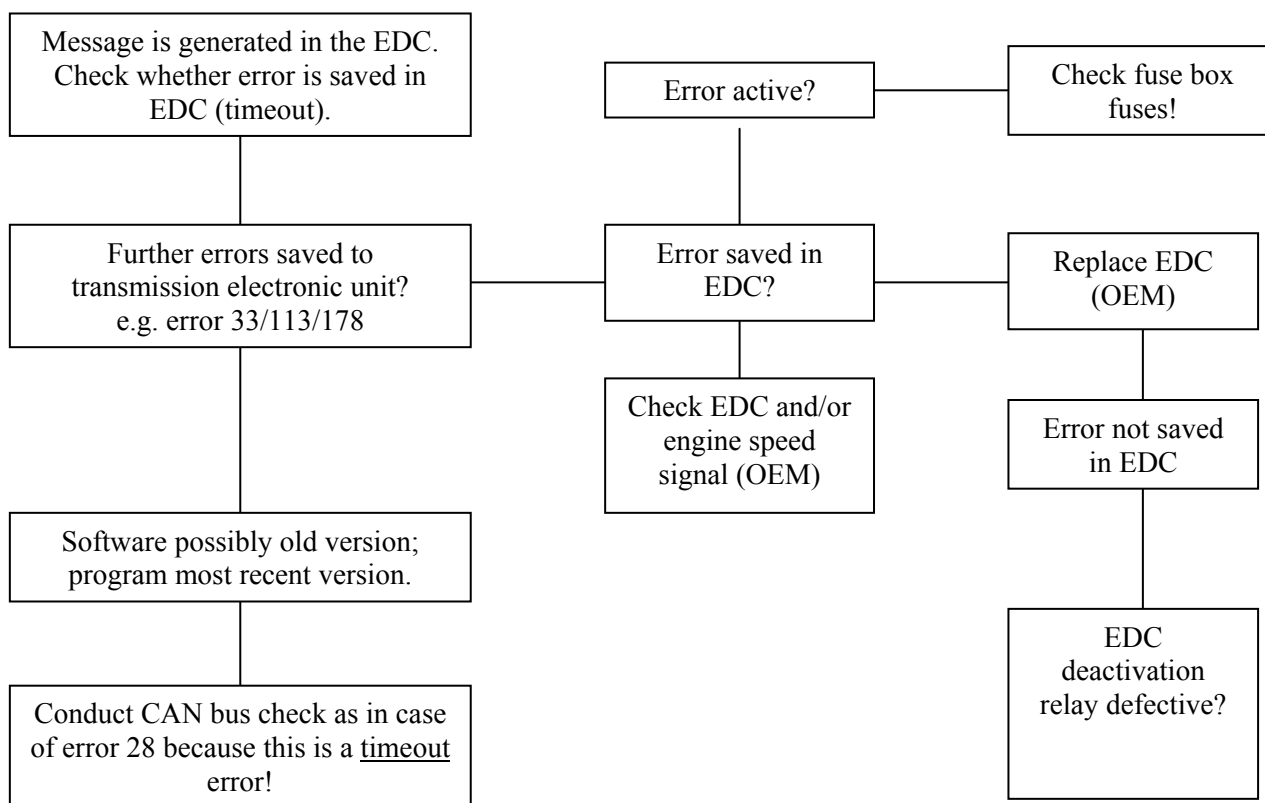
Error display: In vehicle display: 1A
MobiDig/ Testman: 26

Error description: CAN engine configuration timeout.

Error detection: An error is set after the message timeout.

System response: The substitute signals saved in the control unit are used since there are no CAN message signals. Reduced function possible during automatic operations and starting gear calculation.
Connecting speed for downshifts may be too low.
Poor clutch opening possible when stopping.

Error rectification:





Iveco error number: 1B

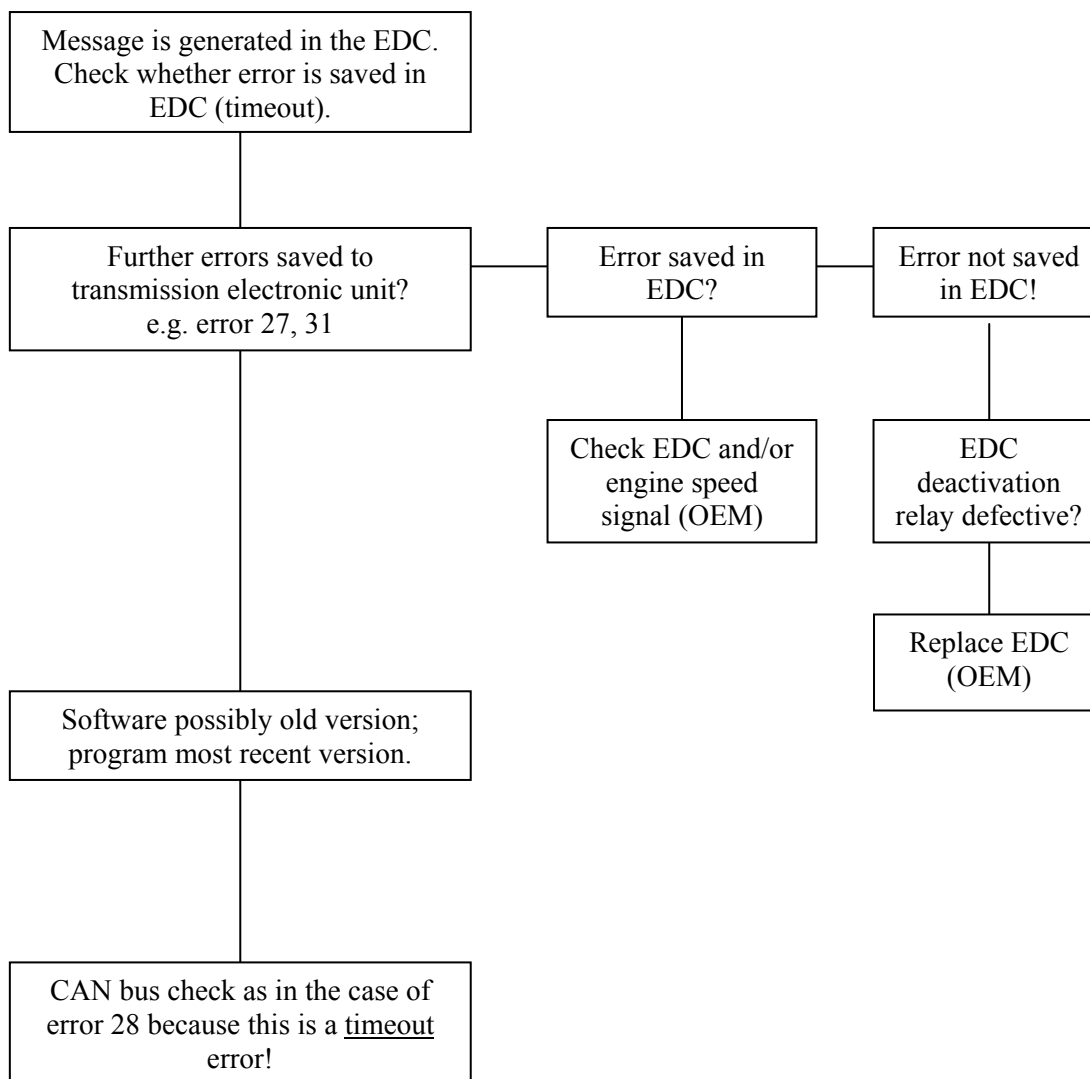
Error display: In vehicle display: **1B**
MobiDig/ Testman: **27**

Error description: Signal error engine configuration message.

Error detection: No signal or signal defective.

System response: The substitute signals saved in the control unit are used since there are no CAN message signals. Reduced function possible during automatic operations and starting gear calculation.
Connecting speed for downshifts may be too low.
Poor clutch opening possible when stopping.

Error rectification:





Iveco error number: 1C

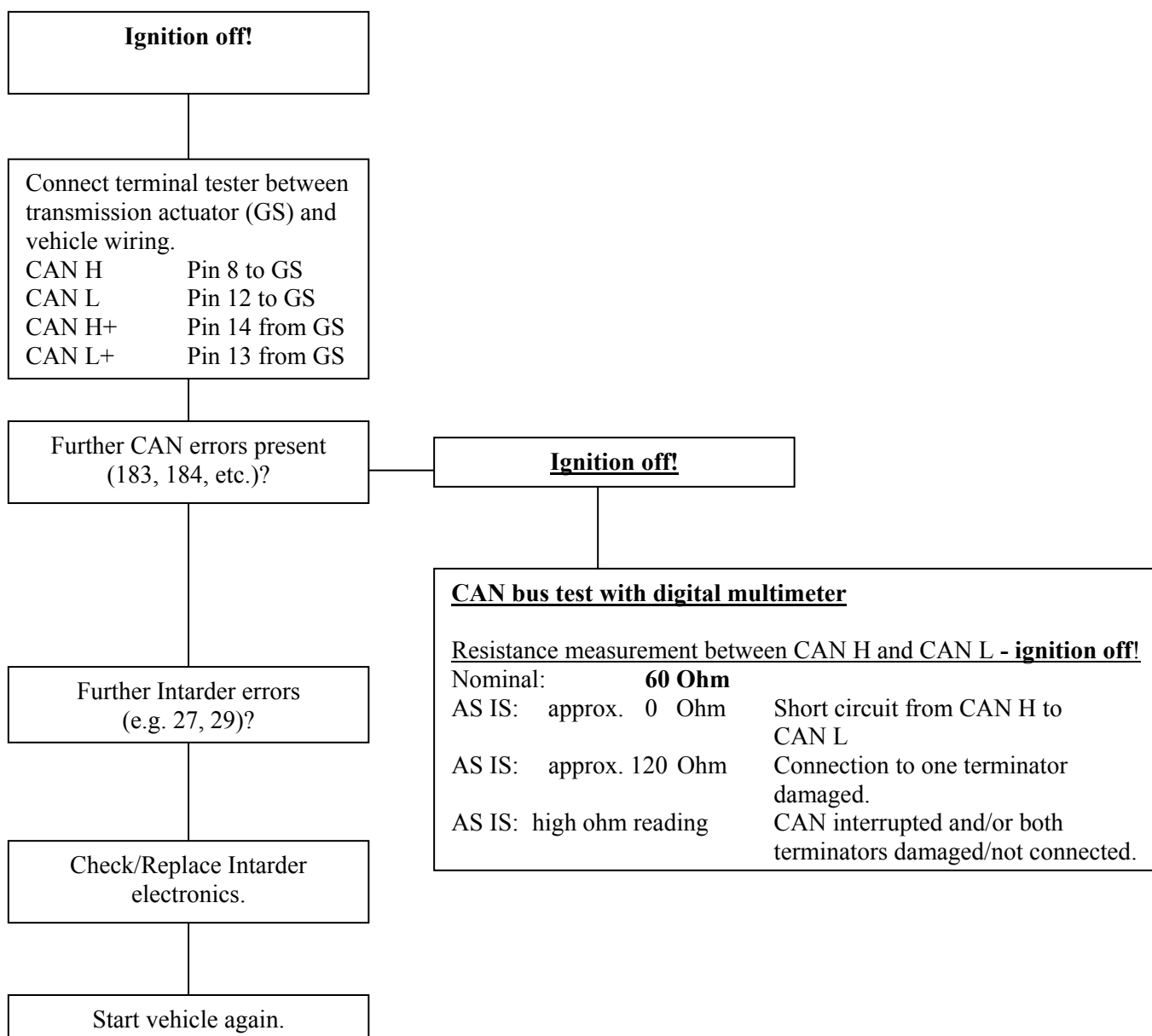
Error display: In vehicle display: 1C
MobiDig/ Testman 28

Error description: Signal error "current driveline retarder torque percentage"

Error detection: No signal or signal defective.

System response: The automatic unit fails. Therefore, the drive resistance of the starting gear cannot be calculated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

Error rectification:



System response: No downshift requests are issued by the Intarder so to increase the engine speed for improving cooling performance!

System response: The automatic shift unit is deactivated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

```

graph TD
    A[Ignition off!] --> B[Connect terminal tester between transmission actuator (GS) and vehicle wiring.  
CAN H Pin 8 to GS  
CAN L Pin 12 to GS  
CAN H+ Pin 14 from GS  
CAN L+ Pin 13 from GS]
    B --> C[Further CAN errors present (183, 184, etc.)?]
    C --> D[Ignition off!]
    D --> E[CAN bus test with digital multimeter]
    E --> F[Resistance measurement between CAN H and CAN L - ignition off!  
Nominal: 60 Ohm  
AS IS: approx. 0 Ohm Short circuit from CAN H to CAN L  
AS IS: approx. 120 Ohm Connection to one terminator damaged.  
AS IS: high ohm reading CAN interrupted and/or both terminators damaged/not connected.]
    F --> G[Check/Replace Intarder electronics.]
    G --> H[Start vehicle again.]

```

System response: The automatic shift unit is deactivated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions. No information about the engine braking torque. If the engine brake is active, the shift quality may be reduced. It is assumed that the engine brake is not active.

System response: The automatic shift unit is deactivated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

```

graph TD
    A[Ignition off!] --> B[Connect terminal tester between transmission actuator (GS) and vehicle wiring.  
CAN H Pin 8 to GS  
CAN L Pin 12 to GS  
CAN H+ Pin 14 from GS  
CAN L+ Pin 13 from GS]
    B --> C{Further CAN errors present  
(183, 184, etc.)?}
    C -- Yes --> D[Ignition off!]
    D --> E[CAN bus test with digital multimeter  
  
Resistance measurement between CAN H and CAN L - ignition off!  
Nominal: 60 Ohm  
AS IS: approx. 0 Ohm Short circuit from CAN H to CAN L  
AS IS: approx. 120 Ohm Connection to one terminator damaged.  
AS IS: high ohm reading CAN interrupted and/or both terminators damaged/not connected.]
    C -- No --> F{Further Intarder errors  
(e.g. 27, 28)?}
    F -- Yes --> G[Check/Replace Intarder electronics.]
    F -- No --> H[Start vehicle again.]
  
```

Ignition off!

Connect terminal tester between transmission actuator (GS) and vehicle wiring.

CAN H Pin 8 to GS

CAN L Pin 12 to GS

CAN H+ Pin 14 from GS

CAN L+ Pin 13 from GS

Further CAN errors present (183, 184, etc.)?

Ignition off!

CAN bus test with digital multimeter

Resistance measurement between CAN H and CAN L - ignition off!

Nominal: **60 Ohm**

AS IS: approx. 0 Ohm Short circuit from CAN H to CAN L

AS IS: approx. 120 Ohm Connection to one terminator damaged.

AS IS: high ohm reading CAN interrupted and/or both terminators damaged/not connected.

Further Intarder errors (e.g. 27, 28)?

Check/Replace Intarder electronics.

Start vehicle again.



Iveco error number: 21

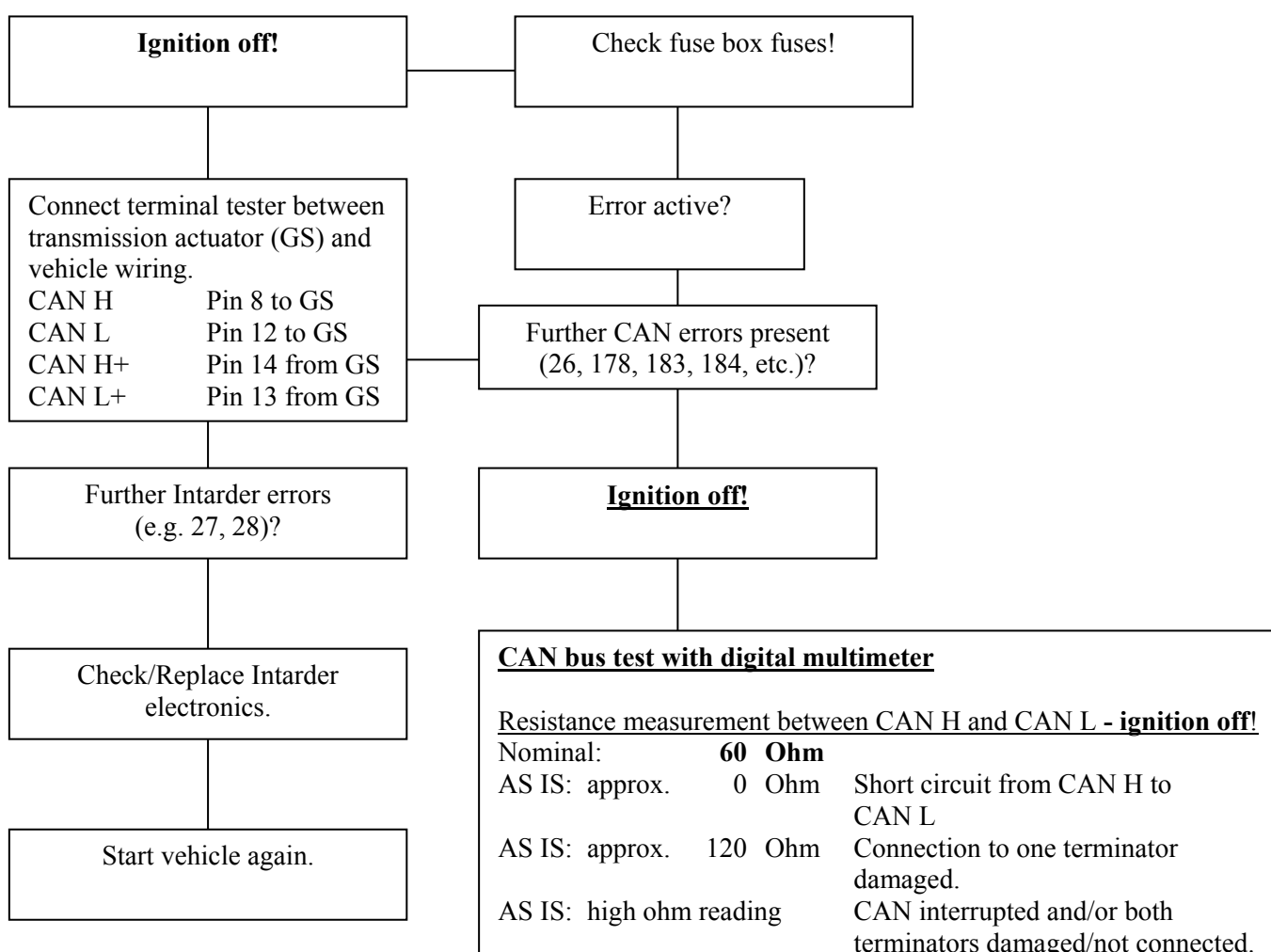
Error display: In vehicle display: 21
MobiDig/ Testman 33

Error description: CAN timeout "Motor Retarder configuration".

Error detection: An error is set after the message timeout.

System response: The automatic shift unit is deactivated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

Error rectification:





Iveco error number: 2D, 2E

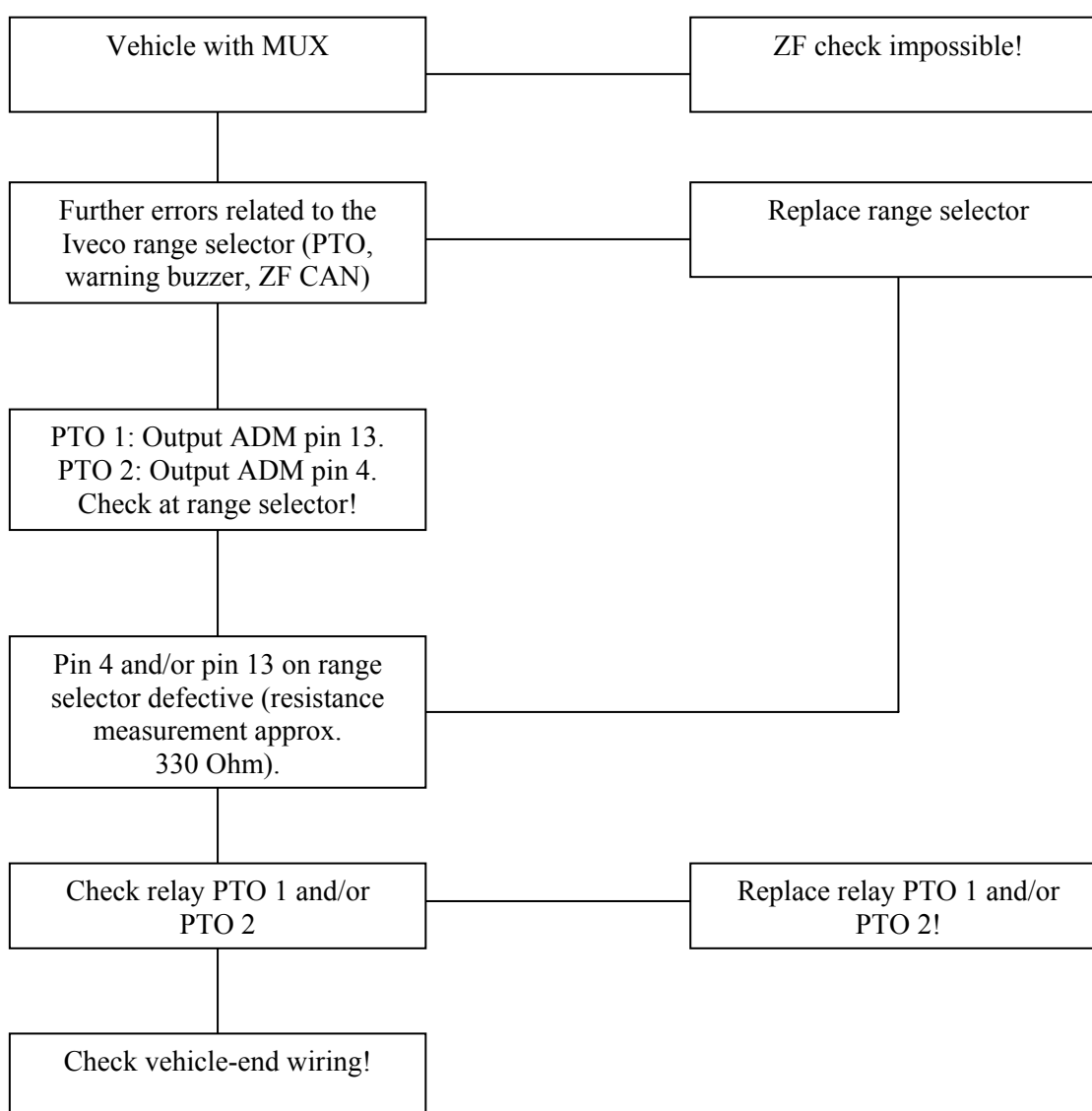
Error display:	In vehicle display:	2D, 2E
	MobiDig/ Testman:	45, 46

Error description: Error 45: Short circuit to ground at output to PTO 1.
Error 46: Short circuit to ground at output to PTO 2.

Error detection: By ECU hardware, if output is not activated.

System response: PTO1 and/or PTO2 not available.
No further system restrictions.

Error rectification:



System response: If the PTO issues a signal that the PTO is activated although the electronics has not sent a release signal and the PTO has not been activated by the driver, then the response signal (PTO activated) is considered to be incorrect. No further system restrictions!



Iveco error number: **3D, 3E**

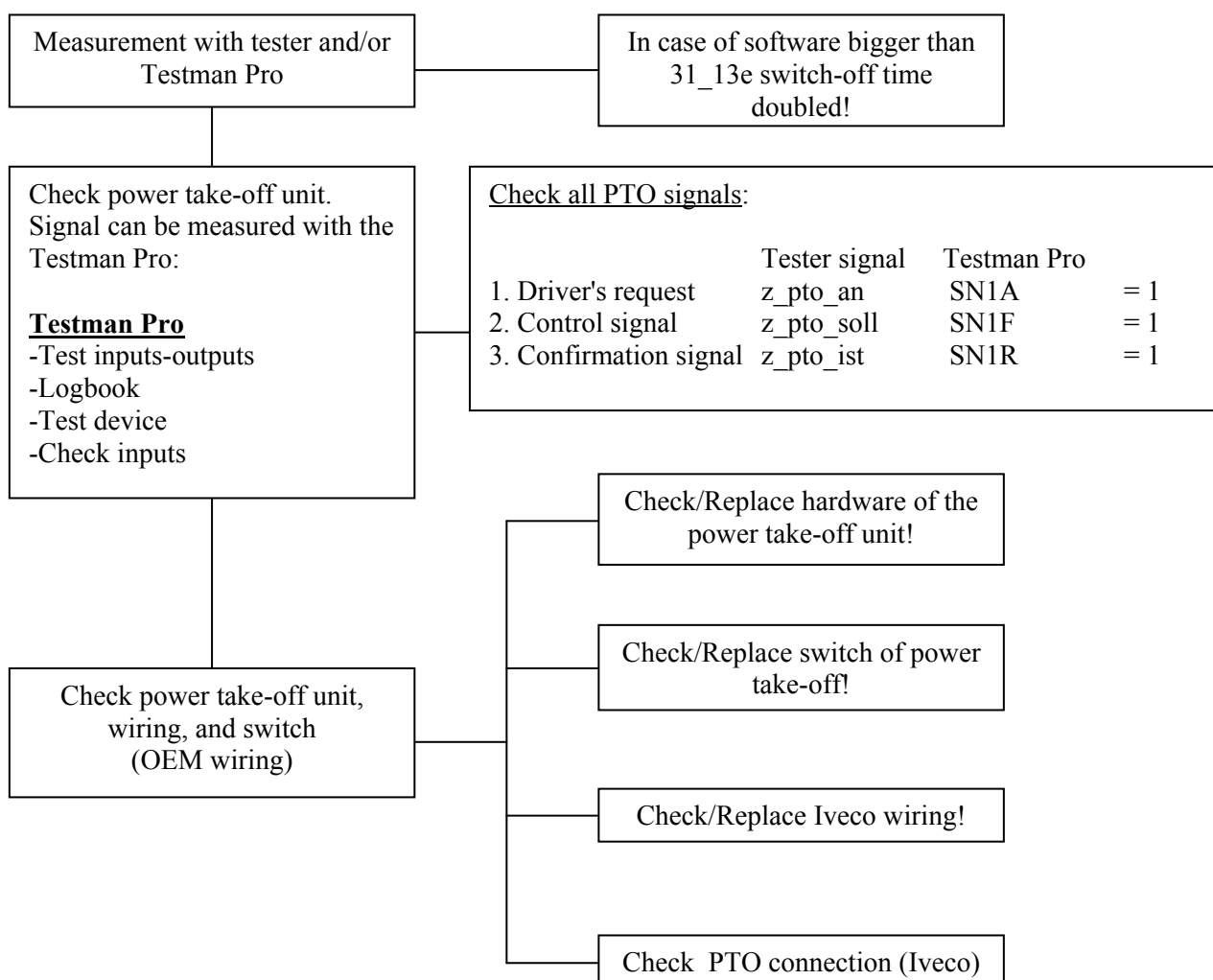
Error display:	In vehicle display:	3D, 3E
	MobiDig/ Testman	61, 62

Error description:	Error 61:	Deactivation error PTO 1
	Error 62:	Deactivation error PTO 2

Error detection: No PTO 1/2 response after deactivation request.

System response: During driving, gear shifts are inhibited. As soon as the vehicle comes to a standstill, the clutch opens and shifting to neutral is automatically effected. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 3F, 40

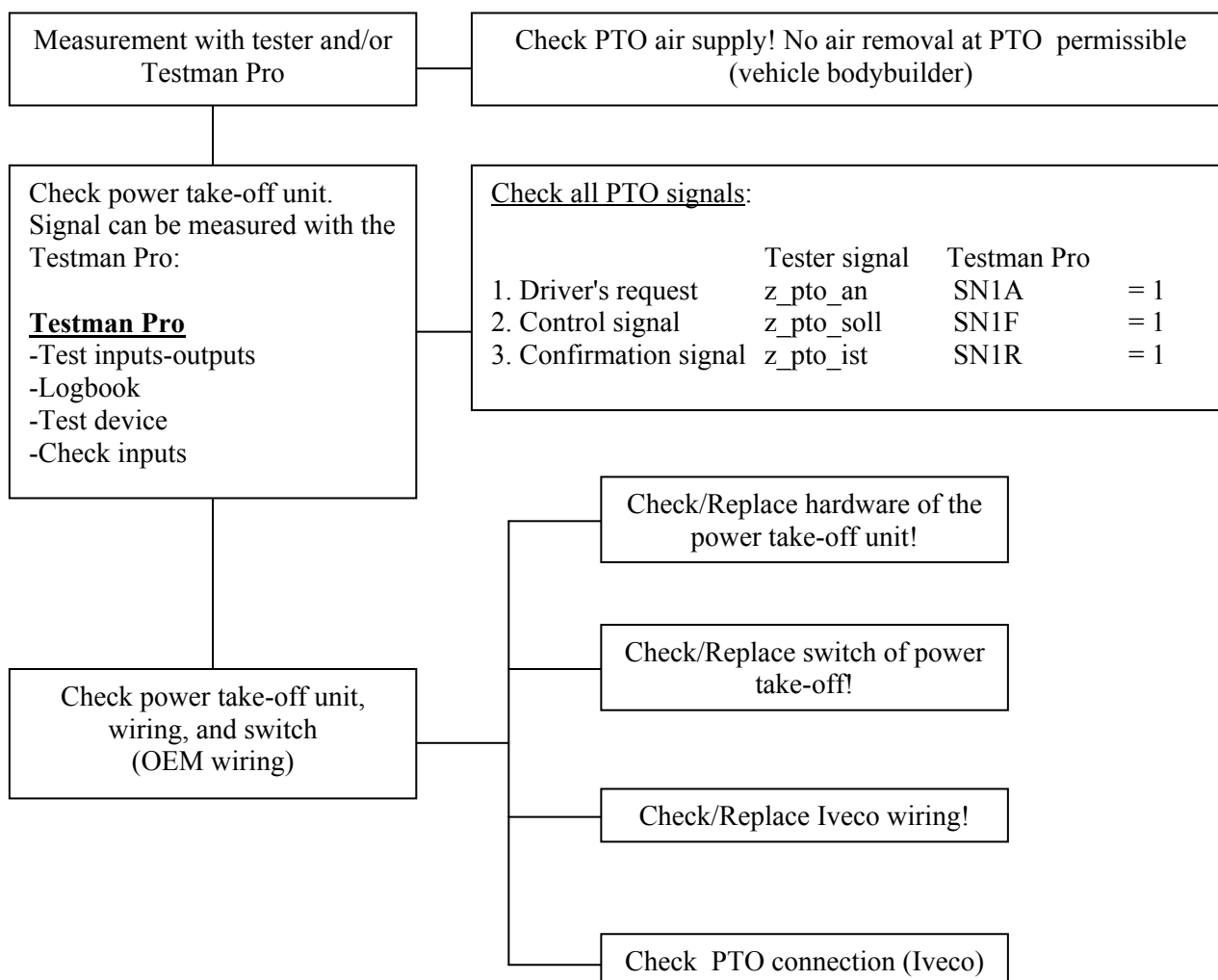
Error display: In vehicle display: 3F, 40
MobiDig/ Testman 63, 64

Error description: Error 63: Activation error PTO 1
Error 64: Activation error PTO 2

Error detection: No PTO 1/2 response after deactivation request.

System response: During driving, gear shifts are inhibited. As soon as the vehicle comes to a standstill, the clutch opens and shifting to neutral is automatically effected. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 4D, 4E

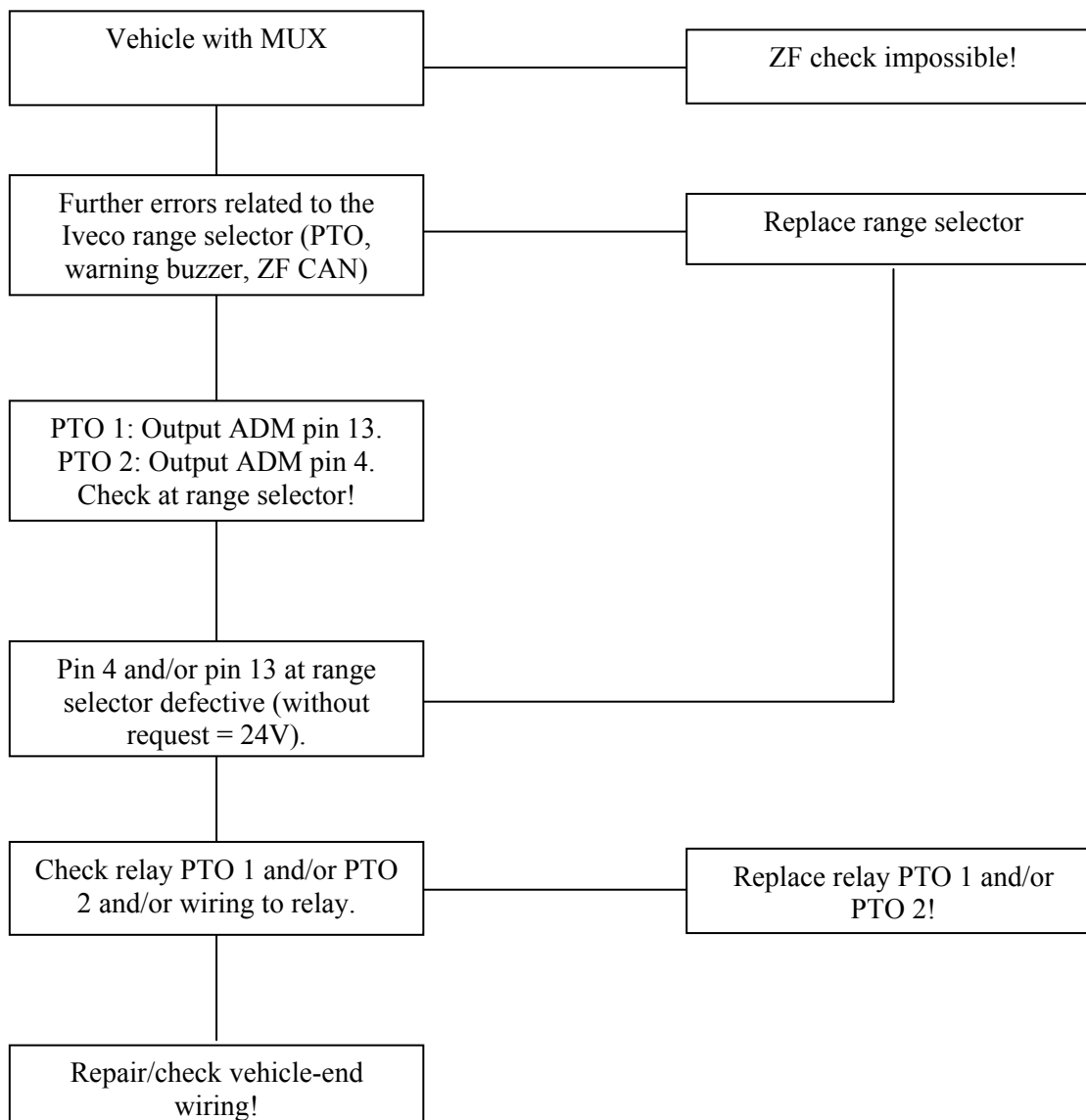
Error display: In vehicle display: 4D, 4E
MobiDig/ Testman: 77, 78

Error description: Error 77: Short circuit to plus (+) at output to PTO 1.
Error 78: Short circuit to plus (+) at output to PTO 2.

Error detection: By ECU hardware, if output is not activated.

System response: During travel, gear shifts are blocked. If the vehicle is at a standstill, the clutch opens and a shift is automatically made to neutral. System not available!

Error rectification:





Iveco error number: 59

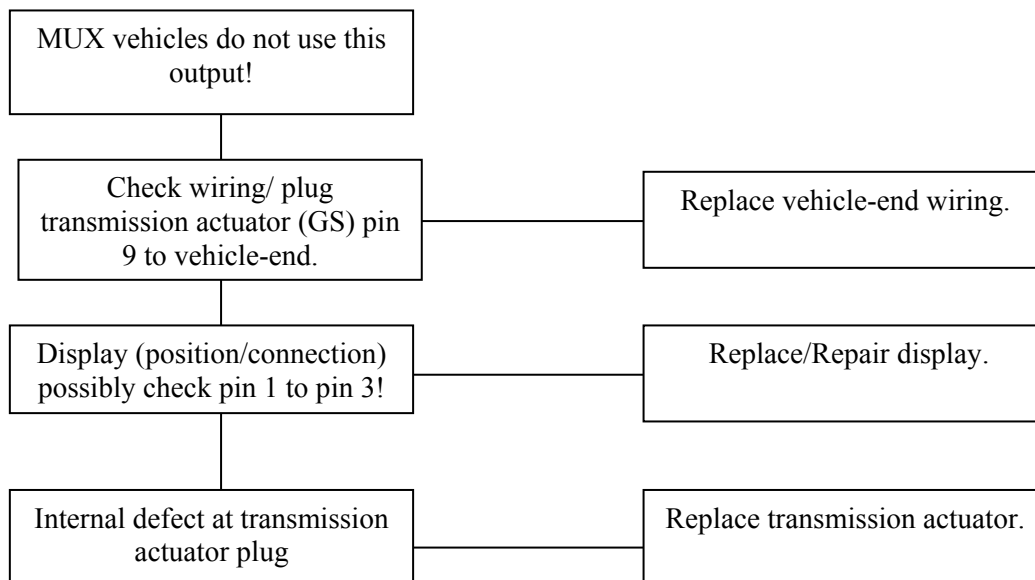
Error display: In vehicle display: 59
MobiDig/ Testman 89

Error description: Short circuit to plus (+) at SD (digital signal) output to display.

Error detection: Repeated reading of the signal to be transferred.

System response: "EE" message flashing on display. No further system responses.

Error rectification:





Iveco error number: 5A

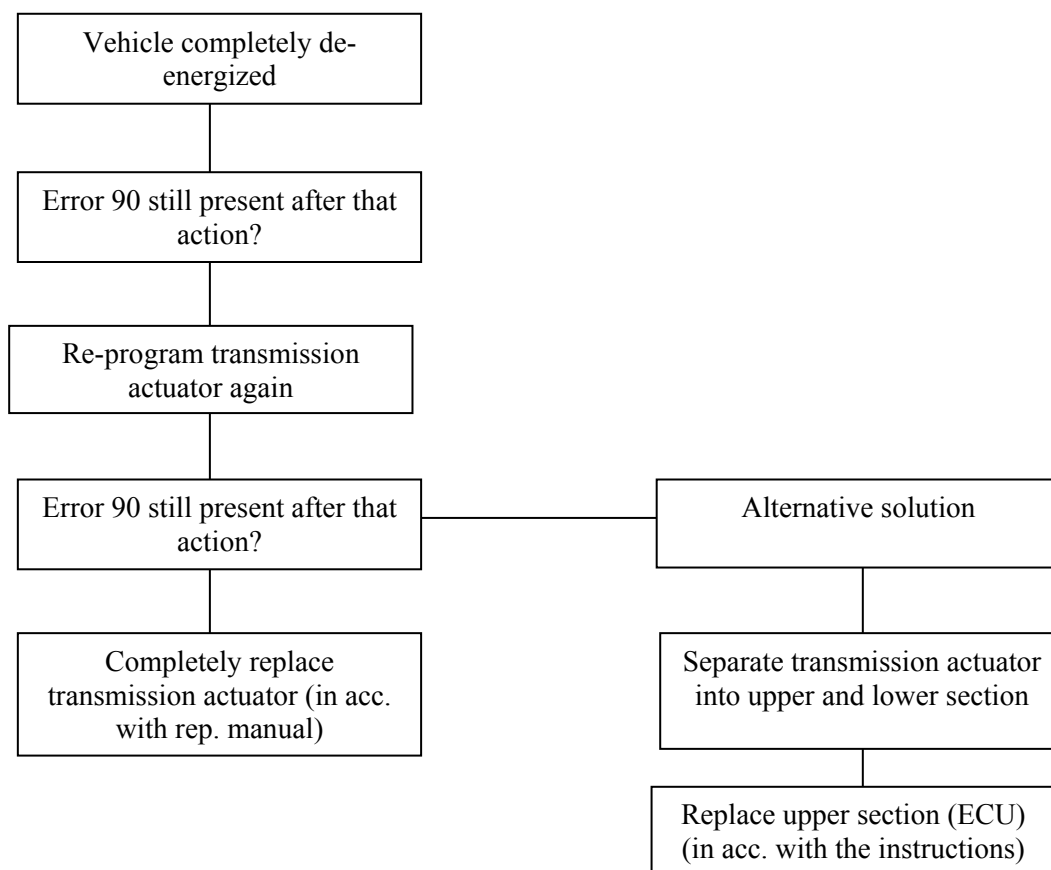
Error display: In vehicle display: 59
MobiDig/ Testman 90

Error description: Communication error between processor 1 and processor 2 (ECU error).

Error detection: If there is no data sent by the other processor, check sum error of data between processors 1 and 2, and incomplete transfer of initialization data.

System response: During travel, gear shifts are blocked. As soon as the vehicle comes to a standstill, the clutch opens and shifting to neutral is automatically effected. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 5B

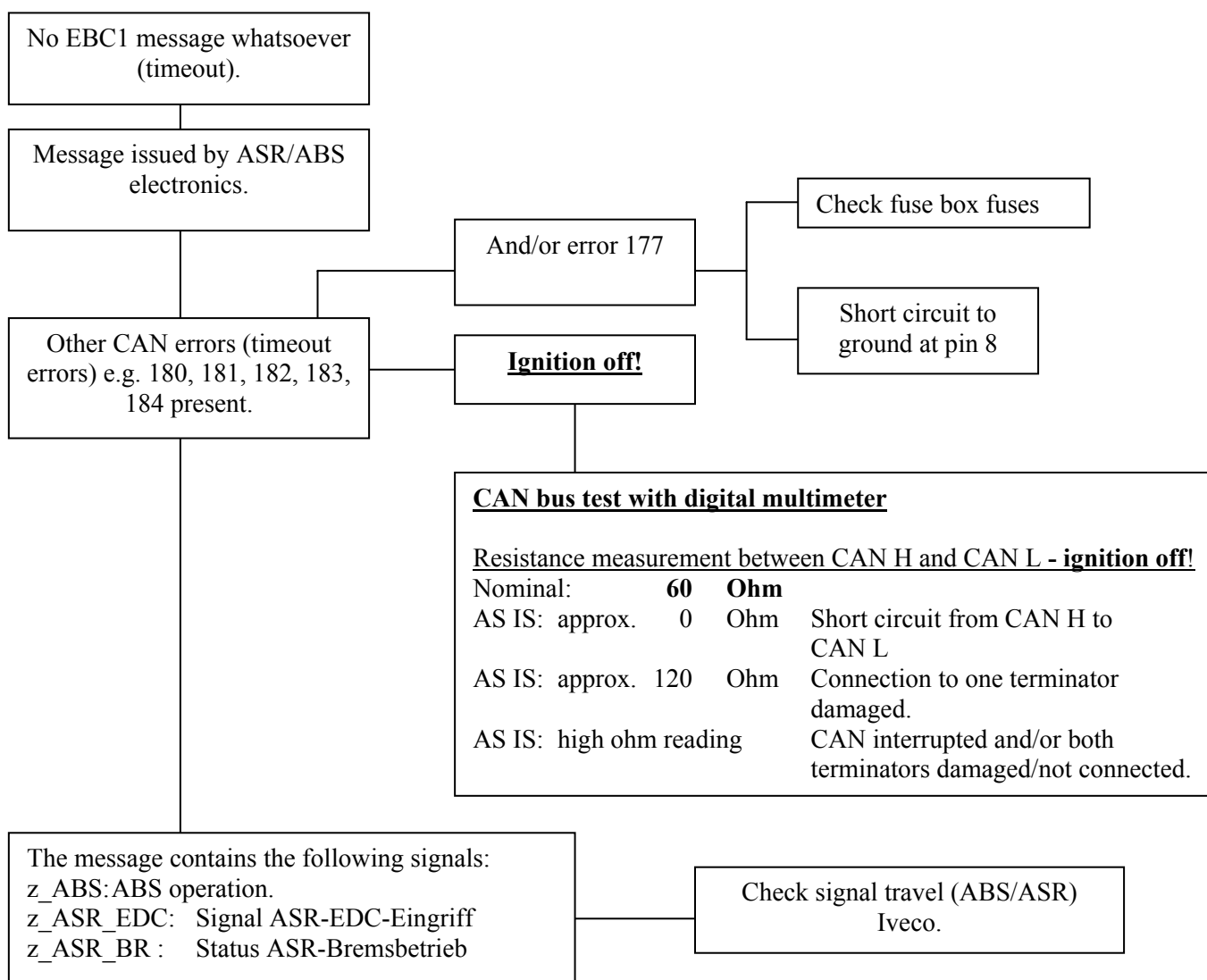
Error display:	In vehicle display:	5B
	MobiDig/ Testman	91

Error description: CAN EBC1 Timeout

Error detection: An error is set after the message timeout.

System response: The automatic unit fails; therefore the drive resistance and the starting gear cannot be calculated. If vehicle comes to a standstill, mid-starting gear is selected.
No other functional restrictions.

Error rectification:





Iveco error number: 5C

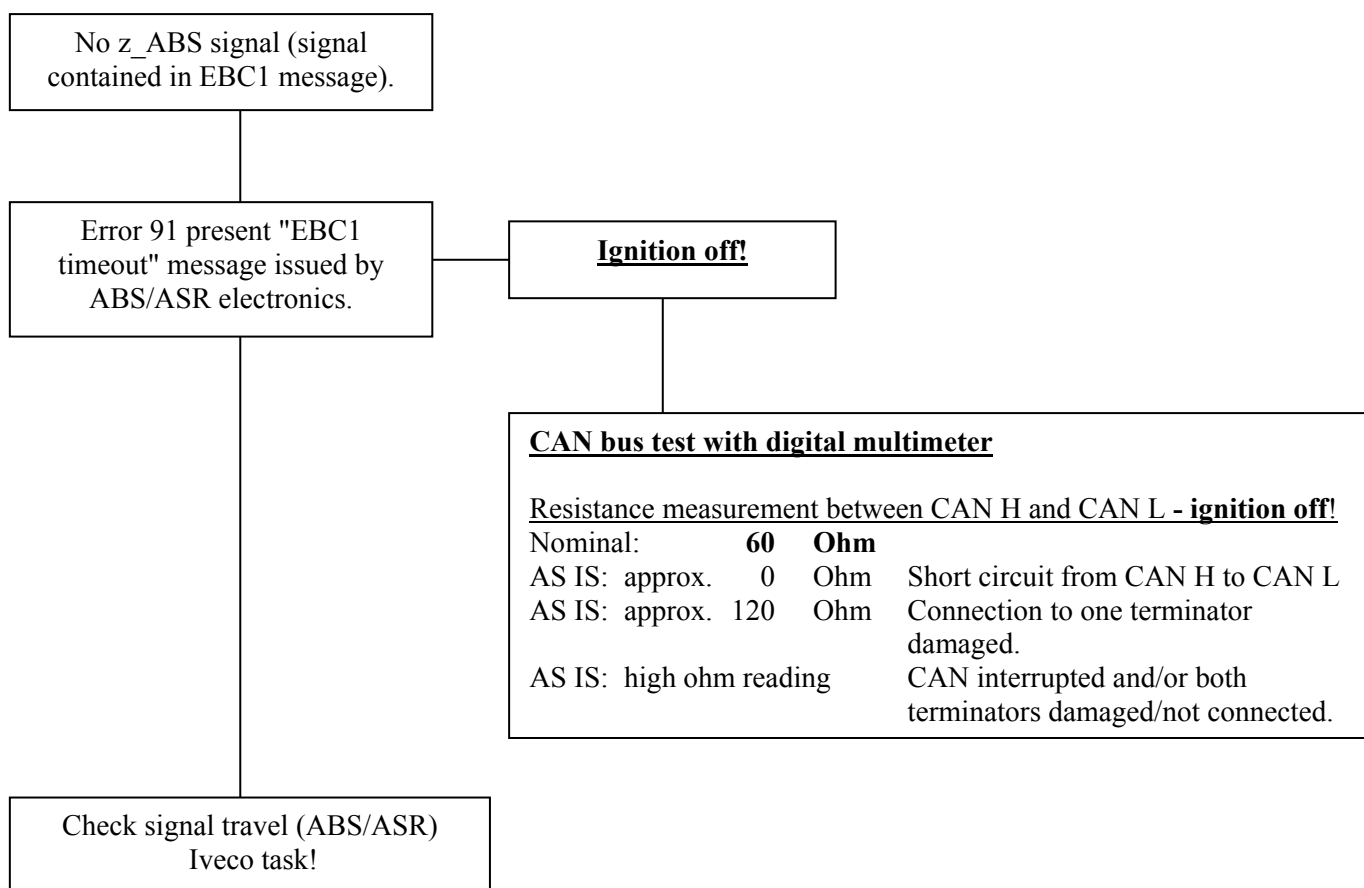
Error display: In vehicle display: 5C
MobiDig/ Testman 92

Error description: Signal error: "ABS active"

Error detection: No signal or signal incorrect.

System response: The automatic unit fails; therefore the drive resistance and the starting gear cannot be calculated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

Error rectification:





Iveco error number: 5D

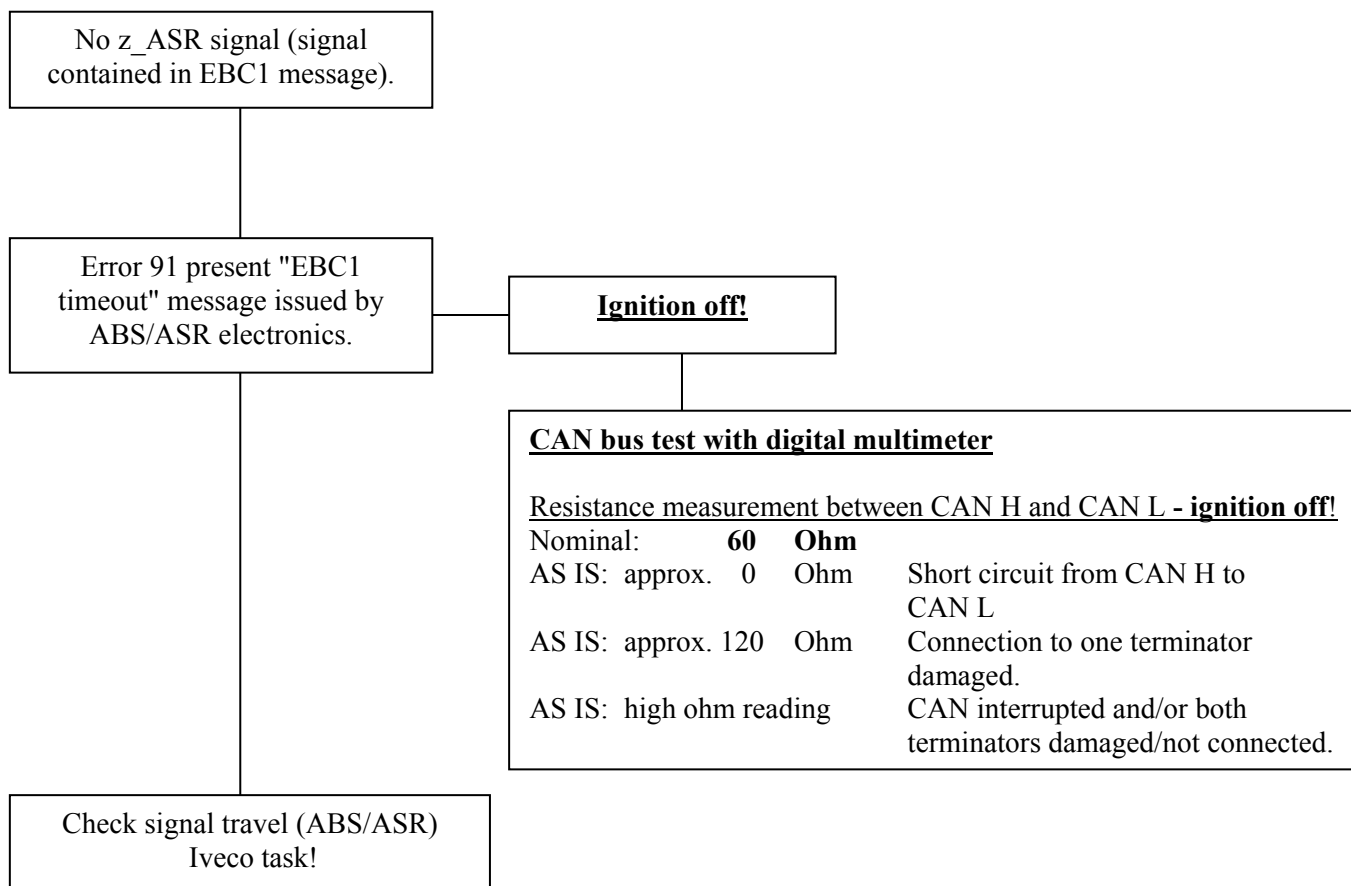
Error display:	In vehicle display:	5D
	MobiDig/ Testman	93

Error description: Signal error: "ASR engine control unit active".

Error detection: No signal or signal incorrect.

System response: The automatic unit fails; therefore the drive resistance and the starting gear cannot be calculated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

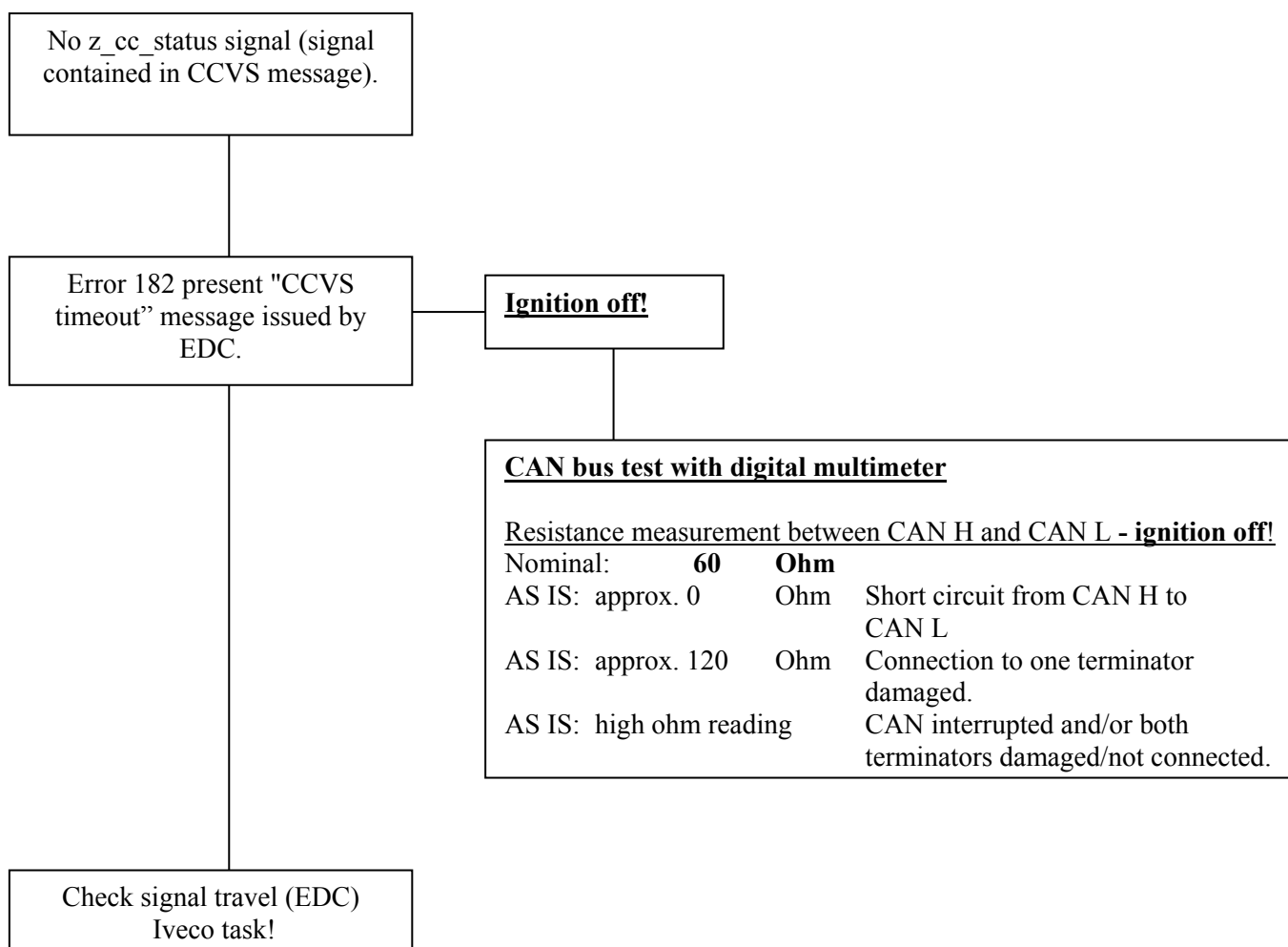
Error rectification:



System response: The automatic unit fails; therefore the drive resistance and the starting gear cannot be calculated. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

System response: The automatic shift unit is deactivated.
No other functional restrictions.

Error rectification:





Iveco error number: 60

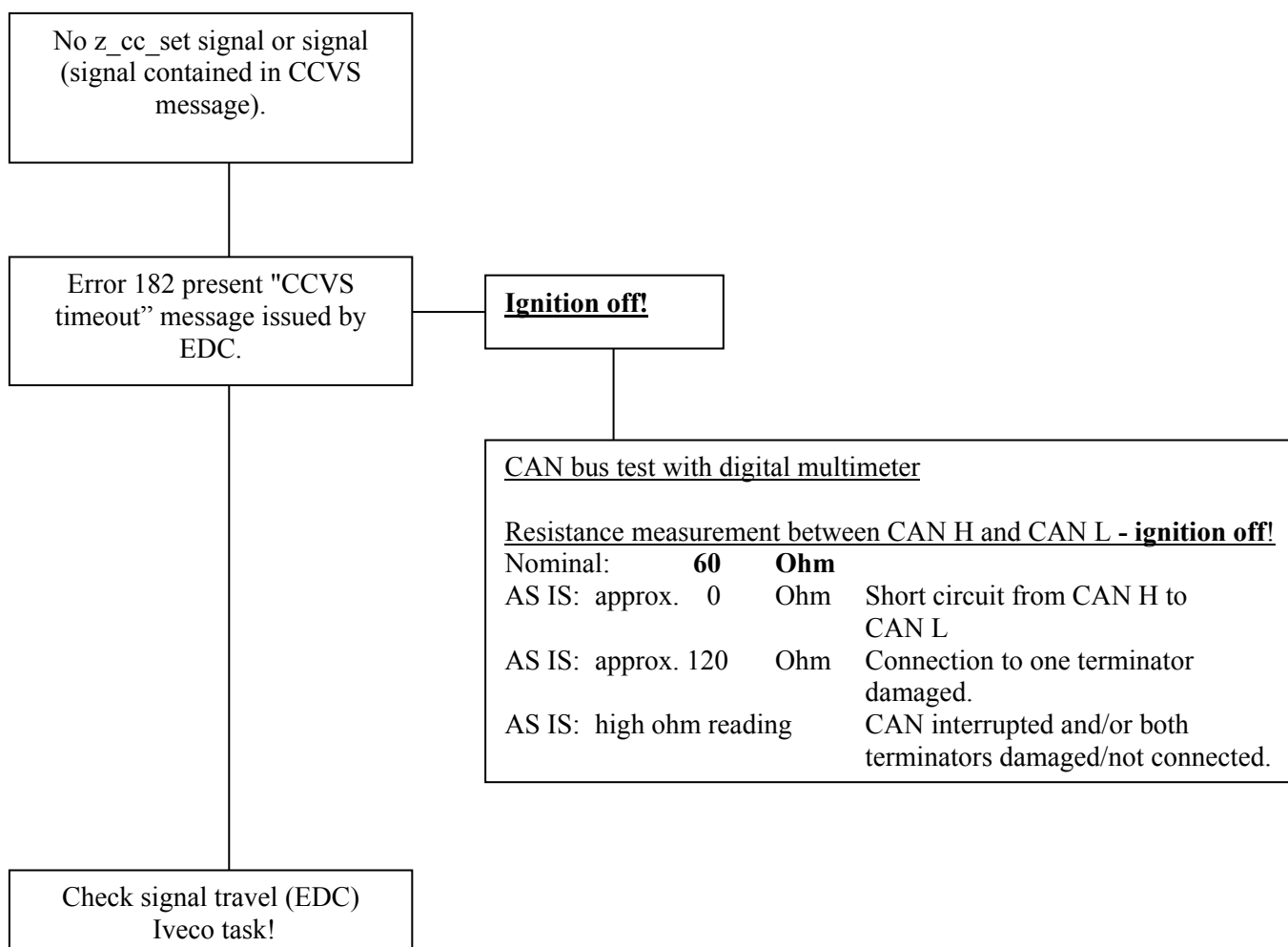
Error display:	In vehicle display:	60
	MobiDig/ Testman	96

Error description: Signal error: "Set cruise control speed".

Error detection: active and no signal or signal defective.

System response: No further functional restrictions. Gear-hunting possible in cruise control mode.

Error rectification:





Iveco error number: 61

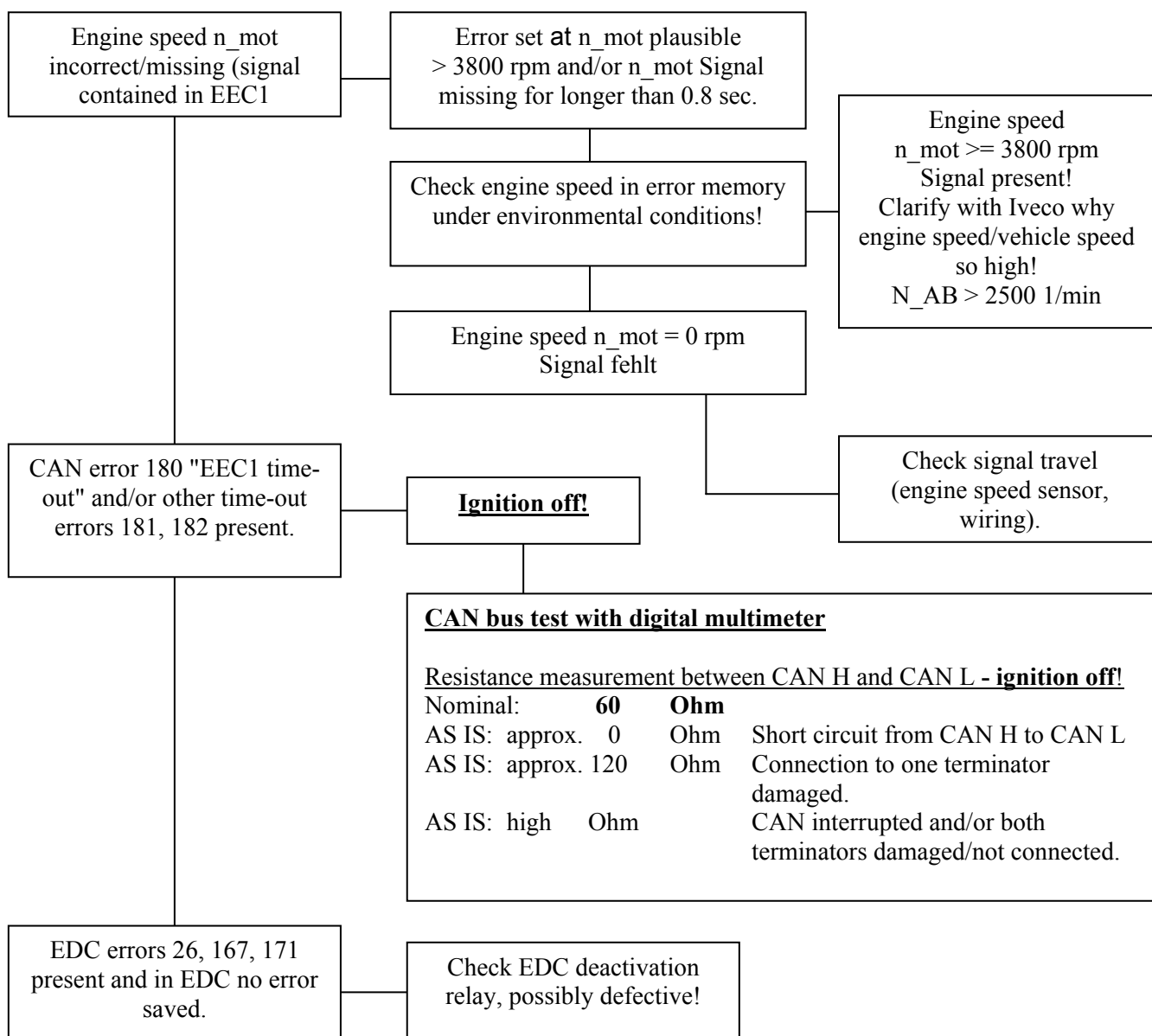
Error display: In vehicle display: 61
MobiDig/ Testman 97

Error description: Signal error: "Engine speed".

Error detection: No signal / signal defective or engine speed > plausible value

System response: While vehicle is in motion clutch is time-controlled during gearshifts.
Reduced closing comfort after the shift.
During upshifts, the engine speed cannot be controlled.
Maneuvering mode not available.
When moving off, clutch is time-controlled.
Reduced closing comfort when maneuvering and setting off.

Error rectification:





Iveco error number: 62

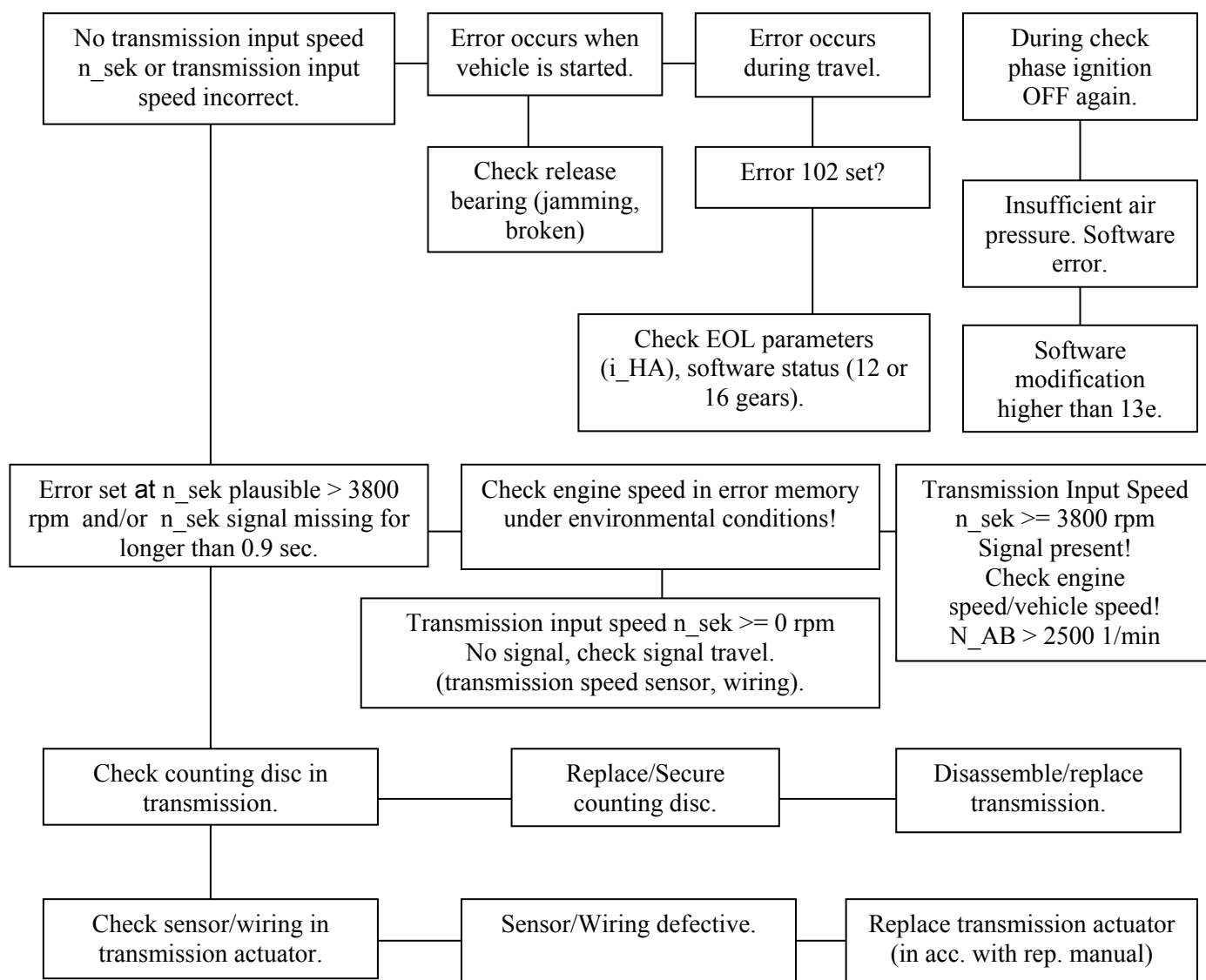
Error display: In vehicle display: 62
MobiDig/ Testman 98

Error description: Signal error: "Transmission input speed".

Error detection: Plausibility check.

System response: During travel, shift times are longer. When upshifting and downshifting, the clutch is sometimes closed when the transmission is in neutral, to substitute the input speed of the engine. If a gear is selected, input speed is substituted by output speed.
If the vehicle is at a standstill, longer N-gear engagement time.
Reduced closing comfort when manoeuvring and setting off.
Notice: Possible as follow-up error of error 97!

Error rectification:





Iveco error number: 63

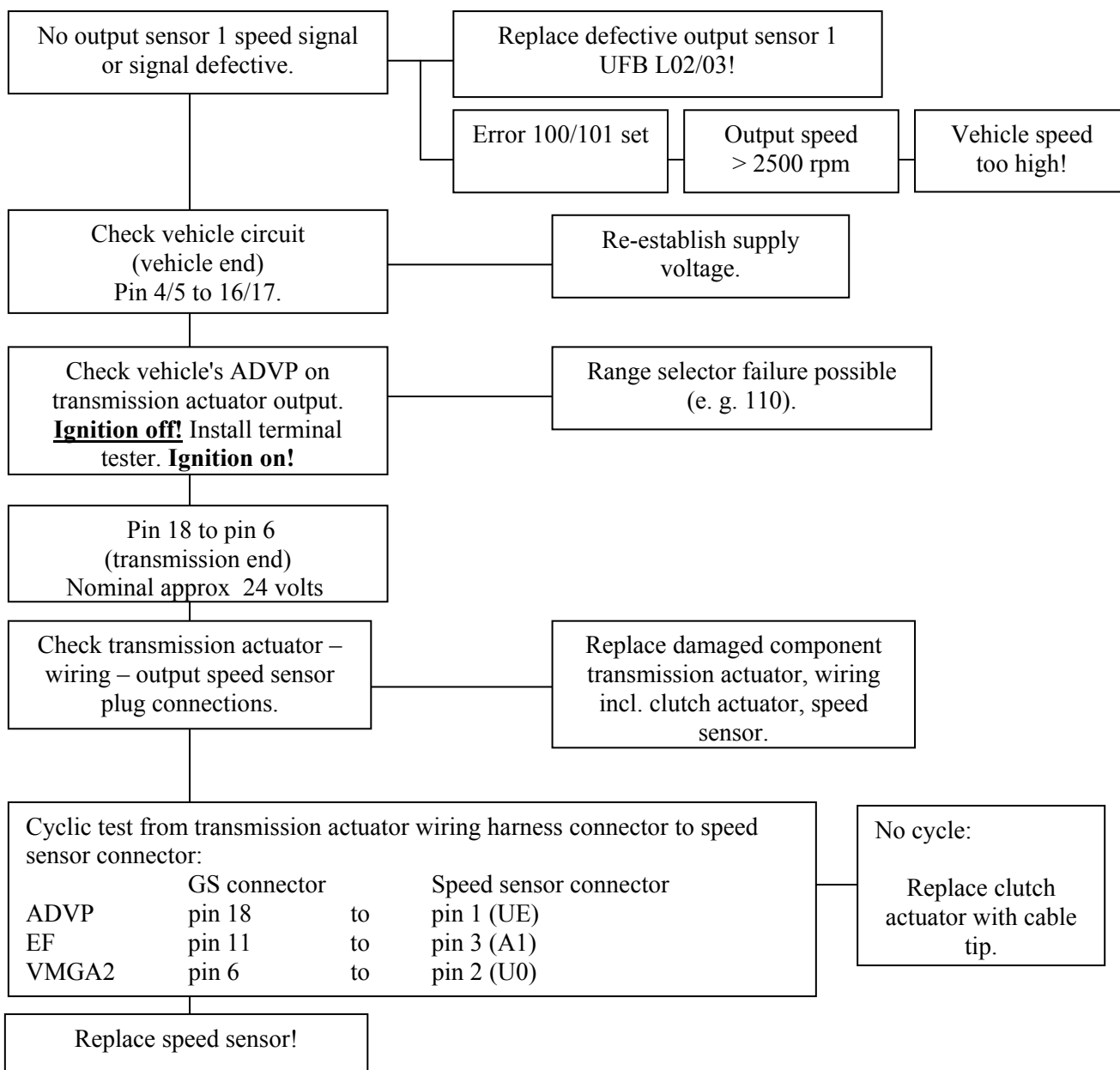
Error display: In vehicle display: 63
MobiDig/ Testman: 99

Error description: Signal error: "Output speed signal 1".

Error detection: Verification check

System response: Depending on the system version, the output speed signal is calculated from the redundant output speed information. Redundant speed information is adopted, depending on vehicle speed signal by CAN or by speedometer CAN output speed signal.

Error rectification:





Iveco error number: 64

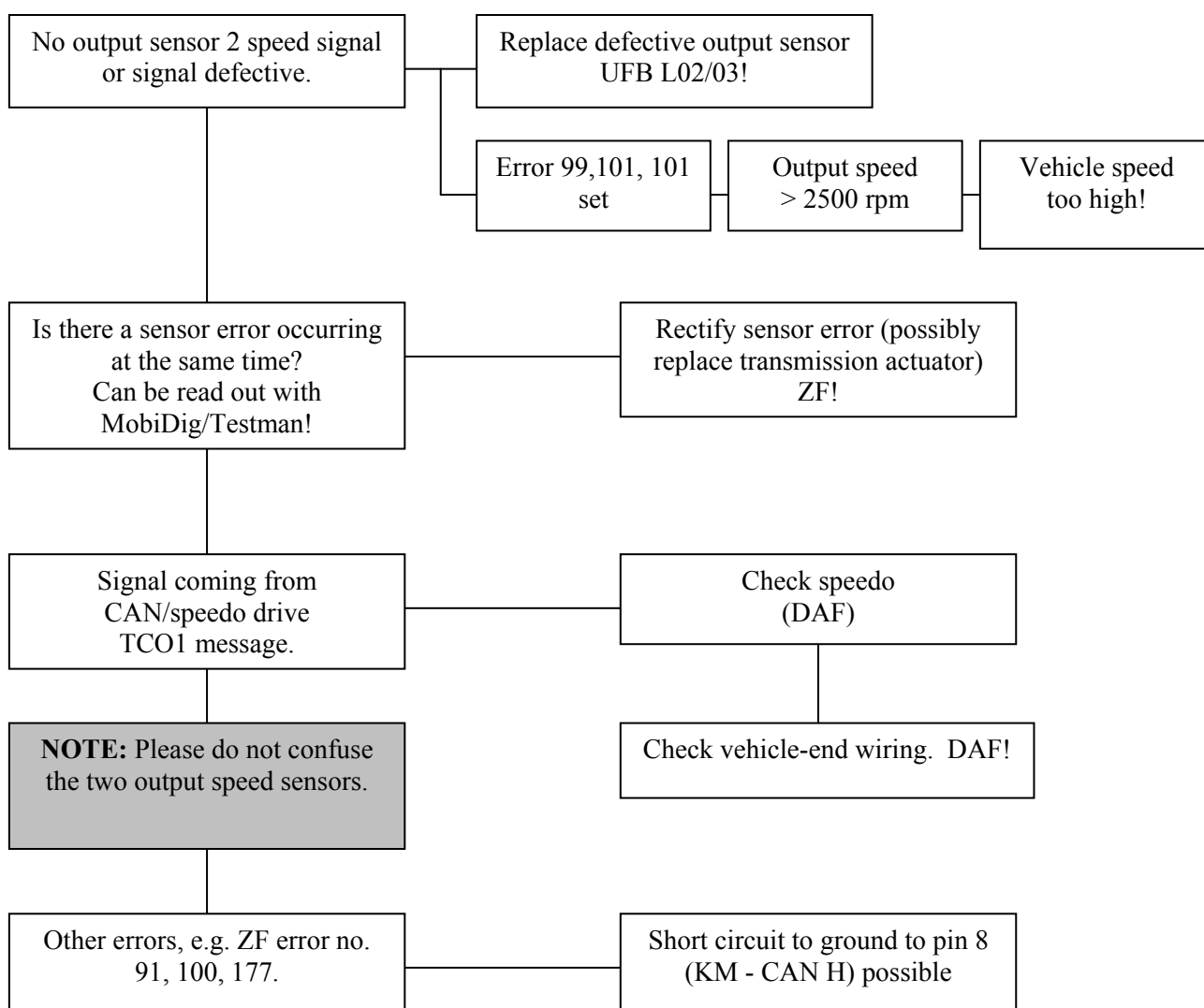
Error display: In vehicle display: 64
MobiDig/ Testman 100

Error description: Signal error: "Output speed signal 2".

Error detection: No signal or signal defective.

System response: If output speed 1 (transmission end) is available, no system functional restrictions.

Error rectification:





Iveco error number: 65

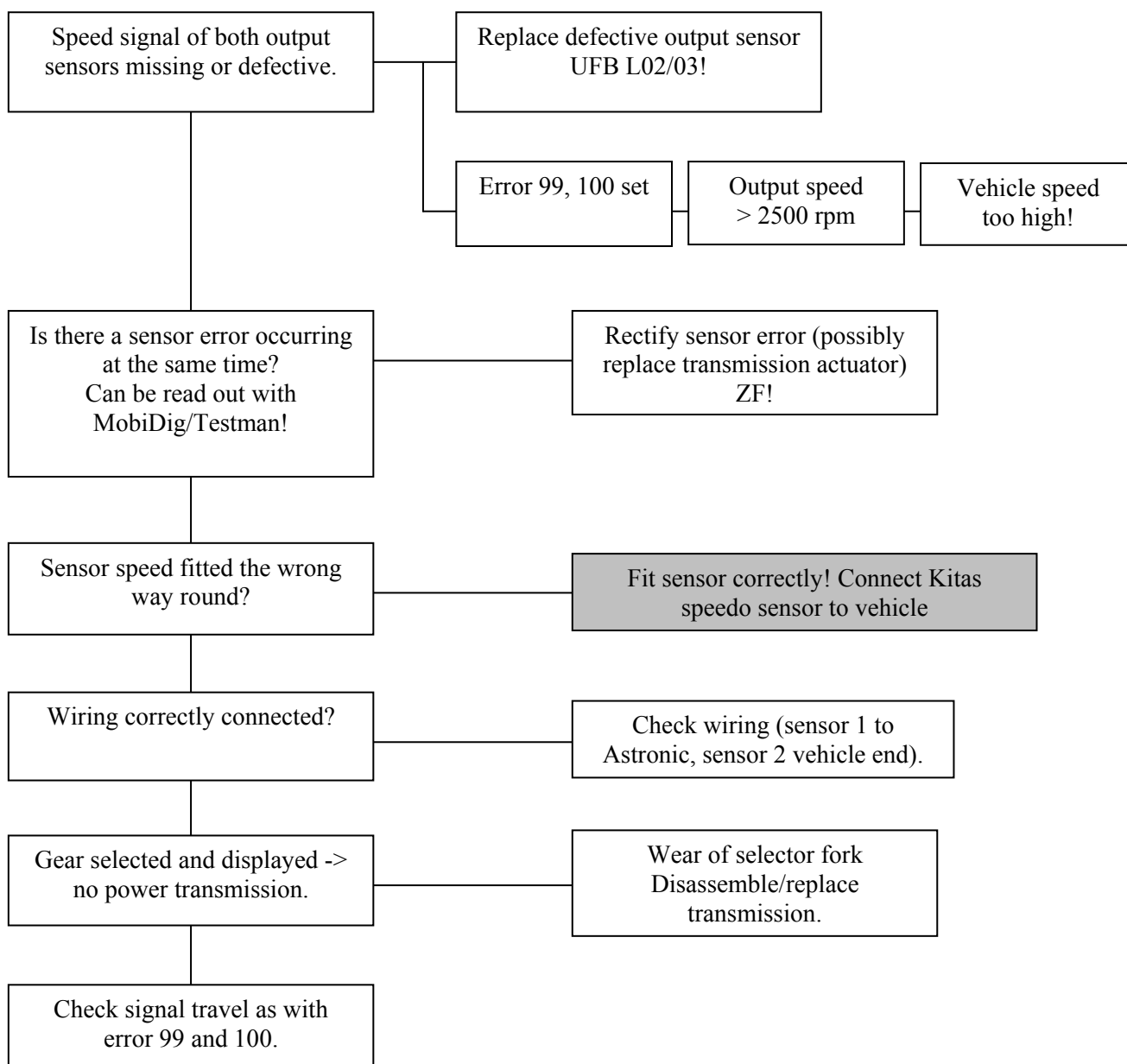
Error display: In vehicle display: 65
MobiDig/ Testman 101

Error description: Both "output speed signals" defective.

Error detection: Verification check

System response: During travel, gear shifts are inhibited. If the vehicle comes to a standstill, the clutch opens and shifting to neutral is automatically effected. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 66

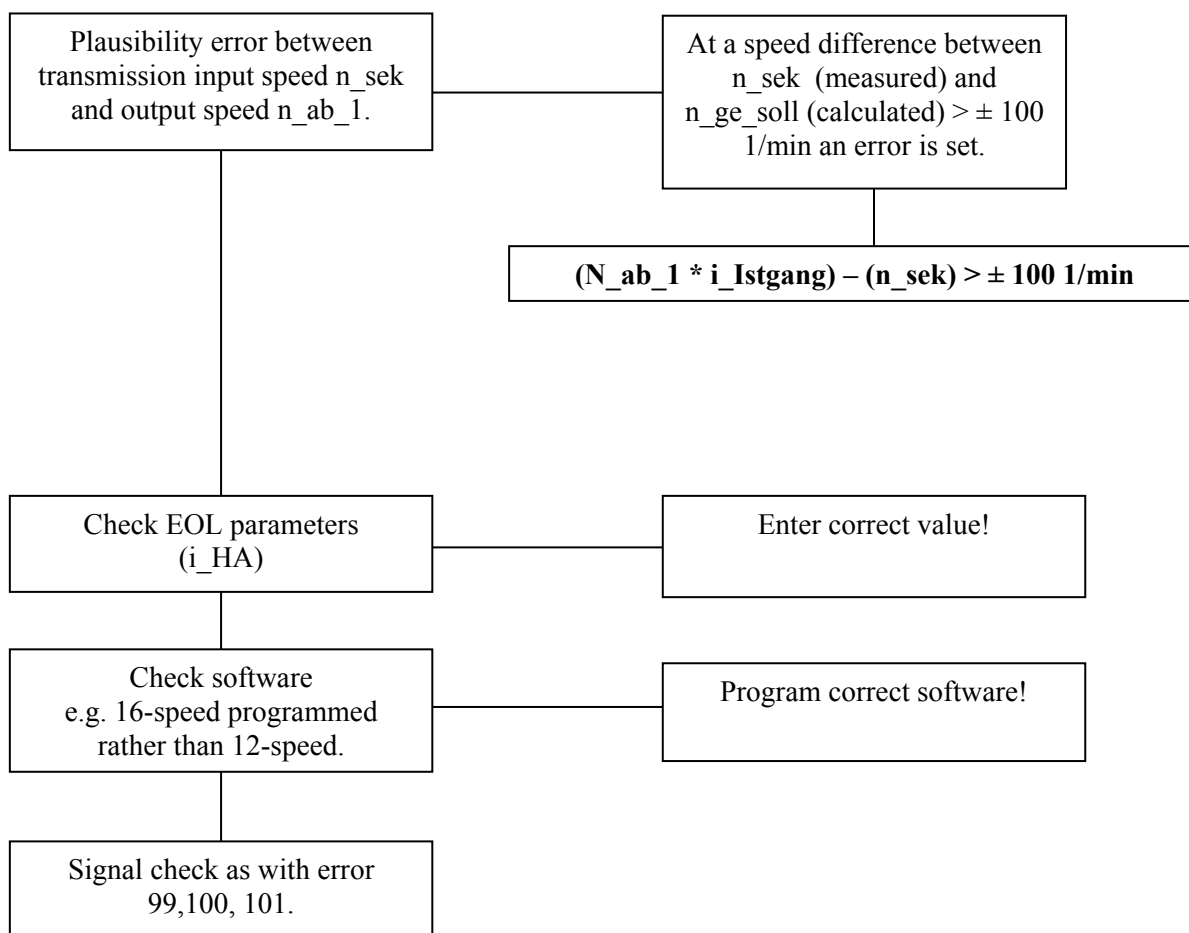
Error display: In vehicle display: 66
MOBIDIG/Testman 102

Error description: Plausibility error between "transmission input speed" and "output speed 1".

Error detection: Relationship between input speed and output speed does not correspond to the ratio of the selected gear.

System response: During travel, gear shifts are inhibited, including attempts to shift to neutral. Starting gears can be selected and setting off with the starting gear is possible.

Error rectification:





Iveco error number: 67

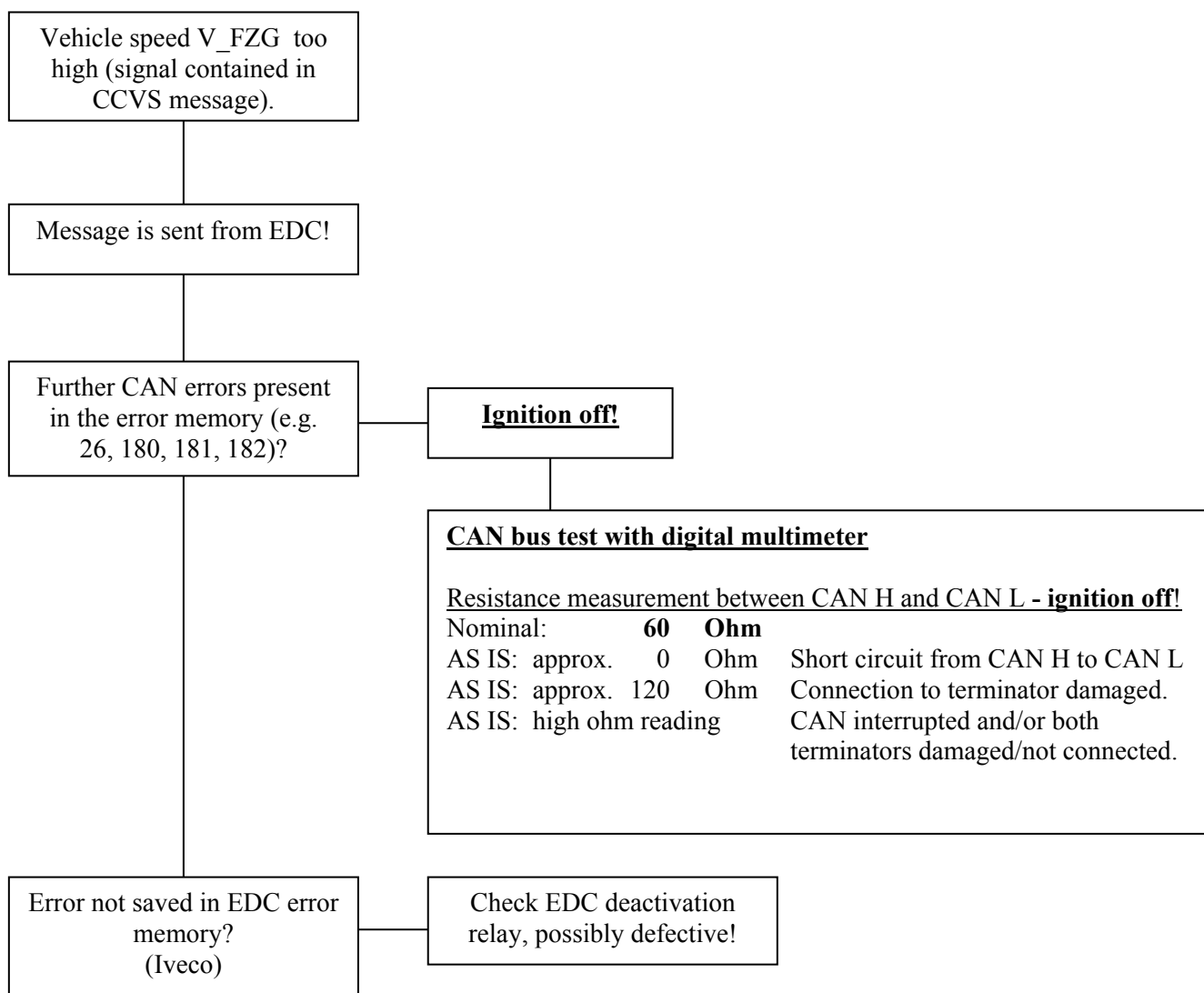
Error display: In vehicle display: 67
MobiDig/ Testman 103

Error description: CAN signal error "vehicle speed"
(CCVS Wheel-based vehicle speed)

Error detection: If vehicle speed exceeds the defined threshold value.

System response: Early or late downshifts may arise in automatic mode. No further restrictions.

Error rectification:





Iveco error number: 68

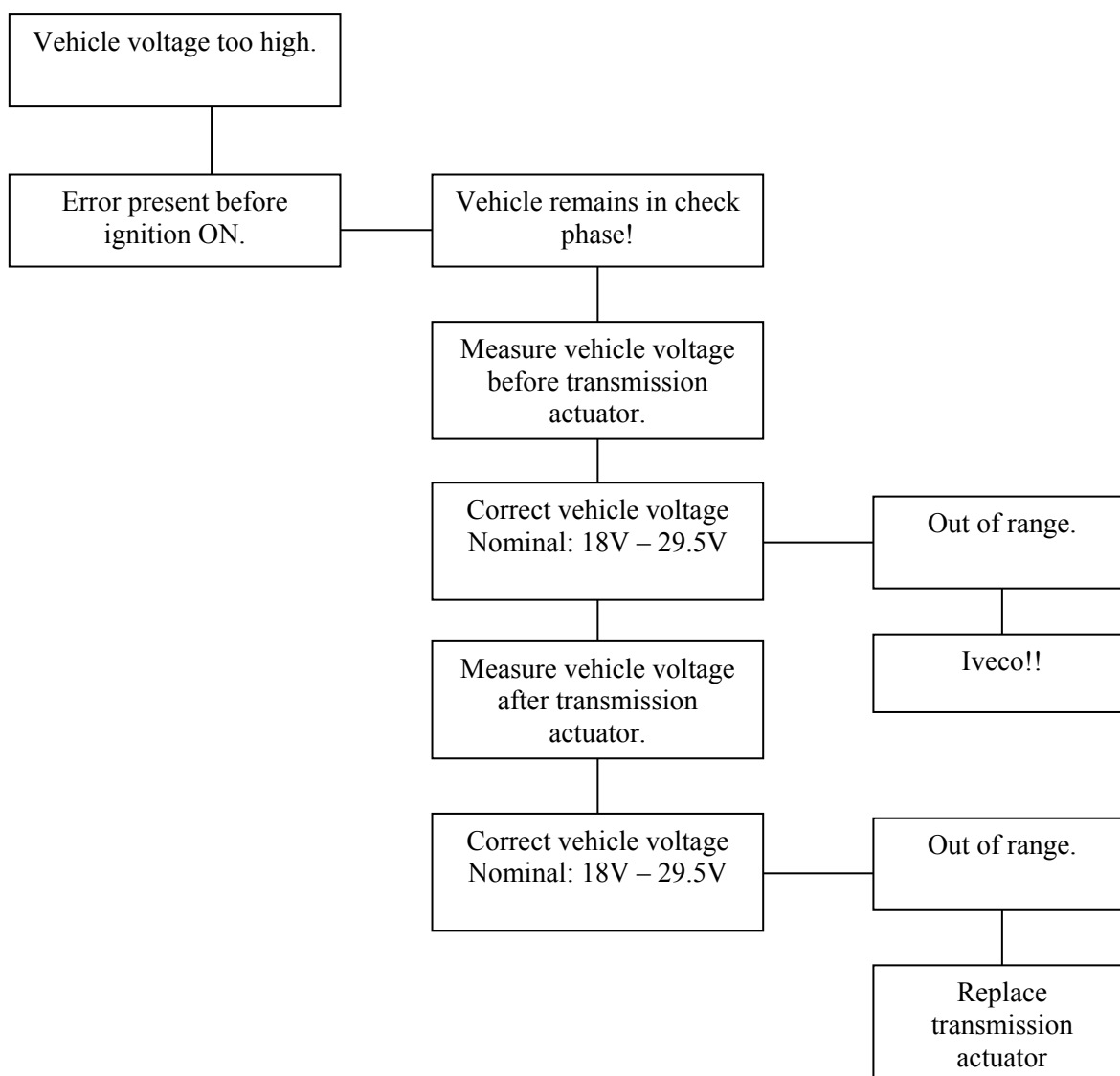
Error display: In vehicle display: 68
MobiDig/ Testman 104

Error description: Overvoltage of vehicle main power system

Error detection: Voltage higher "U_Bordnetz_max"

System response: No system restrictions during driving. If error present before ignition ON, the transmission remains in the check phase, system not available.

Error rectification:





Iveco error number: 69

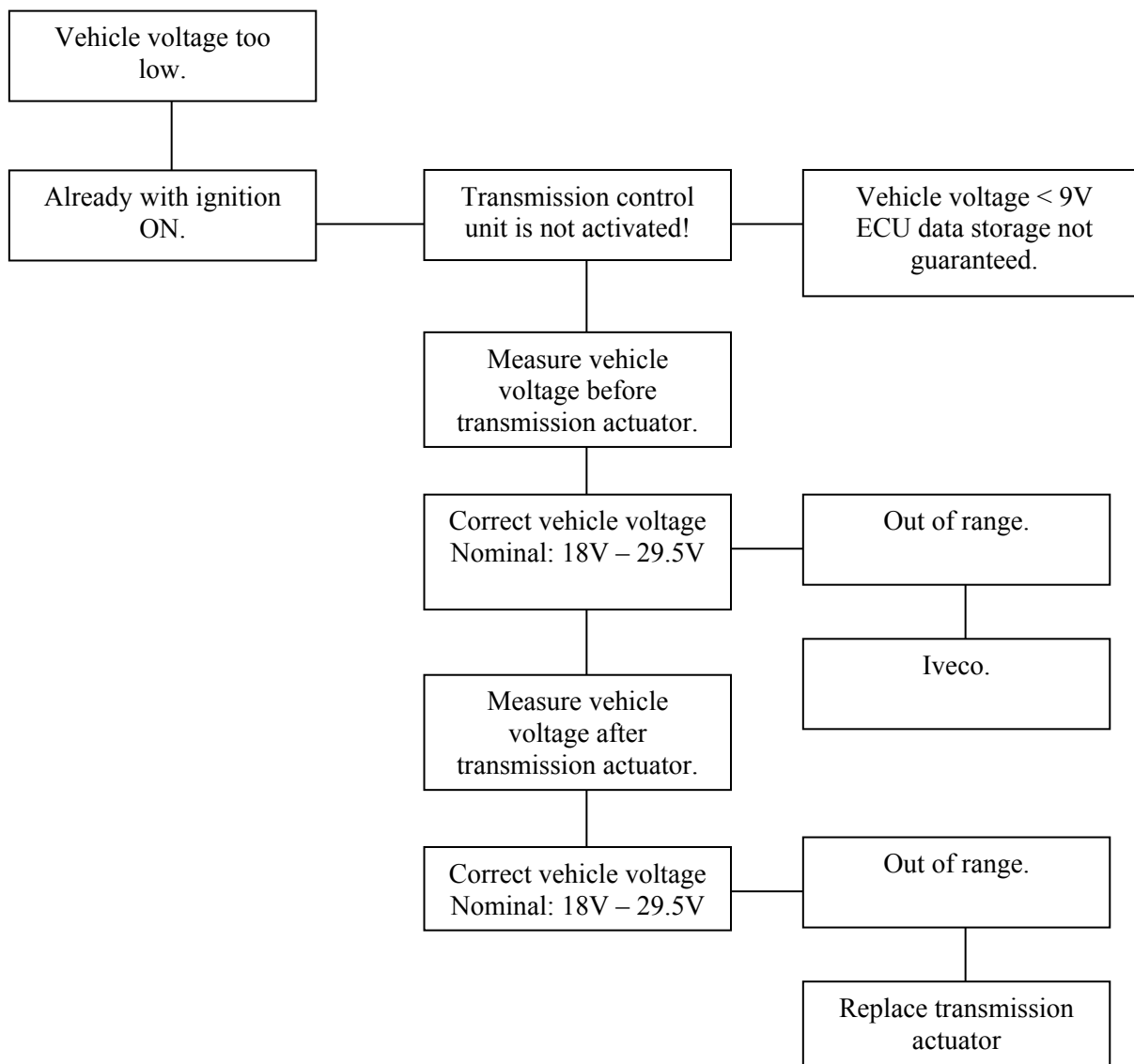
Error display: In vehicle display: 69
MobiDig/ Testman 105

Error description: Undervoltage of vehicle main power system

Error detection: Voltage lower „U_bordnetz_min_grenzw“

System response: During travel and if the vehicle is at a standstill, gear shifts are inhibited. If a gear is engaged and the driver switches off the ignition, the control unit tries to shift to neutral. The automatic unit is deactivated after a certain period of time. If a PTO is activated and the corresponding relay cannot be connected, the PTO is deactivated. Follow-up errors, due to undervoltage are not displayed.

Error rectification:



System response: The automatic shift unit is deactivated. During travel, the clutch is opened and closed in a time-controlled manner. Maneuvering not possible. If the vehicle does not set off within a certain amount of time, the transmission automatically shifts to neutral. The new starting gear must be selected using the range selector. Vehicle setting off is difficult and jerky!

```

graph TD
    A[Voltage supply from clutch actuator outside range.] --> B[Cable harness interruption on transmission end, short circuit to plus (+)/ground to pin 15.]
    B --> C[Error currently present]
    C --> D[Disconnect clutch actuator (disconnect plug-in connection to transmission actuator) and measure voltage on transmission actuator output (ignition on).]
    D --> E[Measure voltage between pin 15 and pin 16  
Nominal = 4.75 V – 5.25 V]
    E --> F[Out of range.]
    E --> G[Within range.]
    F --> H[Replace transmission actuator!]
    G --> I[Terminal tester between transmission actuator and clutch actuator  
Ignition on  
Measure voltage between pin 15 and pin 16  
Nominal = 4.75 V – 5.25 V]
    I --> J[Out of range.]
    I --> K[Replace clutch actuator.]

```



Iveco error number: 6C

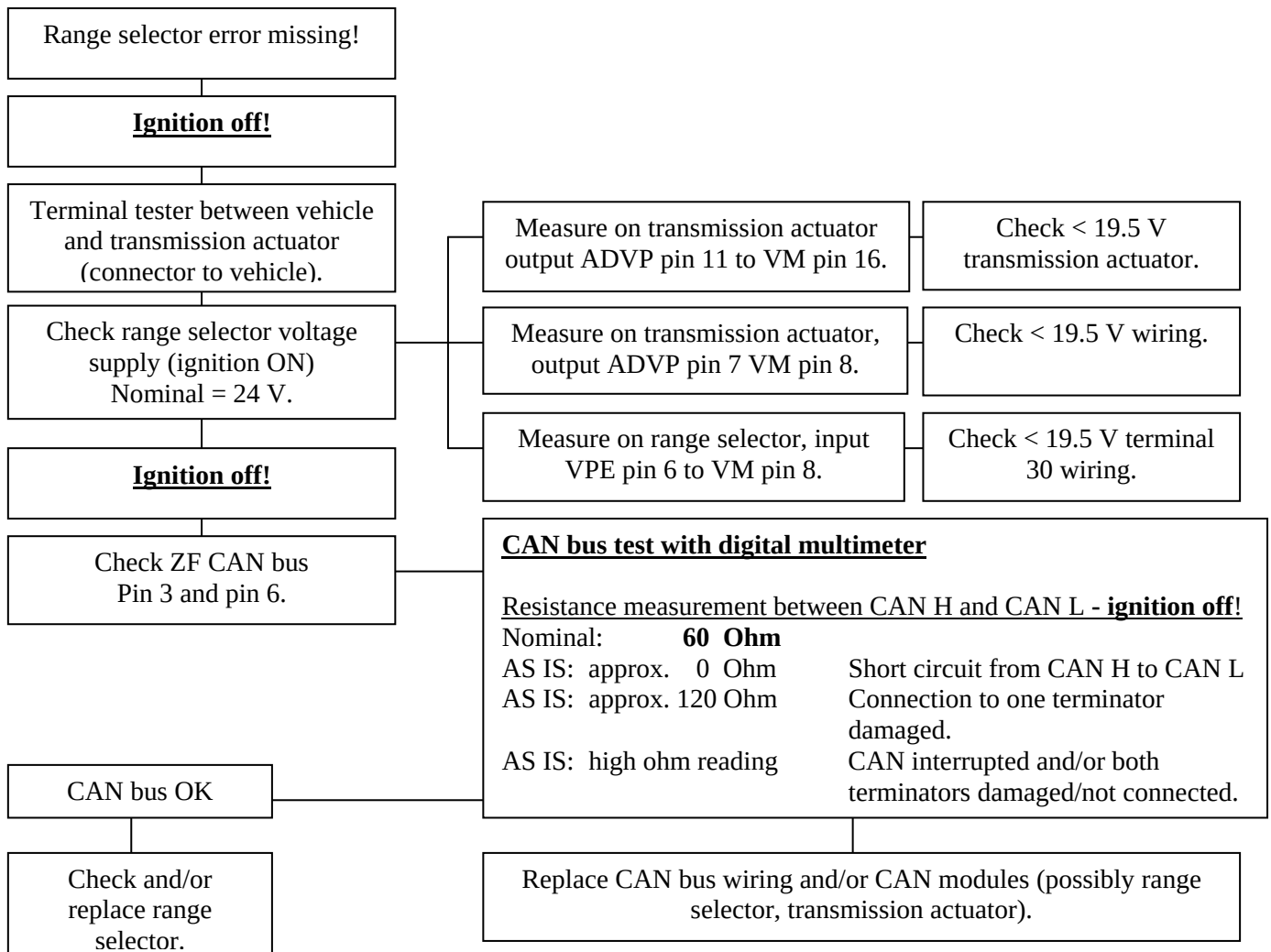
Error display: In vehicle display: 6C
MobiDig/ Testman 108

Error description: Range selector error

Error detection: Through switch plausibility check in range selector.

System response: Control lever: No shifting possible during travel. At standstill the "last starting gear" is selected in the manual mode (half-automatic mode), the automatic starting gear in automatic mode. If neutral is activated or existing at standstill, the starting gear is not engaged.
Neutral switch: No shifting possible during travel. At standstill a starting gear can be selected and the vehicle can be driven with a starting gear selected.
R gear selector signals: If there is a fault (no signal) in one of the two Reverse gear switches at a standstill and if the tip-action speed range selector is pulled backwards (-/--), the low-ratio Reverse gear (RL) is engaged.

Error rectification:





Iveco error number: 6E

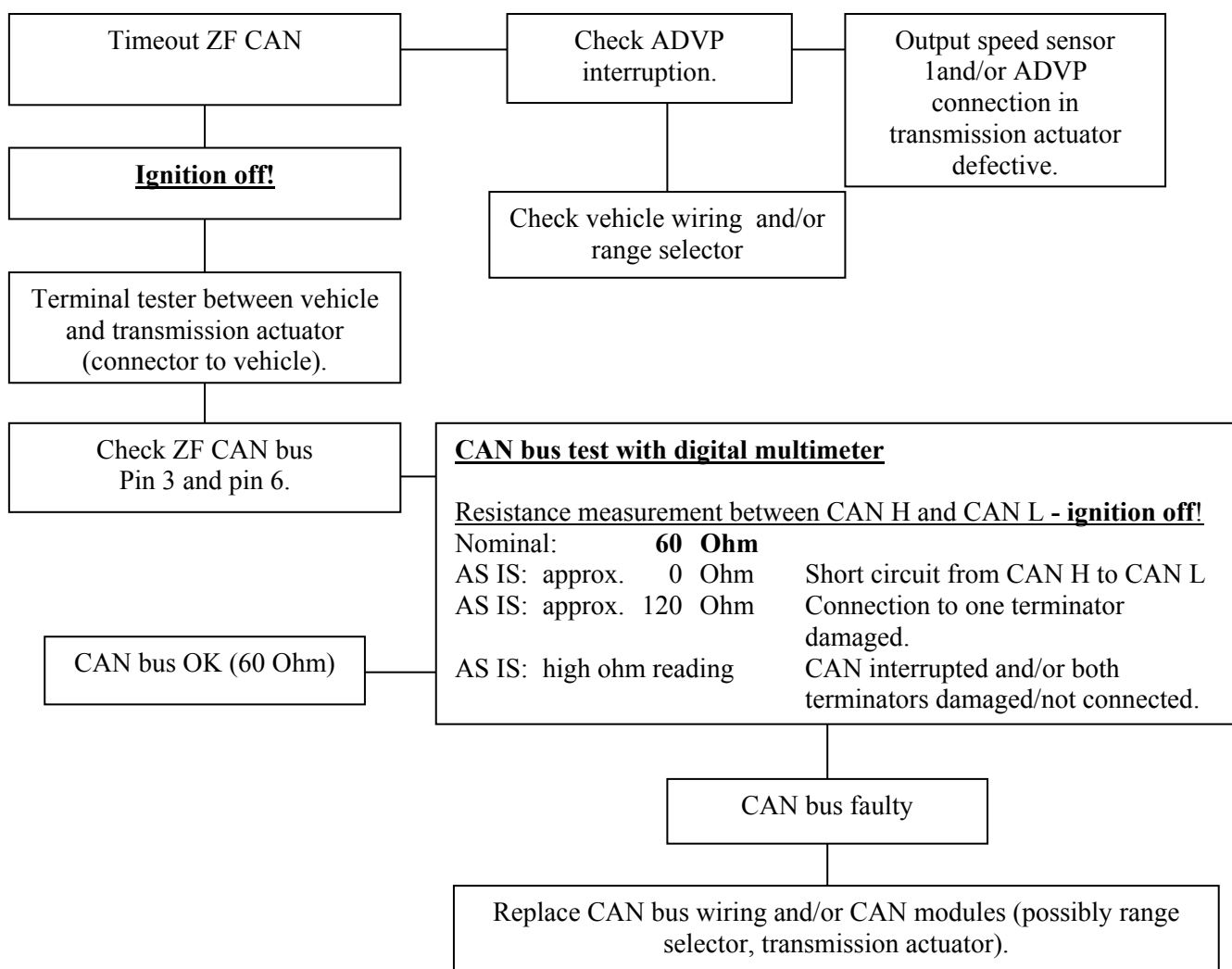
Error display: In vehicle display: 6E
MobiDig/ Testman 110

Error description: ZF CAN Timeout

Error detection: ZF-CAN information can neither be sent nor received.

System response: If the error is detected with ignition ON, the system is not available. While driving, gear shifting is not possible. If vehicle comes to a standstill, the last starting gear selected (with the rotary switch) is engaged. Further driving possible only with starting gear. If reverse gear is selected, the transmission automatically shifts to neutral. No range selector message. System not available!

Error rectification:





Iveco error number: 71

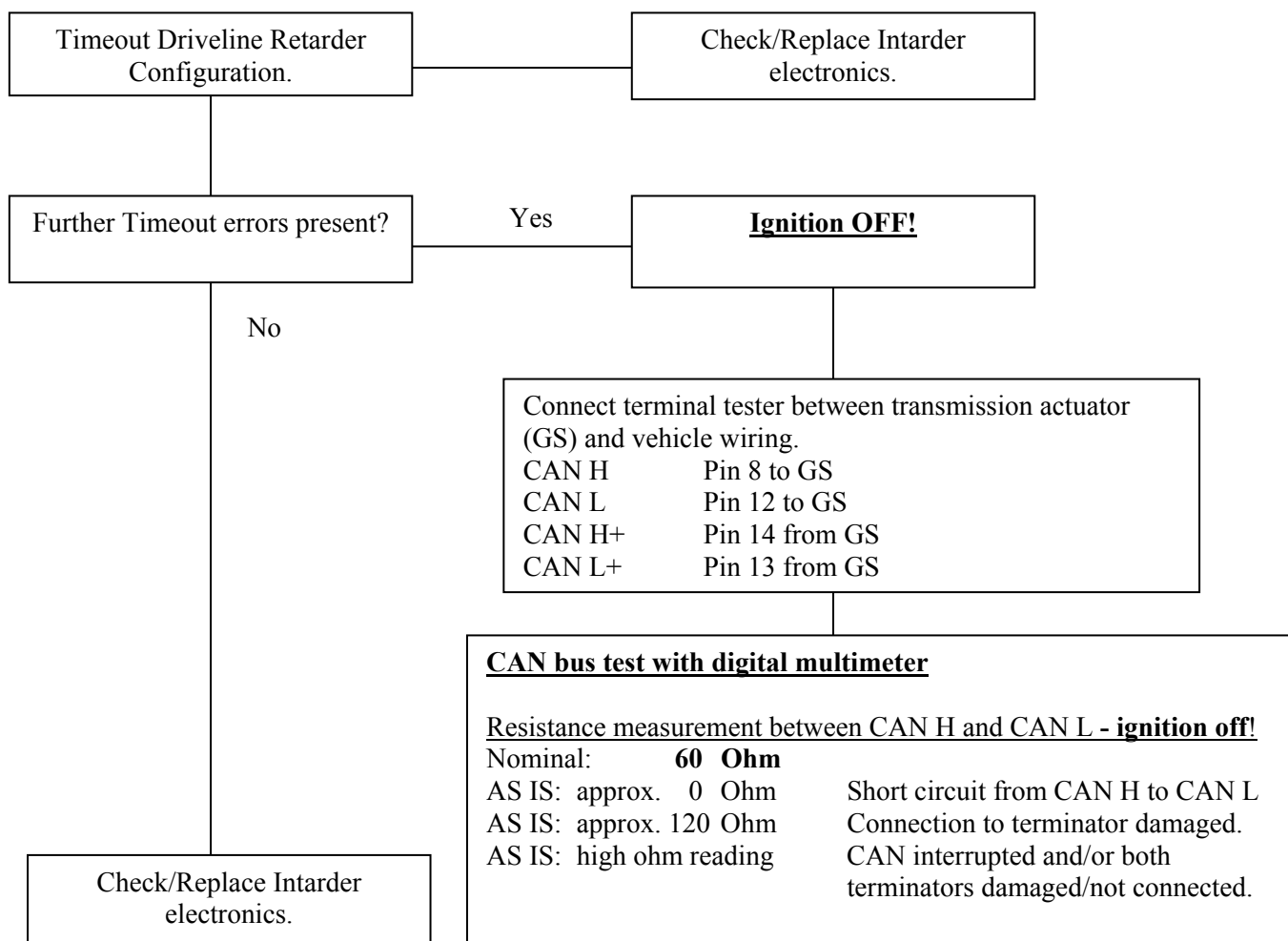
Error display: In vehicle display: 71
MobiDig/ Testman 113

Error description: CAN "Driveline Retarder configuration" timeout.

Error detection: An error is set after the message timeout.

System response: The automatic unit is no longer available. Manual shifting still possible.
If vehicle comes to a standstill, mid-starting gear is selected.
No other functional restrictions.

Error rectification:





Iveco error number: 72

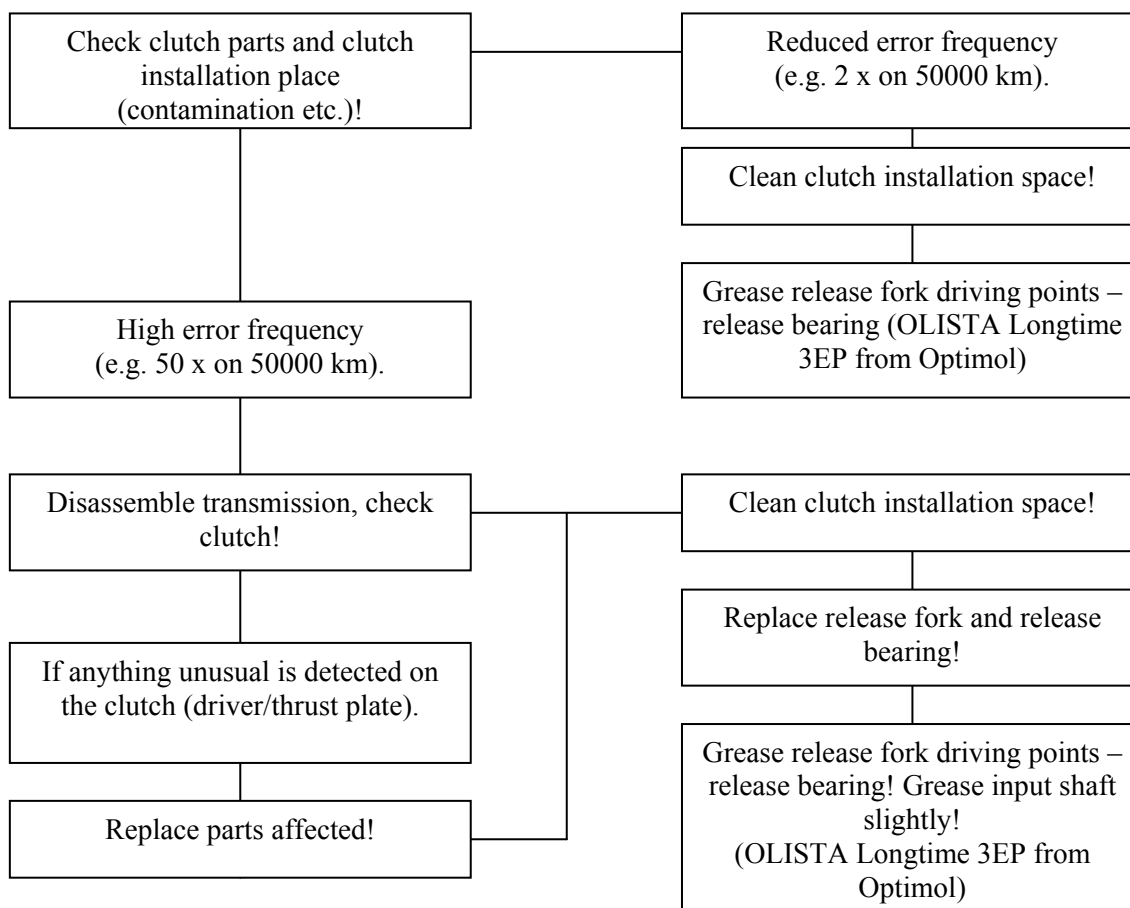
Error display: In vehicle display: 72
MobiDig/ Testman 114

Error description: Clutch closes accidentally when vehicle is stationary with gear engaged.

Error detection: At standstill and gear engaged, clutch closing!

System response: When vehicle stops, shifting is effected to neutral. No further system restrictions.

Error rectification:





Iveco error number: 75

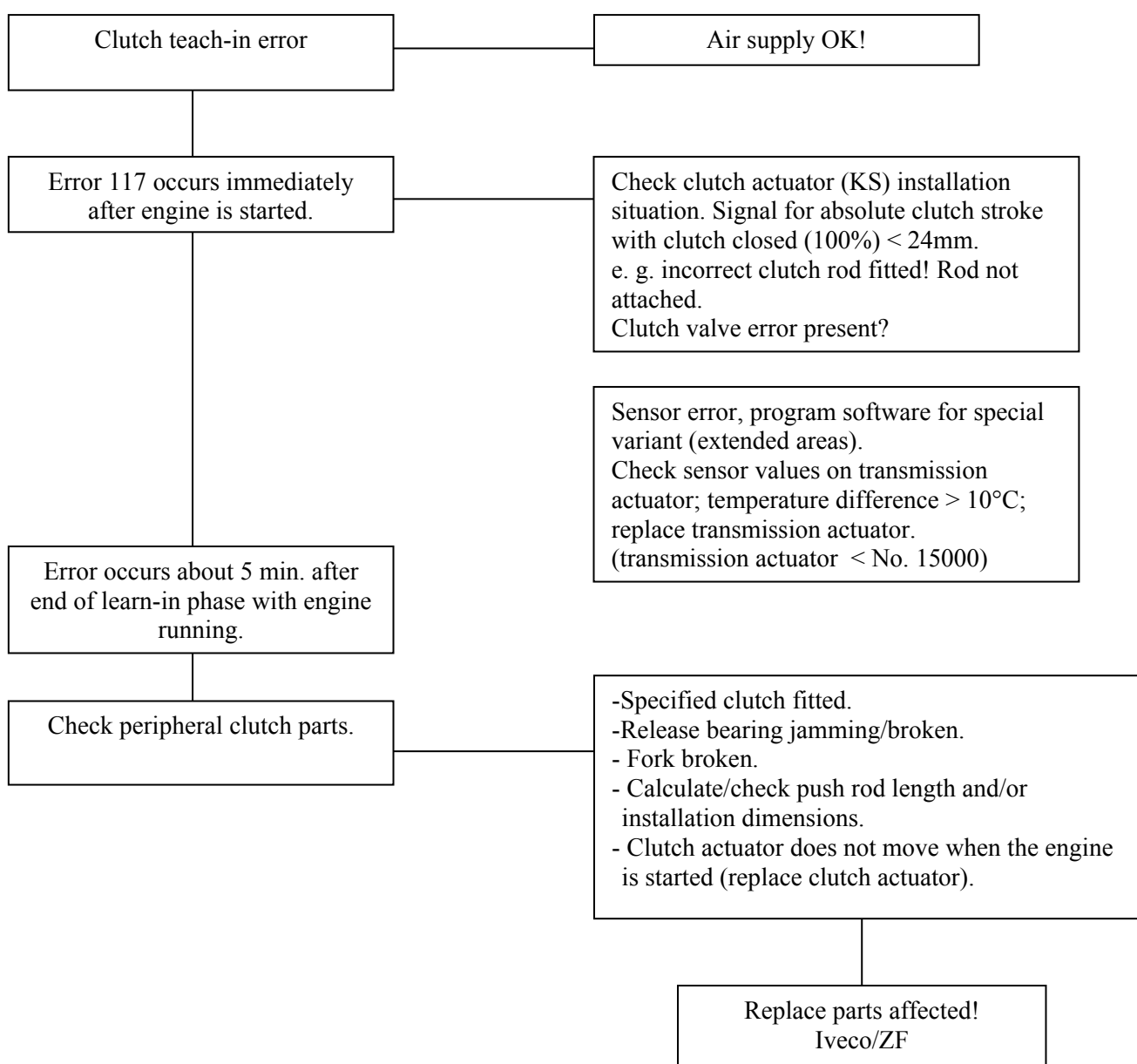
Error display: In vehicle display: 75
MobiDig/ Testman: 117

Error description: Error in clutch teach-in process.

Error detection: Clutch does not move even though the clutch valves have been activated.
Condition: No clutch travel sensor error (ZF 124), no engine speed error (ZF 97), no input speed error (ZF 98).

System response: System not available.

Error rectification:





Iveco error number: 76

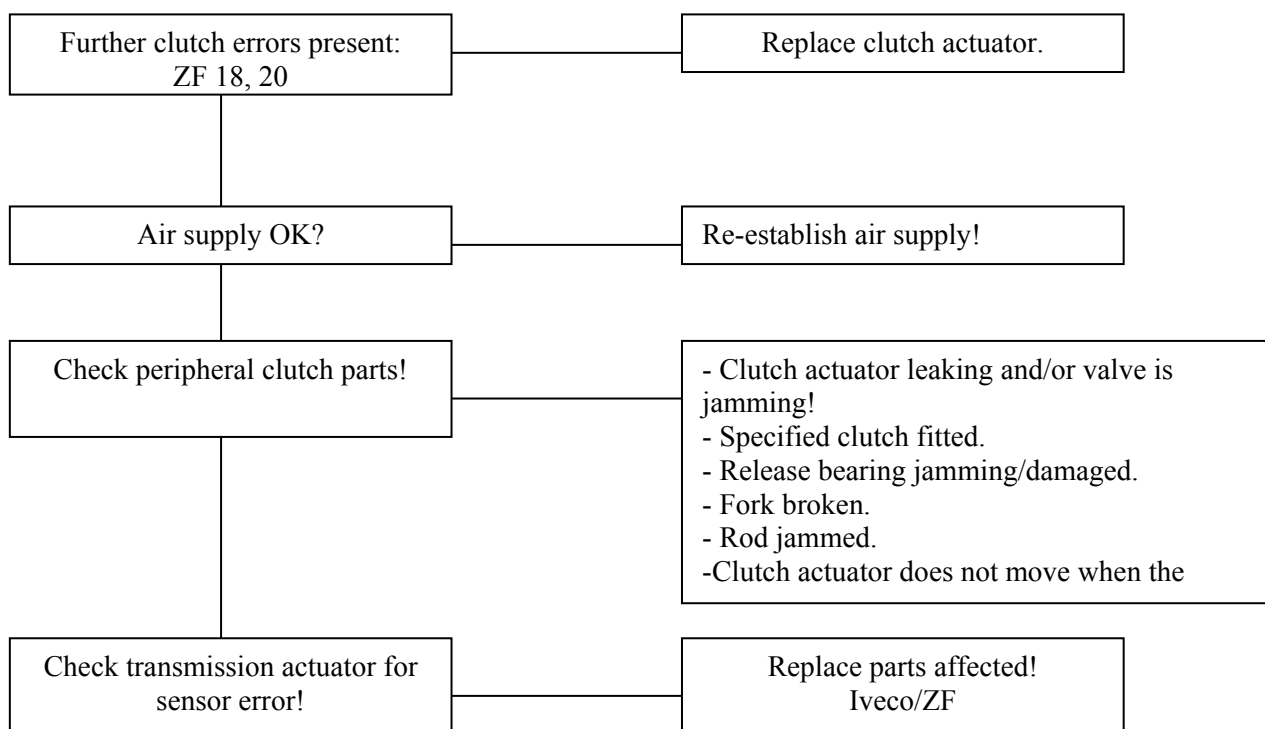
Error display: In vehicle display: 76
MobiDig/ Testman: 118

Error description: Clutch not opening.

Error detection: No clutch travel modification although opening valves were activated.
Condition: No clutch travel sensor error (ZF 124), no engine speed error (ZF 97), no input speed error (ZF 98).

System response: During driving, gear shifts are inhibited. If the vehicle comes to a standstill, attempts are made to open the clutch. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 77

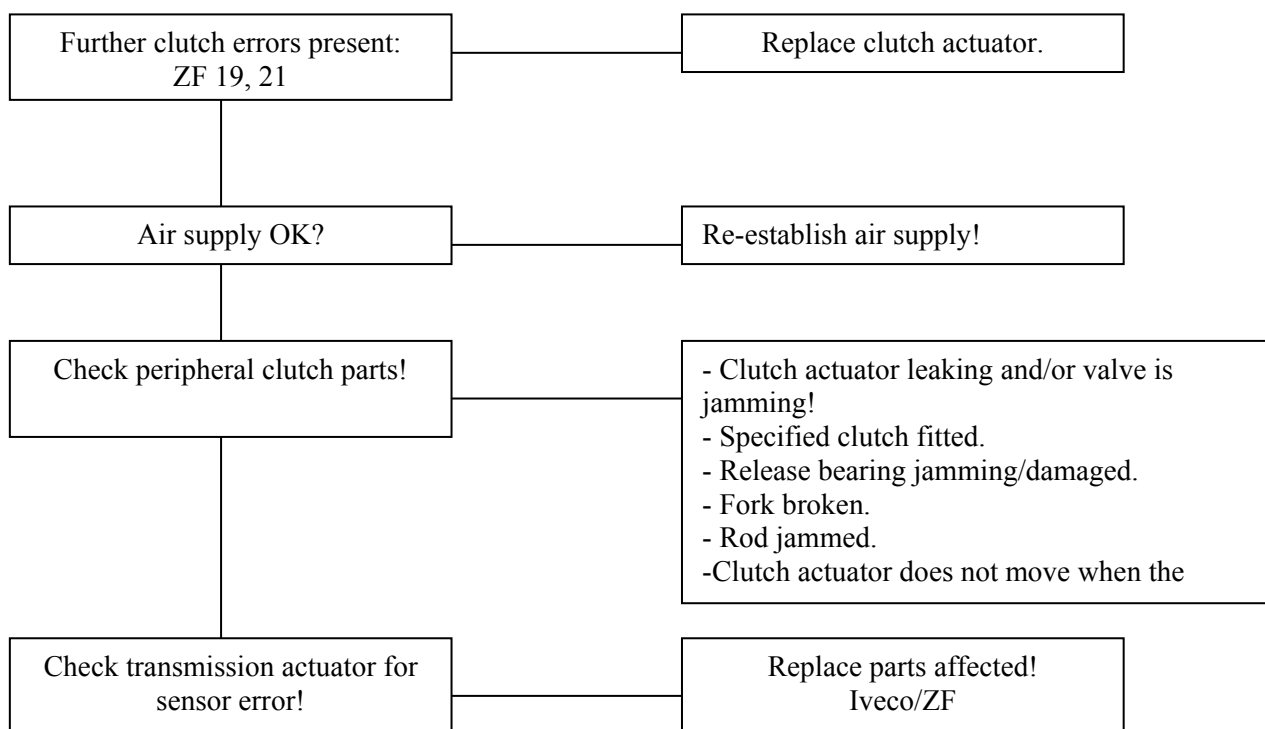
Error display: In vehicle display: 77
MobiDig/ Testman: 119

Error description: Clutch not closing/not transferring engine torque.

Error detection: Clutch sensor does not detect closing. Engine speed is unlike input speed.
Condition: No clutch travel sensor error (ZF 124), no engine speed error (ZF 97), no input speed error (ZF 98).

System response: During driving, gear shifts are inhibited. If the vehicle comes to a standstill, attempts are made to open the clutch. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: 78, 79, 7A, 7B

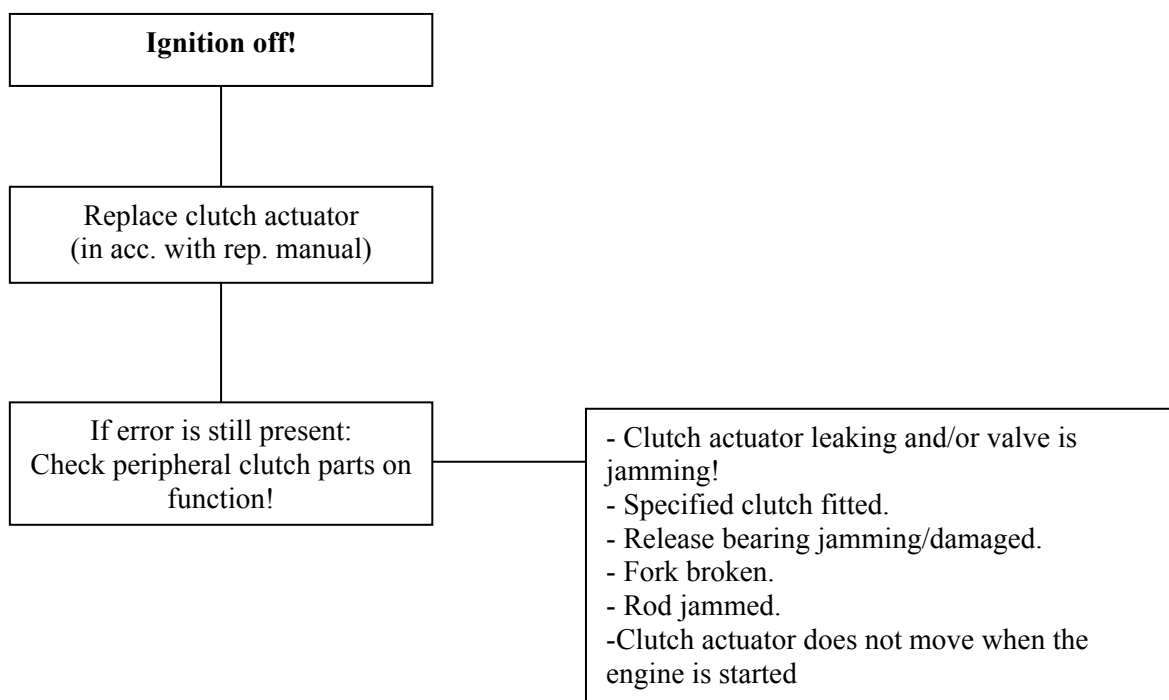
Error display: In vehicle display: 78, 79, 7A, 7B
MobiDig/ Testman 120, 121, 122, 123

Error description: Mechanical error on clutch actuator valve:
Y17 valve, clutch slowly opening (error 120),
Y15 valve, clutch slowly closing (error 122),
Y16 valve, clutch quickly opening (error 121),
Y14 valve, clutch quickly closing (error 123).

Error detection: Clutch does not open/close although valves have been activated.

System response: The automatic unit is not available. Manual shifting possible.
If one valve fails, this function is adopted by the other Close/Open valve.
Reduced comfort when maneuvering and starting. If both closing and opening valves fail, the system is not available.

Error rectification:





Iveco error number: 7C

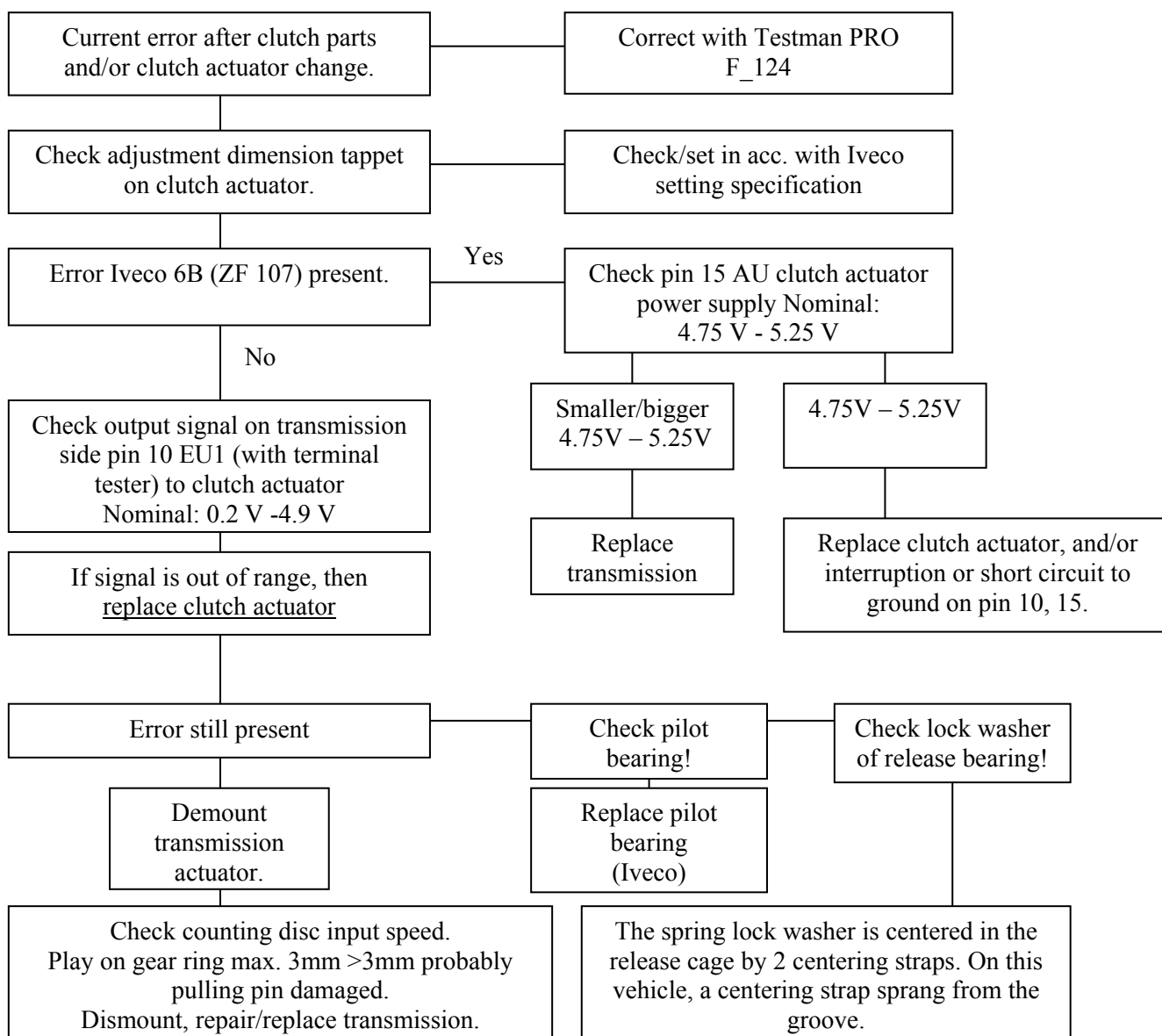
Error display: In vehicle display: 7C
MobiDig/ Testman 124

Error description: Signal error clutch travel.

Error detection: Clutch travel sensor signal outside the range (plausibility check).

System response: While vehicle is in motion, clutch is opened and closed in a time-controlled manner. Maneuvering impossible. If the vehicle does not set off after a gear has engaged, the transmission is automatically shifted to neutral. The new starting gear must be selected using the range selector. Reduced closing comfort while starting.

Error rectification:





Iveco error number: 7E

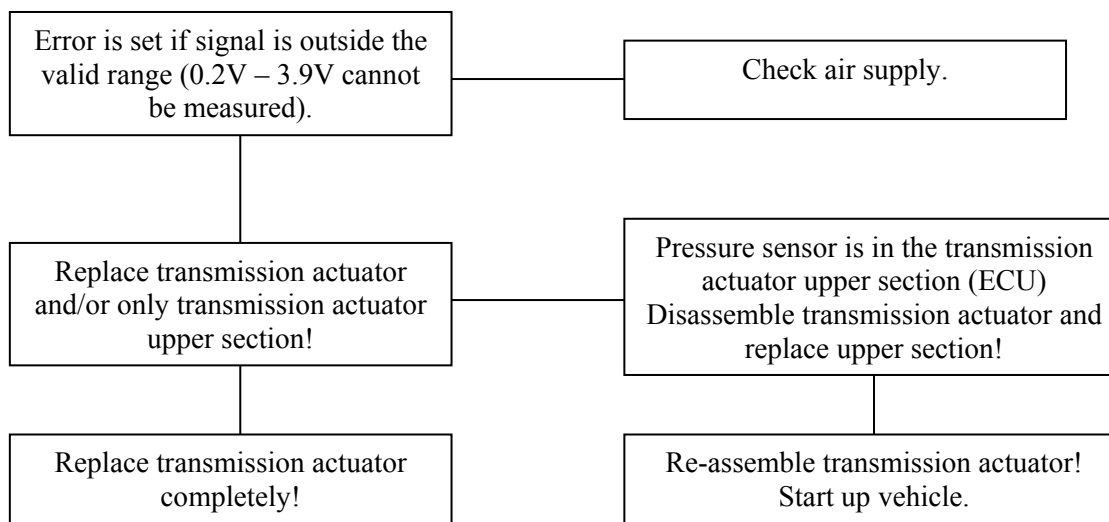
Error display: In vehicle display: 7E
MobiDig/ Testman 126

Error description: Signal error pressure sensor

Error detection: Voltage on analogue input outside range!

System response: The system function is not restricted if the external air supply is sufficient. In the case that there is too less atmospheric pressure, "AL" compressed air indicator is not shown on the display. The teach-in process after ignition ON of transmission and clutch is conducted in a time-dependent manner. The teach-in time could last some more time. The automatic unit is not available!

Error rectification:





Iveco error number: 7F

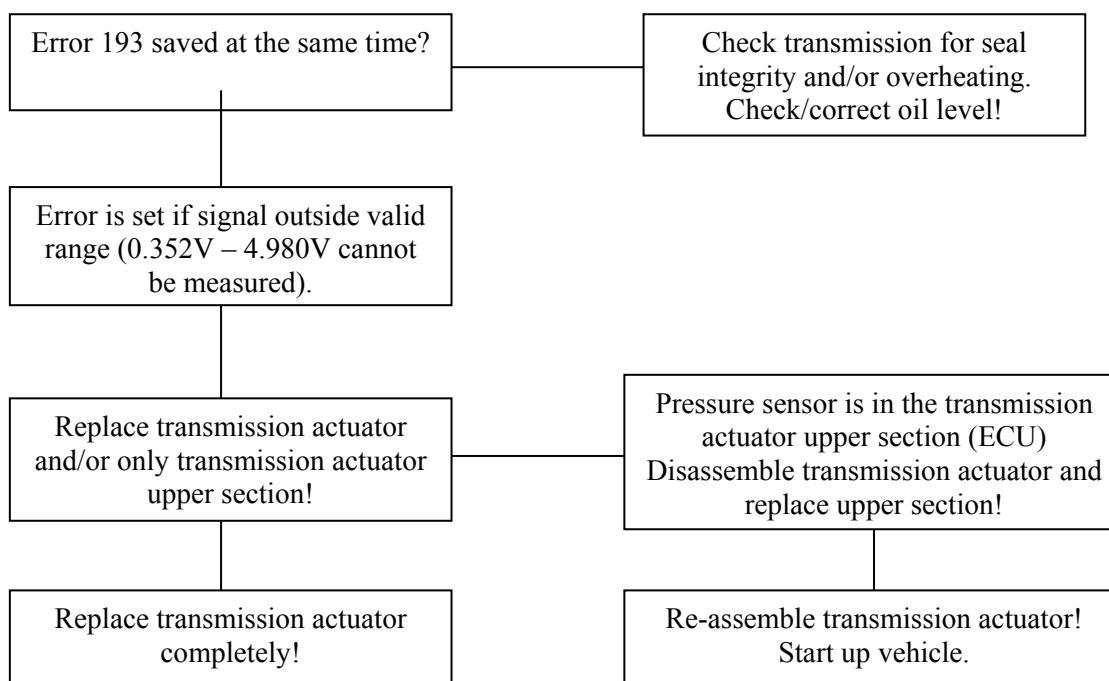
Error display: In vehicle display: 7F
MobiDig/ Testman 127

Error description: Signal error ECU temperature.

Error detection: Voltage level outside range.

System response: The automatic unit is not available. Manual shifting possible. No further system impairments.

Error rectification:





Iveco error number: 80

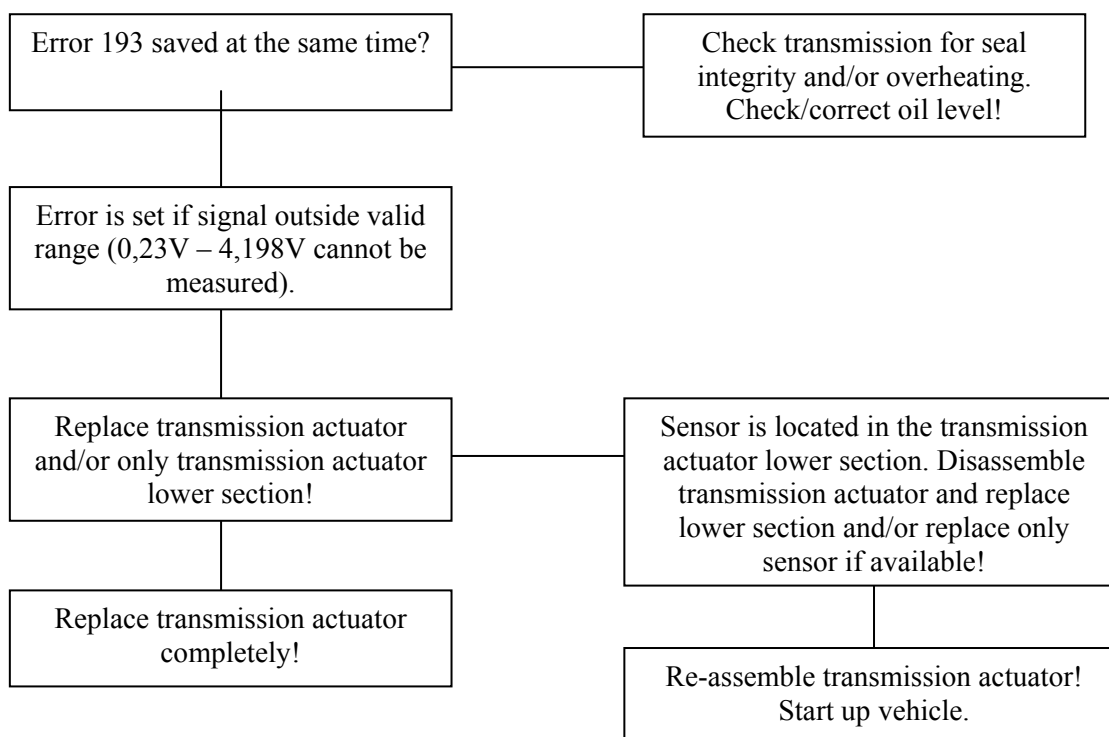
Error display: In vehicle display: 80
MobiDig/ Testman 128

Error description: Signal error oil temperature sensor.

Error detection: Voltage level outside range.
(ADC_Öl_Temp_Ausfall between 0.23V and 4.198V).

System response: No further system impairments.

Error rectification:





Iveco error number: 81, 82, 83

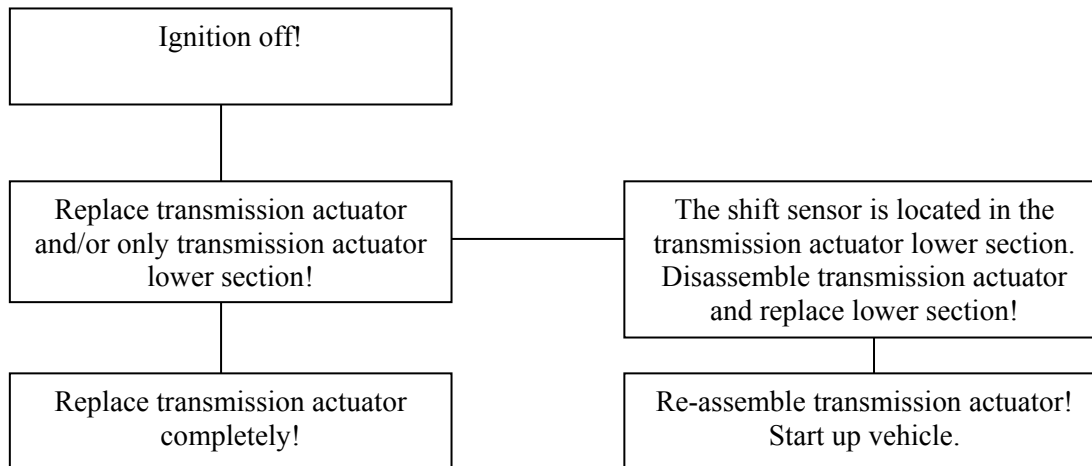
Error display: In vehicle display: 81, 82, 83
MobiDig/ Testman 129, 130, 131

Error description: No shift sensor signal present.
Error 129 Short circuit to plus (+).
Error 130 Short circuit to ground/earth.
Error 131 Interruption.

Error detection: By ECU hardware.

System response: If the error occurs during travel when shifting, gear shifts are inhibited. Shifts can only be made out of neutral. If the vehicle is at a standstill, starting gears can be selected.

Error rectification:





Iveco error number: 84

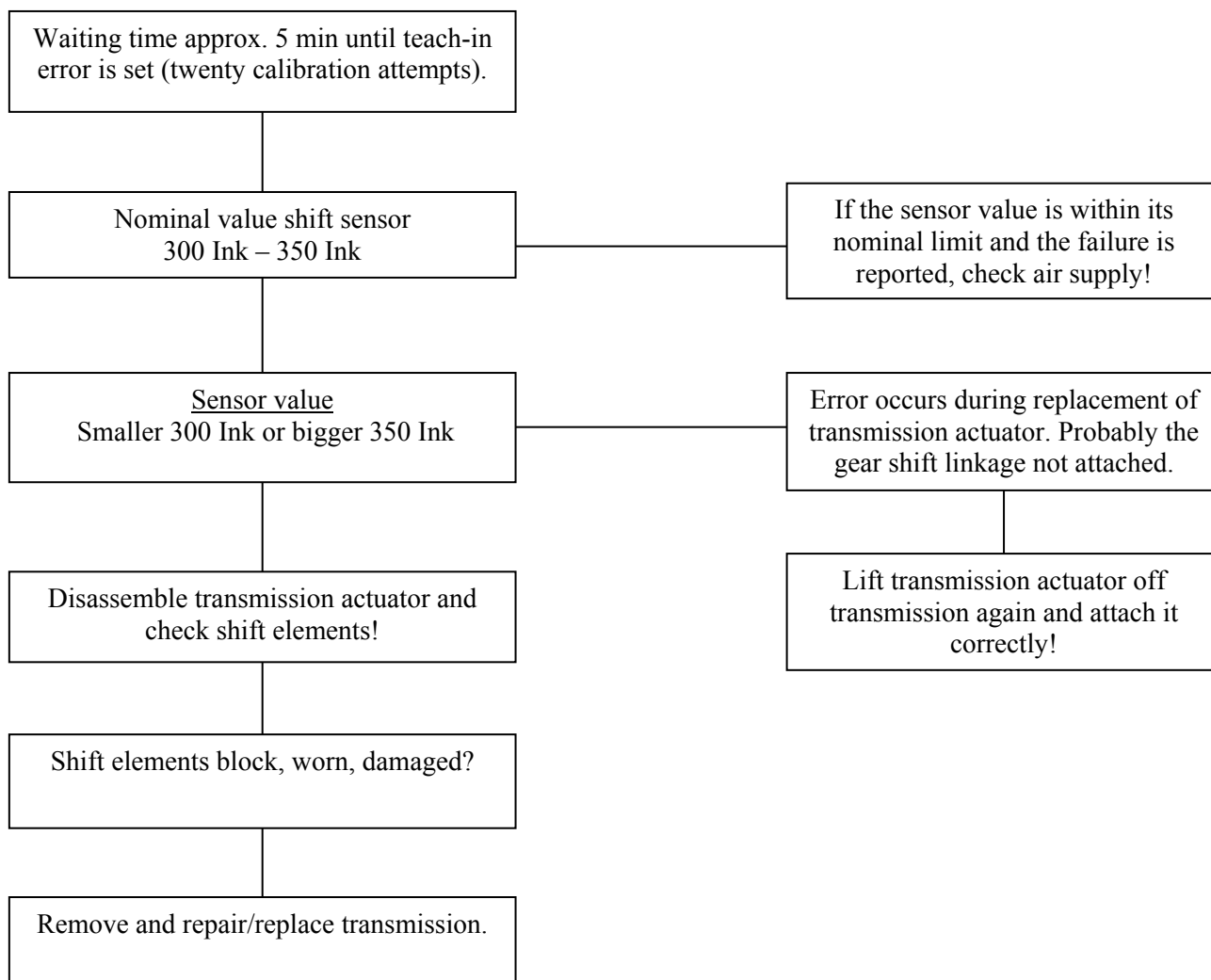
Error display: In vehicle display: 84
MobiDig/ Testman 132

Error description: Shift sensor teach-in error.

Error detection: Sensor value outside teach-in range and teach-in process failed with sufficient air pressure and after three attempts.
Sensor value outside of the teach-in range and teach-in process failed with insufficient air pressure after a certain waiting time and after a max. number of attempts.

System response: With ignition OFF the transmission automatically shifts to neutral.
With ignition ON, attempts are made to teach-in neutral position.
In the case of sufficient air pressure and if the neutral position cannot be taught in, the teach-in error is set after three attempts.
No error is set in the case of missing air pressure.

Error rectification:





Iveco error number: 85, 86, 87

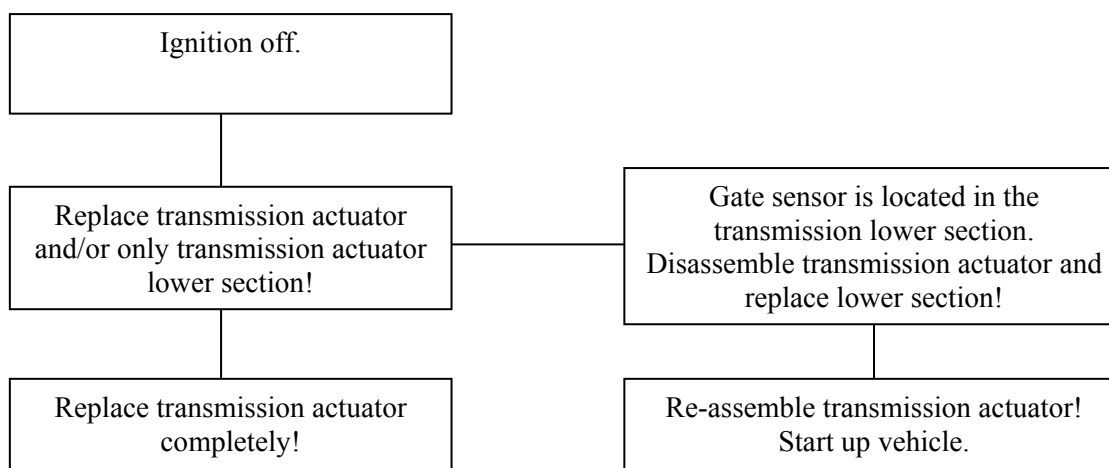
Error display: In vehicle display: 85, 86, 87
MobiDig/ Testman 133, 134, 135

Error description: No gate selection sensor signal present
Error 133 Short circuit to plus (+).
Error 134 Short circuit to ground/earth.
Error 135 Interruption.

Error detection: By ECU hardware.

System response: During travel only forwards gears which are opposite to the shift direction for the reverse gear can be selected. If an error occurs during the shift, the target gate is engaged in a time-controlled manner. When the vehicle is at a standstill all permitted starting gears which shift direction is opposite to the reverse gear can be selected. Reverse gear cannot be selected.

Error rectification:





Iveco error number: 88

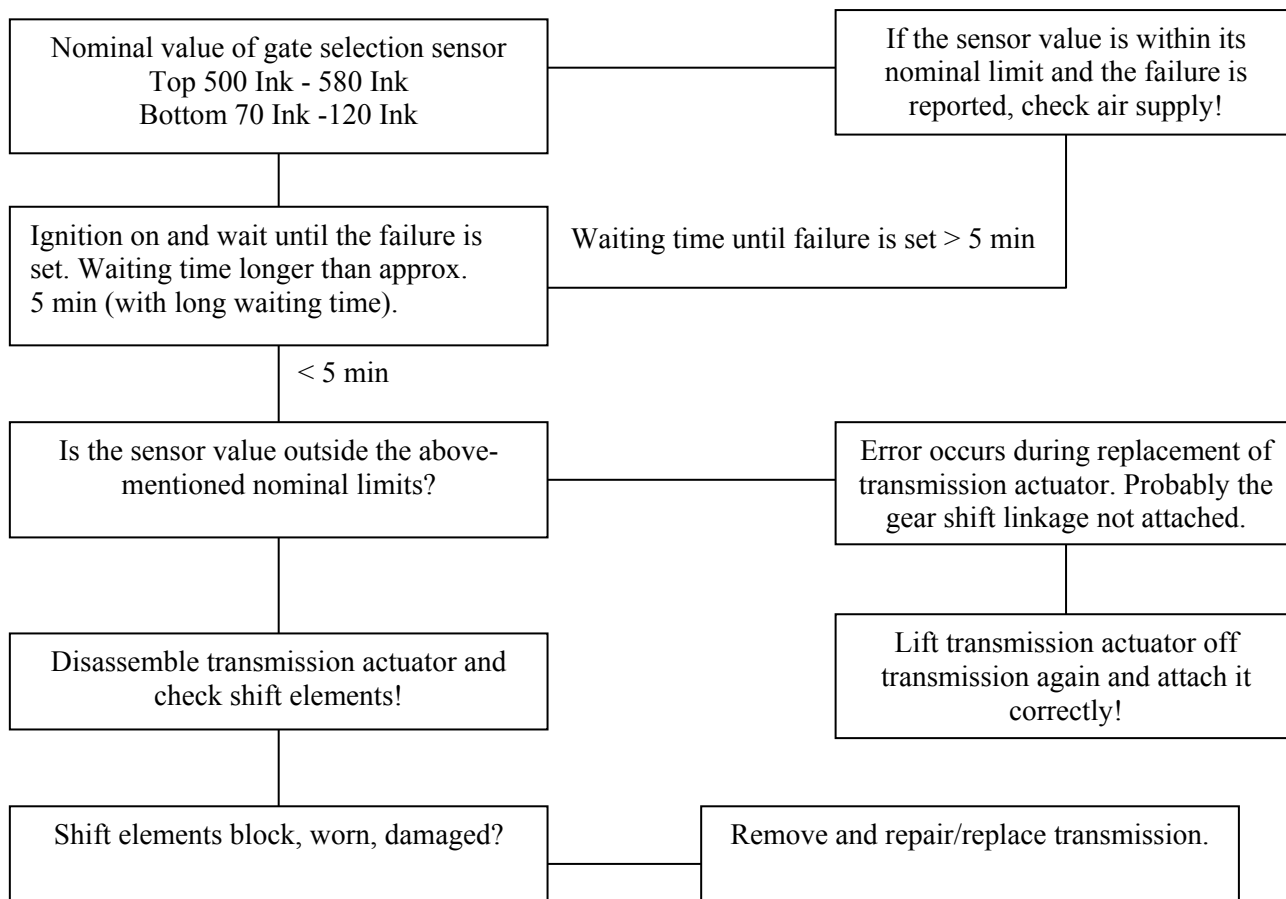
Error display: In vehicle display: 88
MobiDig/ Testman 136

Error description: Gate selection sensor teach-in error.

Error detection: Sensor value outside teach-in range and teach-in process failed with sufficient air pressure and after three attempts.
Sensor value outside of the teach-in range and teach-in process failed with insufficient air pressure after a certain waiting time and after a max. number of attempts.

System response: In the case of an electrical error on the selection valve only the possible gate is taught in.
Upper forward gears: 10/12 gear => gate 2/3, 16 gear => gate 3/4
Lower forward gears: 10/12 gear => gate R/1, 16 gear => gate 1/2
ECU tries to teach-in the gate of the upper forward gears of the main transmission. In the case of no success, attempts are made to teach-in the gate of the lower forward gears. In the case that both cannot be taught in, a teach-in error of the gate is set. If there is insufficient air and/or a pressure sensor signal error (ZF error 126), this teach-in attempt is repeated now and again.

Error rectification:





Iveco error number: 89, 8A, 8B

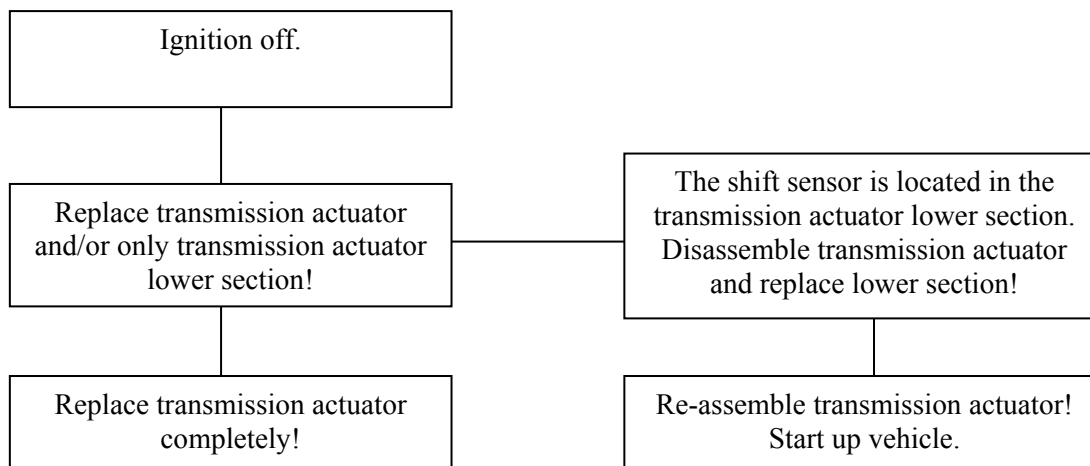
Error display: In vehicle display: 89, 8A, 8B
MobiDig/ Testman 137, 138, 139

Error description: No GP (planetary range) sensor signal present.
Error 137 Short circuit to plus (+).
Error 138 Short circuit to ground/earth.
Error 139 Interruption.

Error detection: By ECU hardware.

System response: If the error occurs during travel when shifting, GP shifts are inhibited. Only shifts in the corresponding GP range can be replaced. If the vehicle is at a standstill, starting gears can be selected.

Error rectification:





Iveco error number: 8C

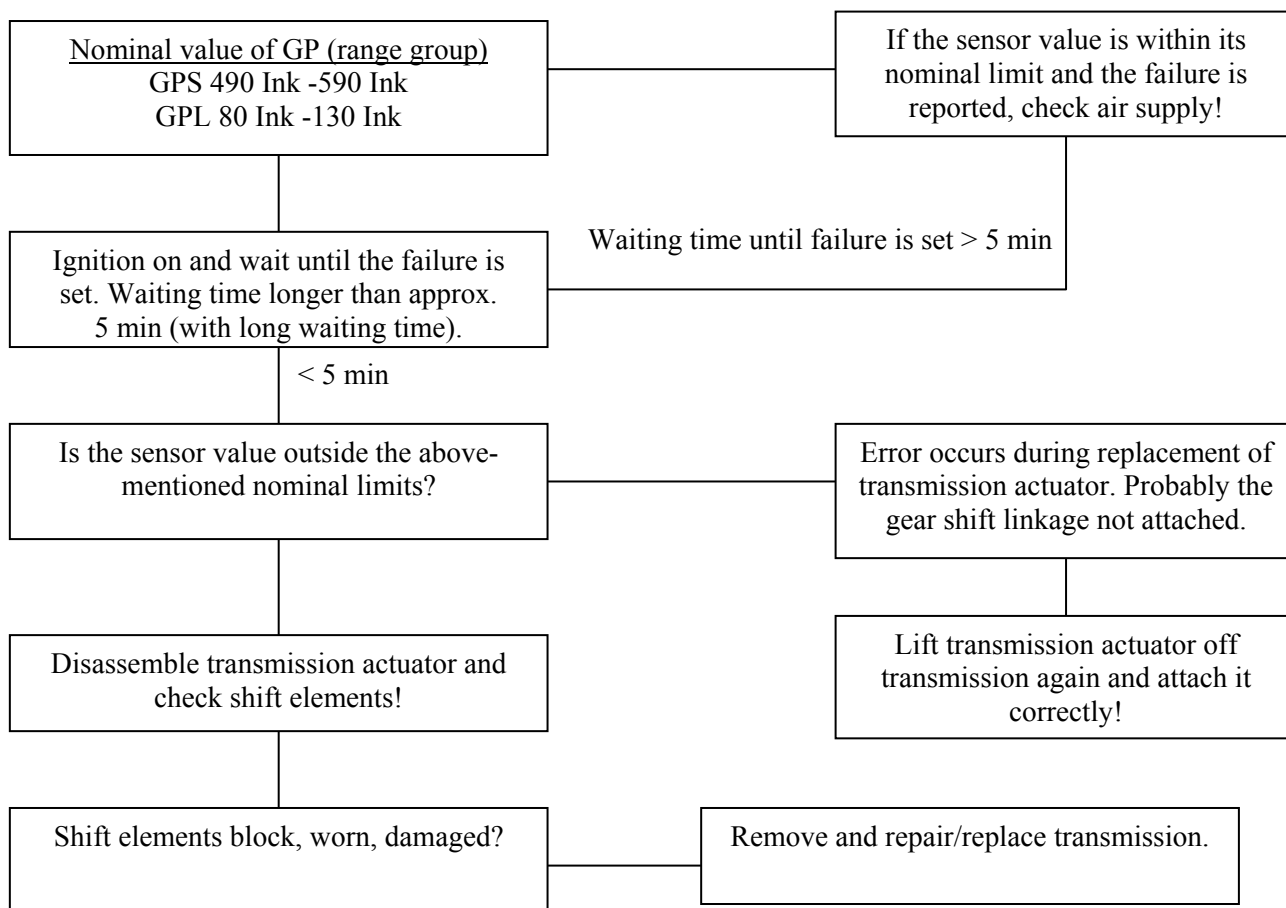
Error display: In vehicle display: 8C
MobiDig/ Testman 140

Error description: GP sensor teach-in error.

Error detection: Sensor value outside teach-in range.

System response: With ignition OFF the GP remains in the last setting selected. When the ignition is switched ON, attempts are made to teach-in GP-high. If this cannot be done after several attempts, attempts are made to teach-in GP-low. If neither GP-high nor low can be taught in, a teach-in error is set. The system is not available! If there is insufficient air and/or a pressure sensor signal error (ZF error 126), this teach-in attempt is repeated now and again.

Error rectification:





Iveco error number: 8D, 8E, 8F

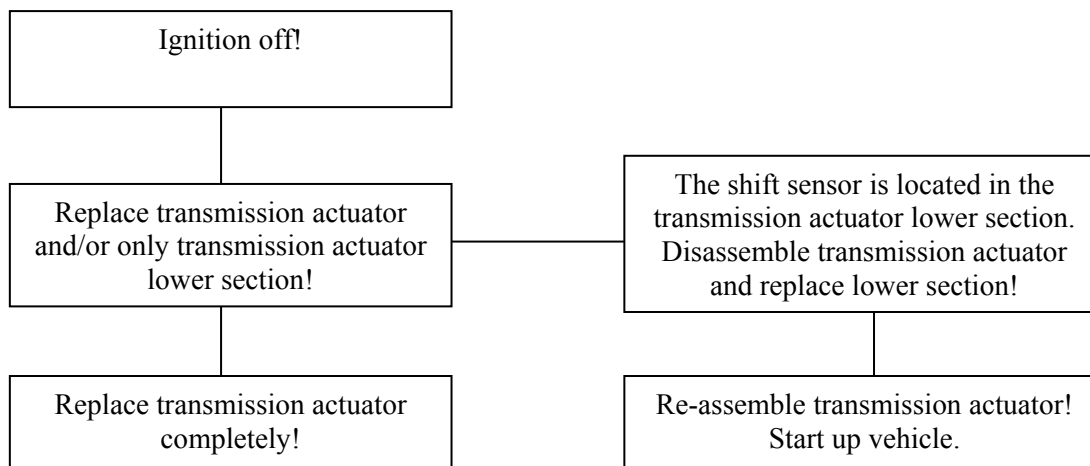
Error display: In vehicle display: 8D, 8E, 8F
MobiDig/ Testman 141, 142, 143

Error description: No GP (planetary range) sensor signal present.
Error 141 Short circuit to plus (+).
Error 142 Short circuit to ground/earth.
Error 143 Interruption.

Error detection: By ECU hardware.

System response: If the error occurs during travel when shifting, GV shifts are inhibited. Further driving only possible with the last selected GV (splitter group) position. The automatic shift unit is deactivated.

Error rectification:





Iveco error number: 90

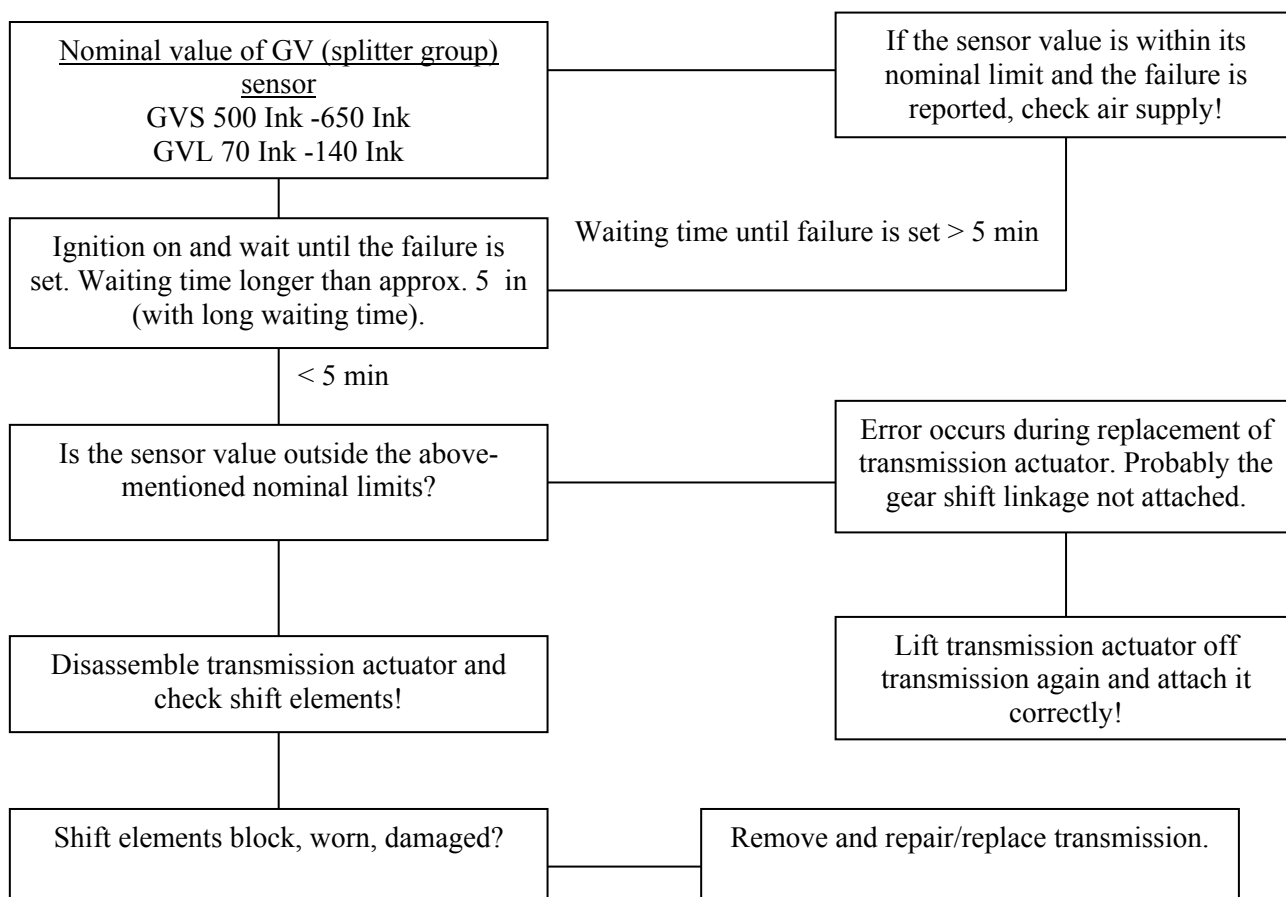
Error display: In vehicle display: 90
MobiDig/ Testman 144

Error description: GV sensor teach-in error.

Error detection: Sensor value outside teach-in range.

System response: With ignition OFF the GV remains in the last setting selected. When the ignition is switched ON, attempts are made to teach-in GVS. If this cannot be done after several attempts, attempts are made to teach-in GVL. If neither GV-S nor L can be taught in, a teach-in error is set. The system is not available! If there is insufficient air and/or a pressure sensor signal error (ZF error 126), this teach-in attempt is repeated now and again.

Error rectification:





Iveco error number: 91

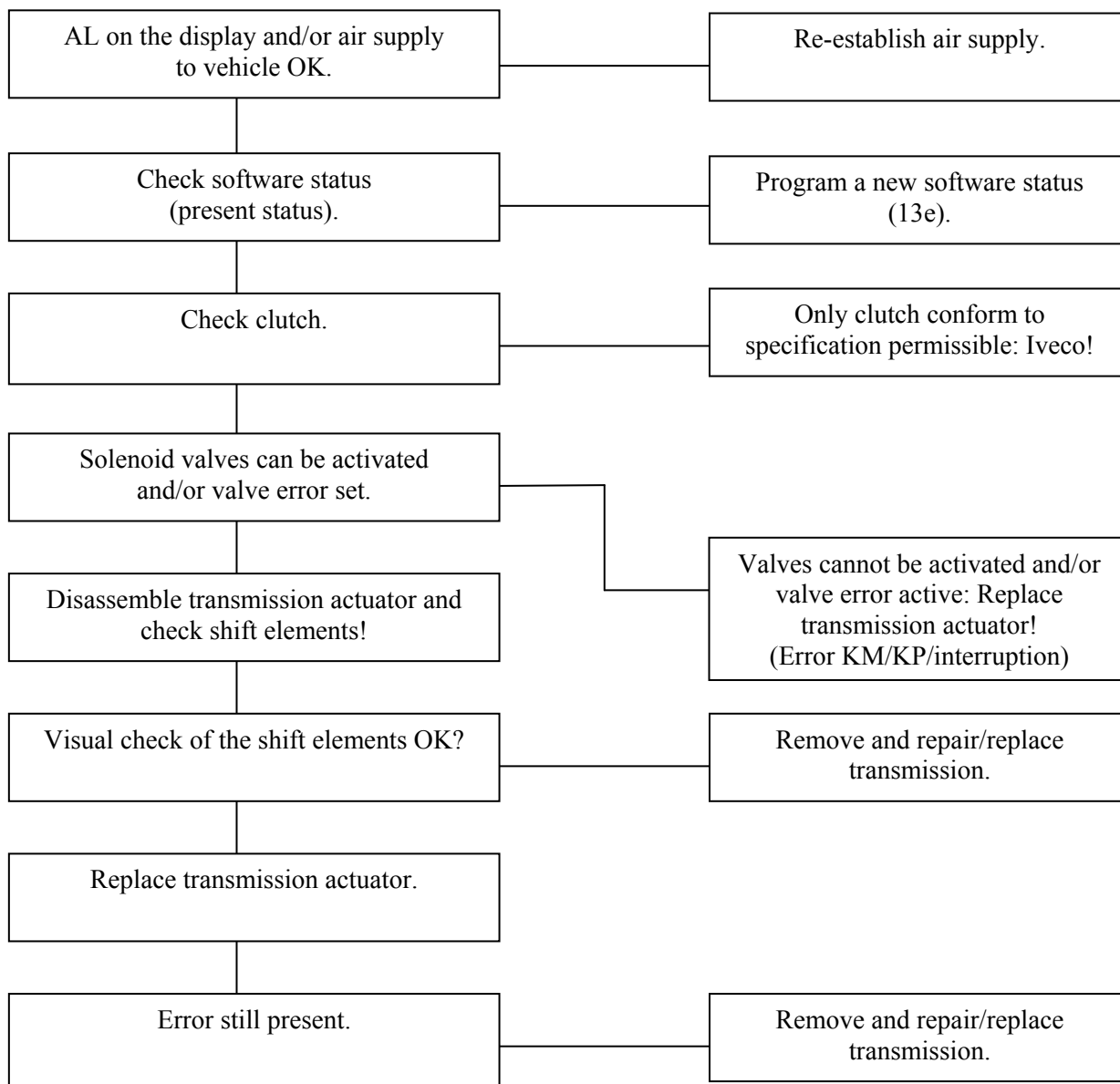
Error display: In vehicle display: 91
MobiDig/ Testman 145

Error description: GP disengagement error.

Error detection: GP does not leave the previous position within a defined time.

System response: When shifting from GPL to GPS during a shift, the highest gear in GPL is selected and when shifting from GPS to GPL, the lowest gear in GPS is selected. If the vehicle is at a standstill and GPL cannot be selected, the lowest gear in GPS is selected as starting gear. Reverse gear not available in GPS.
The automatic unit is deactivated!

Error rectification:





Iveco error number: 92

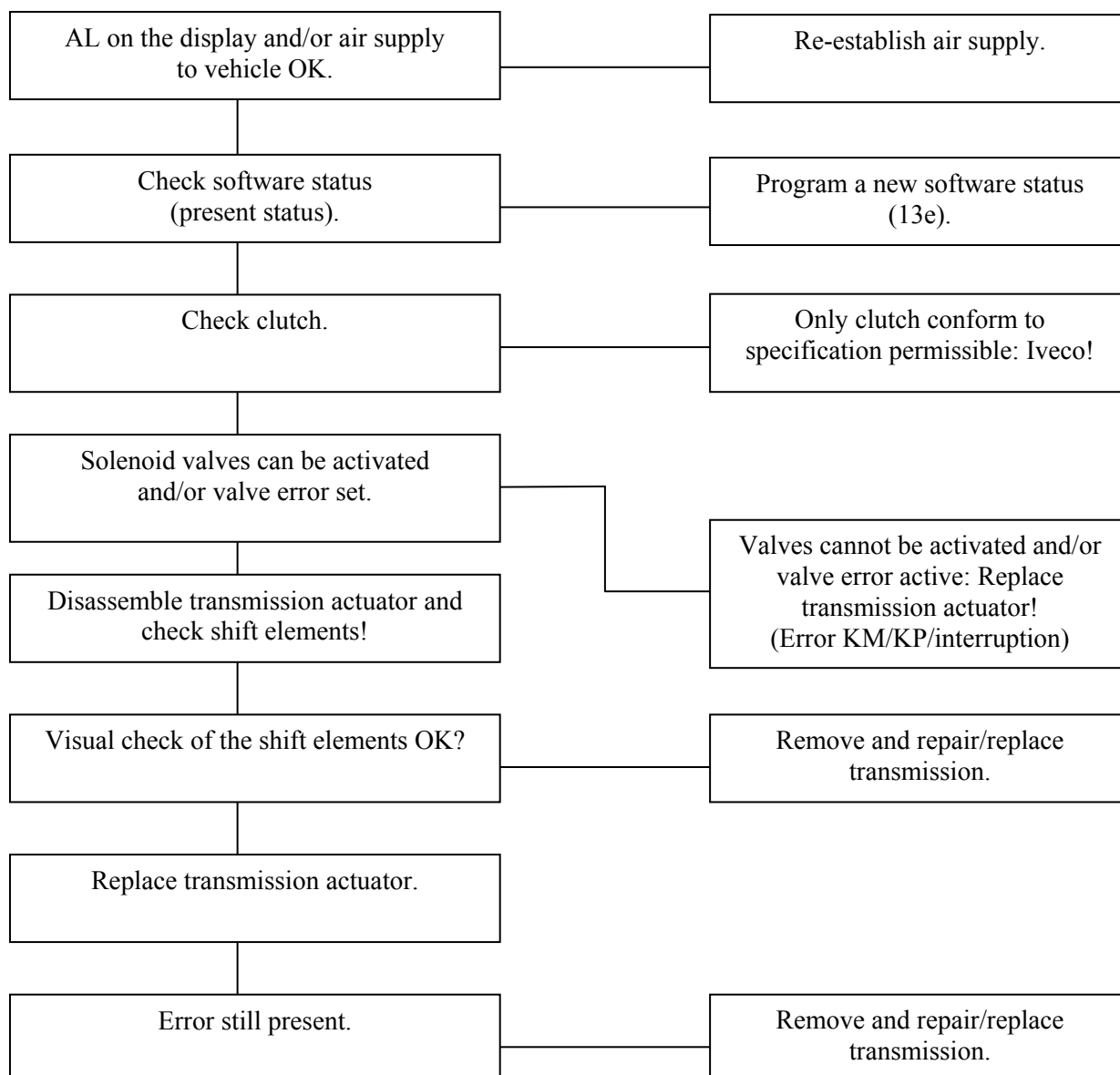
Error display: In vehicle display: 92
MobiDig/ Testman 146

Error description: Changeover error during GP shift.

Error detection: GP does not change into the new position within a defined time.

System response: The automatic shift unit is deactivated. If the GP position requested cannot be selected, the GP cylinder tries to shift three times. If the GP position requested cannot be selected, the following gear is selected:
When shifting from GPL to GPS, the highest gear in GPL is selected. When shifting from GPS to GPL, the lowest gear in GPS is selected. If the vehicle is at a standstill and GPL cannot be selected, the lowest gear in GPS is selected as starting gear.

Error rectification:





Iveco error number: 93

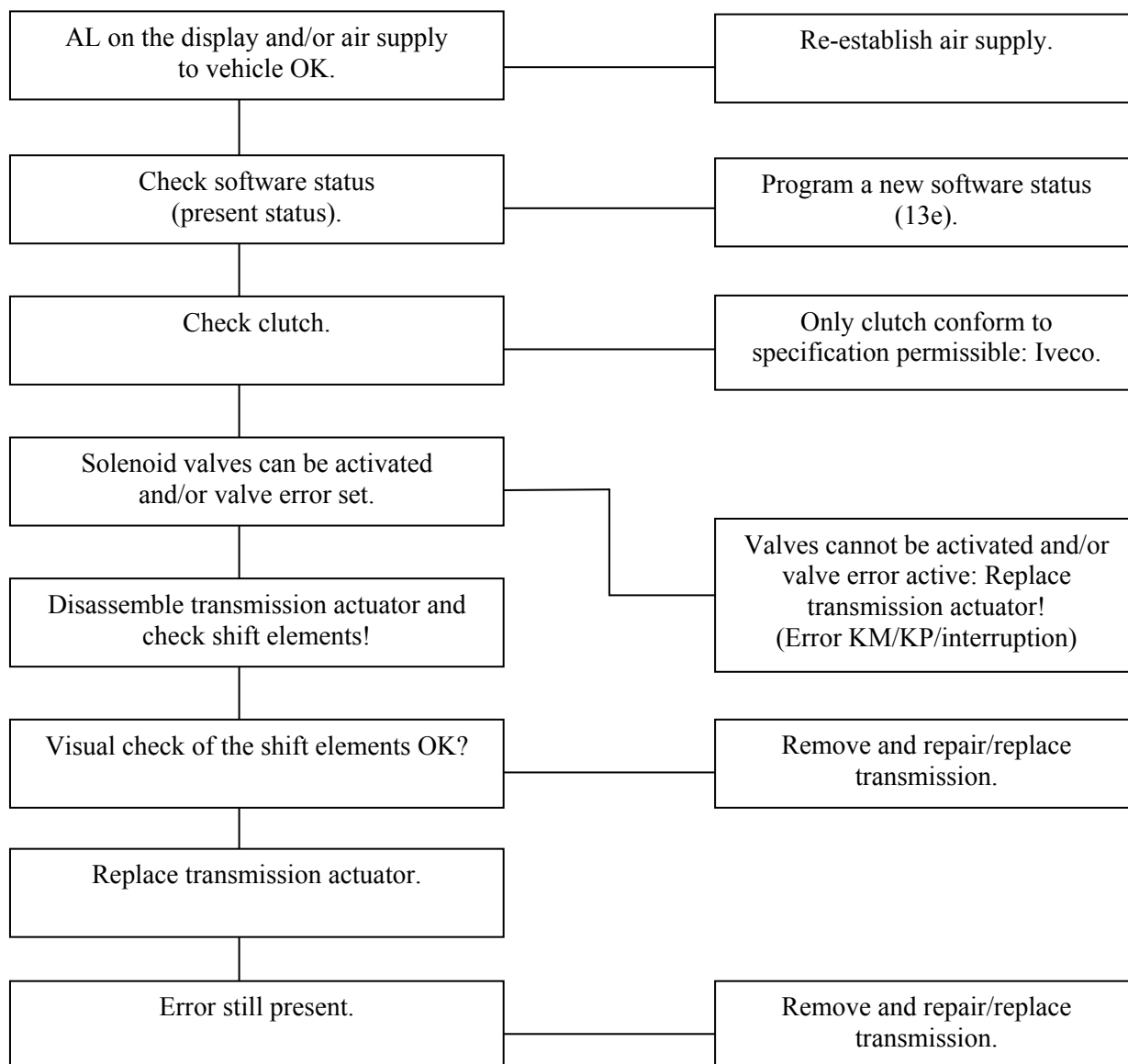
Error display: In vehicle display: 93
MobiDig/ Testman 147

Error description: GP not engaging.

Error detection: Within a defined time, GP reaches neither the limit position nor the new or old position.

System response: The automatic shift unit is deactivated. If the GP position requested cannot be selected, the GP cylinder tries to shift three times. If the gear requested cannot be selected, the previous GP position is selected. If the previous GP position cannot be selected, an error is set. The transmission shifts to neutral.
In all operating modes GP shift attempts can be made again.

Error rectification:





Iveco error number: 94

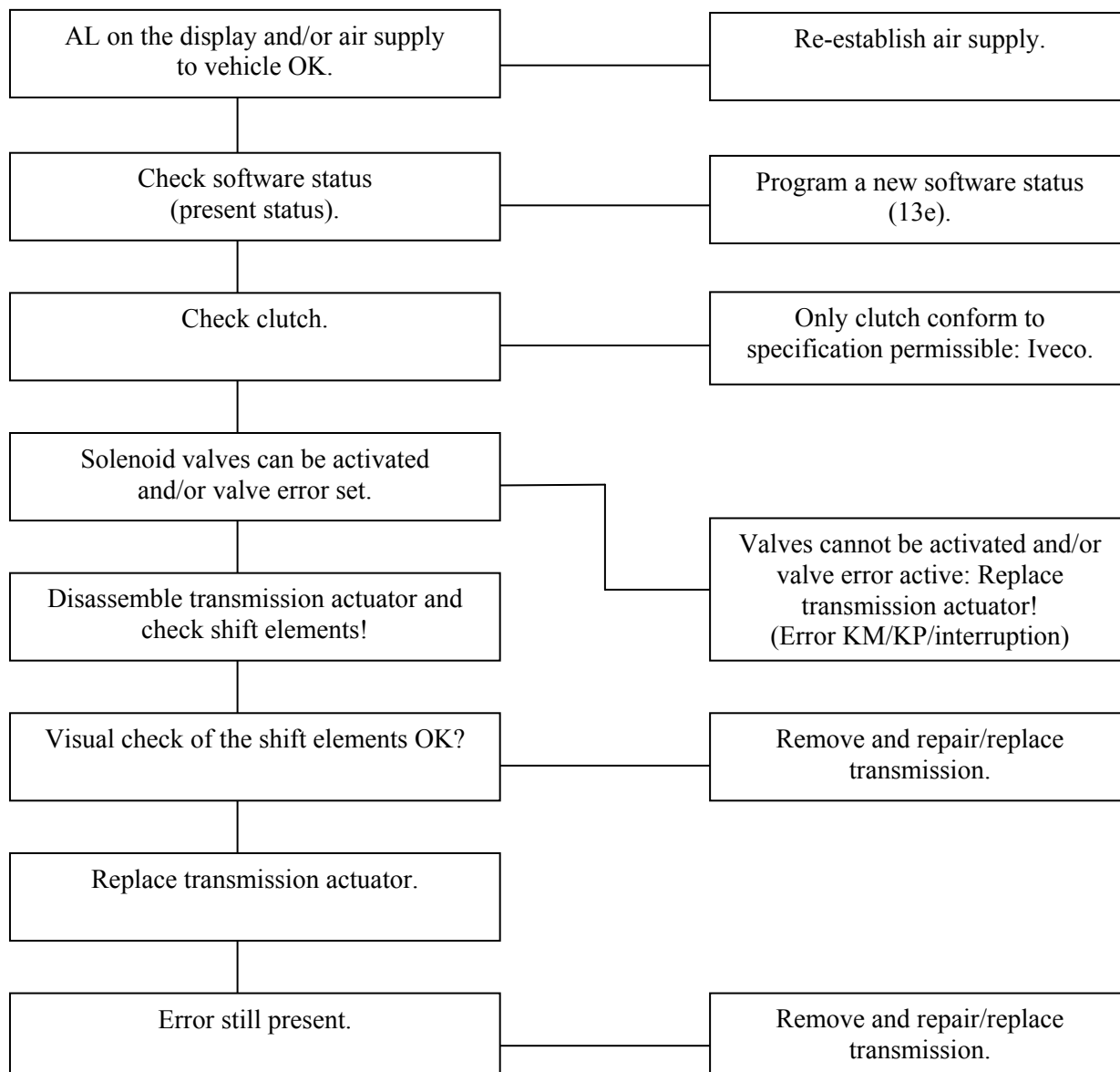
Error display: In vehicle display: 94
MobiDig/ Testman 148

Error description: GV (splitter group) does not disengage.

Error detection: GV (splitter group) does not leave the previous position within a defined time.

System response: The automatic shift unit is deactivated. The transmission performs an upshift into the next gear (e.g. if a shift from 2nd to 3rd gear is not possible, the transmission shifts up into 4th). The highest or lowest gear which can be selected (when changing gear and for the starting gear) is the one engaged in the most recently selected GV (splitter group) position.

Error rectification:





Iveco error number: 95

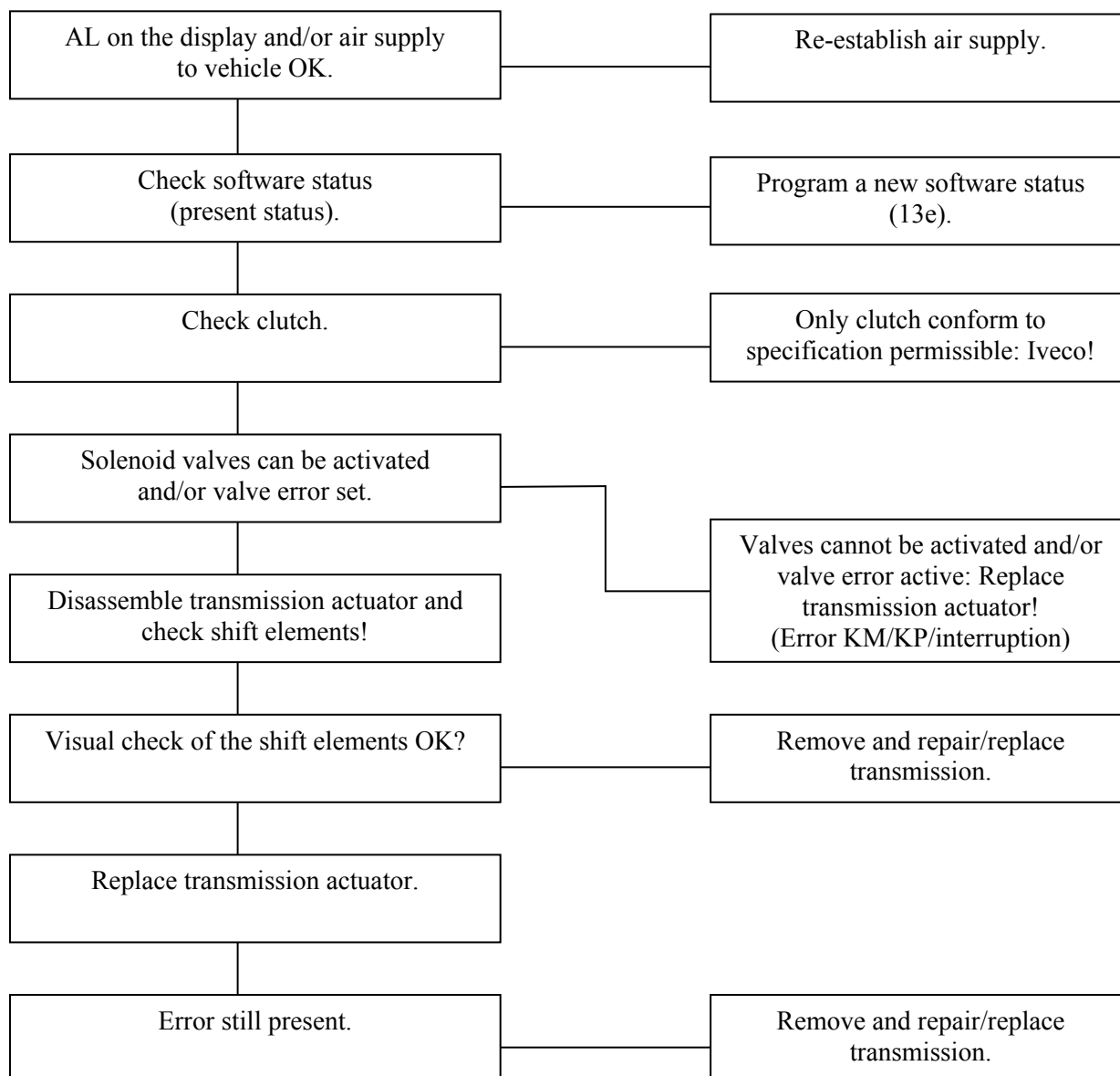
Error display: In vehicle display: 95
MobiDig/ Testman 149

Error description: Shifting error during GV shift.

Error detection: GV does not change into new position within a defined time.

System response: The automatic shift unit is deactivated. The transmission performs an upshift into the next gear (e.g. if a shift from 2nd to 3rd gear is not possible, the transmission shifts up into 4th). The highest or lowest gear which can be selected (when changing gear and for the starting gear) is the one engaged in the most recently selected GV (splitter group) position.

Error rectification:





Iveco error number: 96

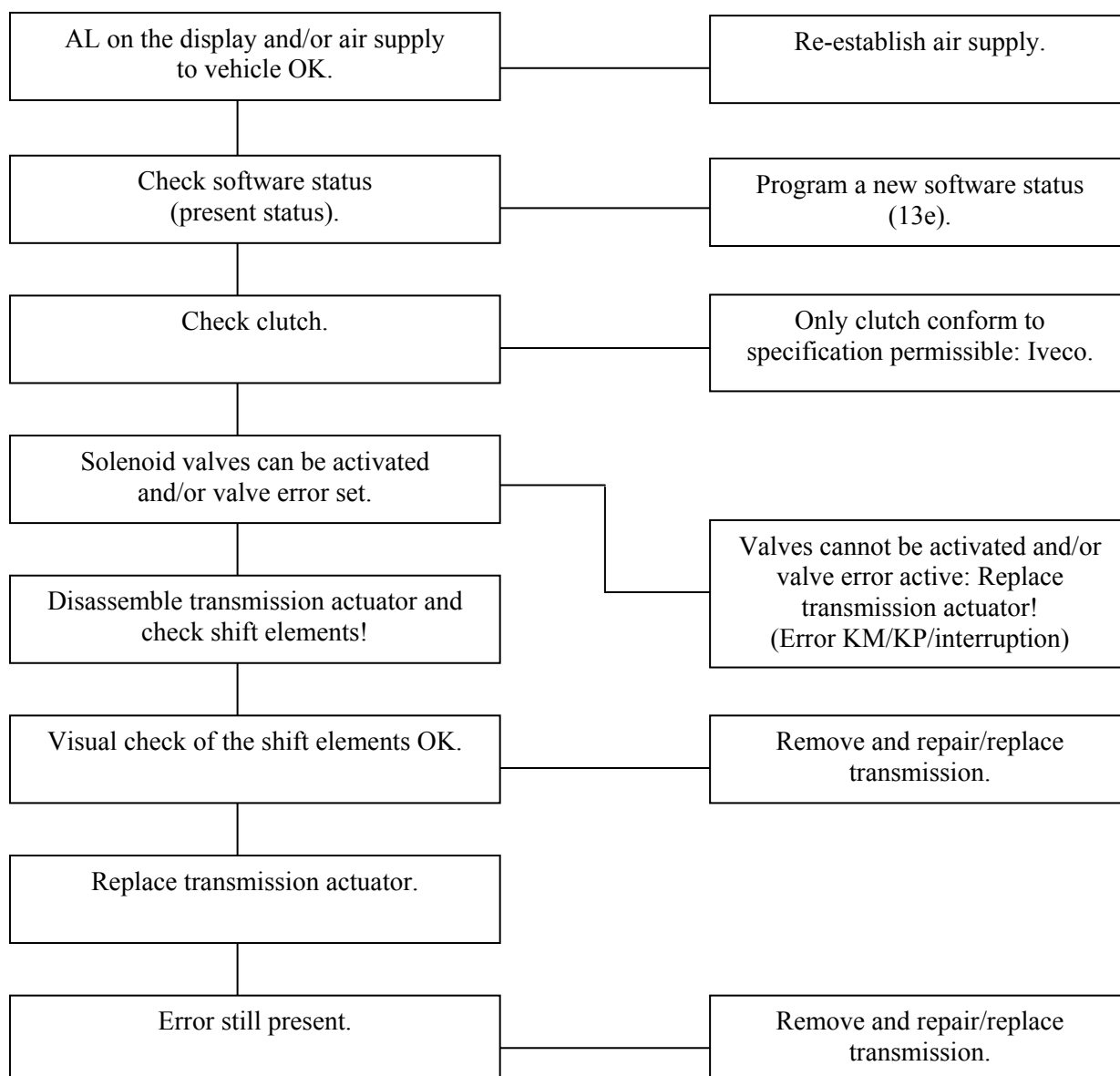
Error display: In vehicle display: 96
MobiDig/ Testman 150

Error description: GV not engaging.

Error detection: Within a defined time, GV reaches neither the old nor the new position.
Error is set only at standstill!

System response: System not available. GV shift attempts can be made again.

Error rectification:





Iveco error number: 97

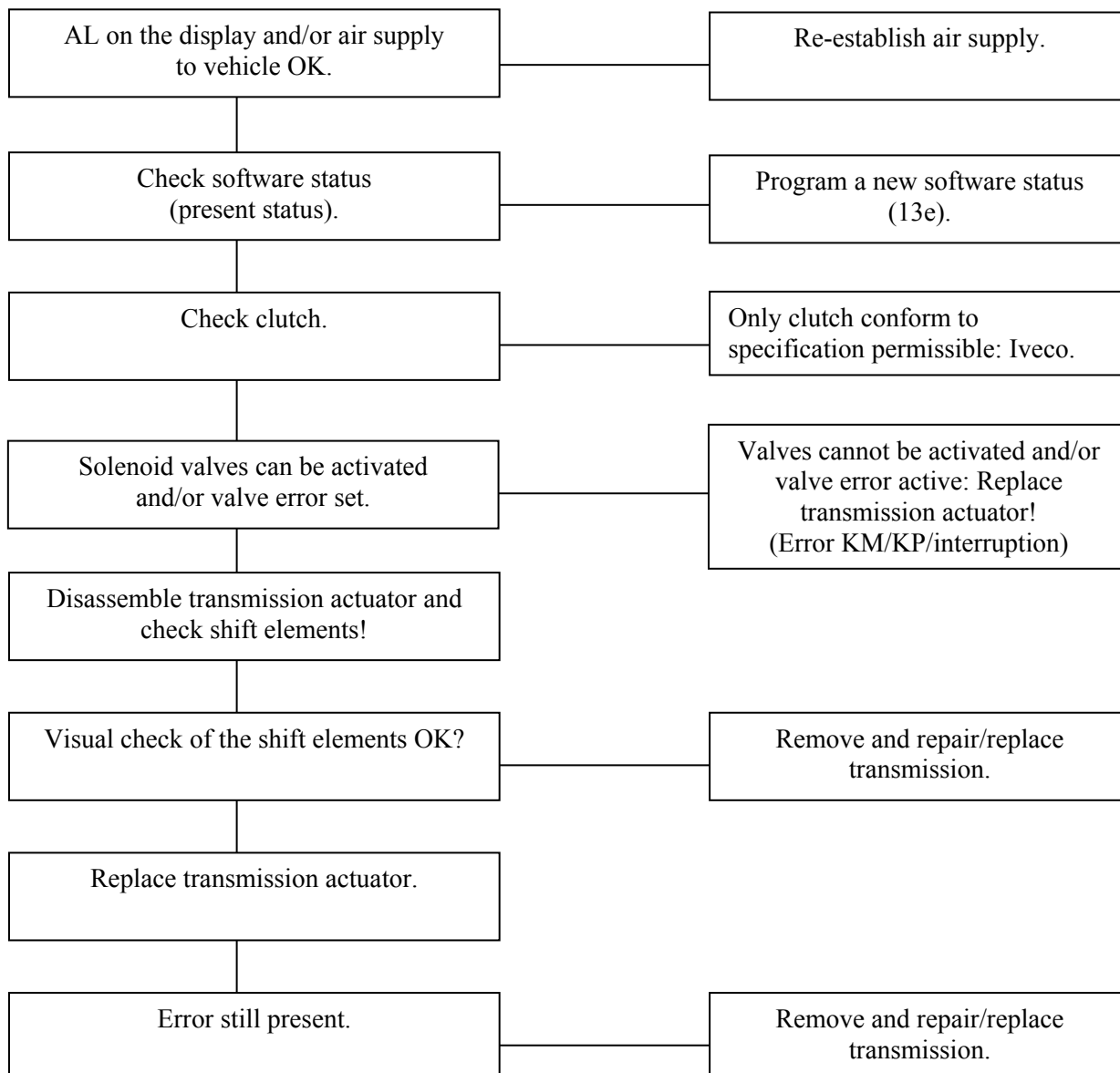
Error display: In vehicle display: 97
MobiDig/ Testman 151

Error description: Selector cylinder not disengaging.

Error detection: Selector cylinder does not leave previous position.

System response: The automatic shift unit is deactivated. If the error occurs during the shift, the transmission shifts back into the previous gear. If the previous gear cannot be selected because of too high speed, the next possible gear is selected. If the highest possible gear cannot be selected, the transmission shifts to neutral.
If the vehicle is at a standstill and the gear requested cannot be selected, the transmission shifts to neutral. Repeated shifting must be triggered again using the range selector.

Error rectification:





Iveco error number: 98

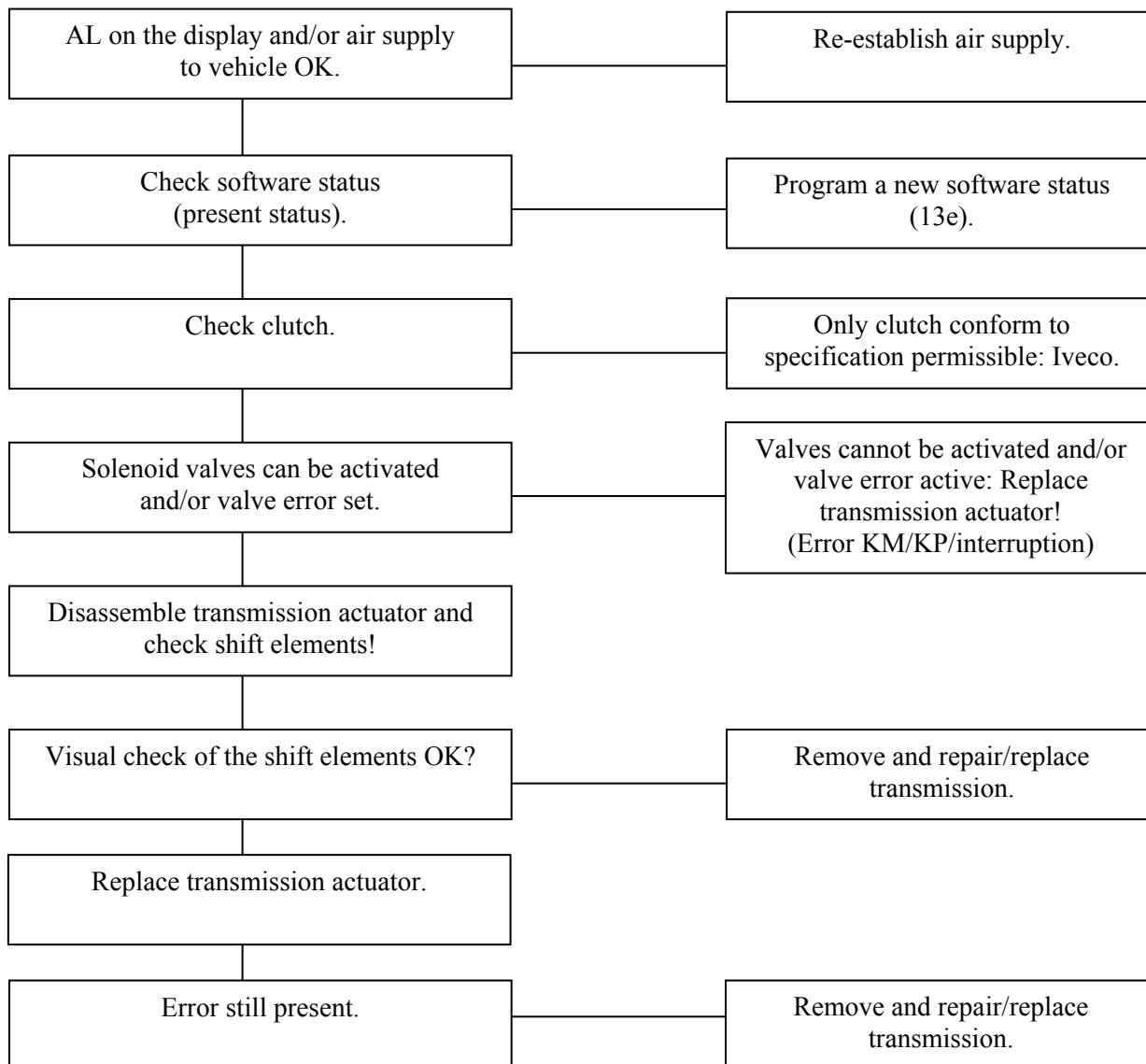
Error display: In vehicle display: 98
MobiDig/ Testman 152

Error description: Changeover error during gate selection process (selector cylinder).

Error detection: Selector cylinder does not change into the new gate.

System response: The automatic shift unit is deactivated. If the error occurs during the shift, the transmission shifts back into the previous gear. If the previous gear cannot be selected because of too high speed, the next possible gear is selected. If the highest possible gear cannot be selected, the transmission shifts to neutral.
If the vehicle is at a standstill and the gear requested cannot be selected, the transmission shifts to neutral. Repeated shifting must be triggered again using the range selector.

Error rectification:





Iveco error number: 99

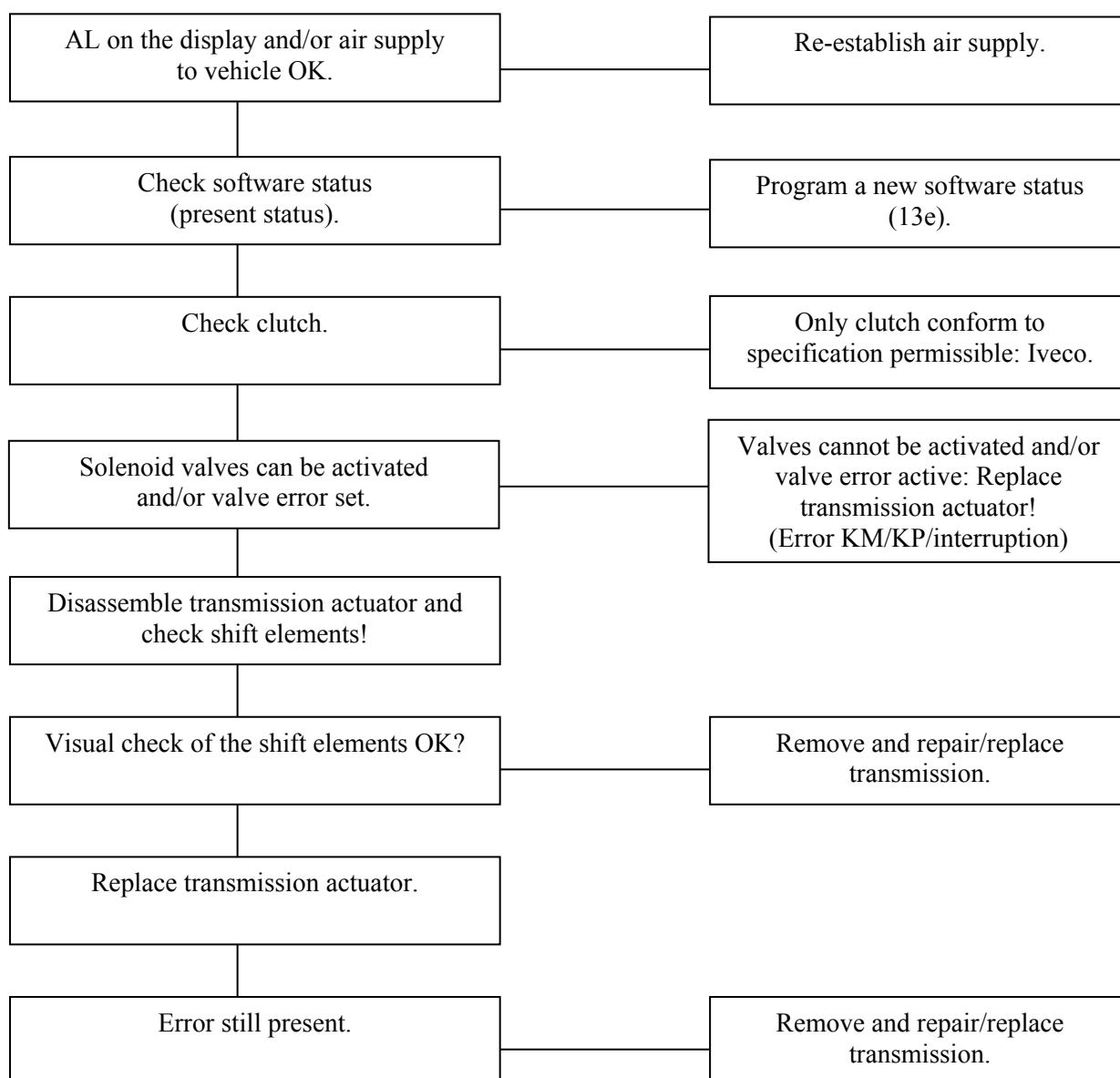
Error display: In vehicle display: 99
MobiDig/ Testman 153

Error description: Selector cylinder not engaging.

Error detection: Selector cylinder is neither shifting into the new gate limit position nor into the old gate limit position.

System response: The automatic shift unit is deactivated. The transmission shifts to neutral. Repeated gear shifting must be triggered using range selector. If no gate can be selected, the system is not available.

Error rectification:





Iveco error number: 9A

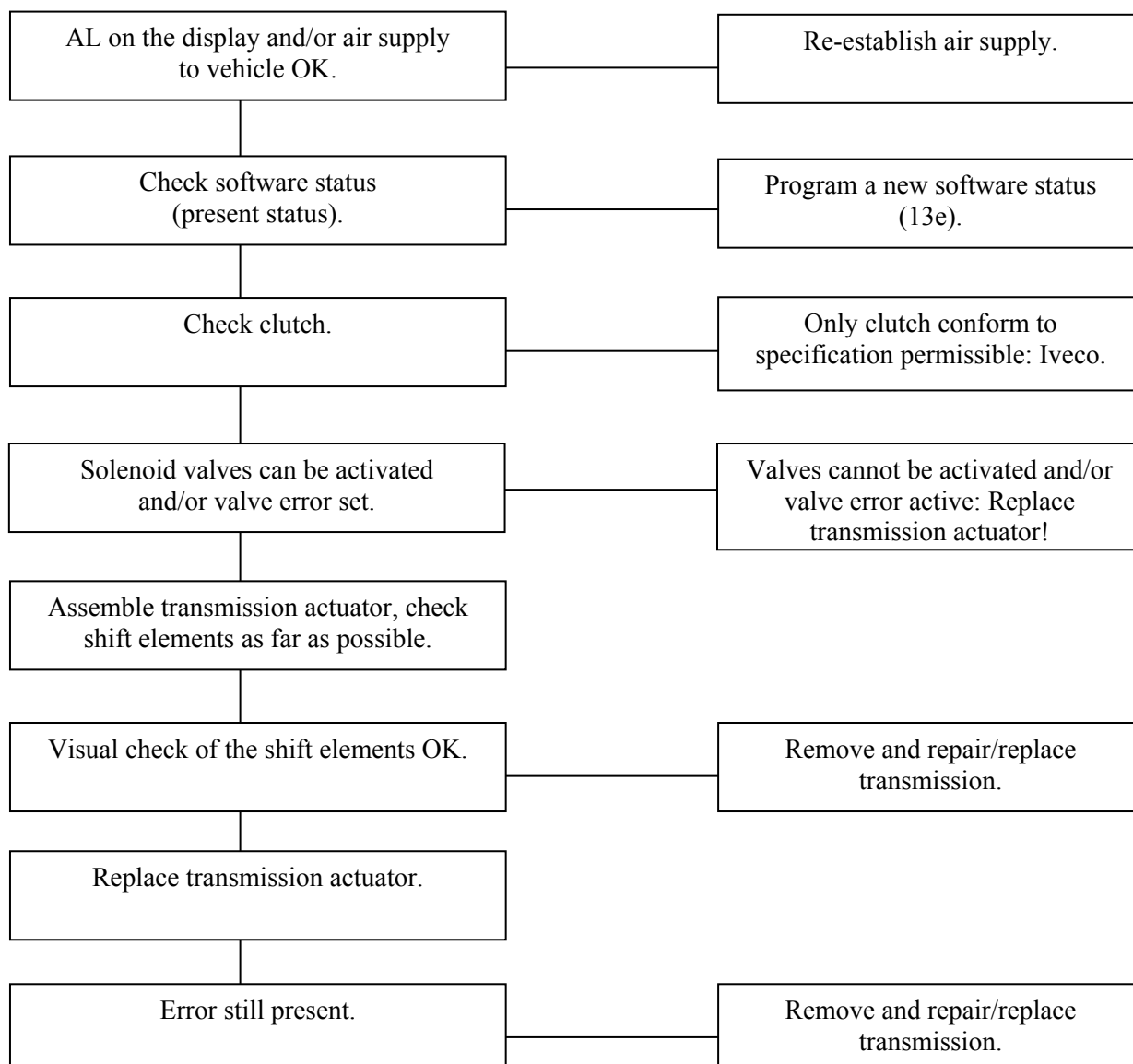
Error display: In vehicle display: 9A
MobiDig/ Testman 154

Error description: Main transmission not disengaging.

Error detection: Gear selected signal does not disappear once clutch has been opened and neutral has been requested.

System response: The automatic shift unit is deactivated. During travel, the clutch closes in the previous gear. The next shift attempt must be triggered using the range selector.
If the vehicle is at a standstill, gear shifting is only permitted once the neutral signal has been reached. Setting off and driving can be attempted with the gear selected if the gear is equal to or less than the lowest gear in GPS.

Error rectification:





Iveco error number: 9B

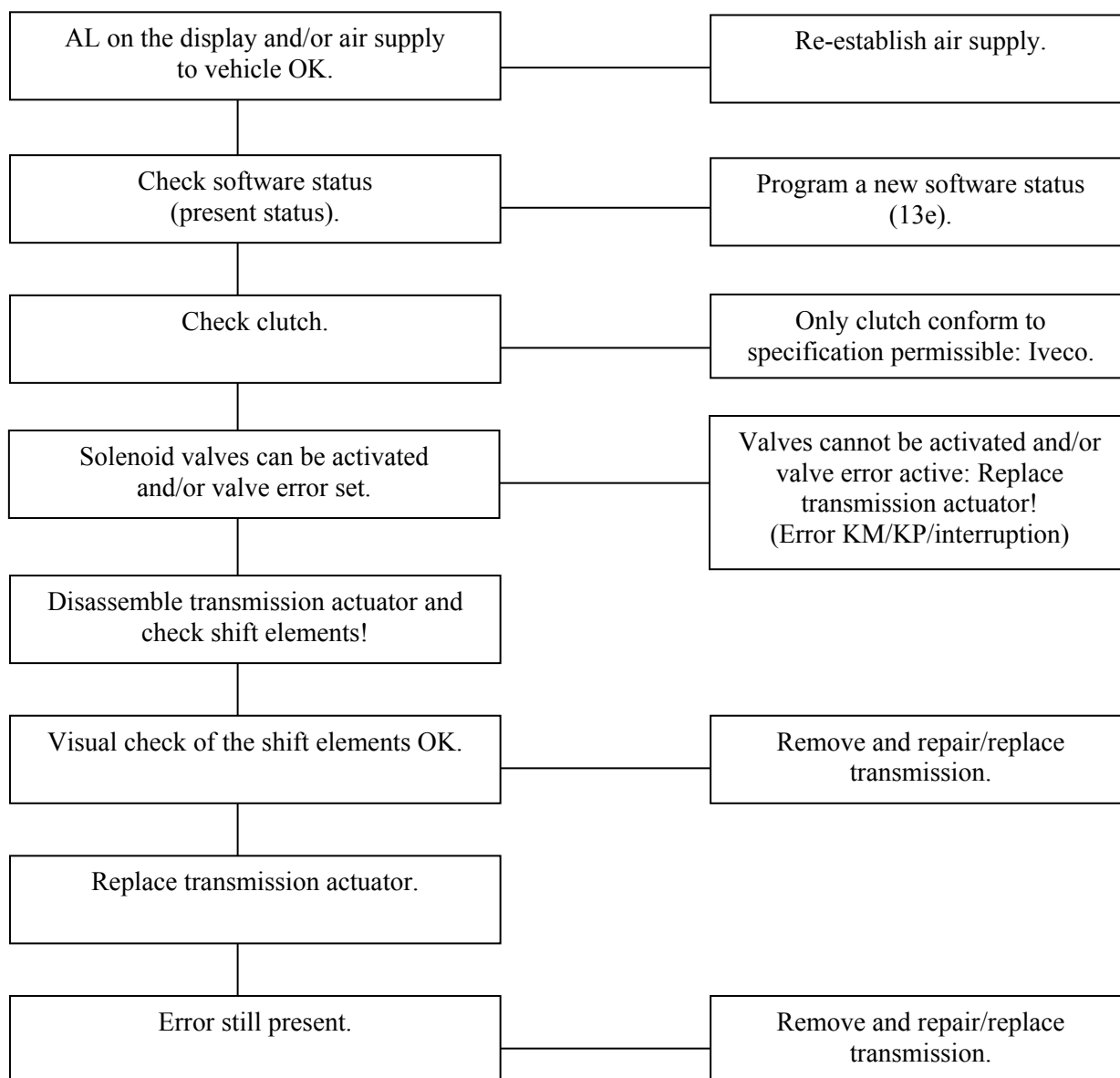
Error display:	In vehicle display:	9B
	MobiDig/ Testman	155

Error description: Main transmission not engaging.

Error detection: Shift cylinder does not leave neutral position. Clutch exceeds defined closing value during out-of-mesh position and gear is not activated.

System response: The automatic shift unit is deactivated. During travel and if the vehicle is at a standstill, transmission shifts to neutral. Repeated shift attempt must be triggered using the range selector.

Error rectification:





Iveco error number: 9C

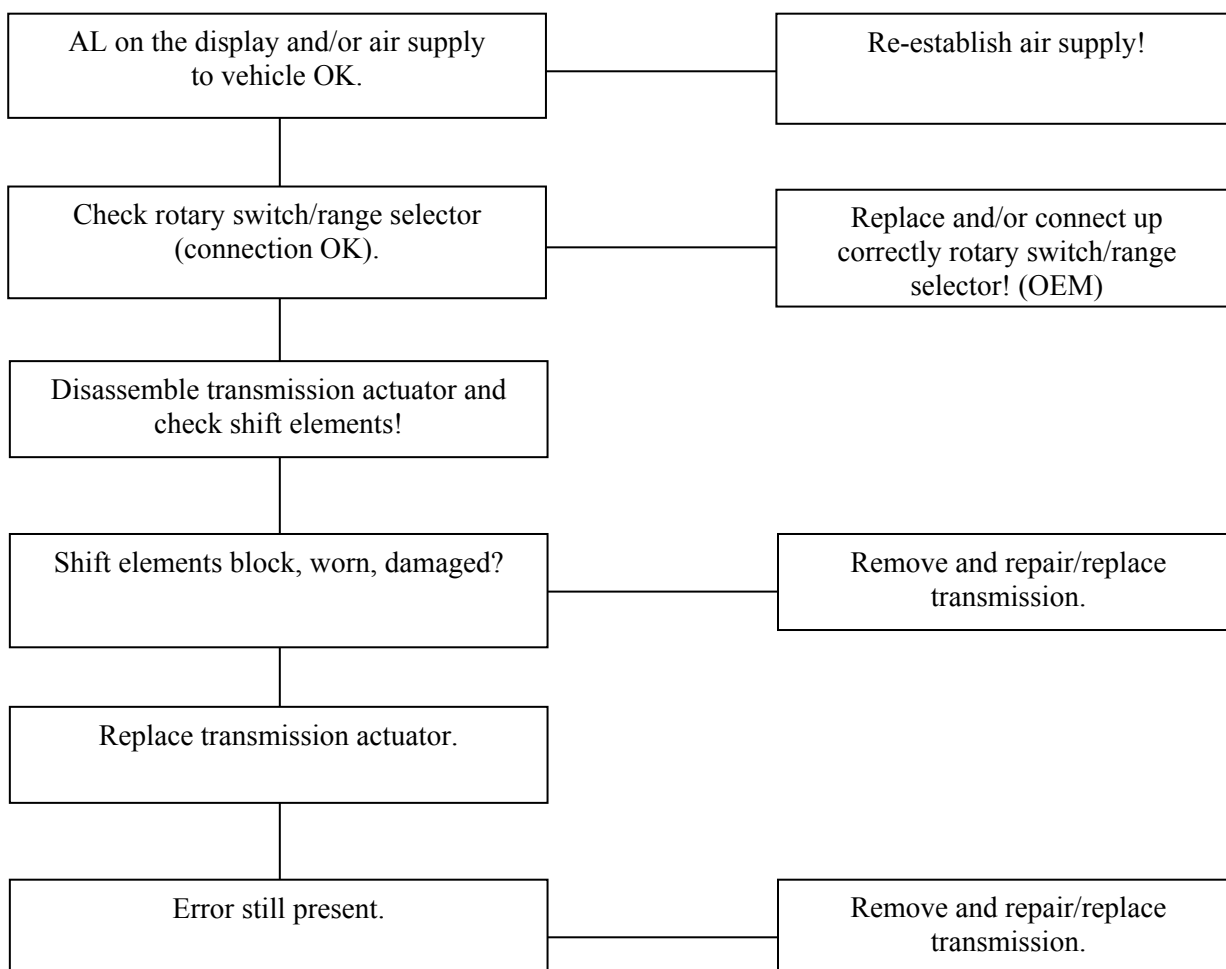
Error display: In vehicle display: 9C
MobiDig/ Testman 156

Error description: Incorrect gear shift.

Error detection: Shift sensor detects shifting in the wrong direction.

System response: The automatic shift unit is deactivated. Automatic shift to neutral. Clutch remains opened if shifting to neutral is not possible. Repeated gear shifting must be triggered using range selector.

Error rectification:





Iveco error number: 9D

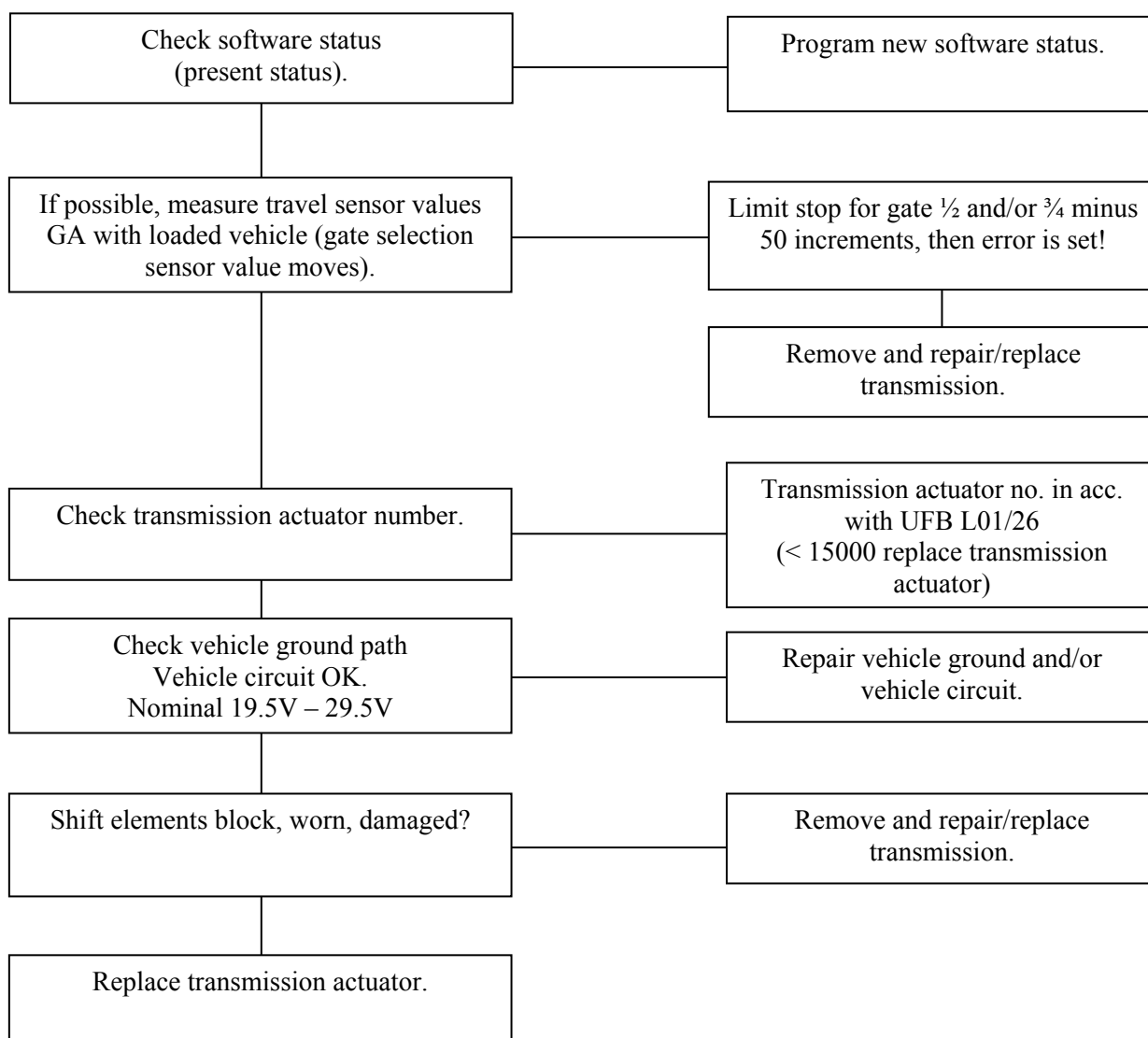
Error display:	In vehicle display:	9D
	MobiDig/ Testman	157

Error description: Gate selection sensor (main transmission) leaves selected position.

Error detection:	Gate selection sensor exceeds maximum permissible travel during driving without a shift having been triggered.
-------------------------	--

System response: The transmission attempts to shift the gear back into its limit position. If the gear has been completely deactivated, a suitable speed dependent gear is engaged automatically.

Error rectification:





Iveco error number: 9E

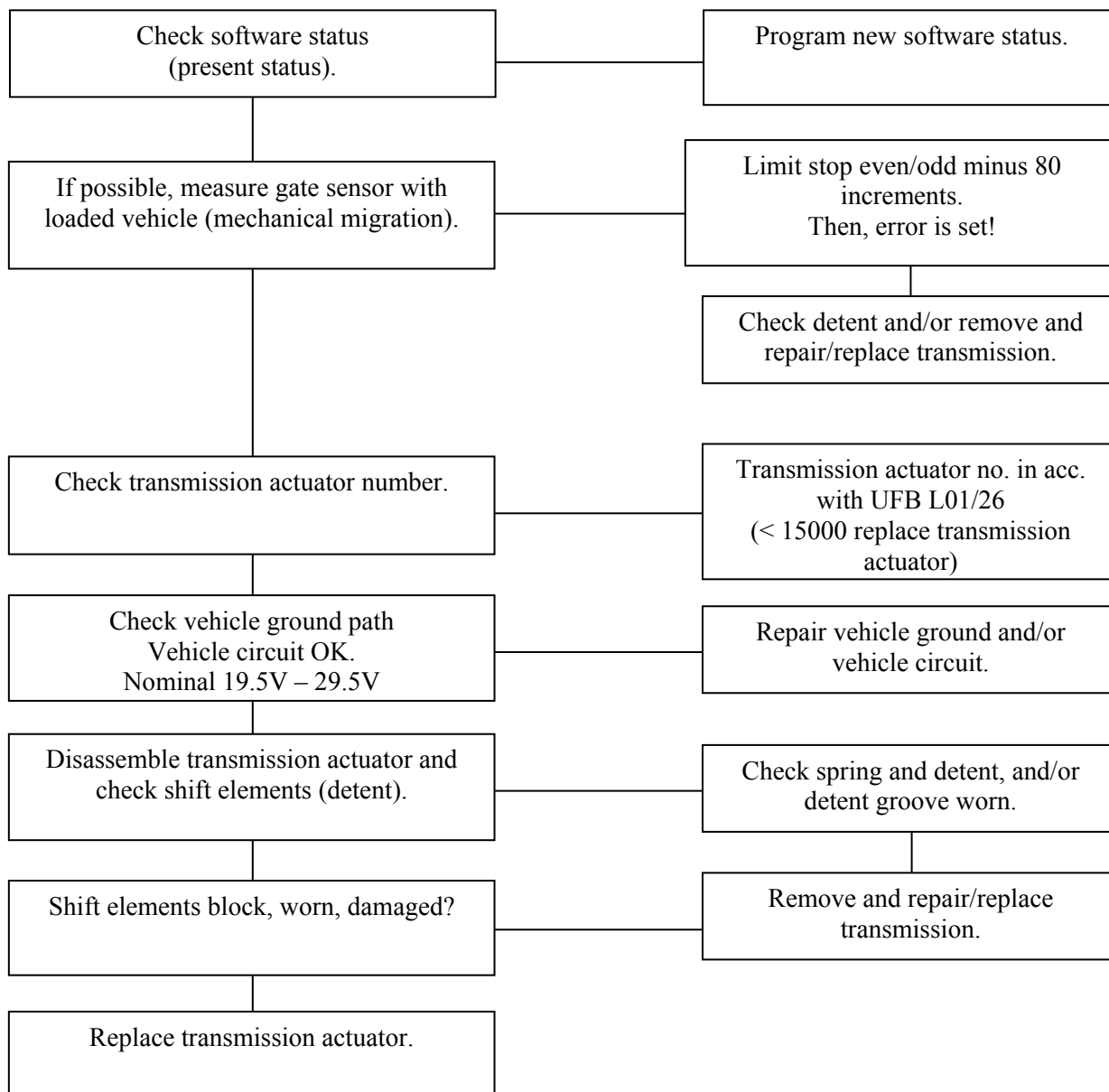
Error display: In vehicle display: 9E
MobiDig/ Testman 158

Error description: Signal shift sensor (main transmission) leaves selected position.

Error detection: Shift sensor signal exceeds maximum permissible travel during driving without a shift having been triggered.

System response: The transmission attempts to shift the gear back into its limit position. If the gear has been completely deactivated, a suitable speed dependent gear is engaged automatically.

Error rectification:





Iveco error number: 9F

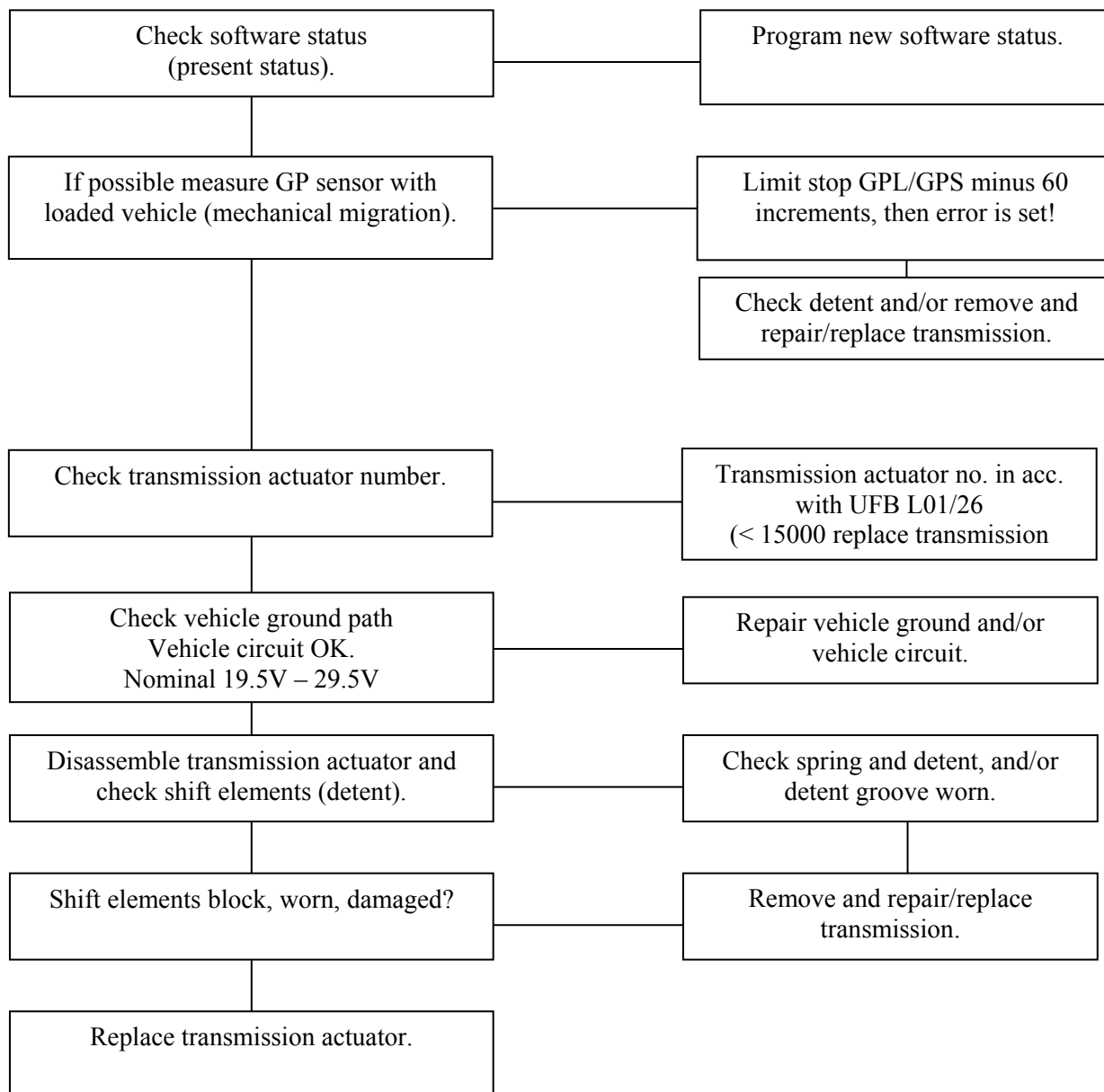
Error display: In vehicle display: 9F
MobiDig/ Testman 159

Error description: GP sensor signal leaves position selected.

Error detection: GP signal exceeds maximum permissible travel during driving without a shift having been triggered.

System response: The transmission attempts to shift the gear back into its limit position. If the gear has been completely deactivated, a suitable speed dependent gear is engaged automatically.

Error rectification:





Iveco error number: A0

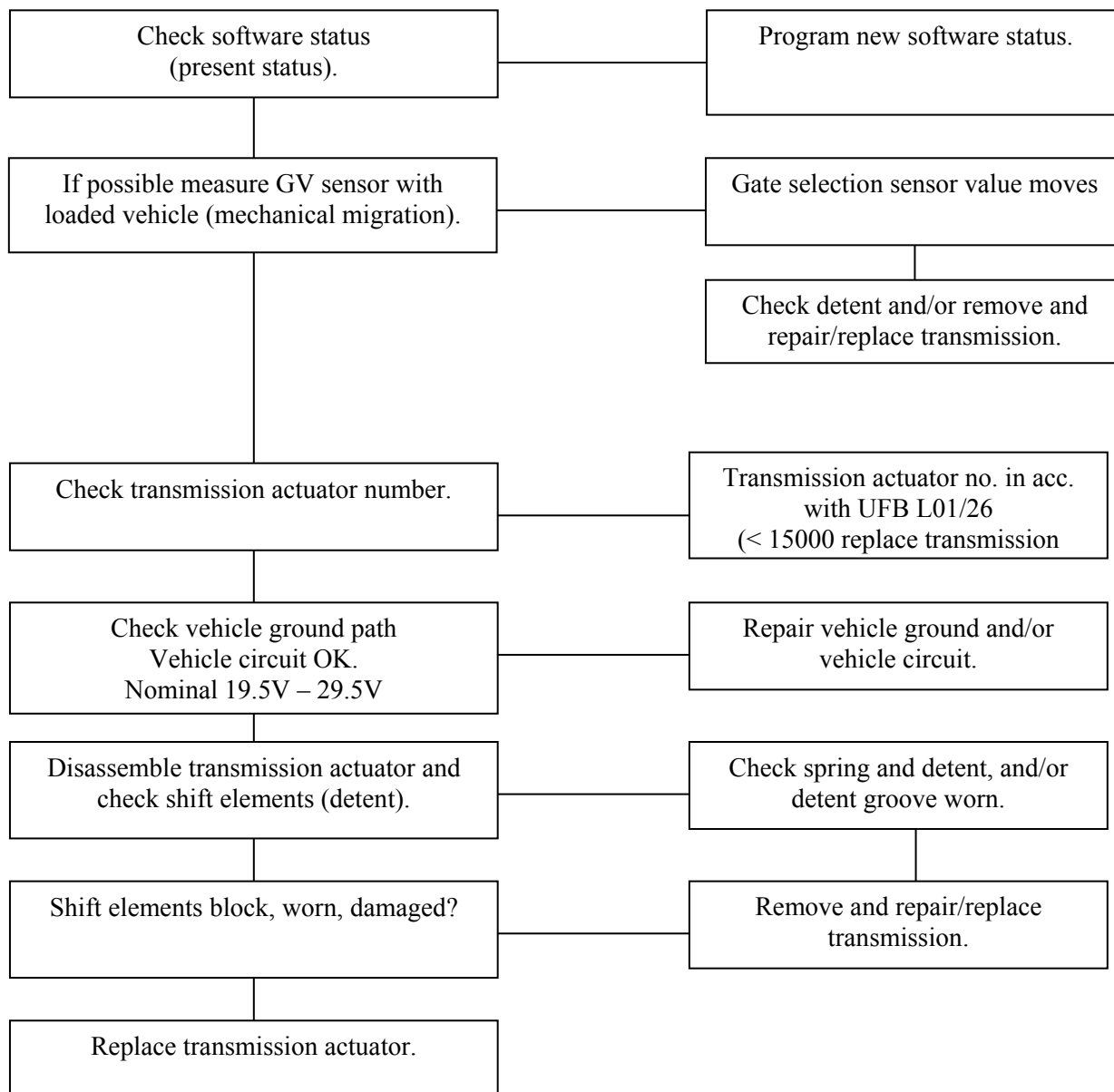
Error display:	In vehicle display:	A0
	MobiDig/ Testman	160

Error description: GV sensor signal (splitter) leaves position selected.

Error detection: GV signal exceeds maximum permissible travel during driving without a shift having been triggered.

System response: The transmission attempts to shift the gear back into its limit position. If the gear has been completely deactivated, a suitable speed dependent gear is engaged automatically.

Error rectification:





Iveco error number: A3

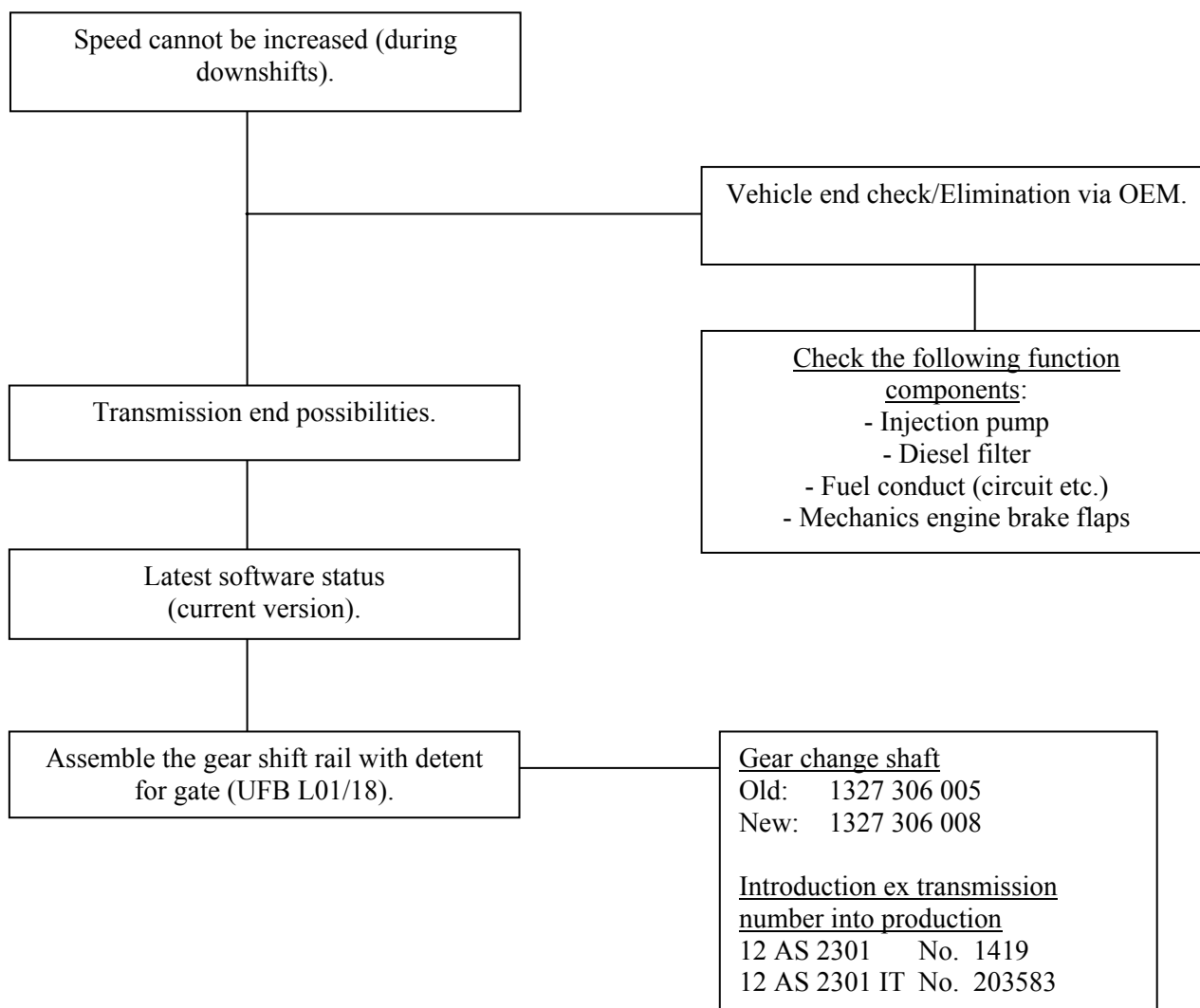
Error display:	In vehicle display:	A3
	MobiDig/ Testman	163

Error description: Engine does not respond to torque action.

Error detection: No engine intervention (increase in engine speed) possible via CAN interface.

System response: During travel, gear shifts are blocked.
Setting off permissible. Clutch function and comfort are reduced.

Error rectification:





Iveco error number: A4

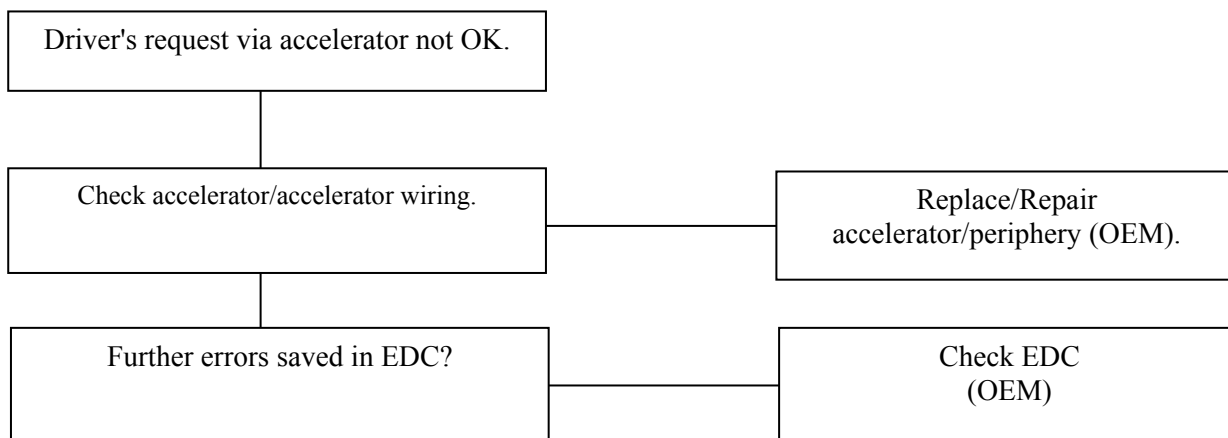
Error display: In vehicle display: A4
MobiDig/ Testman 164

Error description: Signal error engine torque (calculated injection volume in % by EDC) driver's request (Drivers demand engine percent torque signal).

Error detection: No signal or signal incorrect.

System response: The automatic unit is deactivated and cruise control operation not possible. Manual shifting is possible. The closing quality of the clutch may be reduced.
Once the clutch has been closed, the injection volume is approved by the EDC. This results in poor shift quality after shifting.
If vehicle comes to a standstill, mid-starting gear is selected. Setting off possible. No other functional restrictions.

Error rectification:





Iveco error number: A5

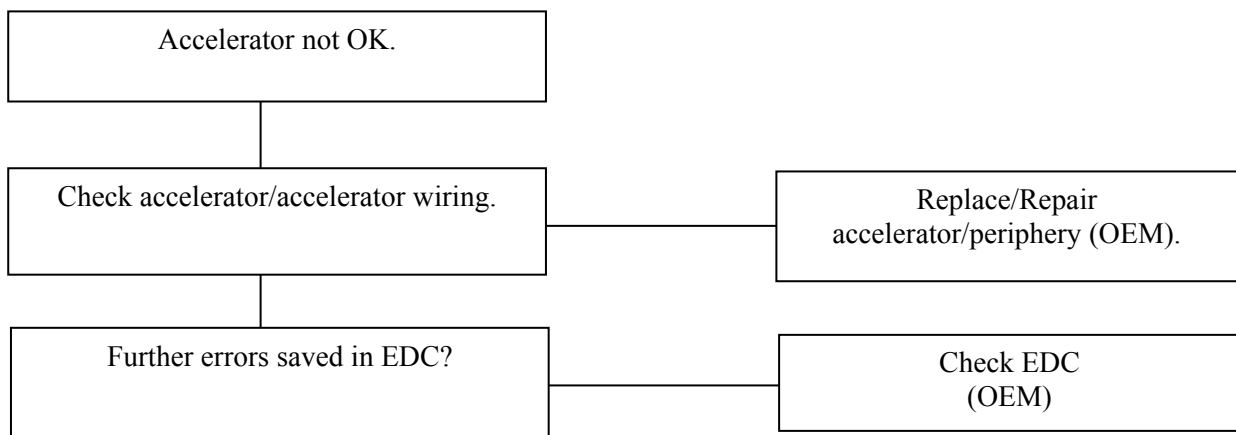
Error display:	In vehicle display:	A5
	MobiDig/ Testman	165

Error description: Signal error "Accelerator position" (Accelerator pedal position signal)

Error detection: No signal or signal incorrect.

System response: The automatic shift unit is deactivated. Manual shifting possible. The shift quality may be reduced. If vehicle comes to a standstill, mid-starting gear is selected. Setting off possible. Maneuvering and setting of quality may be reduced.

Error rectification:





Iveco error number: A6

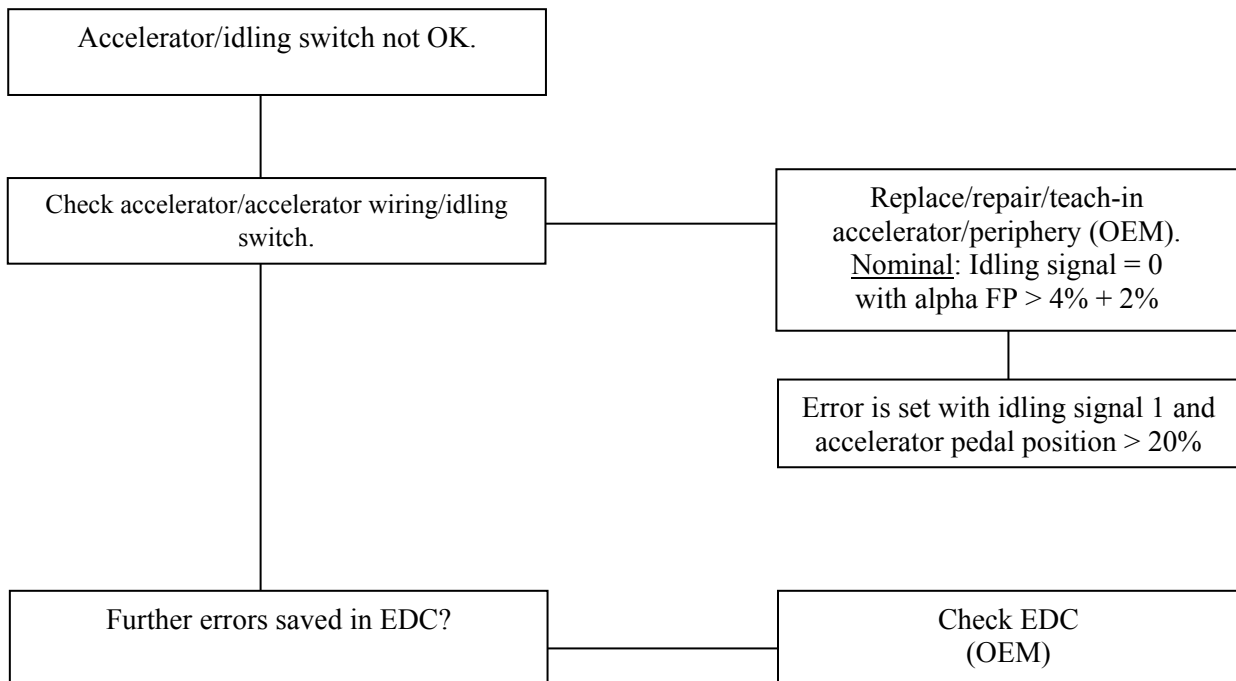
Error display: In vehicle display: A6
MobiDig/ Testman 166

Error description: Permanent idling signal.

Error detection: Accelerator position greater than coasting position and idling signal active.

System response: During travel automatic mode not available. Manual shifting permitted. If the vehicle comes to a standstill, maneuvering and setting off no longer possible. System not available.

Error rectification:





Iveco error number: A8

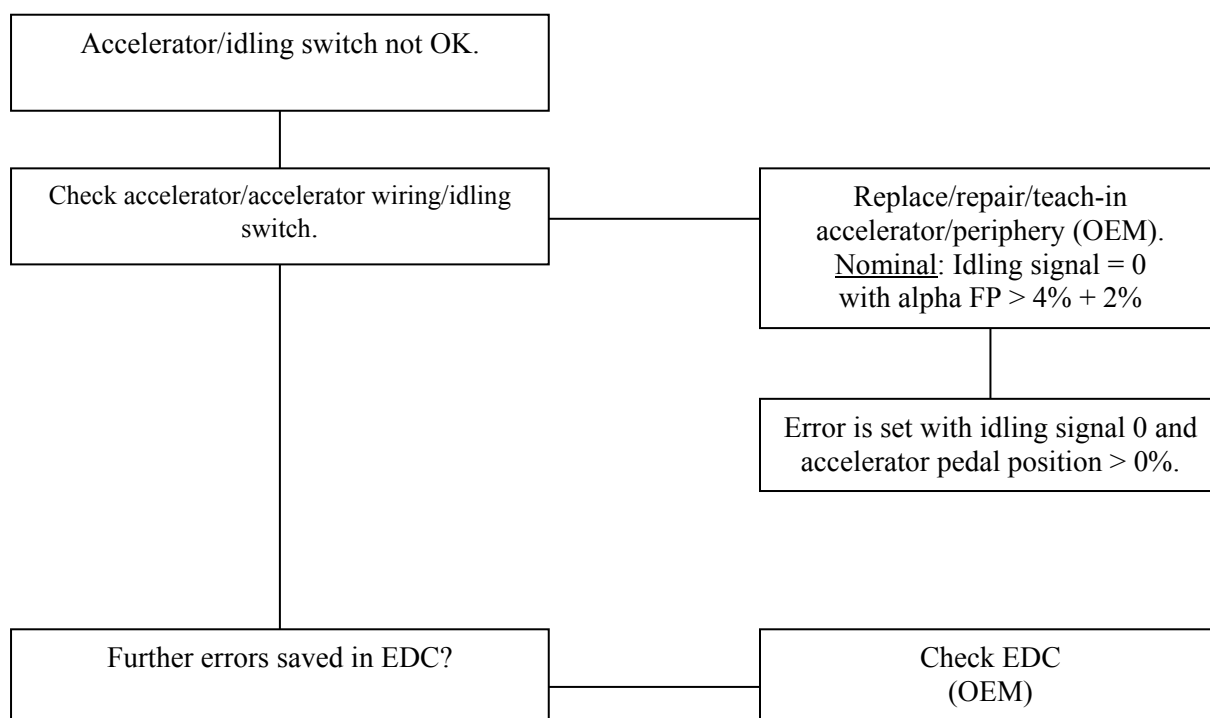
Error display: In vehicle display: A8
MobiDig/ Testman 168

Error description: Signal error "Accelerator idling switch" (AP low idle switch)

Error detection: No idling signal or idling signal incorrect.

System response: During travel, the automatic unit is deactivated, manual shifting is possible. After ignition OFF – ON (approx. 5 sec.), as long as the accelerator pedal value is in coasting mode (pedal not activated $\alpha_{fp} = 0\%$) and the idling signal is off, **AP** or **FP** appear on the display. If the idling signal does not appear within a determined time, an error is set and AP or FP disappears from the display. ECU checks the lower idling speed. Setting off is permitted once the verification check has been satisfied.

Error rectification:





Iveco error number: A9

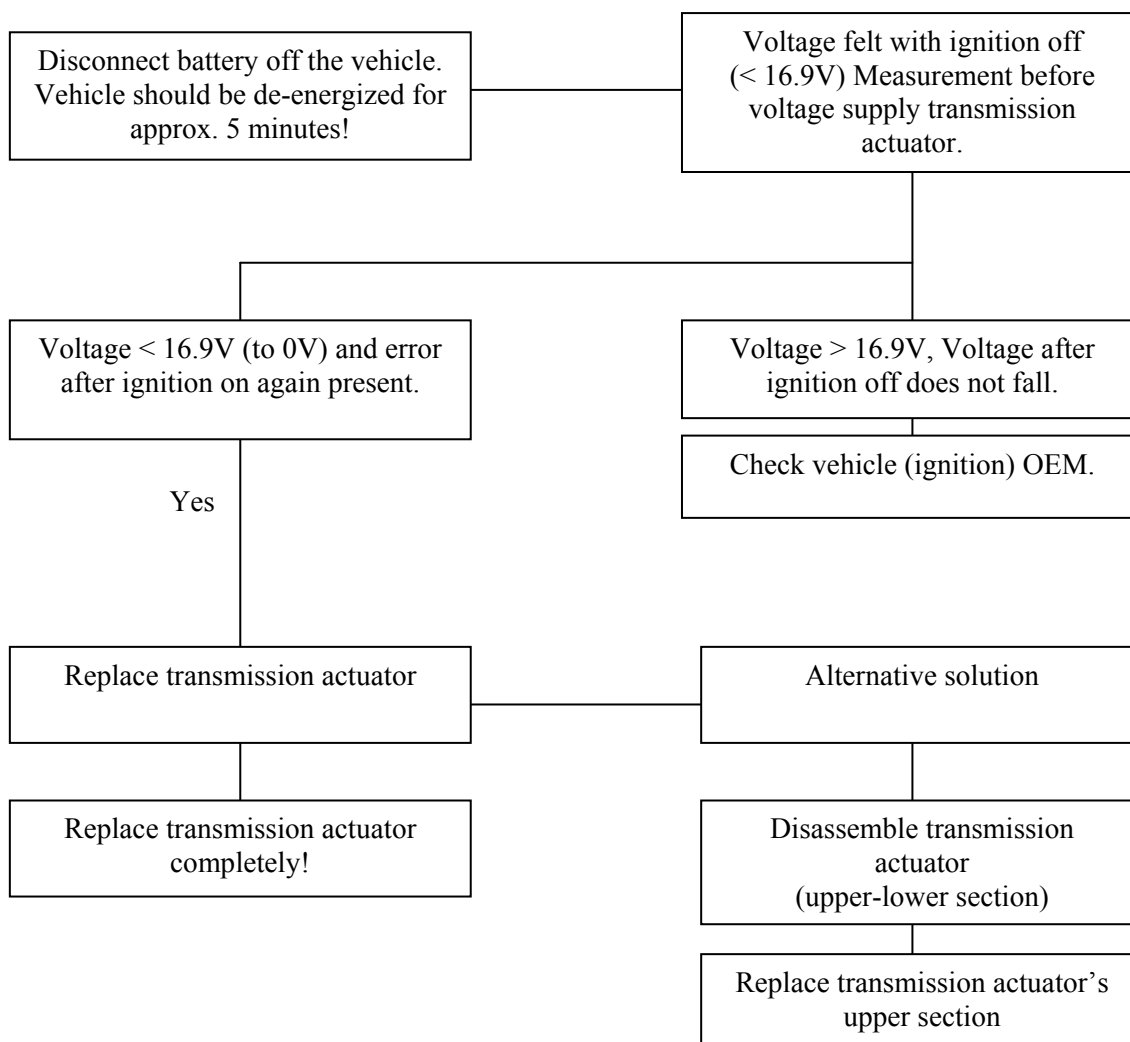
Error display: In vehicle display: A9
MobiDig/ Testman 169

Error description: Deactivation relay in ECU (transmission actuator) does not disengage.

Error detection: During system test: If the deactivation relay is disengaged, the digital outputs can be activated.

System response: During driving, gear shifts are inhibited. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: AA

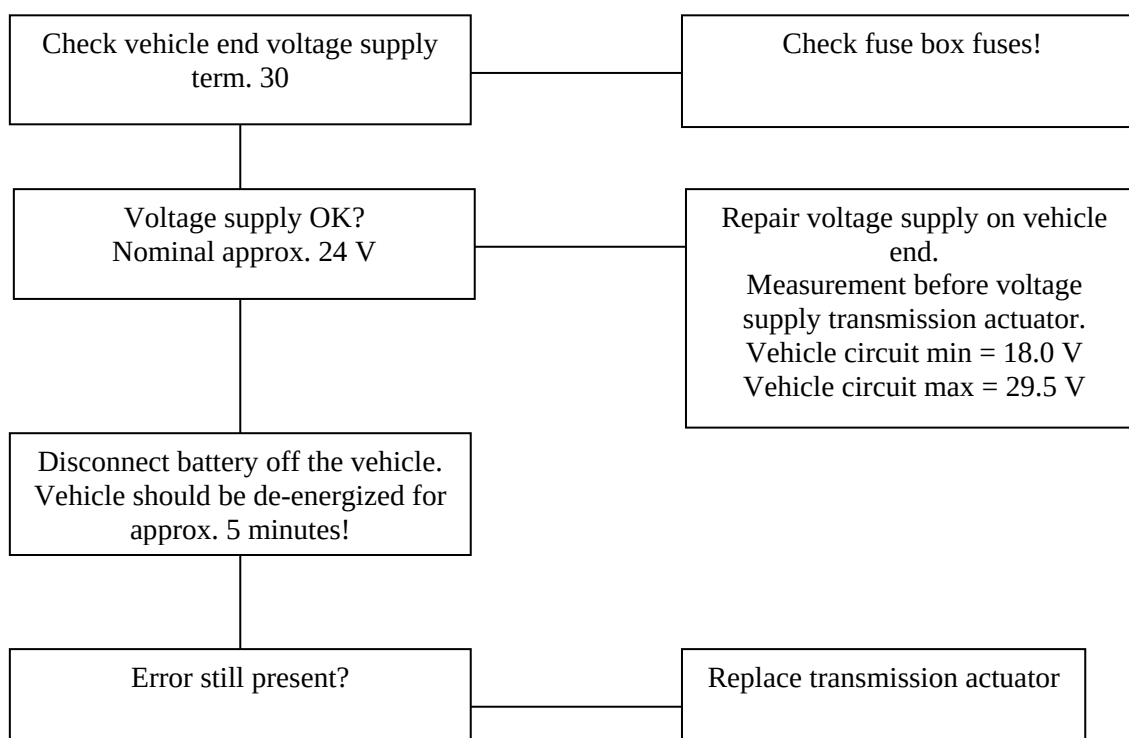
Error display: In vehicle display: AA
MobiDig/ Testman 170

Error description: No voltage supply of term. 30 or deactivation relay in ECU does not engage.

Error detection: During check phase, ignition ON, no voltage on the power supply pins.

System response: System not available. Clutch and transmission status are maintained.

Error rectification:





Iveco error number: **AB**

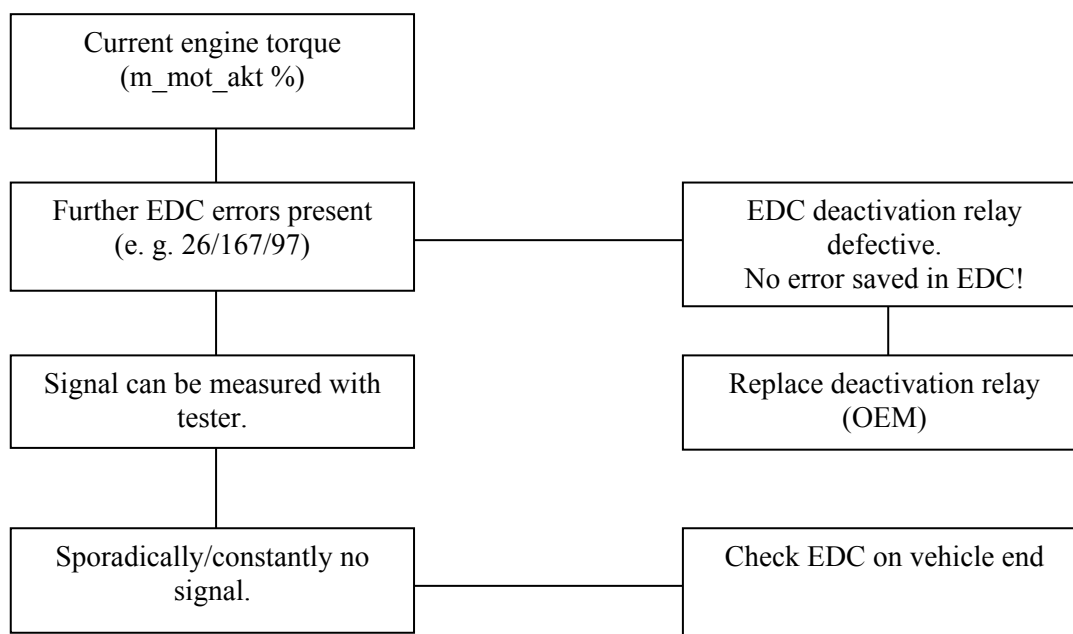
Error display:	In vehicle display:	AB
	MobiDig/ Testman	171

Error description:	Signal error “Current percent engine torque” (Actual engine percent torque signal)
---------------------------	--

Error detection: No signal or signal incorrect.

System response: Automatic unit is deactivated, manual shifting is possible. The shift quality may be reduced. If vehicle comes to a standstill, mid-starting gear is selected. Setting off possible. "CL" clutch overload detection could appear earlier.

Error rectification:





Iveco error number: **AE**

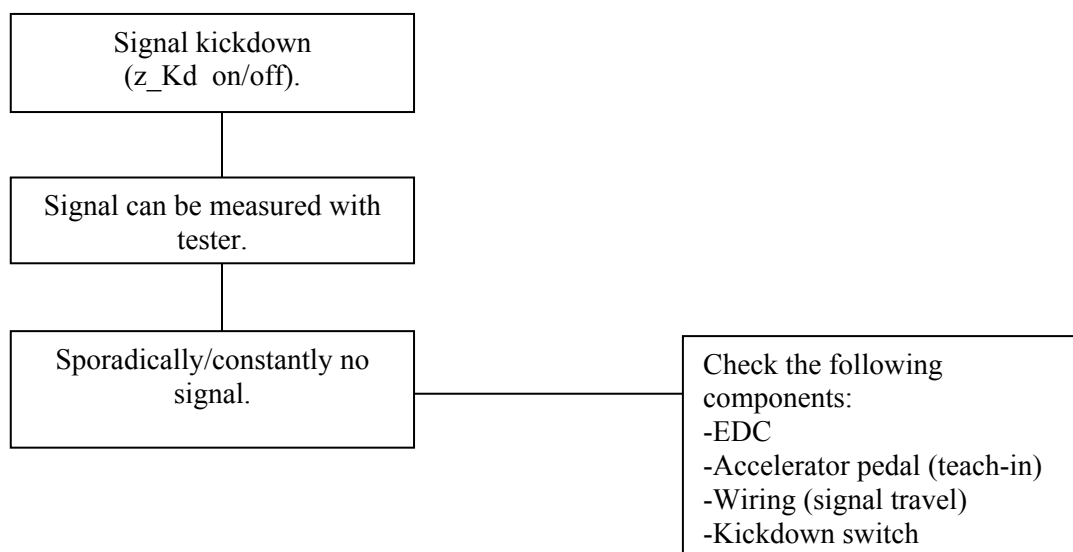
Error display:	In vehicle display:	AE
	MOBIDIG/Testman	174

Error description: Signal error "Kickdown switch" (Kickdown switch signal)

Error detection: No signal or signal incorrect.

System response: Kickdown operating mode impossible. No other functional restrictions.

Error rectification:





Iveco error number: **AF**

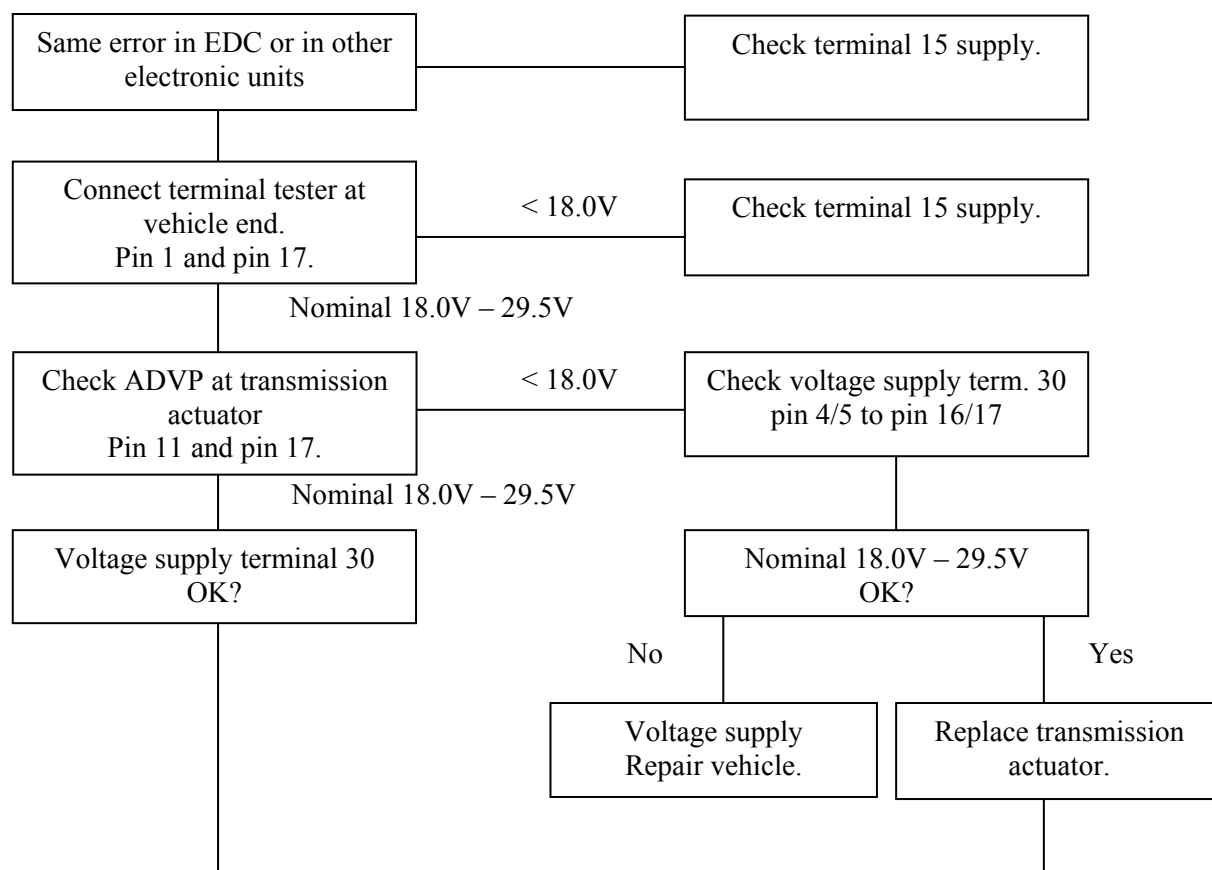
Error display:	In vehicle display:	AF
	MobiDig/ Testman	175

Error description: Signal error "Ignition lock" (term.15)

Error detection: No ignition signal and engine is running.

System response: During travel, gear shifting is inhibited. If the vehicle is at a standstill and the engine is running, ECU is not deactivated. Setting off gears can be selected (forwards and reverse). The vehicle can be driven with a starting gear selected.
If the engine is not running, the system is not available.

Error rectification:



System response: During travel, gear shifts are inhibited. Clutch opens when vehicle comes to a standstill and neutral position is automatically engaged. Other gear shifts not possible. System not available.

```
graph TD; A["Bus off: Error in other electronic units."] --> B["Check vehicle wiring. (OEM)"]; B --> C["- Interruption<br>- Short circuit to plus<br>- Short circuit to ground CAN L/H (Pin 8/12)<br>Possible follow-up errors:<br>26, 33, 91, 100, 113, 178, 199"]; A --> D["Individual check of ECUs.<br>Error in other ECUs."]; D --> E["Replace regarding ECU and/or"]; E --> F["Troubleshooting with CANALYZER!!"]; D --> G["Ignition off!"]; B --> G; F --> G; G --> H["CAN bus test with digital multimeter<br><br>Resistance measurement between CAN H and CAN L - ignition off!<br>Nominal: 60 Ohm<br>AS IS: approx. 0 Ohm Short circuit from CAN H to CAN L<br>AS IS: approx. 120 Ohm Connection to one terminator damaged.<br><br>AS IS: high ohm reading CAN interrupted and/or both terminators damaged/not connected."];
```

Bus off: Error in other electronic units.

Check vehicle wiring. (OEM)

- Interruption
- Short circuit to plus
- Short circuit to ground CAN L/H (Pin 8/12)
Possible follow-up errors:
26, 33, 91, 100, 113, 178, 199

Individual check of ECUs.
Error in other ECUs.

Replace regarding ECU and/or

Troubleshooting with CANALYZER!!

Ignition off!

CAN bus test with digital multimeter

Resistance measurement between CAN H and CAN L - ignition off!

Nominal: 60 Ohm

AS IS: approx. 0 Ohm Short circuit from CAN H to CAN L

AS IS: approx. 120 Ohm Connection to one terminator damaged.

AS IS: high ohm reading CAN interrupted and/or both terminators damaged/not connected.

System response: During travel, gear shifts are inhibited. Clutch opens when vehicle comes to a standstill and neutral position is automatically engaged. Other gear shifts not possible. System not available.

```

graph TD
    A[Bus off: Error in other electronic units.] --> B[Check vehicle wiring. (OEM)]
    A --> C[Individual check of ECUs. Error in other ECUs. (EBS/Intarder/EDC).]
    B --> D["- Interruption  
- Short circuit to plus  
- Short circuit to ground CAN L/H (Pin 8/12)  
Possible follow-up errors:  
26, 33, 91, 100, 113, 178, 199"]
    C --> E[Replace regarding ECU and/or]
    E --> F[Troubleshooting with CANALYZER!!]
    D --> G[Ignition off!]
    F --> G
    G --> H[CAN bus test with digital multimeter]
  
```

CAN bus test with digital multimeter

Resistance measurement between CAN H and CAN L - ignition off!

Nominal:	60 Ohm	
AS IS: approx. 0 Ohm		Short circuit from CAN H to CAN L
AS IS: approx. 120 Ohm		Connection to one terminator damaged.
AS IS: high ohm reading		CAN interrupted and/or both terminators damaged/not connected.

System response: During travel, gear shifts are inhibited. Clutch opens when vehicle comes to a standstill and neutral position is automatically engaged. Other gear shifts not possible. System not available.

System response: During travel, gear shifts are blocked.
If the vehicle is at a standstill, the clutch opens and a shift is automatically made to neutral. Other gear shifts not possible. System not available.

```

graph TD
    A["The EEC1 message contains the following signals:  
-theoretical injection volume EDC (m_dd_edc [%])  
-current injected volume EDC (m_mot_akt [%])  
-output speed of engine (n_mot [rpm])"]
    B["Check fuse box fuses!"]
    C["Program latest ZF software status"]
    D["Further timeout errors present"]
    E["Check EDC"]
    F["Ignition OFF!"]
    G["CAN bus test with digital multimeter  
  
Resistance measurement between CAN H and CAN L - ignition OFF!  
Nominal: 60 Ohm  
AS IS: approx. 0 Ohm  
AS IS: approx. 120 Ohm  
AS IS: high ohm reading"]
    H["Ignition OFF!"]
    I["Resistance measurement between CAN H and CAN L - ignition OFF!  
Nominal: 60 Ohm  
AS IS: approx. 0 Ohm  
AS IS: approx. 120 Ohm  
AS IS: high ohm reading"]
    J["Short circuit from CAN H to CAN L  
Connection to one terminator damaged.  
CAN interrupted and/or both terminators damaged/not connected"]
    K["The individual signals can be measured with ZF tester."]
    L["Individual signals OK"]
    M["Yes"]
    N["Yes"]
    O["Yes"]

    A --> B
    A --> K
    B --> C
    C --> D
    C --> L
    D --> F
    D --> E
    F --> H
    H --> G
    H --> O
    G --> I
    I --> J
  
```

The EEC1 message contains the following signals:
 -theoretical injection volume EDC (m_dd_edc [%])
 -current injected volume EDC (m_mot_akt [%])
 -output speed of engine (n_mot [rpm])

The individual signals can be measured with ZF tester.

Individual signals OK

Check fuse box fuses!

Program latest ZF software status

Timeout times prolonged!

Further timeout errors present

Yes

Ignition OFF!

Yes

Ignition OFF!

CAN bus test with digital multimeter

Resistance measurement between CAN H and CAN L - ignition OFF!

Nominal: 60 Ohm
 AS IS: approx. 0 Ohm
 AS IS: approx. 120 Ohm
 AS IS: high ohm reading

Short circuit from CAN H to CAN L
 Connection to one terminator damaged.
 CAN interrupted and/or both terminators damaged/not connected



Iveco error number: B5

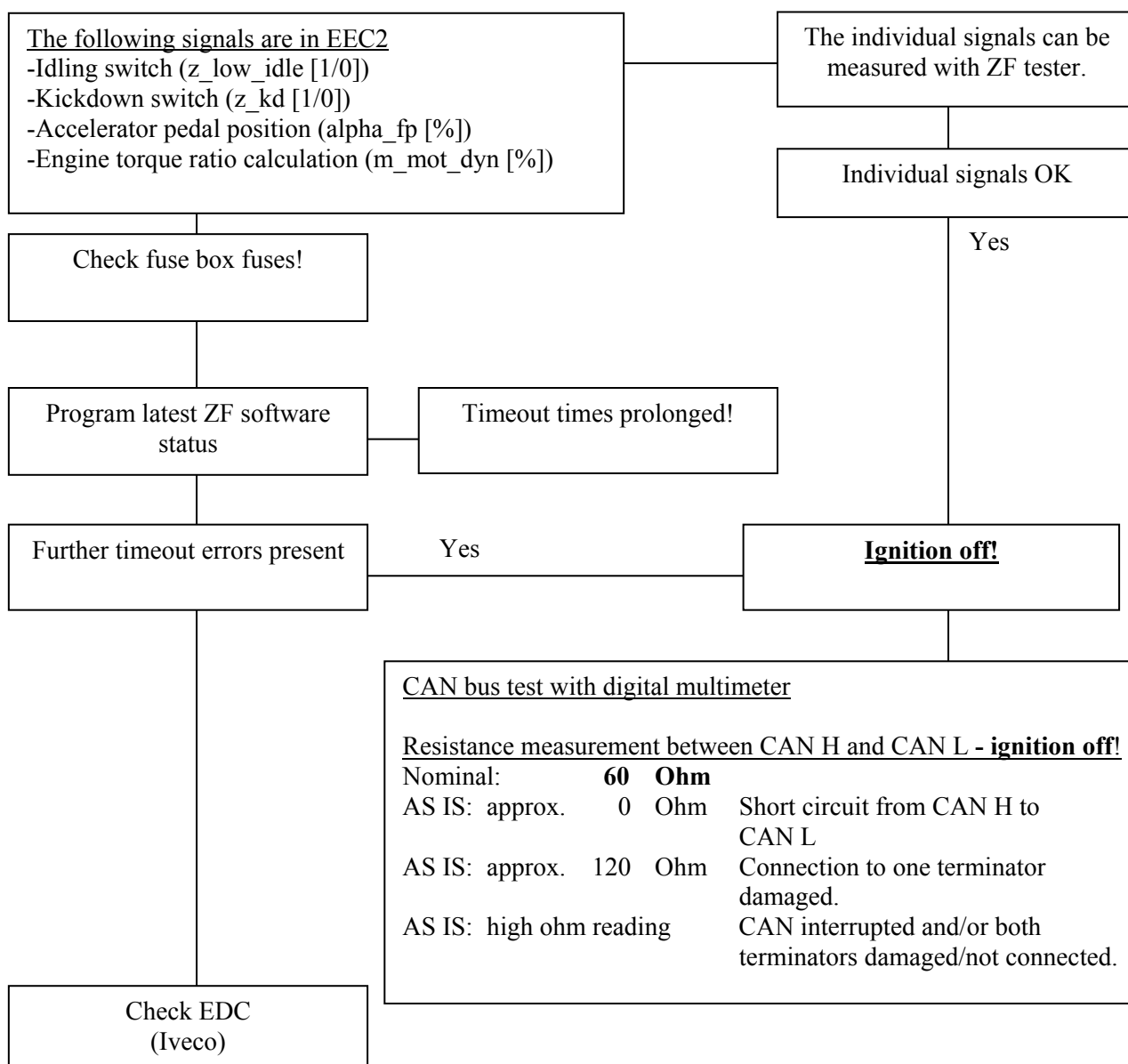
Error display:	In vehicle display:	B5
	MobiDig/ Testman	181

Error description: CAN EEC2 timeout

Error detection: If the EEC2 CAN message is not received within a defined time, an error is set (timeout).

System response: During travel, gear shifts are blocked.
If the vehicle is at a standstill, the clutch opens and a shift is automatically made to neutral. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: B6

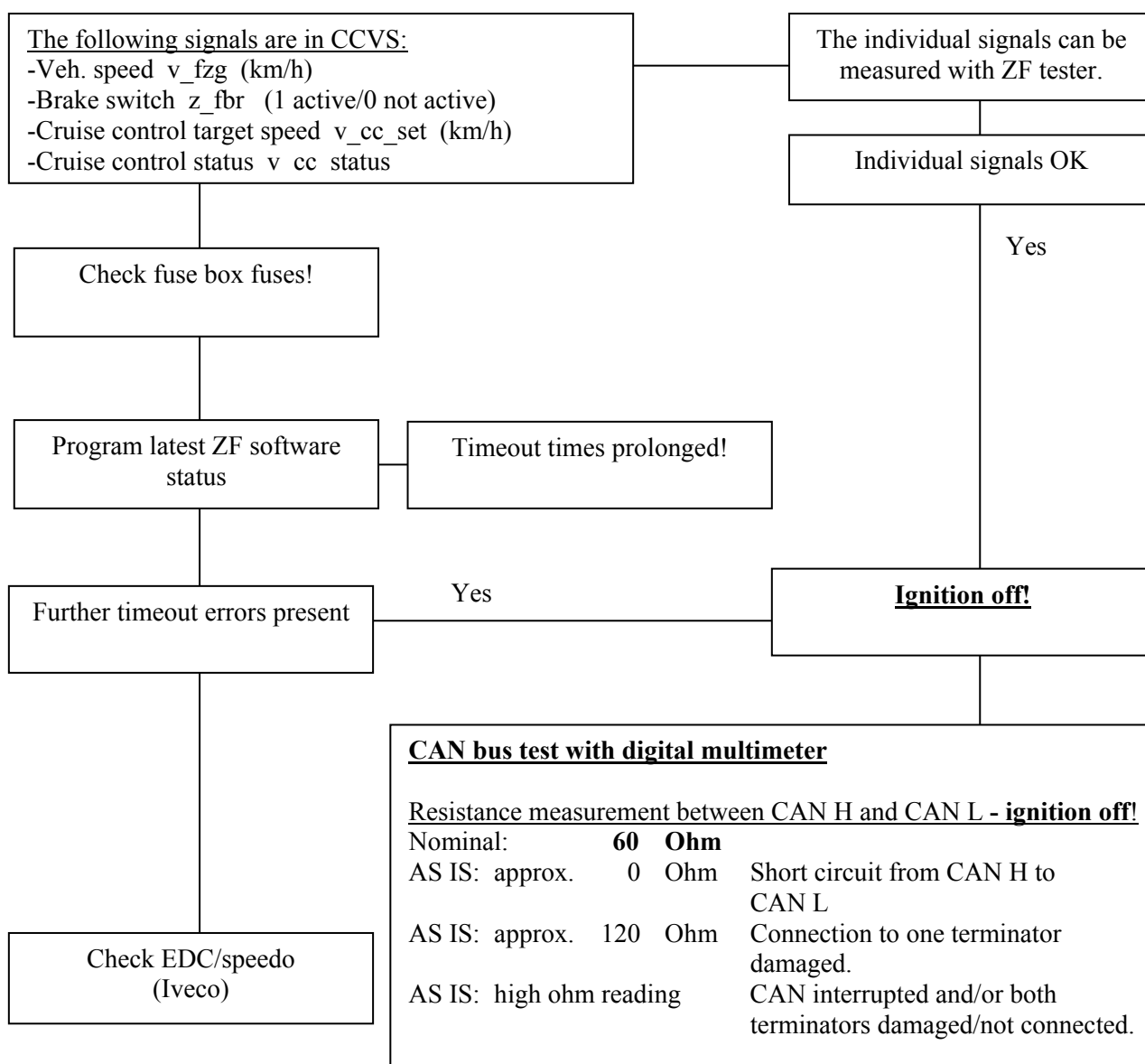
Error display: In vehicle display: B6
MobiDig/ Testman 182

Error description: CAN CCVS timeout

Error detection: If the CCVS CAN message is not received within a defined time, an error is set (timeout).

System response: The automatic shift unit is deactivated. Wheel speed, service brake signal and cruise control status/target speed missing. In coasting mode, it is assumed that the service brake signal is active. The clutch opens a little earlier.

Error rectification:





Iveco error number: B7

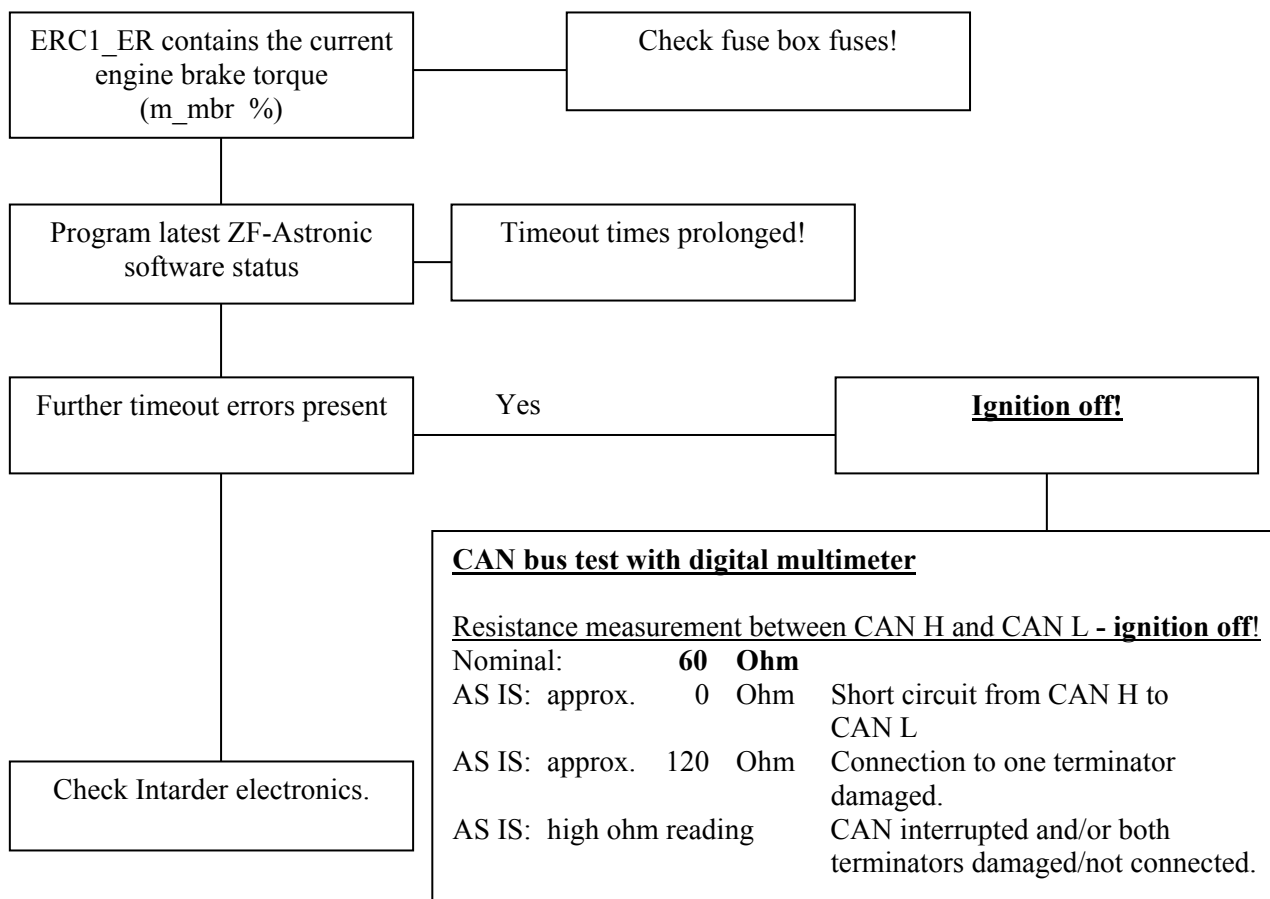
Error display:	In vehicle display:	B7
	MobiDig/ Testman	183

Error description: CAN ERC1 ER timeout (engine retarder)

Error detection: If the ERC1_ER CAN message is not received within a defined time, an error is set (timeout).

System response: The automatic shift unit is deactivated. No information about the engine braking torque. If the engine brake is active, the shift quality may be reduced.
It is assumed that the engine brake is not active. No other functional restrictions.

Error rectification:



System response: The automatic shift unit is deactivated. Manual shifting possible.
If the vehicle comes to standstill, the mid-starting gear is selected.
No other functional restrictions.



Iveco error number: BC

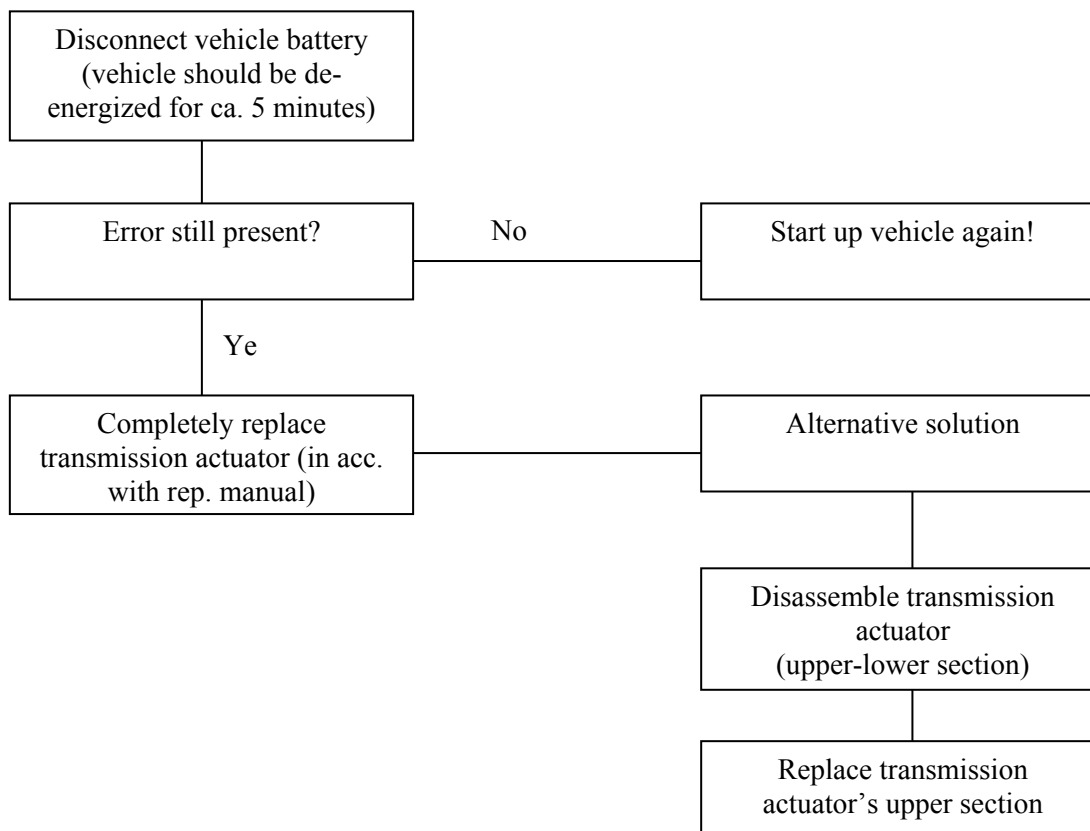
Error display: In vehicle display: BC
MobiDig/ Testman 188

Error description: ECU error, incorrect interruption.

Error detection: By software.

System response: During travel, gear shifts are inhibited. The clutch opens as soon as the vehicle comes to a standstill. When the vehicle stops Neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: **BD**

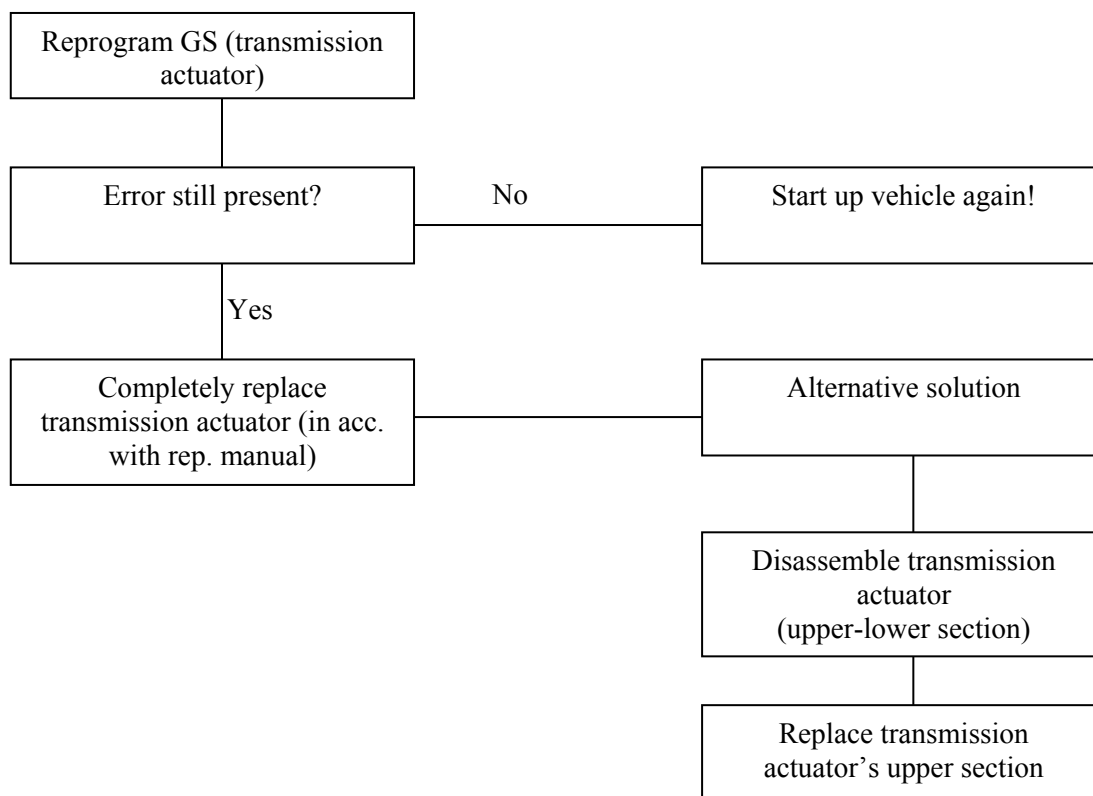
Error display: In vehicle display: **BD**
MobiDig/ Testman **189**

Error description: ECU error, stack watch.

Error detection: By software.

System response: During travel, gear shifts are inhibited. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: **BE**

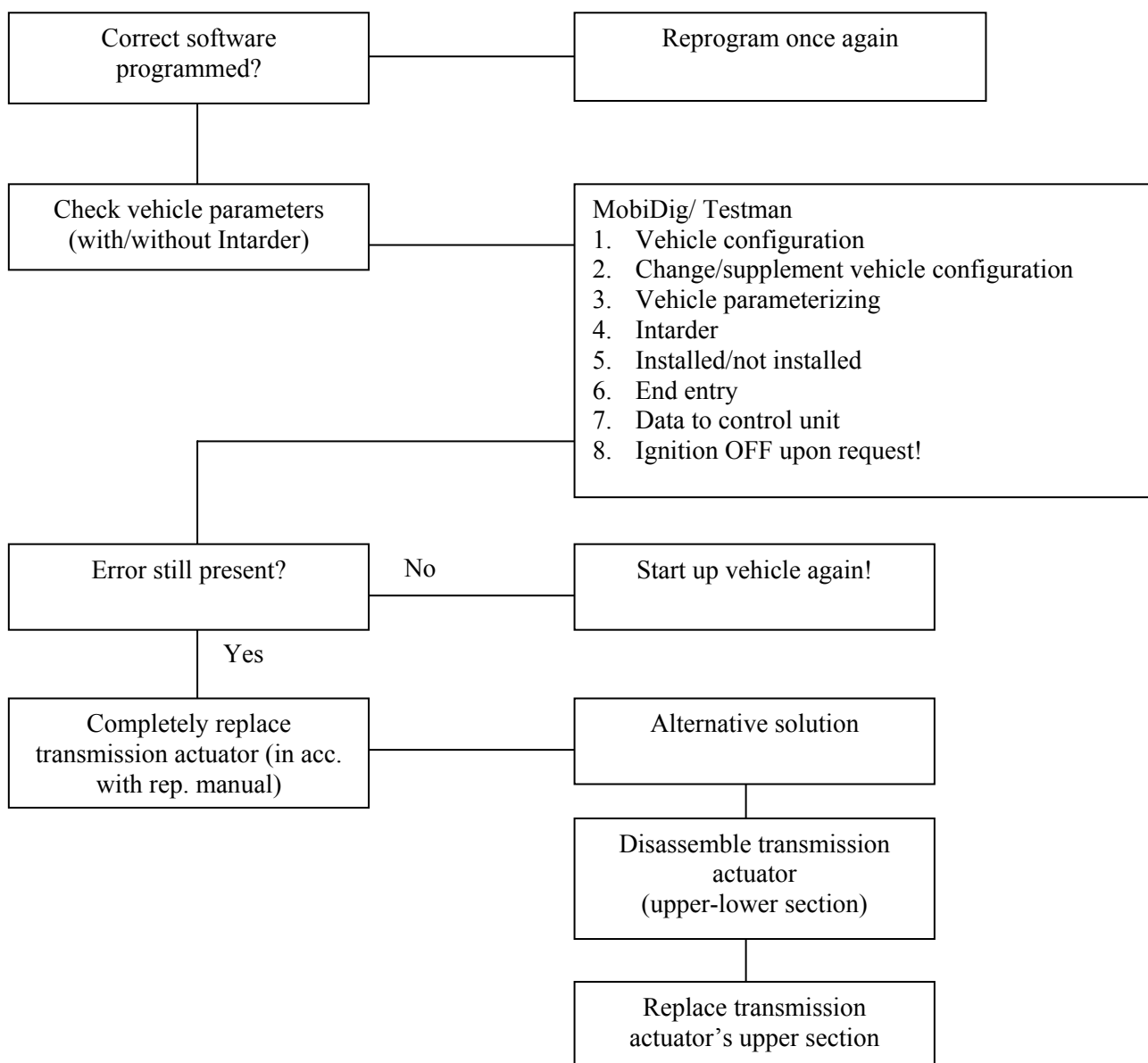
Error display: In vehicle display: **BE**
MobiDig/ Testman **190**

Error description: EOL EEPROM parameter(s) outside of valid range.

Error detection: By software, EOL parameters outside range, detection with ignition on.

System response: Gear shifts are blocked. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: BF

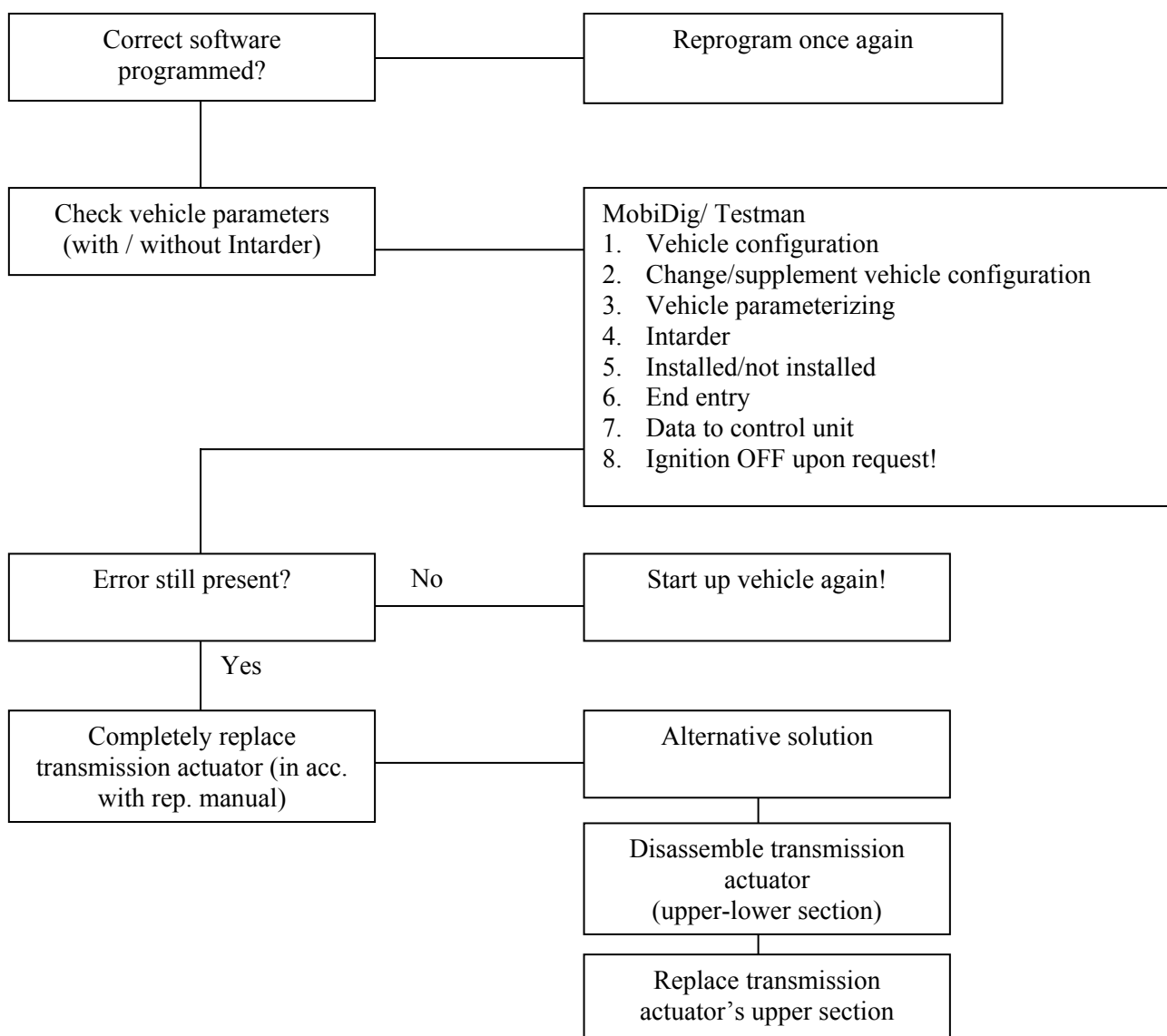
Error display:	In vehicle display:	BF
	MobiDig/ Testman	191

Error description: EOL EEPROM parameter checksum error.

Error detection: By software, check sum of EOL parameters not correct, detection when ignition on.

System response: Gear shifts are blocked. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: C0

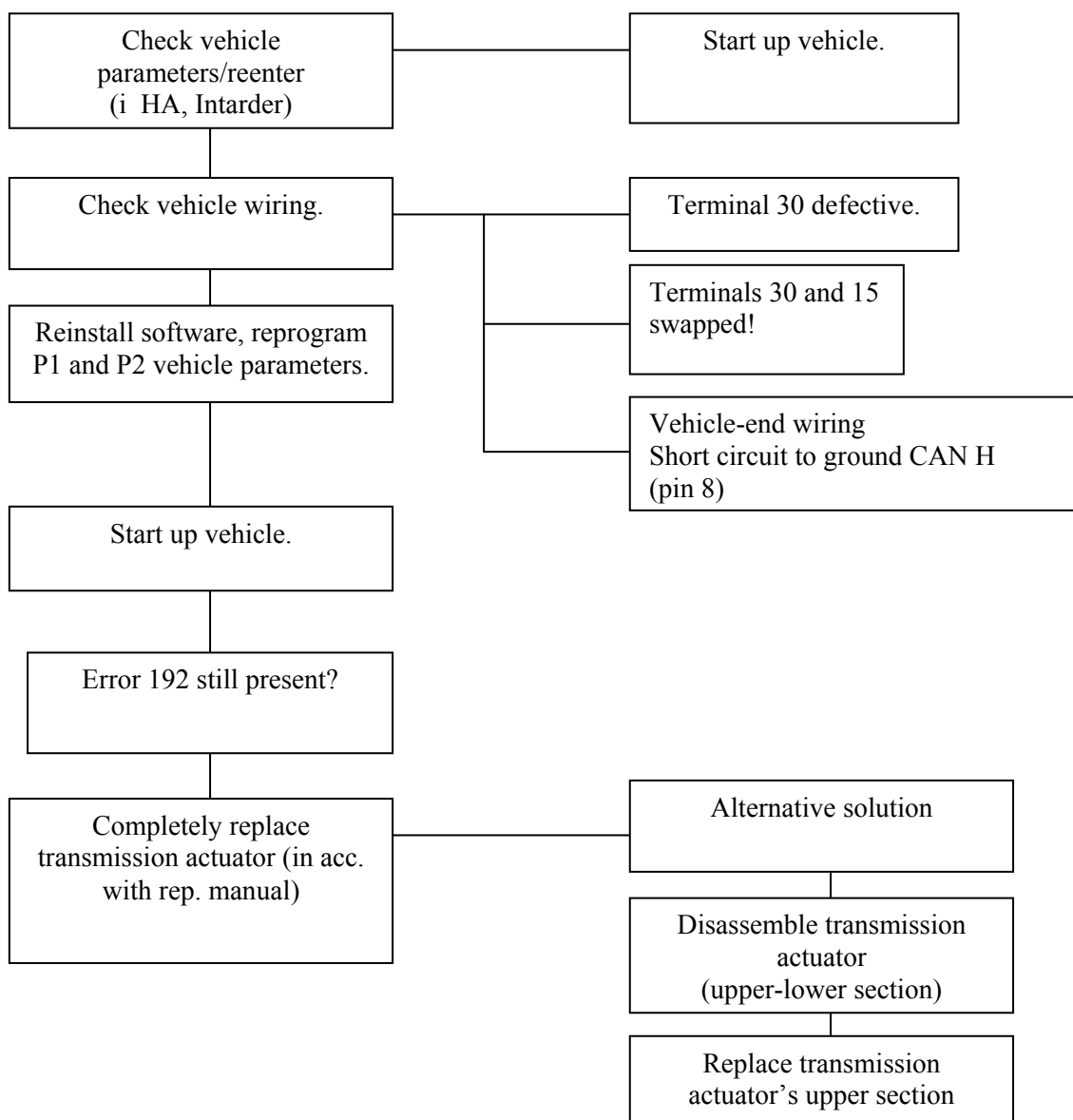
Error display: In vehicle display: C0
MobiDig/ Testman 192

Error description: ECU fault, EEPROM access incorrect.

Error detection: Value cannot be read by serial EEPROM.

System response: Gear shifts are blocked. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: C1

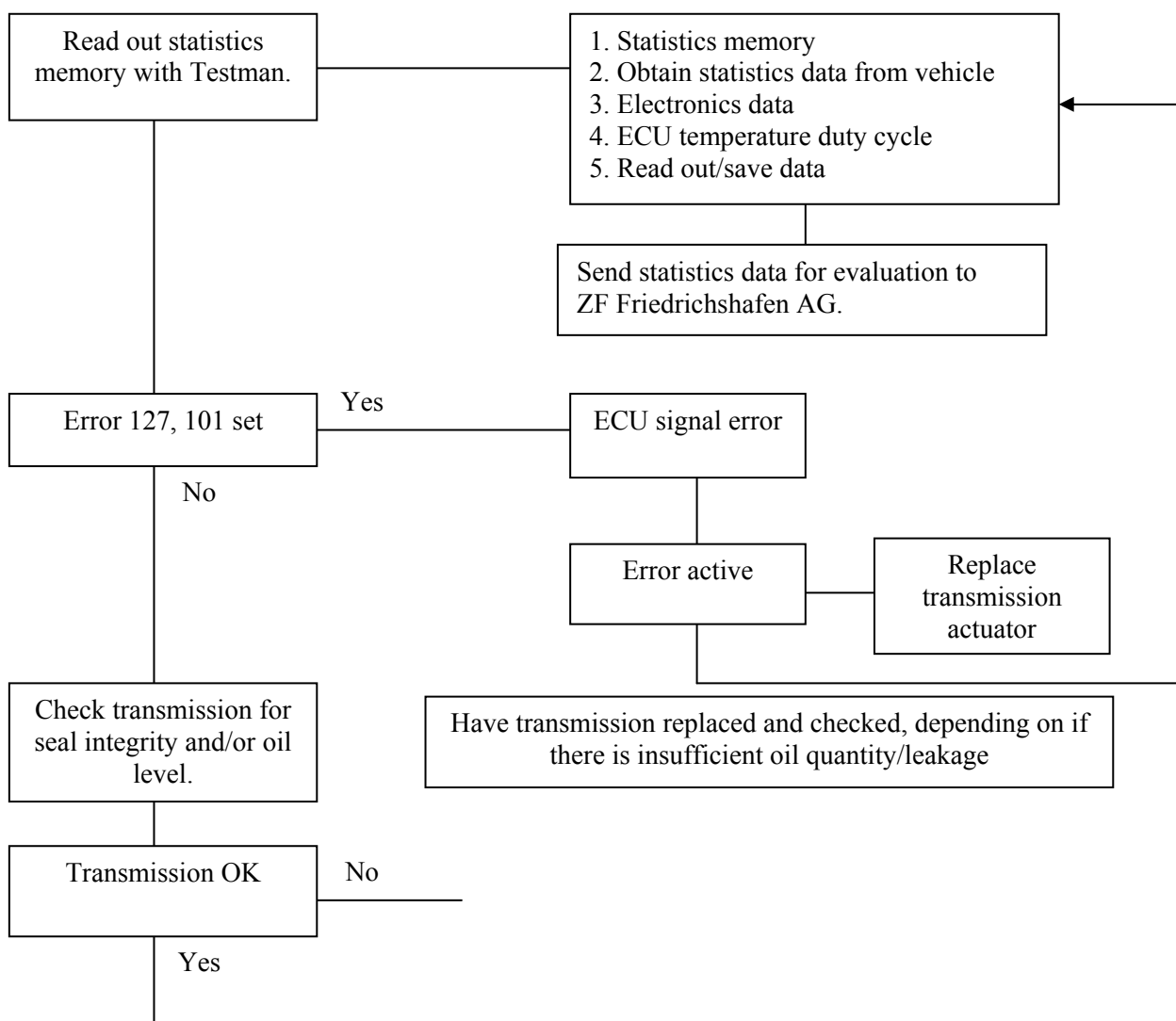
Error display: In vehicle display: C1
MobiDig/ Testman 193

Error description: ECU temperature too high.

Error detection: ECU temperature on electronics circuit board greater than 125 °C and oil temperature greater than 130 °C.

System response: Gear shifts are blocked. The clutch opens as soon as the vehicle comes to a standstill. When vehicle stops, neutral position is automatically engaged. The gear display and temperature error message are shown in turn on the display. Other gear shifts not possible. System not available.

Error rectification:





Iveco error number: C2

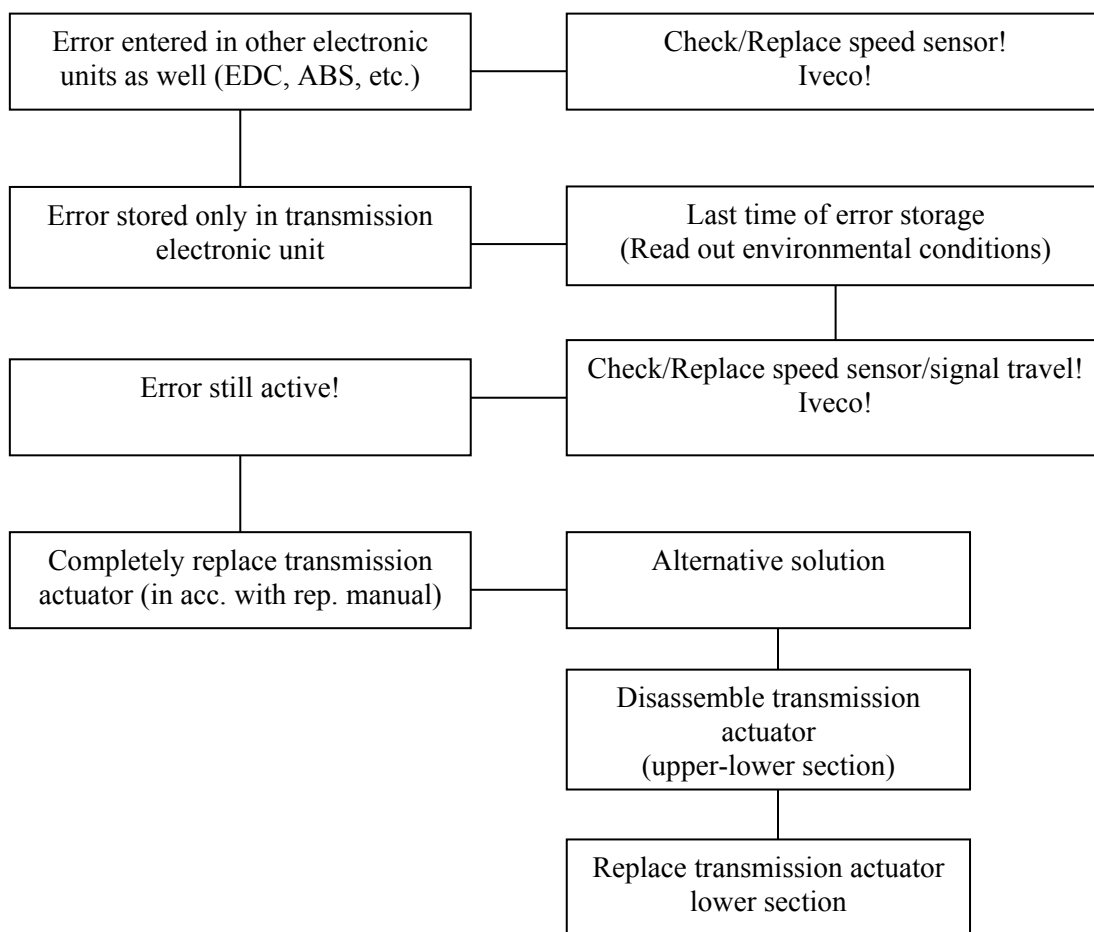
Error display: In vehicle display: C2
MobiDig/ Testman 194

Error description: Failure of both signal sources for the front axle speed.

Error detection: Both signal sources for the front axle speed are not available.

System response: The automatic shift unit is deactivated. No further system restrictions.

Error rectification:





Iveco error number: C5

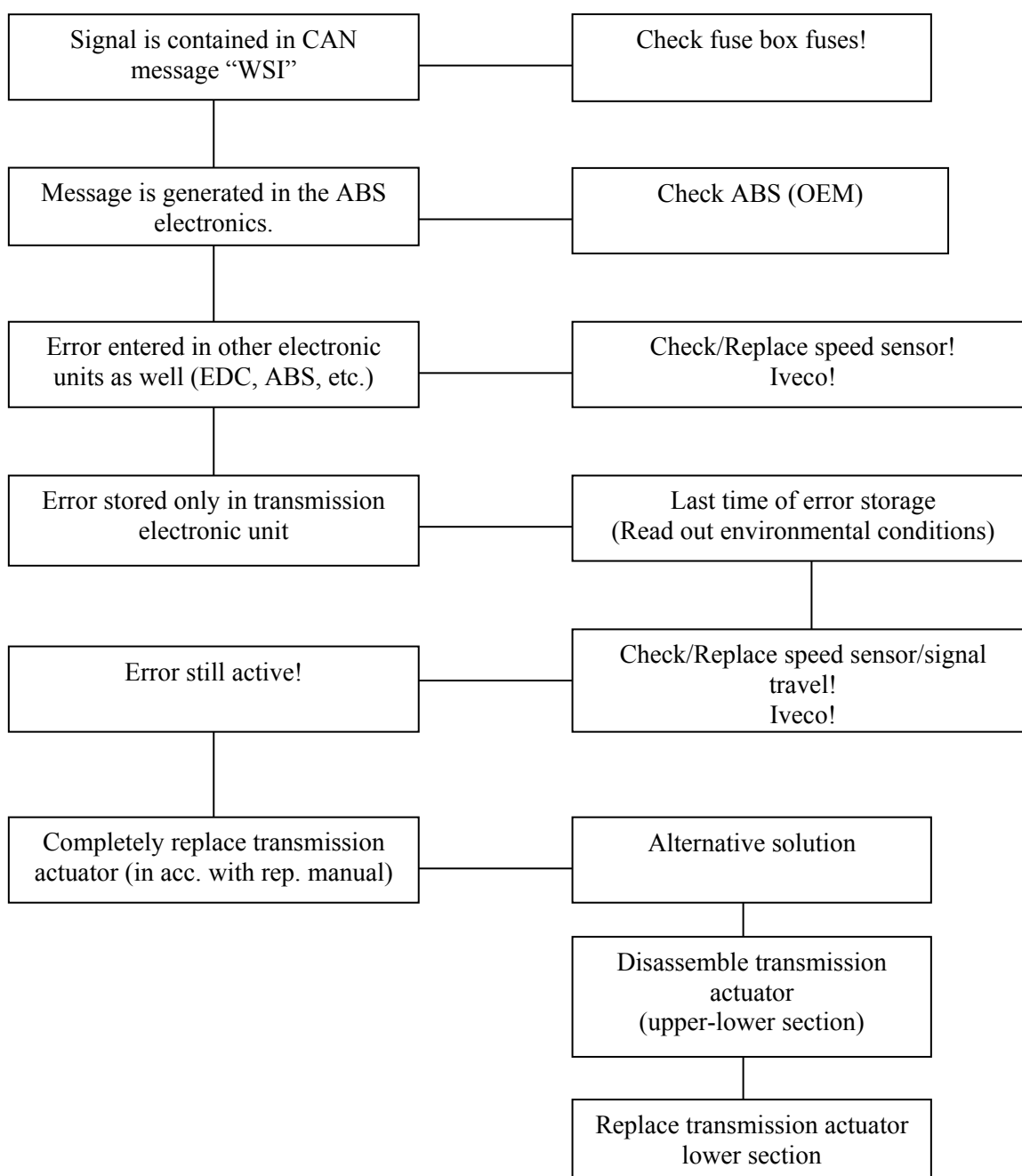
Error display: In vehicle display: C5
MobiDig/ Testman 197

Error description: Front axle speed signal error.

Error detection: No signal or signal incorrect.

System response: The automatic shift unit is deactivated. Manual shifting possible. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

Error rectification:





Iveco error number: C7

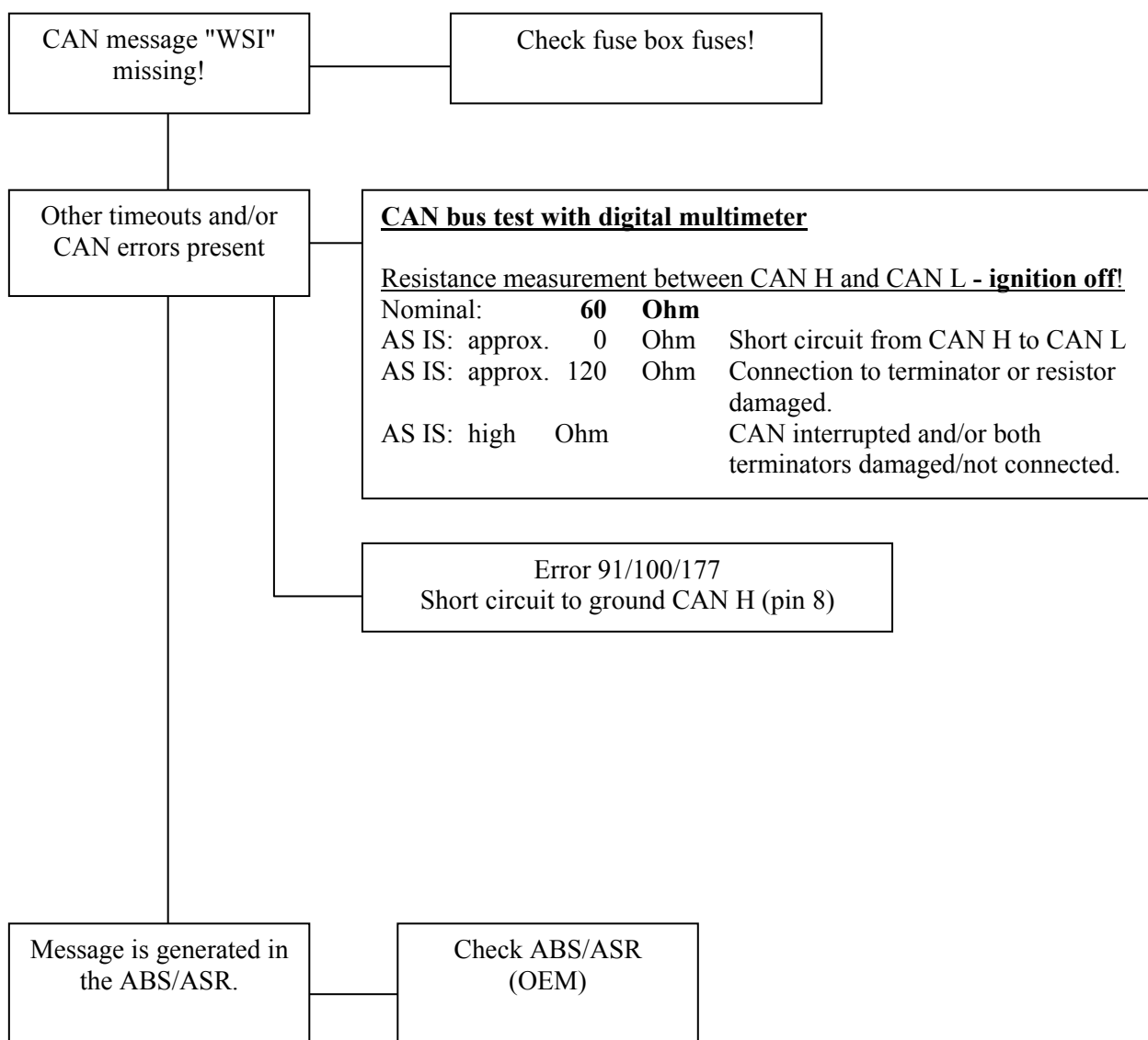
Error display: In vehicle display: C7
MobiDig/ Testman 199

Error description: CAN message "WSI timeout".

Error detection: An error is set after the CAN message timeout.

System response: The automatic shift unit is deactivated. Manual shifting possible. If vehicle comes to a standstill, mid-starting gear is selected. No other functional restrictions.

Error rectification:





Iveco error number: E2

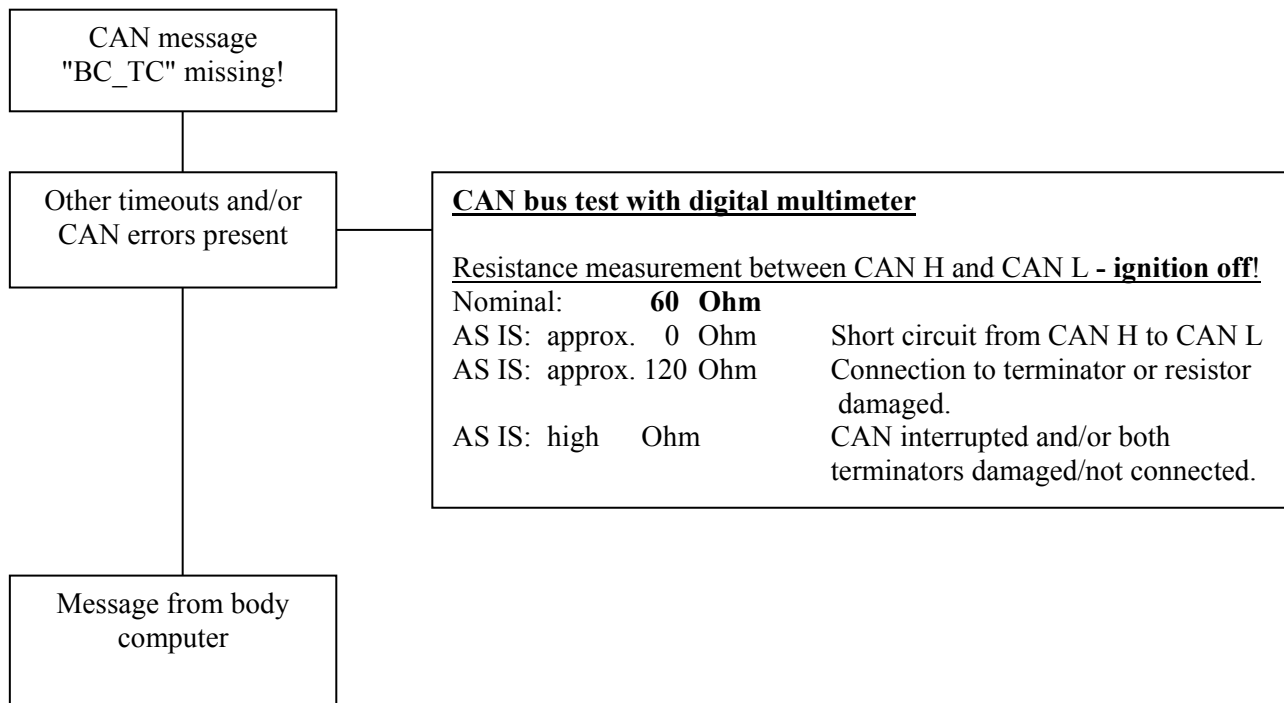
Error display: In vehicle display: **E2**
MobiDig/ Testman **226**

Error description: CAN message "BC_TC timeout".

Error detection: An error is set after the CAN message timeout.

System response: The automatic shift unit is deactivated. During travel, gear shifts are blocked. When vehicle stops, Neutral position is automatically engaged. System not available.

Error rectification:





Iveco error number: E3

Error display: In vehicle display: E3
MobiDig/ Testman 227

Error description: Application error data field for CAN communication.

Error detection: Through software during system test after Ignition on.

System response: Gearshifts locked. When vehicle stops, Neutral position is automatically engaged. System not available.

Error rectification:

