

## Fault code - test procedure look-up table

Fault No.	Fault Description	P-Code	Test Routine
1	Activation, firing, cylinder 2		B1214_M0ZS2
2	Activation, firing, cylinder 4		B1214_M0ZS4
3	Activation, firing, cylinder 6		B1214_M0ZS6
5	Activation, fuel injector, cylinder 2	P0202	B1214_M0EV2
6	Activation, fuel injector, cylinder 1	P0201	B1214_M0EV1
8	Signal, air-mass flow sensor	P0101	B1214_M0HFM
10	Signal, sensor, engine coolant temperature	P0116	B1214_MOTMO
11	Signal, coolant temp.sensor, radiator outlet		B1214_MOTKA
12	Plausibility, maximum coolant temperature	P1115	B1214_MOTMO
14	Signal, intake-air temperature sensor	P0111	B1214_M0TAN
18	Signal, camshaft sensor, exhaust	P1397	B1214_M0NWA
19	Activation, VANOS solenoid valve, exhaust	P1529	B1214_M0VMA
			B1214_M0UBH
21	Activation, VANOS solenoid valve, inlet	P1525	B1214_M0VME
			B1214_M0UBH
22	Activation, fuel injector, cylinder 3	P0203	B1214_M0EV3
23	Activation, fuel injector, cylinder 6	P0206	B1214_M0EV6
24	Activation, fuel injector, cylinder 4	P0204	B1214_M0EV4
25	Activation, oxygen-sensor heater beforecatalytic converter, bank 1	P0135	B1214_M0LV1
27	Activation, idle-speed control valve/closing coil	P1550	B1214_M0LLS
			B1214_M0UBH
29	Activation, firing, cylinder 1		B1214_MZS1
30	Activation, firing, cylinder 3		B1214_MZS3
31	Activation, firing, cylinder 5		B1214_MZS5
33	Activation, fuel injector, cylinder 5	P0205	B1214_M0EV1
35	Activation, relay, secondary-air pump	P1453	B1214_M0SLP
38	Clutch switch		B1214_M0KPS
39	Plausibility, signal,brake-light switch/brake-light test switch		B1214_M0BLS
40	Plausibility, signal, brake-light switch/pedal-travel sensor		B1214_M0BLS
42	Multifunction steering wheel, plausibility,signal		B1214_M0MFL
43	Multifunction steering wheel, plausibility,rocker switch		B1214_M0MFL
45	Multif. steer. wheel, monitoring, interface		B1214_M0MFL
50	Activation, solenoid valve, fuel-circuitchangeover	P1145	B1214_M0KKU
52	Activation, sol. valve, exhaust-gas flap		B1214_M0AGK
53	Activation, idle-speed control valve/opening coil	P1509	B1214_M0LLS
			B1214_M0UBH
55	Activation, oxygen-sensor heater beforecatalytic converter, bank 2	P0155	B1214_M0LV2
56	Signal, ignitio-current measurement,resistance		
57	Signal, knock sensor 1	P0325	B1214_M0KS
59	Signal, knock sensor 2	P0330	B1214_M0KS
61	Activation , oxygen-sensor heating aftercatalytic converter, bank 2	P0141	B1214_M0LH2
62	Activation, solenoid valve, secondary air	P0412	B1214_M0SLV
65	Signal, camshaft sensor, inlet	P0340	B1214_M0NWE
68	Activation, tank-venting solenoid valve	P0443	B1214_M0TEV
			B1214_M0UBH
69	Activation, relay, fuel pump		B1214_M0EKP
			B1214_M0UBH
74	Activation, A/C compressor		B1214_M0KKR
79	Activation , oxygen-sensor heating aftercatalytic converter, bank 1	P0161	B1214_M0LH1
83	Signal, crankshaft sensor	P0335	B1214_M0KWG
100	Control unit self-test	P0601	B1214_M0SGS
103	Control VANOS, end-position fault,inlet camshaft	P1519	B1214_M0SVME

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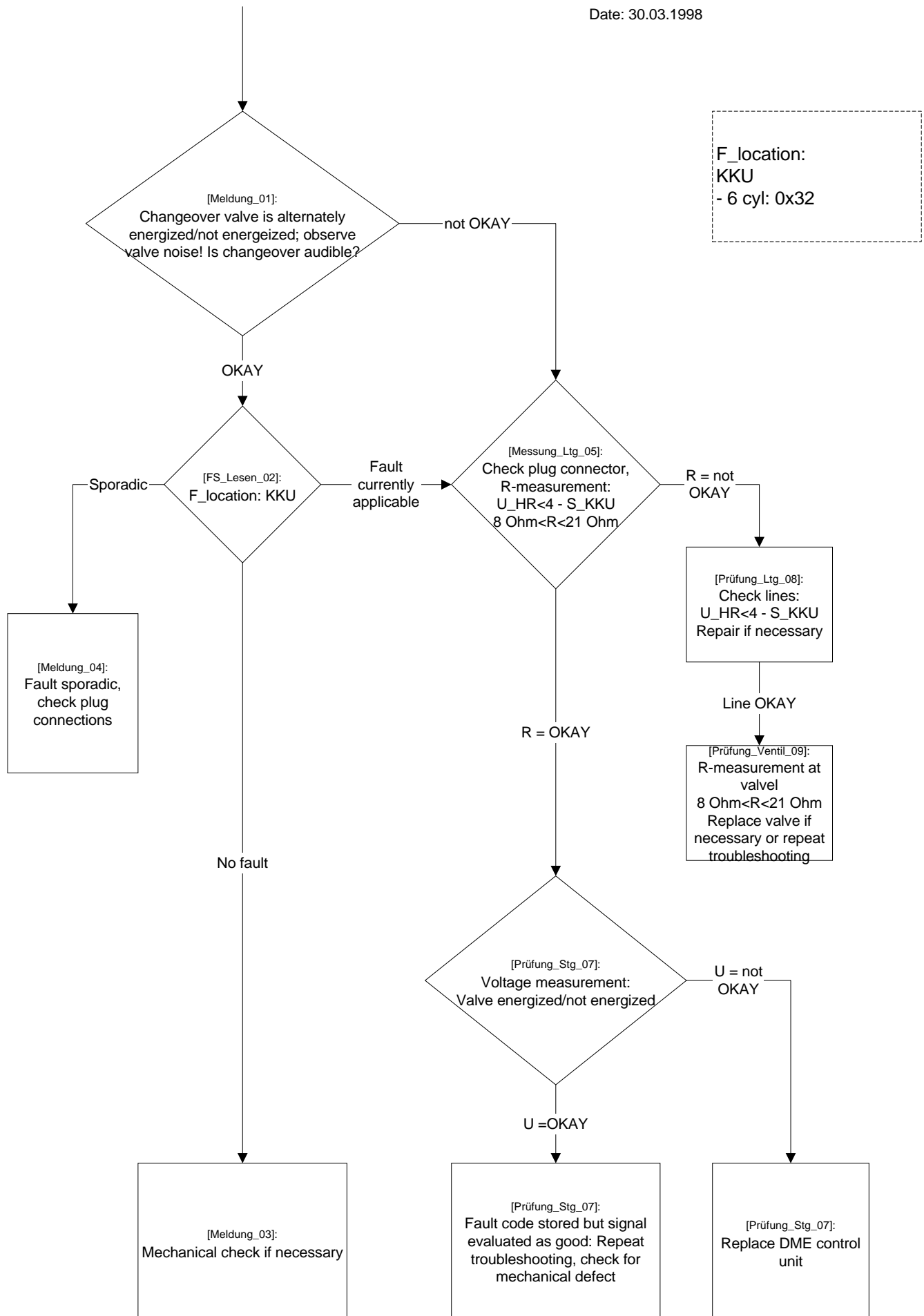
104 Control VANOS, end-position fault,exhaust camshaft	P1520	B1214_M0SVMA
105 Control VANOS, position, intake camshaft	P1522	B1214_M0SVME
106 Control VANOS, position, exhaust camshaft	P1523	B1214_M0SVMA
109 Engine throttle, plausibility, activationduty factor	P1580	B1214_M0MDK
110 Signal, driver's-wish sensor, potentiom'r 1	P1542	B1214_M0MDK B1214_M0UBH
111 Signal, driver's-wish sensor, potentiom'r 2	P1542	B1214_M0MDK
112 Signal, throttle sensor, potentiometer 1	P0120	B1214_M0MDK B1214_M0UBH
113 Signal, throttle sensor, potentiometer 2	P0120	B1214_M0MDK
114 Activation, engine throttle	P1580	B1214_M0MDK
115 Reference voltage, voltage regulator 1,driver's-wish sensor/throttle sensor 1	P1623	B1214_M0MDK B1214_M0UBH
116 Reference voltage, voltage regulator 2,driver's-wish sensor/throttle sensor 2	P1623	B1214_M0MDK
117 Plausibility, signal, driver's-wish sensor,potentiometers 1 and 2	P1542	B1214_M0MDK
118 Plausibility, signal, engine-throttlesensor, potentiometers 1 and 2	P0120	B1214_M0MDK
119 Engine throttle, mechanical fault	P1580	B1214_M0MDK
120 Plausibility, driver's-wish sensor,throttle sensor	P1542	B1214_M0MDK
122 Signal, engine-oil temperature sensor	P1161	B1214_M0TOL
123 Activation, map cooling	P1622	B1214_M0KFK B1214_M0UBH
124 Activation, solenoid valve,intake manifold (DISA)	P1593	B1214_M0DIS B1214_M0UBH
125 Activation, electric fan		B1214_M0ELU
126 Activation, solenoid valve, tank-leakdiagnosis pump	P1470	B1214_M0TEV
127 Activation, solen. valve, suction jet pump		B1214_M0SSP
128 DME-EWS interface		B1214_M0EWS
130 Signal CAN ASC 1		B1214_M0CAN
131 CAN signal, instrument cluster 2		B1214_M0CAN
132 CAN signal, instrument cluster 3		B1214_M0CAN
133 Signal CAN ASC 3		B1214_M0CAN
140 Tank-leak diagnosis pump, Reed switch not closed	P1475	B1214_M0TLP
141 Tank-leak diagnosis pump,Reed switch does not open	P1477	B1214_M0TLP
142 Tank-leak diag. pump, reed does not close	P1477	B1214_M0TLP
143 Tank ventilation, blocked line, tank CC	P1476	B1214_M0TLP
144 Fuel system, major leak detected	P0441	B1214_M0TLP
145 Fuel system, minor leak detected	P0442	B1214_M0TLP
146 Small leak 0,5mm	P1478	B1214_M0TLP
149 Plausibility error, air mass/dr.-wish sens.	P1140	B1214_M0HFM
150 Signal, oxygen sensor before cat. conv.,bank 1, max. value exceeded	P0130	B1214_M0LV1
151 Signal, oxygen sensor before cat. conv.,bank 1, min. value undershot	P0130	B1214_M0LV1 B1214_M0GAB
152 Signal, oxygen sensor before cat. conv.,bank 1, no signal	P0130	B1214_M0LV1
153 Signal, oxygen sensor before cat. conv.,bank 2, max. value exceeded	P0150	B1214_M0LV2
154 Signal, oxygen sensor before cat. conv.,bank 2, min. value undershot	P0150	B1214_M0LV2 B1214_M0GAB
155 Signal, oxygen sensor before cat. conv.,bank 2, no signal	P0150	B1214_M0LV2
156 Signal, oxygen sensor after cat. conv.,bank 1, max. value exceeded	P0136	B1214_M0LH1
157 Signal, oxygen sensor before cat. conv.,bank 1, min. value undershot	P0136	B1214_M0LH1 B1214_M0GAB
159 Signal, oxygen sensor after cat. conv.,bank 2, max. value exceeded	P0156	B1214_M0LH2
160 Signal, oxygen sensor after cat. conv.,bank 2, min. value undershot	P0156	B1214_M0LH2 B1214_M0GAB
168 Thermostat map cooling, mechanical fault	P1624	B1214_M0TKA
169 Engine Throttle flap,		B1214_M0MDK
170 Control-unit self-test, internal fault	P0601	B1214_M0SGS

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171 Plausibility, system, engine throttle	P0601	B1214_M0UBH B1214_M0MDK B1214_M0SGS B1214_M0UBH
172 Signal, driver's-wish sensor,potentiometers 1 and 2, short circuit	P1542	B1214_M0MDK
173 Signal, throttle sensor, potentiometers 1 and 2, short circuit	P0120	B1214_M0MDK
174 Throttle sensor, potentiometer 1/2, adapt'n	P0120	B1214_M0MDK
175 Driver's-wish sensor 1, adaptation	P1542	B1214_M0MDK
176 Driver's-wish sensor 2, adaptation	P1542	B1214_M0MDK
186 Voltage excursion before cat.sensor,bank 1	P0134	B1214_M0LV1
187 Voltage excursion before cat.sensor,bank 2	P0154	B1214_M0LV2
188 Heat output, oxygen sensor bef.cat., bank 1	P1132	B1214_M0LV1
189 Heat output, oxygen sensor bef.cat., bank 2	P1133	B1214_M0LV2
190 Heat output,oxygen sensor aft. cat., bank 1	P1186	B1214_M0LH1
191 Heat output,oxygen sensor aft. cat., bank 2	P1187	B1214_M0LH2
202 Oxygen-sensor control, bank 1, control stop	P0170	B1214_M0LV1
203 Oxygen-sensor control, bank 2, control stop	P0173	B1214_M0LV2
204 Plausibility, idle speed (leakage air)	P0505	B1214_M0GAB
208 Speed monitoring not plausible EWS		B1214_M0EWS
209 EWS tampering protection		B1214_M0EWS
210 Error in ignition-current measurement at more than 2 cylinders		
211 Idle-speed control valve, mechanical fault	P1510	B1214_M0LLS
214 Signal, vehicle speed	P0500	B1214_M0VSI
215 Signal,oxygen sensor, post-cat. bank 1, no signal	P0136	B1214_M0LH1
216 Signal,oxygen sensor, post-cat. bank 2, no signal	P0156	B1214_M0LH2
217 Signal CAN EGS	P0600	B1214_M0CAN B1214_M0UBH B1214_M0CAN
219 Monitoring CAN		
220 Voltage, oxygen sensor 1, post-cat. , sensor too slow	P1184	B1214_M0LH1
221 Voltage, oxygen sensor 2, post-cat. , sensor too slow	P1185	B1214_M0LH2
222 Plausibility, coolant temperature	P0125	B1214_M0TMO
223 Leap time, oxygen sensor, post-cat. bank 1	P1180	B1214_M0LH1
224 Leap time, oxygen sensor, post-cat. bank 2	P1181	B1214_M0LH2
225 Function, oxygen-sensor control, post-cat,bank 1	P1192	B1214_M0LV1
226 Function, oxygen-sensor control, post-cat,bank 2	P0193	B1214_M0LV2
227 Oxygen-sensor-control. fluct., bank 1,too large	P0188	B1214_M0LV1
228 Oxygen-sensor-control. fluct., bank 2,too large	P0189	B1214_M0LV2
229 Control frequ., oxy. sensor, bank 1, faulty	P0133	B1214_M0LV1
230 Control frequ., oxy. sensor, bank 2, faulty	P0153	B1214_M0LV2
231 Switching time, oxygen sensor, bank 1	P1178	B1214_M0LV1
232 Switching time, oxygen sensor, bank 2	P0179	B1214_M0LV2
233 Catalytic-converter efficiency, bank 1	P0420	B1214_M0LV1
234 Catalytic-converter efficiency, bank 2	P0430	B1214_M0LV2
235 Function, oxygen-sen. control, pre-cat.,bank 1	P1190	B1214_M0LV1
236 Function, oxygen-sen. control, pre-cat.,bank 2	P1191	B1214_M0LV2
238 Misfire, cylinder 1	P0301	B1214_M0AUS
239 Misfire, cylinder 2	P0302	B1214_M0AUS
240 Misfire, cylinder 3	P0303	B1214_M0AUS
241 Misfire, cylinder 4	P0304	B1214_M0AUS
242 Misfire, cylinder 5	P0305	B1214_M0AUS
243 Misfire, cylinder 6	P0306	B1214_M0AUS
244 Segment timing, true running disturbed		B1214_M0KWG
245 Flow rate, sec. air system, too low, bank 1	P1423	
246 Flow rate, sec. air system, too low, bank 2	P1421	
247 Secondary-air valve open,stuck mechanically	P1432	B1214_M0SLV

### **Fault code - test procedure look-up table**

248 Oxygen-sensor, post-cat, bank 1, signal implausible	P1184	B1214_M0LH1
249 Oxygen-sensor, post-cat, bank 2, signal implausible	P1185	B1214_M0LH2
250 Function check, tank ventilation	P0440	B1214_M0TEV



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<b>Fault No.</b>	<b>Fault Description</b>	<b>P-Code</b>	<b>Test Routine</b>
1	Activation, firing, cylinder 2		B1214_M0ZS2
2	Activation, firing, cylinder 4		B1214_M0ZS4
3	Activation, firing, cylinder 6		B1214_M0ZS6
5	Activation, fuel injector, cylinder 2	P0202	B1214_M0EV2
6	Activation, fuel injector, cylinder 1	P0201	B1214_M0EV1
8	Signal, air-mass flow sensor	P0101	B1214_M0HFM
10	Signal, sensor, engine coolant temperature	P0116	B1214_MOTMO
11	Signal, coolant temp.sensor, radiator outlet		B1214_MOTKA
12	Plausibility, maximum coolant temperature	P1115	B1214_MOTMO
14	Signal, intake-air temperature sensor	P0111	B1214_M0TAN
18	Signal, camshaft sensor, exhaust	P1397	B1214_M0NWA
19	Activation, VANOS solenoid valve, exhaust	P1529	B1214_M0VMA
			B1214_M0UBH
21	Activation, VANOS solenoid valve, inlet	P1525	B1214_M0VME
			B1214_M0UBH
22	Activation, fuel injector, cylinder 3	P0203	B1214_M0EV3
23	Activation, fuel injector, cylinder 6	P0206	B1214_M0EV6
24	Activation, fuel injector, cylinder 4	P0204	B1214_M0EV4
25	Activation, oxygen-sensor heater beforecatalytic converter, bank 1	P0135	B1214_M0LV1
27	Activation, idle-speed control valve/closing coil	P1550	B1214_M0LLS
			B1214_M0UBH
29	Activation, firing, cylinder 1		B1214_MZS1
30	Activation, firing, cylinder 3		B1214_MZS3
31	Activation, firing, cylinder 5		B1214_MZS5
33	Activation, fuel injector, cylinder 5	P0205	B1214_M0EV1
35	Activation, relay, secondary-air pump	P1453	B1214_M0SLP
38	Clutch switch		B1214_M0KPS
39	Plausibility, signal,brake-light switch/brake-light test switch		B1214_M0BLS
40	Plausibility, signal, brake-light switch/pedal-travel sensor		B1214_M0BLS
42	Multifunction steering wheel, plausibility,signal		B1214_M0MFL
43	Multifunction steering wheel, plausibility,rocker switch		B1214_M0MFL
45	Multif. steer. wheel, monitoring, interface		B1214_M0MFL
50	Activation, solenoid valve, fuel-circuitchangeover	P1145	B1214_M0KKU
52	Activation, sol. valve, exhaust-gas flap		B1214_M0AGK
53	Activation, idle-speed control valve/opening coil	P1509	B1214_M0LLS
			B1214_M0UBH
55	Activation, oxygen-sensor heater beforecatalytic converter, bank 2	P0155	B1214_M0LV2
56	Signal, ignitio-current measurement,resistance		
57	Signal, knock sensor 1	P0325	B1214_M0KS
59	Signal, knock sensor 2	P0330	B1214_M0KS
61	Activation , oxygen-sensor heating aftercatalytic converter, bank 2	P0141	B1214_M0LH2
62	Activation, solenoid valve, secondary air	P0412	B1214_M0SLV
65	Signal, camshaft sensor, inlet	P0340	B1214_M0NWE
68	Activation, tank-venting solenoid valve	P0443	B1214_M0TEV
			B1214_M0UBH
69	Activation, relay, fuel pump		B1214_M0EKP
			B1214_M0UBH
74	Activation, A/C compressor		B1214_M0KKR
79	Activation , oxygen-sensor heating aftercatalytic converter, bank 1	P0161	B1214_M0LH1
83	Signal, crankshaft sensor	P0335	B1214_M0KWG
100	Control unit self-test	P0601	B1214_M0SGS
103	Control VANOS, end-position fault,inlet camshaft	P1519	B1214_M0SVME

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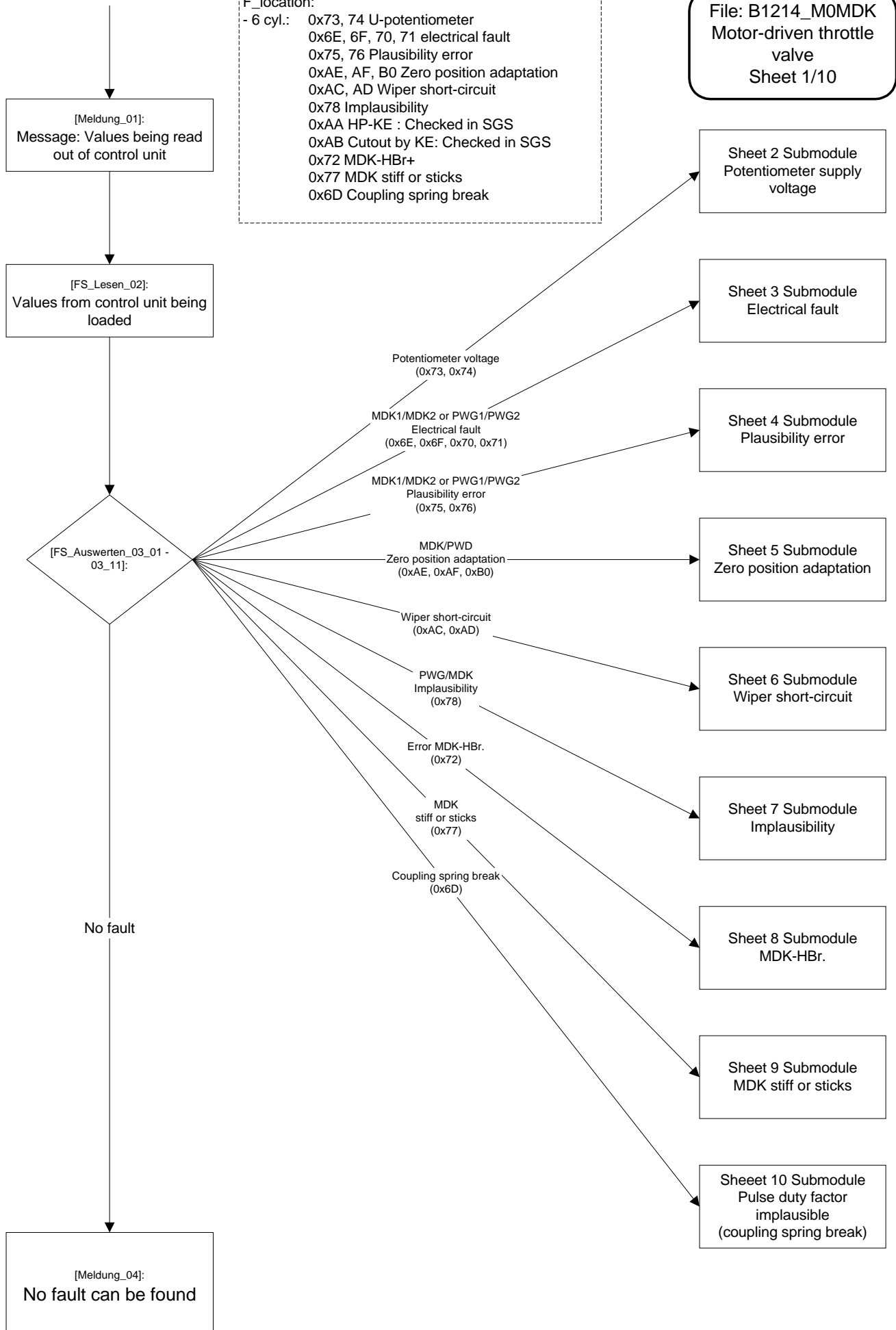
104 Control VANOS, end-position fault,exhaust camshaft	P1520	B1214_M0SVMA
105 Control VANOS, position, intake camshaft	P1522	B1214_M0SVME
106 Control VANOS, position, exhaust camshaft	P1523	B1214_M0SVMA
109 Engine throttle, plausibility, activationduty factor	P1580	B1214_M0MDK
110 Signal, driver's-wish sensor, potentiom'r 1	P1542	B1214_M0MDK B1214_M0UBH
111 Signal, driver's-wish sensor, potentiom'r 2	P1542	B1214_M0MDK
112 Signal, throttle sensor, potentiometer 1	P0120	B1214_M0MDK B1214_M0UBH
113 Signal, throttle sensor, potentiometer 2	P0120	B1214_M0MDK
114 Activation, engine throttle	P1580	B1214_M0MDK
115 Reference voltage, voltage regulator 1,driver's-wish sensor/throttle sensor 1	P1623	B1214_M0MDK B1214_M0UBH
116 Reference voltage, voltage regulator 2,driver's-wish sensor/throttle sensor 2	P1623	B1214_M0MDK
117 Plausibility, signal, driver's-wish sensor,potentiometers 1 and 2	P1542	B1214_M0MDK
118 Plausibility, signal, engine-throttlesensor, potentiometers 1 and 2	P0120	B1214_M0MDK
119 Engine throttle, mechanical fault	P1580	B1214_M0MDK
120 Plausibility, driver's-wish sensor,throttle sensor	P1542	B1214_M0MDK
122 Signal, engine-oil temperature sensor	P1161	B1214_M0TOL
123 Activation, map cooling	P1622	B1214_M0KFK B1214_M0UBH
124 Activation, solenoid valve,intake manifold (DISA)	P1593	B1214_M0DIS B1214_M0UBH
125 Activation, electric fan		B1214_M0ELU
126 Activation, solenoid valve, tank-leakdiagnosis pump	P1470	B1214_M0TEV
127 Activation, solen. valve, suction jet pump		B1214_M0SSP
128 DME-EWS interface		B1214_M0EWS
130 Signal CAN ASC 1		B1214_M0CAN
131 CAN signal, instrument cluster 2		B1214_M0CAN
132 CAN signal, instrument cluster 3		B1214_M0CAN
133 Signal CAN ASC 3		B1214_M0CAN
140 Tank-leak diagnosis pump, Reed switch not closed	P1475	B1214_M0TLP
141 Tank-leak diagnosis pump,Reed switch does not open	P1477	B1214_M0TLP
142 Tank-leak diag. pump, reed does not close	P1477	B1214_M0TLP
143 Tank ventilation, blocked line, tank CC	P1476	B1214_M0TLP
144 Fuel system, major leak detected	P0441	B1214_M0TLP
145 Fuel system, minor leak detected	P0442	B1214_M0TLP
146 Small leak 0,5mm	P1478	B1214_M0TLP
149 Plausibility error, air mass/dr.-wish sens.	P1140	B1214_M0HFM
150 Signal, oxygen sensor before cat. conv.,bank 1, max. value exceeded	P0130	B1214_M0LV1
151 Signal, oxygen sensor before cat. conv.,bank 1, min. value undershot	P0130	B1214_M0LV1 B1214_M0GAB
152 Signal, oxygen sensor before cat. conv.,bank 1, no signal	P0130	B1214_M0LV1
153 Signal, oxygen sensor before cat. conv.,bank 2, max. value exceeded	P0150	B1214_M0LV2
154 Signal, oxygen sensor before cat. conv.,bank 2, min. value undershot	P0150	B1214_M0LV2 B1214_M0GAB
155 Signal, oxygen sensor before cat. conv.,bank 2, no signal	P0150	B1214_M0LV2
156 Signal, oxygen sensor after cat. conv.,bank 1, max. value exceeded	P0136	B1214_M0LH1
157 Signal, oxygen sensor before cat. conv.,bank 1, min. value undershot	P0136	B1214_M0LH1 B1214_M0GAB
159 Signal, oxygen sensor after cat. conv.,bank 2, max. value exceeded	P0156	B1214_M0LH2
160 Signal, oxygen sensor after cat. conv.,bank 2, min. value undershot	P0156	B1214_M0LH2 B1214_M0GAB
168 Thermostat map cooling, mechanical fault	P1624	B1214_M0TKA
169 Engine Throttle flap,		B1214_M0MDK
170 Control-unit self-test, internal fault	P0601	B1214_M0SGS

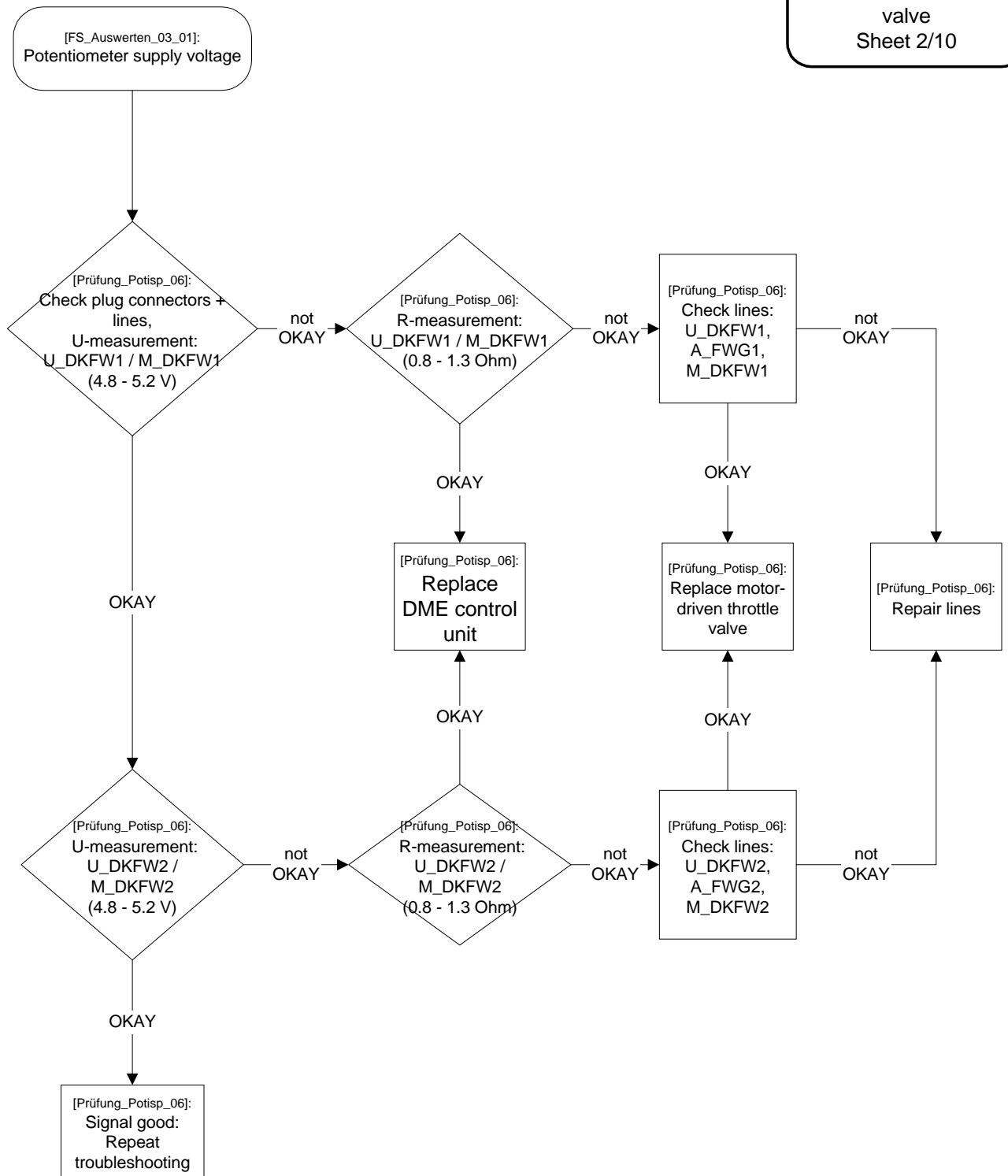
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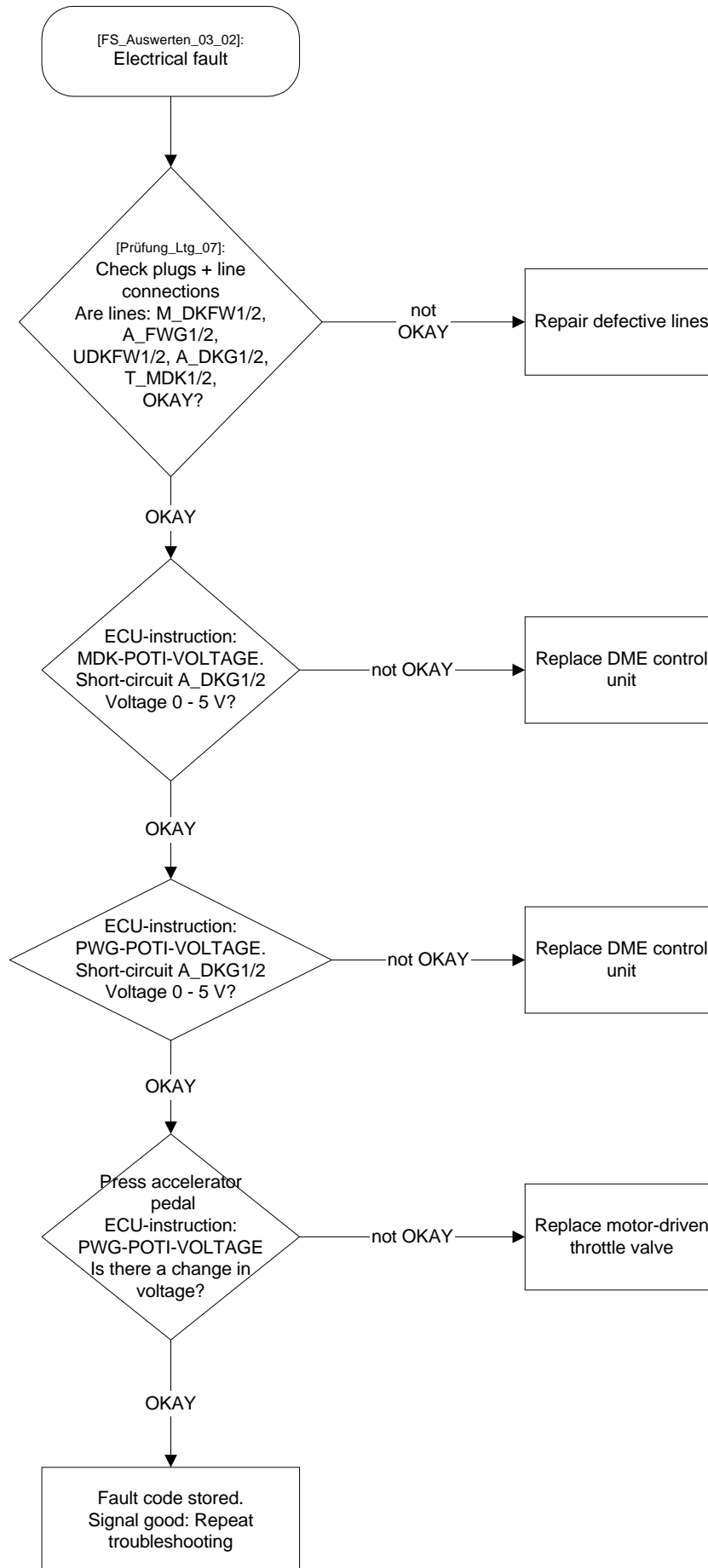
171 Plausibility, system, engine throttle	P0601	B1214_M0UBH B1214_M0MDK B1214_M0SGS B1214_M0UBH
172 Signal, driver's-wish sensor,potentiometers 1 and 2, short circuit	P1542	B1214_M0MDK
173 Signal, throttle sensor, potentiometers 1 and 2, short circuit	P0120	B1214_M0MDK
174 Throttle sensor, potentiometer 1/2, adapt'n	P0120	B1214_M0MDK
175 Driver's-wish sensor 1, adaptation	P1542	B1214_M0MDK
176 Driver's-wish sensor 2, adaptation	P1542	B1214_M0MDK
186 Voltage excursion before cat.sensor,bank 1	P0134	B1214_M0LV1
187 Voltage excursion before cat.sensor,bank 2	P0154	B1214_M0LV2
188 Heat output, oxygen sensor bef.cat., bank 1	P1132	B1214_M0LV1
189 Heat output, oxygen sensor bef.cat., bank 2	P1133	B1214_M0LV2
190 Heat output,oxygen sensor aft. cat., bank 1	P1186	B1214_M0LH1
191 Heat output,oxygen sensor aft. cat., bank 2	P1187	B1214_M0LH2
202 Oxygen-sensor control, bank 1, control stop	P0170	B1214_M0LV1
203 Oxygen-sensor control, bank 2, control stop	P0173	B1214_M0LV2
204 Plausibility, idle speed (leakage air)	P0505	B1214_M0GAB
208 Speed monitoring not plausible EWS		B1214_M0EWS
209 EWS tampering protection		B1214_M0EWS
210 Error in ignition-current measurement at more than 2 cylinders		
211 Idle-speed control valve, mechanical fault	P1510	B1214_M0LLS
214 Signal, vehicle speed	P0500	B1214_M0VSI
215 Signal,oxygen sensor, post-cat. bank 1, no signal	P0136	B1214_M0LH1
216 Signal,oxygen sensor, post-cat. bank 2, no signal	P0156	B1214_M0LH2
217 Signal CAN EGS	P0600	B1214_M0CAN B1214_M0UBH B1214_M0CAN
219 Monitoring CAN		
220 Voltage, oxygen sensor 1, post-cat. , sensor too slow	P1184	B1214_M0LH1
221 Voltage, oxygen sensor 2, post-cat. , sensor too slow	P1185	B1214_M0LH2
222 Plausibility, coolant temperature	P0125	B1214_M0TMO
223 Leap time, oxygen sensor, post-cat. bank 1	P1180	B1214_M0LH1
224 Leap time, oxygen sensor, post-cat. bank 2	P1181	B1214_M0LH2
225 Function, oxygen-sensor control, post-cat,bank 1	P1192	B1214_M0LV1
226 Function, oxygen-sensor control, post-cat,bank 2	P0193	B1214_M0LV2
227 Oxygen-sensor-control. fluct., bank 1,too large	P0188	B1214_M0LV1
228 Oxygen-sensor-control. fluct., bank 2,too large	P0189	B1214_M0LV2
229 Control frequ., oxy. sensor, bank 1, faulty	P0133	B1214_M0LV1
230 Control frequ., oxy. sensor, bank 2, faulty	P0153	B1214_M0LV2
231 Switching time, oxygen sensor, bank 1	P1178	B1214_M0LV1
232 Switching time, oxygen sensor, bank 2	P0179	B1214_M0LV2
233 Catalytic-converter efficiency, bank 1	P0420	B1214_M0LV1
234 Catalytic-converter efficiency, bank 2	P0430	B1214_M0LV2
235 Function, oxygen-sen. control, pre-cat.,bank 1	P1190	B1214_M0LV1
236 Function, oxygen-sen. control, pre-cat.,bank 2	P1191	B1214_M0LV2
238 Misfire, cylinder 1	P0301	B1214_M0AUS
239 Misfire, cylinder 2	P0302	B1214_M0AUS
240 Misfire, cylinder 3	P0303	B1214_M0AUS
241 Misfire, cylinder 4	P0304	B1214_M0AUS
242 Misfire, cylinder 5	P0305	B1214_M0AUS
243 Misfire, cylinder 6	P0306	B1214_M0AUS
244 Segment timing, true running disturbed		B1214_M0KWG
245 Flow rate, sec. air system, too low, bank 1	P1423	
246 Flow rate, sec. air system, too low, bank 2	P1421	
247 Secondary-air valve open,stuck mechanically	P1432	B1214_M0SLV

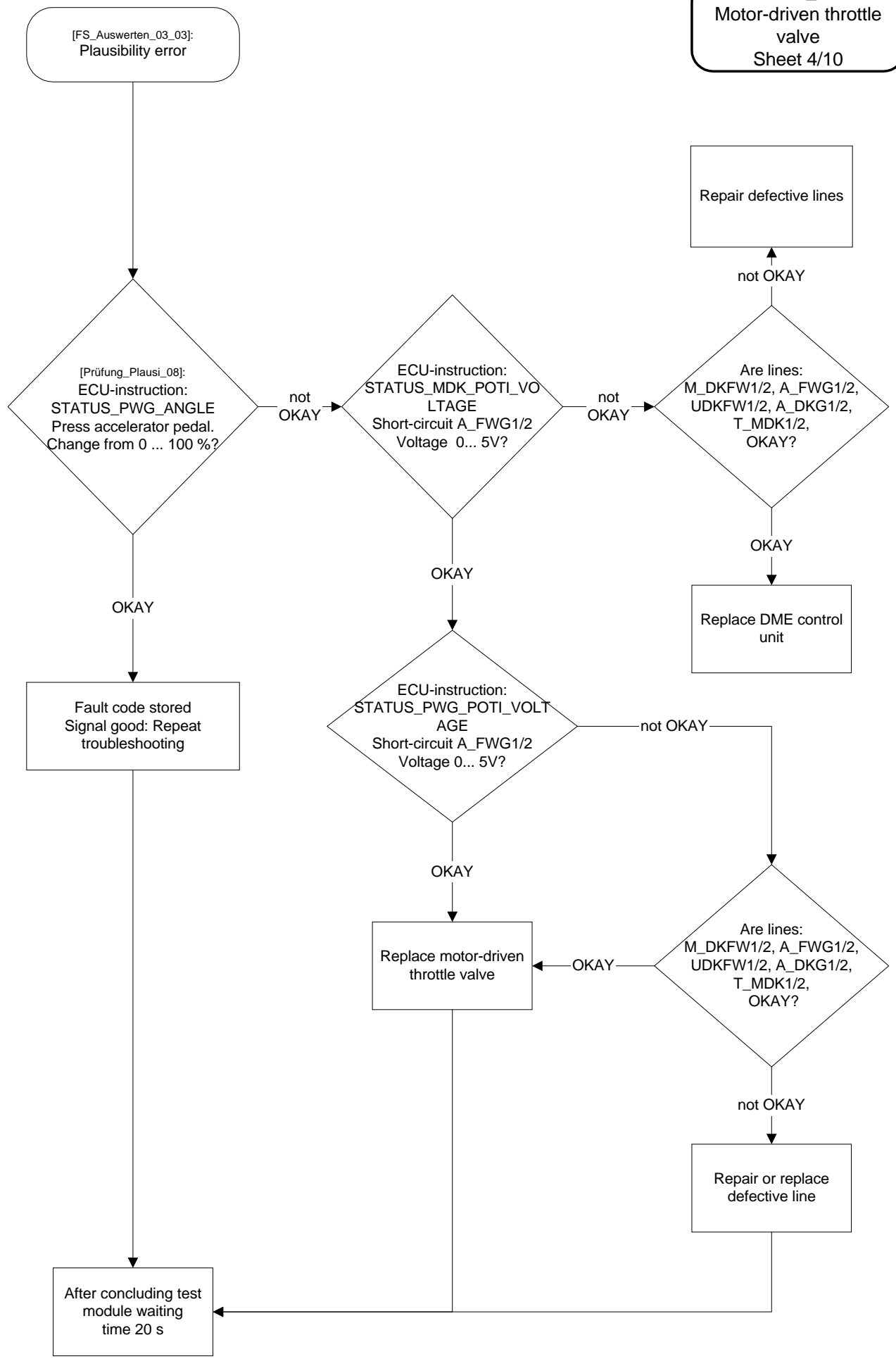
### **Fault code - test procedure look-up table**

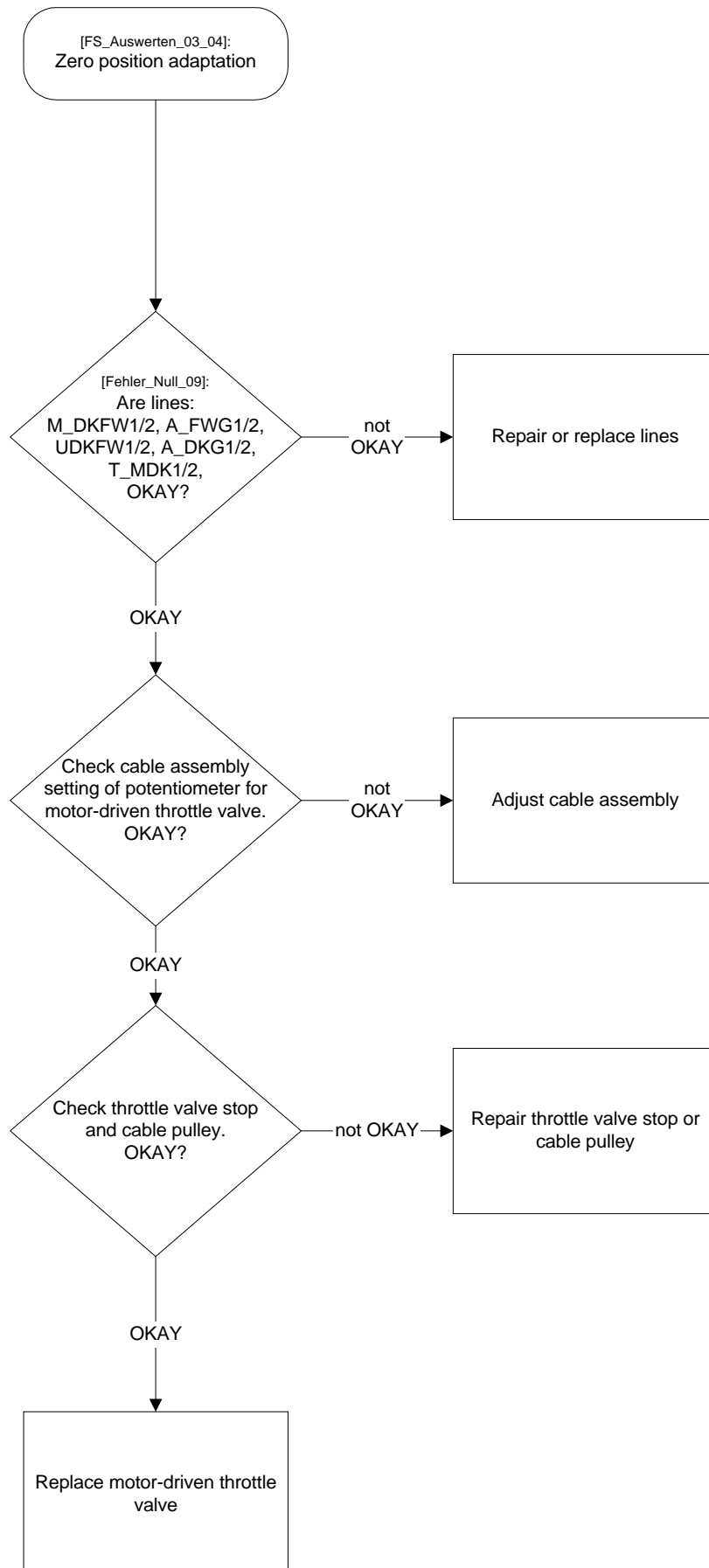
248 Oxygen-sensor, post-cat, bank 1, signal implausible	P1184	B1214_M0LH1
249 Oxygen-sensor, post-cat, bank 2, signal implausible	P1185	B1214_M0LH2
250 Function check, tank ventilation	P0440	B1214_M0TEV

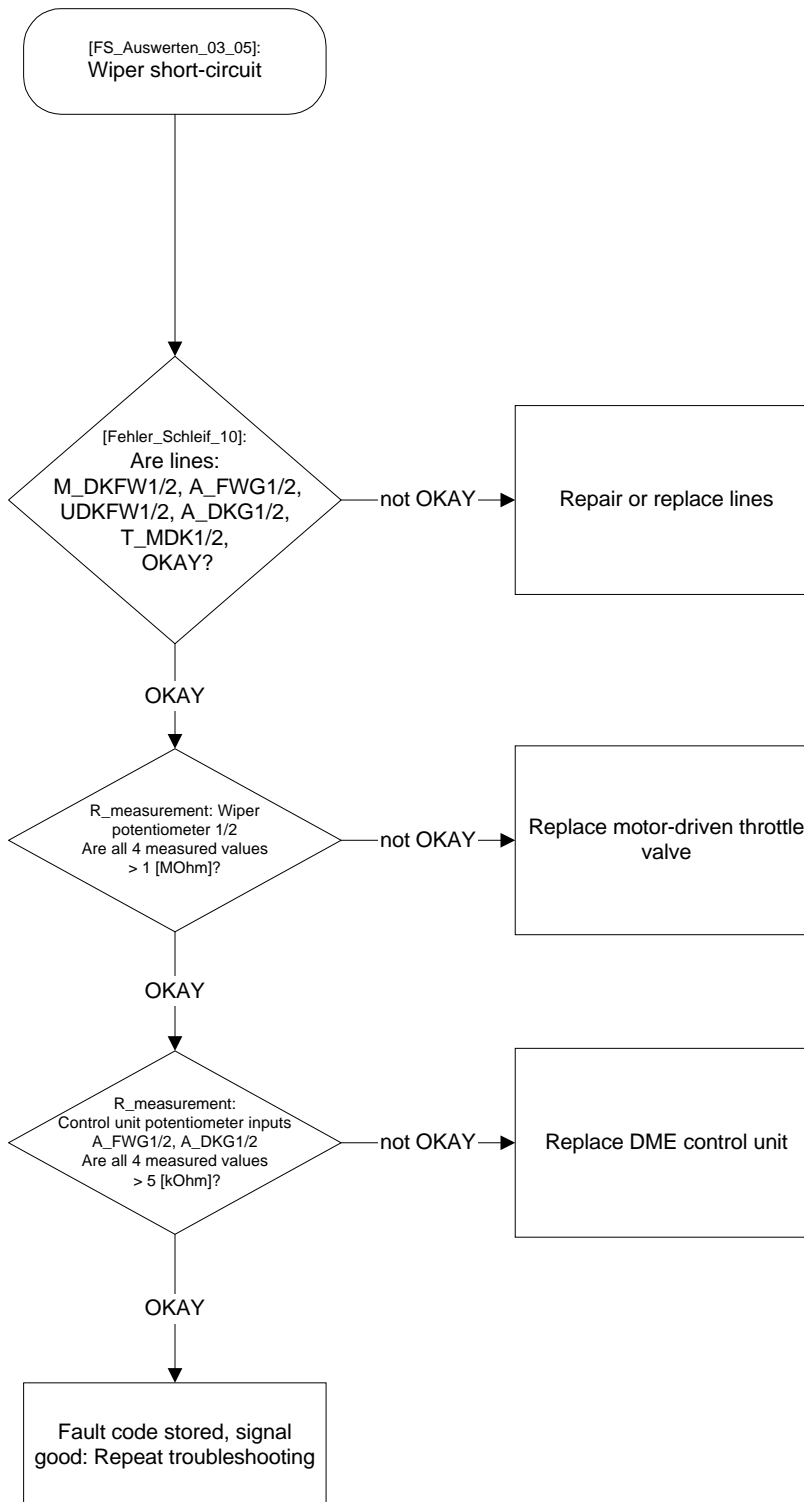


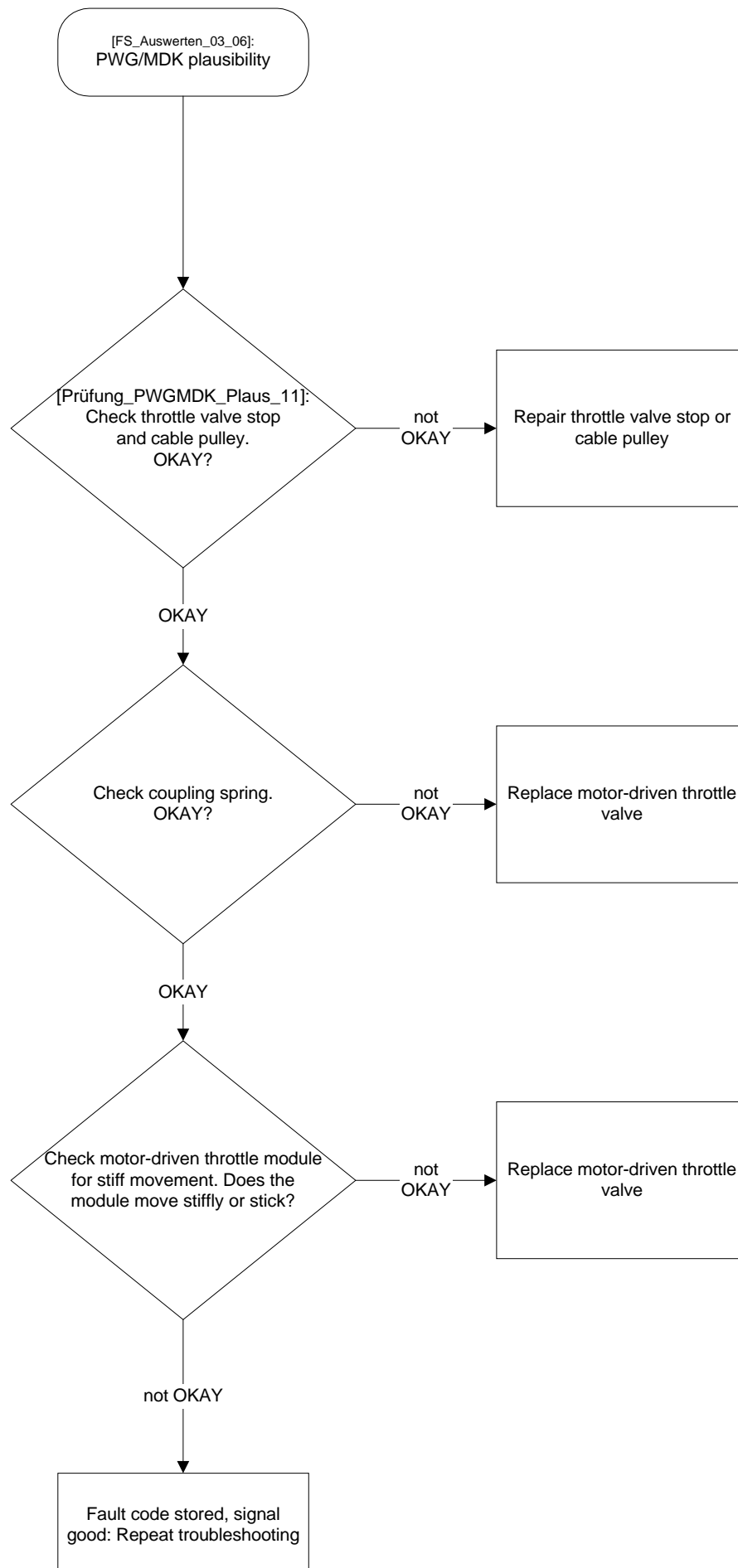


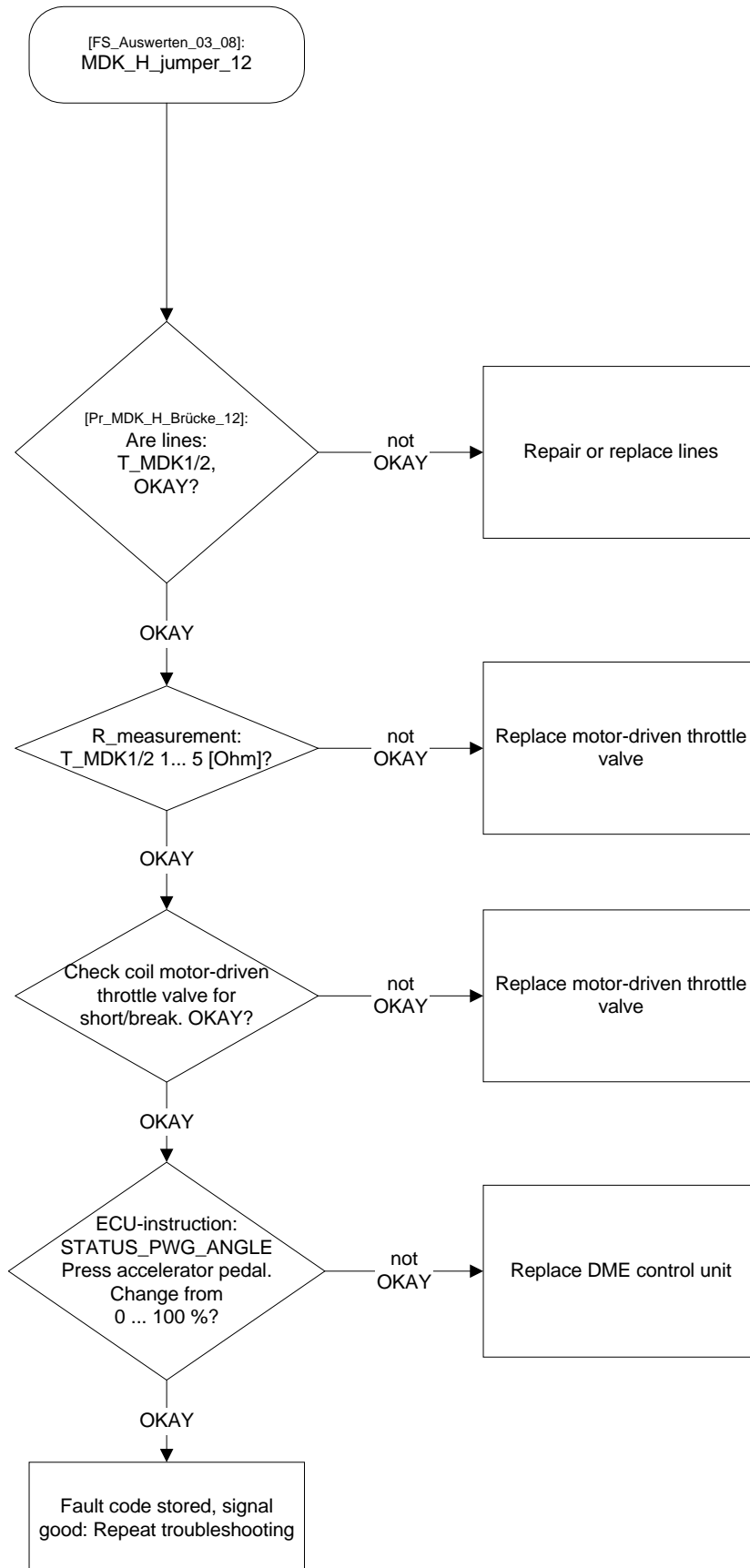








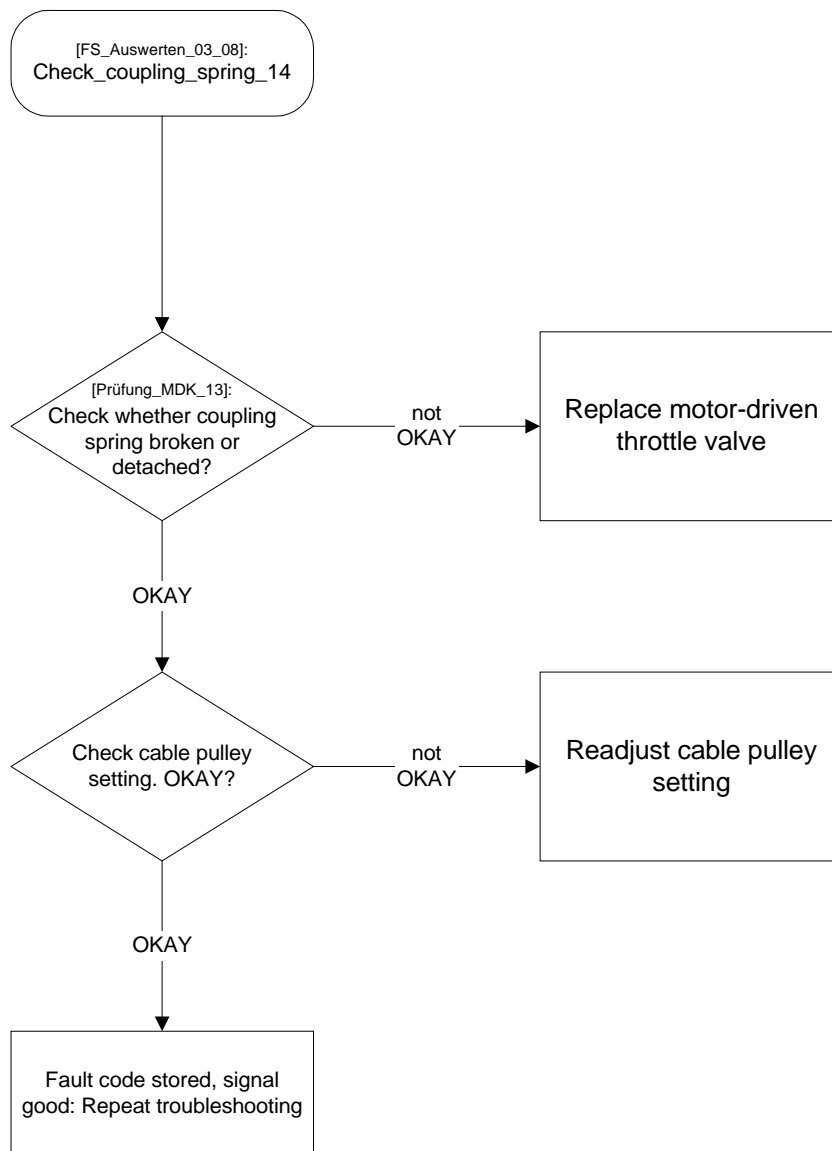




[FS\_Auswerten\_03\_08]:  
Check\_MDK\_13

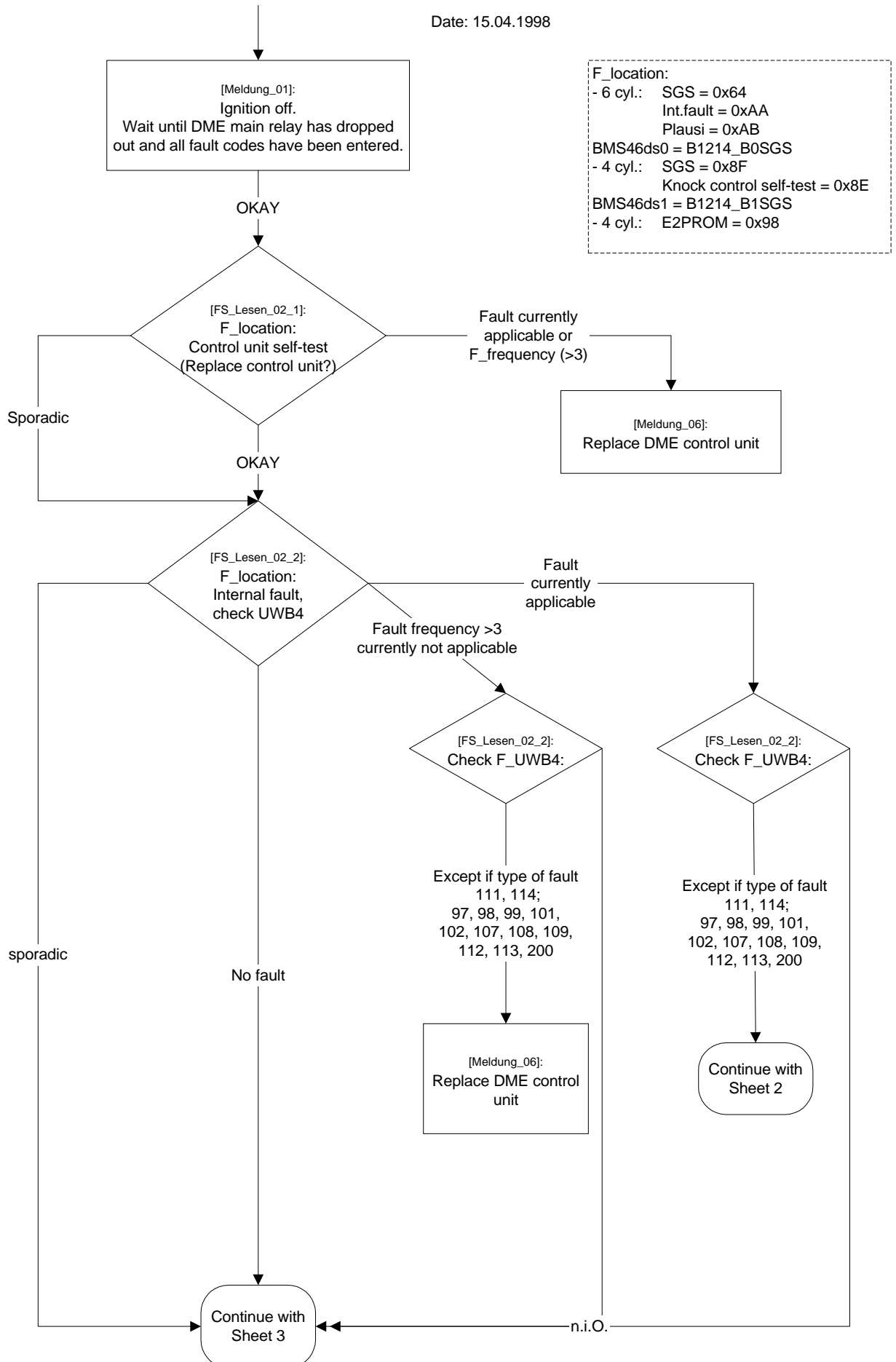


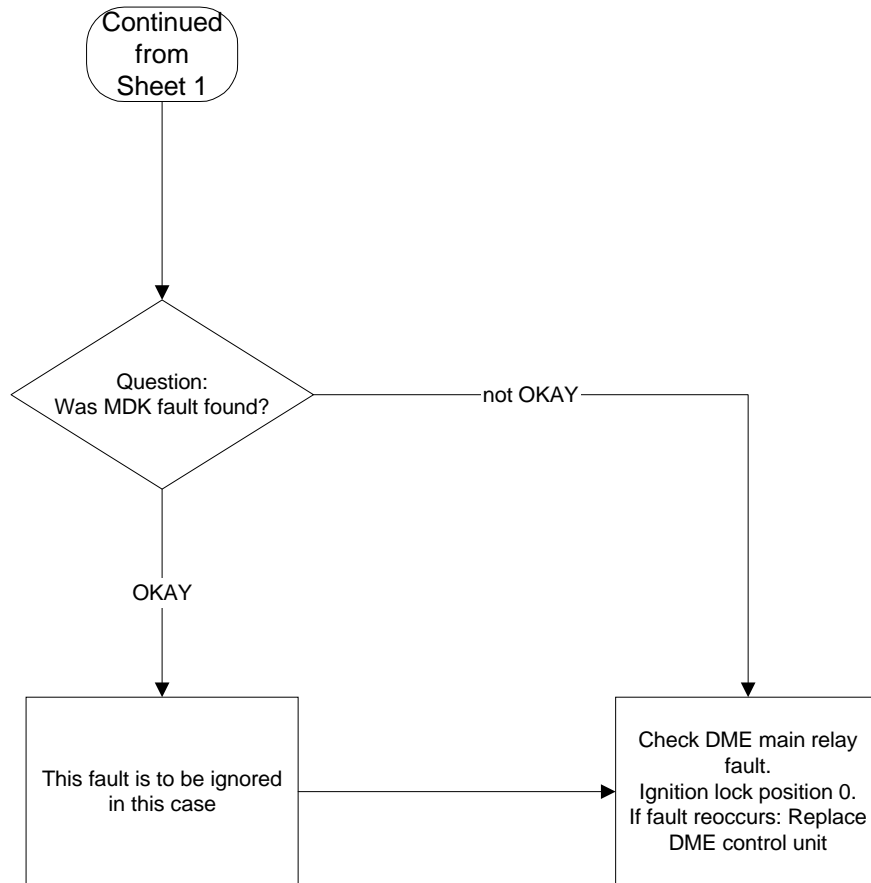
[Prüfung\_MDK\_13]:  
Replace motor-driven throttle  
valve

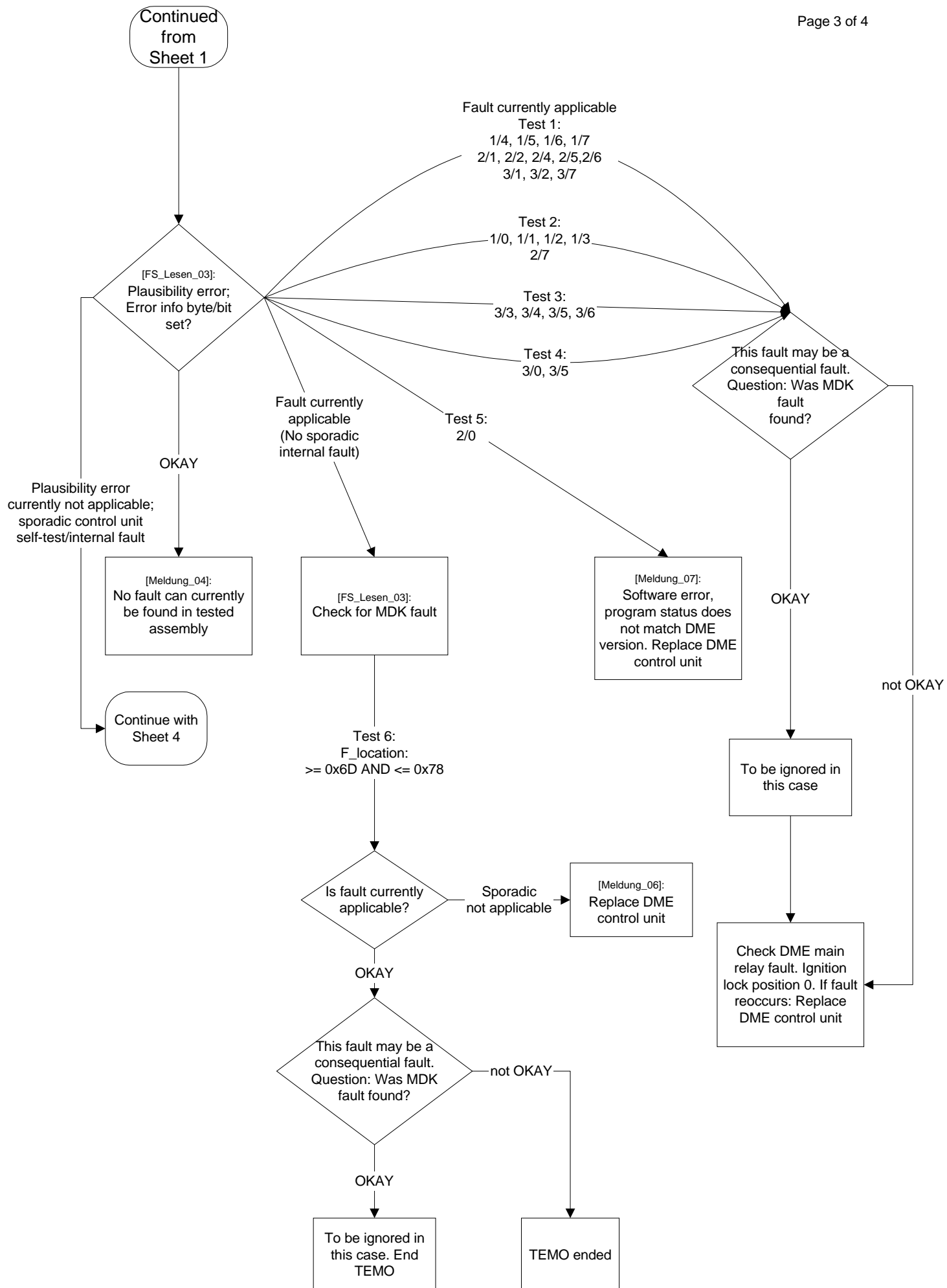


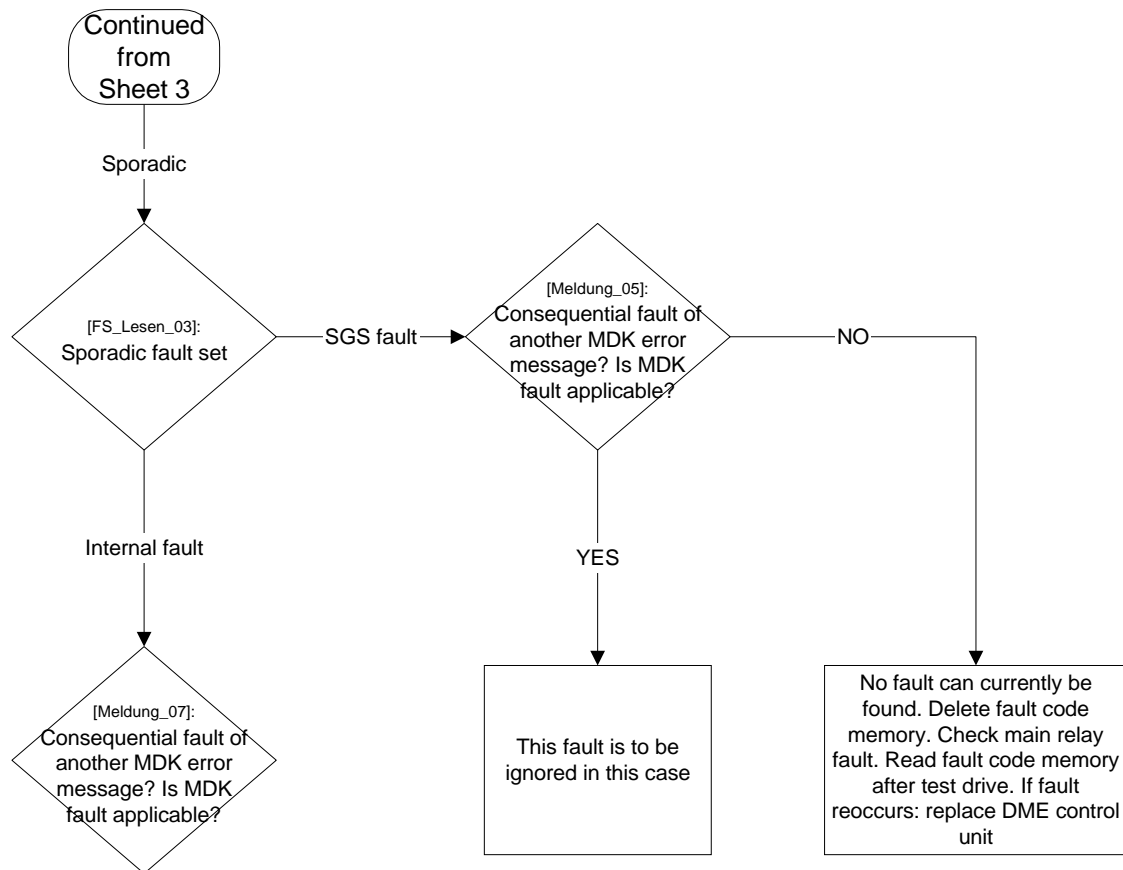
Verified:

Date: 15.04.1998





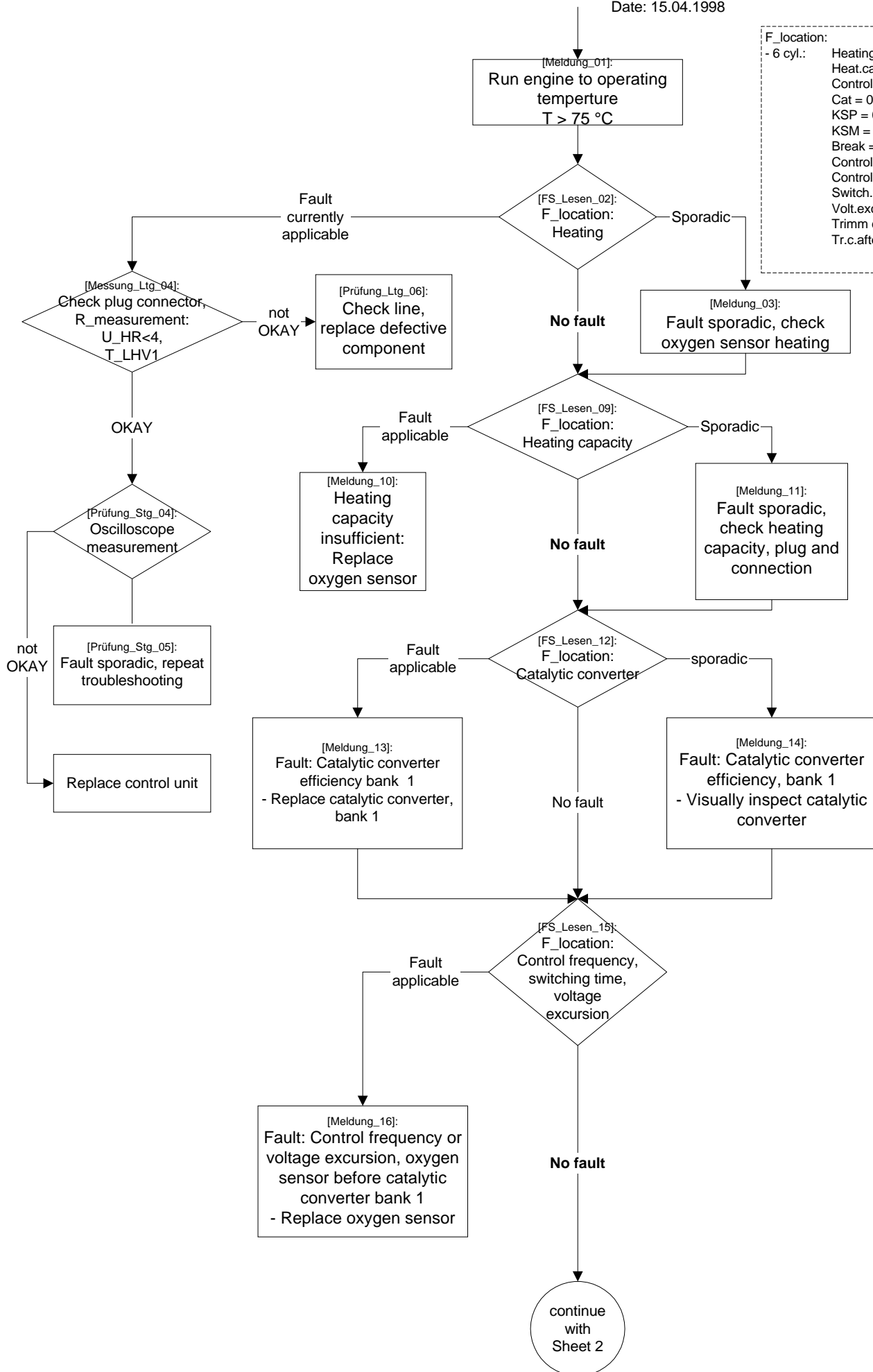


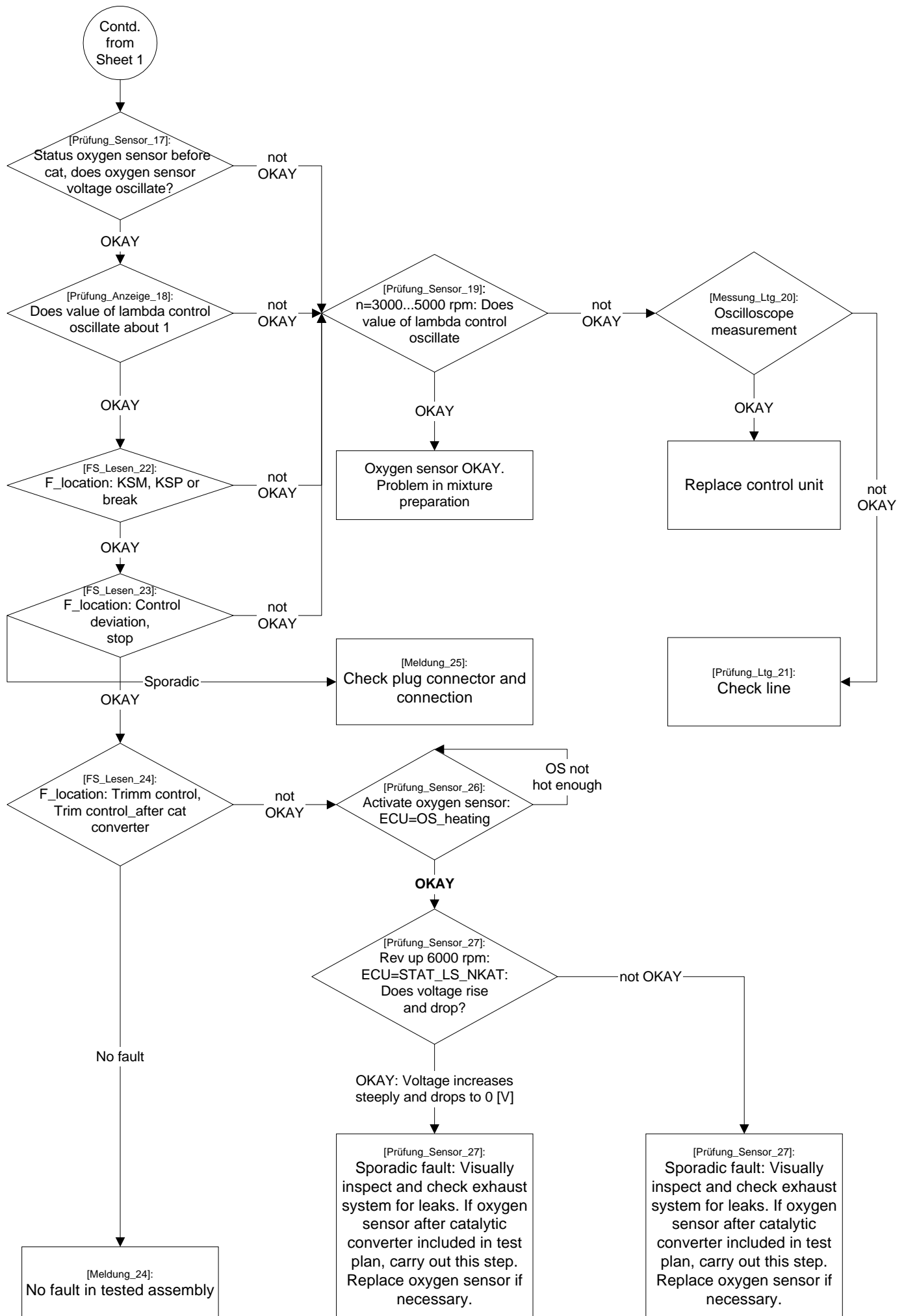


Verified:

Date: 15.04.1998

F\_location:  
- 6 cyl.: Heating = 0x19  
Heat.cap. = 0xBC  
Control stop = 0xCA  
Cat = 0xE9  
KSP = 0x96  
KSM = 0x97  
Break = 0x98  
Control dev. = 0xE3  
Control frequ = 0xE5  
Switch.time = 0xE7  
Volt.excurs. = 0xBA  
Trimm contr. = 0xEB  
Tr.c.after cat = 0xE1





**DME in E46:  
Fuel tank leak diagnosis pump,  
test module B1214\_M0TLP**

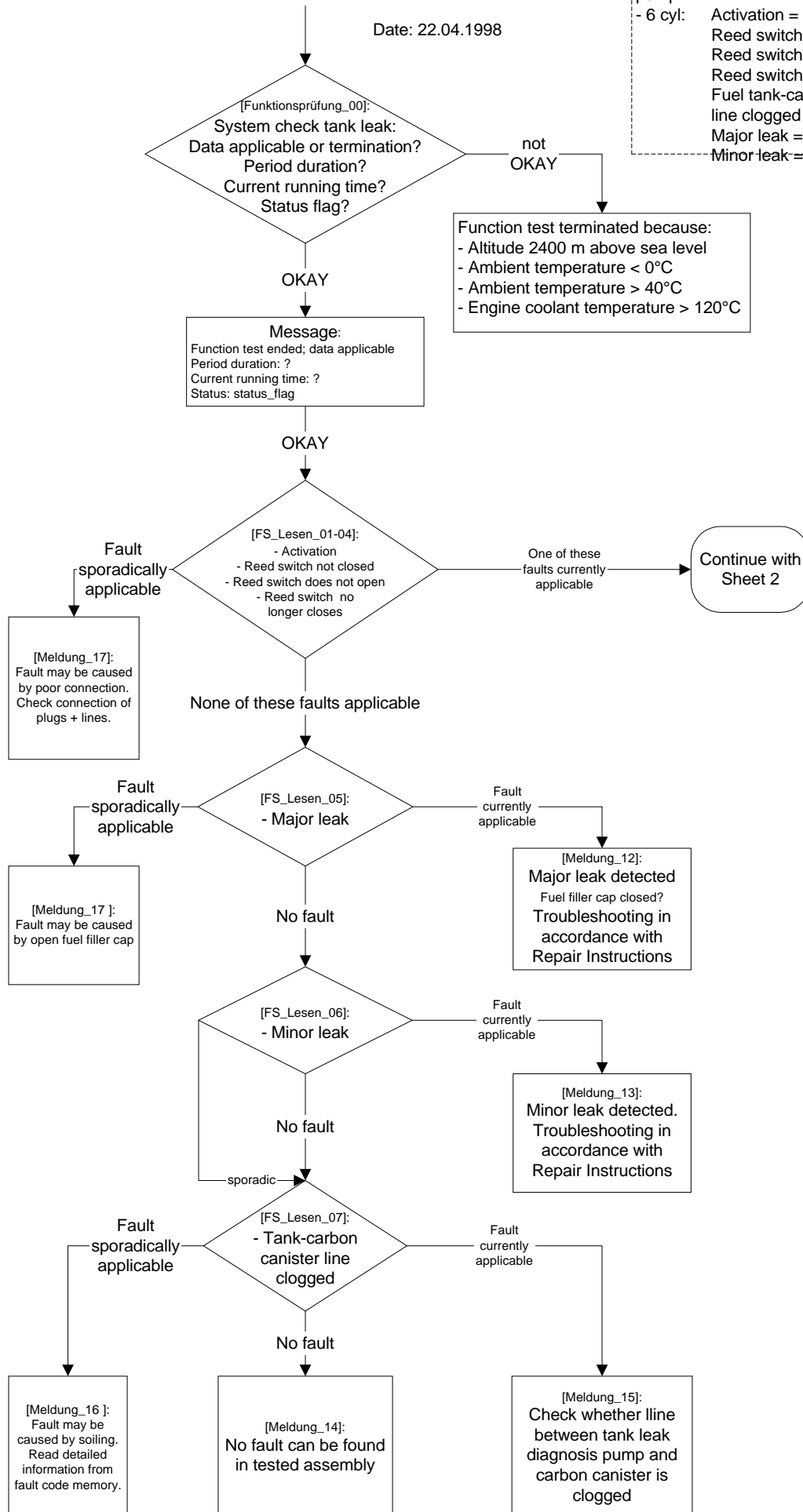
Compiler:  
L. Hecht, VK-22

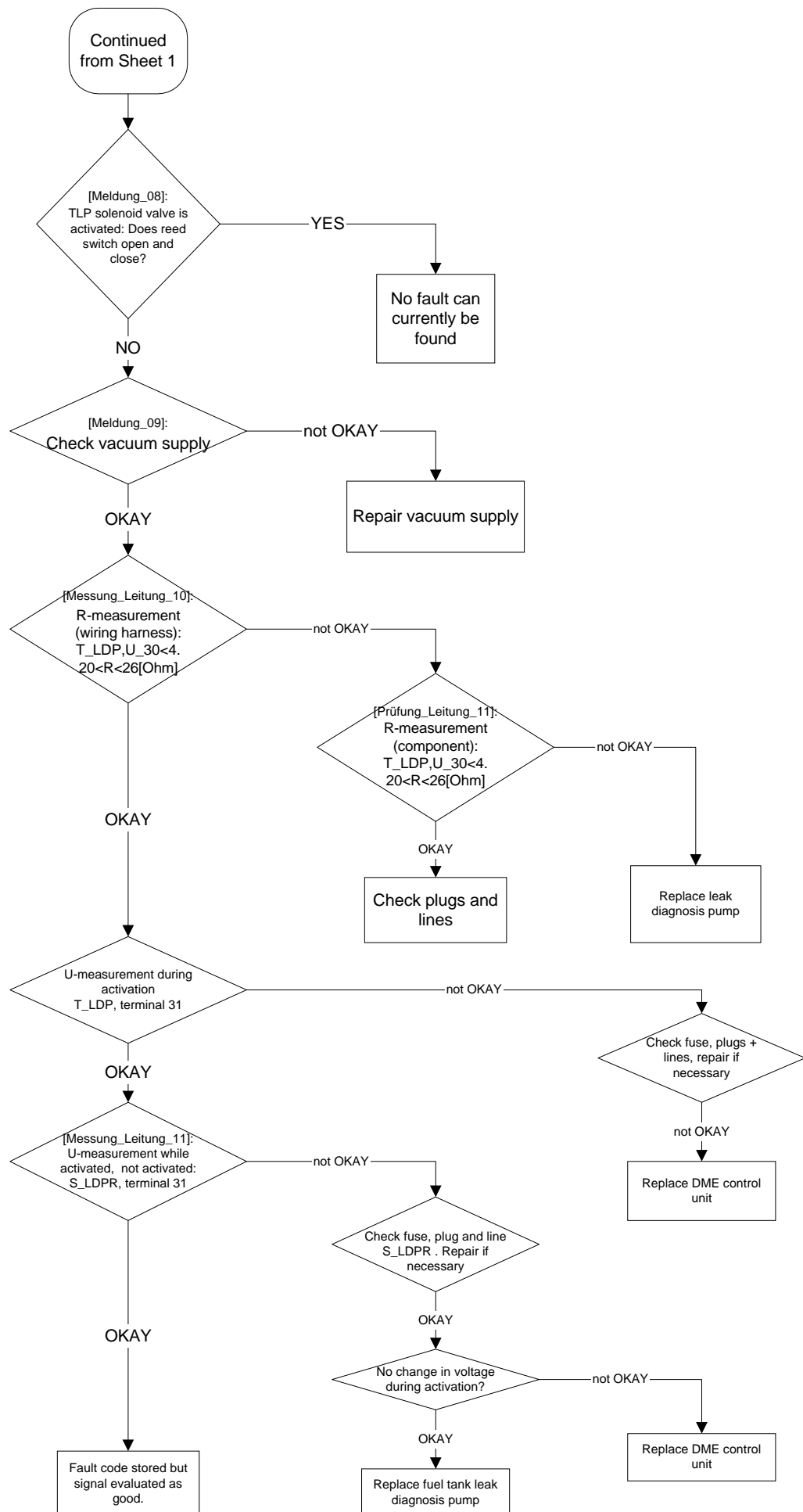
Page 1 of 2

Verified:

Date: 22.04.1998

F\_location:-----Fuel-tank-leak-diagnosis-----  
pump  
- 6 cyl:   Activation = 0x7E  
          Reed switch not closed = 0x8C  
          Reed switch does not open = 0x8D  
          Reed switch no longer closes = 0x8E  
          Fuel tank-carbon canister  
          line clogged = 0x8F  
          Major leak = 0x90  
          Minor leak = 91

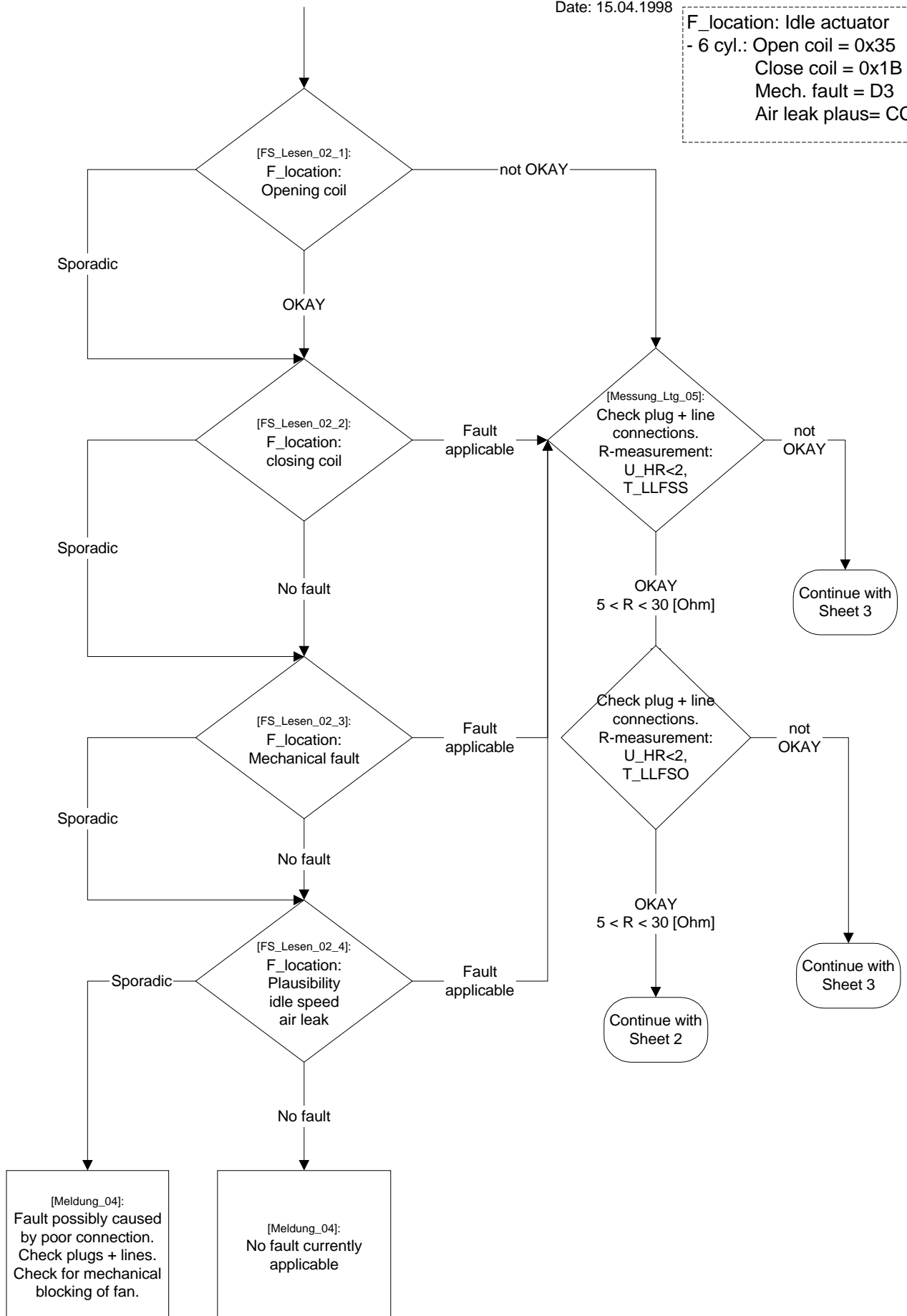


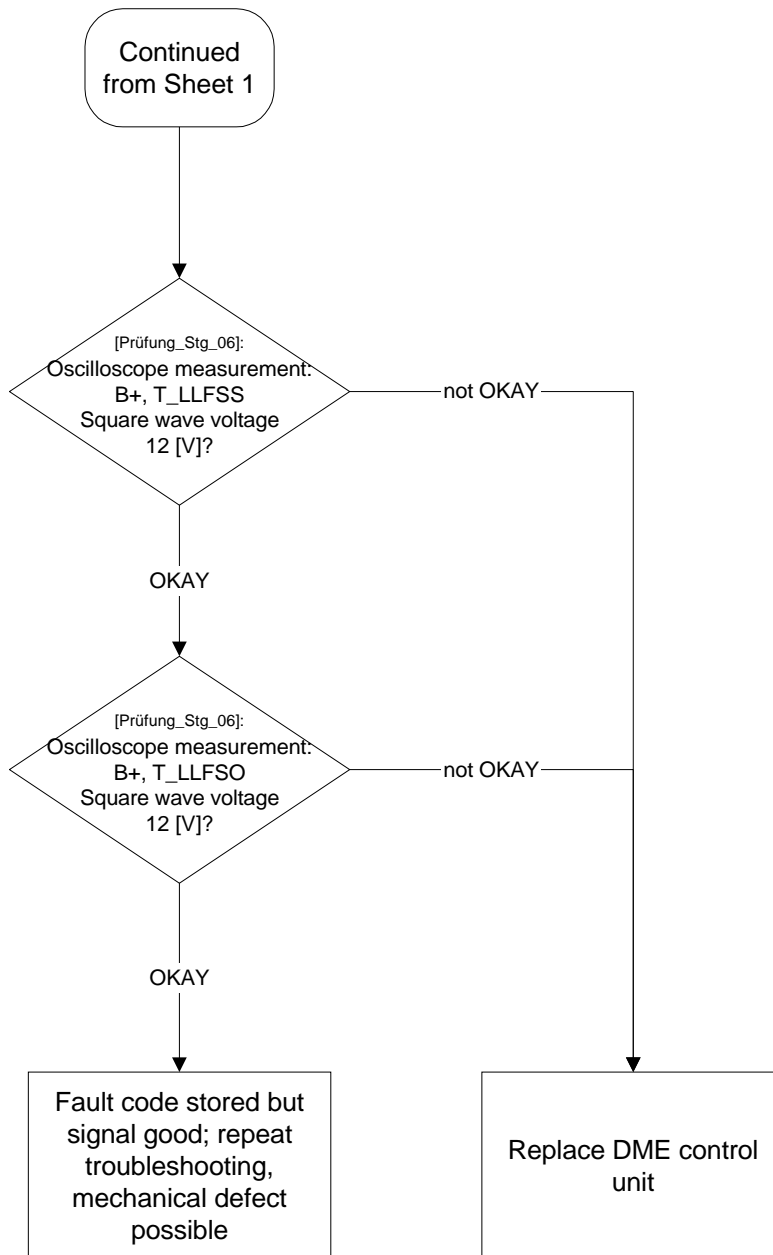


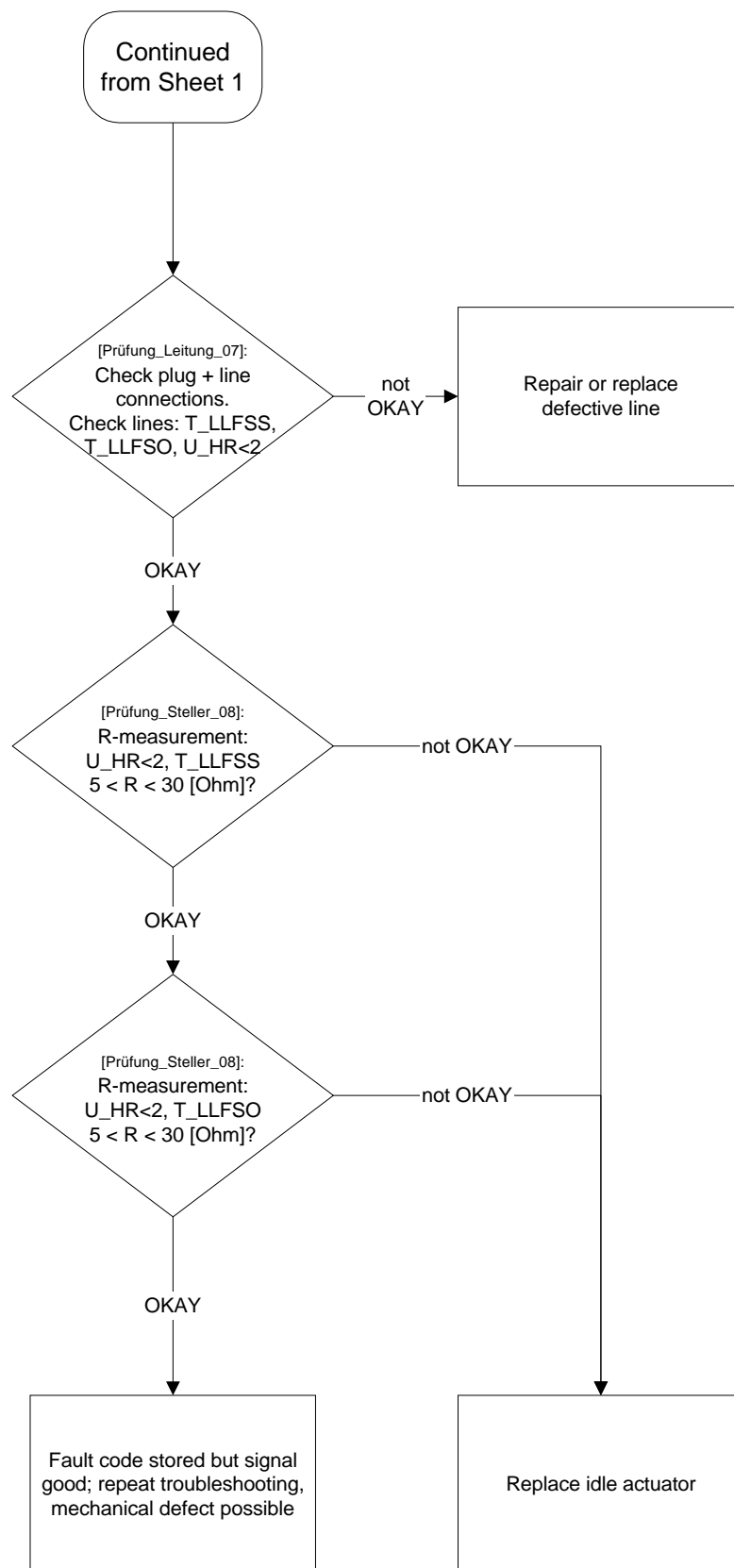
Verified:

Date: 15.04.1998

F\_location: Idle actuator  
 - 6 cyl.: Open coil = 0x35  
 Close coil = 0x1B  
 Mech. fault = D3  
 Air leak plaus= CC



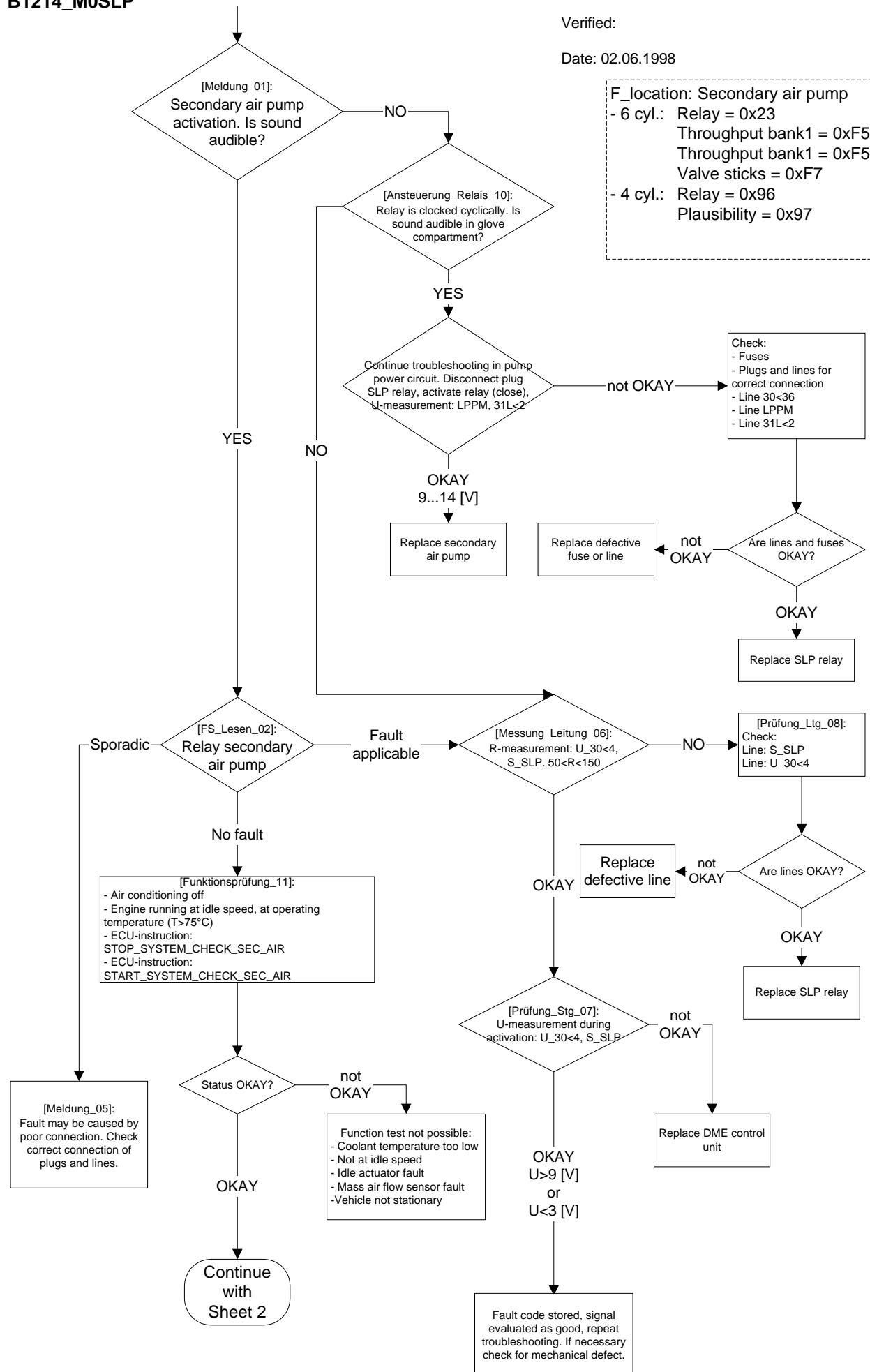


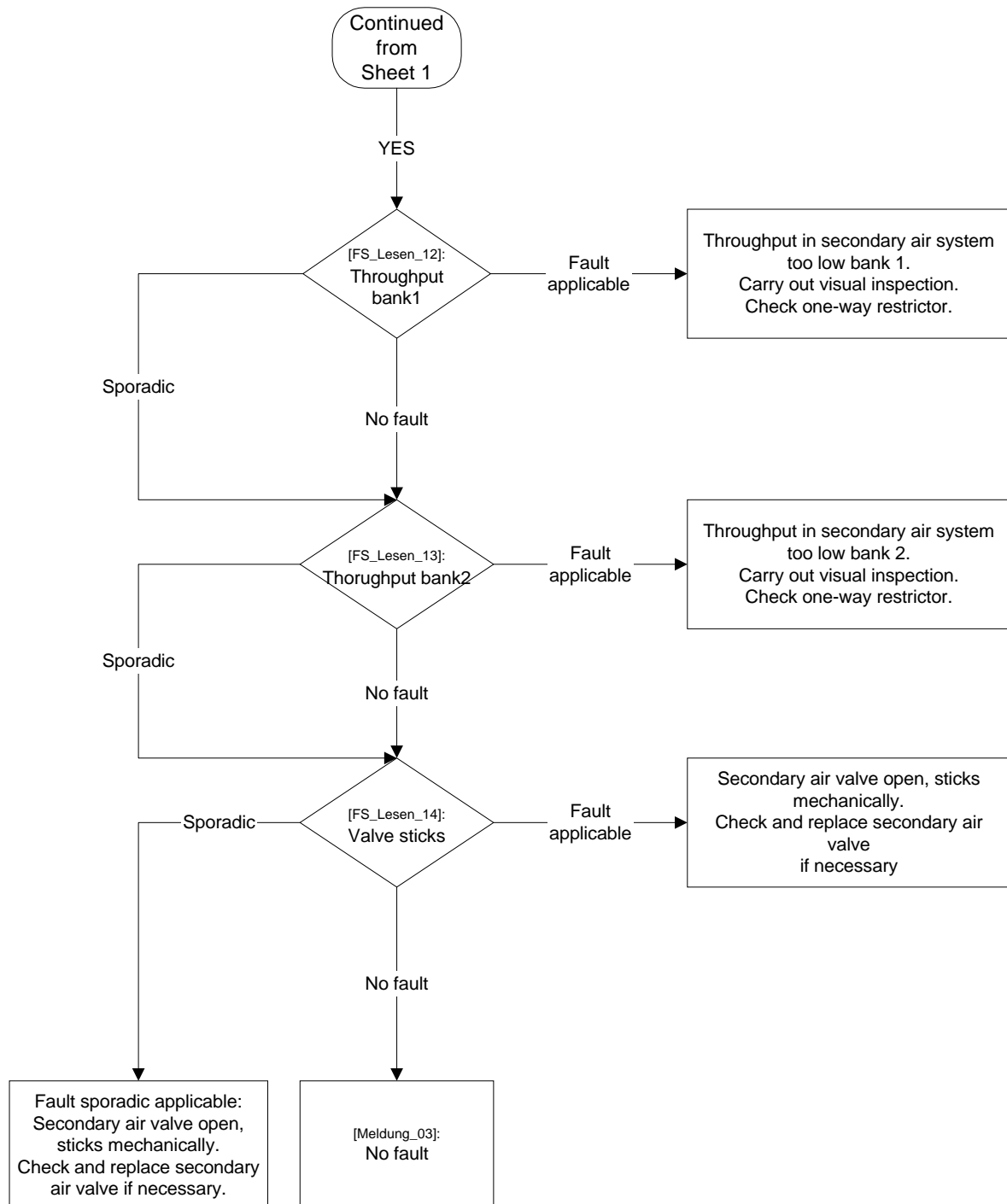


Verified:

Date: 02.06.1998

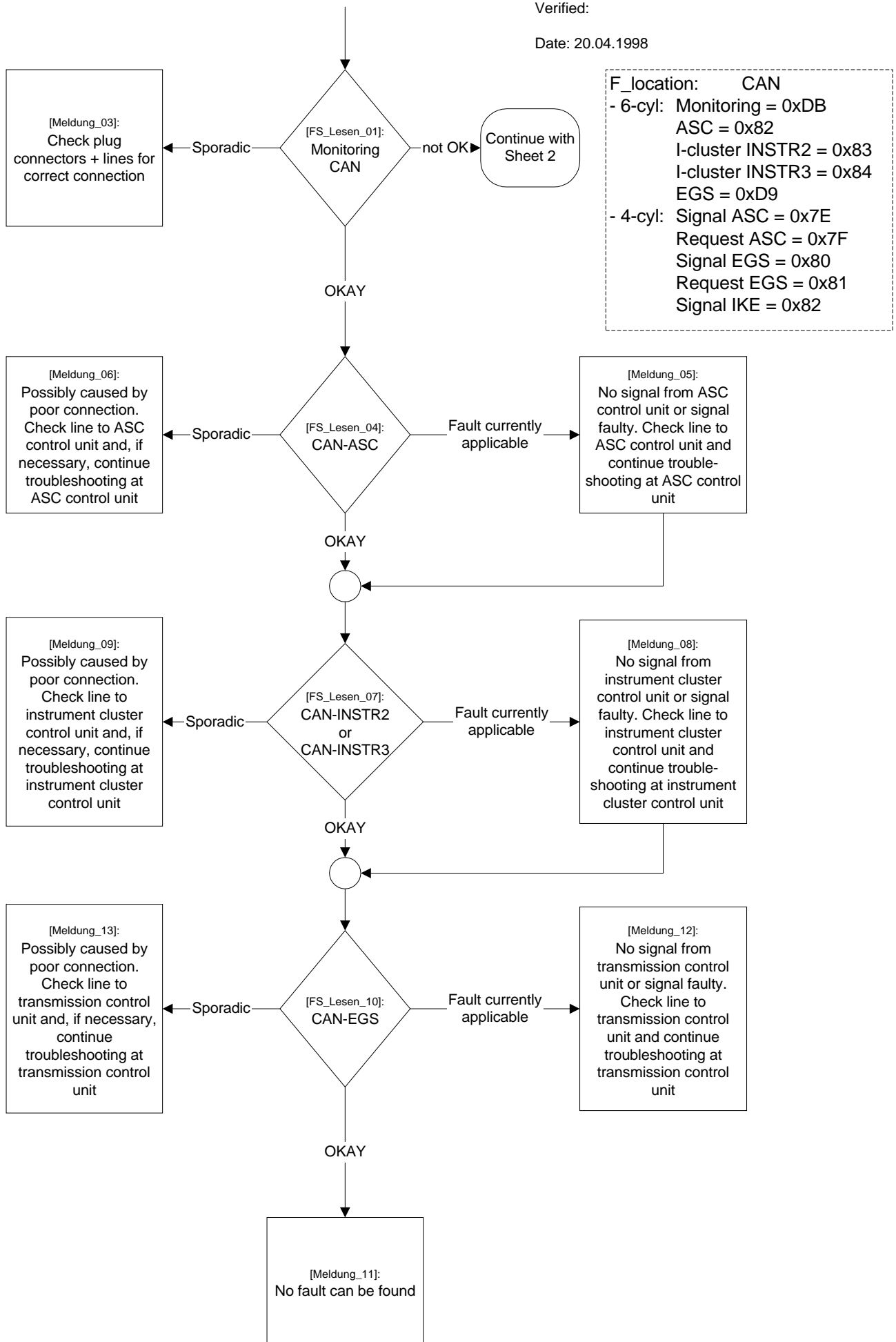
F\_location: Secondary air pump  
- 6 cyl.: Relay = 0x23  
Throughput bank1 = 0xF5  
Throughput bank1 = 0xF5  
Valve sticks = 0xF7  
- 4 cyl.: Relay = 0x96  
Plausibility = 0x97

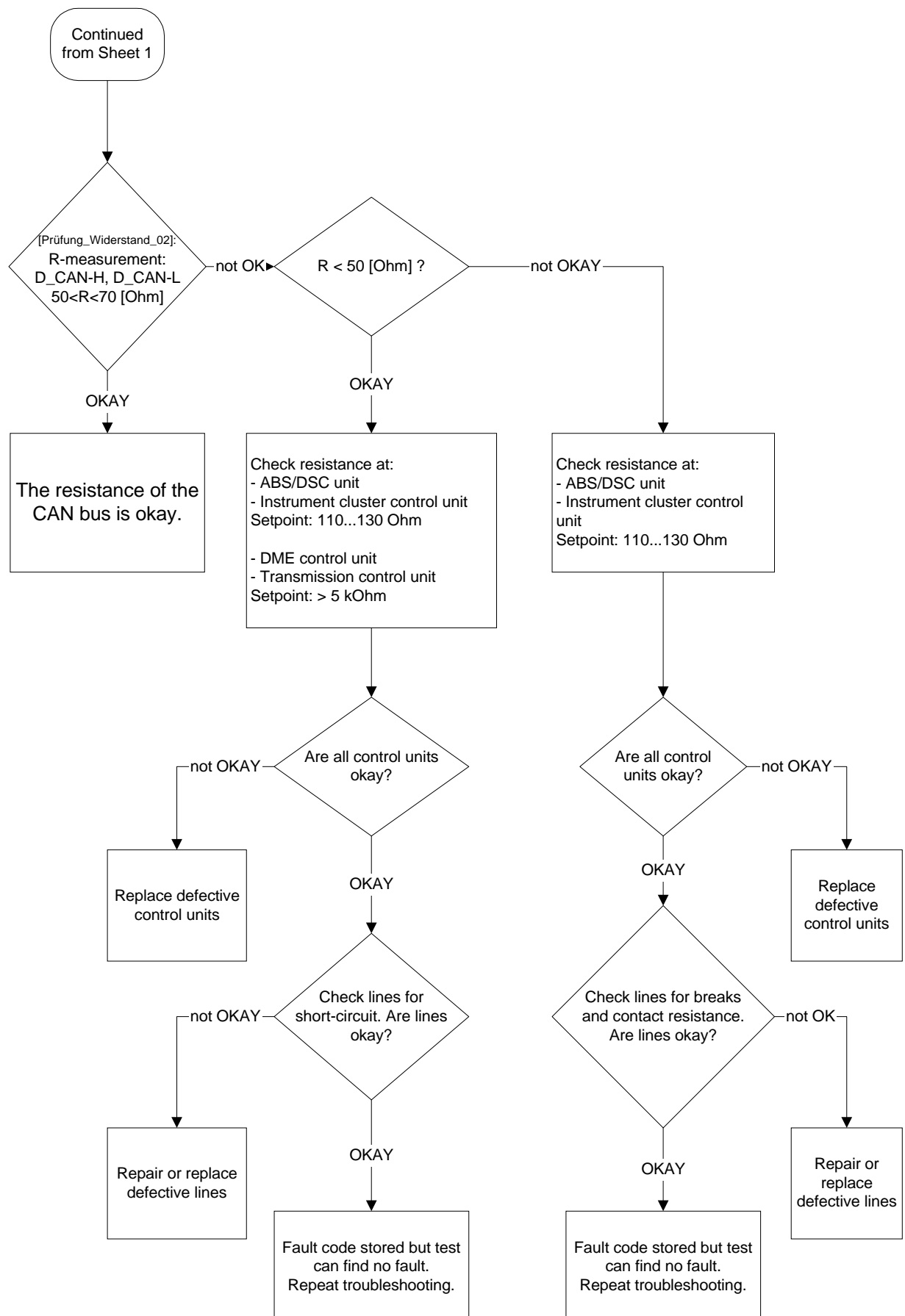




Verified:

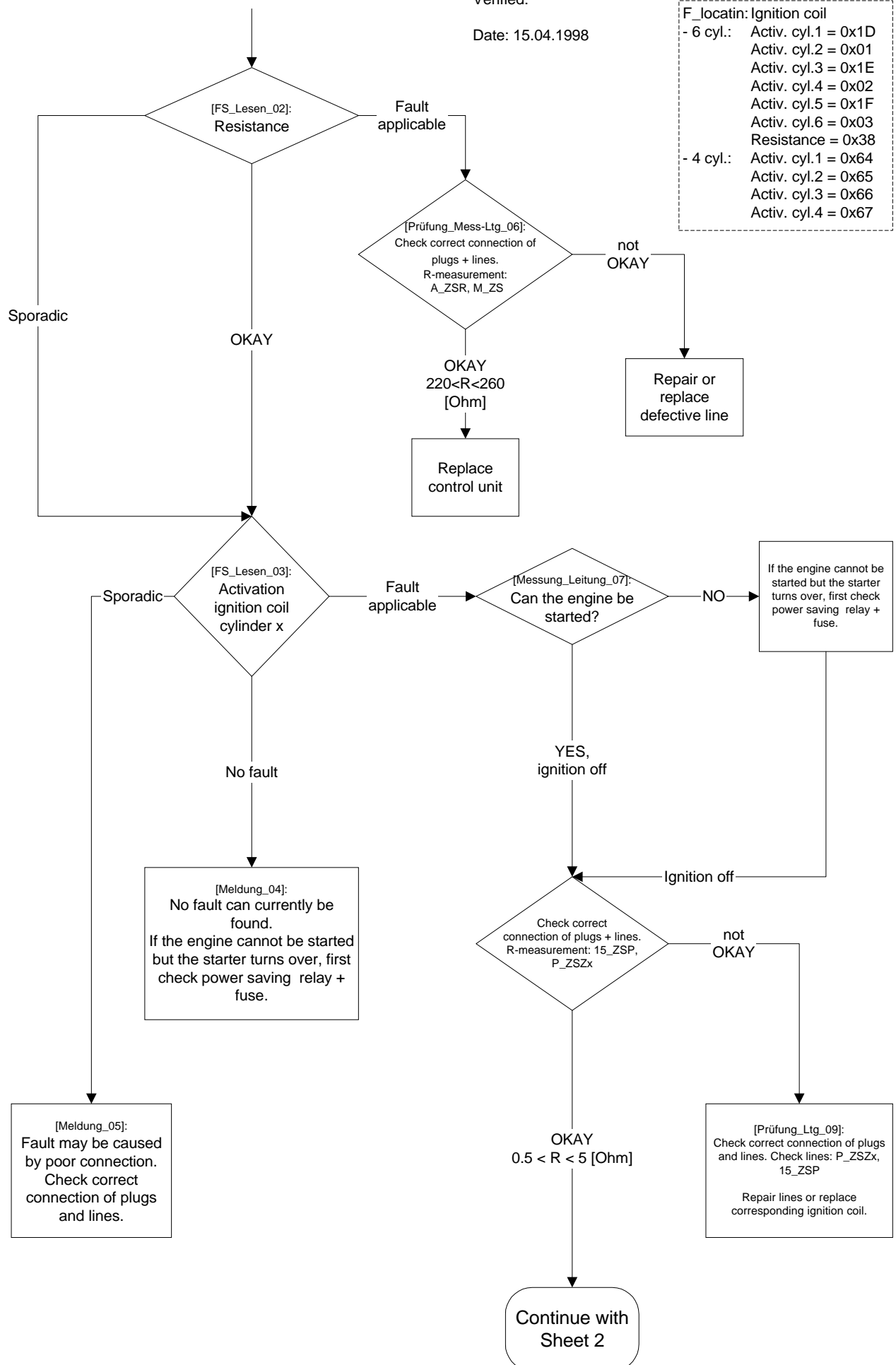
Date: 20.04.1998

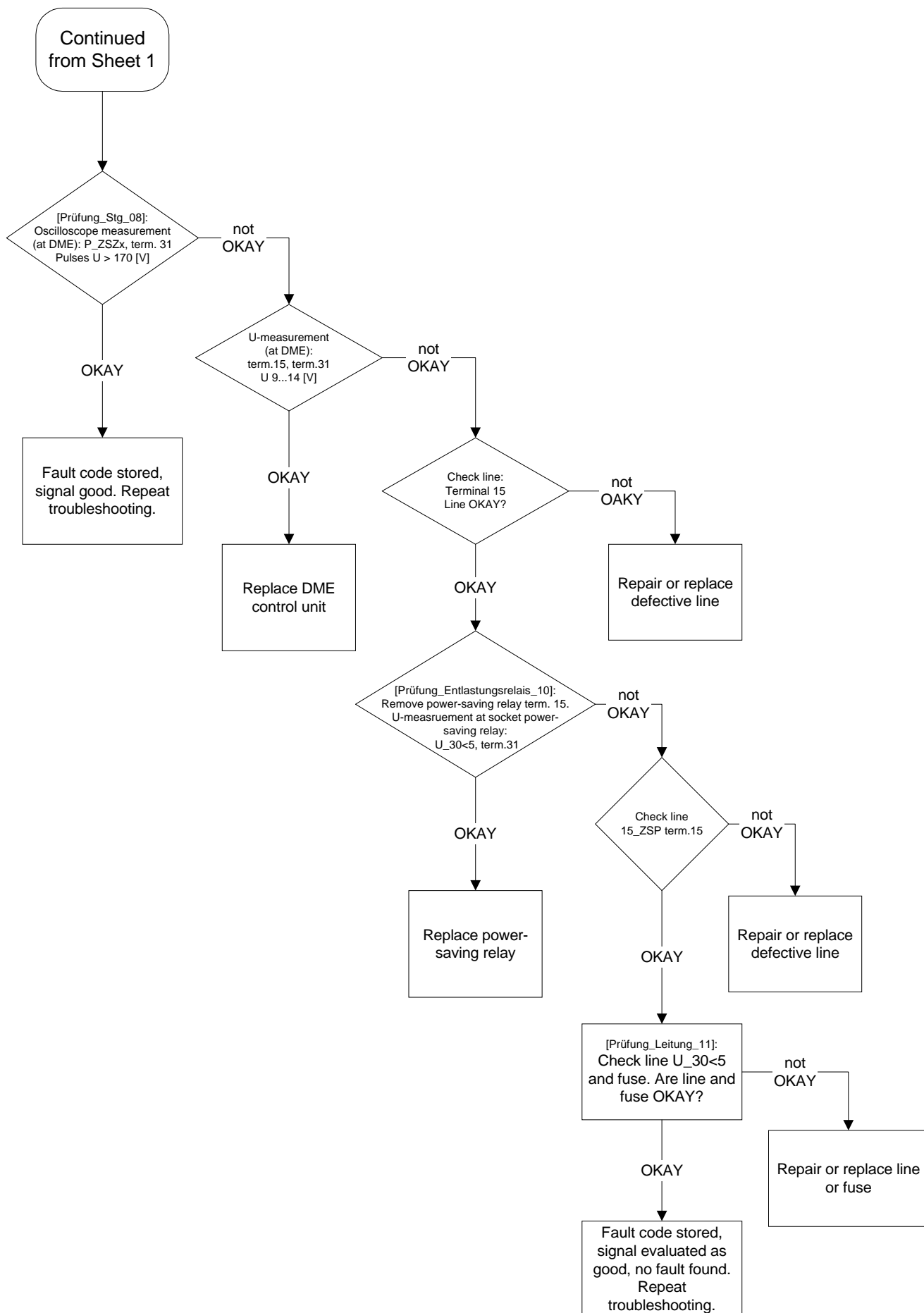




Verified:

Date: 15.04.1998





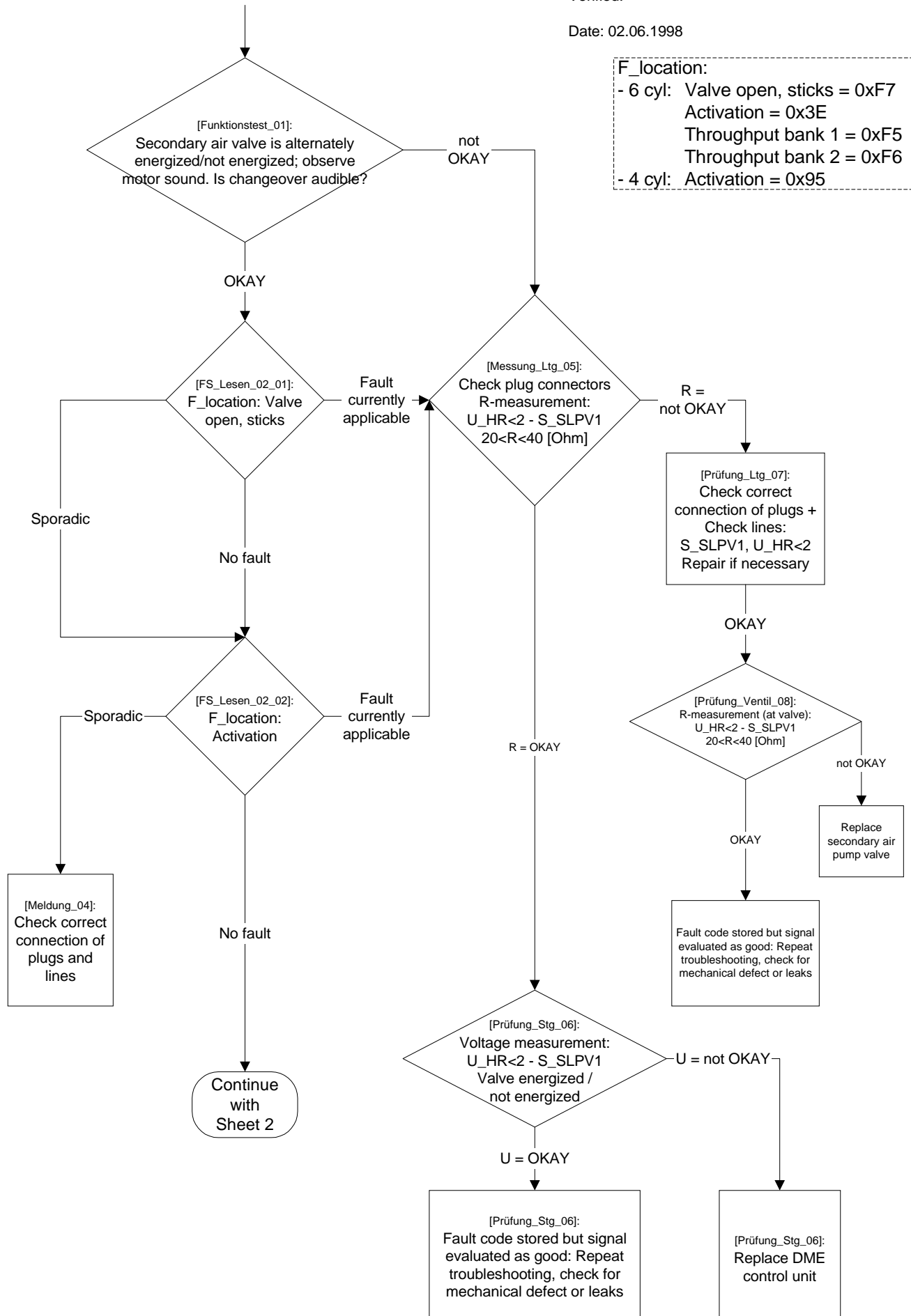
**DME in E46:**  
**Secondary air valve, test module B1214\_M0SLV**

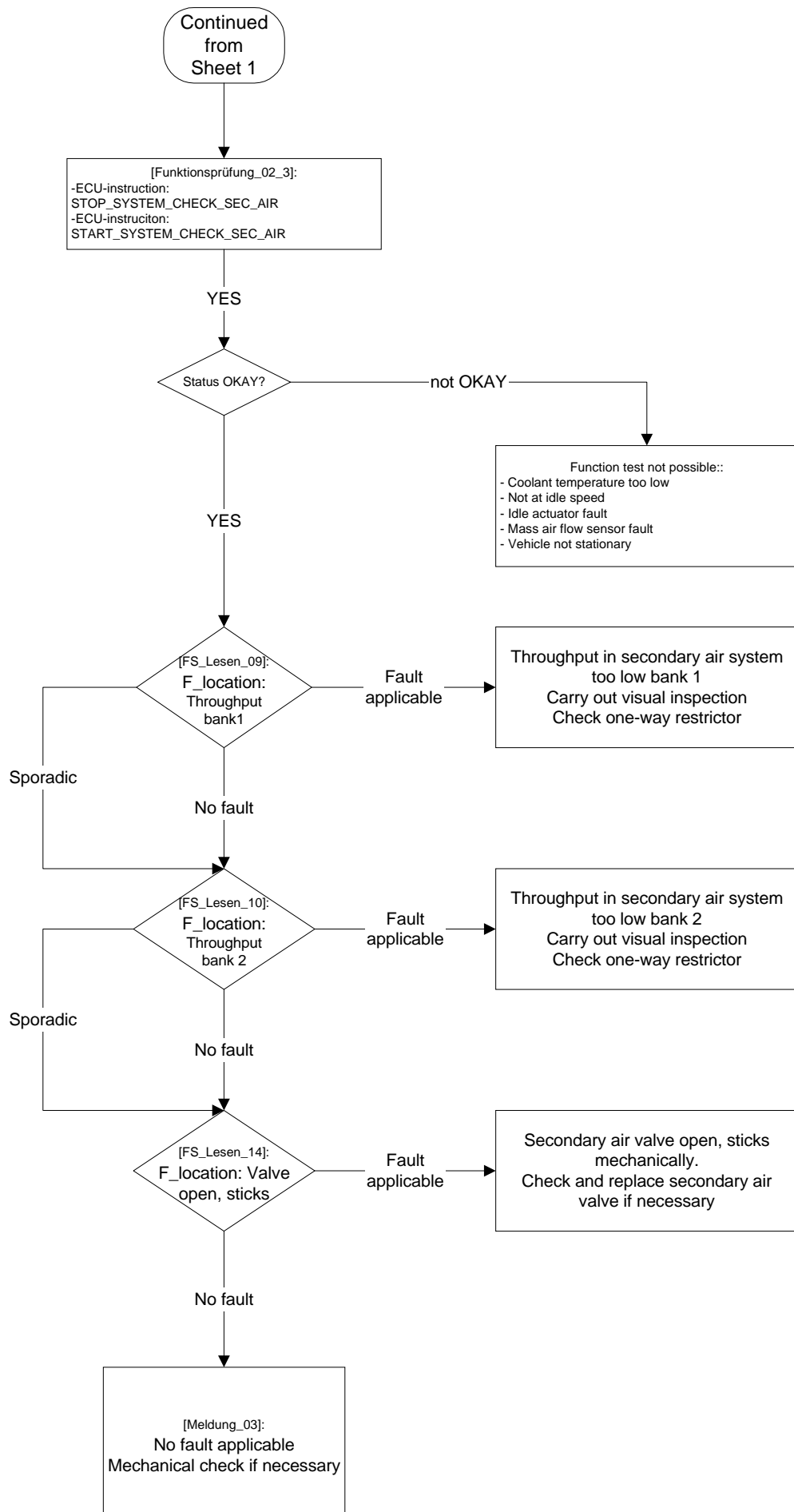
Compiler:  
 L. Hecht, VK-22

Verified:

Date: 02.06.1998

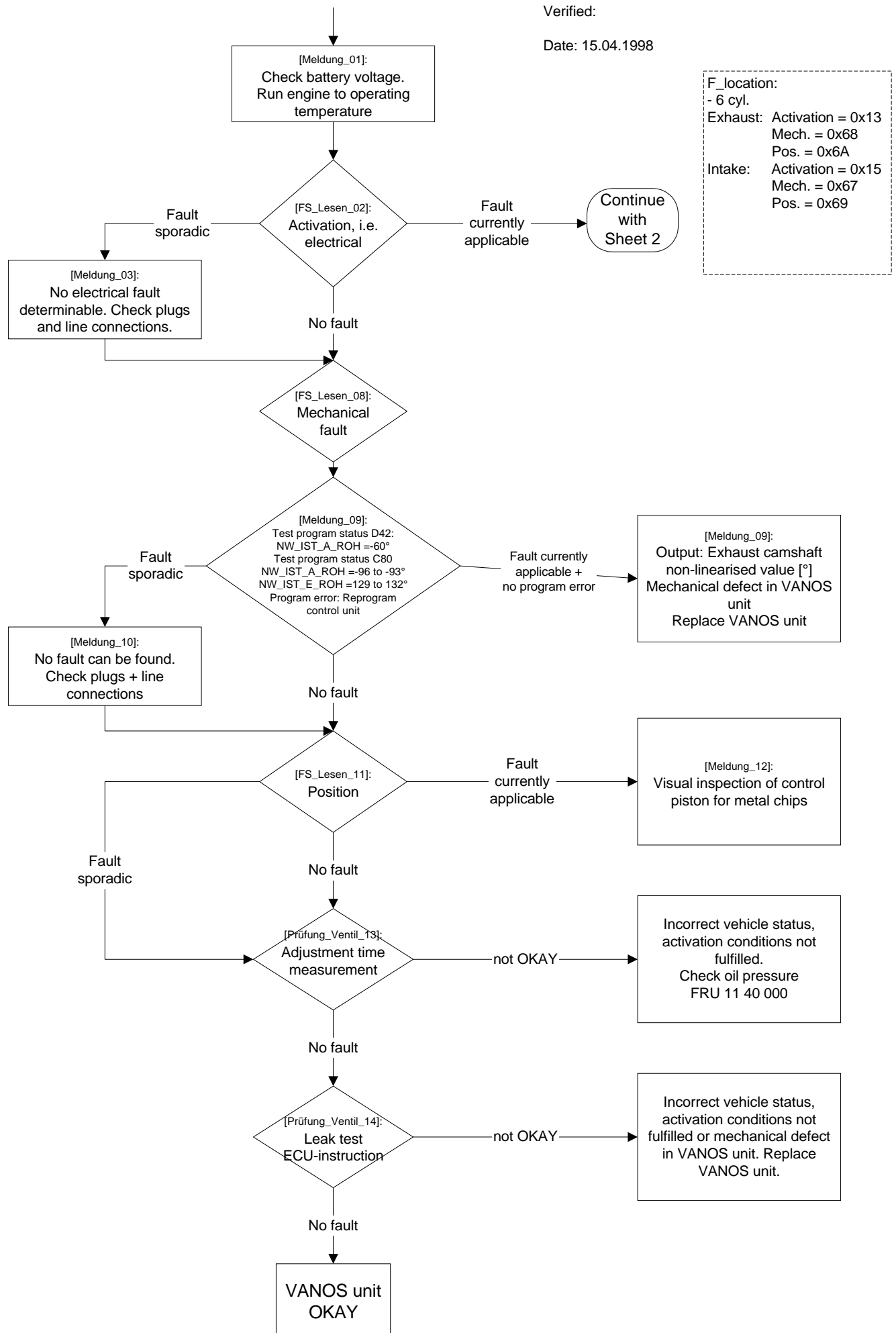
**F\_location:**  
 - 6 cyl: Valve open, sticks = 0xF7  
 Activation = 0x3E  
 Throughput bank 1 = 0xF5  
 Throughput bank 2 = 0xF6  
 - 4 cyl: Activation = 0x95

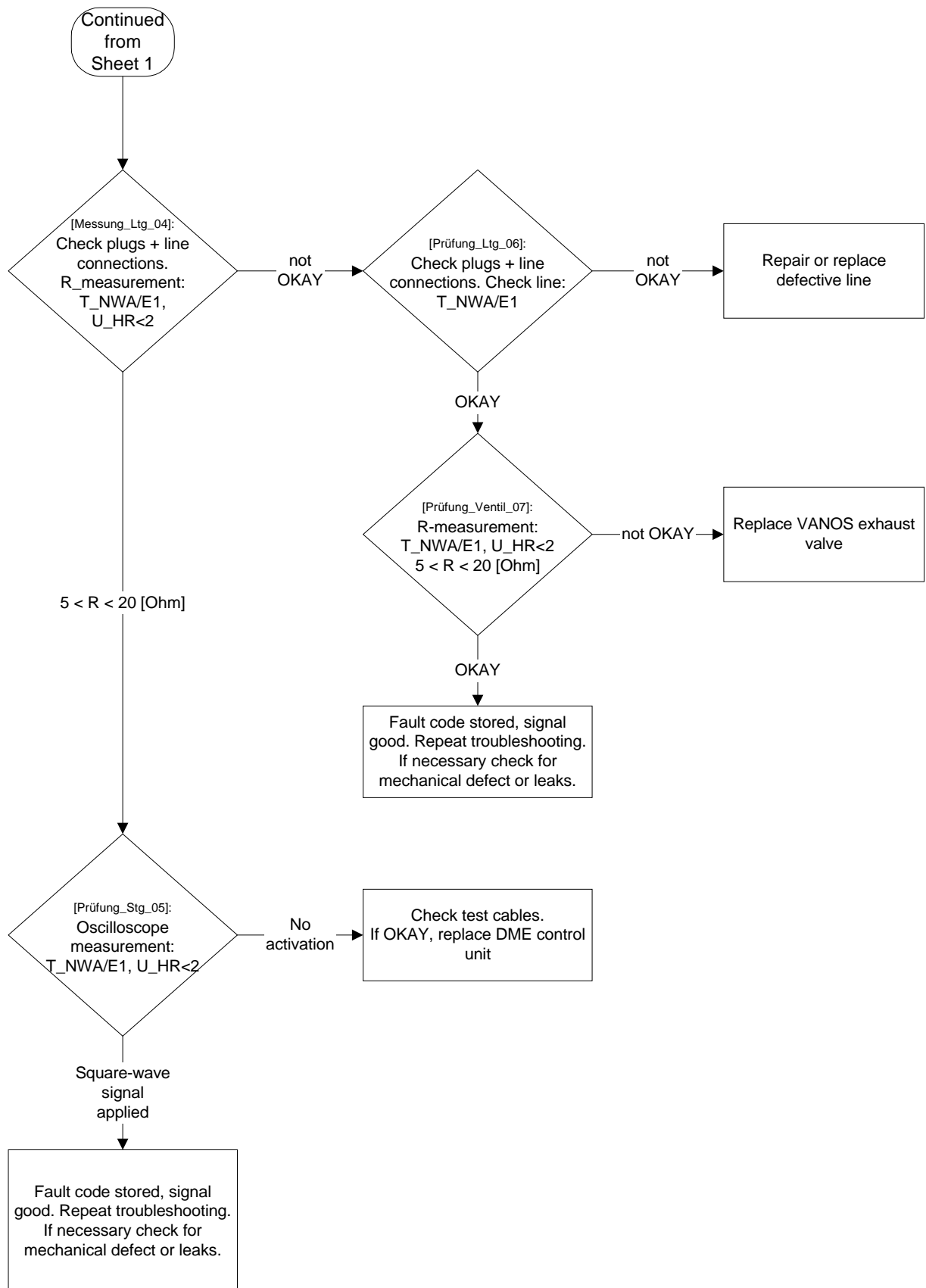




Verified:

Date: 15.04.1998

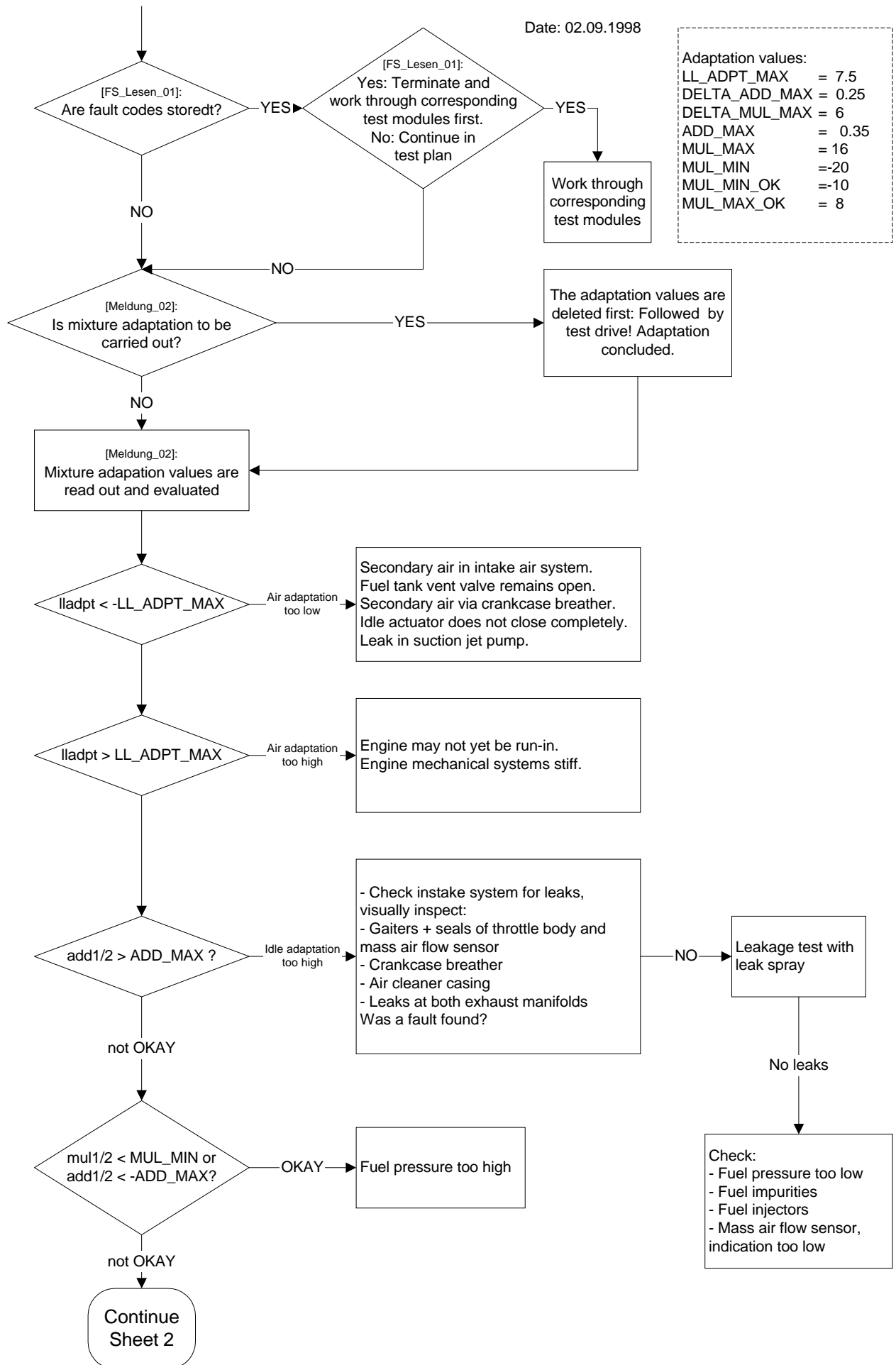


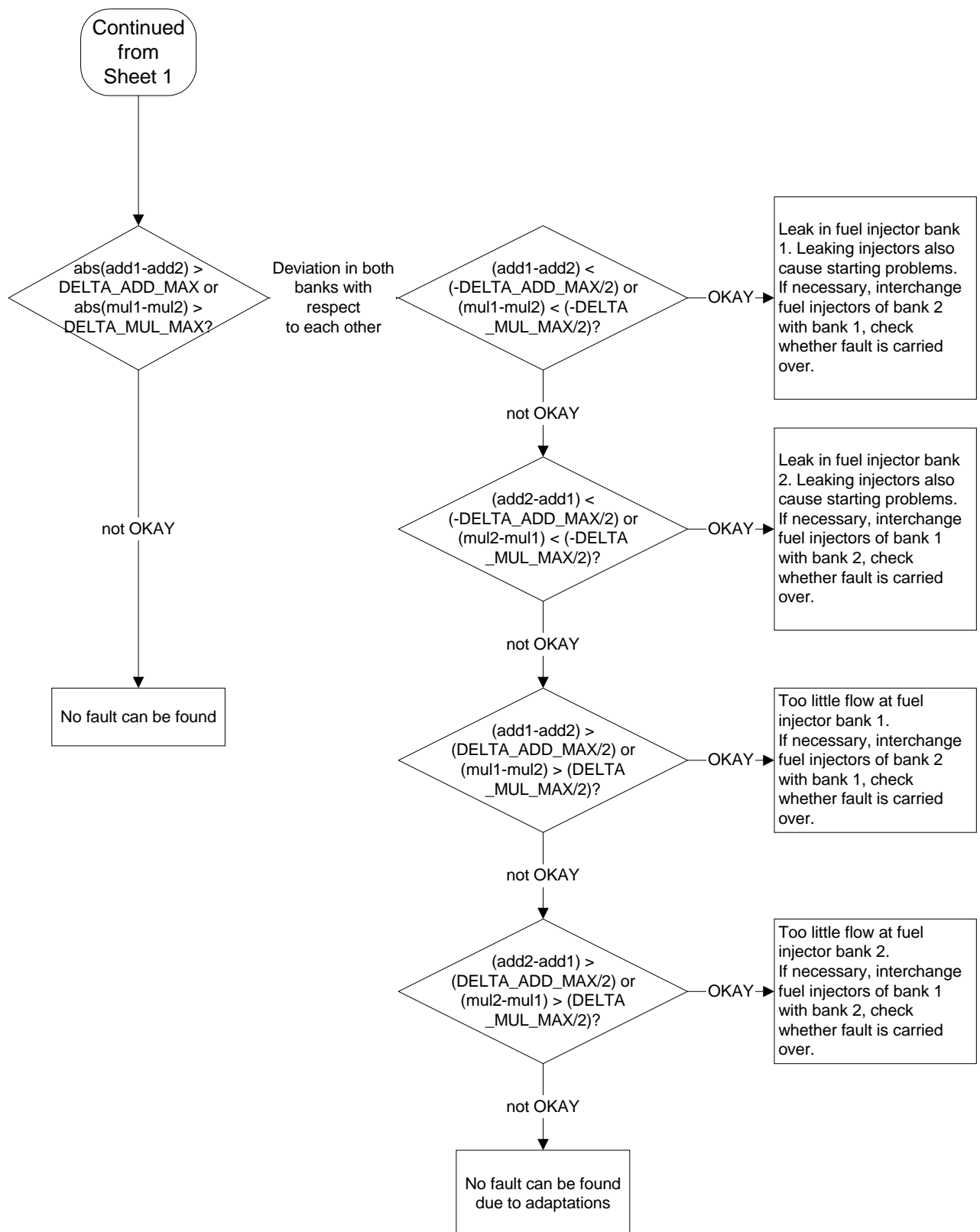


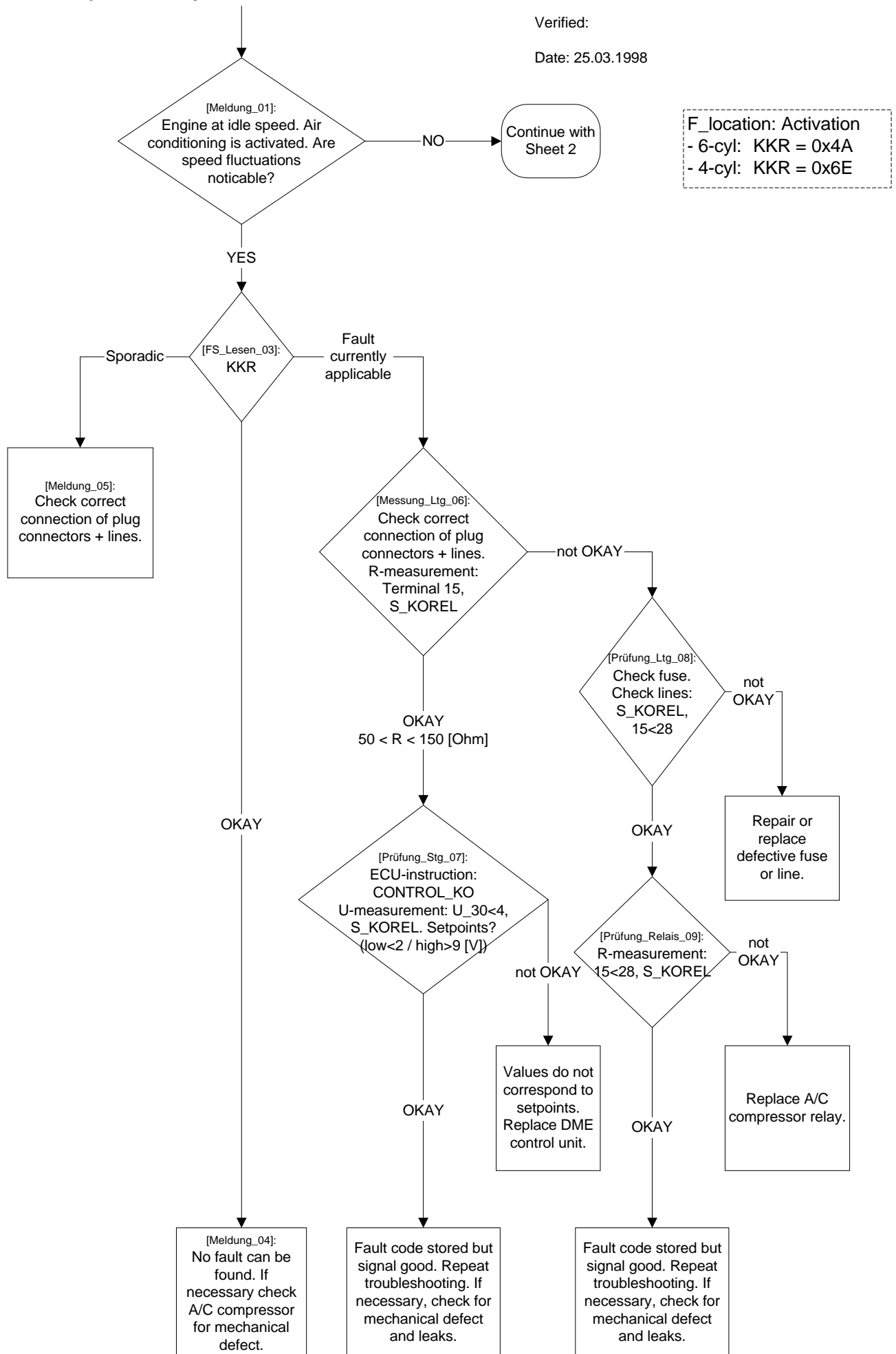
Verified:

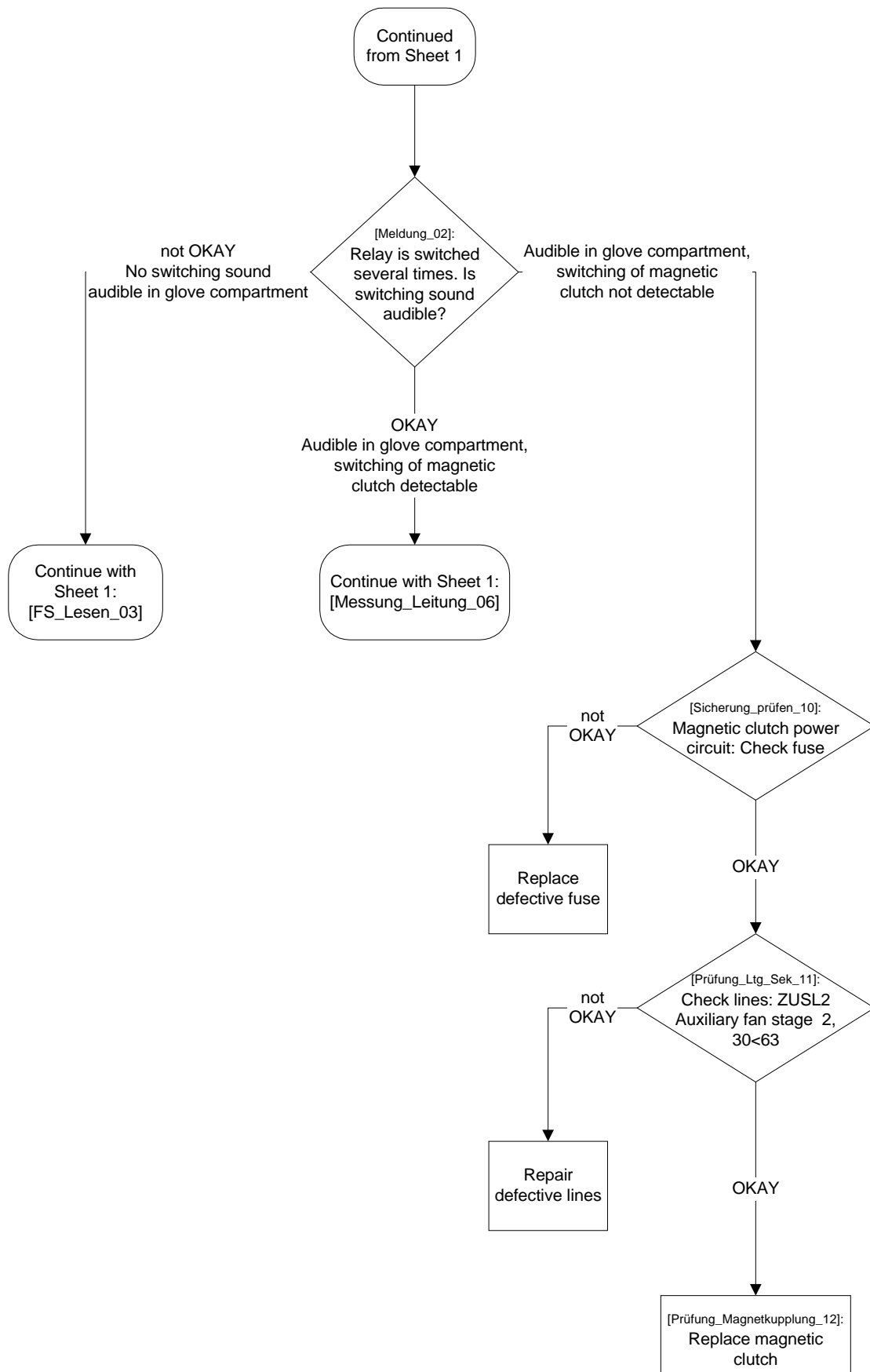
Date: 02.09.1998

Adaptation values:  
LL\_ADPT\_MAX = 7.5  
DELTA\_ADD\_MAX = 0.25  
DELTA\_MUL\_MAX = 6  
ADD\_MAX = 0.35  
MUL\_MAX = 16  
MUL\_MIN = -20  
MUL\_MIN\_OK = -10  
MUL\_MAX\_OK = 8



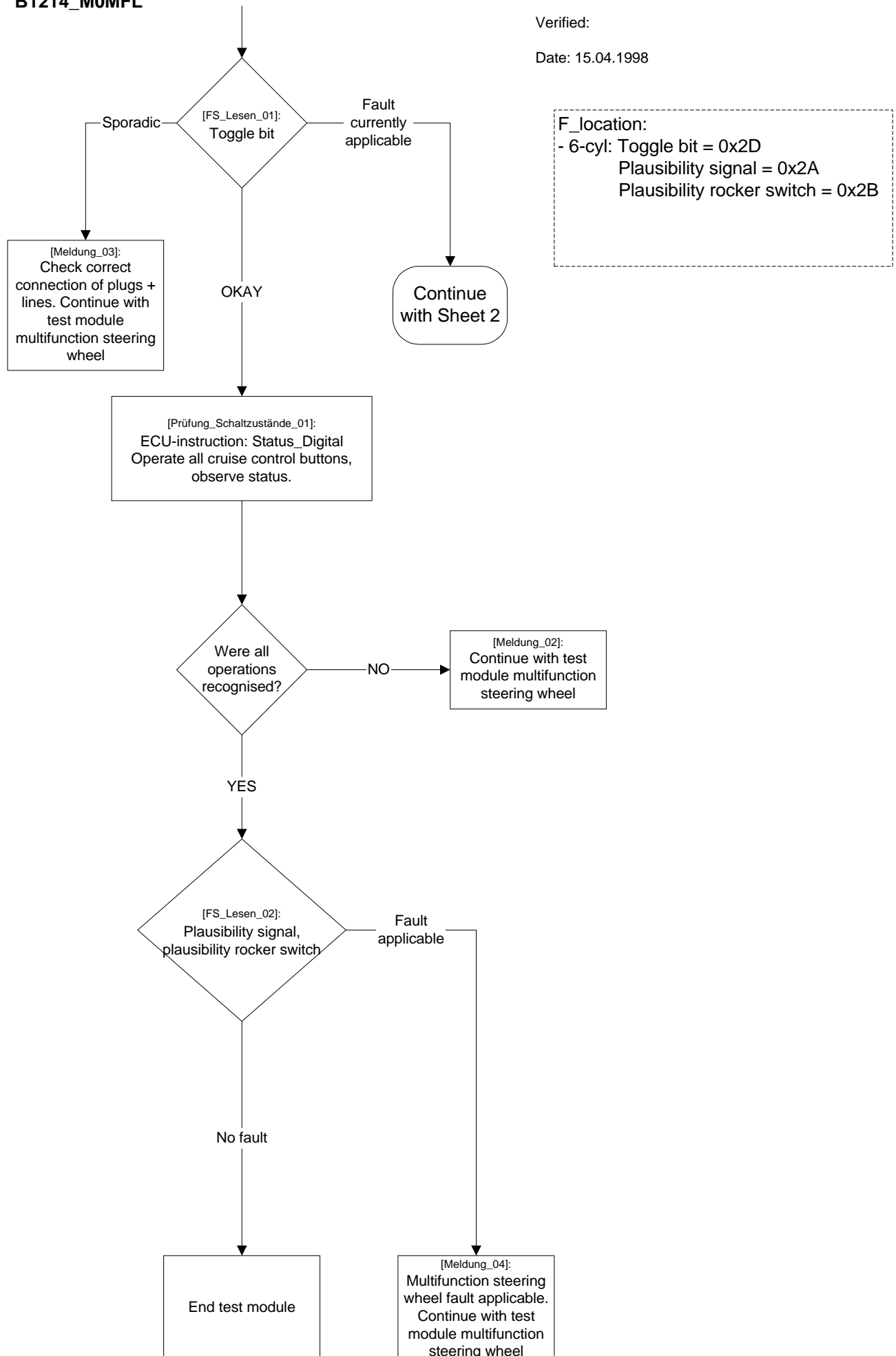


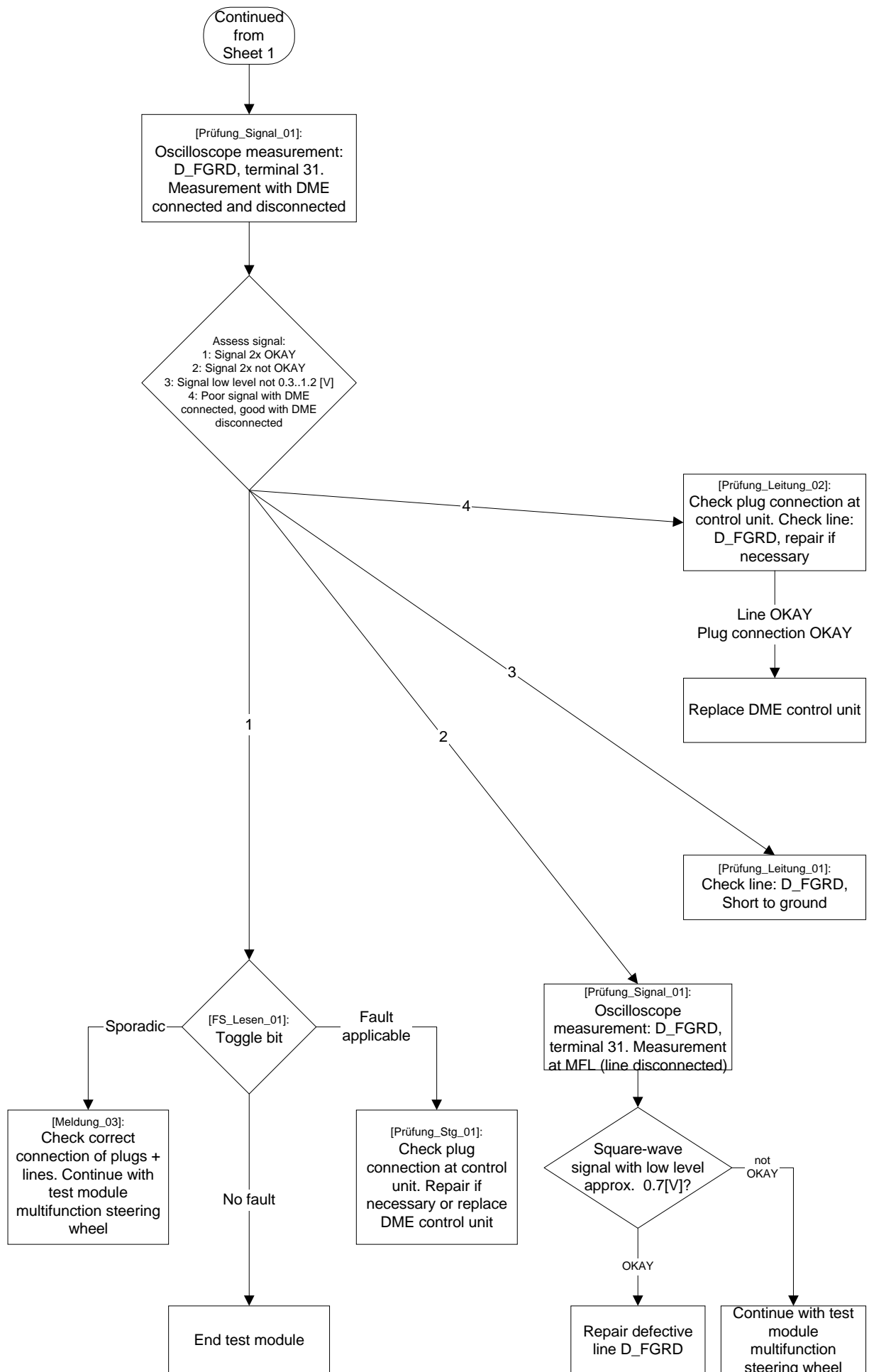




Verified:

Date: 15.04.1998

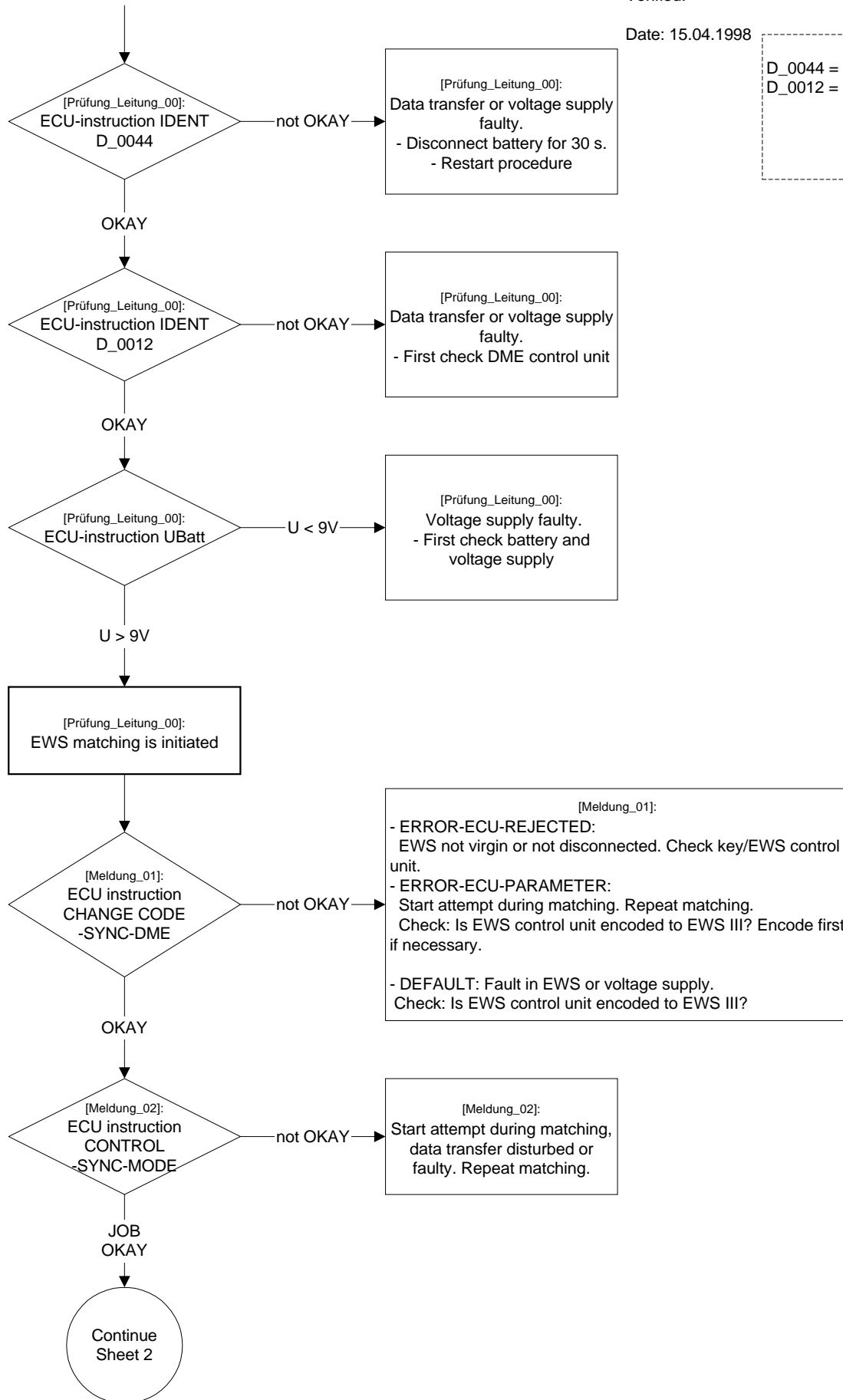


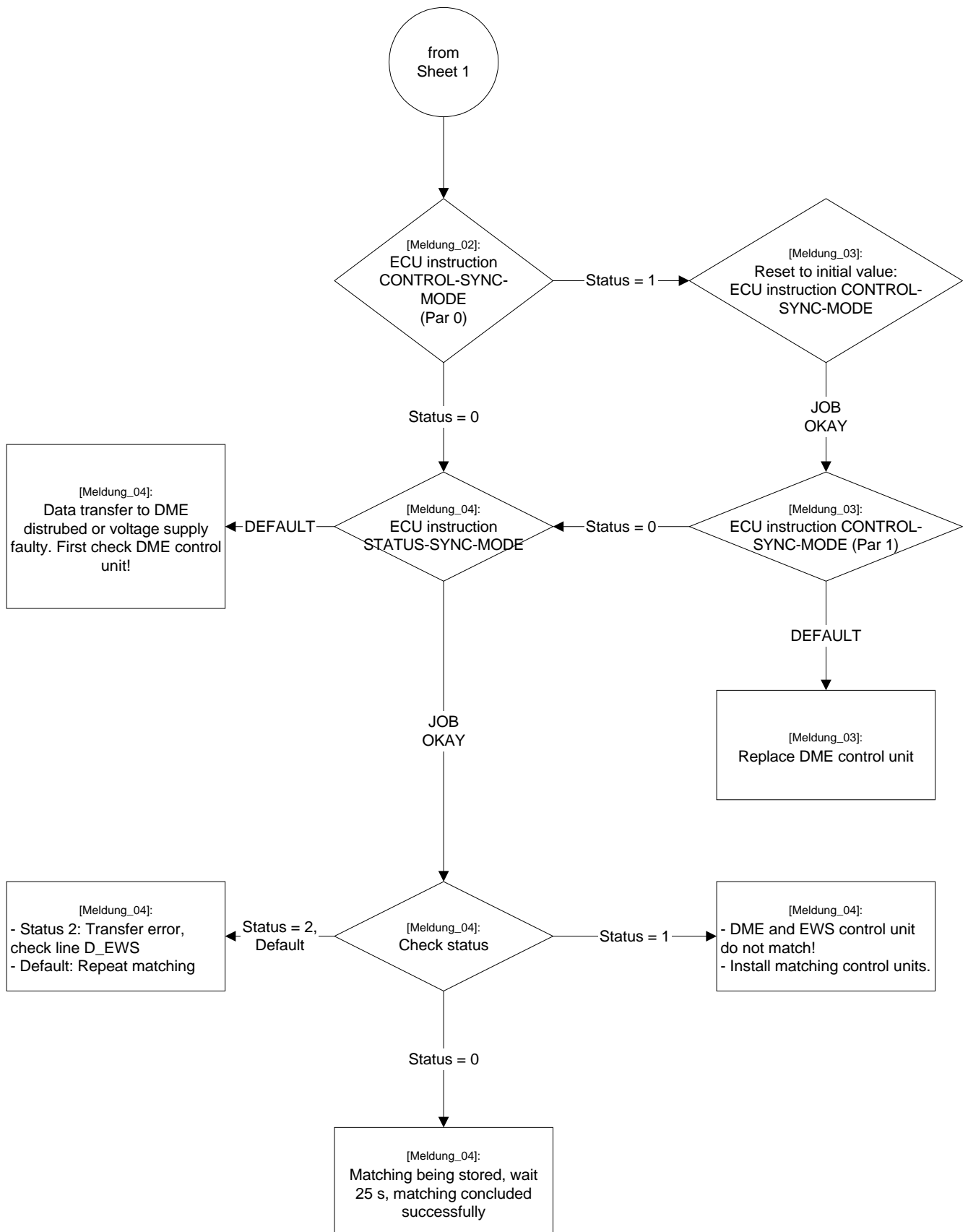


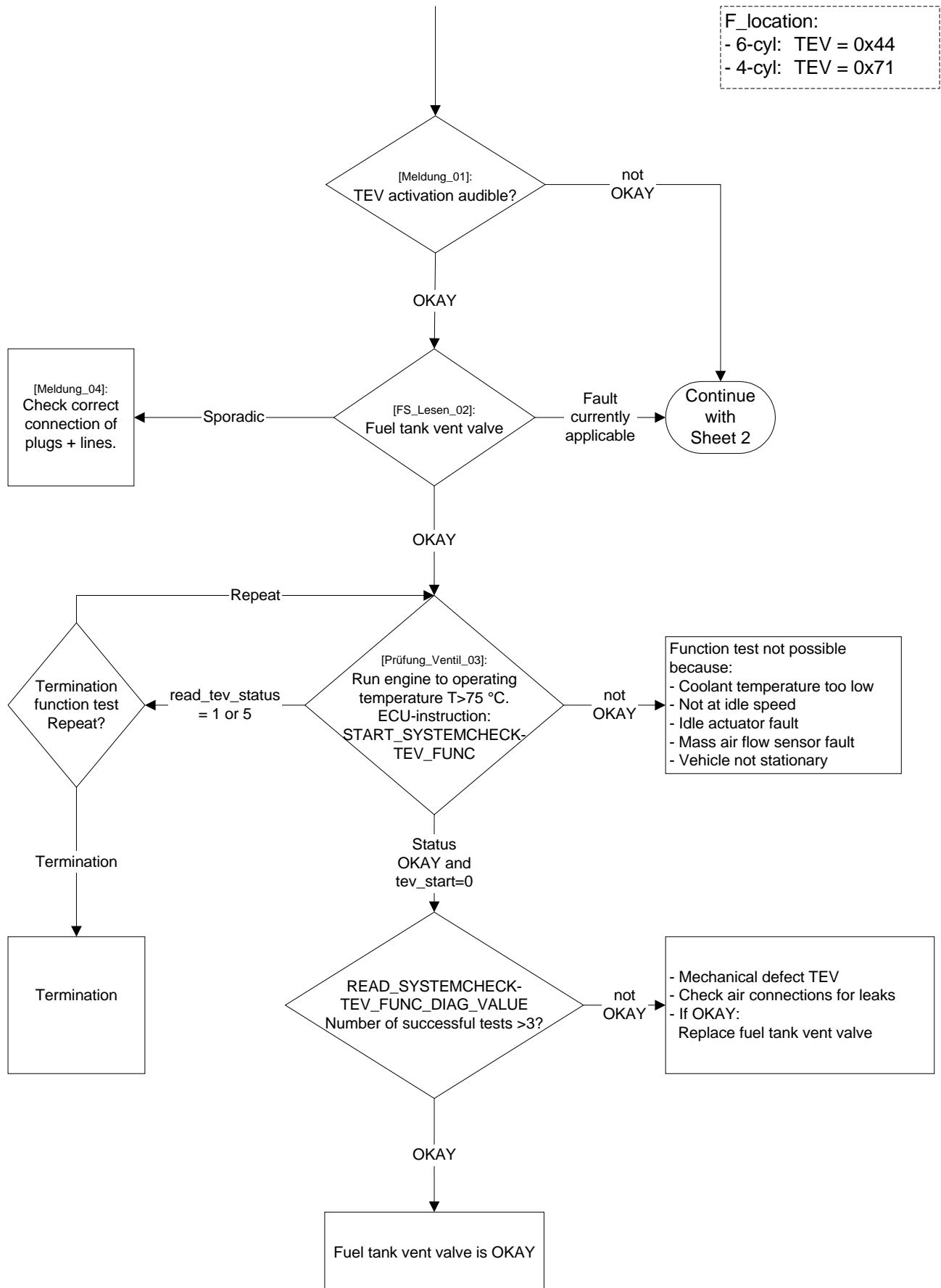
Verified:

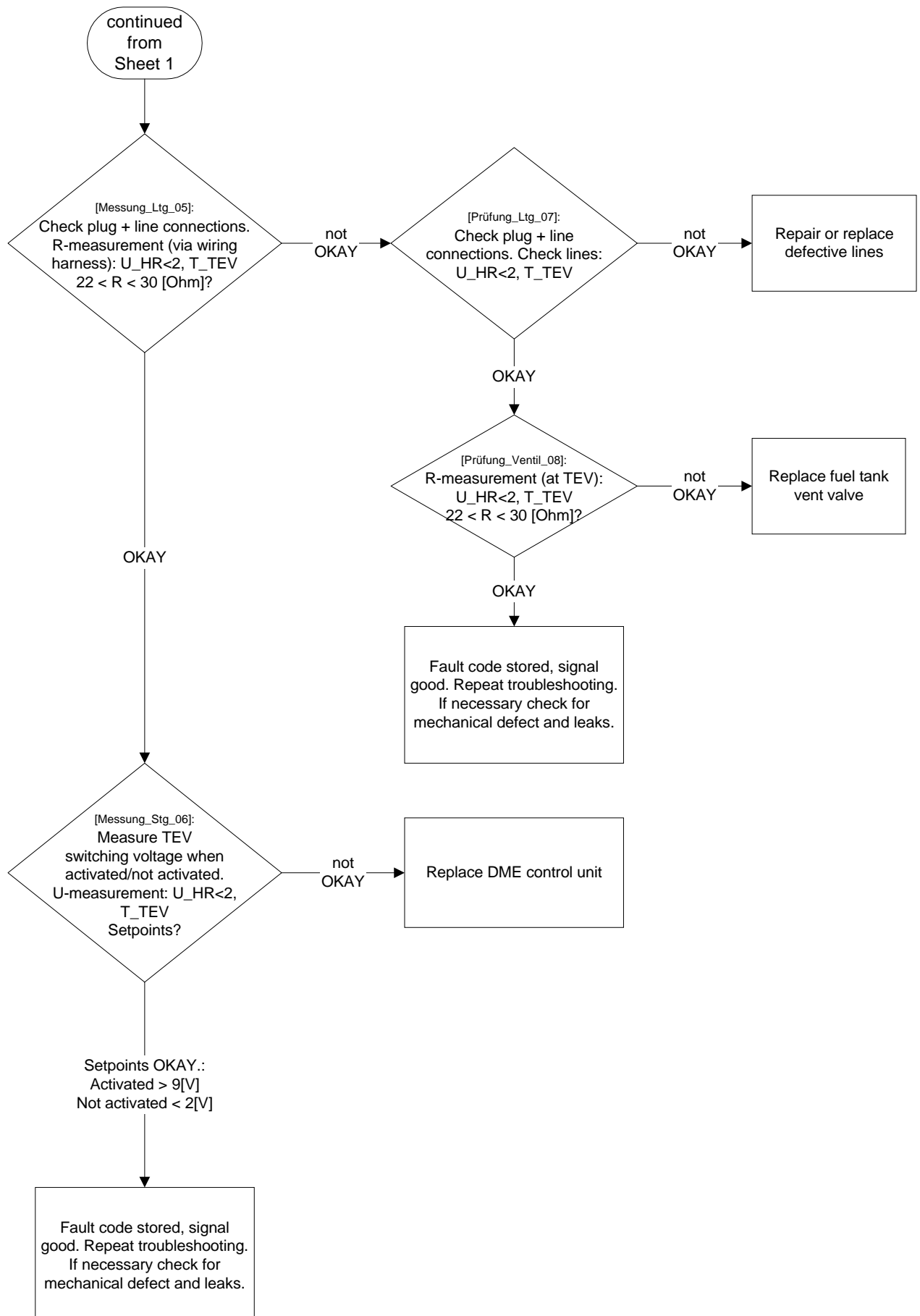
Date: 15.04.1998

D\_0044 = EWS control unit  
 D\_0012 = DME/DDE control unit







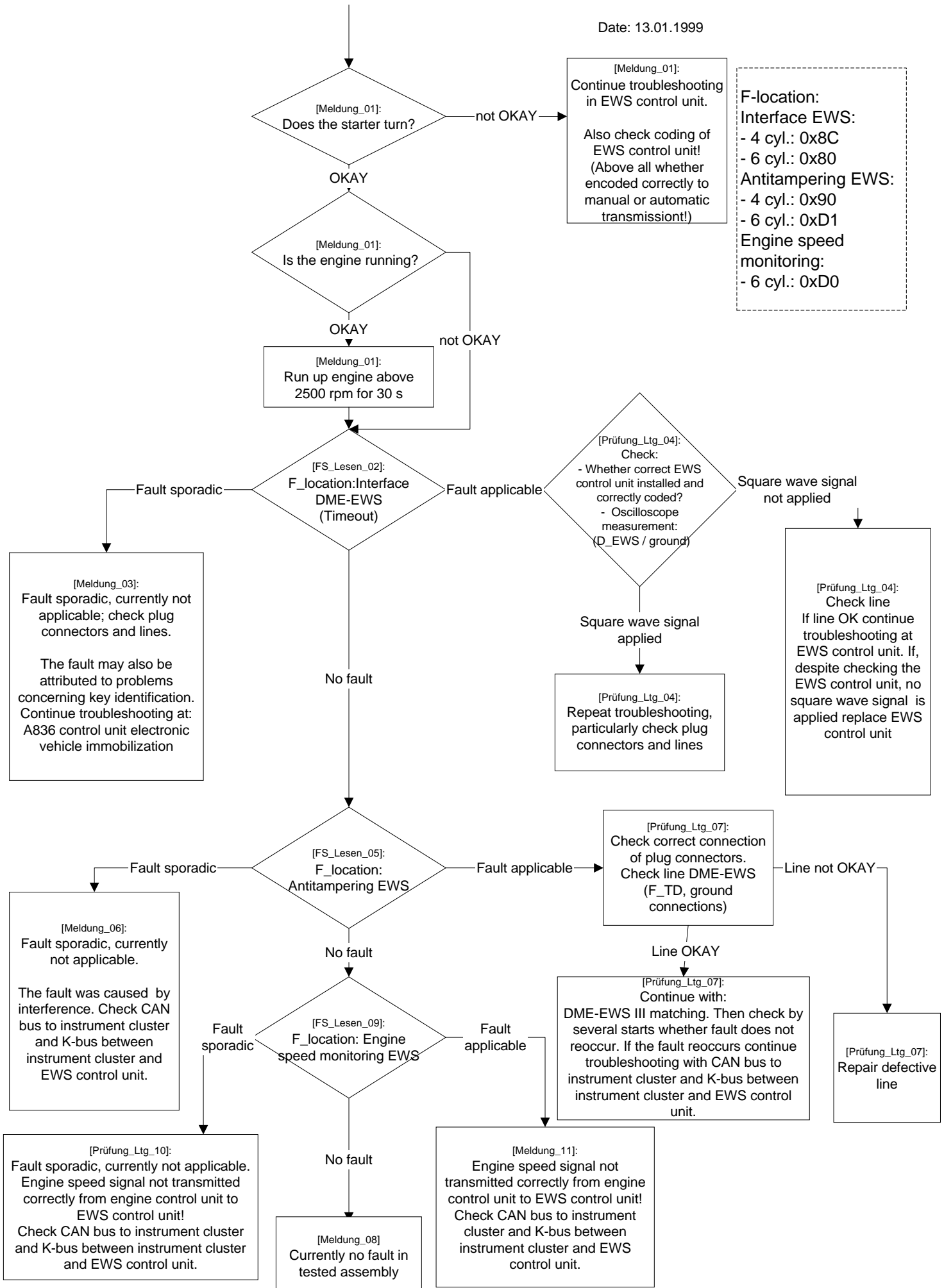


**DME in E46:  
Vehicle immobilization, test module B1214\_M0EWS**

Compiler: L. Hecht, MK-21

Verified: with Mr. Noll EA-33

Date: 13.01.1999



**DME in E46:**  
**Main voltage relay, test module B1214\_M0UBH**

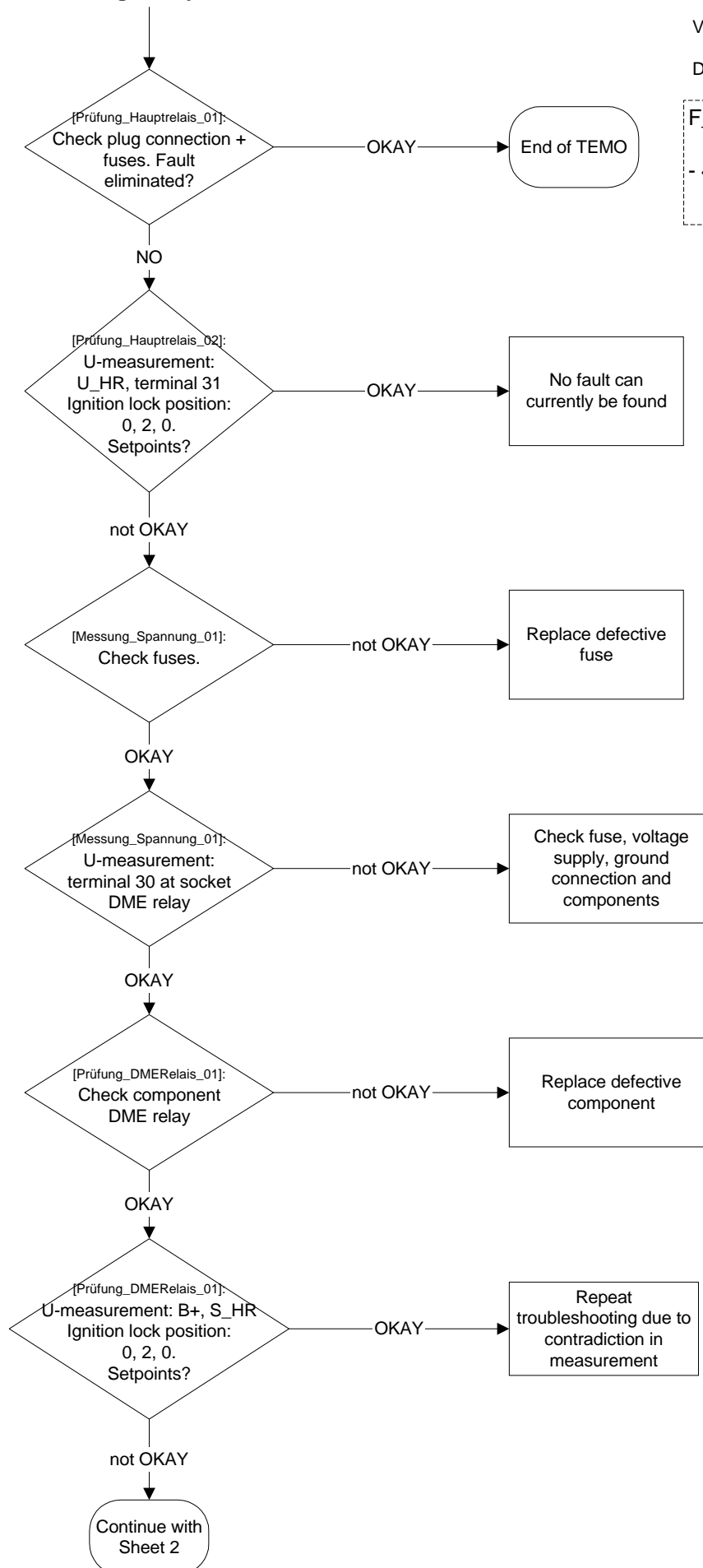
Compiler:  
L. Hecht, VK-22

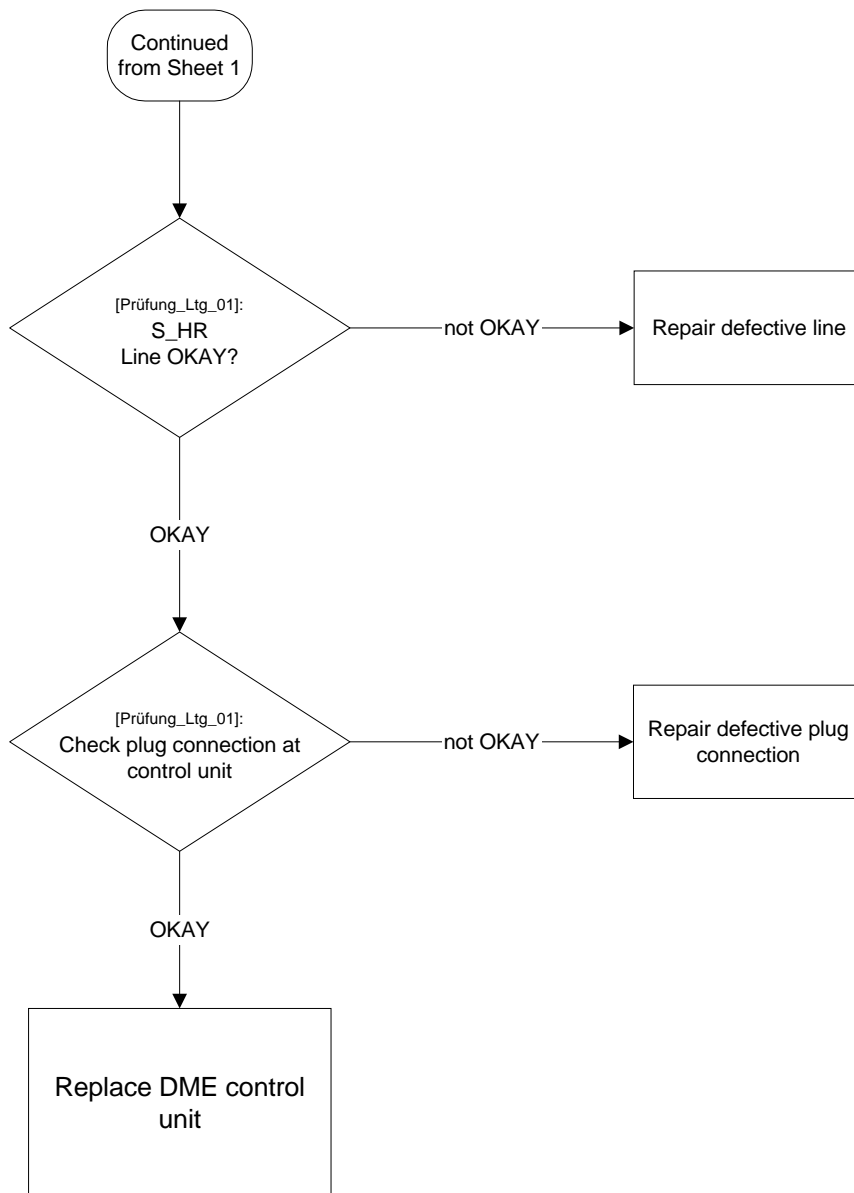
Page 1 of 2

Verified:

Date: 25.03.1998

F\_location:  
- 4-cyl: Main voltage relay = 0x7C



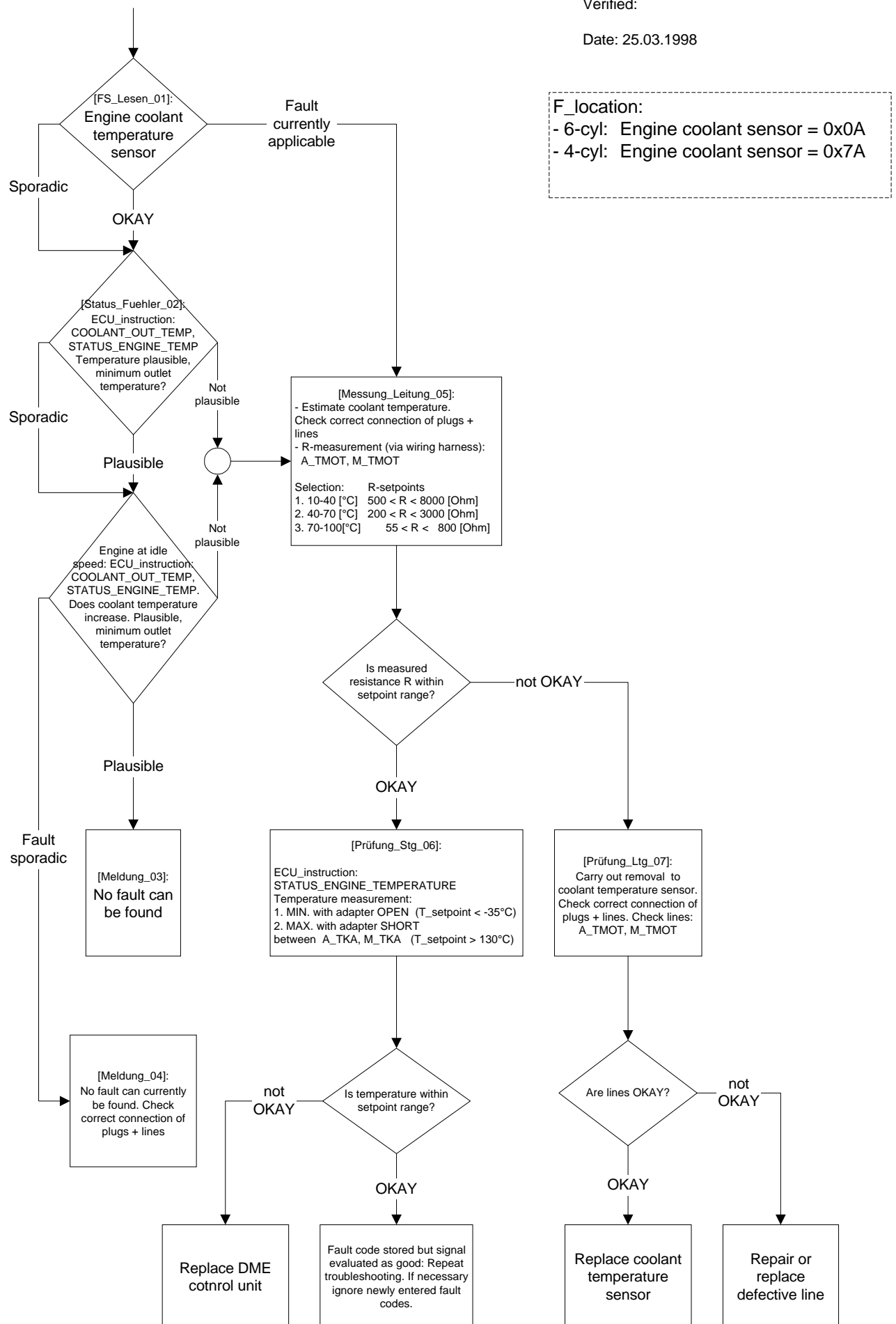


**DME in E46:**  
**Engine coolant temperature sensor, test module B1214\_M0TMO**

Compiler:  
 L. Hecht, VK-22

Verified:

Date: 25.03.1998

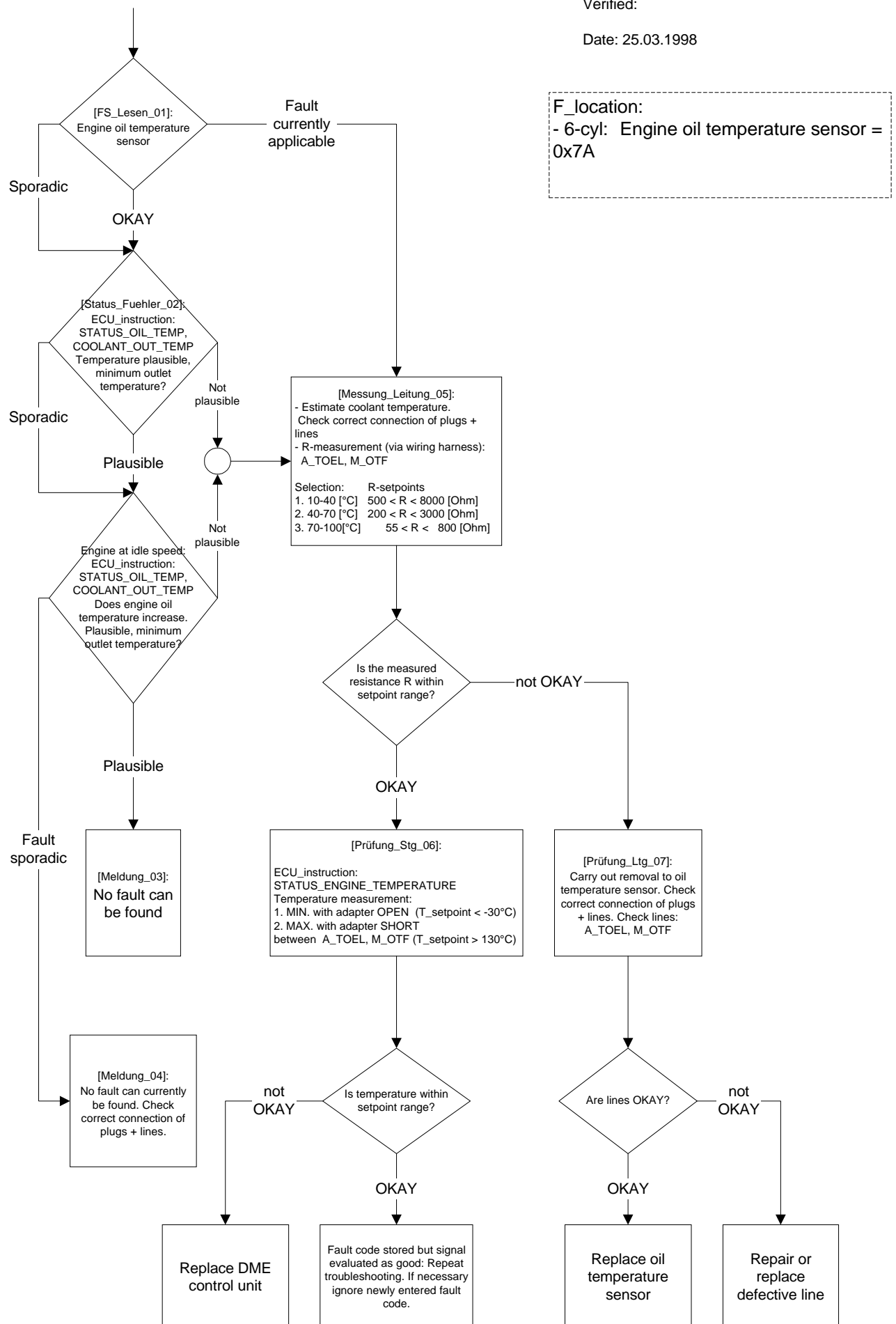


**DME in E46:**  
**Engine oil temperature sensor, test module B1214\_M0TOL**

Compiler:  
 L. Hecht, VK-22

Verified:

Date: 25.03.1998



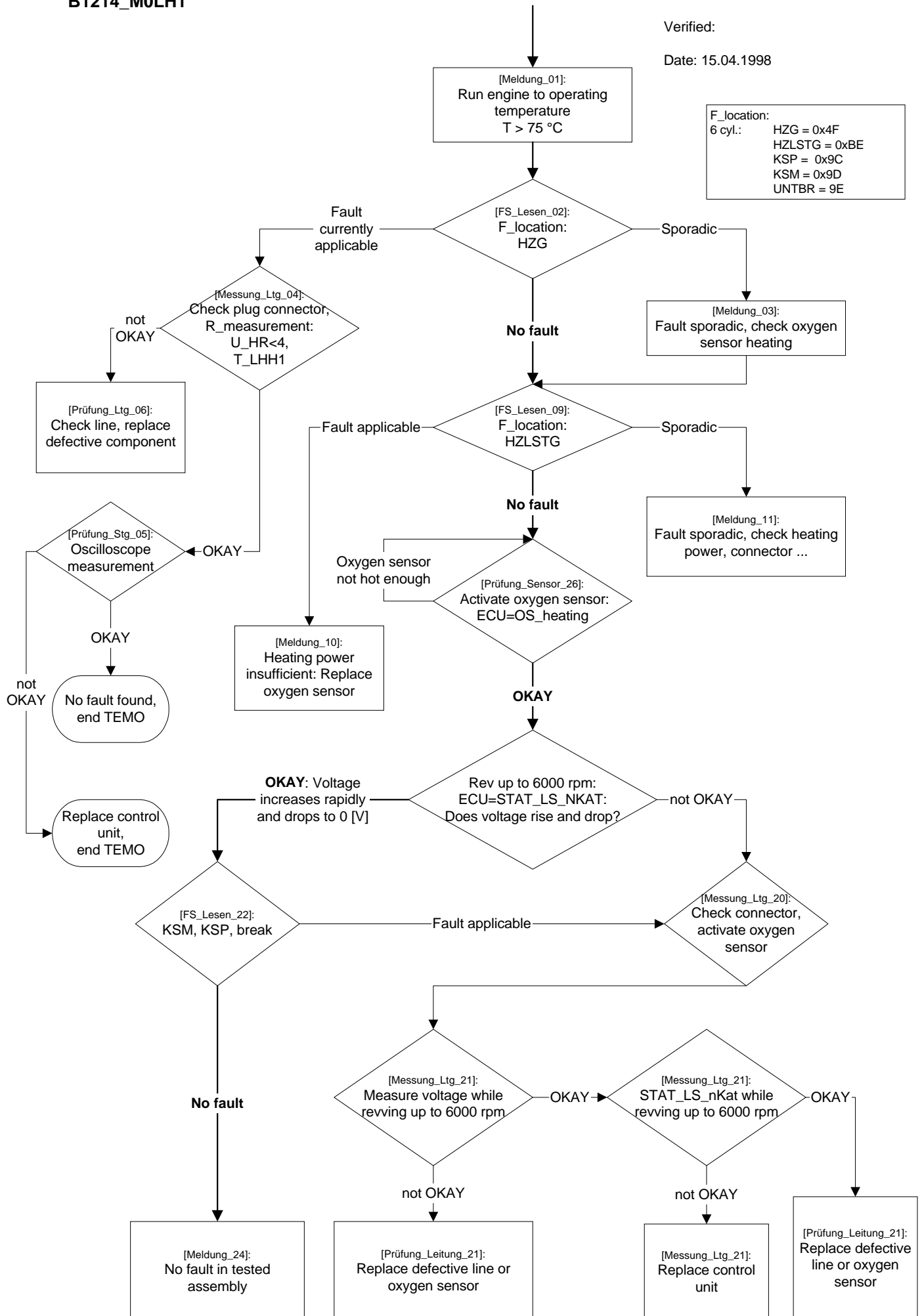
**DME in E46:**  
**Oxygen sensor after catalytic converter, test module**  
**B1214\_M0LH1**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 15.04.1998

F\_location:  
6 cyl.: HZG = 0x4F  
HZLSTG = 0xBE  
KSP = 0x9C  
KSM = 0x9D  
UNTBR = 9E



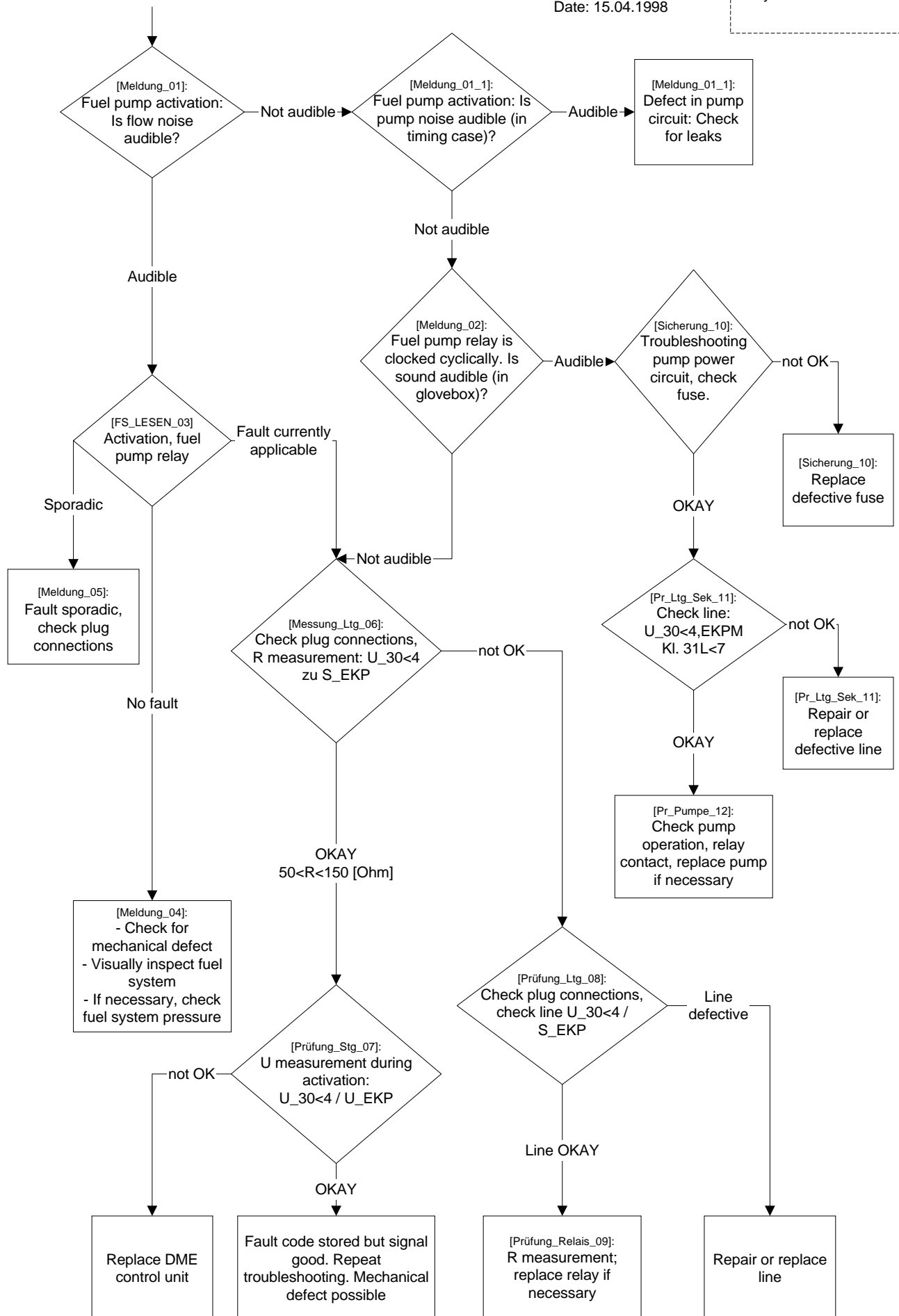
**DME in E46:  
Fuel pump relay, test module B1214\_M0EKP**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 15.04.1998

F-location: Activation, fuel pump relay  
- 4 cyl.: 0x6F  
- 6 cyl.: 0x45

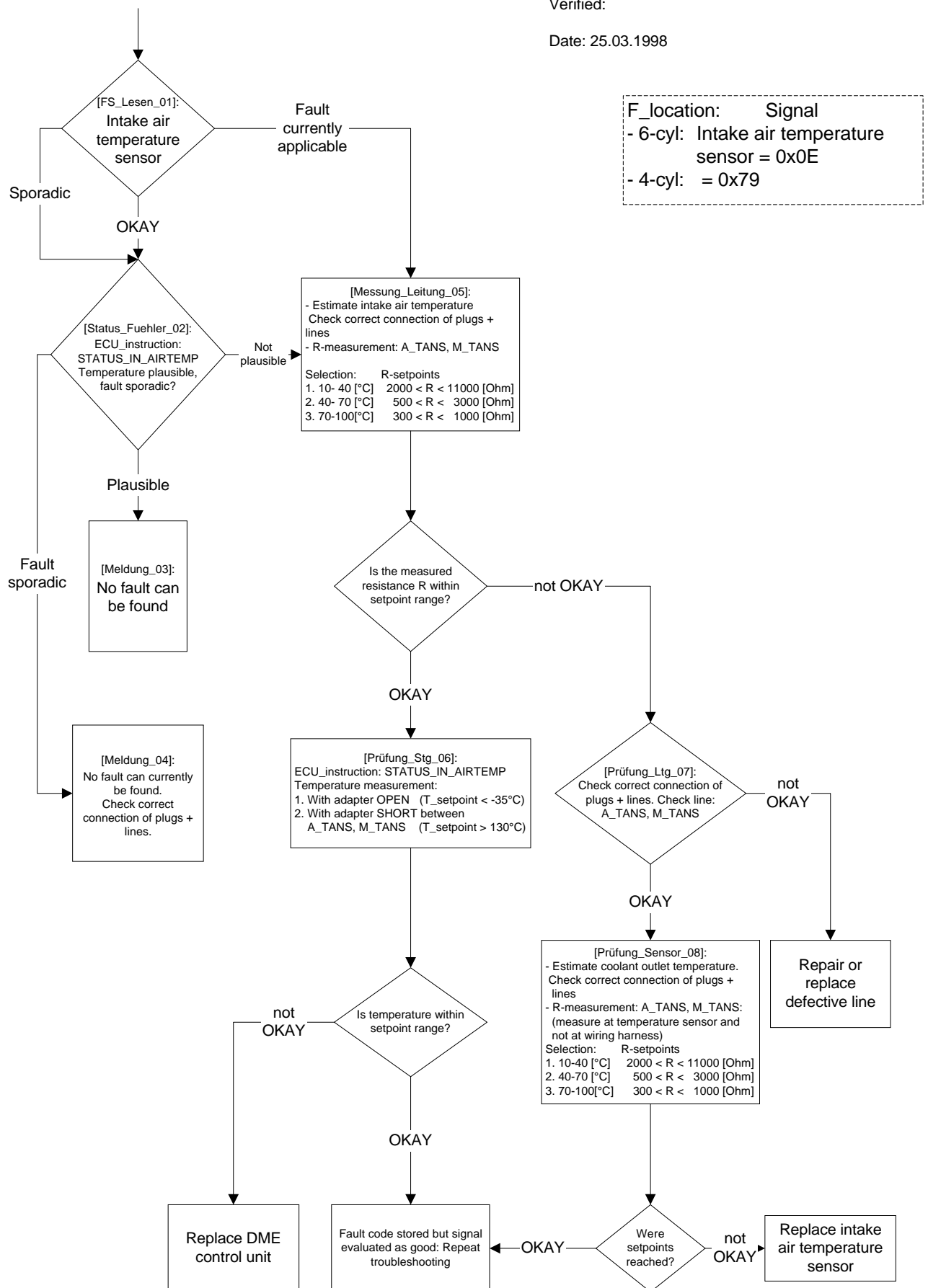


**DME in E46:**  
**Intake air temperature sensor, test module B1214\_M0TAN**

Compiler:  
 L. Hecht, VK-22

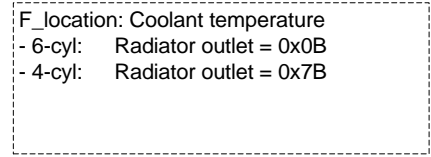
Verified:

Date: 25.03.1998



Compiler:  
L. Hecht, VK-22

Date: 25.03.1998

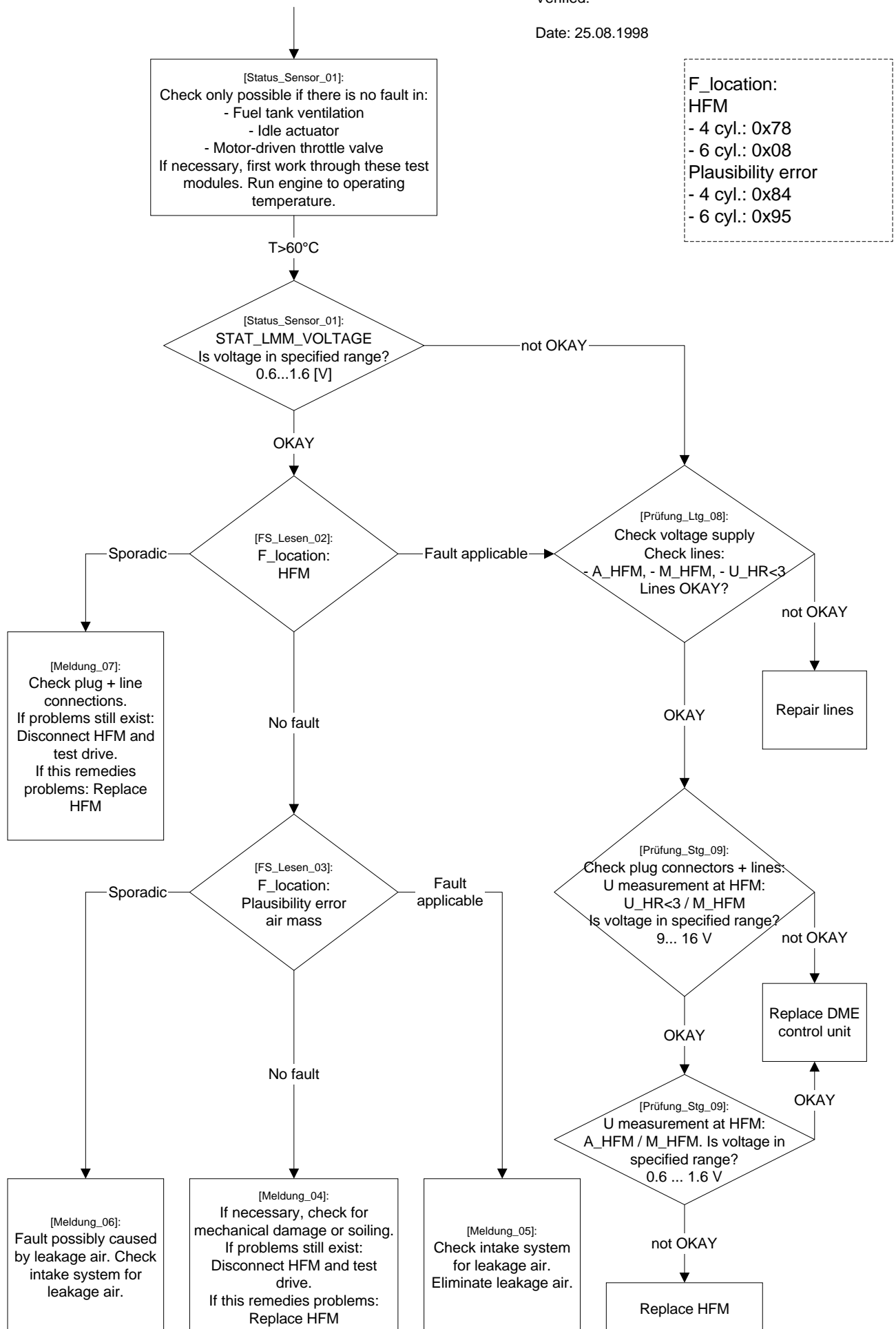


**DME in E46:**  
**Mass air flow sensor, test module B1214\_M0HFM**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 25.08.1998

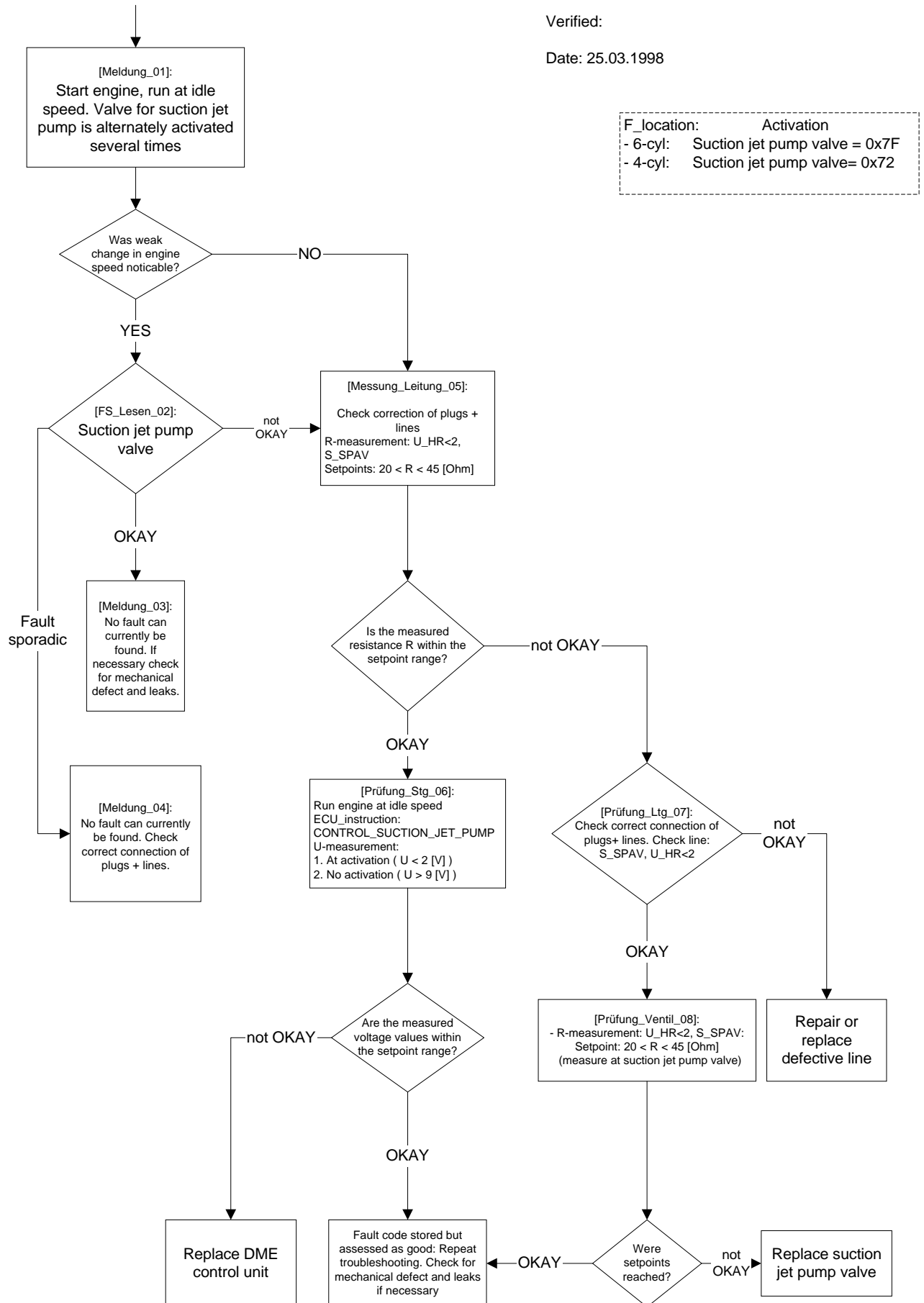


**DME in E46:**  
**Suction jet pump, test module B1214\_M0SSP**

Compiler:  
 L. Hecht, VK-22

Verified:

Date: 25.03.1998

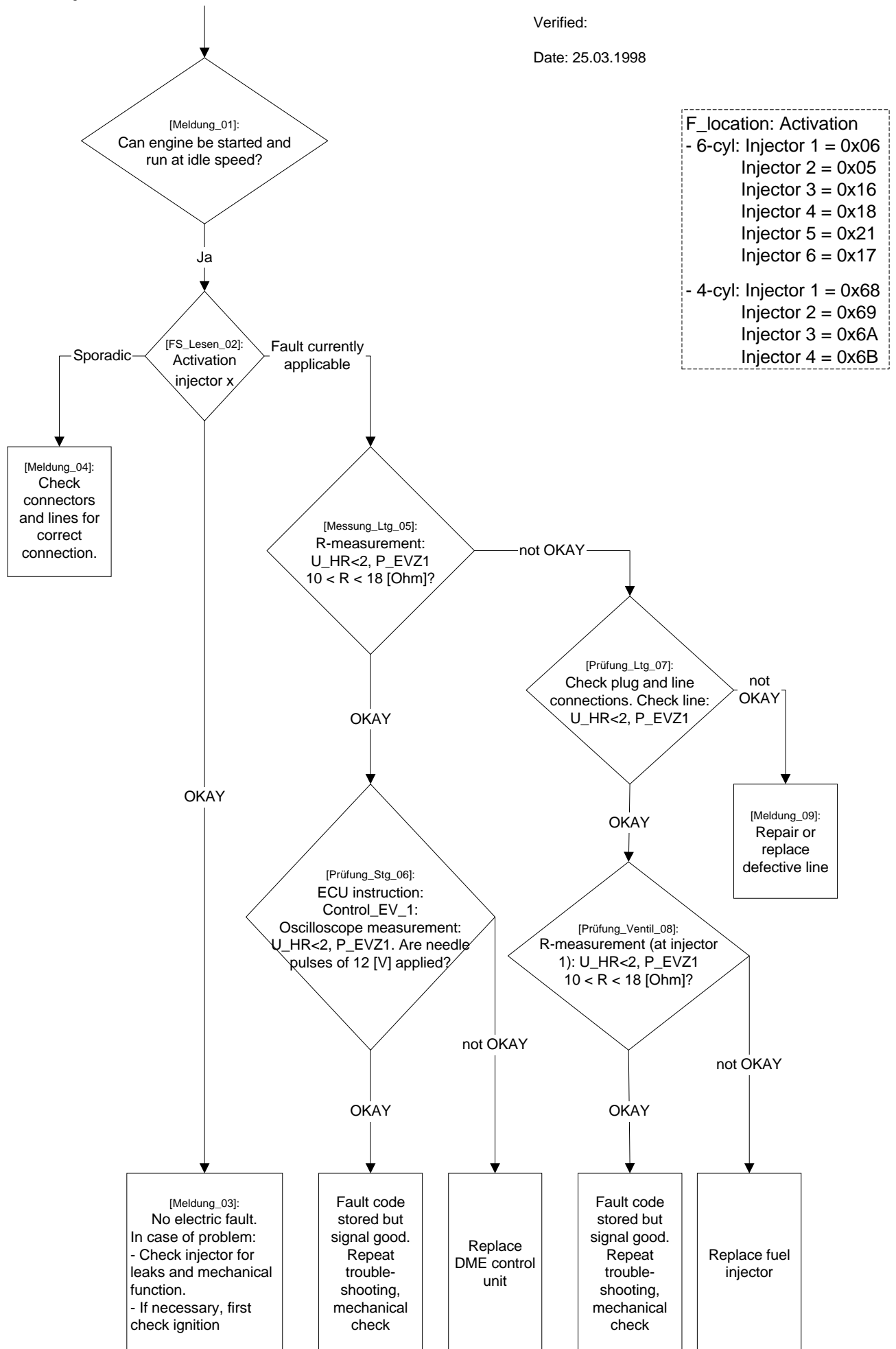


**DME in E46:**  
**Fuel injector, test module B1214\_M0EVx**

Compiler:  
 L. Hecht, VK-22

Verified:

Date: 25.03.1998

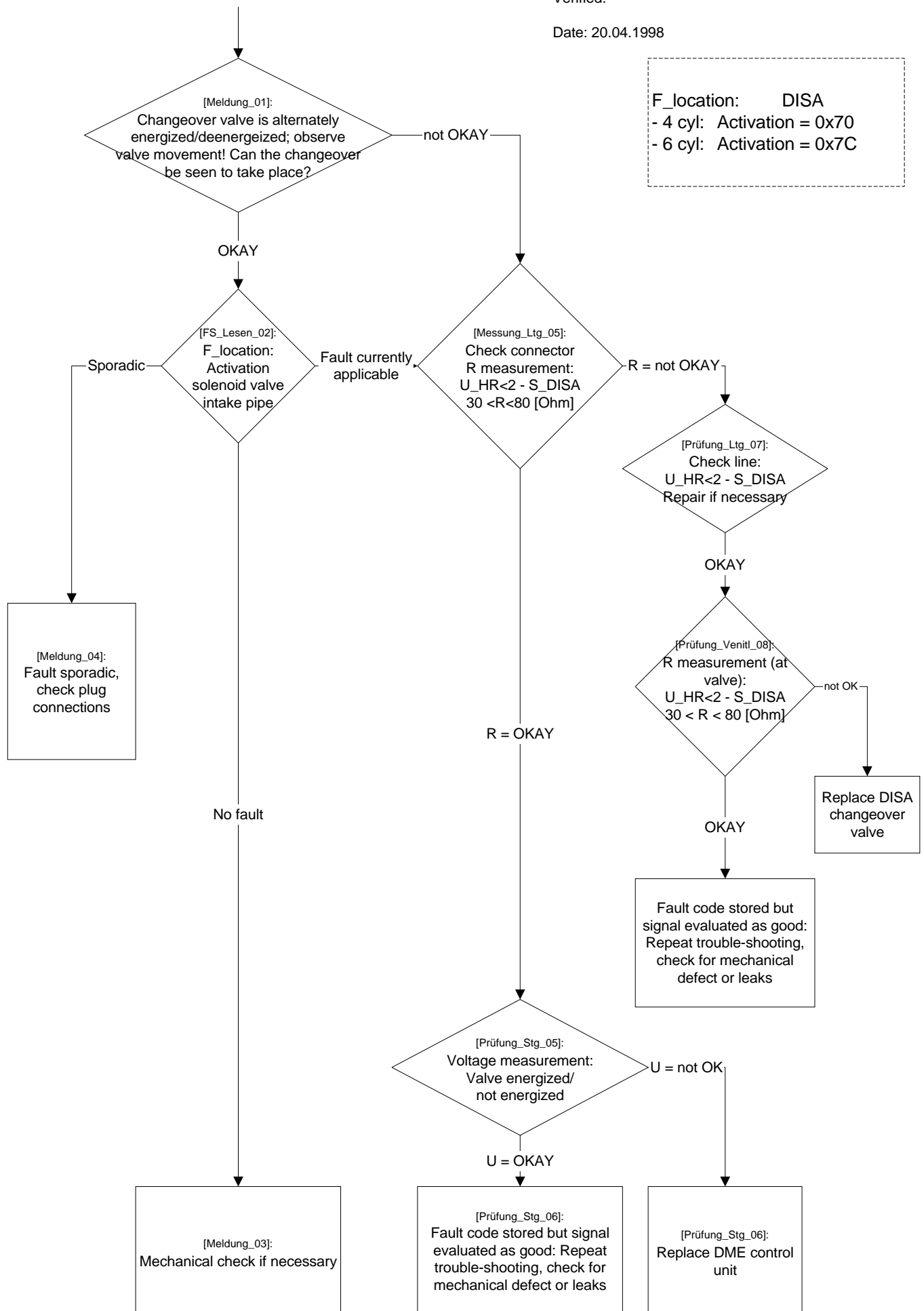


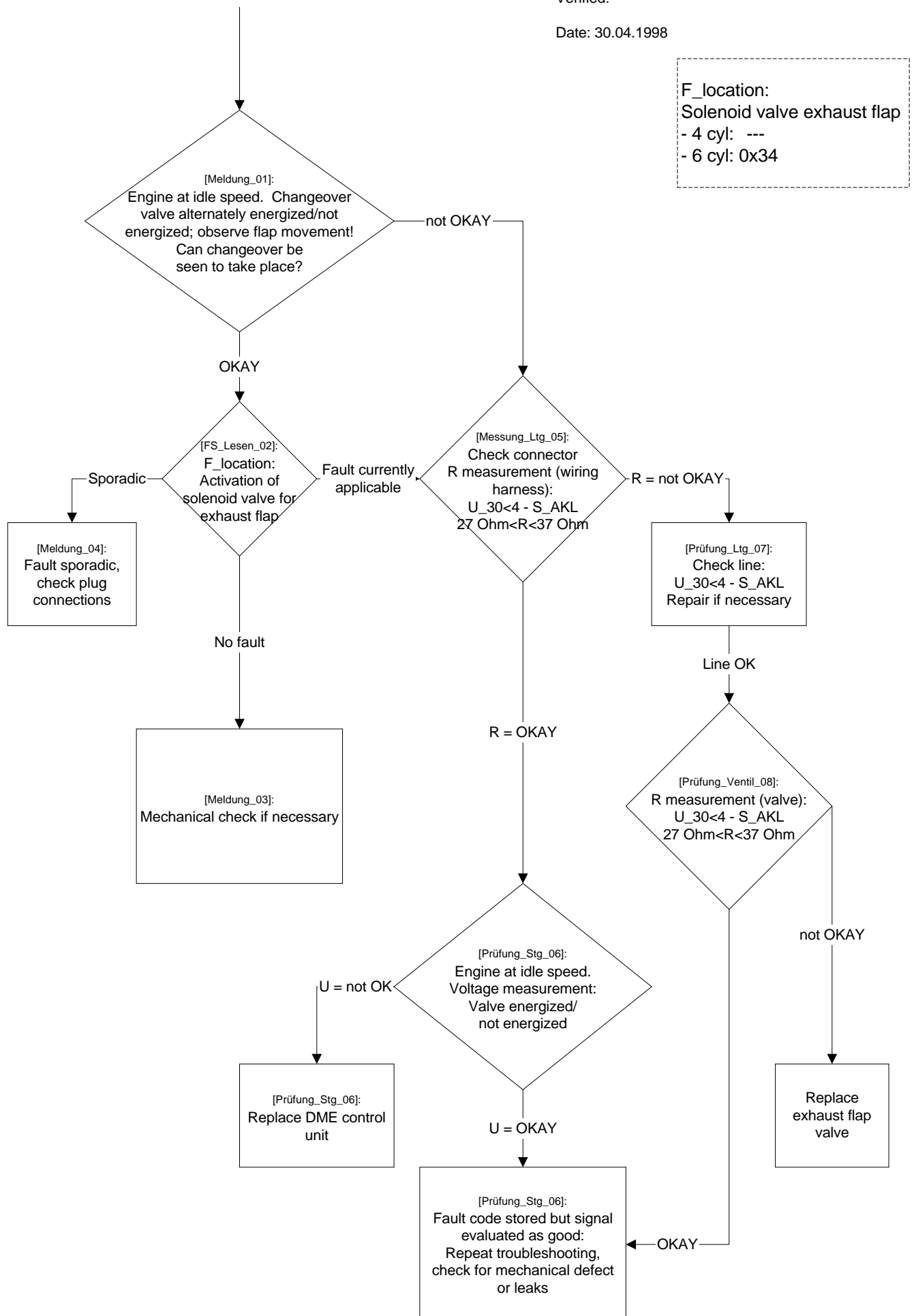
**DME in E46:**  
**Intake pipe changeover, test module B1214\_MODIS**

Compiler:  
 L. Hecht, VK-22

Verified:

Date: 20.04.1998



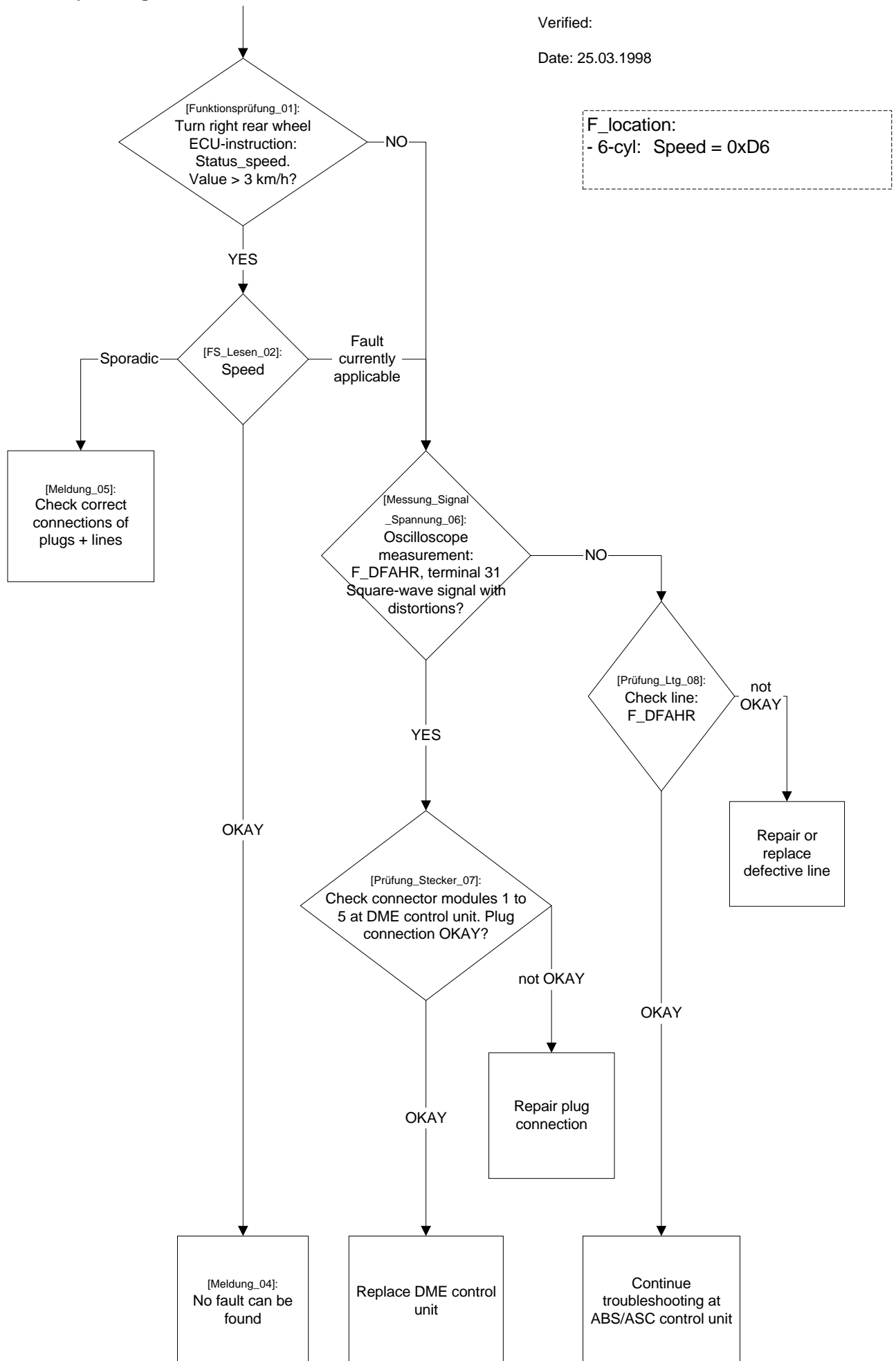


**DME in E46:**  
**Road speed signal, test module B1214\_M0VSI**

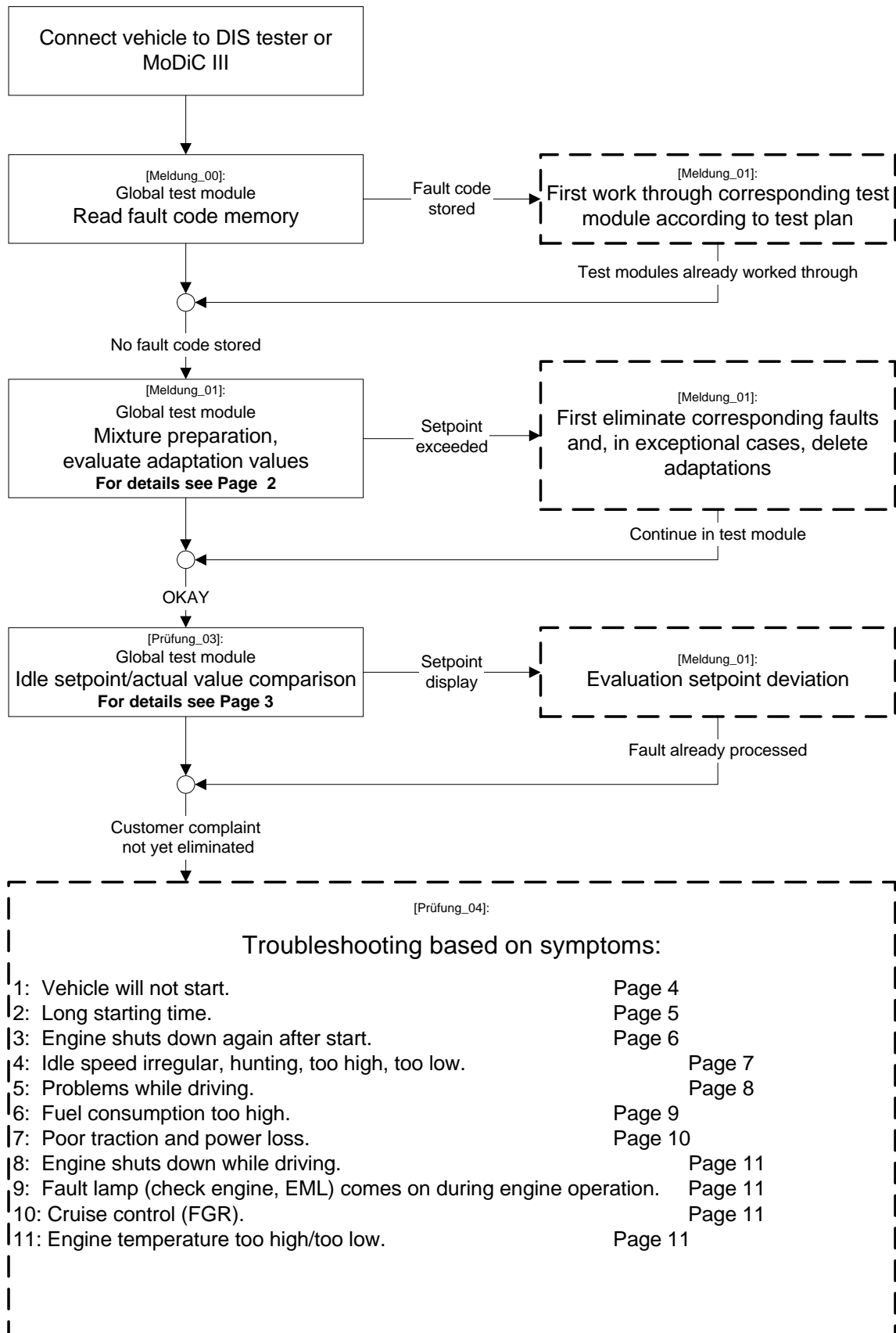
Compiler:  
L. Hecht, VK-22

Verified:

Date: 25.03.1998

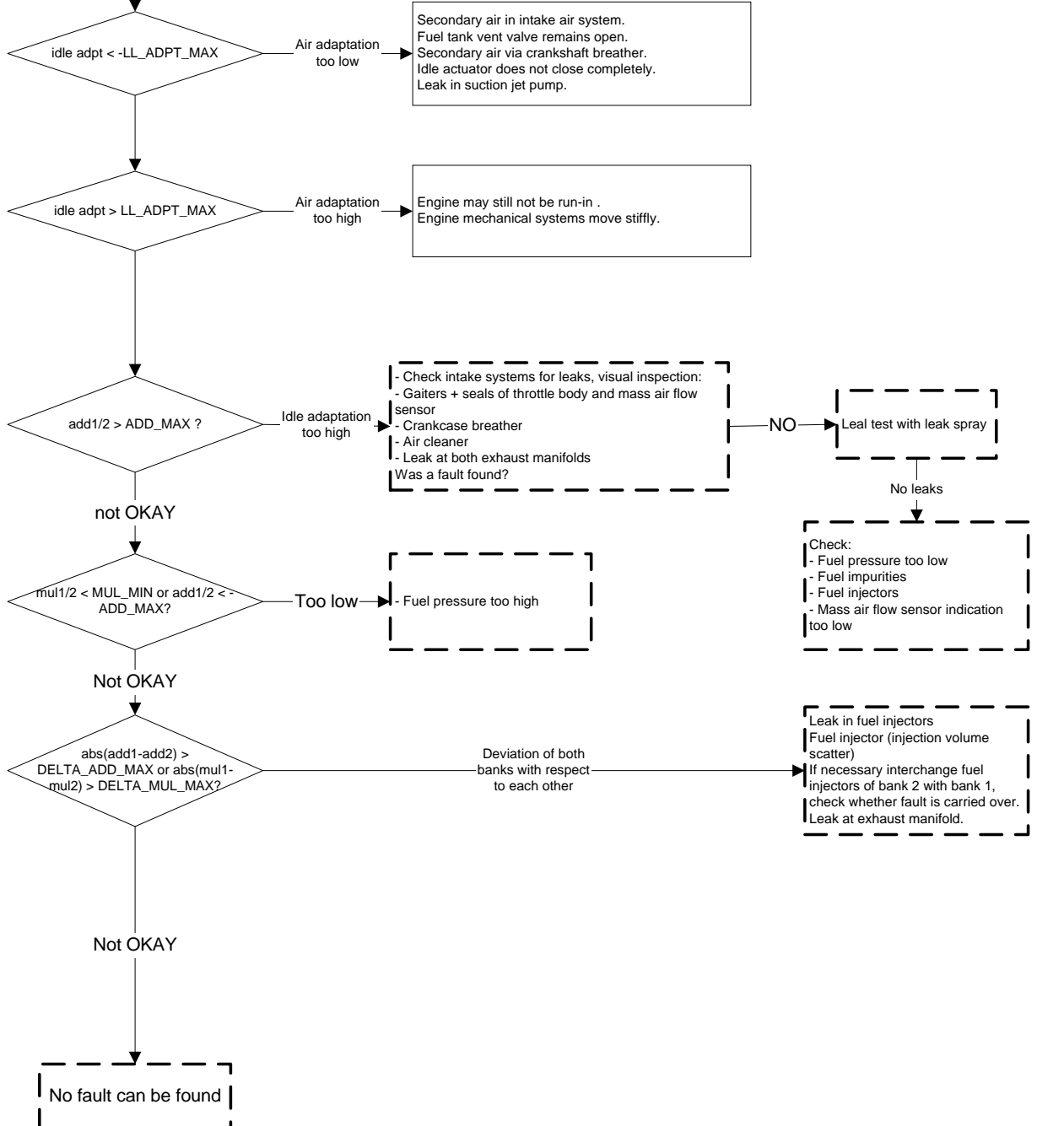


## Fault symptoms for DIS tester; engine M52 EU3/LEV

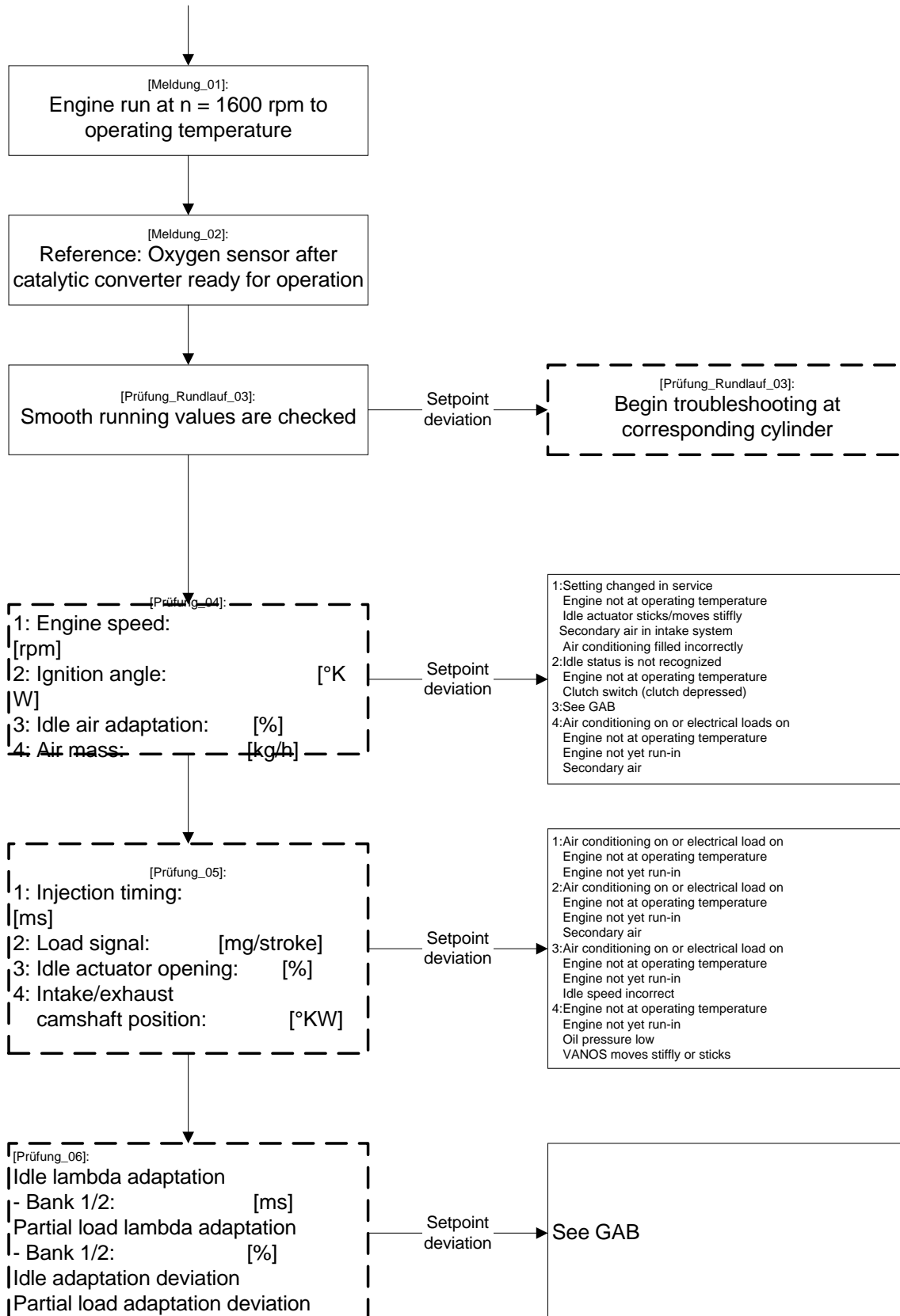


## Global test module: Mixture adaptation values

Adaptation values are  
- displayed and  
- evaluated

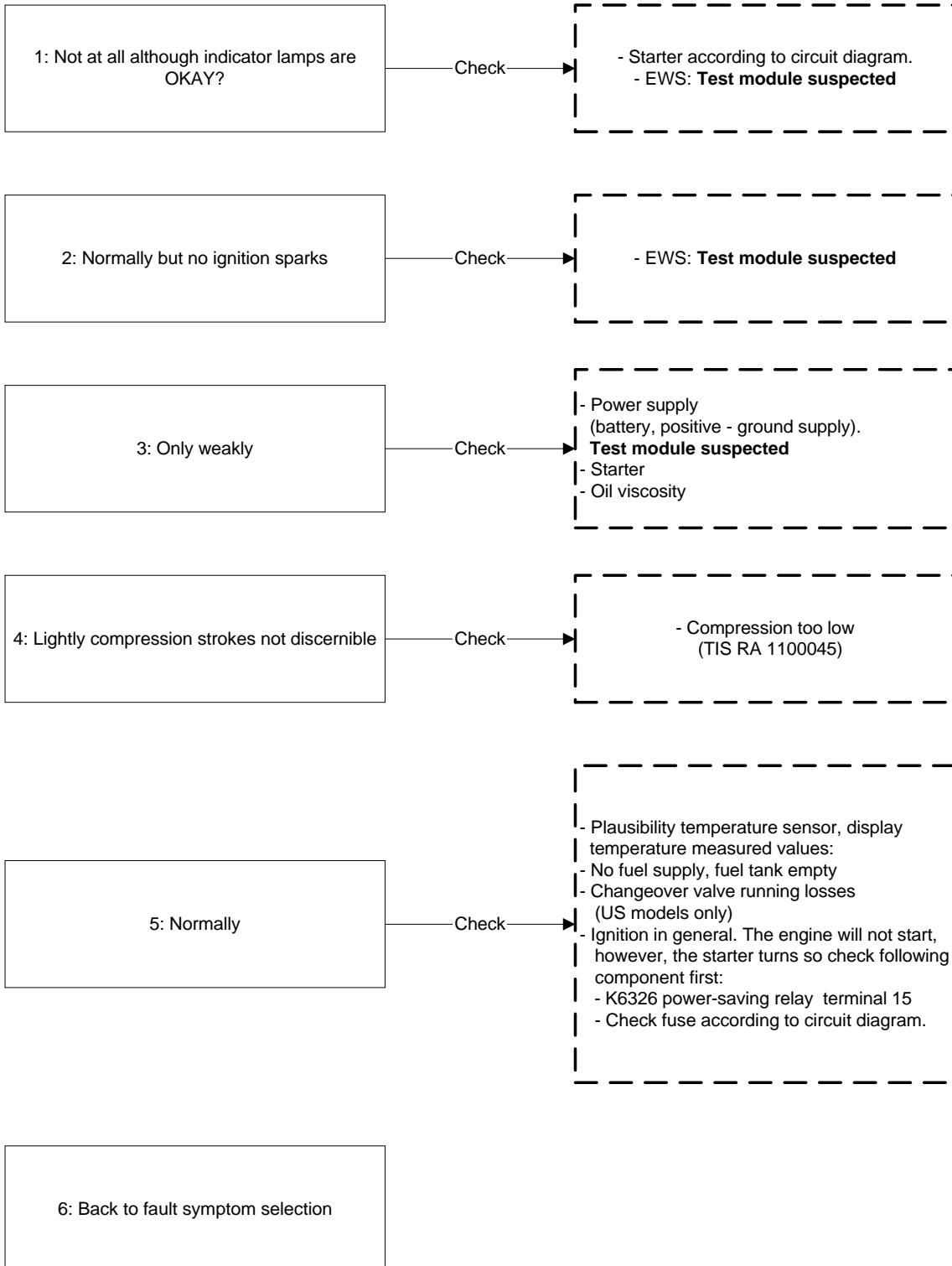


Global test module:  
Idle setpoint/actual value comparison

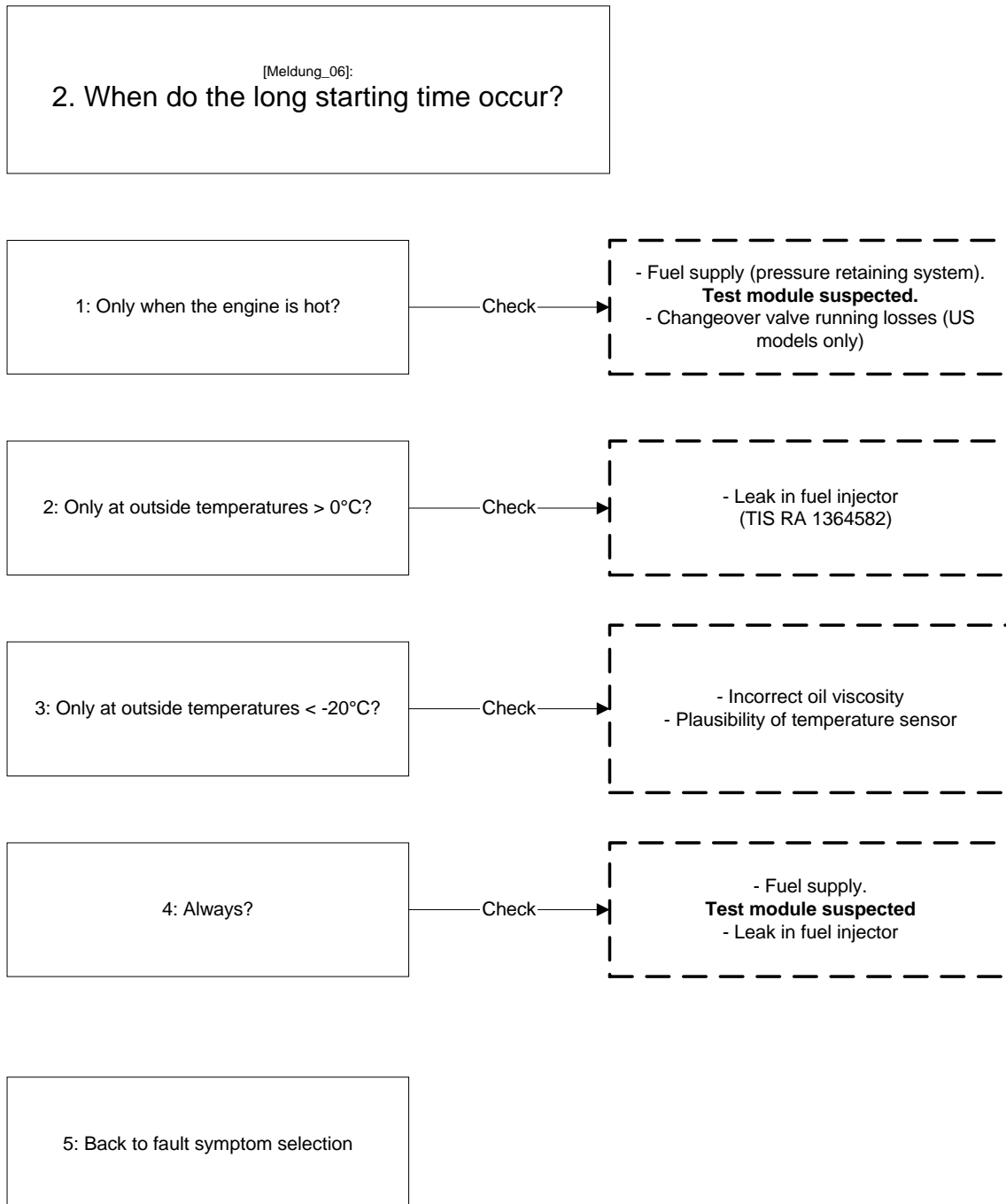


# Fault symptoms for DIS tester; engine M52 EU3/LEV

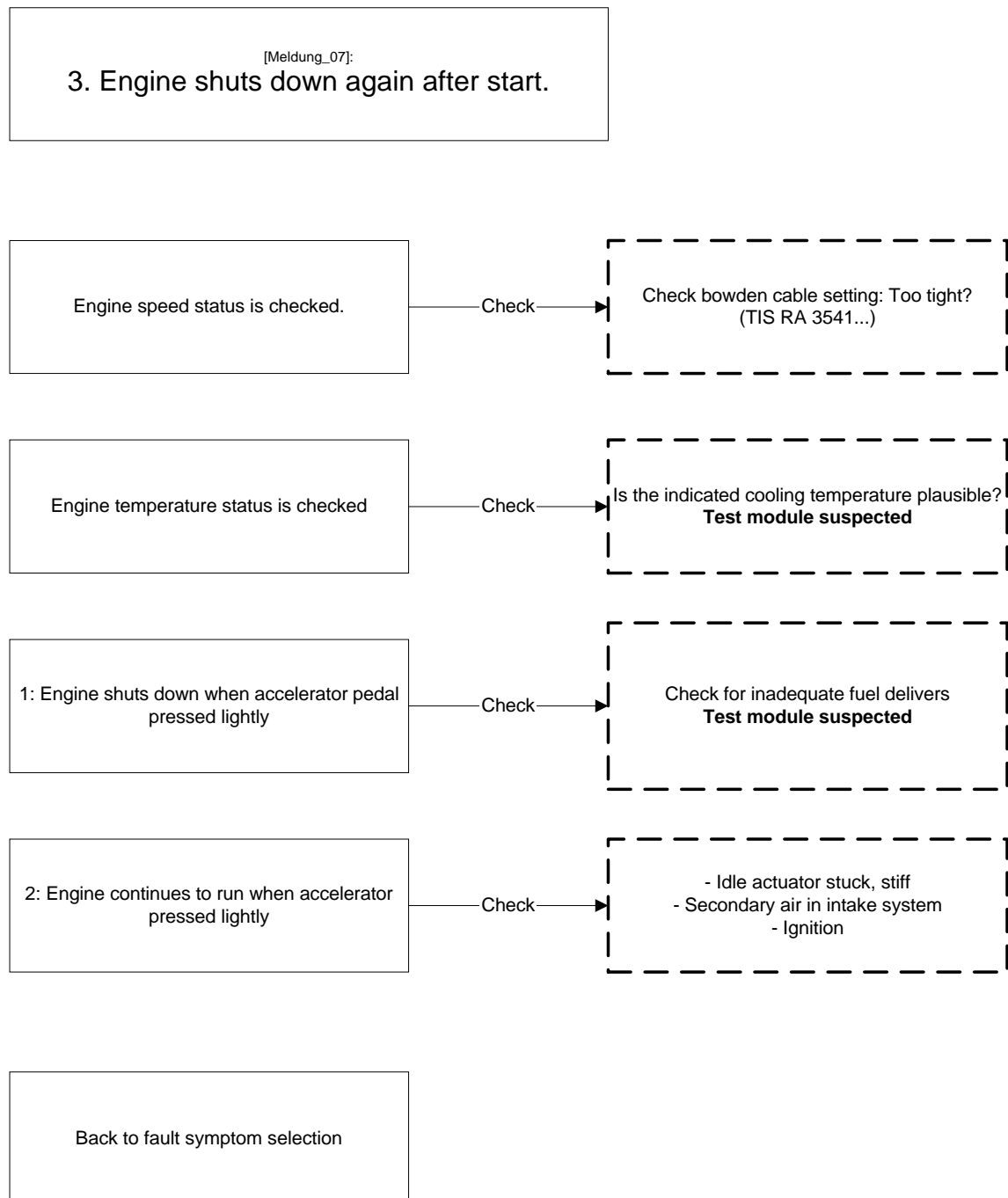
[Meldung\_05]:  
1. Vehicle will not start.  
How does the starter turn over the engine?



## Fault symptoms for DIS tester; engine M52 EU3/LEV



## Fault symptoms for DIS tester; engine M52 EU3/LEV



## Fault symptoms for DIS tester; engine M52 EU3/LEV

[Meldung\_08]:

### 4. Idle speed irregular, hunting, too high, too low.

Read off smooth running values in the case of irregular idle speed caused by poor running cylinder

Check

Read smooth running values

Setpoint/actual value comparison, idle speed status ...

Check

Check bowden cable setting: Too tight?  
(TIS RA 3541...)

Check P/N switch status ...

Check

Check CAN

Check EGS

Check A/C compressor status ...

Check

Check air conditioning system

Setpoint/actual value comparison, idle speed ...

Check

- Note idle speed adjustment in service  
- Idle actuator stuck, stiff  
- Secondary air in intake system

Setpoint/actual value comparison, camshaft position, intake/exhaust

Check

- Valve timing set incorrectly  
- VANOS. **Test module suspected**

Are the indicated temperatures (engine, coolant outlet, intake air, oil temperature) plausible?

Check

**Test module suspected**

Remaining troubleshooting procedures:

- 1: Ignition
- 2: Idle actuator
- 3: Fuel tank vent valve
- 4: Suction jet pump
- 5: Changeover valve running losses (US models only)
- 6: Back to fault symptom selection

**Test module suspected**  
**Test module suspected**  
**Test module suspected**

# Fault symptoms for DIS tester; engine M52 EU3/LEV

[Meldung\_09]:

## 5. Problems while driving.

[Meldung\_09]:

### Fault symptom selection:

- 1: Misfiring: Temporary serious loss of power, e.g. misfiring, DME reset?
- 2: Judder: Uncomfortable driving characteristics due to poor combustion (mixture-related)?
- 3: Poor throttle response: Delayed power development while accelerating?
- 4: Uncomfortable transition while driving to coasting?
- 5: Overrevving during gearshift?
- 6: Back to selection

1: Misfiring:

Check

- Ignition in general
- Ground connections
- Plug connections
- Mixture

2: Judder:

- a) Plausibility, engine temperature
- b) Plausibility, intake air temperature

Check

- a) Plausibility test temperature sensor
  - b) - Delay in resonance flap switching
  - VANOS
- Test module suspected**

3: Poor throttle response:

Check

- a) Plausibility test temperature sensor (coolant, intake air)
- b) - Ignition in general
- Changeover valve running losses (US models only)
- Compression too low
- Fuel delivery
- Idle actuator

4: Uncomfortable transition while driving to coasting

Check

Refer to TIS Hotline Information 12 11 54000 and 12 11 55000 .

5: Overrevving during gearshift

Check

Carry out menu point "clutch switch".  
**Test module suspected**

6: Back to fault symptom selection

# Fault symptoms for DIS tester; engine M52 EU3/LEV

[Prüfung\_10]:

## 6. Fuel consumption too high.

### Conditions that may cause increased fuel consumption:

- Driving at extreme altitude
- Operation at high outside temperature
- Equipped with wide tires, mud flaps
- Increased vehicle weight caused by payload or accessories (roof rack)
- Substandard fuel quality (RON 91)
- Running-in period not yet completed (distance covered < 3000 km)
- Customer's driving style
- Loads permanently activated (lights, air conditioning, seat heating, rear window defroster)

Determine actual consumption based on the procedure specified by service

Plausibility test, engine and intake air temperature

Check

Temperature sensor, incorrect measured value

Remaining troubleshooting procedures:  
- Compression too low  
- Refer to problem "engine temperature too high/  
too low"  
- Intake tract not clear (air cleaner soiled ...)  
- Constriction in exhaust system  
- Resonance flap switching faulty  
Do you wish to check the resonance flap?

YES

Test module suspected

NO

Back to fault symptom selection

# Fault symptoms for DIS tester; engine M52 EU3/LEV

[Prüfung\_10]:

## 7. Poor traction and power loss.

Conditions that may cause poor traction and power loss (Vmax is not reached):

- Driving at extreme altitude
- Operation at high outside temperature
- Equipped with wide tires, mud flaps, roof rack
- Increased vehicle weight caused by payload or accessories
- Substandard fuel quality (RON 91)
- Running-in period not yet completed (distance covered < 3000 km)
- Loads permanently activated (air conditioning)

### 1. Poor traction

Plausibility test, engine and intake air temperature

Check

Temperature sensor, incorrect measured value

Remaining troubleshooting procedures:

- Resonance flap switching faulty
- Compression too low
- Refer to symptom "engine temperature too high/too low"

YES

**Test module suspected**

Do you wish to check the resonance flap?

### 2. Power loss (Vmax not reached)

Plausibility test, engine and intake air temperature

Check

Temperature sensor, incorrect measured value

Remaining troubleshooting procedures:

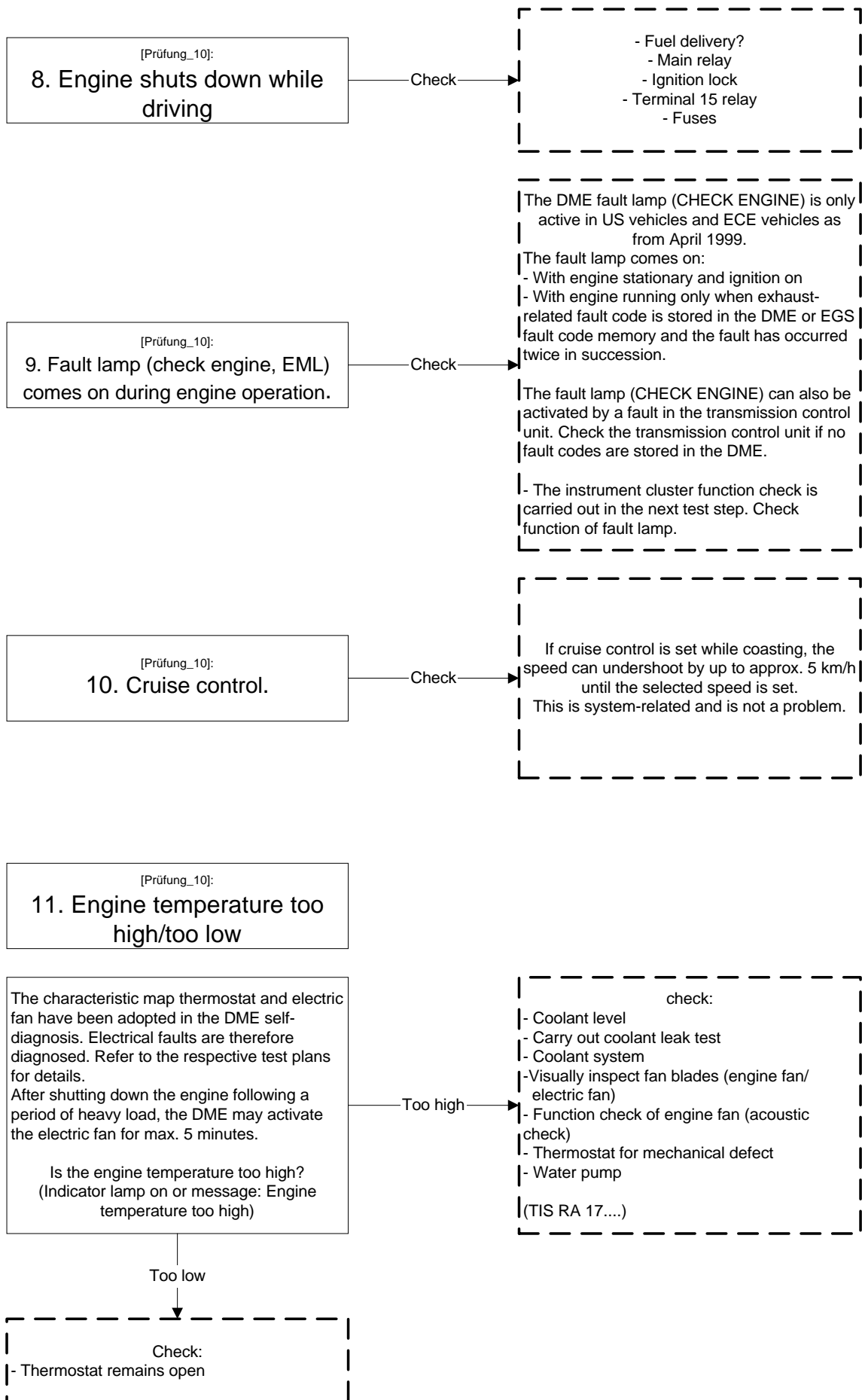
- Throttle valve does not open completely
- Refer to problem "engine temperature too high/too low"
- Compression too low
- Intake tract not clear (air cleaner soiled ...)
- Constriction in exhaust system
- Resonance flap switching faulty

YES

**Test module suspected**

Do you wish to check the resonance flap?

# Fault symptom for DIS tester; engine M52 EU3/LEV



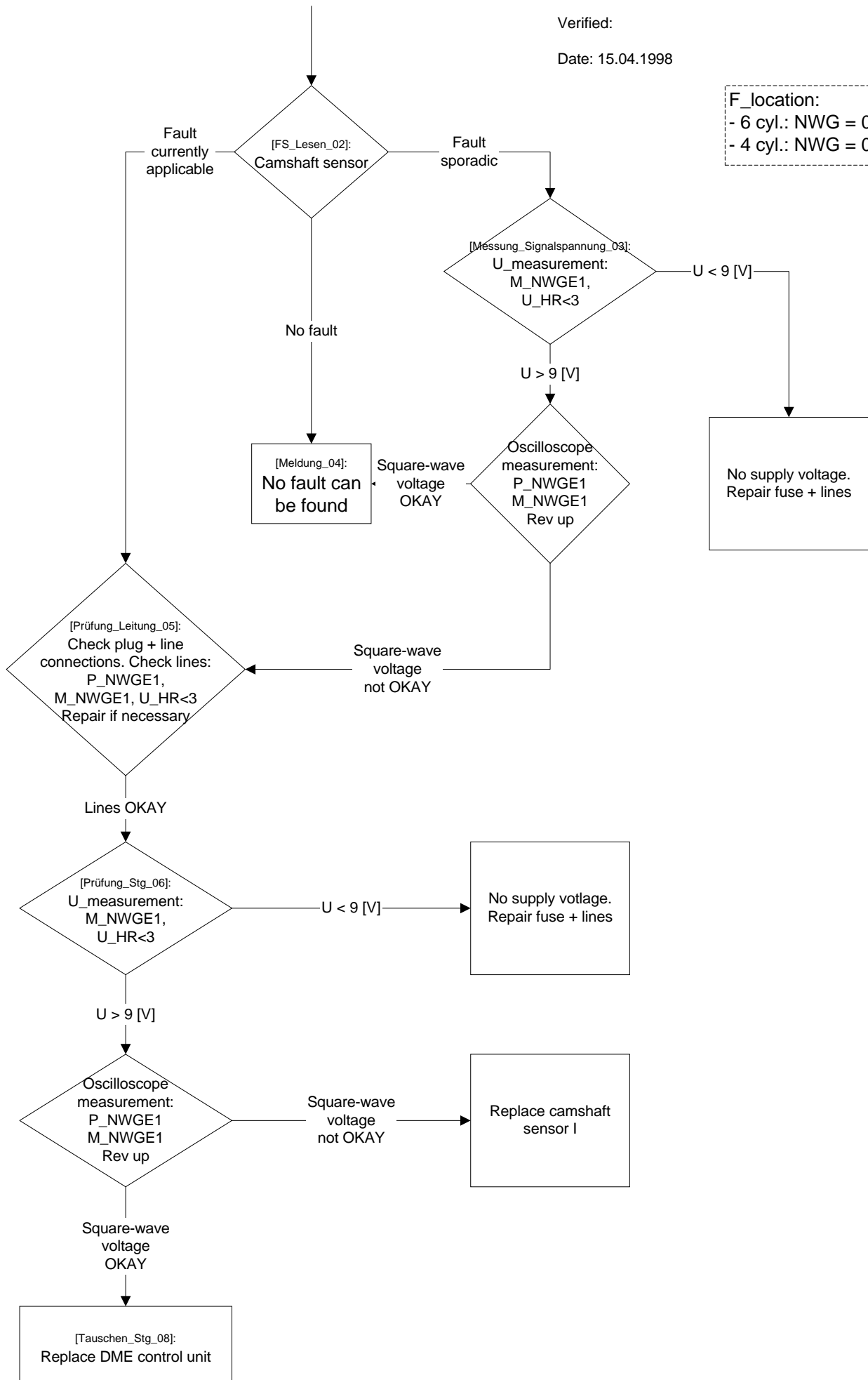
**DME in E46:**  
**Intake camshaft sensor, test module B1214\_M0NWE**

compiler:  
 L. Hecht, VK-22

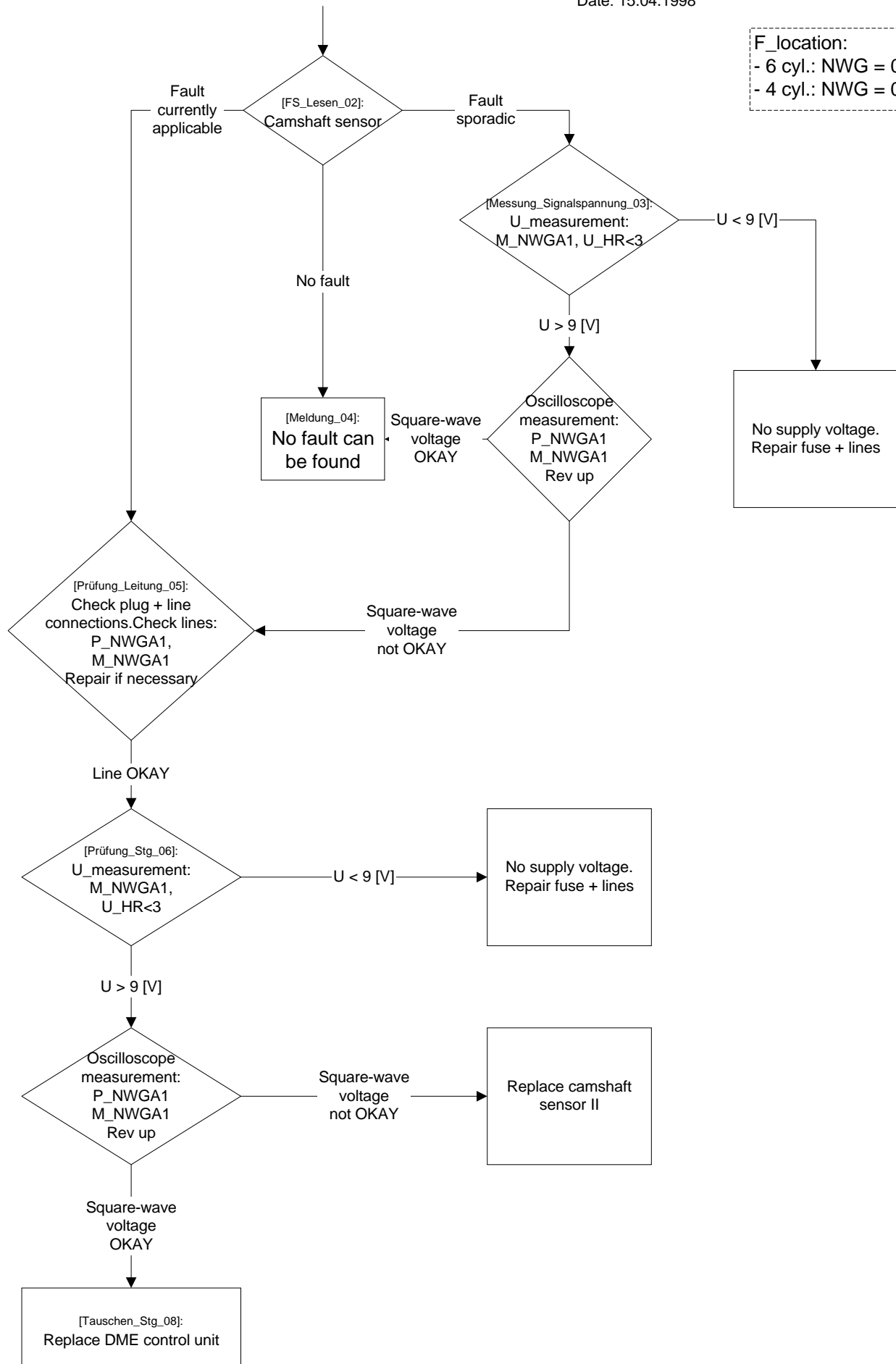
Verified:

Date: 15.04.1998

F\_location:  
 - 6 cyl.: NWG = 0x41  
 - 4 cyl.: NWG = 0x87



F\_location:  
 - 6 cyl.: NWG = 0x12  
 - 4 cyl.: NWG = 0x87



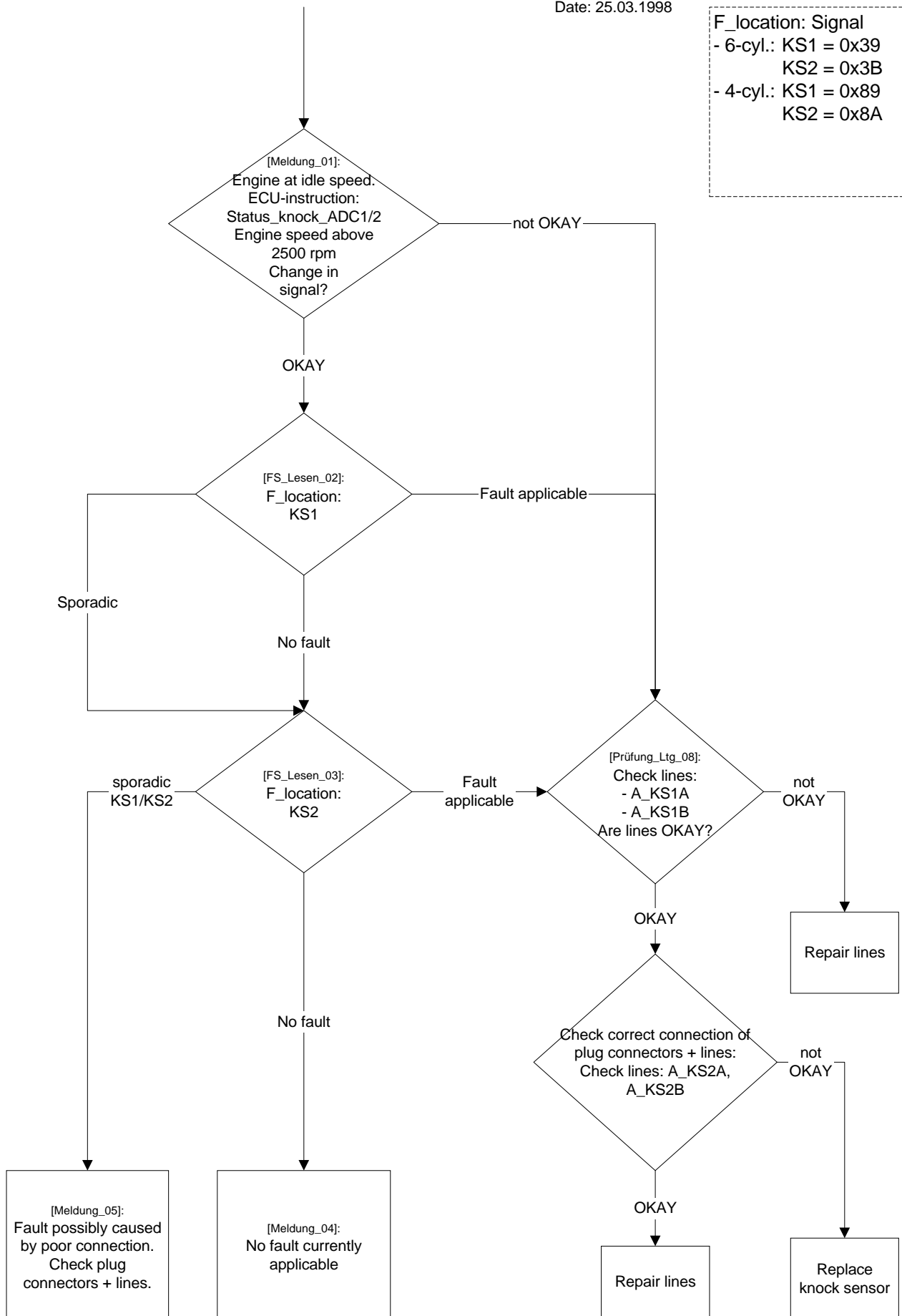
**DME in E46:**  
**Double knock sensor, test module B1214\_M0KS**

Compiler:  
L. Hecht, VK-22

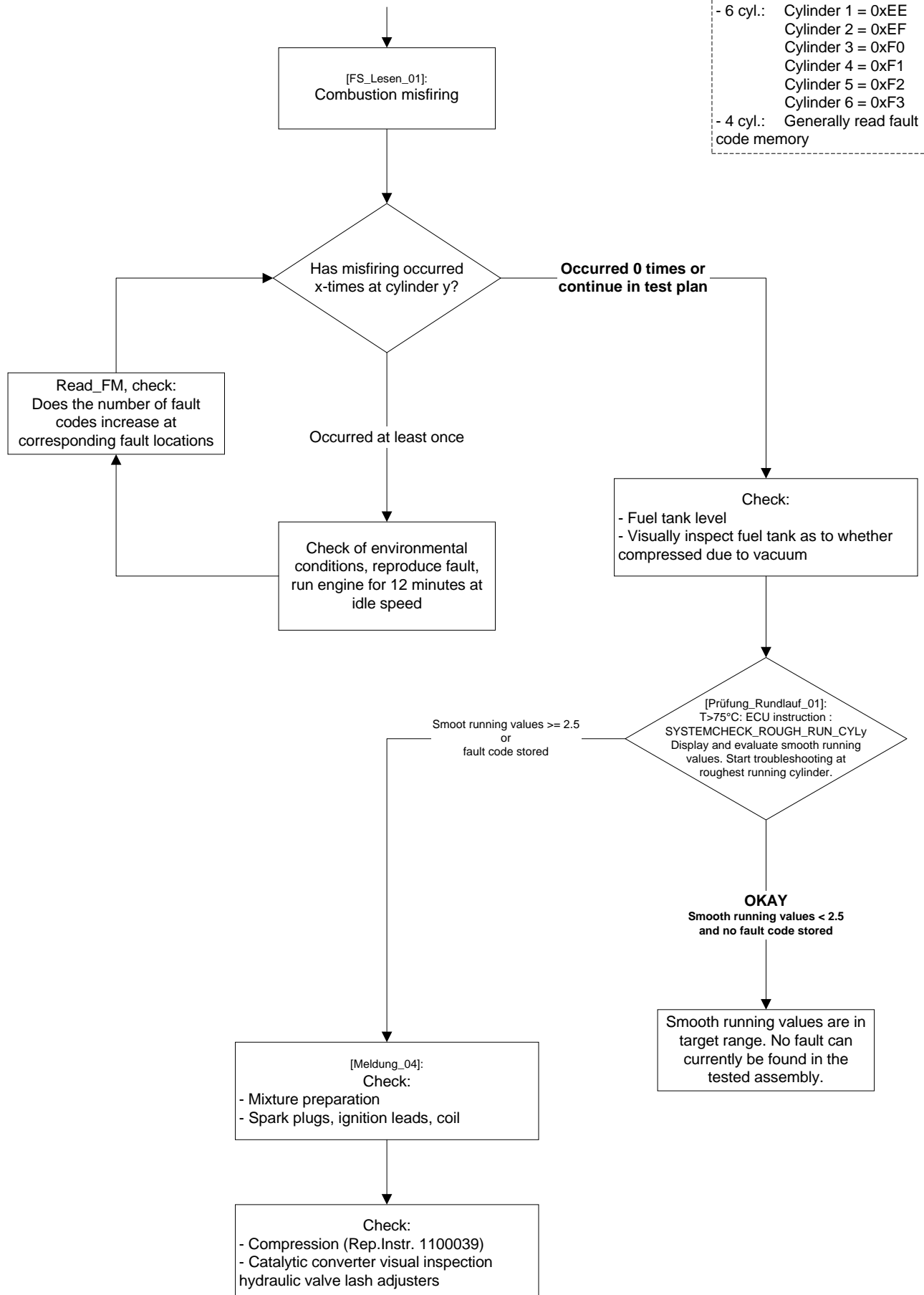
Verified:

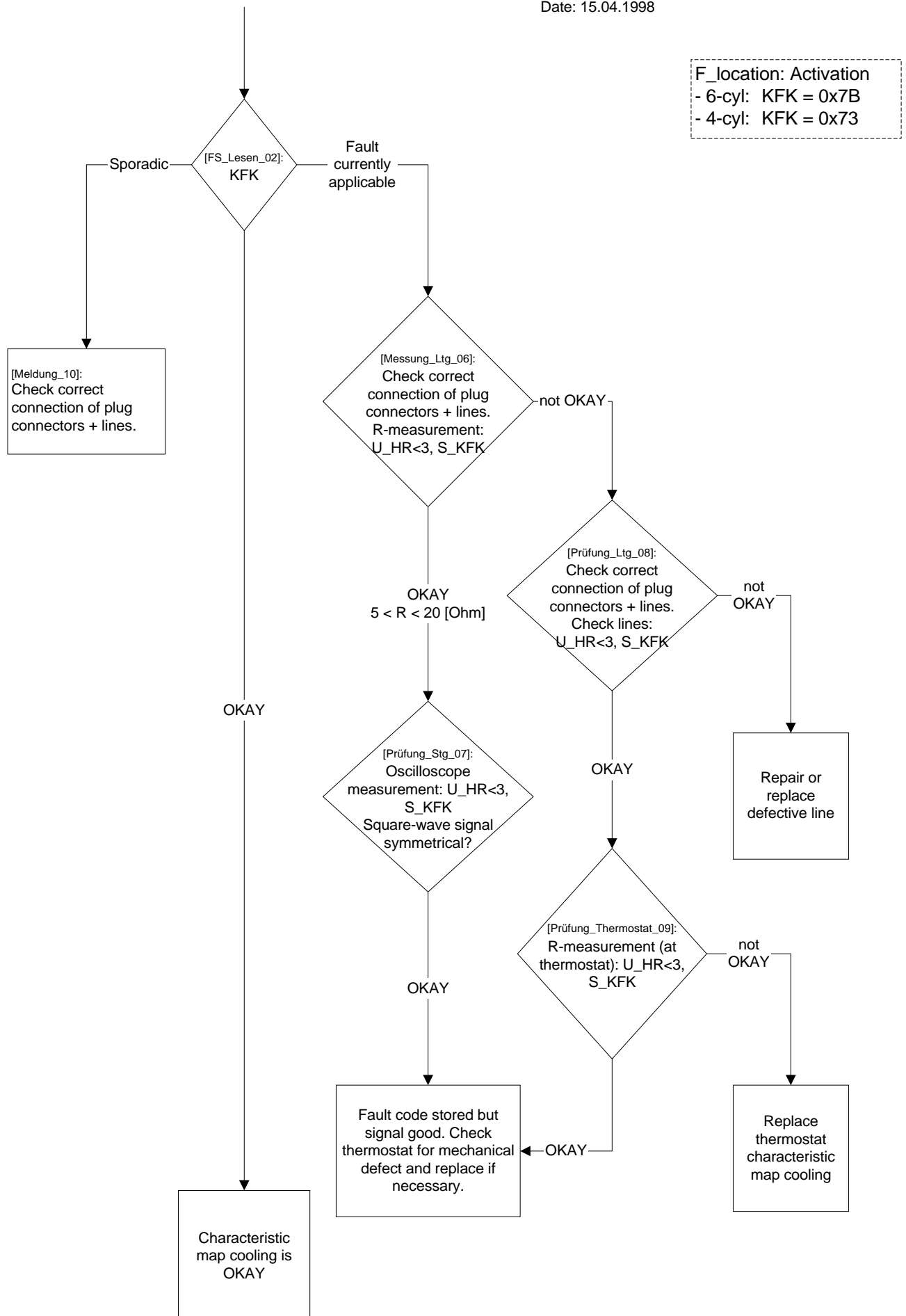
Date: 25.03.1998

F\_location: Signal  
- 6-cyl.: KS1 = 0x39  
          KS2 = 0x3B  
- 4-cyl.: KS1 = 0x89  
          KS2 = 0x8A



F\_location: Combustion misfire  
- 6 cyl.: Cylinder 1 = 0xEE  
Cylinder 2 = 0xEF  
Cylinder 3 = 0xF0  
Cylinder 4 = 0xF1  
Cylinder 5 = 0xF2  
Cylinder 6 = 0xF3  
- 4 cyl.: Generally read fault  
code memory



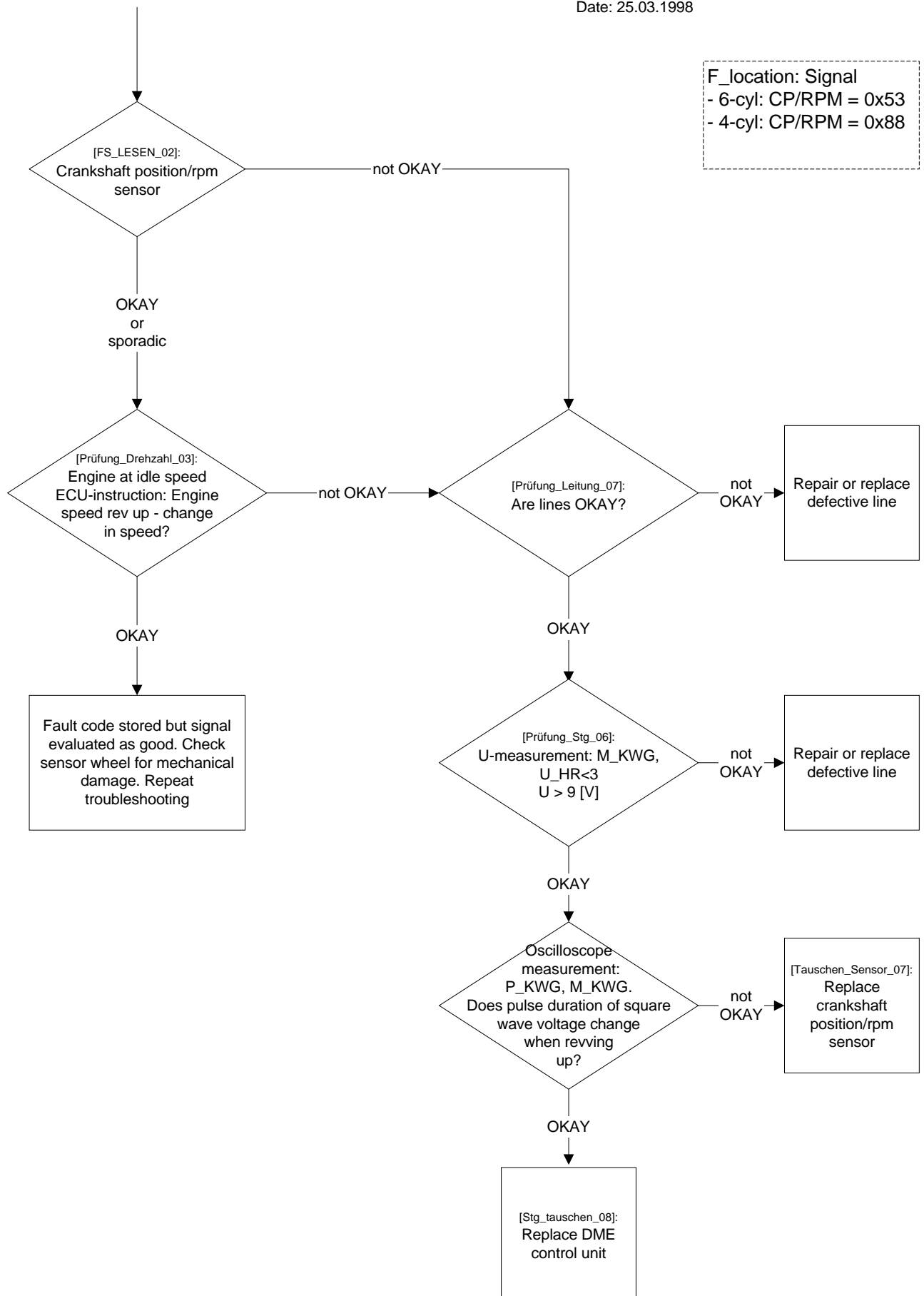


**DME in E46:  
Crankshaft position/rpm sensor,  
test module B1214\_M0KWG**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 25.03.1998

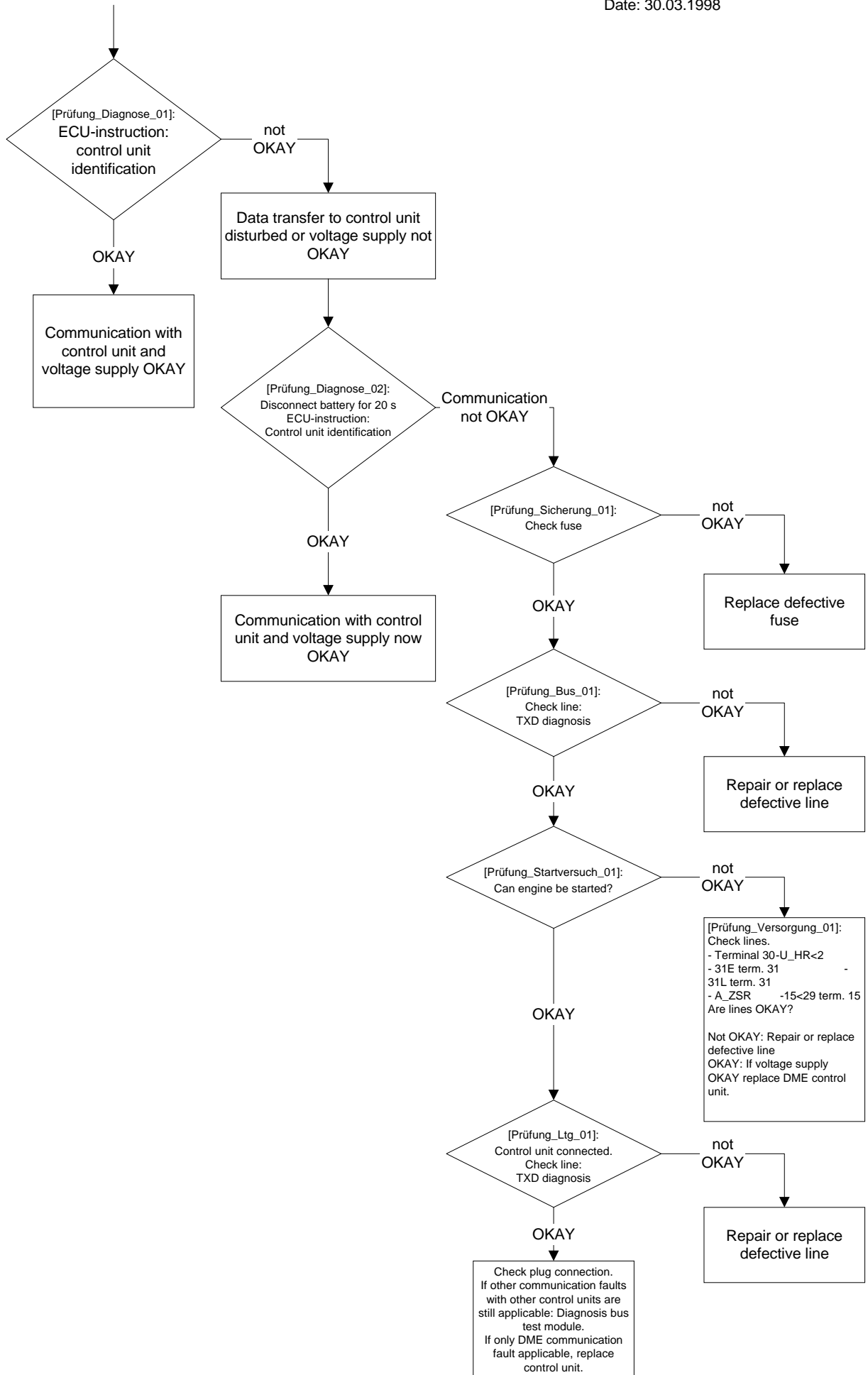


**DME in E46:**  
**Positive and ground supply, test module B1214\_M0VUD**

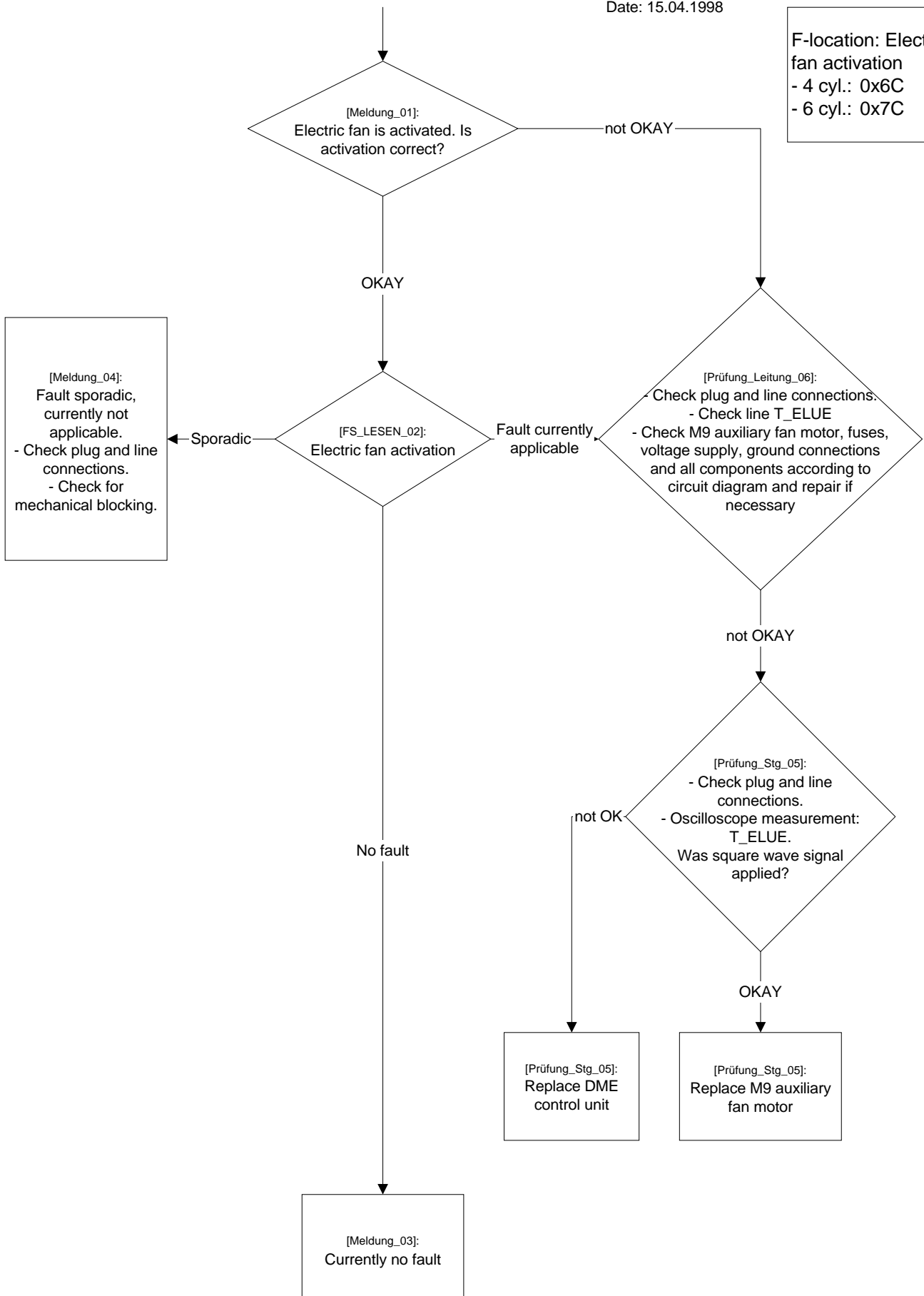
Compiler:  
 L. Hecht, VK-22

Verified:

Date: 30.03.1998



F-location: Electric fan activation  
- 4 cyl.: 0x6C  
- 6 cyl.: 0x7C

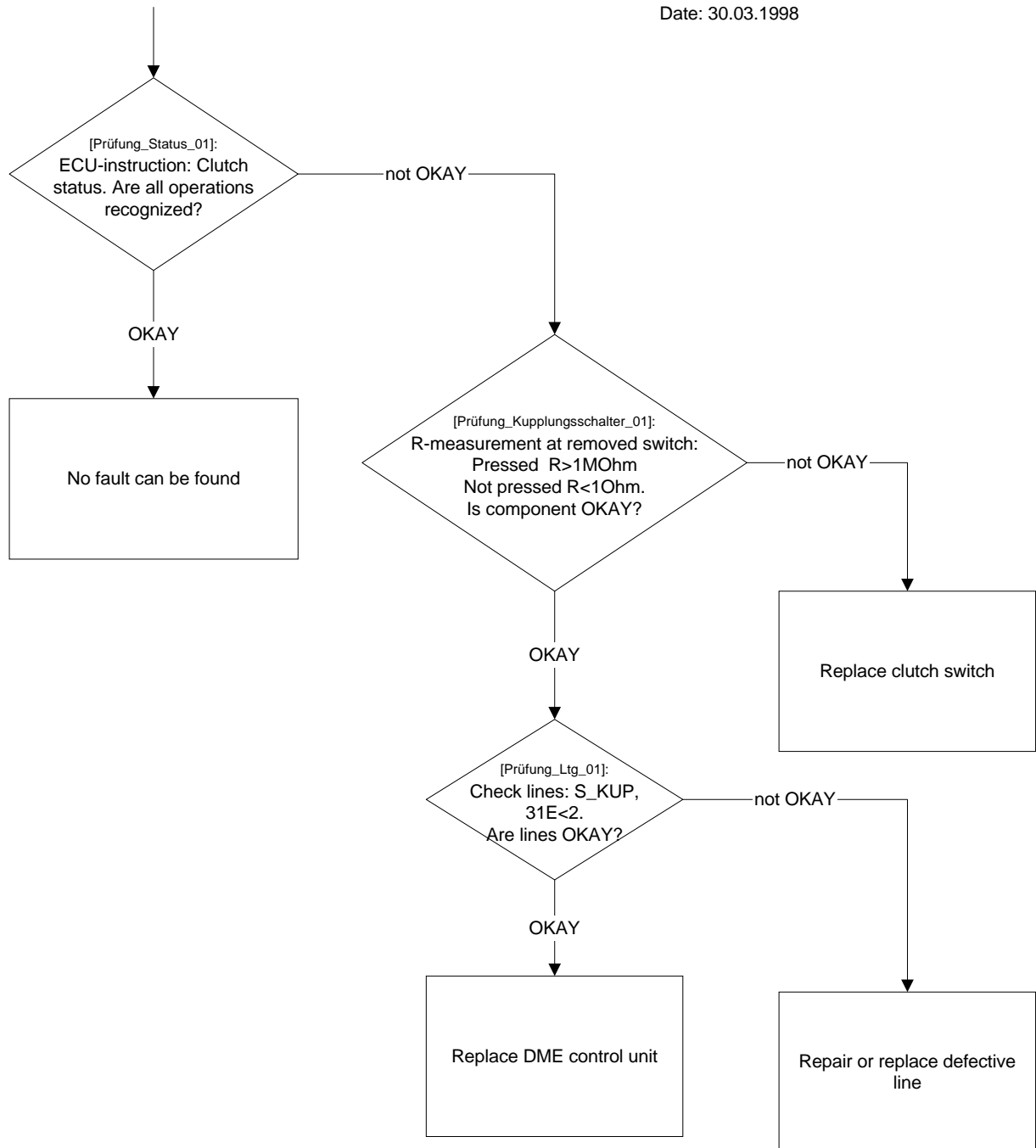


**DME in E46:**  
**Clutch switch, test module B1214\_M0KPS**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 30.03.1998

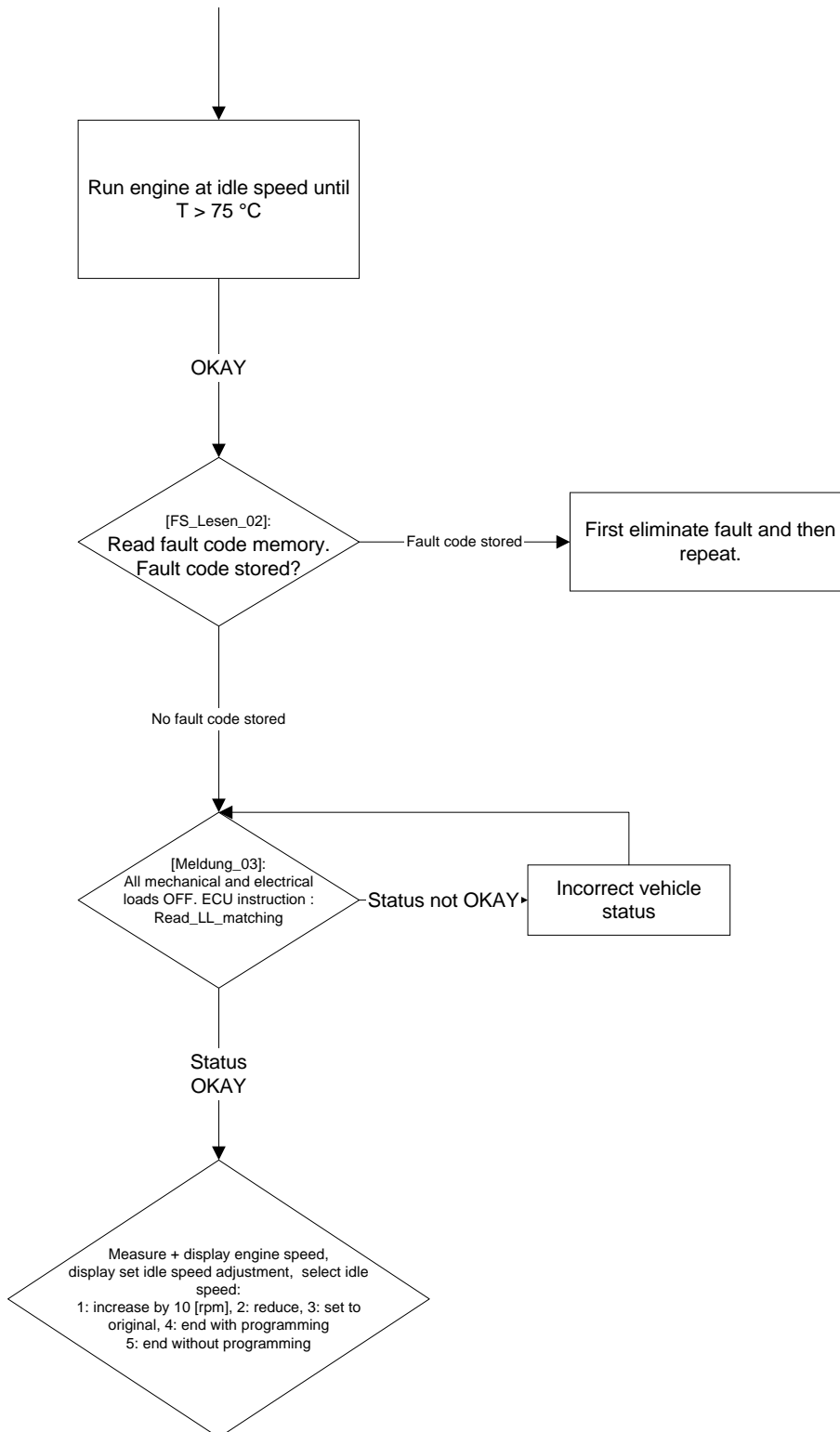


**DME in E46:**  
**Idle speed matching, test module B1214\_0LLAG**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 15.04.1998

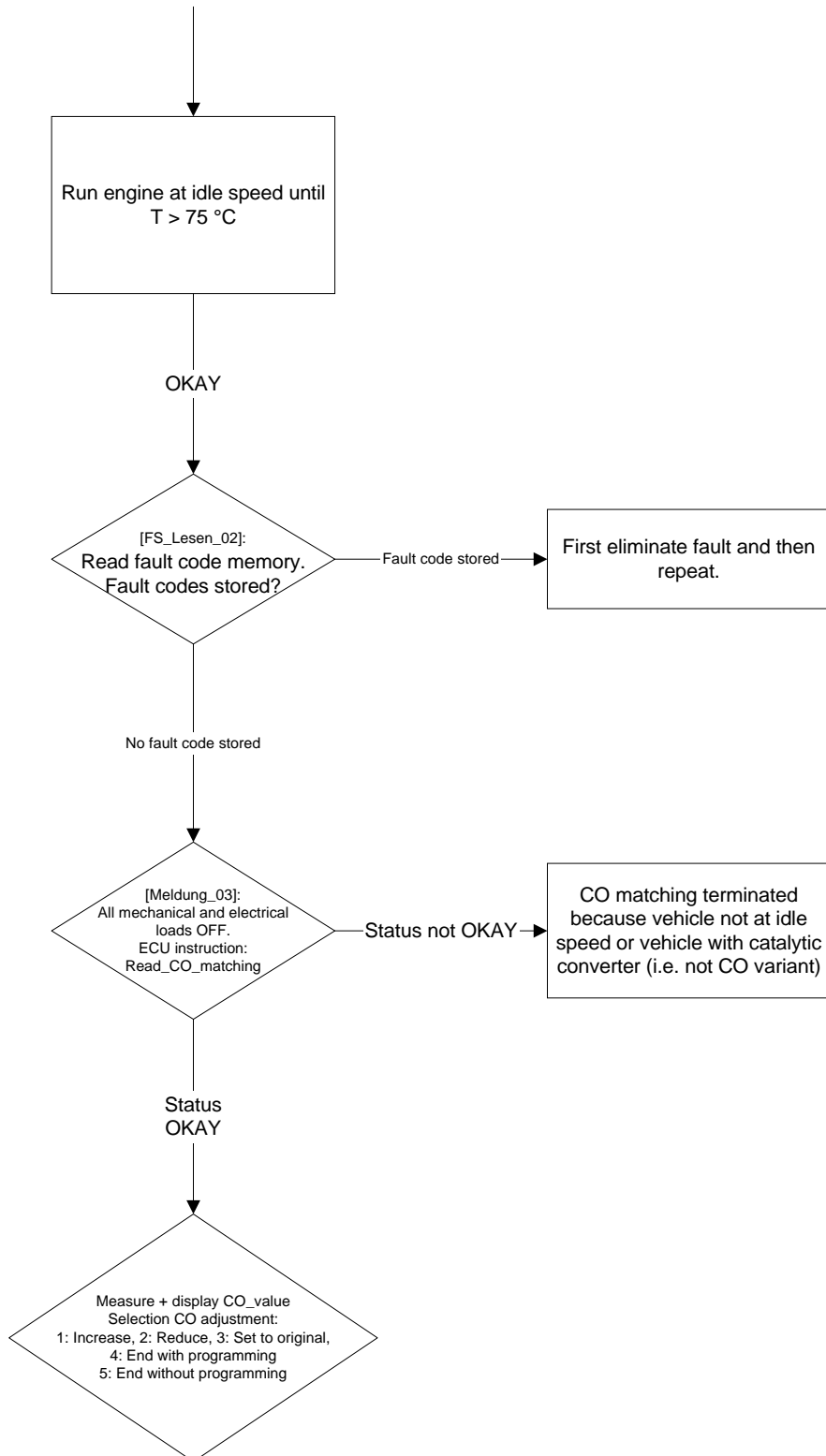


**DME in E46:**  
**CO\_matching, test module B1214\_0COAG**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 24.04.1998

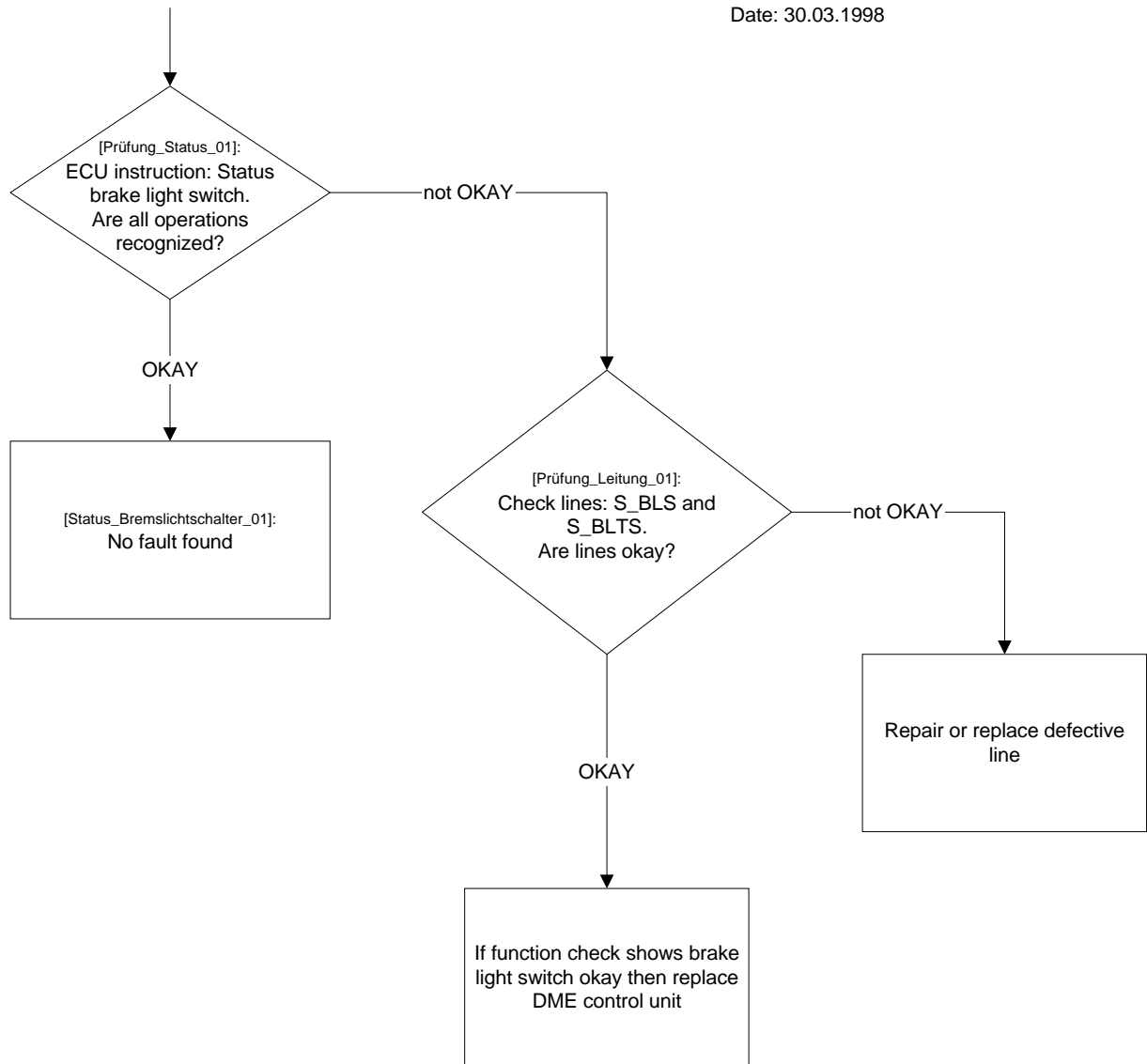


**DME in E46:**  
**Brake light switch, test module B1214\_M0BLS**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 30.03.1998



**DME in E46:**  
**Resetting adaptation values, test module B1214\_0AWZS**

Compiler:  
L. Hecht, VK-22

Verified:

Date: 15.04.1998

