

MB M113 V8 with ME2.0

TC6MOD 1.40 Test Communication CARB; Mode 6, Output Test Thresholds

FDEF TC6MOD 1.40 Function definition

Structure of the protocol is described in --> %TCCOM

The basis of this section is SAE J1979 Mode 6:

Mode 6 should give access to the current test results and test thresholds from not continuously tested functions.

As a starting value at an original start, after power-failure or a Memory fault deletion, '00' must be entered in value and threshold. CAUTION ! Values must be saved in the continual- RAM !

TID \$00 ► Bit coded transfer from control unit supported TID s. (must be in Mode 6 and is generated by TC6MODx.y)

DATA 3: --> \$FF (without meaning)

DATA 4: --> Output; supported TID \$01 .. TID \$08; Bit 7 marked PID \$01;

DATA 5: --> Output; supported TID \$09 .. TID \$10;

DATA 6: --> Output; supported TID \$11 .. TID \$18;

DATA 7: --> Output; supported TID \$19 .. TID \$20; Bit 0 marked PID \$20;

With the TID's \$20; \$40; \$60; \$80; \$A0; \$C0 and \$E0 with analogue procedure.

In the following tables only the TID \$00 (\$20 etc.) reported values are actually supplied:

For TID's >= 1 the following applies:

The subsequent TID's from the respective test function are provided by the continuous-RAM, the following structure is standard:

Byte 1: TID the selected function, see table below

Byte 2: Number of saved value blocks

Byte 3: Conversion values for output routine

Byte 4: DATA 3: Bit 0-6: Number of measuring path within TID. See table below

Bit 7: 0 meaning bad, when value is larger threshold,

1 meaning bad, when value is smaller threshold.

Byte 5: DATA 4: High-Byte - value (possiby fill with 00h)

Byte 6: DATA 5: Low-Byte - value

Byte 7: DATA 6: High-Byte - threshold (possiby fill with 00h)

Byte 8: DATA 7: Low-Byte - threshold

Byte 9-14: if applicable 2. Value block analog Byte 3-8

Byte 15-20: if applicable 3. Value block analog Byte 3-8

etc.

TID \$01 Catalyst Conversion

Conversion Label	Data 3 bin (Nr.)	Data 4+5 Value	Data 6+7 Threshold	component	comment
	0 0000001 (1)	kkagw	AFBKAT	Kat. Bank1	count Matrix element with AV's > limit
	0 0000010 (2)	kkagw2	AFBKAT	Kat. Bank2	count Matrix element with AV's >

TID \$03 Secondary Air System

Conversion Label	Data 3 bin (Nr.)	Data 4+5 Value	Data 6+7 Threshold	component	comment
	1 0000011 (3)	spdfrrp	DFRSLS	SLV-Bank 1	Delta fr with pump on
	1 0000100 (4)	spdfrrp2	DFRSLS2	SLV-Bank 1	Delta fr with pump on bank 2
	0 0001011 (11)	tmaxds1s	TWFRDSLS	SLS-Bank 1	Time-Out for B_frmax =1
	0 0001100 (12)	tmaxds1s	TWFRDSLS	SLS-Bank 1	Time-Out for B_frmax2 =1

TID \$04 Exhaust Recirculation

Conversion Label	Data 3 bin (Nr.)	Data 4+5 Value	Data 6+7 Threshold	component	comment
	1 0000101 (5)	dpsaug	PRDAGR	EGR-System B1	Pressure method

TID \$05 Tank Ventilation System

0.0967 hPa; 8000h

Offset	1	0101110	(46)	pttr	DDPTEAV	TE	16Bit, vacuum pressure diag., AAV-Fault
1.19E-4 hPa/s	1	0101111	(47)	gudauf	GGRTED	TE	16Bit, vacuum pressure diag., gross leak
100 ms	0	0100011	(35)	tdteab	TTEDST	TE	16Bit, vacuum pressure diag., gross leak
0.0976 hPa; 8000h							
Offset	1	0110000	(48)	pttr	DDPTETV	TE	16Bit, vacuum pressure diag., TEV-Fault
0.0976 hPa; 8000h							
Offset	1	0110001	(49)	pttrk	DDPTEKU	TE	16Bit, vacuum pressure diag., TEV-Fault
1/64	0	0100100	(36)	gudg	GGQTED	TE	16Bit, vacuum pressure diag., fine leak
5.96E-5 hPa/s	0	0100101	(37)	gudabk	KFUAFSKB	TE	16Bit, vacuum pressure diag., micro leak

TID \$06 Probe Heating no output, because of continual testing.

TID \$07 Catalytic-Heating no output, because of no electrical catalytic heating.

TID \$08 Camshaft Adjustment

Conversion	Data 3	Data 4+5	Data 6+7	component	comment
Label	bin (Nr.)	Value	Threshold		
	1	0000001 (1)	dpsnws	NoWe-Steller	dnwss/dnws intake manifold pressure stroke
	1	0000010 (2)	dpsnws2	NoWe-St. B2	dnws2s/dnws2m intake manifold pressure stroke (only 12-cyl.)

TID \$09 Fuel Supply System

Conversion	Data 3	Data 4+5	Data 6+7	component	comment
Label	bin (Nr.)	Value	Threshold		
	0	0000001 (1)	fra_b1h	KVS	dfrax1/dfraxmmultiple Adaptation value
	1	0000001 (1)	fra_b1h	KVS	dfrax1/dfraxmmultiple Adaptation value
	0	0000010 (2)	fra_b2h	KVS	dfrax2/dfraxmmultiple Adaptation value
	1	0000010 (2)	fra_b2h	KVS	dfrax2/dfraxmmultiple Adaptation value
	0	0000011 (3)	tra_b1*	KVS	trax1 /traxm add. Adaptation value
	1	0000011 (3)	tra_b1*	KVS	trax1 /traxm add. Adaptation value
	0	0000100 (4)	tra_b2*	KVS	trax2 /traxm add. Adaptation value
	1	0000100 (4)	tra_b2*	KVS	trax2 /traxm add. Adaptation value
	0	0000101 (5)	dtv_b1*	KVS	dtv1 add. Adaptation value - bank 1 (ts-Fault)
	1	0000101 (5)	dtv_b1*	KVS	dtv1 add. Adaptation value - bank 1 (ts-Fault)
	0	0000110 (6)	dtv_b2*	KVS	dtv2 add. Adaptation value - bank 1 (ts-Fault)
	1	0000110 (6)	dtv_b2*	KVS	dtv2 add. Adaptation value - bank 1 (ts-Fault)

* Advice: 6 bits from low-, 2 bits from high-byte

In the ME-systems the measurements- and thresholds are copied in a reserved RAM-area and pass from there to the output. The name of the saved RAM-cells, as well as the timing of the storage are (sorted by functions) are summarized in the following list:

Mode 6
ME2.0
24.04.98
HAR

Funct./TID	Value	from	Threshold	from	at	UMR	Meas.	W-block	Comment
DKAT	KATWH	00h	KATSH	00h				01	
	KATWL	kkagw1	KATSL	afbkat	katrdyz > TWRDYKAT	DEZ	01h		
	KATWH2	00h	KATSH2	00h				02	Bank2 or CAN
	KATWL2	kkagw2	KATSL	afbkat	katrdyz > TWRDYKAT	DEZ	02h		
DSLS	SLSXWH	00h	SLSXSH	00h				01	
	SLSXWL	tmaxdsls	SLSXSL	twfrds1s	LR on limit	TQ100	0Bh		
	SLSNWH	fr-frslsa	SLSNSH	dfrsls				02	
	SLSNWL	fr-frslsa	SLSNSL	dfrsls	tminds1s > tds1s	PER65535	83h		
	SLSXWH2	00h	SLSXSH2	00h				03	Bank2 or CAN
	SLSXWL2	tmaxdsls	SLSXSL2	twfrds1s	LR on limit	TQ100	0Ch		
	SLSNWH2	fr-frslsa	SLSNSH2	dfrsls				04	Bank2 or CAN
	SLSNWL2	fr-frslsa	SLSNSL2	dfrsls	tminds1s > tds1s	PER65535	84h		

Function/TID	Value	Threshold	at	UMR	Meas.	W-block	Comment
DTESK	tdteudw	TTEDWU	Z_aav = 1	TQ100L	21h	01	AAV-Timer
	pptr	DDPTEAV	Z_aav = 1	UPTD10_S16	AEh	02	AAV-pressure
	tdteo zg	TTEDOZG	Z_dsto = 1	TQ100L	1Fh	03	oszill. Tank pressure
	gudauf	GGRTED	Z_dtesg = 1	UPTDG8_U8	AFh	04	Gross Leak pressure gradient
	tdteab	TTEDST	Z_dtesg = 1	TQ100L	23h	05	Gross Leak Timer 1
	tdteab	TDTEGR	Z_dtesg = 1	TQ100L	1Eh	06	Gross Leak Timer 0
	pptr	DDPTETV	Z_tes = 1	UPTD10_S16	B0h	07	TEV Pressure 1
	pttrk	DDPTEKU	Z_tes = 1	UPTD10_S16	B1h	08	TEV Pressure 0
	qudg	GGQTED	Z_tesf = 1	FKT64	24h	09	fine leak Gradient enquotient
	apedtek	APETEDK	Z_tesk = 1	DEZL	15h	10	micro leak meter
	gudabk	KFUAFSKB	Z_tesk = 1	UPTDG4_U8	25h	11	micro leak pressure gradient

Mode 6
ME2.0

Function/TID	Value	from	Threshold	from	at	UMR	Meas.	W-block	Comment
DNWS	NWSWH	00h	NWSSH	00h				01	
	NWSWL	dpsnws	NWSSL	prdnwsi	z_nws 0->1	PABD32	81h		NWS
	NWSWH2	00h	NWSSH2	00h				02	
DAGR	NWSWL2	dpsnws2	NWSSL2	prdnwsi	z_nws 0->1	PABD32	82h		only NWS-12Cyl! (CAN)
	AGRWH	00h	AGRSH	00h					
	AGRWL	dpsaug	AGRSL	prdagr	z_agr 0->1	PABD	05h	01	Exhaust gas recircul.

Mode 6
ME1.0

Function/TID	Value	from	Threshold	from	at	UMR	Meas.	W-block	Comment
DKVS	KVSFXWH	fra_b1	KVSFXSH	fradx				01	
	KVSFXWL	fra_b1	KVSFXSL	fradx	Z_fra 0->1	FPC50L	01h		
	KVSFNWH	fra_b1	KVSFNSH	fradn				02	
	KVSFNWL	fra_b1	KVSFNSL	fradn	Z_fra 0->1	FPC50L	81h		
	KVSTXWH	tra_b1	KVSTXSH	tradx				03	
	KVSTXWL	tra_b1	KVSTXSL	tradx	Z_tra 0->1	TEQ_CP2L	03h		
	KVSTNWH	tra_b1	KVSTNSH	tradn				04	
	KVSTNWL	tra_b1	KVSTNSL	tradn	Z_tra 0->1	TEQ_CP2L	83h		
	KVSDXWH	dtv_b1	KVSDXSH	dtvdx				05	
	KVSDXWL	dtv_b1	KVSDXSL	dtvdx	Z_dtv 0->1	TEQ_CP2L	05h		
	KVSDNWH	dtv_b1	KVSDNSH	dtvdn				06	
	KVSDNWL	dtv_b1	KVSDNSL	dtvdn	Z_dtv 0->1	TEQ_CP2L	85h		
	KVSFXWH2	fra_b2	KVSFXSH2	fradx				07	
	KVSFXWL2	fra_b2	KVSFXSL2	fradx	Z_fra2 0->1	FPC50L	02h		CAN or Bank2
	KVSFNWH2	fra_b2	KVSFNSH2	fradn				08	
	KVSFNWL2	fra_b2	KVSFNSL2	fradn	Z_fra2 0->1	FPC50L	82h		CAN or Bank2
	KVSTXWH2	tra_b2	KVSTXSH2	tradx				09	
	KVSTXWL2	tra_b2	KVSTXSL2	tradx	Z_tra2 0->1	TEQ_CP2L	04h		CAN or Bank2
	KVSTNWH2	tra_b2	KVSTNSH2	tradn				10	
	KVSTNWL2	tra_b2	KVSTNSL2	tradn	Z_tra2 0->1	TEQ_CP2L	84h		CAN or Bank2
	KVSDXWH2	dtv_b2	KVSDXSH2	dtvdx				11	
	KVSDXWL2	dtv_b2	KVSDXSL2	dtvdx	Z_dtv2 0->1	TEQ_CP2L	06h		CAN or Bank2
	KVSDNWH2	dtv_b2	KVSDNSH2	dtvdn				12	
	KVSDNWL2	dtv_b2	KVSDNSL2	dtvdn	z_dtv2 0->1	TEQ_CP2L	86h		CAN or Bank2

Mode 6
ME1.0

ABK TC6MOD 1.40 Abbreviations

FB TC6MOD 1.40 Functional Descriptions APP TC6MOD 1.40 Application Instructions

KDH TC6MOD 1.40 Customer Service Information

Section is KD-relevant.

CARB TC6MOD 1.40 CARB- Documentation