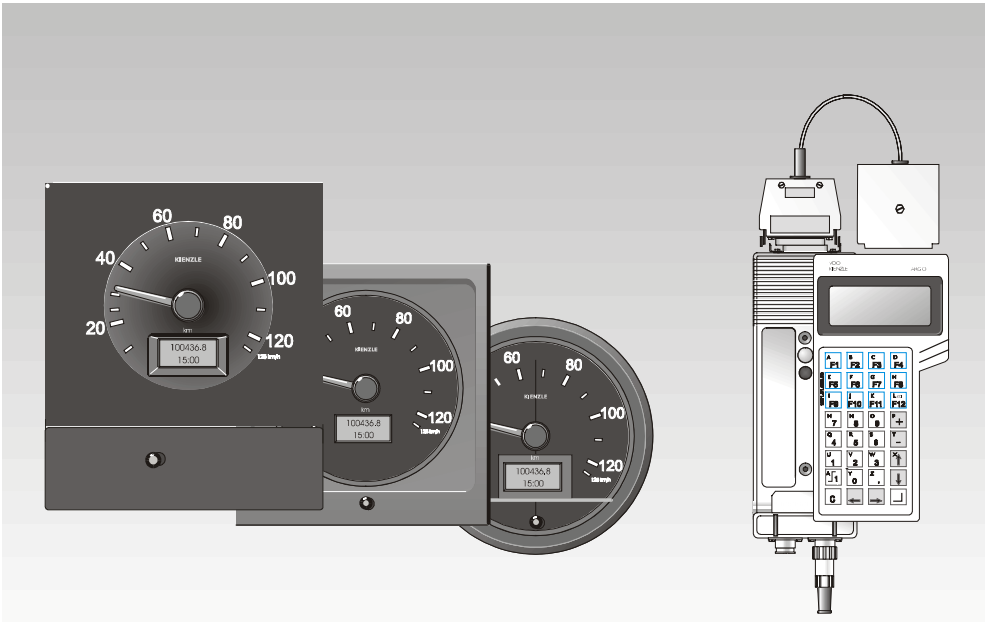
automotive
mannesmann
VDO



KIENZLE

MTC / ATC / STC

Programming Instruction E-Tacho 1323.02

VDO

Dear user,

this documentation describes the competent programming of the electronic tachometer E-Tacho 1323.02.

The performance range of the SDS testing device

- MTC 1602.04
- ATC 1601.26
- STC 1601.25

has been expanded by these functions.

The information, descriptions, specifications, and figures contained in this programming instruction may be changed without prior notice and do not represent any liability on the part of Mannesmann VDO AG. The description is based on the state of the-art of the operating system/ program version applicable at the time of printing.

Responsible for the contents:

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1 Prerequisites of the System

The expanded performance range "Programming E-Tacho" has been realised for the testing devices MTC 1602.04, ATC 1601.26 and STC 1601.25 by means of the following firmware/ software version:

- Bracket (Interface) from firmware 06:00
- BTC I or BTC II from testing software 07:00
- Additionally, the "programming line E-Tacho" is part of the supply schedule.

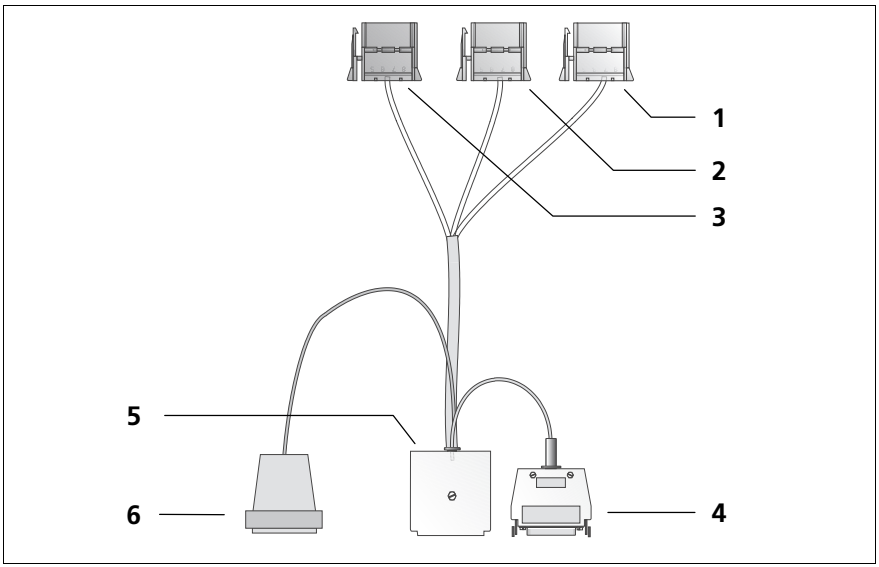


Fig. 1: Programming line E-Tacho, item no. 1601.78.126.00

(1) Plug A white
(2) Plug B yellow
(3) Plug D brown
(4) K-Line Adapter
(5) Plug for bracket
(6) Power supply for E-Tacho

Detailed information on function, operation and the entire performance range of the individual testing devices may be found in the respective documentation:

- TU00.1602.04 110 30 for MTC 1602.04
- TU00.1601.26 110 30 for ATC 1601.26
- TU00.1601.25 110 30 for STC 1601.25

2 Preparations for the Programming

2.1 Connection MTC 1602.04 to the E-Tacho

1. Connect MTC via the programming line E-Tacho with the E-Tacho 1323.02 as shown in Fig. 2.

Programming line			**E-Tacho**
Plug	A white	⇨	Mounting plug A
	B yellow	⇨	B
	D brown	⇨	D

2. Lead the power supply line (plug A white) out of the instrument box and connect it to the programming line E-Tacho, Pos. 5.

3. Connect MTC to the vehicle's power supply.

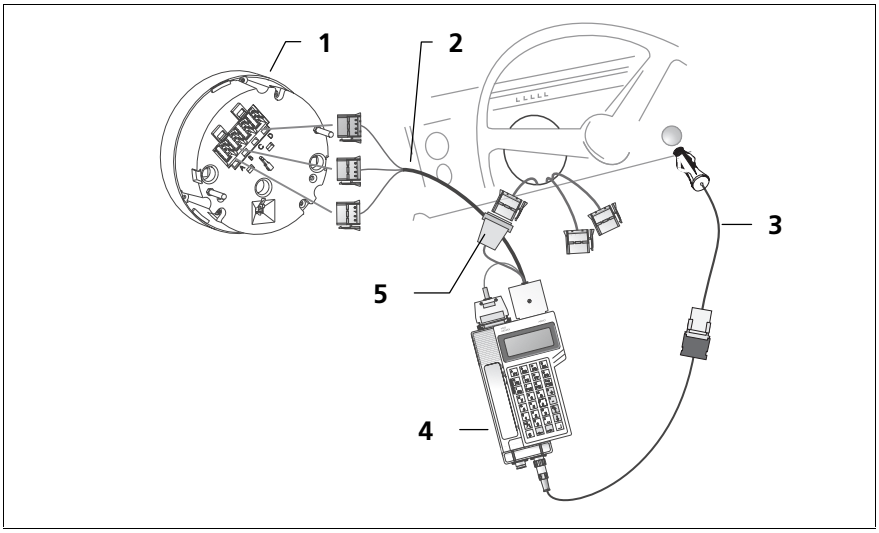


Fig. 2: Wiring diagram E-Tacho programming by means of MTC

(1) E-Tacho 1323.02

(2) Programming line E-Tacho

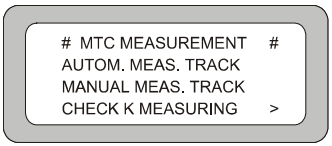
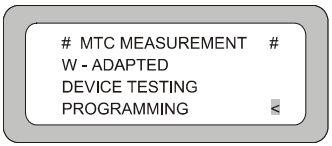
(3) Line vehicle voltage (cigarette lighter)

(4) MTC 1602.04

(5) Power supply E-Tacho (plug A white)

2.1.1 Start Programming Procedure MTC 1602.04

After having connected the MTC to the vehicle voltage, the program starts automatically and the initial menu appears. By means of the programming line, the program recognises that the device is an E-Tacho.

Display mask	*Display contents*	*Input*	*Programming procedure*
1a			**Initial menu:** Move the cursor beyond this display mask to the next mask.
1b		 	Pull down the "*Programming*" menu and ... confirm.

The main menu E-Tacho programming with the possible subprograms is displayed.

➥ Further steps see chap. 3 Programming Procedure.

2.2 Connection ATC 1601.26 to the E-Tacho

1. Connect ATC via the programming line E-Tacho to the E-Tacho 1323.02 as shown in Fig. 3.

Programming line			E-Tacho
Plug	A white	⇨	Mounting plug A
	B yellow	⇨	B
	D brown	⇨	D

2. Connect the power supply line (white plug) with the programming line E-Tacho, Pos. 5.

3. Connect ATC to the interface power supply unit.

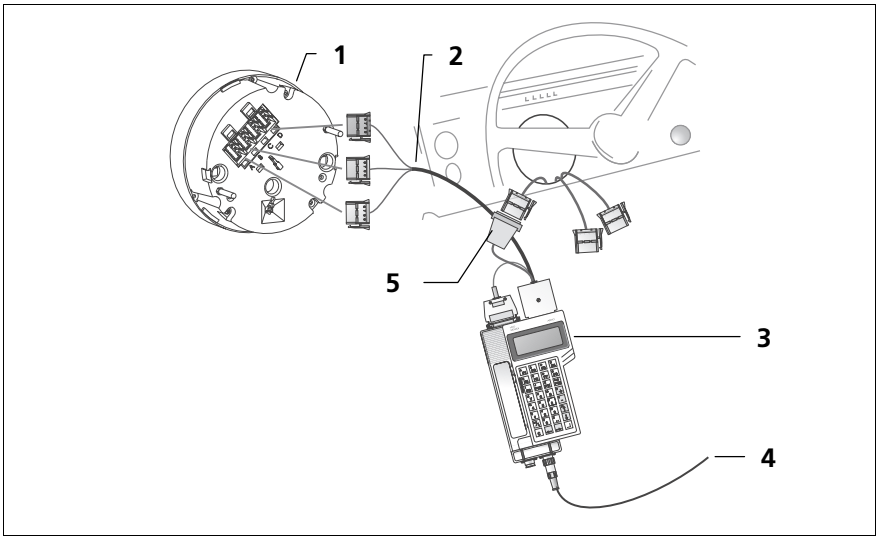
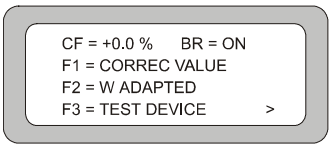
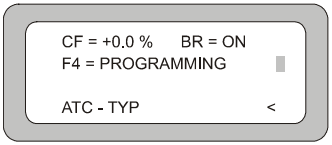


Fig. 3: Wiring diagram E-Tacho programming by means of ATC

(1) E-Tacho 1323.02
(2) Programming line E-Tacho
(3) ATC 1601.26
(4) Connection to the interface
(5) Power supply E-Tacho (plug A white)

2.2.1 Start Programming Procedure ATC 1601.26

After having switched on the ATC, the program starts automatically, and the initial menu appears. By means of the testing line, the program recognises the device as an E-Tacho.

Display mask	*Display contents*	*Input*	*Programming procedure*
1a			**Initial menu:**
		↓	Move the cursor beyond this display mask to the next mask.
1b		↓	Pull down the "*Programming*" menu by means of F4 or the cursor and ...
		↵	confirm.

The main menu E-Tacho programming with the possible subprograms is displayed.

➥ Further steps see chap. 3 Programming Procedure.

2.3 Connection STC 1601.25 to the E-Tacho

1. Connect STC via the programming line E-Tacho to the E-Tacho 1323.02 as shown in Fig. 4.

Programming line			E-Tacho
Plug	A white	⇨	Mounting plug A
	B yellow	⇨	B
	D brown	⇨	D

2. Connect the power supply line Pos. 4, to the programming line E-Tacho.

3. Connect power supply line to STC.

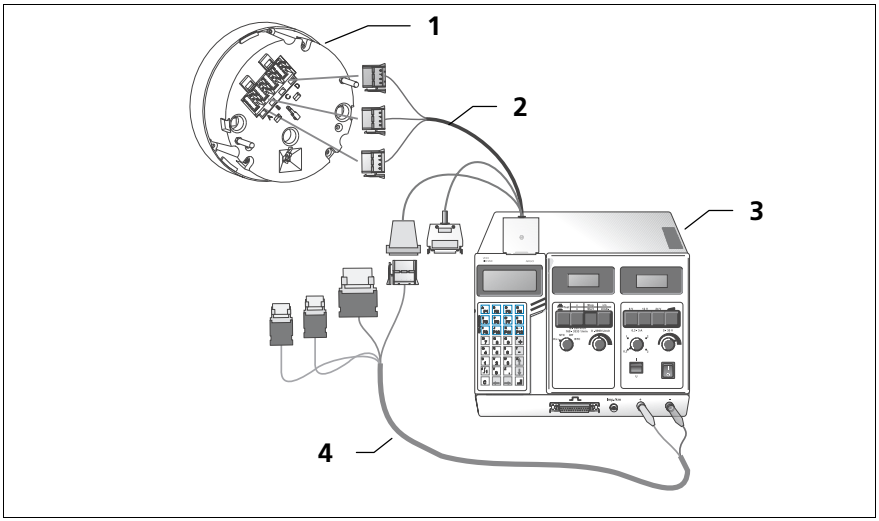


Fig. 4: Wiring diagram E-Tacho programming by means of STC

(1) E-Tacho 1323.02

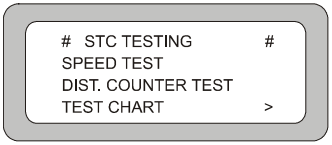
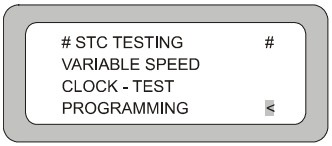
(2) Programming line E-Tacho

(3) STC 1601.25

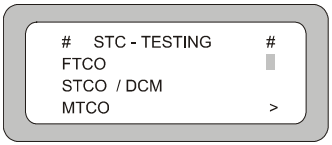
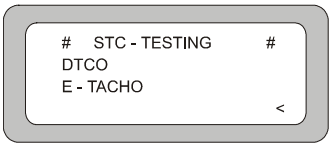
(4) Power supply line (Accessories STC 1601.25)

2.3.1 Start Programming Procedure STC 1601.25

After having switched on the STC, the program starts automatically, and the initial menu appears.

Display mask	*Display contents*	*Input*	*Programming procedure*
1a		↓	**Initial menu:** Move the cursor beyond this display mask to the next mask.
1b		↓ ↵	Pull down the "*Programming*" menu and ... confirm.

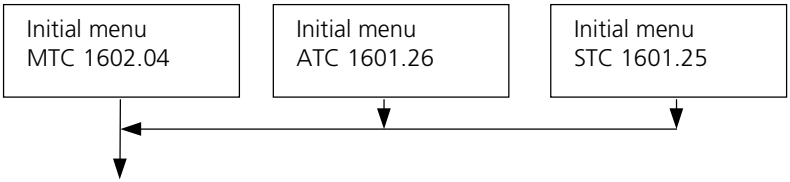
The menu item STC programs is displayed.

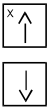
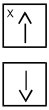
1a		↓	Move the cursor beyond this display mask to the next mask.
1b		↓ ↵	Pull down the "*E-TACHO*" menu and ... confirm.

The main menu E-Tacho programming with the possible subprograms is displayed.

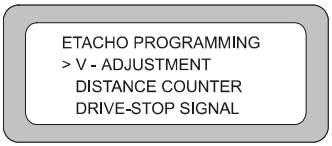
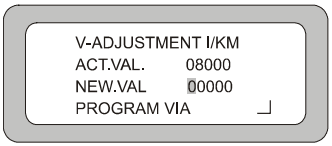
➥ Further steps see chap. 3 Programming Procedure.

3 Programming procedure



Display mask	*Display contents*	*Input*	*Programming procedure*
1a	ETACHO PROGRAMMING > V - ADJUSTMENT DISTANCE COUNTER DRIVE-STOP SIGNAL		**Main menu:** E-Tacho programming
1b	ETACHO PROGRAMMING > VERSIONS SW TESTING DEVICE		Pull down the appropriate submenu by means of the arrow keys and ...  confirm.

3.1 v-Adjustment

Display mask	Display contents	Input	Programming procedure
1		↓	The "*v-Adjustment*" menu has already been selected – otherwise select the menu and ...
		⌟	confirm.
2		—>	New value input: - Select decade in the input field - Enter numerical value (02400 ... 40000 pul./km).
		X...	
		⌟	Program by means of the Enter-key.

After successful completion of the programming, the input value is shown in the ACTUAL VALUE display.

C	C-key leads back to display mask 1.

3.2 Distance Counter Adjustment

Please note

Depending on the current count of the distance counter, please observe the following when programming:

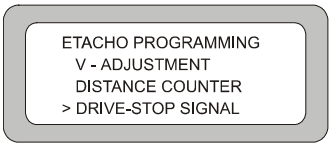
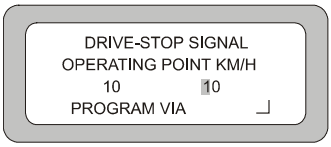
- Within the range of 0...100 km, the distance counter may be programmed as often as you like.
- If the count of the counter is more than 100 km, the distance counter may not be programmed any more!

Display mask	*Display contents*	*Input*	*Programming procedure*
1	ETACHO PROGRAMMING V - ADJUSTMENT > DISTANCE COUNTER DRIVE-STOP SIGNAL	↓	Pull down the "*Distance counter* " menu and ...
		⌟	confirm.
2	DISTANCE COUNTER ACT 0000025 KM NEW 0000000 KM PROGRAM VIA ⌟	—>	Distance counter input:
		X...	- Select decade in the input field - Enter numerical value (max. of 7 digits).
		⌟	Program by means of the Enter-key.

After successful completion of the programming, the input value is shown in the ACTUAL VALUE display.

C — C-key leads back to display mask 1.

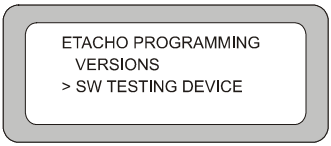
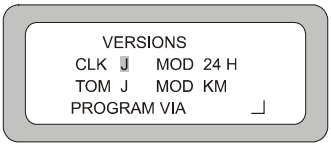
3.3 Drive-Stop Signal Adjustment

Display mask	Display contents	Input	Programming procedure
1		↓	Pull down the "*Drive-stop signal*" menu and ...
		⌟	confirm.
2		P +	Adjust desired operating point (1...15 km/h).
		T −	
		⌟	Confirm by means of the Enter-key.

After successful programming, the input value will be displayed in the front display.

C	C-key leads back to display mask 1.

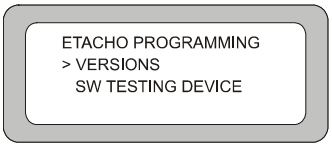
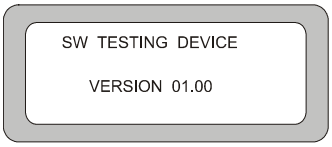
3.4 Versions Adjustment

Display mask	Display contents	Input	Programming procedure
1		↓ ↵	Pull down the "*Versions*" menu and ... confirm.
2		↓ X ↑ P + T − ↵	Versions adjustment: - Select version (clock or trip odometer) - Select the desired parameter. Program by means of the Enter-key.

After successful programming, the cursor returns to the initial position.

C — C-key leads back to display mask 1.

3.5 Software Version Display

Display mask	Display contents	Input	Programming procedure
1		↓	Pull down the "*SW testing device*" menu and ...
		⌟	confirm.
2			The current operating system status of the testing device is displayed
		C	C-key leads back to display mask 1.

4 Test Speed Display

After having finished the programming, you test the proper speed display of the E-Tacho by means of the menu item "Variable speed".

By means of the testing devices MTC 1602.04 or ATC 1601.26, you may directly pull down the menu item. When using the testing device STC 1601.25, the E-Tacho has to be connected beforehand, as shown in Fig. 5.

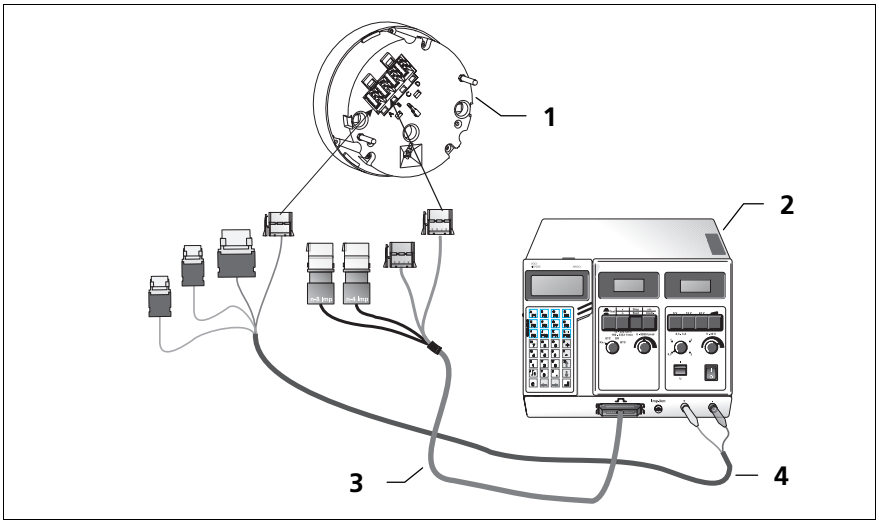


Fig. 5: Wiring diagram "Test speed display" E-Tacho by means of STC

(1) E-Tacho 1323.02

(2) STC 1601.25

(3) Line v/n (accessories STC)

(4) Power supply line (accessories STC)

4.1 Pulling down the "Variable Speed" Menu

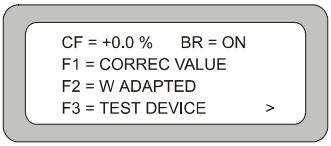
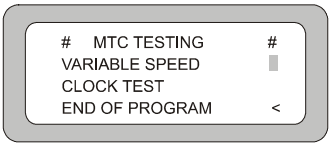
4.1.1 MTC 1602.04

Display mask	Display contents	Input	Programming procedure
	⋮	↓	**Initial menu:**
1b	# MTC MEASURING # W - ADAPTED DEVICE TESTING PROGRAMMING <	↓	Pull down the "*Device testing*" menu and ...
		↵	confirm.
	⋮		
2b	# MTC TESTING # VARIABLE SPEED CLOCK TEST END OF PROGRAM <	↓	Pull down the "*Variable speed*" menu and ...
		↵	confirm.

The submenu "Variable Speed" is displayed.

➥ Further steps see chap. 4.2 Operational Procedure Variable Speed.

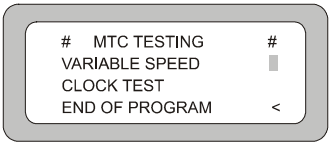
4.1.2 ATC 1601.26

Display mask	Display contents	Input	Programming procedure
1a		↓	**Initial menu:** Pull down the "*Device testing*" menu by means of F3 or the cursor and ...
		↵	confirm.
2b		↓	Pull down the "*Variable speed*" menu and ...
		↵	confirm.

The submenu "Variable speed " is displayed.

➥ Further steps see chap. 4.2 Operational Procedure Variable Speed.

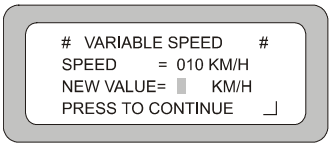
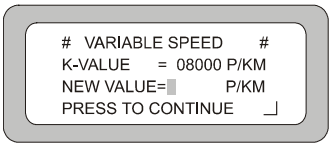
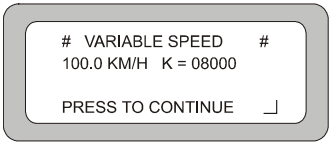
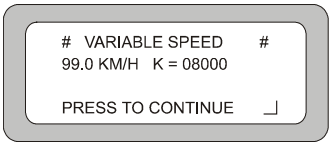
4.1.3 STC 1601.25

Display mask	Display contents	Input	Programming procedure
		↓	**Initial menu:**
1b		↓	Pull down the "*Variable Speed*" menu and ...
		↵	confirm.

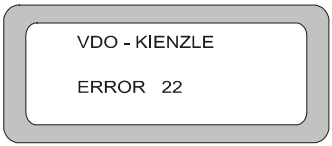
The submenu "Variable speed " is displayed.

➥ Further steps see chap. 4.2 Operational Procedure Variable Speed.

4.2 Operational Procedure Variable Speed

Display mask	Display contents	Input	Programming procedure
1		X...	Enter the new speed value, e.g. 100 km/h, and ...
		⏎	confirm.
2		X...	Enter the value which has been programmed in chap. 3.1 v-Adjustment and ...
		⏎	confirm.
	The E-Tacho is triggered with 100 km/h and a k-value = 8000 .		
3		⏎	Return to display mask 1 for new value input by means of the Enter-key.
4		↓	Fine setting (in 1 km-steps).
		X ↑	
		⏎	Return to display mask 1.
		C	End of program, the initial menu is displayed.

5 Error Recovery



In case an error occurs during programming, an encoded message is shown on the display.

System error

Code	*Error cause*	*Recommended measures*
01	There is no file available.	Restart testing device; Press the keys [F12] [P +] [T −] [F12] one after the other.
02	It is not possible to read one file.	
03	It is not possible to write in one file.	
04	It is not possible to open one file	
07	It is not possible to close one file.	
08	It is not possible to load a display mask.	

Transmission error

Code	*Error cause*	*Recommended measures*
20	Hash total error.	[F12] [P +] [T −] [F12]
21	Negative response within the testing device.	Repeat programming procedure.
22	Interrupted interface.	Reinsert programming line E-Tacho, repeat procedure.
23	Unknown device is connected.	Possibly wrong test object or wrong programming cable connected.

In case an error may not be remedied by the measures listed above, please contact your competent VDO Kienzle dealer.