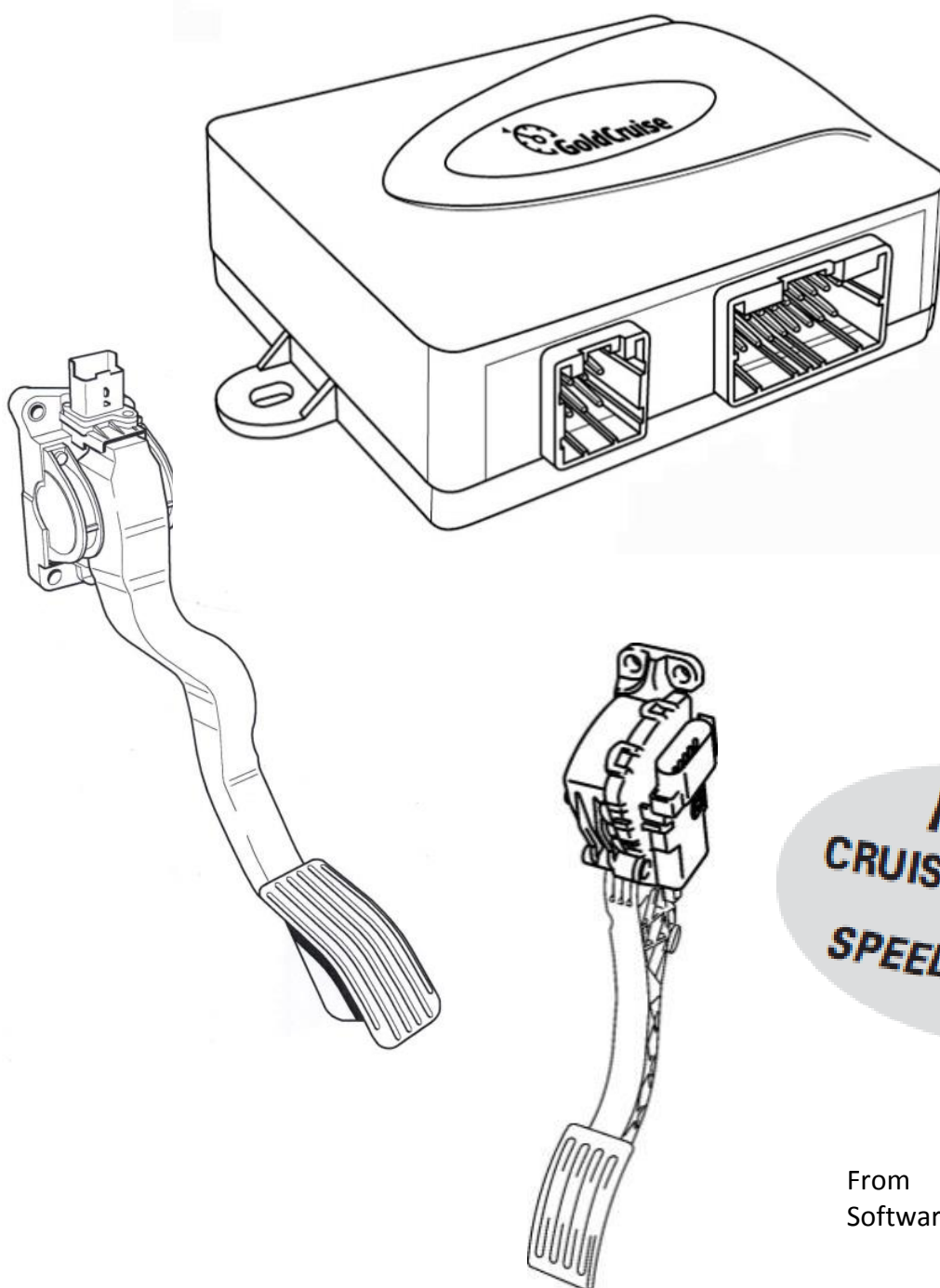


CAN-bus Cruisecontrol GC90Ci

Installation manual



NEW!
CRUISECONTROL
+
SPEED LIMITER

From
Software version 1.8.5

Foreword

This installation manual was written for installers with knowledge of modern vehicle technology and experience in working on these vehicles.

The GC90Ci GoldCruise is a modular product of John Gold International BV, that has been designed and produced with great care and precision.

Read the installation and user manuals of all applied modules carefully. Always leave the user manual (supplied separately with the command module) in the vehicle for the end user after completing the installation.

In the text boxes the following safety instructions are printed:



Tip:

This symbol is used to make suggestions or advises in order to make certain tasks easier to perform.



Note:

This symbol is used for an installation advise. Failing to comply with this advice may cause damage to the vehicle or product.



Warning:

This symbol is used in a potentially dangerous situation. In a dangerous situation there is potential for unsafe traffic situations, heavy or light injuries or damage to product, vehicle or environment.

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1 Purpose, construction and operation of the GC90Ci

1.1 Purpose of the GC90Ci

The purpose of the GC90Ci is to automate your speed management.

1.2 Construction

The GC90Ci is part of a Cruisecontrol-kit that consists of:

universal components:

- electronic module (EM);
- command module (CM) (order separately);
- universal wiring harness;
- general installation manual;
- user manual CM (included with CM);
- installation manual CM (included with CM);
- programmer (available by download, ask your supplier);
- programming harness (order separately);
- installation manual programmer (available by download, ask your supplier).

specific components:

- specific T-harness (order separately);
- specific installation manual T-harness (supplied separately or by download, depending on delivery option).

Depending on the modular supplies or the vehicle, more or less components are applicable. Contact your supplier for more information.

1.3 Operation

The GC90Ci GoldCruise consists of a compact EM, that's connected between the electronic accelerator pedal and the engine-control-unit (ECU) of the vehicle.

The EM "manipulates" the ECU and controls the relationship between the driving speed, throttle valve position and fuel injection time. The manipulation occurs by varying the output signals of the accelerator pedal. This means that the signal structure in the ECU is not altered at all. Because the accelerator pedal is learnt to the system, the GC90Ci GoldCruise or speed limiter can make optimal use of the available engine power.








2 Safety directions

To ensure safety the GC90Ci complies with the following labels.



For the GC90Ci the following safety instructions apply, also printed in the item it concerns:

	Only use the GC90Ci for the purpose as described in this installation manual
	The installer of the GC90Ci should have technical knowledge of modern cars and be experienced in working on them
	Incorrect and/or ignorant installation, connection, adjustments and/or diagnostics can lead to vehicle and/or GC90Ci malfunctions and indirectly affect road safety
	Never alter or manipulate a GC90Ci. Alterations or technical manipulations made to the GoldCruise products can affect its safety adversely


- | | |
|---|---|
|  | Always solder the connections and insulate them with vulcanizing tape |
|  | Always install the EM in a position where heat, vibration and moisture are minimized, such as underneath the dashboard |
|  | Undo the negative battery terminal before working on the vehicle. Loss of volatile data is possible (audio, board computer, clock, etc.) |
|  | Always use a multimeter when measuring on the vehicle |
|  | Cut wires to size, keep them as short as possible |
|  | CAN-wires are twisted to assure a reliable operation. Make sure that the twisting remains the same when the CAN-wires are shortened or extended |
|  | As the GC90Ci is supplied model specific, it is not necessary to learn the accelerator pedal and speed signal. The GC90Ci will operate directly after installation, unless indicated otherwise when the unit was programmed |

3 Installation and connections

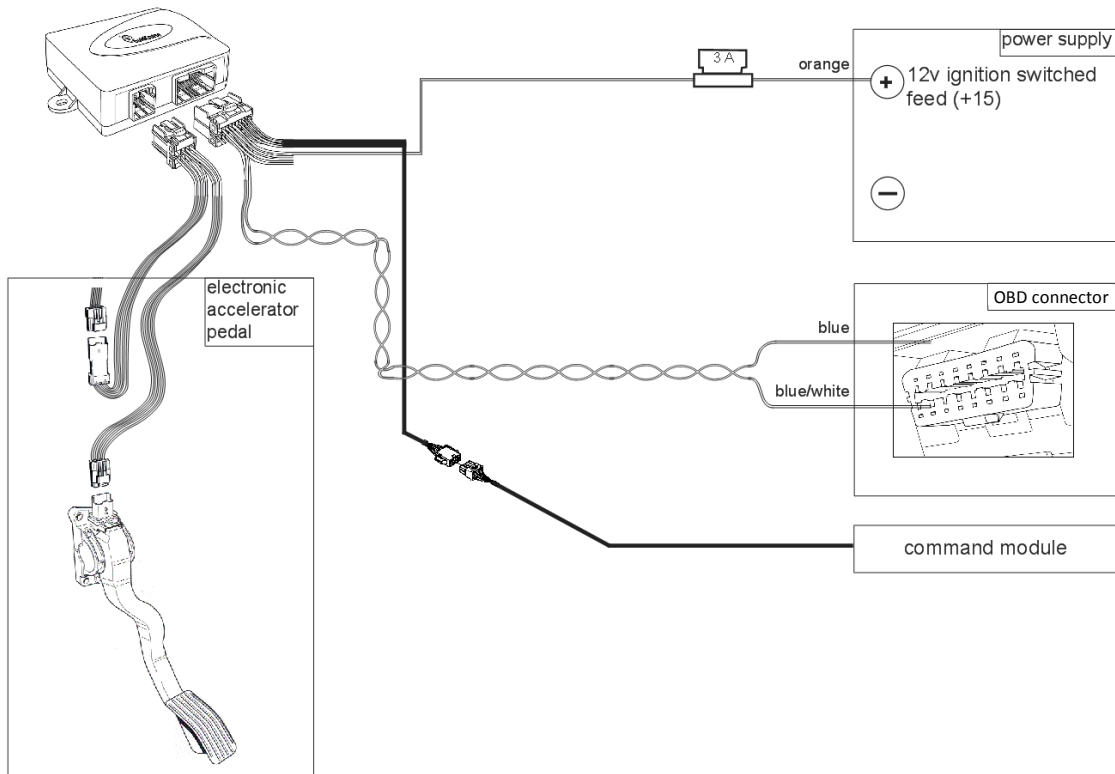
3.1 Installation electronic module (EM)

Always install the EM in a position where heat, vibration and moisture are minimized, such as underneath the dashboard, never in the engine compartment.

The installation kit contains tie-wraps, double-sided tape and screws that can be used to install the EM.

	Always install the EM in a position where heat, vibration and moisture are minimized, such as underneath the dashboard
---	--

3.2 Wiring Diagram



3.3 T-harness connection

	Undo the negative battery terminal before working on the vehicle. Loss of volatile data is possible (audio, board computer, clock, etc.)
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As the T-harness is model specific, it is supplied as a separate component.
Read the accompanying installation manual carefully.

Connect the T-harness as follows:

- Connect the 8-pin black connector of the T-harness to the 8-pin connector on the EM;
- Undo the accelerator pedal connector and connect it to the T-harness;
- Connect the T-harness connector to the accelerator pedal.

3.4 Wiring harness connections

	Always use a multimeter when measuring on the vehicle
--	---




	Cut wires to size, keep them as short as possible
--	---

	CAN-wires are twisted to assure a reliable operation. Make sure that the twisting remains the same when the CAN-wires are shortened or extended
--	---

As the GC90Ci is supplied model specific. Connect the wiring harness as instructed in the supplied specific installation manual.

Connect the universal wiring harness as follows:





orange wire	connect to an ignition switched feed (+15), preferably directly after the ignition switch
blue wire (twisted pair)	connect to CAN high
blue/white wire (twisted pair)	connect to CAN low
8-pin connector	Connect to the 8-pin connector of the CM, also refer to the installation manual CM
4-pin connector	do not use

- | | |
|---|---|
|  | Before using the ML90Ci Multi limiter should be released. Hereby the ML90Ci checks or the CAN-bus signal for the brake is stable |
|  | As the GC90Ci is supplied model specific, it is not necessary to learn the accelerator pedal and speed signal. The GC90Ci will operate directly after installation, unless indicated otherwise when the unit was programmed |
|  | Re-connect the negative battery terminal and remember to set the lost volatile data (audio, board computer, clock, etc.) |

4 Set-up

4.1 Introduction set-up

These symbols are used for the command module:

	action	symbol	function
i	up		SET /ACC
	down		RES/DEC
	push		ON/OFF
	pull		CANCEL

The GC90Ci is supplied make/model specific with carefully selected settings. Yet there is the possibility that the chosen settings are different than the required settings.

In that case it is possible to learn the accelerator pedal and speed signal manually:

refer to § 4.2 The CG90Ci accelerator pedal set-up

refer to § 4.3 The GC90Ci vehicle speed signal set-up

Check during the test drive (§ 4.4) the response time and sensitivity of the cruise control.

Only adjust the response time if the Cruisecontrol engages too slowly or too aggressively:

refer to § 4.5 Increase response time

refer to § 4.6 Reduce response time

Only adjust the sensitivity if the Cruisecontrol reacts too forcefully or too slowly while cruising:

refer to § 4.7 Increase sensitivity

refer to § 4.8 Reduce sensitivity

4.2 Release procedure

The GC90Ci is secured with an release procedure, this procedure checks if there is a proper CAN-bus brake signal available and properly programmed. The Cruisecontrol asks you with beep-signals to press and release the brake pedal. This procedure needs to be performed once after installation.

Read this procedure carefully before performing it.

Step	Action	Confirmation
1	Switch the ignition OFF and ON (do not start!)	
2	Switch the Cruisecontrol ON ⓘ	2 beeps low
3	Operate ⏠ and hold it during step 4	
Immediately after step 4, there are 3 long beeps audible perform then the following action: Beep audible → Press the brake Beep stops → Release the brake, do this with all 3 beeps		
4	Press the brake pedal 4 times and release ⏠	4 beeps
	Immediately after step 4 the beeps starts	3 long beeps
5	Beep: Press the brake	CM-LED orange
6	Beep stops: Release the brake	CM-LED green
	The Cruisecontrol is released:	4 beeps
	The Cruisecontrol isn't released:	4 high-low beeps
	When the Cruisecontrol isn't released, do step 1-6 again before contacting your supplier	

When this release procedure isn't done correctly, the Cruisecontrol doesn't operate, it is however possible to:

- Learn the accelerator, learn the speed signal (not necessary with GC90Ci)
- Do the self-diagnostic
- Use the speed limiter (when programmed)

4.3 The CG90Ci accelerator pedal set-up

This step is only necessary in case the programmed settings of the GC90Ci do not match the required settings.

Perform the following steps to learn the GC90Ci to the accelerator pedal.

Perform step 1-6 within 1 minute!

Step	Action	Confirmation
1	switch the ignition OFF and ON (do not start!)	
2	Switch the Cruisecontrol on ⓘ	2 low beeps
3	Press and hold the brake pedal during the next 2 steps	
4	Operate ⬆️ 4 times	4 beeps
5	Operate ⬇️ once	1 beep
6	Release the brake pedal	1 beep
7	Operate ⬆️ once	1 beep
8	Gently press the accelerator to full throttle	
9	Operate ⬇️ once	beeps pulsating low
10	release the accelerator pedal	
11	Press and hold the brake pedal and operate ⬆️ 4 times	beeps stop 1 long beep
12	Release the brake pedal	

i	<p>Some accelerator pedals do not have consistent signal values near the full travel area (presence of a full throttle switch). Therefore the pedal set-up may fail.</p> <p>If at step 9 the beep pulsates high/low the pedal set-up failed.</p> <p>In this case repeat the pedal set-up, but only press the accelerator pedal to 95% of its full travel at step 8</p>
----------	--

4.4 The CG90Ci vehicle speed signal set-up

This step is only necessary in case the programmed settings of the GC90Ci do not match the required settings.

Perform the following to learn the GC90Ci to the vehicle speed signal.

Perform step 1-7 within 1 minute!

Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 low beeps
4	Press and hold the brake pedal during the next 2 steps	
5	Operate ⬆️ 4 times	4 beeps
6	Operate ⬇️ twice	2 beeps
7	Release the brake pedal	2 beeps
8	Drive at least 72 km/h (45 mph) and operate ⬆️ once	Cruisecontrol engages, 1 beep
9	Press the brake pedal once.	2 beeps, Cruisecontrol releases
10	Stop in a safe place	
11	Press and hold the brake pedal and operate ⬆️ 4 times	1 long beep
12	Release the brake pedal	

i	Perform diagnostics if the Cruisecontrol does not engage at step 8. Refer to chapter 5.0 Diagnostics and trouble shoot
----------	--

4.5 Testdrive

Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 low beeps
4	Drive 90 km/h (55 mph) on the highway and operate ⬆️+	Cruise control engage and maintains the speed
5	Press the brake pedal	Cruise control instantly releases
6	Drive 75 km/h (45 mph) and operate ⬇️ once (resume)	Cruise control engages and accelerate exactly to last set cruise speed (90 km/h(55 mph))
7	Operate ⬆️+ long while cruising	Vehicle accelerates 10 km/h (6 mph)
8	Operate ⬇️ long while cruising	Vehicle decelerates 10 km/h (6 mph)
9	Operate ⬆️+ 5x brief while cruising	Vehicle accelerates 5 km/h (3 mph)
10	Operate ⬇️ 5x brief while cruising	Vehicle decelerates 5 km/h (3 mph)

Only adjust the response time if the Cruisecontrol engages too slowly or too aggressively:

refer to § 4.4 Increase response time

refer to § 4.5 Reduce response time

Only adjust the sensitivity if the Cruisecontrol reacts too forcefully or too slowly while cruising:

refer to § 4.6 Increase sensitivity

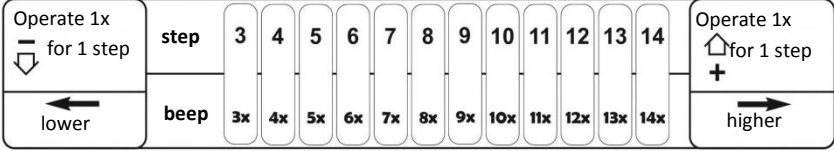
refer to § 4.7 Reduce sensitivity

i	Perform diagnostics if the Cruisecontrol does not engage at step 8. Refer to chapter 5.0 Diagnostics and trouble shoot
----------	--

4.6 Increase response time

Perform the following steps to increase the response time.

Perform step 1-7 within 1 minute!

Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 low beeps
4	Press and hold the brake pedal during the next 2 steps	
5	Operate ⓘ 4 times	4 beeps
6	Operate ⌵ 3 times	3 beeps
7	Release the brake pedal	3 beeps
8	Drive at least 40 km/h (25 mph) and operate ⓘ once	Cruisecontrol engages
9	Operate ⓘ until beeps are audible. 	Number of high beeps
10	Press the brake pedal once	3 beeps, Cruisecontrol releases
11	Drive at least 40 km/h (25 mph) and operate ⓘ once	Cruisecontrol engages
(determine the result. If necessary, repeat from step 9)		
12	Stop in a safe place	
13	Press and hold the brake pedal and operate ⓘ 4 times	1 long beep
14	Release the brake pedal	

4.7 Reduce response time

Perform the following steps to reduce the response time.





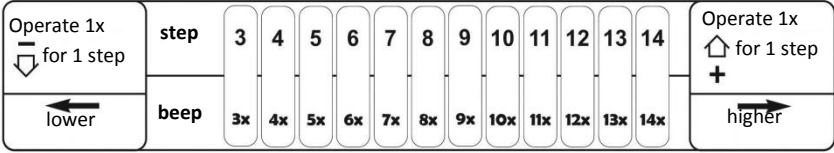


Perform step 1-7 within 1 minute!

Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 low beeps
4	Press and hold the brake pedal during the next 2 steps	
5	Operate 4 times	4 beeps
6	Operate 3 times	3 beeps
7	Release the brake pedal	3 beeps
8	Drive at least 40 km/h (25 mph) and operate once	Cruisecontrol engages
9	Operate until beeps are audible 	Number of low beeps
10	Press the brake pedal once	3 beeps, Cruisecontrol releases
11	Drive at least 40 km/h (25 mph) and operate once	Cruisecontrol engages
(determine the result. If necessary, repeat from step 9)		
12	Stop in a safe place	
13	Press and hold the brake pedal and operate 4 times	1 long beep
14	Release the brake pedal	

4.8 Increase sensitivity

Perform the following steps to increase the sensitivity.

Perform step 1-7 within 1 minute!

Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 beeps low
4	Press and hold the brake pedal during the next 2 steps	
5	Operate  + 4 times	4 beeps
6	Operate  - 4 times	4 beeps
7	Release the brake pedal	4 beeps
8	Drive at least 40 km/h (25 mph) and operate  + once	Cruisecontrol engages
9	Operate  + until beeps are audible 	Number of high beeps
10	Press the brake pedal once	4 beeps, Cruisecontrol releases
11	Drive at least 40 km/h (25 mph) and operate  + once	Cruisecontrol engages
(Determine the result. If necessary, repeat from step 9)		
12	Stop in a safe place	
13	Press and hold the brake pedal and operate  + 4 times	1 long beep
14	Release the brake pedal	

4.9 Reduce sensitivity






Perform the following steps to increase the sensitivity.

Perform step 1-7 within 1 minute!







Step	Action	Confirmation
1	Switch the ignition OFF and ON	
2	Start the engine	
3	Switch the Cruisecontrol ON ⓘ	2 beeps low
4	Press and hold the brake pedal during the next 2 steps	
5	Operate 4 times	4 beeps
6	Operate 4 times	4 beeps
7	Release the brake pedal	4 beeps
8	Drive at least 40 km/h (25 mph) and operate once	Cruisecontrol engages
9	Operate until beeps are audible 	Number of low beeps
10	Press the brake pedal once	4 beeps, Cruisecontrol releases
11	Drive at least 40 km/h (25 mph) and operate once	Cruisecontrol engages
(Determine the result. If necessary, repeat from step 9)		
12	Stop in a safe place	
13	Press and hold the brake pedal and operate 4 times	1 long beep
14	Release the brake pedal	

5 Diagnostics and trouble shoot

5.1 Diagnostics 1: CM, brake signal, clutch signal

Step	Action	Confirmation
1	Switch the ignition completely OFF	
2	Operate and hold 	
3	Switch the ignition ON and wait for beeps	Beeps pulsating
4	Release 	
5	Switch the cruisecontrol ON 	1 beep and CM-LED turns green
6	Operate 	1 beep and CM-LED turns orange
(Does not operate: refer to § 5.3 trouble shoot 1)		
7	Press the brake pedal briefly	1 beep and CM-LED turns green
(Does not operate: refer to § 5.5 trouble shoot 3)		
8	Operate 	1 beep and CM-LED turns orange
(Does not operate: refer to § 5.3 trouble shoot 1)		
9	press the clutch pedal (only if a clutch protection is installed)(does not operate: Refer to § 3.4 Wiring harness connections) or operate II . (does not operate: refer to § 5.4 trouble shoot 2) or press the brake pedal briefly (does not operate: refer to § 5.5 trouble shoot 3)	possible beeps and CM-LED turns green
10	if all operates well, refer to: § 5.2 Diagnostics 2: accelerator pedal control, vehicle speed signal	
11	Switch the ignition completely OFF to exit Diagnostics	

5.2 Diagnostics 2: Accelerator pedal control, vehicle speed signal

Step	Action	Confirmation
1	Lock the handbrake and put the gear in neutral	
2	Switch the ignition completely OFF	
3	Operate and hold  +	
4	Start the engine and wait for beeps	Beeps pulsating
5	Release  +	
6	Switch the Cruisecontrol ON 	Beep and CM-LED turns green
7	Operate and hold  + and wait until the engine speed increases. Release  + and wait briefly: The engine speed should now remain at a constant level	Beeps pulsating and CM-LED turns orange
(Does not operate: perform the accelerator pedal set-up. Refer to § 4.3 Accelerator pedal set-up)		
8	operate  and hold until the engine speed reduces	Beeps pulsating
(Does not operate: refer to § 5.4 Trouble shoot 2)		
9	Press the brake pedal briefly	CM-LED turns green engine speed drops idle
(Does not operate: refer to § 5.5 Trouble shoot 3)		
10	Drive at least 30 km/h (20 MPH) in Diagnostics	Beeps pulsating EM-LED flashes green
(Does not operate: check the CAN-bus connection. Refer to §3.4 Wiring harness connections)		
11	Switch the ignition completely OFF to exit Diagnostics	

5.3 Trouble shoot 1

Step	Action	Confirmation
1	Operate \uparrow (Does not operate: Refer to § 5.4 Trouble shoot 2)	low beep and EM-LED turns red
2	Operate \downarrow (Does not operate: Refer to § 5.4 Trouble shoot 2)	low beep and EM-LED turns red
3	Check that the power supply +12V is connected correctly. Refer to § 3.4 Wiring harness connections	
4	Carry on with § 5.4 Trouble shoot 2	

5.4 Trouble shoot 2

Step	Action	Confirmation
1	Check that the wires of the CM are inserted in the correct location of the 8-pin connector (colour to colour) and locked properly	
2	check that the CM is switched ON	CM-LED is green
3	Check the power supply- and ground connections	
4	Press the brake pedal (Does not operate: refer to § 5.5 Trouble shoot 3)	low beep and EM-LED turns orange

5.5 Trouble shoot 3

Step	Action
1	check that the twisted pair blue and blue/white wires are connected correctly to the CAN lines. Refer to § 3.4 Wiring harness connections
2	check that the EM is programmed for the correct vehicle (this is printed on the sticker on the side of the EM)
3	Contact your supplier if this does not solve the malfunction

6 Frequently Asked Questions

	Questions	Answers
1	The cruisecontrol beeps during the test drive or accelerator pedal set-up	The GC90Ci is not learned to the accelerator pedal (yet). Perform the accelerator pedal set-up. Refer to § 4.3 Accelerator pedal set-up
2	The cruisecontrol picks up very slowly on engaging, and does not accelerate much	<p>1. The GC90Ci is not properly learned to the accelerator pedal. Re-perform the accelerator pedal set-up. Refer to § 4.3 Accelerator pedal set-up.</p> <p>2. The sensitivity is set too low. Increase the sensitivity settings. Refer to § 4.7 Increase sensitivity.</p>
3	The vehicle goes into limp mode and/or the engine fault light is ON	One of the connectors of the T-harness was disconnected while the ignition was switched ON or shortly after. Reset the fault light with an OBD scan tool according to the manufacturer's instruction

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