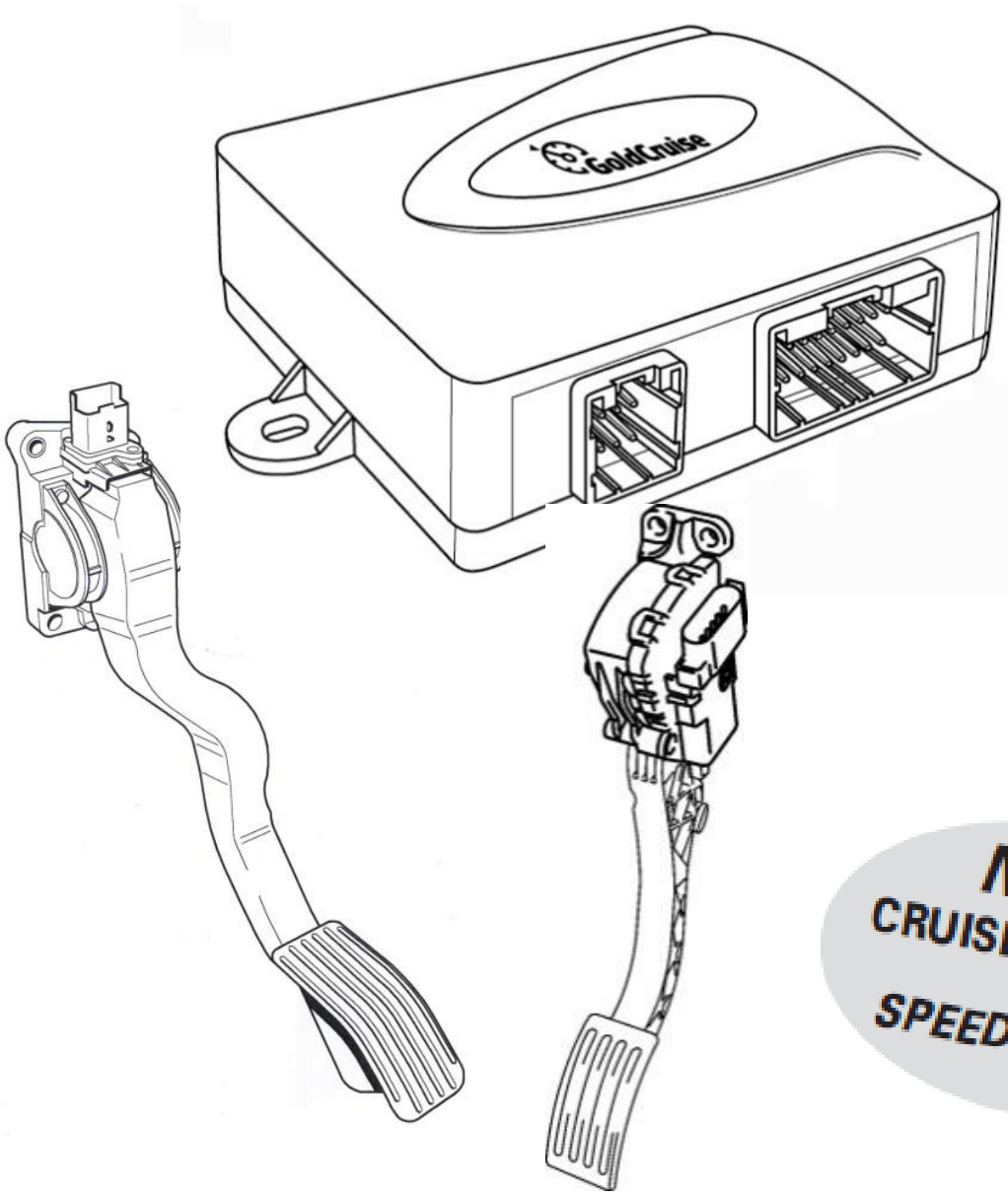
GoldCruise
THE ORIGINAL BY JOHN GOLD

Cruisecontrol GC90

Installation manual



NEW!
CRUISECONTROL
+
SPEED LIMITER

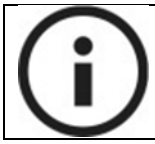
From software
version F17.06D

JOHN GOLD INTERNATIONAL BV

Foreword

This installation manual was written for installers with knowledge of modern vehicle technology and experience in working on these vehicles.
The GC90 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.

Contents

1 Purpose, construction and operation of the GC90

1.1 Purpose of the GC90

The purpose of the GC90 is to automate your speed management.

1.2 Construction

The GC90 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);
- clutch switch (optional)

specific components:

- specific T-harness (order separately);
- specific installation manual T-harness (included with T-harness).

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

1.3 Operation

The GC90 GoldCruise consists of a compact EM, that is 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 GC90 GoldCruise or speed limiter can make optimal use of the available engine power.

2 Safety directions

To ensure safety the GC90 complies with the following labels.

For the GC90 the following safety instructions apply, also printed in the item it concerns:

	Only use the GC90 for the purpose as described in this installation manual.
	The installer of the GC90 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 GC90 malfunctions and indirectly affect road safety.
	Never alter or manipulate a GC90. Alterations or technical manipulations made to the GoldCruise products can affect its safety adversely.
	Inform the customer whenever no clutch protection is installed. Point out that the GC90 will not disengage when depressing the clutch pedal. John Gold advises always to install a clutch protection (if applicable).
	Connect the “twisted pair” brown and brown/white wires in such a way that, with the brake pedal released, one wire has +12V from the brake light fuse and the other has ground through the brake lights.

	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, etcetera).
	Always use a multimeter when measuring on the vehicle.
	Cut wires to size, keep them as short as possible.
	Use a fuse of up to 3 Amps.

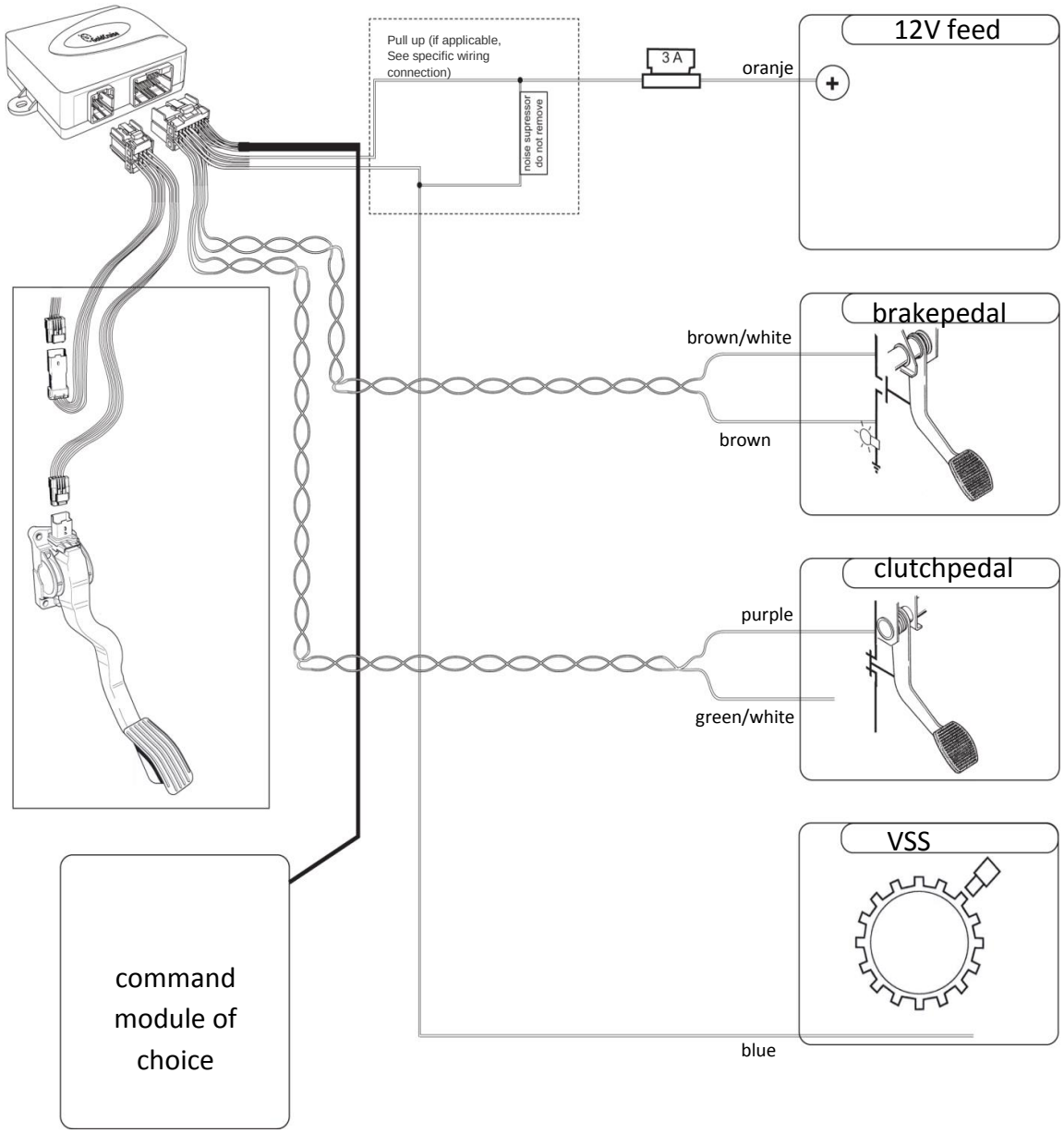
3 Installation and connections

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

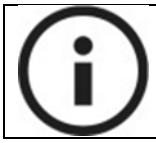
	Undo the negative battery terminal before working on the vehicle. Loss of volatile data is possible (audio, board computer, clock, etcetera).

As the T-harness is vehicle 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.

Connect the universal wiring harness as follows:

orange wire	connect to an ignition switched feed (+15), preferably directly after the ignition switch;

i	For many European car-makes it is possible to connect the orange wire to the feed wire of the brake lights (along with the brown/white wire). This is only possible in case the brake lights only operate when the ignition is switched ON.

brown wire	connect to the wire that is connected to ground via the brake lights, this becomes 12V when the brake pedal is depressed. In case a relay is used in the brake light system, connect to the wire that is connected to the brake lights directly;
brown/ white wire	connect to the fused feed wire of the brake lights, before the brake light switch;

	Connect the “twisted pair” brown and brown/white wires in such a way that, with the brake pedal released, one wire has +12V from the brake light fuse and the other has ground through the brake lights.

2-pin connector	if an original clutch switch is available, connect the violet wire to the switching wire of the original clutch switch that switches to ground or from ground when the clutch pedal is depressed. In this case the green/white wire is not used. If an aftermarket clutch switch is used connect the 2-pin connector to the clutch switch;
blue wire	connect to the vehicle speed signal wire. Refer to the wiring diagrams of the vehicle;
yellow wire	do not use. Cut off at 10 cm from the connector and insulate, unless indicated otherwise;
8-pin connector	Connect to the 8-pin connector of the CM, also refer to the installation manual CM.

First learn the GC90 to the accelerator pedal and the speed signal, before using the Cruisecontrol. Refer to chapter 4.0 Set-up.

i	Re-connect the negative battery terminal and remember to set the lost volatile data (audio, board computer, clock, etcetera).

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

First learn the GC90 to the accelerator pedal and the speed signal, before using the Cruisecontrol:
refer to § 4.2 Accelerator pedal set-up;
refer to § 4.3 Vehicle speed signal set-up.

Check during the testdrive (§ 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 Accelerator pedal set-up

Perform the following steps to learn the GC90 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	beeps pulsating low
9	Operate − once	
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	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. If at step 9 the beep pulsates high/low the pedal set-up failed. In this case repeat the pedal set-up, but only press the accelerator pedal to 95% of its full travel at step 8.

4.3 Vehicle speed signal set-up

Perform the following to learn the GC90 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.

4.4 Testdrive

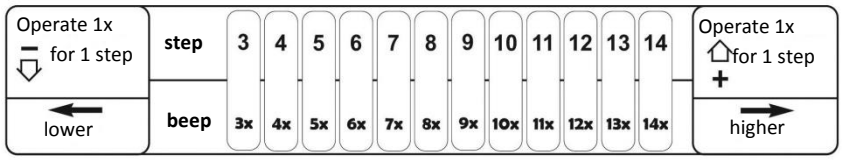
Step	Action	Confirmation
1	Switch the ignition OFF and ON.	
2	Start the engine.	
3	Switch the Cruisecontrol ON ⏻	2 low beeps
4	Drive 90 km/h (55 mph) on the highway and operate +	Cruise control engage and maintains the speed
5	Press the brake pedal	Cruise control instantly releases
6	Drive 75 km/h (45 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.

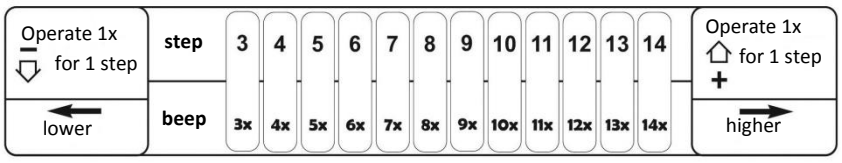
4.5 Increase response time

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.	

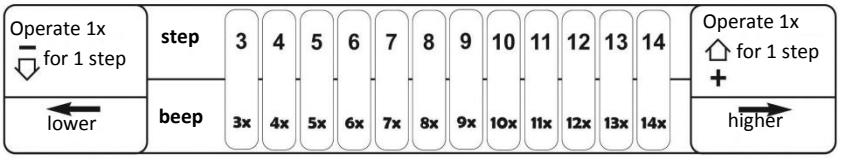
4.6 Reduce response time

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.	

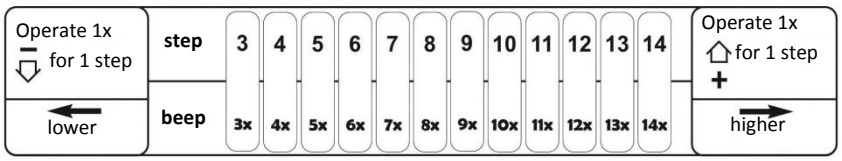
4.7 Increase sensitivity

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.	

4.8 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 switch connection, clutch switch connection

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) òr operate **II.** (does not operate: refer to § 5.4 trouble shoot 2) òr 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 § 4.2 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 speed signal and EM-LED flashes green 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 ⇧ + (Does not operate: Refer to § 5.4 Trouble shoot 2)	low beep and EM-LED turns red
2	Operate ⇩ − (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 brown wires are connected in parallel on the brake light switch. Refer to § 3.4 Wiring harness connections
2	check that one of these wires has +12V and the other has ground through the brake lights (with brake pedal released). Refer to § 3.4 Wiring harness connections (If not: check the brake lights, fuse and connections of the brown wires)
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 GC90 is not learned to the accelerator pedal (yet). Perform the accelerator pedal set-up. Refer to § 4.2 Accelerator pedal set-up.
2	**The cruisecontrol picks up very slowly on engaging, and does not accelerate much.**	1. The GC90 is not properly learned to the accelerator pedal. Re-perform the accelerator pedal set-up. Refer to § 4.2 Accelerator pedal set-up. 2. The sensitivity is set too low. Increase the sensitivity settings. Refer to § 4.6 Increase sensitivity.
3	**The cruisecontrol engages during vehicle speed signal set-up, but does not operate during the test drive.**	The cruisecontrol is not connected to a suitable vehicle speed signal. Refer to § 3.4 Wiring harness connections
4	**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.

John Gold International BV
PO Box 1603,1300 BP Almere
the Netherlands
www.johngold.nl

Sales:
T: +31(0)36-5300 886
F: +31(0)36-5300 884
info@johngold.nl
Technical Support:
T: +31(0)36-5300 881
F: +31(0)36-5300 898
support@johngold.nl

Version: 1205

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