

TrythisTV

VDO Cruise control repair

Version 1 (April 2020 Revision)

For the latest most up to date version:

<https://trythistv.com/>

For videos explaining the procedures:

<https://www.youtube.com/trythistv>

This document and the above linked videos provided free of charge

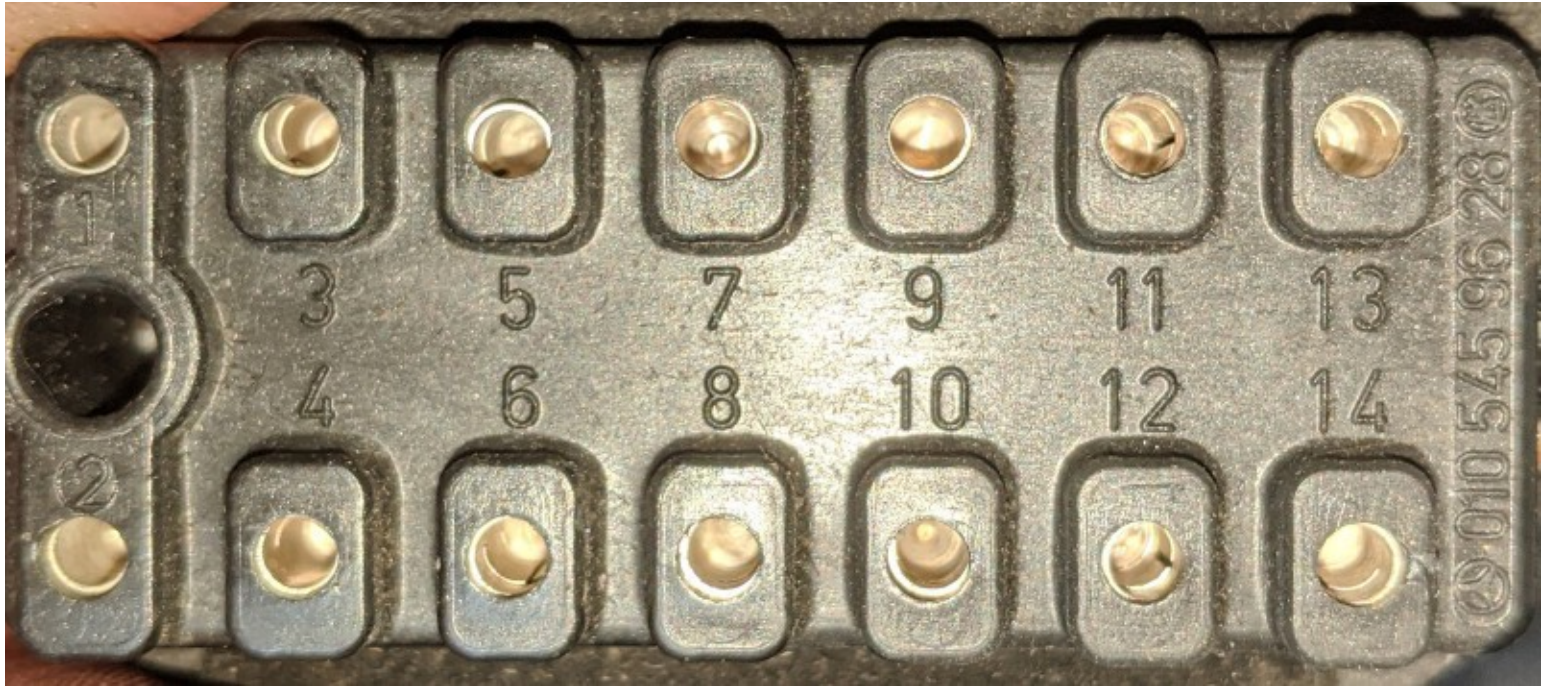
Testing done at the actuator, Prepare jumper leads from a 12 volt source ideally through a fuse around 5A rated:

	Pin	Test condition	Expected result	My Results
Test 1	4: Motor	Connect to 12v+	Audible motor whirring Amp draw 0.12-.018A (120mA-180mA) Optional test: Ohm value 3-30 ohms	
	5: Motor	Connect to Multimeter then GND or directly to GND if using clamp meter		
Test 2	6: Solenoid	Tap to 12v+ and listen for solenoid click	Solenoid clicks	
	7: Solenoid	Connect to Multimeter then GND or directly to GND if using clamp meter		
Test 3	4 & 6	Connect to 12v+ momentarily	Actuator pulls (Don't run too far, might strip gears)	
	5 & 7	Connect to Multimeter then GND or directly to GND if using clamp meter		
Test 4	2 & 3	Test ohms between pins with multimeter (DO NOT CONNECT 12V ACROSS PINS)	Close to 0 ohms	
Test 5	3	Test ohms to GND	Between 2.8K and 4K ohms	



Testing Control stalk, amp power, brake circuit and wiring to actuator.

Plug actuator back in, remove kick panel in drivers footwell, unplug amplifier and proceed with tests:



The following tests are performed with the **ignition switch on** and are measured at the *Unplugged* Amplifier.

Test 1: Meter set to DC Voltage mode

A) Switch Test (meter common to ground)

Pin 1	Battery voltage	(BV = battery voltage: somewhere between 12.5 and 13.8 Vdc)
Pin 2	Decel/Set	0 Vdc initially - goes to BV when stalk pushed to Decel/Set
Pin 3	On/Off	BV initially - goes to 0 V when stalk pushed to Off
Pin 4	Accel/Set	0 Vdc initially - goes to BV when stalk pushed to Accel/Set
Pin 6	Resume	0 Vdc initially - goes to BV when stalk pushed to Resume
Pin 8	Brake Disengage	MUST BE 0 Vdc for Cruise System to work - goes to BV when you push on the brake.

Test 2: Meter set to ohms/resistance

Ignition switch off, make measurements at the female amp plug with the (Amp unplugged)

Test From Pin	To Pin	Resistance	Tests	My Result
7	10	3 to 30 ohms (not 0 ohms!)	Actuator motor wiring	
7	Gnd (12)	infinity	Actuator motor not shorted to GND	
10	Gnd (12)	infinity	Actuator motor not shorted to GND	
5	Gnd (12)	infinity or possibly around 40 ohms depending on model	Actuator solenoid	
9	Gnd (12)	Between 2.8K and 4K ohms	Actuator potentiometer	
9	13	0 ohms approx.	Actuator potentiometer	

The cruise system is provided a critical ground through the brake light bulb filaments via pin# 8 on the amp plug.

If both brake light bulbs are burned out or there is not proper ground here the system will not work. LED bulbs may also cause issues, using a load resistor or bulbs with integrated resistors may allow proper function.

This is the mechanism for canceling the Cruise when you step on the brake: this pin goes from ground to battery voltage, thus losing a ground which is necessary for the system to stay engaged.

If all these tests are within the specified values, The issue is likely the amp.

They are known for bad solder joints due to heating and cooling that happens inside a car, and age/vibration certainly having an effect also.

Amp Repair:

Section under construction, check back for an updated document