Installation Instructions – CANTCU Standalone Harness

A prerequisite of these instructions is that you have a knowledge of the CANTCU controller, what it does, which transmissions it works with and which ECUs. This is important as this loom is useless without compatible components. For more information, see the CANTCU wiki: https://wiki.canformance.net/doku.php

The harness should be fitted by somebody with electrical competence. House of Torque will bear no responsibility for damages due to incorrect fitment.

In most cases for 4x4 swaps, we use an F series 8hp70x transmission and a BMW ECU.

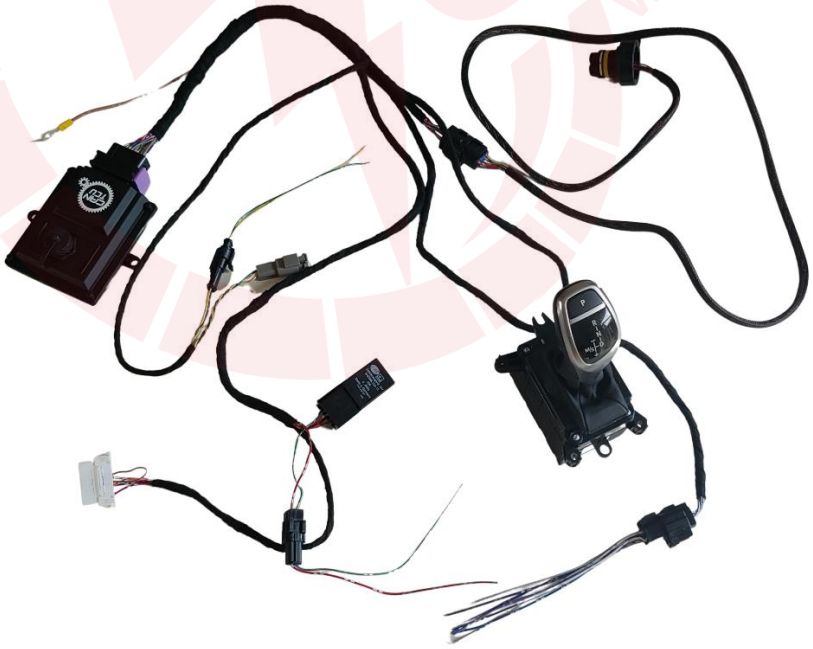
Overview

The main function of the harness is to connect the following components:

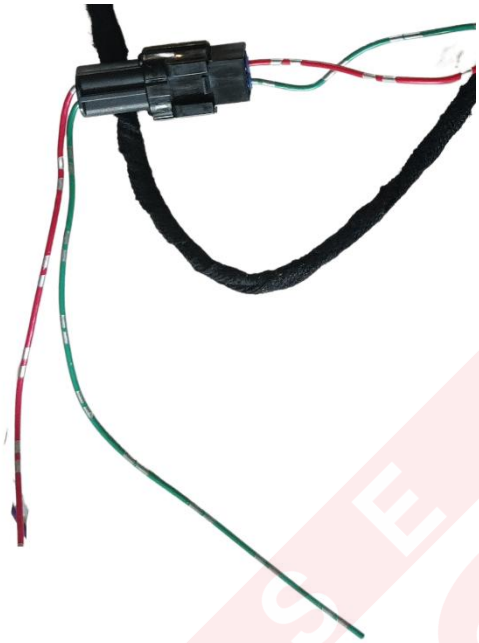
- CANTCU Controller
- F Series 8hp Transmission
- Compatible shifter
- Engine ECU CANBus

In addition, there is also:

- +12v, ground and ignition
- Digital I/Os
- Time delay relay
- OBD for diagnostics



+12v and Ignition

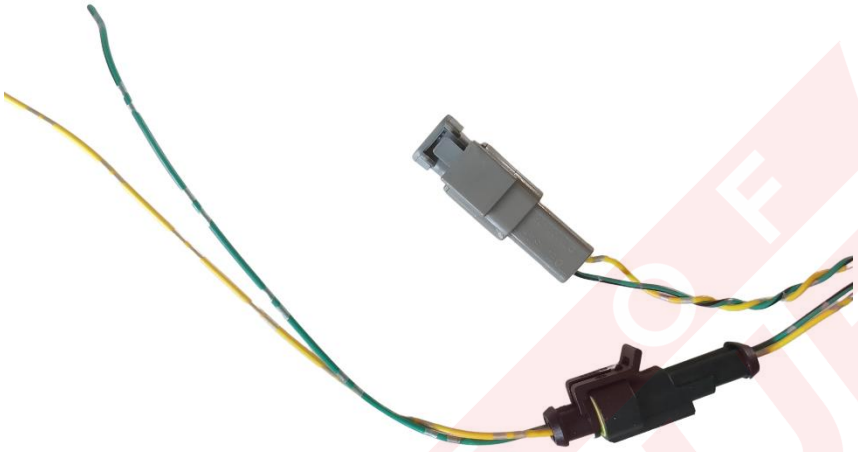


Wire Colour	Destination
Red	Permanent 12v – 10 amp fuse
Green	Ignition 12v – 5 amp fuse

Ground Ring

Wire Colour	Destination
Brown	Clean ground

CANBus



Wire Colour	Destination
Yellow	CAN High
Green	CAN Low

This should be connected to the engine CANBus. If using the House of Torque DDE5/6 loom, this will plug straight in.

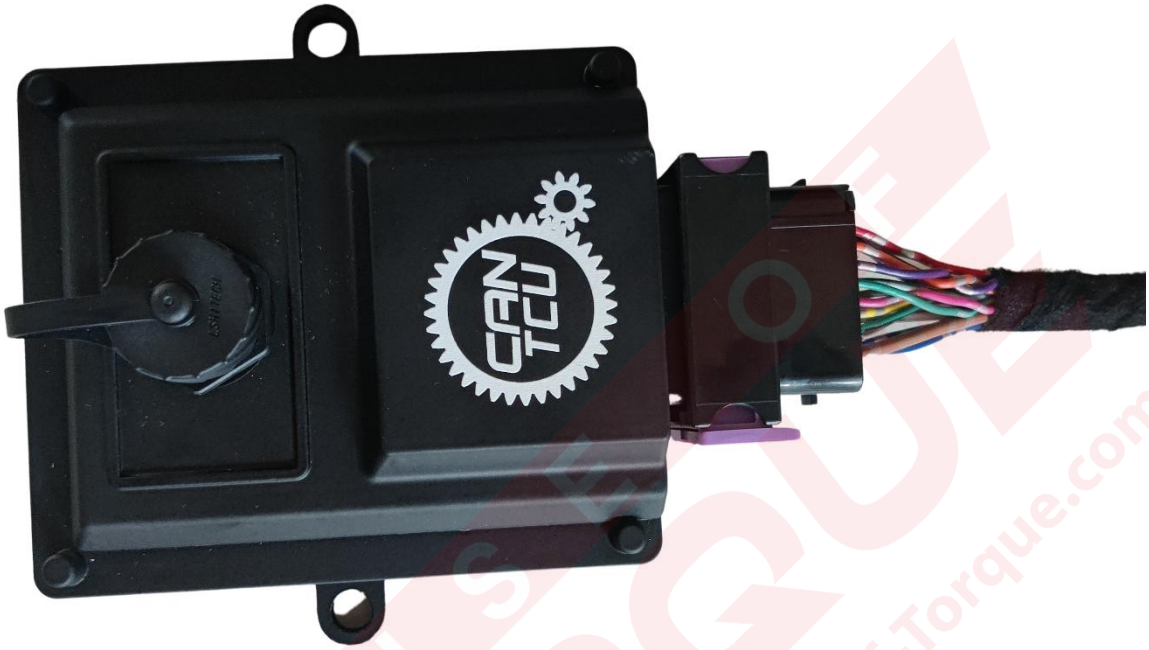
As with all CANBus circuits, the resistance between CAN High and CAN Low must be 60 ohms.

We have included a plug in 120 Ω terminating resistor:

We recommend checking the CANBus resistance with a multimeter before connecting the plug in resistor.

Multimeter Reading	What to do
60Ω	Nothing
120Ω	Plug in the resistor
High Ω or MΩ	Plug in resistor + one other 120 Ω resistor in the CANBus circuit

CANTCU Connector



Plug in and mount the CANTCU – keep the USB port accessible.

Shifter connector

Connects to an F series shifter Or JLR L494 shifter depending on specification.

BMW F series example part number: 6832388

JLR L494 example part number: JLR KK62 - 7E453 - AA

Note, if you wish to connect another compatible shifter, we offer a flying lead output from our loom. The wire designations are as follows:

Plug pin	Wire Colour	Description
1	Red	+12v
2	Brown	Ground
3	Green	WakeUp
4	Pink twisted	PTCAN2 Lo
5	Green twisted	PTCAN2 Hi
6	Empty	Empty
7	Empty	Empty
8	Empty	Empty
9	Yellow twisted	PTCAN3 Hi
10	Green/Black twisted	PTCAN3 Lo
11	Orange twisted	PTCAN1 Hi
12	Purple twisted	PTCAN1 Lo

Transmission connector

The round 16 pin connector should be inserted and securely connected to the 8hp transmission. This part of the harness can be disconnected from the main harness with an 8 pin connector. This can aid fitting.

Time delay relay

A time delay relay will be fitted and configured. The purpose is to keep the CANTCU live for longer than the engine ECU.

IO connector

Although not needed in every application, we have added a selection of Inputs and Outputs into the harness. These come out to an 8 pin connector:

Plug pin	Wire Colour	Destination CANTCU Pin	Description
1	Purple/Black	C1	DOUT2
2	Blue/Black	C8	DOUT4
3	Grey/Black	C5	DIN1
4	White/Black	C6	DIN2
5	Purple	B1	DOUT1
6	Blue	B8	DOUT3
7	Grey	B7	DIN4
8	White	B6	DIN3

Refer to the CANTCU wiring diagram for more information on digital inputs or outputs:

Inputs https://wiki.canformance.net/en/CANTCU/software/config/inputcfg

Outputs https://wiki.canformance.net/en/CANTCU/software/config/outputcfg