



## Muscle car module explained

The muscle car module (MCM) is a network interface that operates on the GM Can Bus communications protocol. It takes analog and can bus commands to control the engine and transmission extra functions.

**WARNING!!! Do not hook up back up light wire directly to lights. This will cause the module to fail. Connection to a relay is required.**

**WARNING!!! Do you hook up AC Compressor output directly to ac compressor. Connection to a relay is required.**

# MCM Instructions with tach and speedo option

## Master Pinout

- Pin 1: Ignition Power (pink)
- Pin 2: Speed output(Green)
- Pin 3: Tach output (white)
- Pin 4: AC Relay (Ground Output) ( Dark Green)
- Pin 6: 12v output to LED for module status
- Pin 7: Park Neutral output(Yellow) 12v output)
- Pin 8: Reverse Status Output (12V Output to **relay**. OTHER end of Relay goes to Ground)(Org)
- Pin 9: Tap Shift Circuit Ground (Blk) if empty use ground from chassis as need to a momentary switch
- Pin 10: GM CAN High (Dark Blue)
- Pin 11: GM CAN Low (White)
- Pin 12: (Empty)
- Pin 13: (Empty)
- Pin 14: (Empty)
- Pin 15: Chassis Ground (Black)
- Pin 16 (Empty)
- Pin 17: Tow/ Haul Switch Input (0V, momentary ground input)(Grey)
- Pin 18: Tap Shift Input(Yellow)
- Pin 19: Tap Up Signal(Org) (0V, momentary)
- Pin 20: Tap Down Signal (yellow)(0V, momentary)
- Pin 21: AC Request Input (12V = AC ON)(Brown) Need 10k pull down resistor to ground)
- Pin 22:
- Pin 23:

MCM is listening to engine RPM from the ECU, and at RPMs higher than 300 is driving a 12V output at 2 pulses per revolutions to drive factory or aftermarket gauges.

Similarly, the MCM is listening to the vehicle speed signal from the ECU, and at speeds above 3 MPH is driving a 12V output at 4000 pulses per mile to drive factory or aftermarket gauges.

Lastly, the MCM is listening to the shift lever gear position signal from the TCU, and activating two 12V drivers. These are meant to drive relay coils, and not direct loads. When the transmission is in Park or Neutral, the Park/Neutral output is driven at 12V. When the transmission is in any other gear, the output is left open, and floats towards ground. When the transmission is in Reverse, the Reverse output is driven at 12V. When the transmission is in any other gear, the output is left open, and floats towards ground.

# A/C Control

The MCM will safely control the ac compressor via a relay. It outputs a ground signal to control the relay. It operates with many built in safeties including rpm, tps, ac pressure, and voltage.

Pin 4- **AC relay output**. Connect to relay that operates the ac compressor. Ground activated to ground side of the relay. Pre Wired in the advance tech harness.

**WARNING!!! Do you hook up AC Compressor output directly to ac compressor. Connection to a relay is required.**

Pin 21- AC input. This a a 12v activated signal to activate the AC system control. (No relay needed) This turns on the AC programming and will output through pin 4 as long as the above safeties have been met.

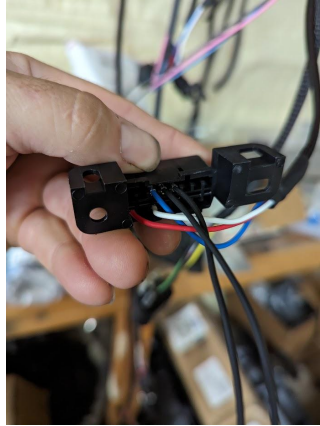
# Basic wiring needed

Pink- 12v ignition source (not battery)

Black- Chassis Ground

White- to obd port can - wire

Blue-to obd port can+ wire



## **Tach output**

RPMs higher than 300 is driving a 12V output at 2 pulses per revolutions to drive factory or aftermarket gauges.

Pin 3- connect to tach signal

## **Speedo**

This sends a 12V output at 4000 pulses per mile to drive factory or aftermarket gauges.

Pin 4- Connect to speedo

## **Tow Haul**

Tow/Haul function for safe towing

Pin 22- Ground input to activate tow/haul (Momentary ground)

LED will illuminate when tow haul is activated

Speed

12V output at 4000 pulses per mile to drive factory or aftermarket gauges.

# Tap Shift

## Tap Shift

You must use factory programming for this to work. For truck Operating systems see below

To engage manual mode be aware of your **PRNDM** shift positions. The shifter **must be placed manual mode 1 detent** after drive for truck operating systems. For corvette and camaro Operating systems it will activate in **drive detent only**. Once this is done it should hold current gear or down shift a gear depending on speed. Activating the provided switch will allow manual shifting.

For car operating systems

To engage tap mode shift position will need to be in drive.

# Transmission settings

Transmission

General Manual Shift General Shift Scheduling Shi

**Shift Pattern Type**

Pattern A	Normal	▼
Pattern B	Trailer	▼

**Tap-Up/Tap-Down**

TUTD	Disabled	▼
TUTD Type	Serial	▼
IP Display	Enabled	▼
Up/Down Req	Enabled	▼
Hold Shift	Disabled	▼
Mountain Mode	Disabled	▼
Range Select	Enabled	▼
Range Active	D4	▼

**Inertia Factor Profile**

**Upshift**

1-2	2-3	3-4
4-5	5-6	1-3
1-4	2-4	2-6
3-5	Default	

**CT Downshift**

CT Downshift

**Power Downshift**

6-5	5-4	4-3
3-2	2-1	6-4
6-2	5-3	4-2
4-1	3-1	