

# 1998 Dodge Durango GM Gen 3 Engine Swap Wiring Guide

## Using 1998 F-Body (Camaro/Firebird) and Durango Powertrain Control Modules (PCM)

### Originally Compiled February 2018

This guide was written to facilitate the swap of a Generation 3 GM V8 (4.8~6.0L) and 4L80E transmission into a 1998 Durango that had a 5.9L V8 and 46RE transmission. This offers wiring information and basic information for the transfer case since. This \*may\* work for other year Durangos or Dakotas but the user must verify the wiring. GM changed the PCM wiring after 1998, the reason this PCM was used was due to the author having unlimited HP Tuners credits for that PCM.

In summary, the GM PCM will control the engine and transmission, while the Dodge PCM will control everything else. As many of the original Dodge functions that could be retained were, for simplicity and lower cost. An example of this is the use of the Dodge AC system and just connecting the compressor wire to the GM compressor. Another is the starter using the same principle- the Dodge wire to the GM solenoid.

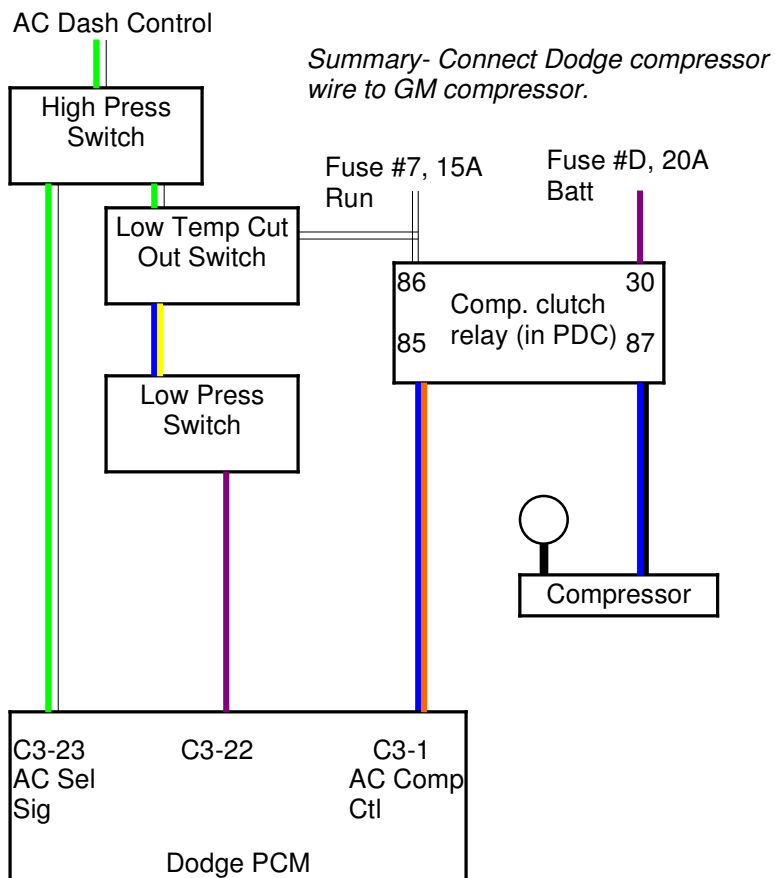
One of the main problems with this swap is getting the Dodge tach to work. Two options are listed here, one an external adapter and the other programming via HP Tuners. Neither has been verified as working yet. **HP Tuners is highly recommended for this or any swap**, as it allows a lot of programming and disabling of things like vehicle security.

Some items shown require no action, but are included as a reference source. Wire colors shown are the same as depicted in online wiring diagrams that were used.

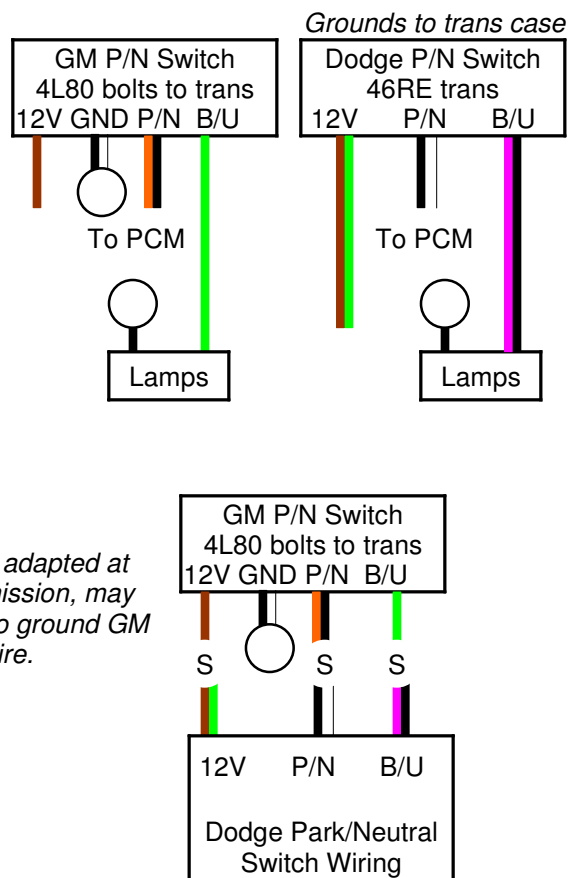
Page	Function
2.	Air conditioning, backup lamps, and cruise control
3.	Data link connectors (2), evap emissions
4.	Fuel level and pump, gauges and warning lamps
5.	Ignition switch and starter
6.	MIL/SES lamp
7.	Tach adapter
8.	Transfer cases- 231 and 242
9.	Schematic with both PCMs, includes external wiring

# 1998 Dodge Durango GM LSx Swap

## Dodge Air Conditioning Compressor

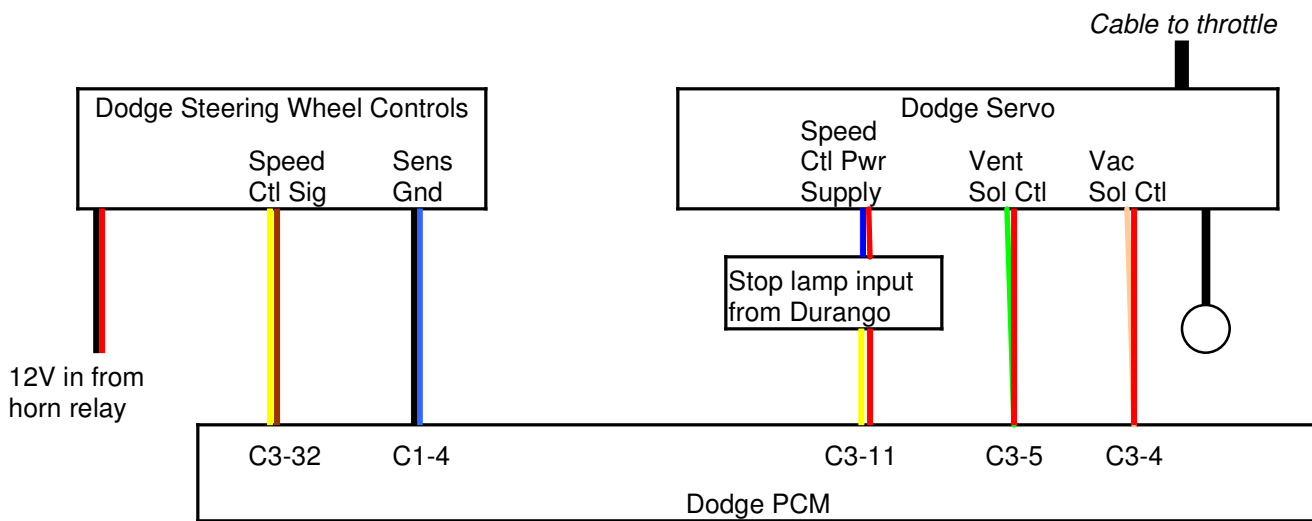


## Backup Lamps & P/N Switch



## Cruise control- will use Dodge servo

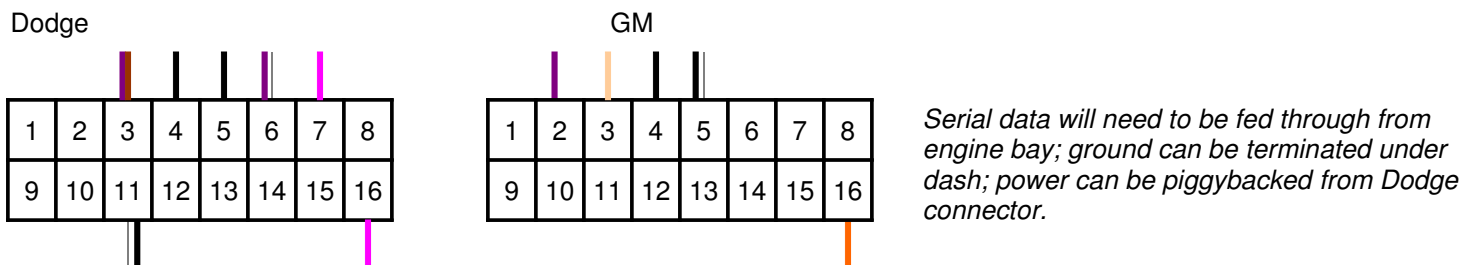
Per the manual, vehicle speed and distance are measured by the rear wheel sensor.



# 1998 Dodge Durango GM LSx Swap

## Data Link Connectors

Two connectors are used.



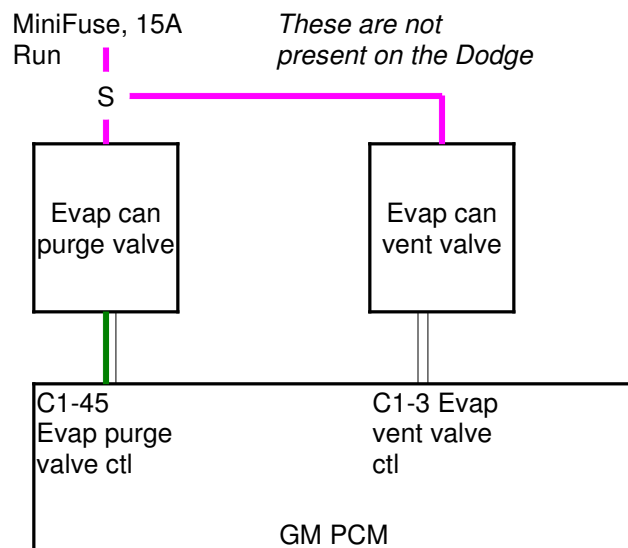
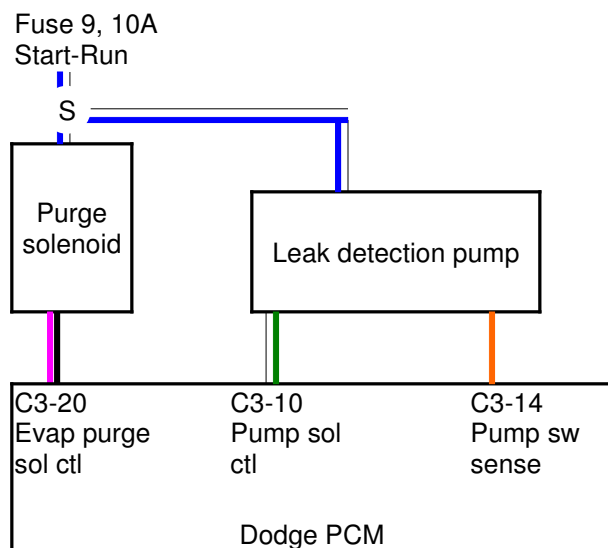
Serial data will need to be fed through from engine bay; ground can be terminated under dash; power can be piggybacked from Dodge connector.

Pins used:  
3: CCD Bus (+) C3-30  
4: Ground  
5: Ground  
6: SCI receive C3-29  
7: SCI transmit C3-27  
11: CCD Bus (-) C3-28  
16: 12V Batt via fuse 12

Pins used:  
2: Serial data C2-58  
3: UART C2-3  
4: Ground  
5: Ground  
16: 12V Batt 25A fuse 11

## Dodge Evap System- Info Only, Leave As-Is

## GM Evap System



These are not  
present on the Dodge

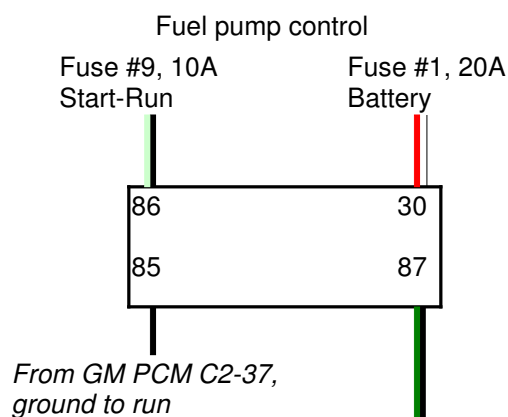
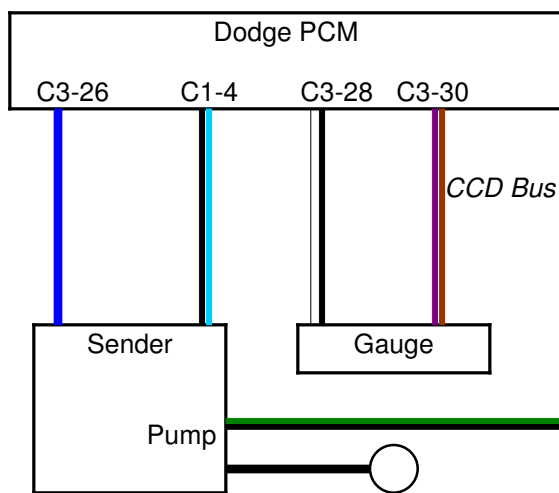
From a Dodge forum:  
The Chrysler evaporative Emissions monitoring system uses an air pump to pressurize the fuel tank and charcoal canister. It has a solenoid, switch and pump all in one unit.

Part looks to be unique to 1998-99 models.

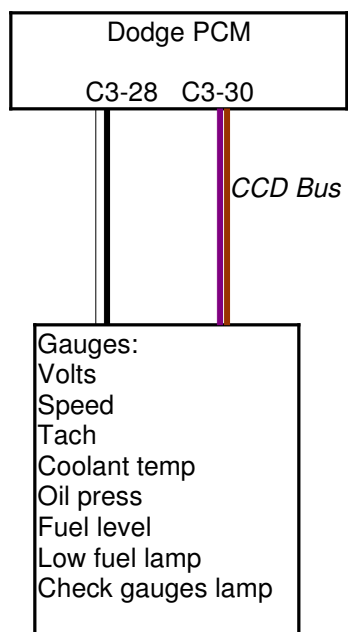
This appears to be a standalone function that should still work w/o any engine sensors being present. **Plan to leave as-is.**

## Fuel System- Gauge and Pump

Dodge Fuel level circuit



## Gauges and Warning Lamps- Info Only

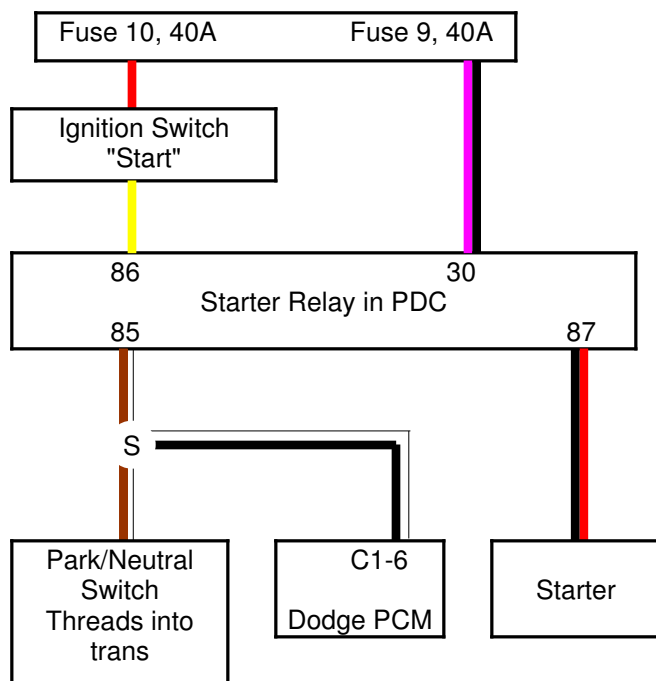


*Note: Low washer fluid, liftgate ajar, brake, VTSS, OD off, turn, and high beam lamps are not on the CCD bus.*

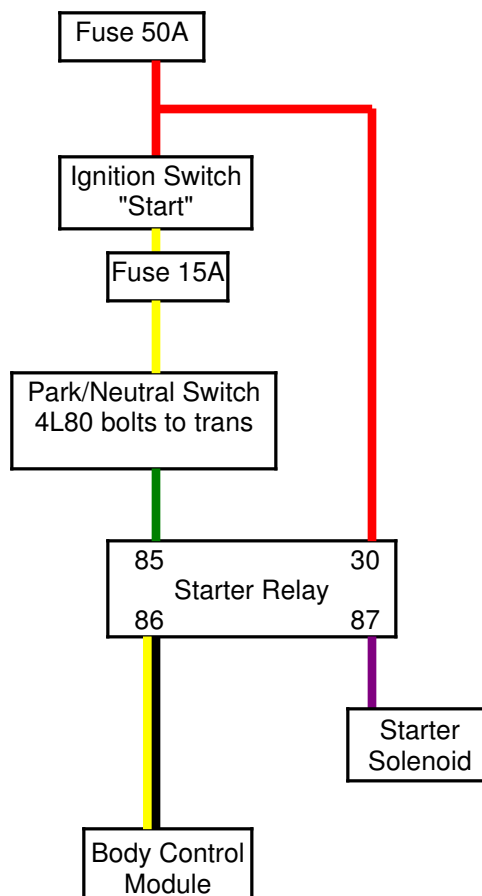
*See also MIL on another sheet.*

## Ignition Switch and Starter

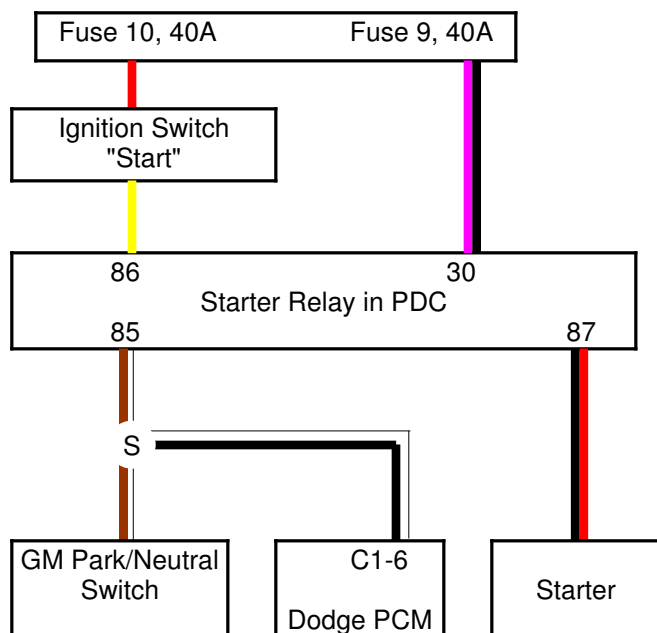
Dodge Ignition Switch & Starter



Chevy Ignition Switch & Starter



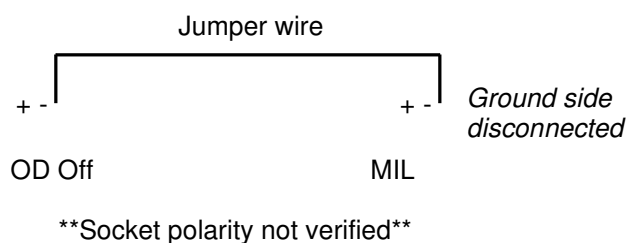
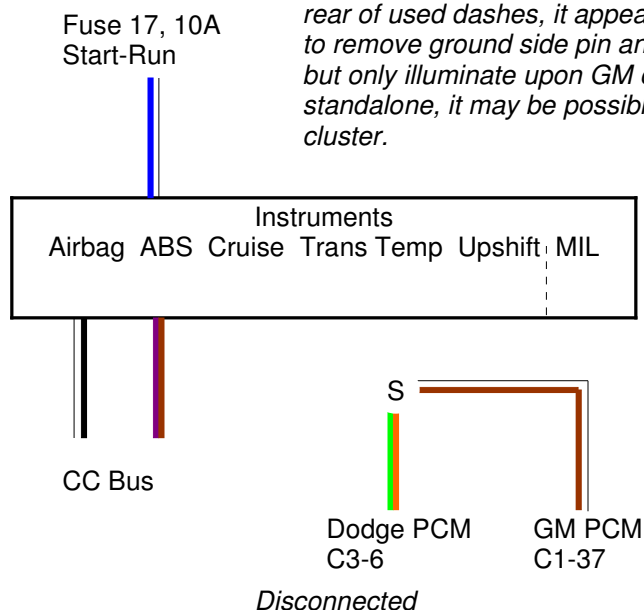
Hybrid Ignition Switch & Starter



See page 2 for  
P/N switch detail.

## MIL Lamp

*MIL is on Dodge Bus; lamps ground (illuminate) via CC Bus. MIL will need to only light via GM PCM. This will require a unique or modified bulb and socket wired to the GM PCM. Viewing the rear of used dashes, it appears the socket is easily accessible. Should be able to modify socket to remove ground side pin and rewire for GM output. Socket will still receive 12V from cluster but only illuminate upon GM output. Since the unused OD off wire C3-6 goes here and it is standalone, it may be possible to use it for this purpose to avoid running a new wire to the cluster.*



Dash wiring mod to use MIL w/ GM PCM



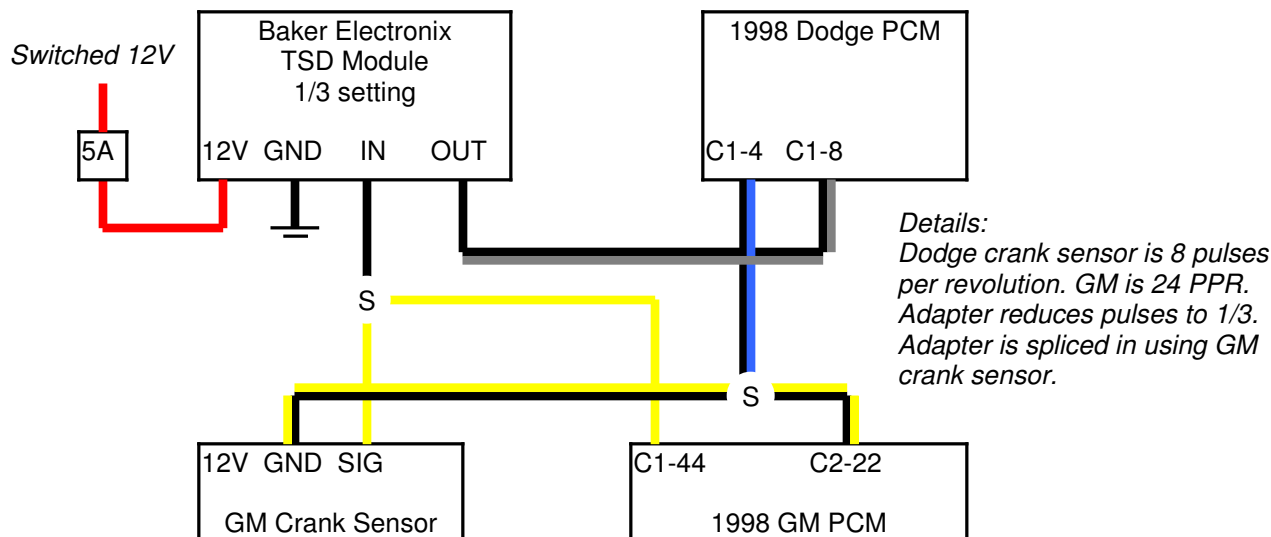
Verify polarity, disable (-) on check engine socket, then run a jumper from OD off socket (-) to check engine (-) side.

## Tach Adapters- 2 Variations

**UNTESTED  
THEORY**

### Dodge Tach Adapter (Baker Electronix)

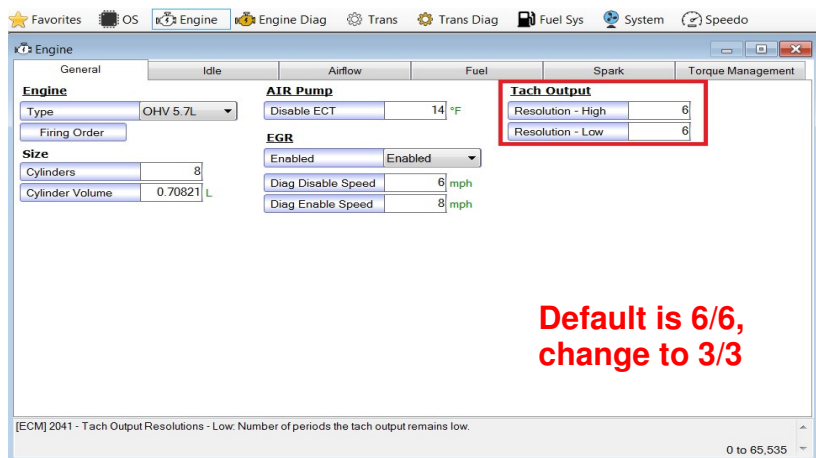
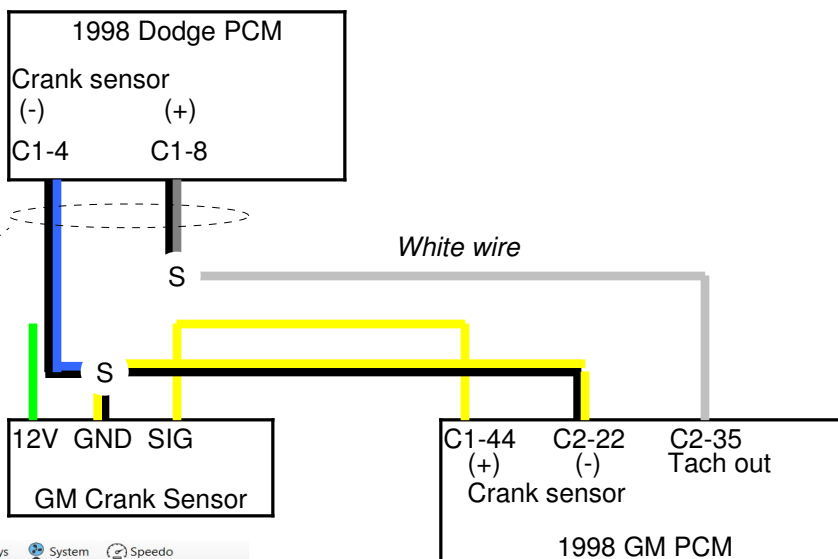
Adapter source: [http://www.bakerelectronix.com/products\\_tsd/](http://www.bakerelectronix.com/products_tsd/)



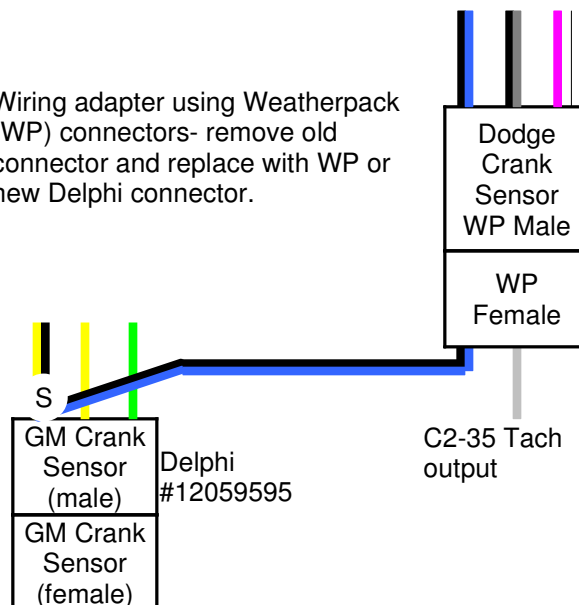
### Dodge Tach Adapter (HP Tuners)

The Dodge system generates an 8 pulse per revolution (PPR) signal from the crank sensor. The GM system is 24 PPR. Using HP Tuners tach output, this can be adjusted to 8 PPR via a setting of 3 high and 3 low. The GM tach wire is then spliced in to the Dodge PCM crank signal input.

*These are existing Dodge crank sensor wires*



Wiring adapter using Weatherpack (WP) connectors- remove old connector and replace with WP or new Delphi connector.



# 1998 Dodge Durango GM LSx Swap

## Transfer Case Information and Wiring

Note- the 1998 Durango came with either the 231D/231D HD (2WD high, 4WD high, Neutral, 4WD low) or 242D (same except no 2WD) transfer case, which was manually shifted via a lever on the console. Later models used similar cases (233 or 244) that were electrically shifted. These cases are available in different input shaft sizes. The Durango used a 23 spline input and either a 27 or 32 spline output. The 5.9 V8 usually had the 232D HD, which had the 32 spline output.

Since the GM cases used a different bolt pattern and either a 27 spline (TH 350, 4L60/65/70) or 32 spline (TH 400, 4L80/90) input, a different case is required depending upon which transmission is used. The later and far more expensive 6 speed 6L80 uses the 32 spline output while the 6L90 uses a different 29 spline output. Since these are new models, it's uncertain if an older transfer case will bolt to them. A GM case with a 32 spline output can use the same driveshaft yoke as a Durango that had the 231D HD. A good option for manually shifted trucks is the 241C, which is found in late 80's-late 90's GM trucks. It's available in both 27 and 32 spline inputs for use with either of the popular 4L60 or 4L80 transmissions. It is possible to find a 231C case used in a GM, but these were used mostly with V6 engines.

The case model can be decoded online. This is a brief overview, you can spend a lot of time reading about transfer cases. There are positives and negatives for the several options available.

First digit= Number of speeds, Second digit= Case size, Third digit= Drive type

2= Two speed

3= Case sizes range from 2 (smallest) through 7.

1= Part time 4WD manually shifted, 2= Part time plus full time 4WD manually shifted, 3= Same as 1, electrically shifted, 4= Same as 2, electrically shifted.

Transfer case data sources as of 2018:

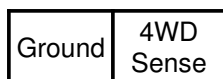
Chart listing what vehicle uses what transfer case:

<http://www.manualtransmissionpart.com/TransferCase-Make-Model.html>

New Venture model number decoding:

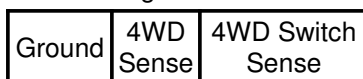
<http://bc4x4.com/faqs/yj.cfm?cat=6&faqid=162>

1998 Durango 231  
Transfer Case Wiring



Dash lamp:  
Part time  
4WD

1998 Durango 242 Transfer  
Case Wiring

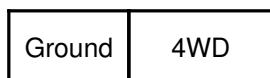


Dash lamp:  
Part time  
4WD

Dash lamp:  
Full time  
4WD

*This is an example, others are likely similar.*

1998 Chevy K2500 Pickup  
241 Transfer Case Wiring



Grounded  
to case?  
No wire  
seen on  
diagram.

PCM front  
wheel lock  
feed

For the 231, the GM switch should work the same as the Dodge one and it may even use the same connector. Parts listing for the 1998 Durango show only a 2 pin standard Weatherpack connector. 1998 Chevy listings show either the same 2 pin Weatherpack or a 3 pin Metripack.



# 1998 Dodge Durango GM LSx Swap

## Schematic- External and Modified Wires

