Motech GEN V Beta Kit info

This is overview of the Gen V drivetrain into your Jeep.

The L83 (Truck 5.3), L86 (Truck 6.2), and LT1 (Camaro/Corvette) are currently supported. Either a 6L80E or the 8L90E transmissions must be used and programmed to match your engine. It is best to get a complete drop out with matching transmission, computers, and engine harness. To save money get the engine with all accessories, wiring harness, and computers. The 8L90E has an external computer. The 6L80e is internal.

Transmissions. - The 6L80e and 8l90e the supported transmissions. Both transmissions fit great. The transmission computers must be programmed to match the engine. The 8l90e works best with heavy jeeps due to the gear reduction. We recommend to use @ 4.10 rear ratio. Current support transfer cases- 241J and the Atlas. The 8L90e transfer case adapter can be purchased through us. We are the only company using the 8L90e in swaps. We recommend getting 4x4 transmissions. The 2wd versions can be modded without disassembly. We have a youtube video on a 2wd to 4wd conversion. It is not hard. The 241J transfer case will need the output shaft changed out to a larger shaft for the 6l80e and 8L90e.

Accessory Drive - The Gen V truck drive is the only drive we support at this time. We add a power steering pump and bracket to this drive. The vacuum pump will need retained on the GM drive. The truck drive will clear the LT1 intake with alternative belt routing. Belt part # K060975 for truck.

Cooling system- The stock radiator is fine with the L83 engine. The 6.2 engines should use our heavy duty radiator. A GM fan must be used. This way the GM computer controls the fan as OEM intended. The Pentastar fan is not supported due to the different fan signal.

Functionality- Tap Shift, displacement on demand, and AC control are supported. Cruise in the test stages and will be functioning soon.

Fuel System- The stock pump works great. Gen V engines can run on 87 Octane. Using premium fuel will increase performance due to the ability to run more timing. Current MPG range from 15 to 19 MPG. Displacement on Demand (DOD) can be used for maximum fuel economy. It is recommended to run a quiet exhaust system when doing this. 4 cylinder mode can sound obtrusive. For DOD works best on lightweight jeeps. It will not work well with 40” inch tires.

A/C System

The compressor will be the GM gen V compressor in the stock location on the Gen V engine. We provide a billet adapter block to install the AC lines. AC pressure is monitored by the GM computer and the fan will run accordingly to control the ac pressures. The higher the pressure the faster the fan will run. AC compressor wiring will be built into the pentastar bulkhead wiring. For the 3.8 engine wiring the AC compressor wiring will be built into the gen v engine harness.

Mounting the Engine and transmission- The Gen V uses Motech EZ mounts that drop in without welding. The factory mounts will not be used. We have an alternative part number that has to be used with the EZ mounts. The L86 Engine uses a larger intake than the L83 and LT1. It will kiss the firewall padding. The beauty cover will need to be removed to clear the hood.

Power Levels

L83 355hp, 383 tq,L86 420hp, 460 tq,LT1 450hp, 450 tq

We find the L83 to outperform the 6.0. It makes more hp and torque. It performs great and is very affordable. Lots of torque and makes great horsepower.
The L86 is what we recommend for maximum performance on heavy jeeps. It is the only natural aspirated engine that can easily roast 40" tires. It idles at 500 rpm and makes crazy torque at low rpms. This is perfect for heavy modified Jeeps.
LT1 performs similar to the L86 with less down low torque due to the intake manifold design. The L86 and LT1 are the same long block engines. The power difference comes from intake and exhaust manifolds. The calibrations are different but we can tune both for best power.

What parts we need to modify for the Beta Kits.

Your factory GM Gen V engine harness. (New harness available for extra cost)
GM Gen V Engine Computer (We will need to program) (New Available for extra cost)
Jeep Computer if using remote start
Jeep engine harness (07 to 11 C100) - 2012 to Current (Pentastar engine harness)
AC Lines

Emissions- The Gen V kits include an emissions harness. All 4 02 sensors will be used along with a functioning EVAP system just like our Gen IV kits. For the 02 Sensor on the emission harness use part #
Exhaust System- Factory Gen V exhaust manifolds fit great. We sell an exhaust kit if needed.

Jeep Interior modifications- The Gen V gas pedal will be provided along with the mount. Your factory pedal will stay in the factory location. You will need to shorten the jeep pedal so it is out of the way. It is needed to reset oil life. A scanner can reset oil life if you desire to remove the jeep pedal. The factory cruise signal wire in the column will be tapped into to provide a signal to the Mocan module. The motech interior wiring is plug in play besides that cruise wire and brake switch. The provides the GM gas pedal connector, OBDII, and Mocan interface plug.

GEN V Parts List

Parts you will need to purchase for your Gen V build

- **Oil Cover: GM 12630766**
- **Oil Cover Gasket: GM 12623359**
- **Mass Air Flow Sensor: GM 23262343**
- **Upstream O2 Sensors (You will need 2): GM 12659516**
- **Downstream O2 Sensor (You will need 1): GM 12657188**
- **Emissions sensor O2 Sensor (You will need 1): GM 12609457**
- **6-Speed Transmission Lines: GM 92236244 (if needed)**
- **8-Speed Transmission Lines: GM 23347504 (if needed)**

Hot Rod Wiring

Interior harness

Make sure the 28 pin connector is fully locked. If not pedal may go into reduced power mode. You will feel a click when fully seated.

Pink Wire from OBD II- Wire to ignition and must remain hot during cranking. This turns on the ECU and all ignition circuits in the busman box.

Gray- SES Signal wire. GM ECU sends a ground signal to activate an SES Light

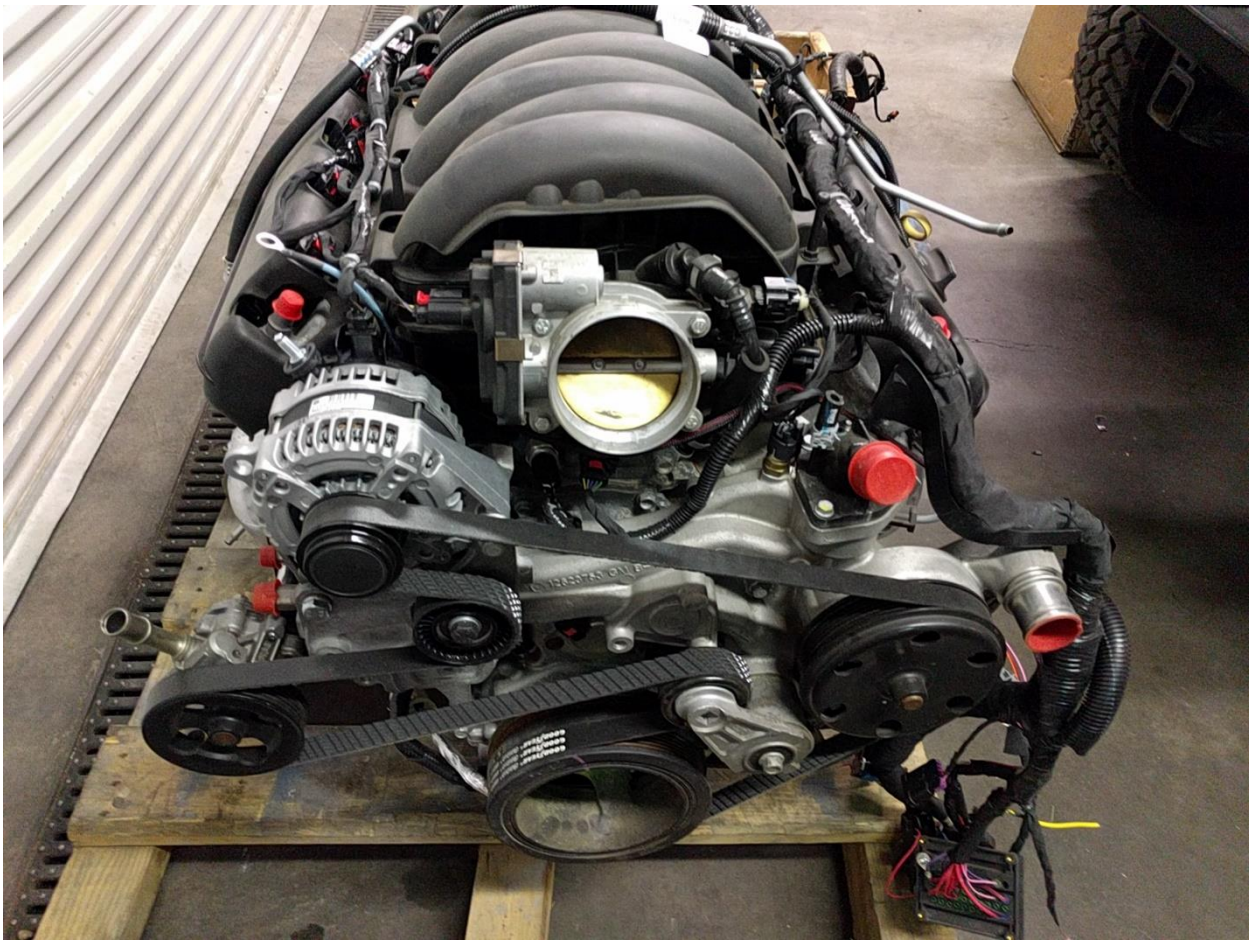
White- Compressor Turn on. Must receive 12 volts from AC controls and will turn on GM ac compressor

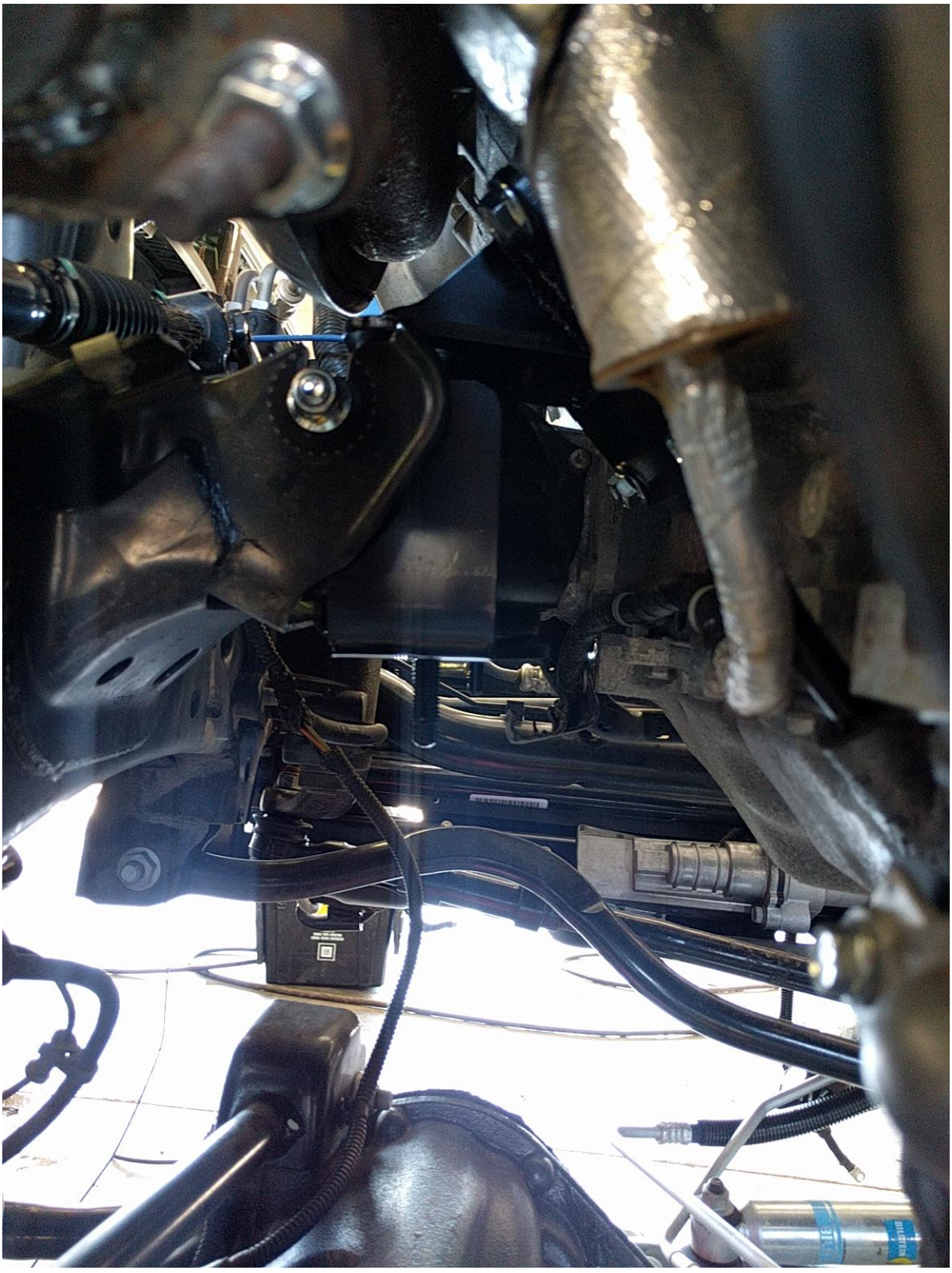
GM BUSSMAN fuse box

Yellow 12 gauge wire- Attach starter solenoid wire. This activates the starter.

22 Gauge Brown-Yellow. This is the GM fan control signal. Only PWM signal is supported. Must use a PWM controller for a standard fan.

Air intake size is critical. Must use a 3.5 inch intake. This is to match the airflow of the stock GM intake and the engine will be happy. 5.3 Throttle body is 3.5 inch. We use a 3.5 inch elbow to metal 3.5 inch pipe.



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