



# WIRING MANUAL & DIAGRAMS

## 199R10555



## HP EFI and Dominator EFI Systems

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## 1.0 Manual Overview

This manual contains information and diagrams related to wiring most Holley EFI products including ECU's, ignition systems, nitrous systems, water/methanol injection systems, sensors, and more.

### 1.1 Important Wiring “Do’s and Don’ts”

An EFI system depends heavily on being supplied a clean and constant voltage source. The grounds of an electrical system are just as important as the power side.

HP and Dominator ECU's both contain multiple processing devices that require clean power and ground sources. The wiring harnesses for them must be installed in such a manner that they are separated from “dirty” power and ground sources.

#### DO’S

- Install the main power and ground directly to the battery.
- Keep sensor wiring away from high voltage or “noisy/dirty” components and wiring, especially secondary ignition wiring, ignition boxes and associated wiring.
- Use shielded/grounded cable that is supplied for wiring crankshaft and camshaft signals.
- Properly solder and heat shrink any wire connections.
- It is critical that the engine has a proper ground connection to the battery and chassis.
- On GM LSx engines, always install the black “ignition ground” wire in the harness to the engine block or cylinder head.

#### DON'TS

- DO NOT EVER run high voltage or “noisy/dirty” wires in parallel (bundle/loom together) with any EFI sensor wiring. If wires need to cross, try to do so at an angle.
- Do not let Crank and Cam signal wiring near spark plugs and coil wires.
- Do not run non-shielded/grounded wire for crankshaft and camshaft signals, especially magnetic pickups.
- Do not run the USB Communications cable near or with any noisy wires.
- Do not exceed the current limits provided for the various outputs. If current levels exceed these, use the appropriate relay or solenoid drivers.
- Do not use improper crimping tools.
- Don't use things like “t-taps”, etc. Use solder and heat shrink.
- It is never recommended to splice/share signal wires (such as TPS, etc) between different electronic control units.
- Don't wire items that require “clean” ground or power to the same points.

## 2.0 ECU Installation, Connectors, and Pinout

**ECU Mounting** – The ECU is packaged with mounting hardware. This hardware includes stainless steel fasteners and locknuts and vibration absorbers. The vibration absorbers should be mounted between the ECU and mounting surface. If the mounting surface isn't flat, don't over-tighten the mounting screws.

**Battery Power Connection** – Both the HP and the Dominator ECU's share the same main battery power connector. Looking at the front, this connector is at the far right side. The bottom position, Terminal “A” is the ground. The upper position, Terminal “B” is the positive terminal. Always use the fused power cable with the proper connectors supplied by Holley only.

**USB Communications Connector** – Both the HP and Dominator ECU's share the same USB connector. Looking at the front, the connector is at the far left side. This connection is a common “mini USB” connector, typically used for digital cameras and other devices. Holley offers a USB cable with a sealed connector, PN 558-409 for applications where the USB cable will be plugged in, and the ECU is mounted in a dirty environment.

**HP ECU** – The HP ECU has **two** main connectors:

- **J1A** - The first connector next to the USB connector is the “J1A” connector (34 pin). This connector is primarily an “Input” connector. It contains all the sensor inputs and wide band oxygen sensor control.
- **J1B** - The second connector is the “J1B” connector (26 pin). This connector is the “output” connector. It has 8 injector outputs, 8 DIS ignition outputs, 4 IAC outputs, and 4 user programmable outputs.

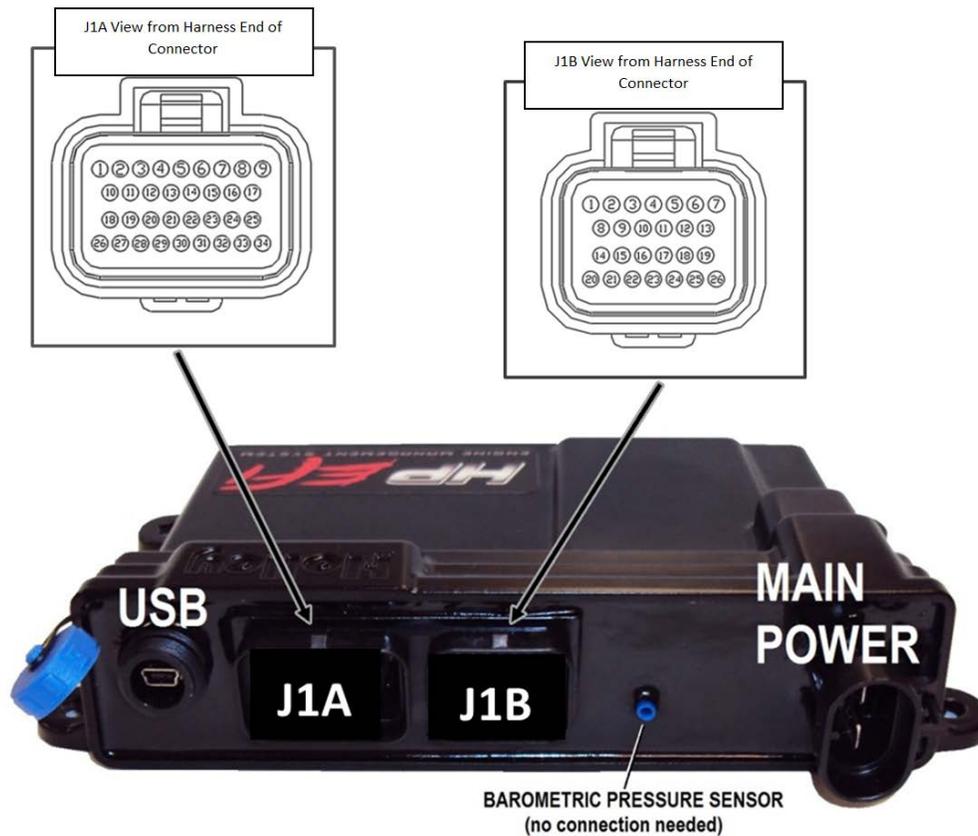


Figure 1

**Dominator ECU** – The Dominator ECU contains the same two main connectors that the HP ECU has - J1A and J1B. The main wiring harnesses are identical between the two, meaning a Dominator ECU can be installed in place of an HP ECU.

The Dominator ECU has **four** additional connectors that the HP does not. They are as follows and are seen on Figure 2.

1. **J2A** – The J2A connector is an “Input” connector for the following purposes:
  - #2 wide band oxygen sensor input
  - A variety of user programmable inputs.
2. **J2B** – The J2B connector is an “Output” connector for the following purposes:
  - Four additional injector driver outputs.
  - Four Additional coil driver outputs
  - A variety of user programmable outputs.
3. **J3** – The J3 connector contains the following:
  - Intended for use for Drive By Wire throttle body operation
  - It contains a dedicated pin for the “multi-map selector”. (PN 558-407)
  - Contains a variety of user programmable inputs and outputs
4. **J4** – The J4 connector is intended for electronic transmission control for GM 4L60-80E transmissions. If an electronic transmission is not used, all the pins (which contain various input and output options) or open for use as user configurable selections.

**NOTE:** All connectors are keyed differently, so it is not possible to install them incorrectly.

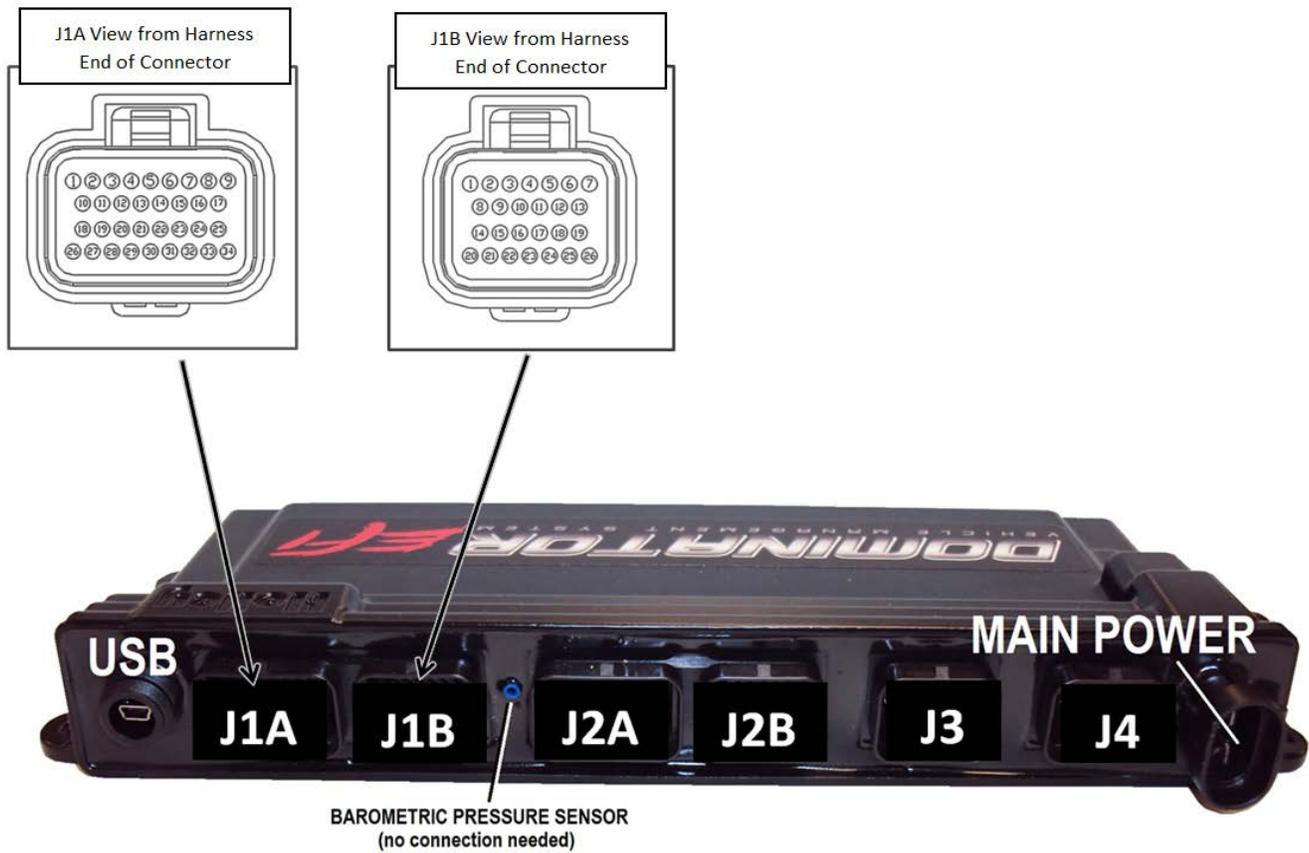


Figure 2

### Purchasing Connectors

The J2A, J2B, J3, and J4 can be purchased in two different manners. Each can be purchased individually. These kits contain the connector as well as all the wires that would be populated into them. The wires have the pins properly crimped onto them, but are not inserted into the connector. The second method is to purchase a kit which has all the connectors and pins, but does not have any wiring.

The PN's are as follows:

**558-401 – J2A Auxiliary Harness** - Contains connector and loose wires with crimped pins. It also contains the #2 WB02 sensor input which is properly wired and terminated into connector.

**558-402 – J2B Auxiliary Harness** – Contains connector and loose wires with crimped pins.

**558-403 – J3 Auxiliary Harness** - Contains connector and loose wires with crimped pins.

**558-404 – J4 Auxiliary Harness** - Contains connector and loose wires with crimped pins.

**558-405 – GM 4L60/80E Transmission Harness** – Complete terminated harness with J4 connector to operate GM electronic transmissions.

**558-406 – GM Drive By Wire Harness** – Complete terminated harness with J3 connector to operate late GM drive by wire systems.

**558-408 – J2A, J2B, J3, J4 Connector and Pin Kit** – Contains connectors and pins, but no wiring.

## 2.1 Pinout

The following is a pinout of all connectors.

The J1A and J1B connectors and pinout are identical for the HP and Dominator ECU's.

### J1A Connector

Pin	Function
A1	Coil - Input
A2	Fuel Pump Out (+12v) (10A Max)
A3	Input #2 (F52THG)
A4	Input #4 (F5G)
A5	TPS Input
A6	Points Trigger Output
A7	WB1 COMPR2
A8	WB1 Shield
A9	WB HTR -
A10	Switched +12v Input
A11	Manifold Air Temp Input
A12	Input #1 (F52THG)
A13	Input #3 (F5G)
A14	Cam/Crank Ground
A15	Gauge Digital Output
A16	WB1 COMPR1
A17	WB1 VS-/IP+
A18	Sensor Ground
A19	Engine Coolant Temp Input
A20	Oil Pressure Input
A21	Knock #2 Input
A22	Cam Sync Input / Ignition Bypass Output
A23	Map Sensor Input
A24	CAN Lo
A25	WB1 VS+
A26	Sensor +5v
A27	NOT USED
A28	EST/Spout Output
A29	Knock #1 Input
A30	Crank Speed Input
A31	Fuel Pressure Input
A32	CAN Hi
A33	WB1 IP+
A34	WB HTR +

### J1B Connector

Pin	Function
B1	IAC A Lo
B2	IAC A Hi
B3	Output #4 (G P-)
B4	Injector F Output
B5	Injector G Output
B6	Injector H Output
B7	Injector E Output
B8	IAC B Lo
B9	IAC B Hi
B10	Output #3 (G P-)
B11	Output #2 (H P+)
B12	Output #1 (H P+)
B13	Injector D Output
B14	EST Ground Output
B15	EST 2 Output (Cylinder #2)
B16	EST 4 Output (Cylinder #4)
B17	EST 6 Output (Cylinder #6)
B18	EST 8 Output (Cylinder #8)
B19	Injector A Output
B20	EST 12V Output
B21	EST 1 Output (Cylinder #1)
B22	EST 3 Output (Cylinder #3)
B23	EST 5 Output (Cylinder #5)
B24	EST 7 Output (Cylinder #7)
B25	Injector C Output
B26	Injector B Output

**J2A**

Pin	Function
A1	Input #6 (52THG)
A2	Input #10 (52THG)
A3	Input #14 (5G)
A4	Input #18 (FS)
A5	Input #21 (5HG)
A6	Input #25 (5HG)
A7	WB2 COMPR2
A8	WB2 Shield
A9	WB2 HTR -
A10	Input #5 (52THG)
A11	Input #9 (52HG)
A12	Input #13 (5G)
A13	Input #17 (FS)
A14	Input #20 (5HG)
A15	Input #24 (5HG)
A16	WB2 COMPR1
A17	WB2 VS-/IP+
A18	Sensor Ground
A19	Input #8 (52THG)
A20	Input #12 (5G)
A21	Input #16 (FS)
A22	Speed Inputs Ground
A23	Input #23 (5HG)
A24	Input #27 (5HG)
A25	WB2 VS+
A26	Sensor +5v
A27	Input #7 (52THG)
A28	Input #11 (52THG)
A29	Input #15 (5G)
A30	Input #19 (FS)
A31	Input #22 (5HG)
A32	Input #32 (5HG)
A33	WB2 IP+
A34	WB2 HTR +

**J2B**

Pin	Function
B1	Output #16 (H P+)
B2	Output #15 (H P+)
B3	Output #11 (G P-)
B4	Output #17 (H P+)
B5	Output #9 (G P-)
B6	Output #6 (G P-)
B7	Injector J Output
B8	Output #7 (G P-)
B9	Output #12 (G P-)
B10	Output #18 (H P+)
B11	Output #10 (G P-)
B12	Output #5 (G P-)
B13	Injector K Output
B14	EST Ground Output
B15	EST I Output
B16	EST K Output
B17	EST J Output
B18	EST L Output
B19	Injector L Output
B20	EST 12V Output
B21	Output #8 (G P-)
B22	Output #19 (H P+)
B23	Output #20 (H P+)
B24	Output #13 (H P+)
B25	Output #14 (H P+)
B26	Injector I Output

**J3**

Pin	Function
B1	Sensor Ground
B2	Input #31 (5)
B3	Input #32 (5)
B4	DBW #2 A Out
B5	DBW #2 B Out
B6	DBW #1 A Output
B7	DBW #1 B Output
B8	Sensor +5v
B9	Input #30 (5)
B10	Output #24 (H P+)
B11	Output #23 (H P+)
B12	Output #22 (G P-)
B13	Output #21 (G P-)
B14	CAN2 Lo
B15	Input #29 (5)
B16	Sensor Ground
B17	Global Folder Config Select Switch
B18	Input #36 (52THG)
B19	Output #25 (H P+)
B20	CAN2 Hi
B21	Input #28 (5)
B22	Sensor +5v
B23	Input #33 (5)
B24	Input #35 (52THG)
B25	Input #34 (5)
B26	Output #26 (H P+)

**J4**

Pin	Function
B1	Output #30 (G P-)
B2	Output #29 (G P-)
B3	Output #36 (H P+)
B4	Output #35 (H P+)
B5	Output #32 (H P+)
B6	Output #34 (H P+)
B7	Output #28 (G P-)
B8	Input #46 (5HG)
B9	Input #45 (5HG)
B10	Input #47 (5HG)
B11	Output #31 (H P+)
B12	Output #33 (H P+)
B13	Output #27 (G P-)
B14	Sensor Ground
B15	Input #42 (5HG)
B16	Input #48 (5HG)
B17	Input #37 (52THG)
B18	Input #39 (FS)
B19	Input #40 (FS)
B20	Sensor +5v
B21	Input #41 (5HG)
B22	Input #43 (5HG)
B23	Input #44 (5HG)
B24	Input #49 (F5G)
B25	Input #38 (52THG)
B26	Input #50 (F5G)

### 3.0 Main Harness

The following overviews all the connections on the "Main Harness". The Main Harness is the primary harness that supports all the primary engine sensors, fuel and ignition for 8 cylinder engines, the #1 wideband oxygen sensor, and the first four programmable input and output channels. There are two connectors for this harness designated as "J1A" (pin designations below that start with an A) and "J1B" (pin designations below that start with a B).

The following descriptions indicate the name of the item and the name as labeled on the harness is shown in parenthesis. The pinout for the ECU is then shown. If the wires are terminated into the same connector on every type of main harness, the connector pinout is given as well. If the connector may vary by application, such as a TPS or IAC, the connector pinout is not given. To see the connector pinout for a specific application, locate the wiring diagram themselves contained in the WIRING APPENDIX, located at the end of this manual.

## 4.0 Primary Sensors

### 4.1 Throttle Position Sensor (TPS)

Holley EFI systems work with any 0-5V throttle position sensors.

A5 – TPS Signal

A18 – Sensor Ground

A26 – Sensor +5V Reference Out

## 4.2 Manifold Air Pressure Sensor (MAP)

Holley EFI systems work with 1, 2, 3, 4, or 5 Bar MAP sensors. Make sure to select the proper sensor used in the software.

A18 – Sensor Ground  
A23 – MAP Sensor Signal  
A26 – Sensor +5v Reference Out

## 4.3 Coolant Temperature Sensor (CTS)

Holley EFI systems work with any 2 wire thermistor style coolant temperature sensors. Make sure to select the proper sensor in the software.

A18 – Sensor Ground  
A19 – Coolant Temp In

## 4.4 Manifold Air Temperature Sensor (MAT)

Holley EFI systems work with any 2 wire thermistor style manifold air temperature sensors. Make sure to select the proper sensor in the software.

A11 – Manifold Air Temp In  
A18 – Sensor Ground

## 4.5 Knock Sensor (Knock)

Holley EFI systems work with either a one wire or two wire knock sensor. Application specific harnesses will have the correct knock sensor connections installed on the harness. A Universal harness comes with a 3 pin metripak connector. If a knock sensor is added, it should be connected into this connector

A21 – Knock Sensor #2 Input (**Pin A**)  
A29 – Knock Sensor #1 Input (**Pin B**)  
A18 – Sensor Ground (**Pin C**)

## 4.6 Wide Band Oxygen Sensor (WB02)

Holley EFI systems can work with either a Bosch (PN 554-101) or NTK (PN 554-100) wide band oxygen sensor. These sensors must be purchased from Holley as they are calibrated specifically for use with Holley EFI systems.

A34 – WB1 HTR+ (**Pin A**)  
A9 – WB1 HTR - (**Pin B**)  
A16 – WB1 COMPR1 (**Pin C**)  
A7 – WB1 CCOMPR2 (**Pin D**)  
A17 – WB1 VS-/IP- (**Pin E**)  
A33 – WB1 IP+ (**Pin F**)  
A25 – WB1 VS+ (**Pin G**)  
A8 – WB1 Shield (**Pin H**)

## 4.7 Fuel Pressure (Fuel)

A fuel pressure input is a standard feature on Holley EFI. A connector is installed that is plug-and-play with Holley 100 PSI pressure transducer PN 554-102. A different 0-5V transducer can be used, but the calibration must be set up as a custom sensor in the software. If these are not connected to a pressure transducer, the Fuel and Oil Pressure will read “LOW Err” in the data monitor. This will not cause any issues.

A18 – Sensor Ground (**Pin A**)  
A26 – Sensor +5V Reference Out (**Pin B**)  
A31 – Fuel Pressure Signal (**Pin C**)

## 4.8 Oil Pressure (Oil)

An oil pressure input is a standard feature on Holley EFI. A connector is installed that is plug-and-play with Holley 100 PSI pressure transducer PN 554-102. A different 0-5V transducer can be used, but the calibration must be set up as a custom sensor in the software. If these are not connected to a pressure transducer, the Fuel and Oil Pressure will read "LOW Err" in the data monitor. This will not cause any issues.

A18 – Sensor Ground (**Pin A**)

A26 – Sensor +5V Reference Out (**Pin B**)

A20 – Fuel Pressure Signal (**Pin C**)

## 4.9 CANbus (CAN)

All harnesses have a CANbus communications connector. This is used to communicate with CANbus devices, such as the Avenger Handheld tuning module or the 5.7" Touch Screen LCD. If these devices or any other CANbus device is not being used, there is no need to do anything with this connector.

A24 – CAN Lo (**Pin B**)

A32 – CAN Hi (**Pin A**)

## 5.0 Primary Outputs

### 5.1 Idle Air Control (IAC)

The terminated IAC connector is for a 4 wire stepper type IAC. A 2 wire PWM (Pulse Width Modulated) IAC can be used, see section 9.2. The following shows the outputs for a stepper IAC.

B1 – IAC A Lo

B2 – IAC A Hi

B8 – IAC B Lo

B9 – IAC B Hi

### 5.2 Fuel Injector Outputs (Injectors)

All terminated harnesses have a fuel injector connector. Various fuel injector harnesses plug into this connector. It is essential these harnesses are used so that injector firing sequence is maintained.

Note that for engines with different firing orders, you do NOT change these pins. The engine's firing order is input in the software itself. Pin's A-H are routed to the cylinder number designation for the engine (i.e. A goes to cylinder #1, B goes to cylinder #2, etc). V8 harnesses offered by Holley are labeled for GM, Ford, and Chrysler engines.

B19 – Injector A (**Pin A**)

B26 – Injector B (**Pin B**)

B25 – Injector C (**Pin C**)

B13 – Injector D (**Pin D**)

B7 – Injector E (**Pin E**)

B4 – Injector F (**Pin F**)

B5 – Injector G (**Pin G**)

B6 – Injector H (**Pin H**)

+12V Power – (**Pins J/K**)

## 5.3 Ignition Adapter (Ignition)

The Ignition Adapter connector contains all the wires needed to connect to adapter harnesses offered by Holley for various ignition systems and crank and cam sensor. The only ignition related wiring that is NOT contained on this connector is individual coil driver outputs for DIS applications.

The adapter is pinned as follows:

A30 – Crank signal Input – Both digital and inductive (proper type must be selected in the software) **(Pin A)**  
A22 – Cam signal Input / Ignition Bypass Output– Both digital and inductive (proper type must be selected in the software)  
**NOTE:** If using a computer-controlled GM HEI Distributor, this pin will serve as the ignition bypass output **(Pin B)**  
A14 – IPU Ground **(Pin C)**  
Chassis Ground – **(Pin D)**  
A10 – Switched +12v **(Pin E)**  
A27 – NOT USED **(Pin F)**  
A14 – IPU Ground **(Pin G)**  
A28 – EST/Spout Output **(Pin H)**  
A14 – Shield Ground **(Pin J)**  
A14 - Shield Ground **(Pin K)**

**NOTE:** The crank and cam input wiring in both the main harness and adapter harnesses use a shielded/grounded cable. The shield is grounded at the ECU end. You do not ground both end of shielded/grounded cable. It is always recommended to use shield/grounded cable to protect the integrity of the crank or cam sensor input signals. This is especially important when using a magnetic pickup. A hall effect sensor is much less susceptible to noise interference and is always the recommended sensor type to use.

Holley offers the following ignition adapter harnesses.

**271R1012A – “Tach Out”** – This adapter connects into the “Tach Out” on a CD ignition box when the ECU is NOT controlling ignition timing. This adapter is included with all HP and Avenger TBI and Multiport Fuel Injection systems.

**558-303 – Magnetic Pickup Harness** – Intended for magnetic pickups. Either crank trigger or distributor mounted - Does not contain cam sync wiring.

**558-304 – HEI** – Connects to a small cap GM HEI computer controlled distributor

**558-305 – Ford TFI** – Connects to a Ford TFI Distributor.

**558-306 – Universal Unterminated Ignition Harness** – Contains ignition adapter connector and all wiring to connect to any crank and cam sensors (pins A-K). Also, contains shielded/grounded cable for crank and cam sensor inputs. The user must supply terminals and connectors to plug into their chosen sensors.

**NOTE:** See section 8.0 for diagrams on wiring most ignition systems.

## 6.0 Loose Wires

The following loose wires in the main wiring harness should be connected as follows on all systems:

**12V Switched – Color = Red/White** – Should be connected to a clean +12 volt power source. Power source should only be active when the ignition is on. Make sure source has power when engine is cranking as well. Not all sources apply power when the ignition switch is in “cranking” position.

**12V Battery – Color = Red** – Should be connected directly to the battery. There is a fuse holder attached that should contain a 20A rated fuse. This powers the fuel pump and fuel injectors.

**12V Fuel Pump – Color = Green** - Used to directly power a fuel pump (+12 volt). Fully terminated harnesses utilize a relay to supply this power. 14 gauge wire is used. Due to this, it is not recommended for pumps that draw over 10-12 Amps to use this wire. For high current pumps, use this wire to trigger a separate relay and use larger gauge wire to feed the pump - 10 gauge is recommended.

**Points Output – Color = White** – Used to trigger a CD ignition box. See the ignition wiring section for detailed wiring.

**Ignition/DIS Chassis Ground – Color = Black** – Connect to a ground point that has excellent connectivity with both the engine and the battery.

**“Coil – ” – Color = Yellow** – Used for an RPM input signal when not controlling timing and NOT running a Capacitive Discharge (MSD) ignition system. See the ignition wiring section 8.0 for detailed wiring. **WARNING!** Connecting this wire to the coil of a CD ignition will damage the ECU.

## 7.0 Main Power

### 7.1 Overview

Holley HP and Dominator ECU's use the same main power cable. These wires should be run directly to the battery. 10 gauge wire is used. The harness comes with a 40 Amp fuse pre-installed. Do not substitute smaller gauge wires.

## 8.0 Ignition System Wiring

Both the HP and Dominator Systems support a wide variety of ignition systems. The following schematics show how to wire the most typical systems

### 8.1 LSx Engines with 24x Crankshaft Reluctor Wheel

These engines include LS1, LS6, a few early LS2 engines and some truck engines. Harness P/N 558-102 is "plug and play" for the Camaro/Corvette applications that have 24x crankshaft reluctor wheels and 1x camshaft trigger wheels. The harness is designed with the camshaft sensor located at the back of the engine. The early 24x LS2 engines may have it mounted in the front, in which case the cam sensor wire will have to be extended. The harness plugs into the factory GM coils harnesses. No additional harnesses are needed other than an injector harness to run the engine (unless drive by wire or transmission control is desired). For standard Bosch style injector connectors, PN 558-200 can be used. For EV6 style injectors, use injector harness PN 558-201.

**NOTE:** On GM LSx engines, always install the black "ignition ground" wire in the harness to the engine block or cylinder head.

### 8.2 LSx Engines with 58x Crankshaft Reluctor Wheel

These include most LS2, LS7, LS3, and some truck engines. Harness P/N 558-103 is "plug and play" for most 58x crankshaft reluctor wheels and 4x camshaft trigger wheels. The harness plugs into the factory GM coils harnesses. No additional harnesses are needed other than an injector harness to run the engine (unless drive by wire or transmission control is desired). For standard Bosch style injector connectors, PN 558-200 can be used. For EV6 style injectors, use injector harness PN 558-201.

**NOTE:** On GM LSx engines, always install the black "ignition ground" wire in the harness to the engine block or cylinder head.

### 8.3 Small Cap Computer Controlled GM HEI

To connect to a small cap computer controlled GM HEI, ignition adapter harness PN 558-304 is required. The following diagrams overview how to wire with and without a CD ignition box.

**HOLLEY EFI TO GM HEI IGNITION - USING COMPUTER CONTROLLED DISTRIBUTOR, EXTERNAL COIL (ECU CONTROLLING TIMING)**

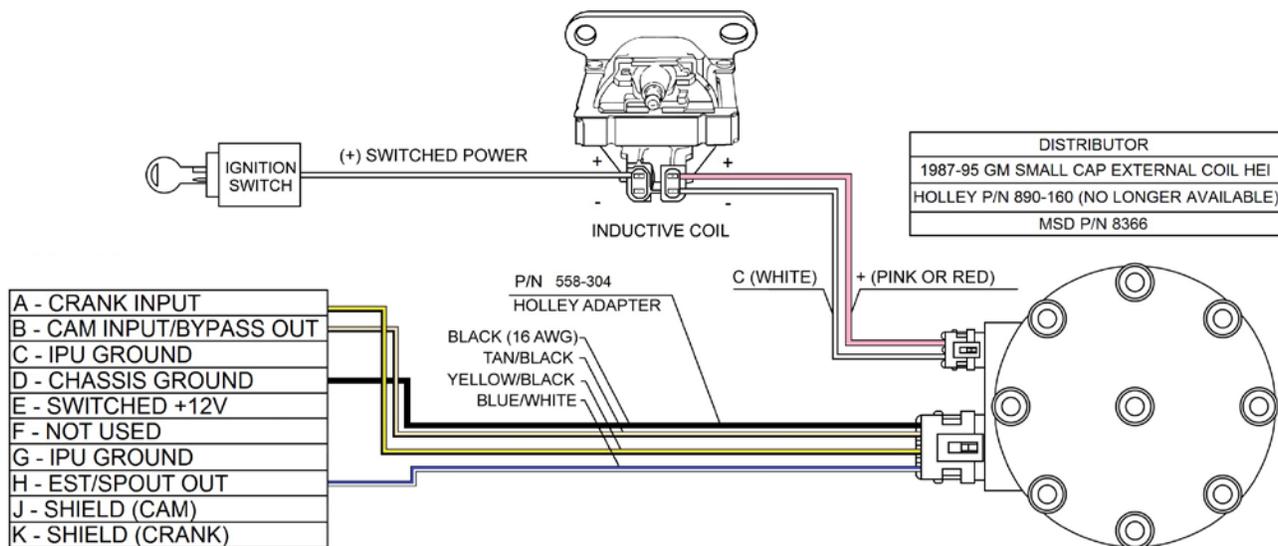


Figure 3

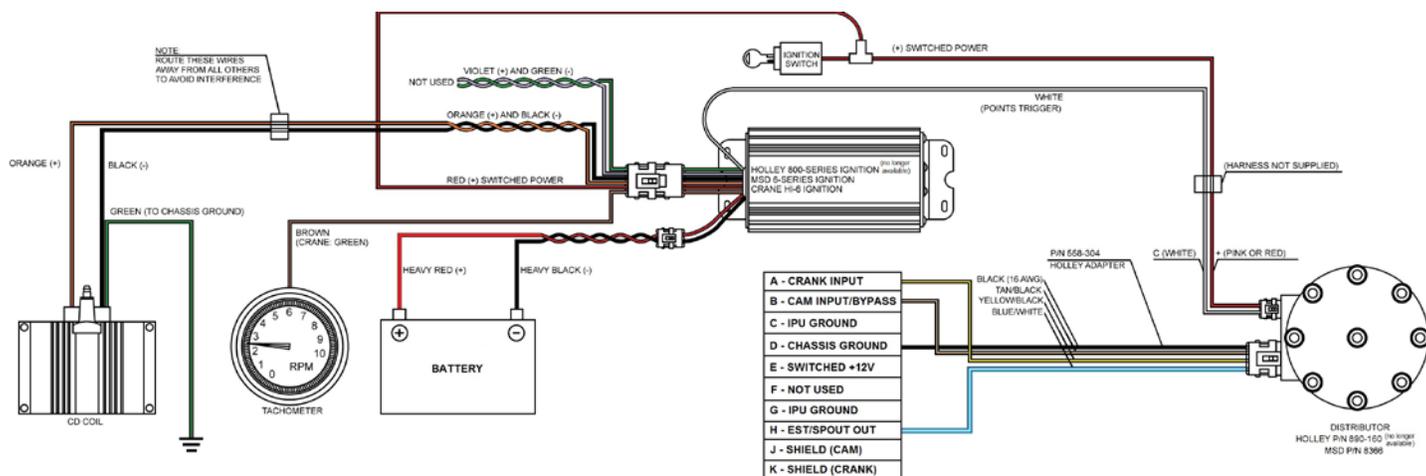


Figure 4

## 8.4 Ford TFI

To connect to a Ford TFI ignition module, ignition adapter harness PN 558-305 is required. Note that the system is designed only for distributors used for sequentially injected Ford engines such as 5.0L Mustangs. A very small amount of TFI style distributors around 1985 did not have a cam sync ident in the pickup. The following diagrams overviews how to wire a TFI distributor with and without a CD ignition box.

### HOLLEY EFI TO FORD TFI IGNITION (SEQUENTIAL) - USING FORD COMPUTER-CONTROLLED DISTRIBUTOR, TFI MODULE (ECU CONTROLLING IGNITION TIMING)

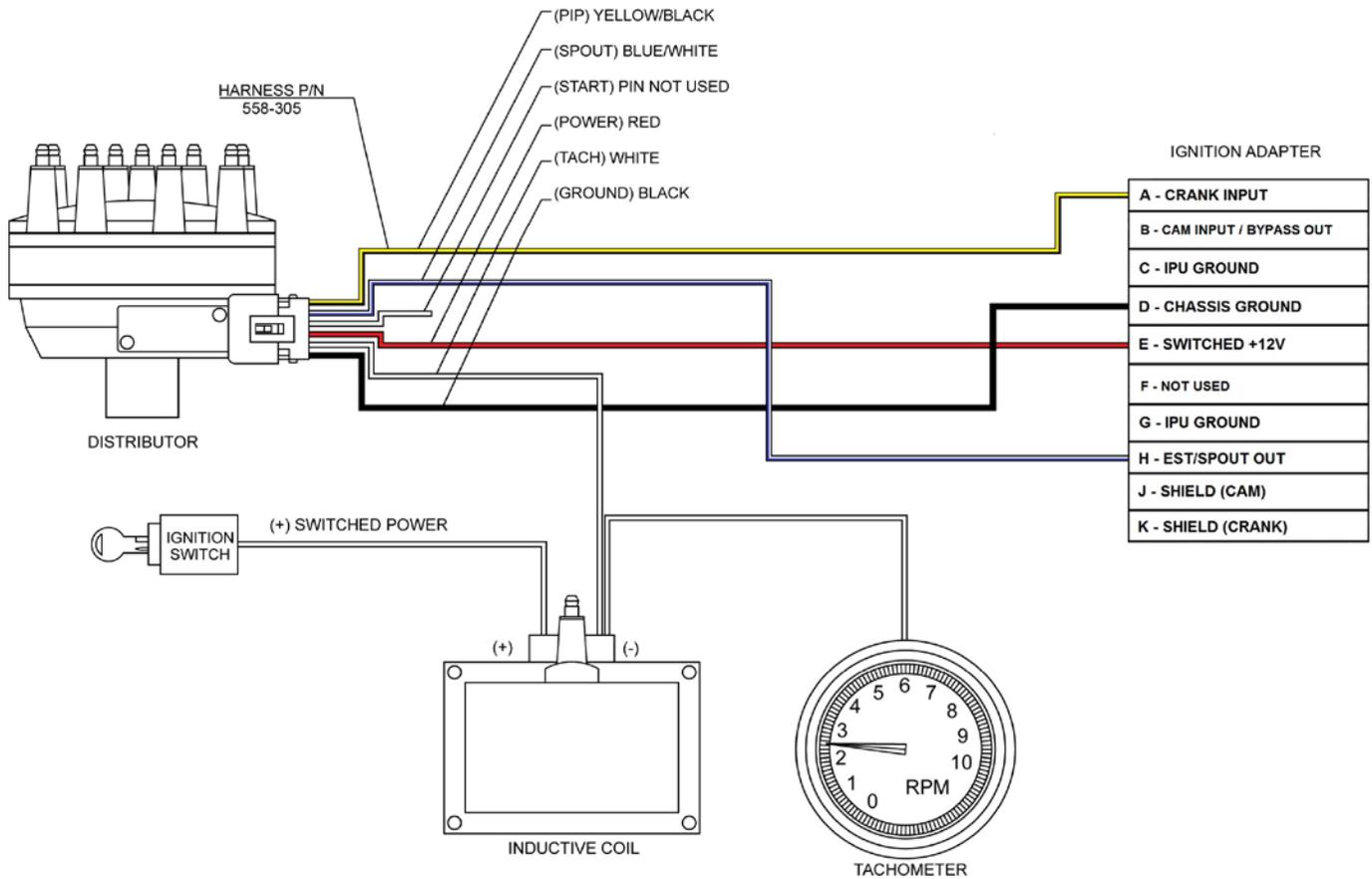
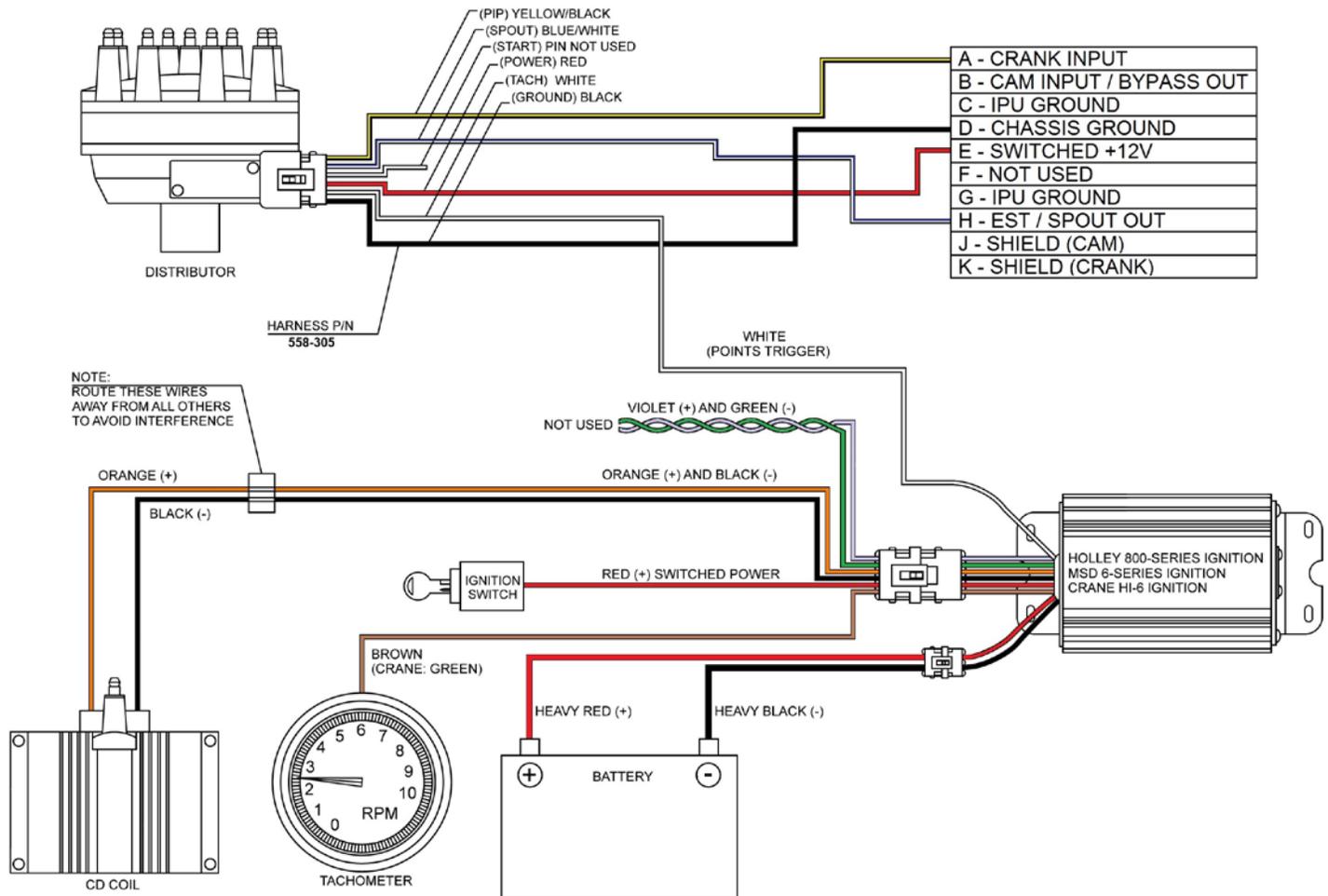


Figure 5

**HOLLEY EFI TO AFTERMARKET IGNITION - USING FORD COMPUTER-CONTROLLED TFI DISTRIBUTOR (SEQUENTIAL), TFI MODULE (ECU CONTROLLING IGNITION TIMING)**



**Figure 6**

## 8.5 NON- ECU Controlled Timing Applications (ex. GM Non-ECU Controlled Large Cap HEI)

To connect to a distributor that has mechanical advance and is not controlled by the ECU (ex. GM large cap HEI non-computer controlled distributor), refer to the following diagrams.

- If **NOT** using a CD ignition box, connect the loose YELLOW (NOT yellow/black wire) in the harness to the negative side of the ignition coil.
- If using a CD ignition box, connect the purple crank input wire located in the ignition adapter harness to the "tach out" in the ignition box. This wire is located in Pin A of the 10 pin ignition adapter in the EFI harness (Do **NOT** use the purple wire in pin B – this is for the camshaft sensor input). The following shows three options in order of preference:
  - 1) Most kits come with a 10 pin ignition adapter harness with a single YELLOW/BLACK wire that directly connects to the ignition adapter on the main harness. If you have this adapter, use it to connect the YELLOW/BLACK wire into the tach output of the CD ignition box.
  - 2) If your kit contains an HEI distributor ignition adapter harness (4 wires), you can cut and splice into the YELLOW/BLACK wire in it. This saves you from having to modify the main harness.
  - 3) If you have no ignition adapter harness, you can splice into the purple wire in the main harness.

If any splicing is done, make 100% certain that this is a very solid connection. Solder and heat shrink is highly recommended. This supplies the engine speed signal to the ECU and if the connection is not solid, the engine will not run properly.

### HOLLEY EFI TO GM HEI - USING MECHANICAL AND VACUUM ADVANCE 4-PIN MODULE DISTRIBUTOR (ECU "NOT" CONTROLLING IGNITION TIMING)

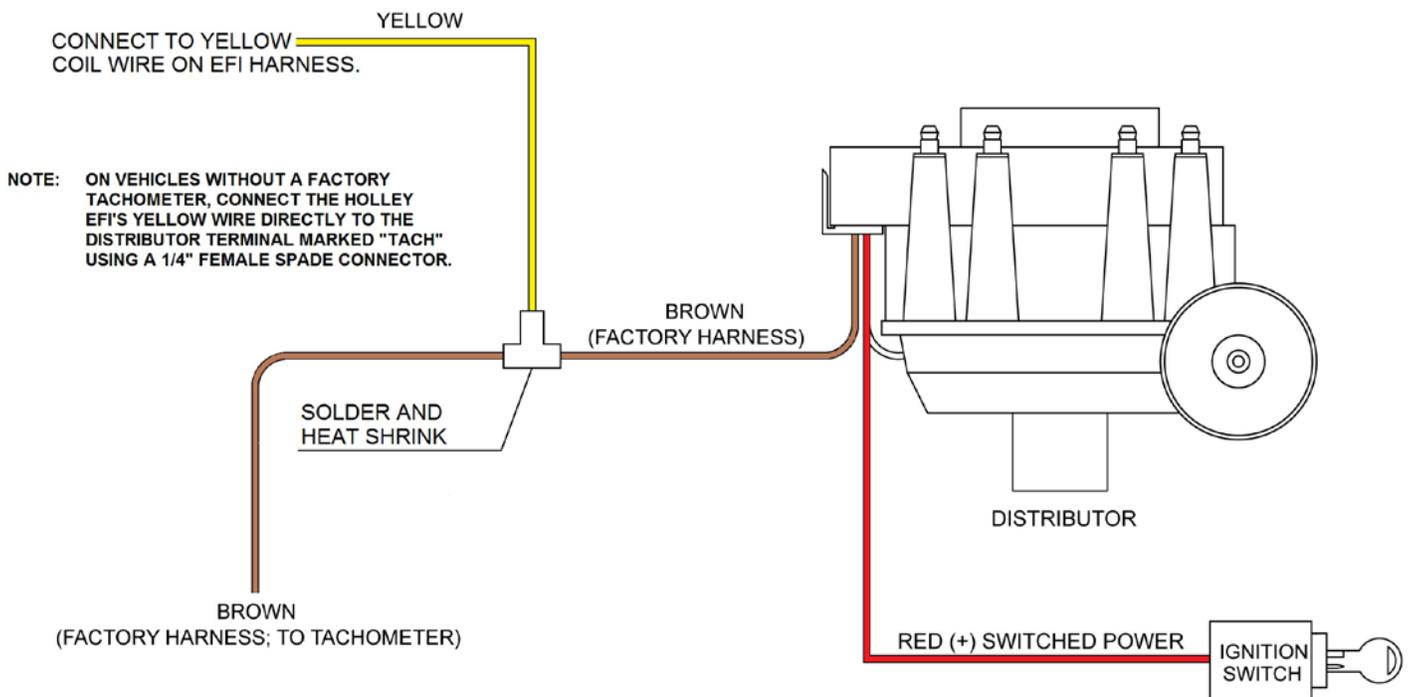


Figure 7

## HOLLEY EFI TO AFTERMARKET IGNITION - USING MAGNETIC PICK-UP DISTRIBUTOR (ECU "NOT" CONTROLLING IGNITION TIMING)

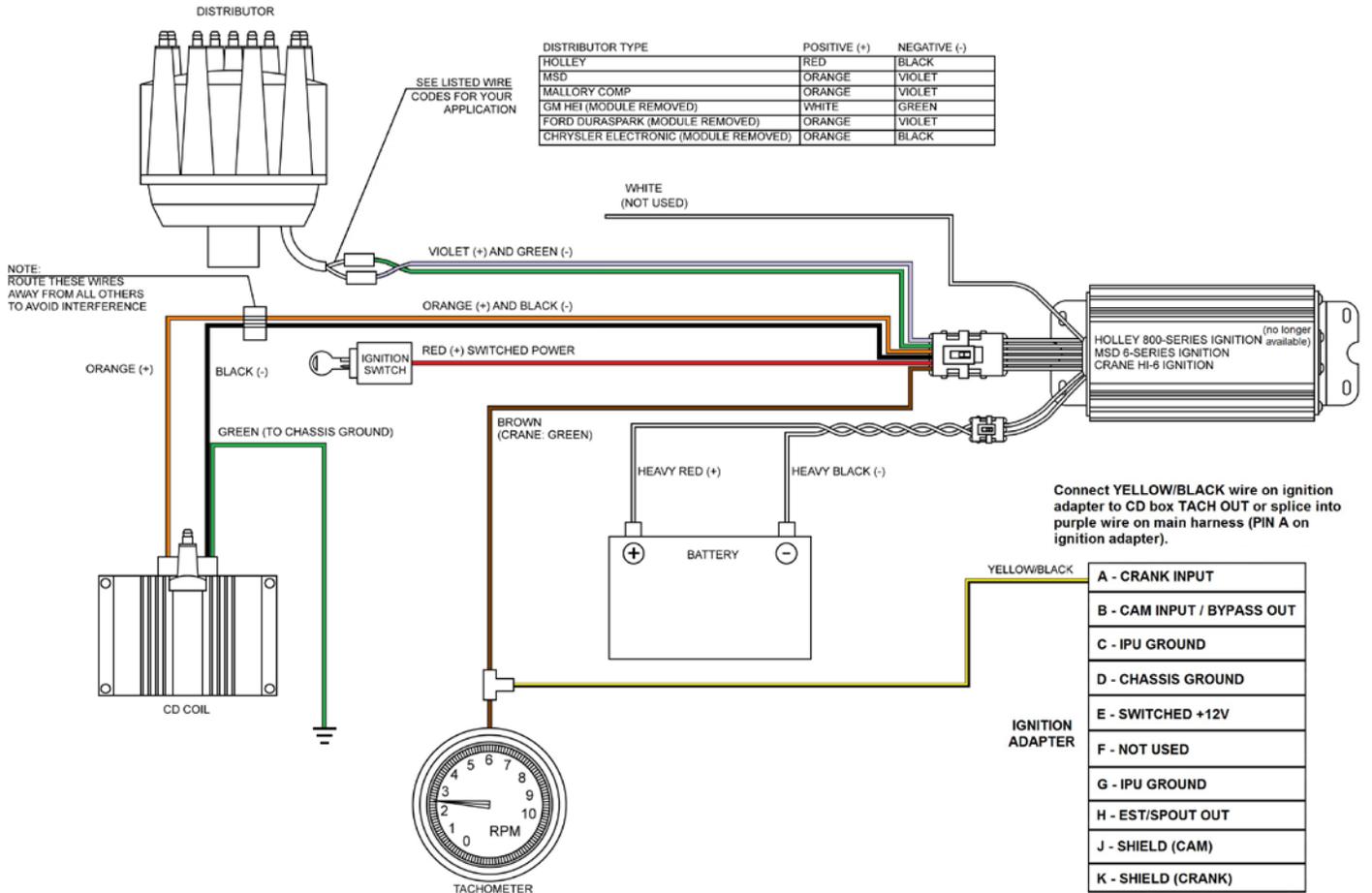


Figure 8

## 8.6 Magnetic Crank Pickup

The follow diagrams are for running a magnetic pickup, either a crank trigger or a distributor. To run just a magnetic pickup crank input and no camshaft input, PN 558-303 should be purchased. If a cam sync input will be used as well, it is recommended to use PN 558-306 which will contain wiring for both the crank and cam sensor inputs. It is critical that properly installed shielded and grounded cable is used when using a magnetic pickup, or it is likely that EMI will disturb the crankshaft signal. Both PN 558-303 and 558-306 come with the proper cabling. It must be installed properly as well. Make sure that the shield is properly grounded which requires it being grounded at the ECU with that ground maintained through the ignition adapter connection.

Note: The user must supply the proper terminals/connectors for the crank and cam sensors they are using.

### HOLLEY EFI TO AFTERMARKET IGNITION - USING MAGNETIC PICK-UP CRANK TRIGGER (ECU CONTROLLING IGNITION TIMING)

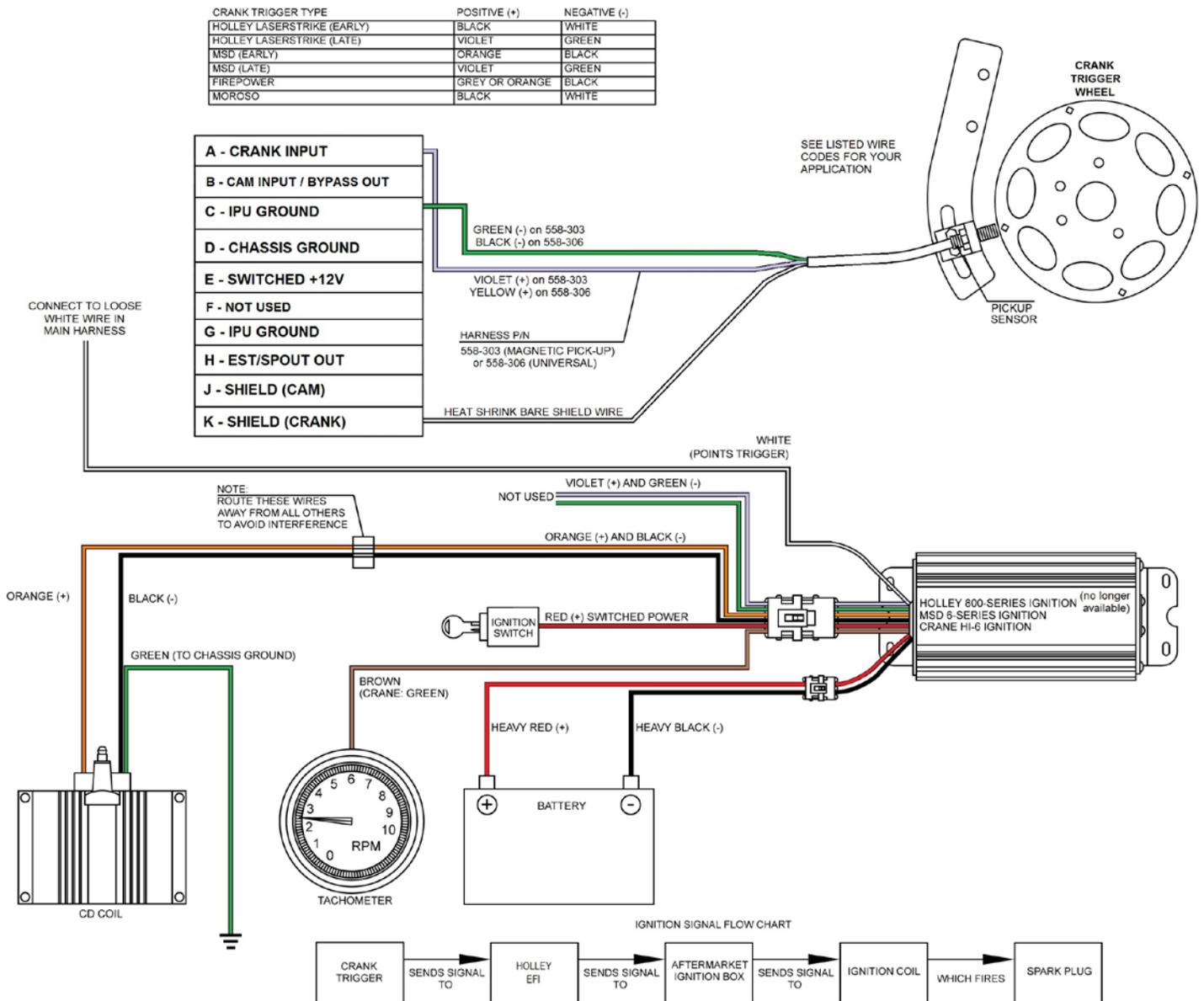


Figure 9

## 8.7 Magnetic Cam Pickup

The following diagram is to wire a magnetic cam sync signal. It utilizes the shielded/grounded cabling found in PN 558-306. It is critical that properly installed shielded and grounded cable is used when using a magnetic pickup, or it is likely that EMI will disturb the camshaft signal.

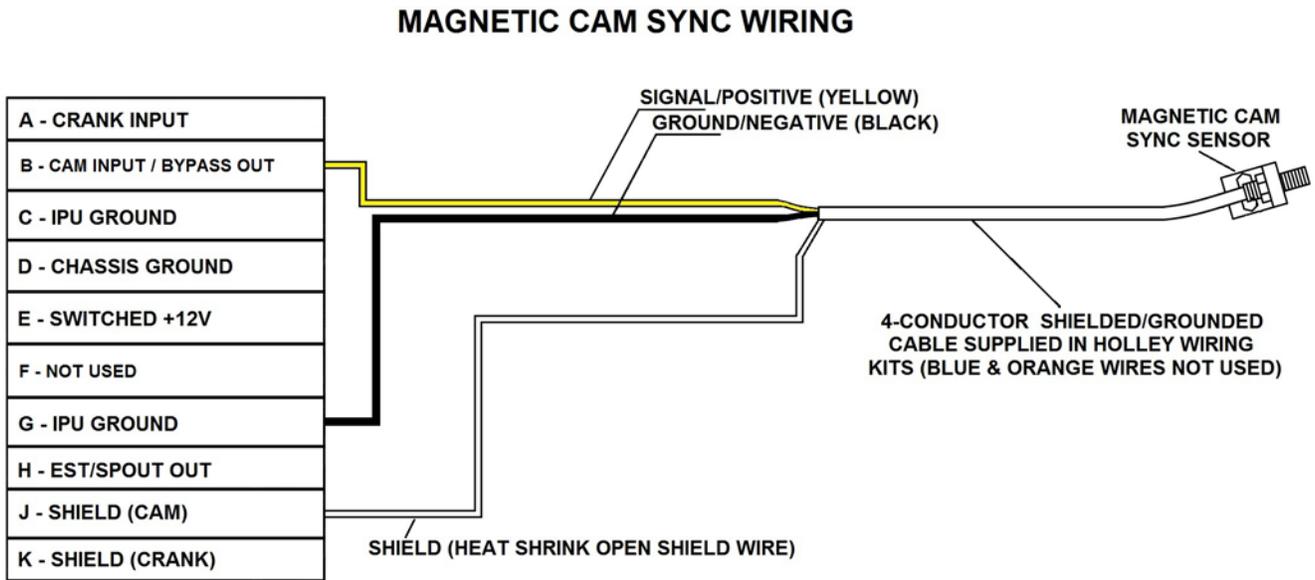


Figure 10

## 8.8 Hall Effect Crank Pickup

The follow diagrams are for running a hall effect pickup, either a crank trigger or a distributor. It is recommended to use PN 558-306 which will contain wiring for both the crank and cam sensor inputs. It is important that properly installed shielded and grounded cable is used when using a hall effect input. PN 558-306 comes with the proper cabling. It must be installed properly as well. Make sure that the shield is properly grounded which requires it being grounded at the ECU with that ground maintained through the ignition adapter connection.

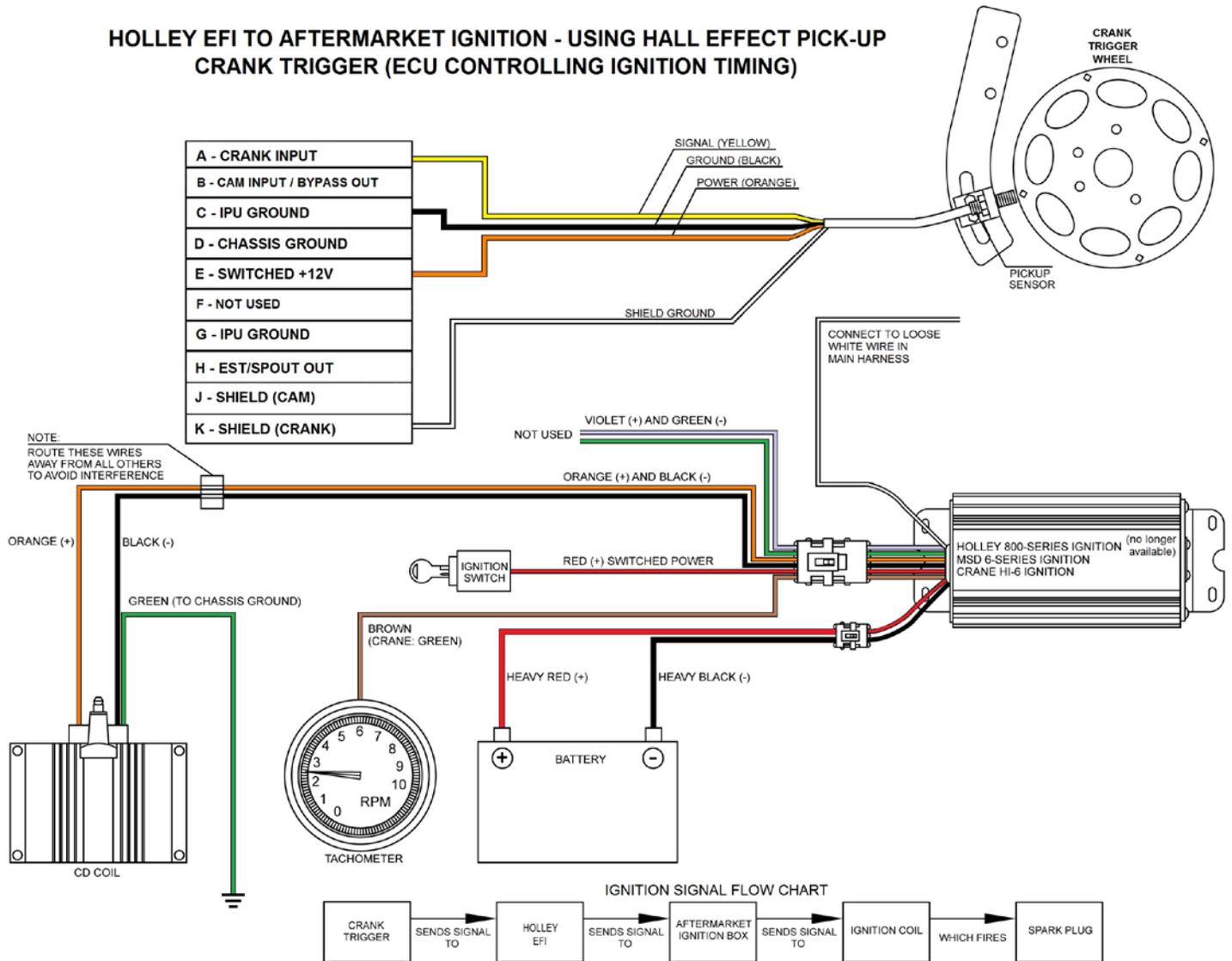
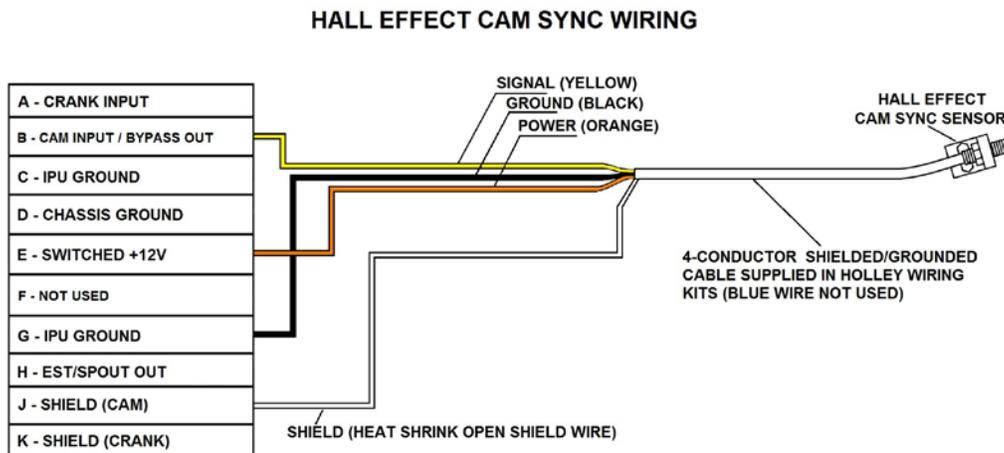


Figure 11

## 8.9 Hall Effect Cam Pickup

The following diagram is to wire a hall effect cam sync signal. It utilizes the shielded/grounded cabling found in PN 558-306. It is desirable to use a properly installed shielded and grounded cable so that EMI will not disturb the camshaft signal.



## 8.10 Holley Distributorless Ignition System (DIS)

Holley DIS can be retrofitted onto any engine. It is a waste-spark type system which means that one twin-tower coil feeds two cylinders that fire 360 degrees apart. These coils provide a high level of spark energy to feed high powered nitrous and forced induction engines. A cam sync is not required when using a Holley 60-2 crank pickup wheel, although one is required for sequential fuel control and individual cylinder fuel and spark timing.

**NOTE: Use of Individual Cylinder Timing when using Holley DIS:** At the present time, the Individual Cylinder Timing function, when used with waste fire ignition systems, such as the Holley DIS, does not have full individual tuning capabilities. A timing retard is "shared" between both cylinders attached to a coil. For example, if cylinders 1 and 6 are attached to a coil, and a timing retard of 2 degrees is commanded for cylinder #1, cylinder #6 will have a 2 degree retard as well. The retard value for the cylinder with the most amount of retard requested, will be used for both.

The figures below show how to wire the coils for 4, 6, and 8 cylinder applications. An example is given for standard firing order Small and Big Block Chevy engines, as well.

Holley PN's 556-100, 101, and 105 come with the following wiring harnesses:

- **Main Power Cable** – The main power is a fused 14 ga cable that should go directly to battery power. It then splices into the individual coil harnesses.
- **Cam/Crank Sensor Harness** – The cam/crank sensor harness is a fully terminated ignition adapter that connects directly to the Holley crank sensor supplied in the kit. It also includes a terminated cam sync connector. This connector plugs into the GM sync pulse distributor used on certain 1990's big block vehicles, AC Delco PN 213-350. This distributor was reproduced and is sold by EFI Connection ([www.eficonnection.com](http://www.eficonnection.com)) for a very reasonable price. This distributor, which can be used on Small or Big Block Chevy standard deck height engines, serves the purpose as an oil pump drive and cam sync signal. It is very low profile.
- **Coil A, B, C, D Harnesses** – There are 4 harness "pigtailes" for each coil. Each has a different wire color for each individual coil trigger. The rest of the wires are tied together as shown in the diagram. The following overviews each coil pin:

- A – Chassis ground. Tie these together. If connecting all together into another wire, make sure this wire is at least a 14 gauge wire.
- B – Trigger Ground. These wires need to be connected and run back to the ECU to pin B14. They can be tied together near the coils or back at the ECU. It is a low current line.
- C – Coil Trigger. This is the individual trigger from the ECU to each coil. Wire per the "ECU to Coil Wiring" instructions below.
- D – 12v Battery. Constant 12v power supplied from the battery. Tie together and use the supplied fused, 14ga wire to run to battery power.

**NOTE:** Keep this wiring separated from the spark plug ignition wires. Do not run these wires through or in parallel with the spark plug wires.

## **Coil and Plug Wiring**

It is imperative that the wiring of the coils and spark plug wiring is done correctly. If it is not, a cylinder will fire at the incorrect time and it likely that the starter, flex plate, and possibly other components will be damaged!

### **ECU to Coil Wiring**

Use Figures 13 through 16 below as a worksheet to fill out the proper wiring for the coils and ECU. Perform the following steps on this worksheet:

- 1) Enter the engine firing order as indicated in the yellow boxes at the top. This will be used as a “cross reference” chart.
- 2) In all the yellow boxes through the diagram, enter the corresponding engine cylinder for each letter based on the cross reference chart.
- 3) Using the “ECU Pinout” diagram, enter the proper ECU pin in the orange boxes based on the cylinder number entered for each.
- 4) You can now wire based on this chart. Insert the ECU coil trigger pins into the proper locations on the J1B ECU Connector.

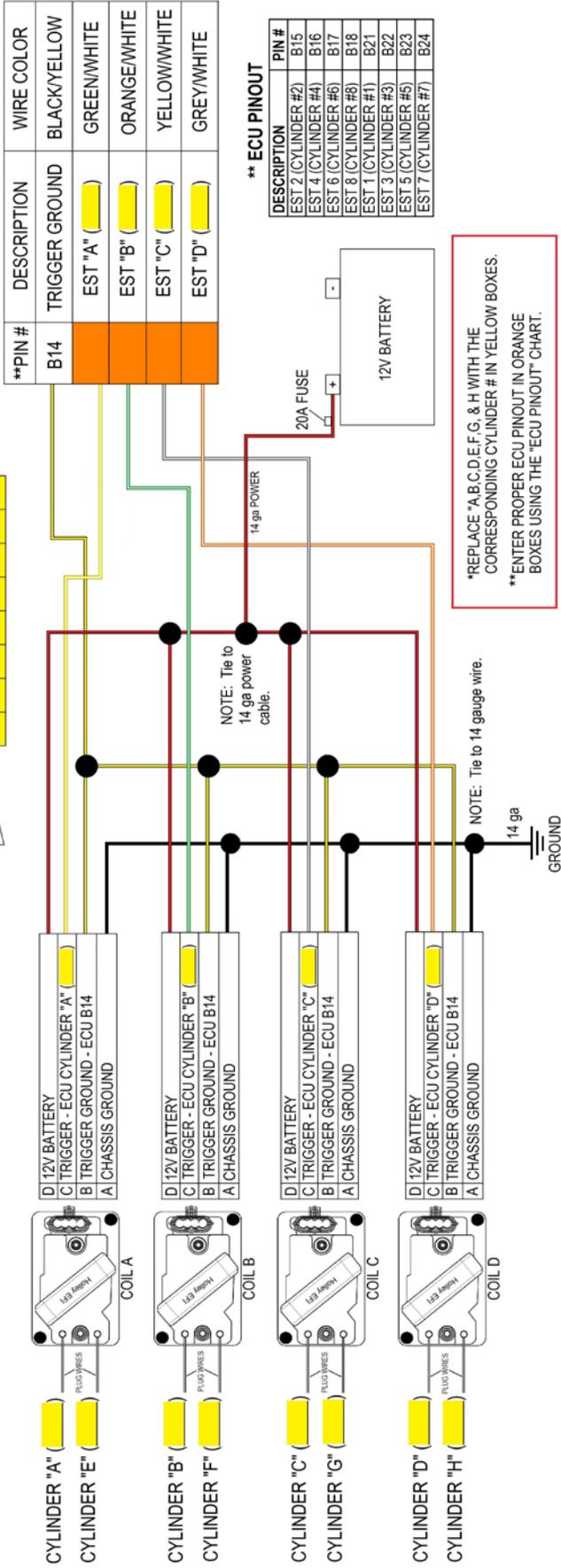
**CAUTION:** If the coils are not wired in the correct sequence, if spark plugs are not routed to the correct coils, OR if the firing order is not entered into the software correctly, the wrong cylinder WILL be fired. This will likely damage the starter, flex plate or worse. Before starting an engine, it is highly advised to disconnect the fuel injectors and put a timing light on each plug wire to ensure it is firing at the correct crank angle. Double-check your wiring!

# HOLLEY DISTRIBUTORLESS IGNITION WIRING - 8 CYLINDER

\* FIRING ORDER: 

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

ENTER YOUR ENGINE'S FIRING ORDER HERE!



ECU P1B CONNECTOR		
**PIN #	DESCRIPTION	WIRE COLOR
B14	TRIGGER GROUND	BLACK/YELLOW
	EST "A"	GREEN/WHITE
	EST "B"	ORANGE/WHITE
	EST "C"	YELLOW/WHITE
	EST "D"	GREY/WHITE

DESCRIPTION	PIN #
EST 2 (CYLINDER #2)	B15
EST 4 (CYLINDER #4)	B16
EST 6 (CYLINDER #6)	B17
EST 8 (CYLINDER #8)	B18
EST 1 (CYLINDER #1)	B21
EST 3 (CYLINDER #3)	B22
EST 5 (CYLINDER #5)	B23
EST 7 (CYLINDER #7)	B24

\*REPLACE \*A,B,C,D,E,F,G, & H WITH THE CORRESPONDING CYLINDER # IN YELLOW BOXES.  
 \*\*ENTER PROPER ECU PINOUT IN ORANGE BOXES USING THE "ECU PINOUT" CHART.

Figure 13

# HOLLEY DISTRIBUTORLESS IGNITION WIRING - 8 CYLINDER

EXAMPLE: SMALL/BIG BLOCK CHEVY WITH STANDARD FIRING ORDER



**PIN #	DESCRIPTION	WIRE COLOR
B14	TRIGGER GROUND	BLACK/YELLOW
B21	EST "A" ( 1 )	GREEN/WHITE
B18	EST "B" ( 8 )	ORANGE/WHITE
B16	EST "C" ( 4 )	YELLOW/WHITE
B22	EST "D" ( 3 )	GREY/WHITE

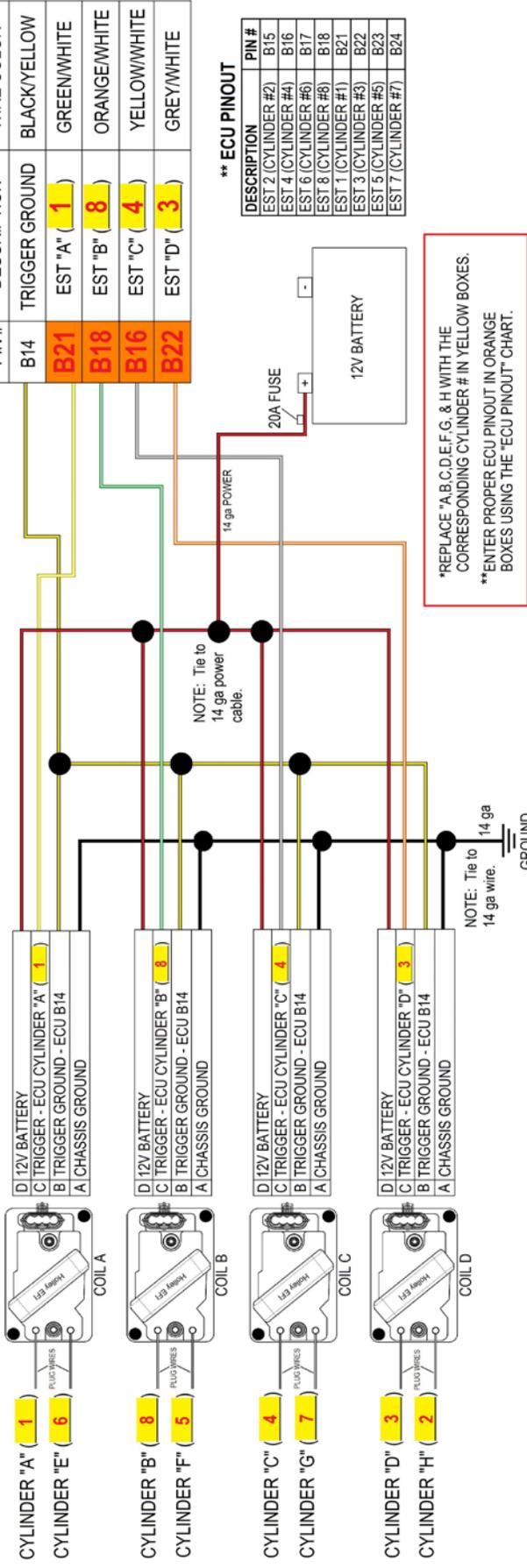


Figure 14

### HOLLEY DISTRIBUTORLESS IGNITION WIRING - 6 CYLINDER

\* FIRING ORDER:

A	B	C	D	E	F
---	---	---	---	---	---

ENTER YOUR ENGINE'S FIRING ORDER HERE!

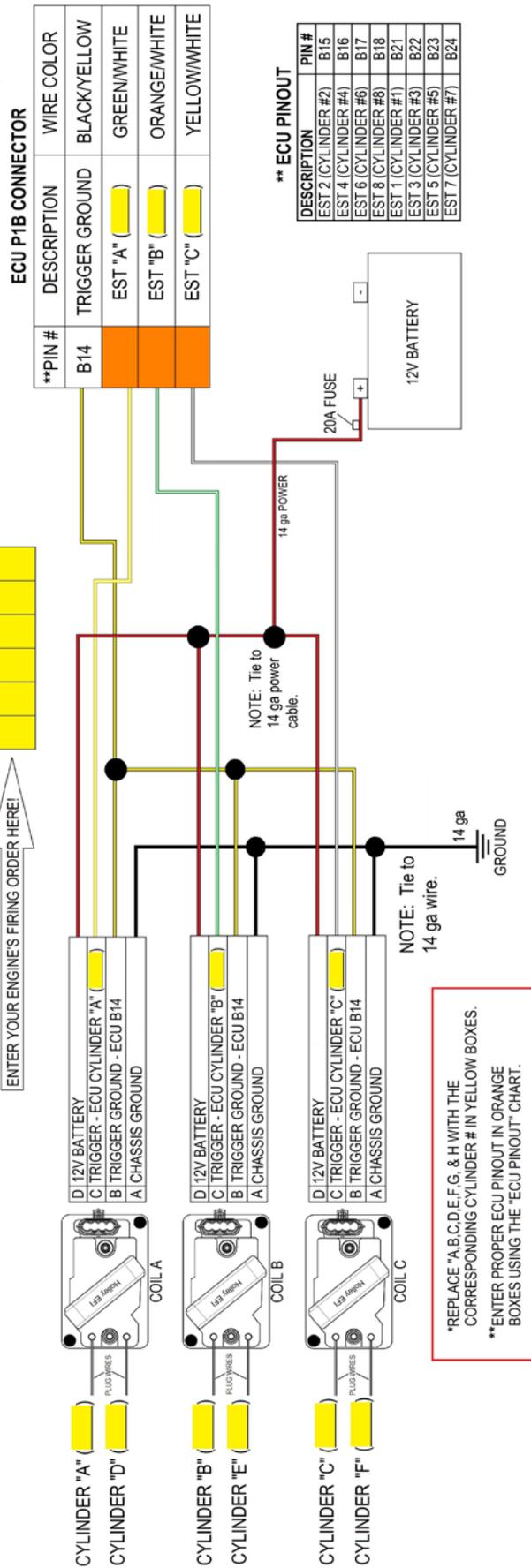
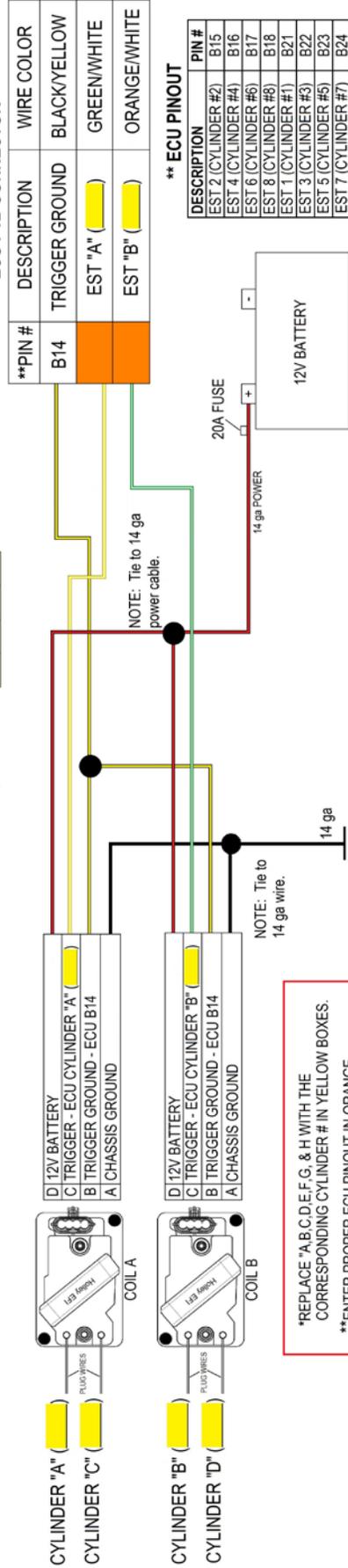


Figure 15

# HOLLEY DISTRIBUTORLESS IGNITION WIRING - 4 CYLINDER



\*REPLACE "A,B,C,D,E,F,G & H WITH THE CORRESPONDING CYLINDER # IN YELLOW BOXES.  
 \*\*ENTER PROPER ECU PINOUT IN ORANGE BOXES USING THE "ECU PINOUT" CHART.

Figure 16

## 9.0 Programmable Inputs and Outputs

Programmable input and outputs are intended to be any input or output that is created by the user when a Global Folder is configured. Once configured, they must be assigned to a specific pin location on the Pin Map, and then physically wired per the assigned location.

**NOTE 1:** As a standard wiring practice, DO NOT wire any input or output to a source that draws more than 2 amps. This is especially true when connecting to something with a “coil”, such as any type of solenoid. If the device exceeds 2 amps, you should connect the input or output to the trigger side of the relay used to power the device, not directly to the device. Note that this 2 amp limit pertains to inputs as well (not just outputs). When de-powered, some solenoids create a large fly-back voltage that is fed directly back into an input trigger of the ECU, if that input is directly connected to the solenoid.

### 9.1 Inputs

There are **seven** types of inputs that can be configured. The following lists them and reviews wiring recommendations. The designation on the Pin Map (Inputs) is given first, then a description.

1. **“H”** – Switched 12v or “High Side” input – This input will be triggered when system voltage is applied. Minimum triggering voltage is 4.5v. Do not exceed 24v.

Wiring: Connect up to any voltage source that is desired to trigger this input. See **NOTE 1** above.

2. **“G”** – Switched Ground or “Low Side” input – This input will be triggered when a ground is applied.

Wiring: Connect up to any ground source that is desired to trigger this input. See **NOTE 1** above.

3. **“5”** – 0-5 volt sensor input – Any 0-5 volt sensor input such as a TPS, MAP sensor, pressure transducer, and many others.

Wiring: Wire the signal wire from the 0-5v sensor used into the appropriate pin. Any 0-5v sensor requires a +5v reference voltage and a sensor ground. Each HEFI connector that has 0-5v inputs has its own +5v reference voltage output and sensor ground. These need to be properly wired to each 0-5v sensor used. The following outlines the sensor +5v reference voltage and sensor ground pins:

<u>Connector</u>	<u>Sensor +5v Reference Voltage Pin</u>	<u>Sensor Ground Pin</u>
J1A	A26	A18
J2A	A26	A18
J3	B8 and B22	B1 and B16
J4	B20	B14

It is acceptable to have multiple sensors share the same +5v and ground reference lines. Be sure to solder, heat shrink, etc. wires properly as poor connections will cause for inaccurate or faulty sensor readings.

Do not use +5v reference or ground sources from other controllers or power supplies to support the sensor, or sensor accuracy may be compromised.

4. **“2”** – 0-20 volt sensor input – Any 0-20 volt sensor input

Wiring: Connect to desired voltage input.

5. **“T”** – Thermistor temperature input – Most coolant and air temperature sensors are a 2 wire “thermistor” design.

Wiring: Connect to one side of the thermistor device. Connect the other side of the thermistor device to a “Sensor Ground” input pin to the ECU (same pins for a 0-5v sensor). These pins are as follows:

<u>Connector</u>	<u>Sensor Ground Pin</u>
J1A	A18
J2A	A18
J3	B1 and B16
J4	B14

6. **“F”** – Frequency or a Digital Speed Input – Designed for a digital voltage input from a speed/rotation sensor. A hall effect sensor is the common sensor used. Voltage range can be 4.5 to 24 volts.

Wiring: A hall effect sensor has 3 wires: Power, Ground, and Signal. Most sensors can be supplied with battery voltage (12v), a few require a 5 volt reference. Check with the specifications of your specific sensor. Although not usually needed with a hall effect sensor, it is always advised to use a shielded/grounded cable to wire them (all three wires can be shielded). The following is advised when wiring a hall effect sensor.

**Signal** – Run the sensor signal wire into the Pin Mapped channel

**Power** – Either supply with clean switched power, or if it is not used for another purpose, you can power from Pin J1B-B20 which is a clean 12v power source. If the sensor requires 5 volts, use a +5v reference line.

**Ground** – It is best to connect to an IPU (Inductive/Magnetic Pickup) or Sensor Ground. The following pins are IPU grounds:

<u>Connector</u>	<u>Sensor Ground Pin</u>
J1A	A14
J2A	A22

**Shield Wire** – If using shielded/grounded cable, connect the shield ground wire to the ECU only. It is best to connect it to an IPU ground.

7. **“S”** – Inductive Speed Input – Designed for an A/C voltage input from a speed/rotation sensor. A magnetic sensor is the common sensor used. The minimum arming voltage is 50 mV.

Wiring: It is highly advised to always use a shielded/grounded cable for any inductive signal. They are very susceptible to noise. An inductive sensor has two wires - a “positive” and “negative”. Connect the positive lead to the “S” input pin that was Pin Mapped. Connect the negative side to an IPU ground. These are as follow:

<u>Connector</u>	<u>Sensor Ground Pin</u>
J1A	A14
J2A	A22

## 9.2 Outputs

All PWM (Pulse Width Modulated) and switched outputs are rated at a maximum of 2A. If a device will draw more than 2A, some type or relay must be used. If the output is PWM, do not use a “switching” relay, but rather a solid state type relay designed to be pulse width modulated.

There are four types of outputs that can be configured. The following lists them and reviews wiring recommendations. The designation on the Pin Map (Outputs) is given first, then a description.

1. **“H”** – Switched 12v or “High Side” output – will output system voltage level.

Wiring: Connect the pin to the device to be triggered. See **NOTE 1** above.

2. **“G”** – Ground or “Low Side” output – will output a ground trigger.

Wiring: Connect the pin to the device to be triggered. See **NOTE 1** above.

3. **“P+”** - 12v Pulse Width Modulated output – Outputs a high side pulse width modulated output to control items such as a progressive nitrous solenoid or a PWM IAC – will output system voltage level. See **NOTE 1** above.

Wiring: Connect the pin to the device to be triggered. A PWM device has 2 wires, connector the other side of the device to ground.

4. **“P-”** – Ground Pulse Width Modulated output – Outputs a low side pulse width modulated output to control items such as a progressive nitrous solenoid or a PWM IAC. See **NOTE 1** above.

Wiring: Connect the pin to the device to be triggered. A PWM device has 2 wires, connector the other side of the device to a voltage source.

## 10.0 Nitrous System Wiring

The following reviews how to properly wire a nitrous oxide system being controlled by a HP or Dominator ECU.

### Required Wiring

An enable/arming input is required. It can be a ground or +12v input (make sure to configure in the software). The primary activation is the TPS and Engine Speed, both of which are existing inputs.

### GPO's

General Purpose Outputs (GPO's), which are optional, can be configured in the software. They are a +12v or ground output that can be used to trigger another device (ignition box timing retard, etc).

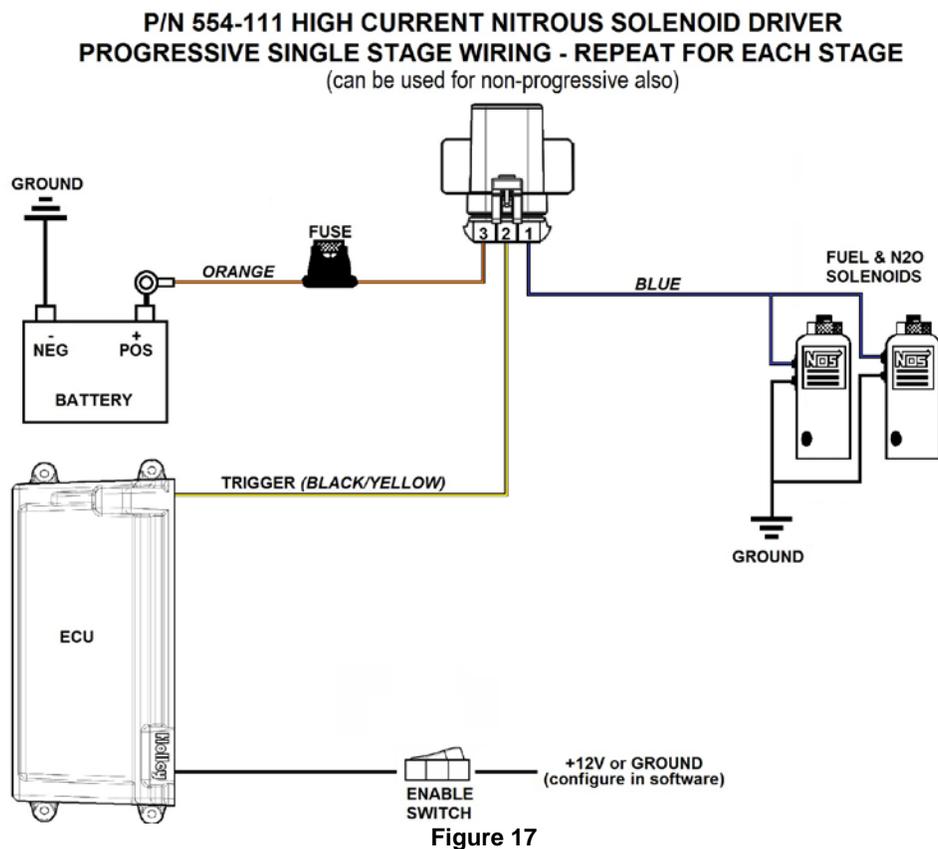
**Input #1, #2, #3** – Three additional inputs can be wired in order to activate or deactivate nitrous. They work in conjunction with the TPS and Engine Speed activation settings. These three inputs are optional. An example would be to enable one off the trans-brake such that nitrous is NOT activated when the trans-brake is applied. They can be configured as a ground or +12v input in the software.

**Non-Progressive Wiring** – Any non-progressive stage of nitrous can be wired with a conventional switching relay. The ECU will trigger the relay to activate the stage.

**Progressive Wiring** – When using progressive control, PN 554-111 must be used as a high current solenoid driver that the ECU controls. **A regular switching relay should never be used for progressive nitrous operation (other than for supplying constant power, it should never be “pulsed”).** Figure 17 shows the proper wiring for a single stage. For additional stages, additional driver modules are required. **Note:** PN 554-111 CAN be used for non-progressive stage, if desired, in lieu of a standard relay.

554-111 Software Configuration – The 554-111 solenoid driver trigger (pin 2) **MUST** be configured as a “PWM -” output in the software (the driver is ground triggered). Do not set it up as any other type or damage or unintended solenoid activation may result.

**NOTE:** NEVER have the ECU directly power a nitrous oxide solenoid. All nitrous solenoids require more than the 2A rating for the ECU outputs.



## 11.0 Water/Methanol System Wiring

The following reviews how to properly wire a water/methanol injection system being controlled by a HP or Dominator ECU.

### 11.1 Required Wiring

There are two “required” outputs when using the W/M control - the W/M solenoid and W/M pump activation outputs. They are wired as follows:

**Water/Meth Solenoid** - The solenoids must be operated by a peak-and-hold injector driver output. The first choice is to use a non-used injector driver output from the ECU. If one is not available, PN 554-113 must be used. This is a two channel driver to operate two water/meth solenoids. If using 554-113, see its instructions for details on wiring.

A harness should come with each Holley water/meth solenoid. It plugs directly into the solenoid, and is pinned to be installed into the ECU. When you enable the water/meth ICF, it will automatically assign injector driver output pins. Either look at the Pin Map under “View Injectors” or the “Inputs/Outputs” tab under the Water Meth ICF to see what pin is assigned for each solenoid(s).

The wiring harness included has a red wire going to pin A on the solenoid connector. This wire should go to the injector output on the ECU. It has an ECU pin already attached. An extra ECU pin is included if this wire needed to be shortened and re-terminated.

The blue wire in the harness needs to be connected to a +12v switched power source capable of handling 2A.

**Water/Meth Pump Activation** – An output is created that is used to trigger the relay that powers the water/meth pump. It can be configured as +12v or ground depending on how the relay is wired.

**CAUTION!** Do NOT wire directly to the W/M Pump!

## 11.2 Optional Wiring

**W/M Manual Enable** - This is an optional input. If enabled, connect to a switched +12v or ground input as configured in the software.

**W/M Low Fluid Warnings** – If the “Low Reservoir Warning Enabled” is selected, an input and output is created which are as follows:

**W/M Low Fluid Input** – This is the input from the fluid level sending unit that triggers the ECU as to a low fluid condition. Configure the software to whether this input is +12v or ground.

**W/M Low Fluid Output** – This is an output from the ECU that can be used to go to a warning lamp or any other device in the event of a low fluid condition.

## 12.0 Electronic Transmission Wiring

Holley Dominator EFI currently supports the use of 4L60E, 4L65E, 4L70E, 4L80E, and 4L85E transmissions. PN 558-505 is a fully terminated harness for these applications. The following reviews installation of this harness.

**Main Transmission Connector** – Simply plugs into the connector on the transmission. Located on the drivers side of a 4L80E (installed horizontally) and the passenger side on a 4L60E (installed vertically).

**Vehicle Speed Sensor (VSS)/Transmission Output Speed Sensor (OSS)** – Located on the rear drivers side on a 4L80E and the rear passengers side on a 4L60E

**Input Shaft Speed (ISS) Sensor** – The 4L60E does not have an ISS. It is located towards the front drivers side on a 4L80E. Note that a 4L70E has one internally wired, but is not connected to the HEFI harness. The ISS is not used for any calculations in the ECU, just for monitoring purposes.

**Brake Switch (Grey)** – Wired to the brake light switch. This must be installed to a +12v source (as most brake light switches are). This input is used to unlock the torque converter when the brakes are applied.

**Ground (Black)** – Connect to a good chassis/engine ground source

**Power (Red)** – Supplies power to the transmission solenoids. This should be connected to a +12v switched power source (must be capable of supplying 5 amps).

**NOTE:** The power supplying this wire must **NOT** be tied to the same point that the ECU switched power wire (red/white wire) is connected to. If they are tied together, the transmission power will back-feed power to the ECU and the ECU/engine will not shut off when the key is turned off. Use a relay or separate switched ignition power pickup point to supply power to the transmission harness.

See Figures 28 & 29 in 13.0 Wiring Appendix.

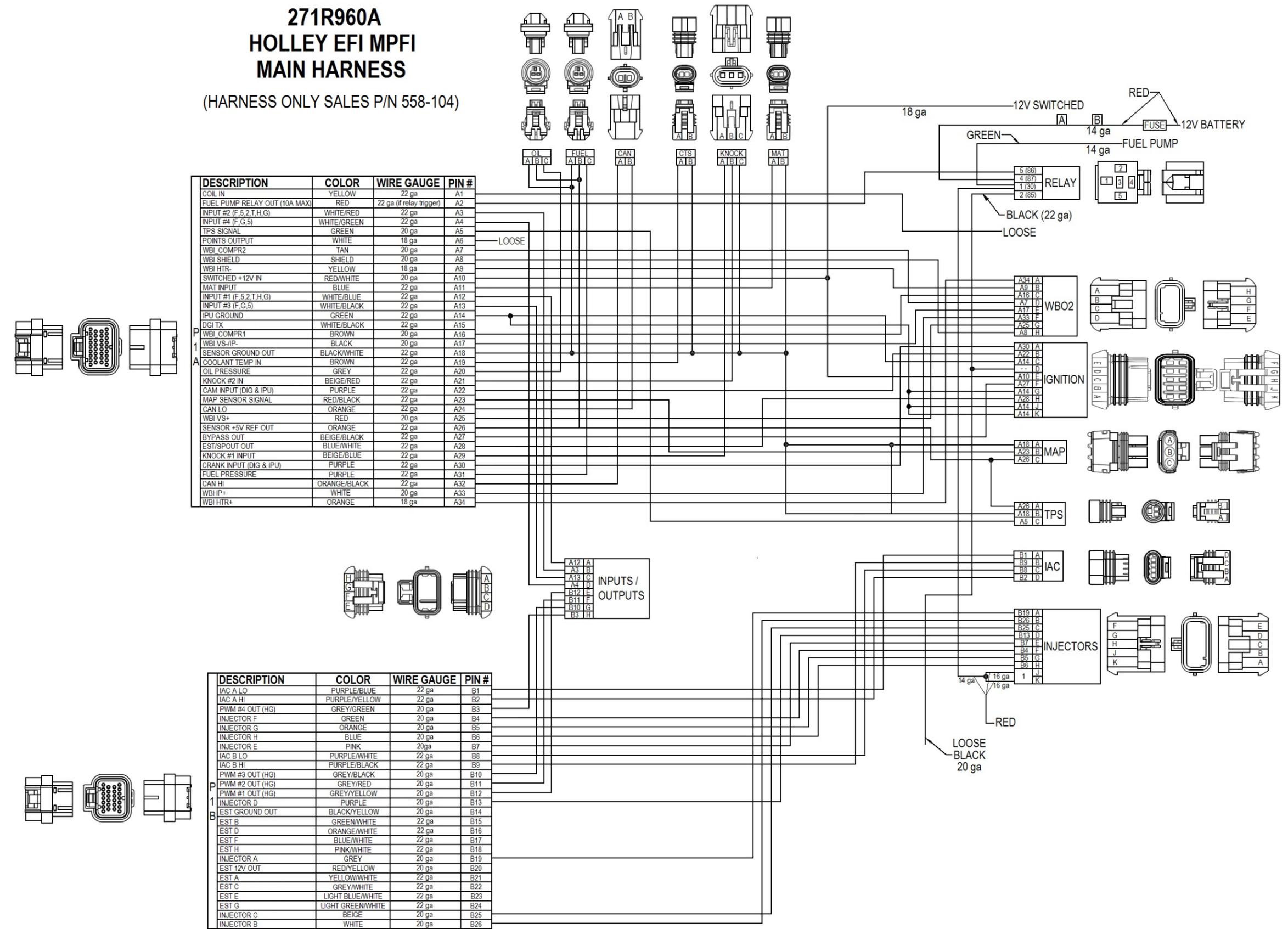
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www.holley.com

199R10555  
Revision Date: 8-26-14

# 13.0 Wiring Appendix

## 271R960A HOLLEY EFI MPFI MAIN HARNESS

(HARNESS ONLY SALES P/N 558-104)



DESCRIPTION	COLOR	WIRE GAUGE	PIN #
COIL IN	YELLOW	22 ga	A1
FUEL PUMP RELAY OUT (10A MAX)	RED	22 ga (if relay trigger)	A2
INPUT #2 (F, 5, 2, T, H, G)	WHITE/RED	22 ga	A3
INPUT #4 (F, G, 5)	WHITE/GREEN	22 ga	A4
TPS SIGNAL	GREEN	20 ga	A5
POINTS OUTPUT	WHITE	18 ga	A6
WBI COMPR2	TAN	20 ga	A7
WBI SHIELD	SHIELD	20 ga	A8
WBI HTR-	YELLOW	18 ga	A9
SWITCHED +12V IN	RED/WHITE	20 ga	A10
MAT INPUT	BLUE	22 ga	A11
INPUT #1 (F, 5, 2, T, H, G)	WHITE/BLUE	22 ga	A12
INPUT #3 (F, G, 5)	WHITE/BLACK	22 ga	A13
IPU GROUND	GREEN	22 ga	A14
DGI TX	WHITE/BLACK	22 ga	A15
WBI COMPR1	BROWN	20 ga	A16
WBI VS-/IP-	BLACK	20 ga	A17
SENSOR GROUND OUT	BLACK/WHITE	22 ga	A18
COOLANT TEMP IN	BROWN	22 ga	A19
OIL PRESSURE	GREY	22 ga	A20
KNOCK #2 IN	BEIGE/RED	22 ga	A21
CAN INPUT (DIG & IPU)	PURPLE	22 ga	A22
MAP SENSOR SIGNAL	RED/BLACK	22 ga	A23
CAN LO	ORANGE	22 ga	A24
WBI VS+	RED	20 ga	A25
SENSOR +5V REF OUT	ORANGE	22 ga	A26
BYPASS OUT	BEIGE/BLACK	22 ga	A27
EST/SPOUT OUT	BLUE/WHITE	22 ga	A28
KNOCK #1 INPUT	BEIGE/BLUE	22 ga	A29
CRANK INPUT (DIG & IPU)	PURPLE	22 ga	A30
FUEL PRESSURE	PURPLE	22 ga	A31
CAN HI	ORANGE/BLACK	22 ga	A32
WBI IP+	WHITE	20 ga	A33
WBI HTR+	ORANGE	18 ga	A34

DESCRIPTION	COLOR	WIRE GAUGE	PIN #
IAC A LO	PURPLE/BLUE	22 ga	B1
IAC A HI	PURPLE/YELLOW	22 ga	B2
PWM #4 OUT (HG)	GREY/GREEN	20 ga	B3
INJECTOR F	GREEN	20 ga	B4
INJECTOR G	ORANGE	20 ga	B5
INJECTOR H	BLUE	20 ga	B6
INJECTOR E	PINK	20 ga	B7
IAC B LO	PURPLE/WHITE	22 ga	B8
IAC B HI	PURPLE/BLACK	22 ga	B9
PWM #3 OUT (HG)	GREY/BLACK	20 ga	B10
PWM #2 OUT (HG)	GREY/RED	20 ga	B11
PWM #1 OUT (HG)	GREY/YELLOW	20 ga	B12
INJECTOR D	PURPLE	20 ga	B13
EST GROUND OUT	BLACK/YELLOW	20 ga	B14
EST B	GREEN/WHITE	22 ga	B15
EST D	ORANGE/WHITE	22 ga	B16
EST F	BLUE/WHITE	22 ga	B17
EST H	PINK/WHITE	22 ga	B18
INJECTOR A	GREY	20 ga	B19
EST 12V OUT	RED/YELLOW	20 ga	B20
EST A	YELLOW/WHITE	22 ga	B21
EST C	GREY/WHITE	22 ga	B22
EST E	LIGHT BLUE/WHITE	22 ga	B23
EST G	LIGHT GREEN/WHITE	22 ga	B24
INJECTOR C	BEIGE	20 ga	B25
INJECTOR B	WHITE	20 ga	B26

Figure 18

# 271R960A HOLLEY EFI MPFI MAIN HARNESS

(HARNESS ONLY SALES P/N 558-104)

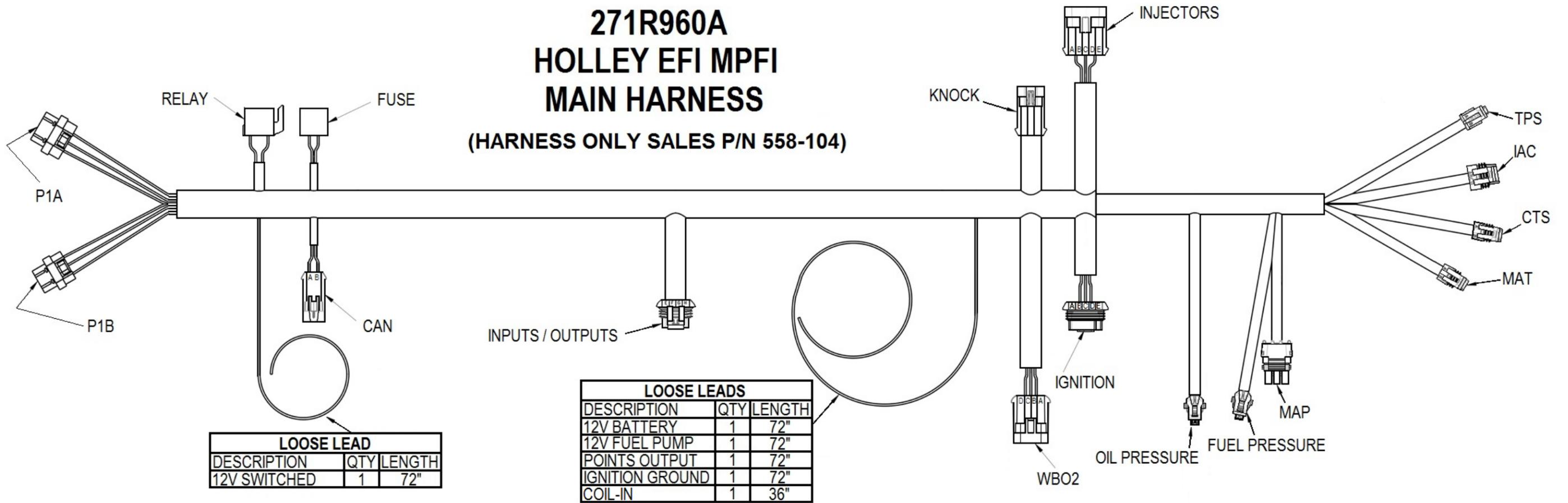
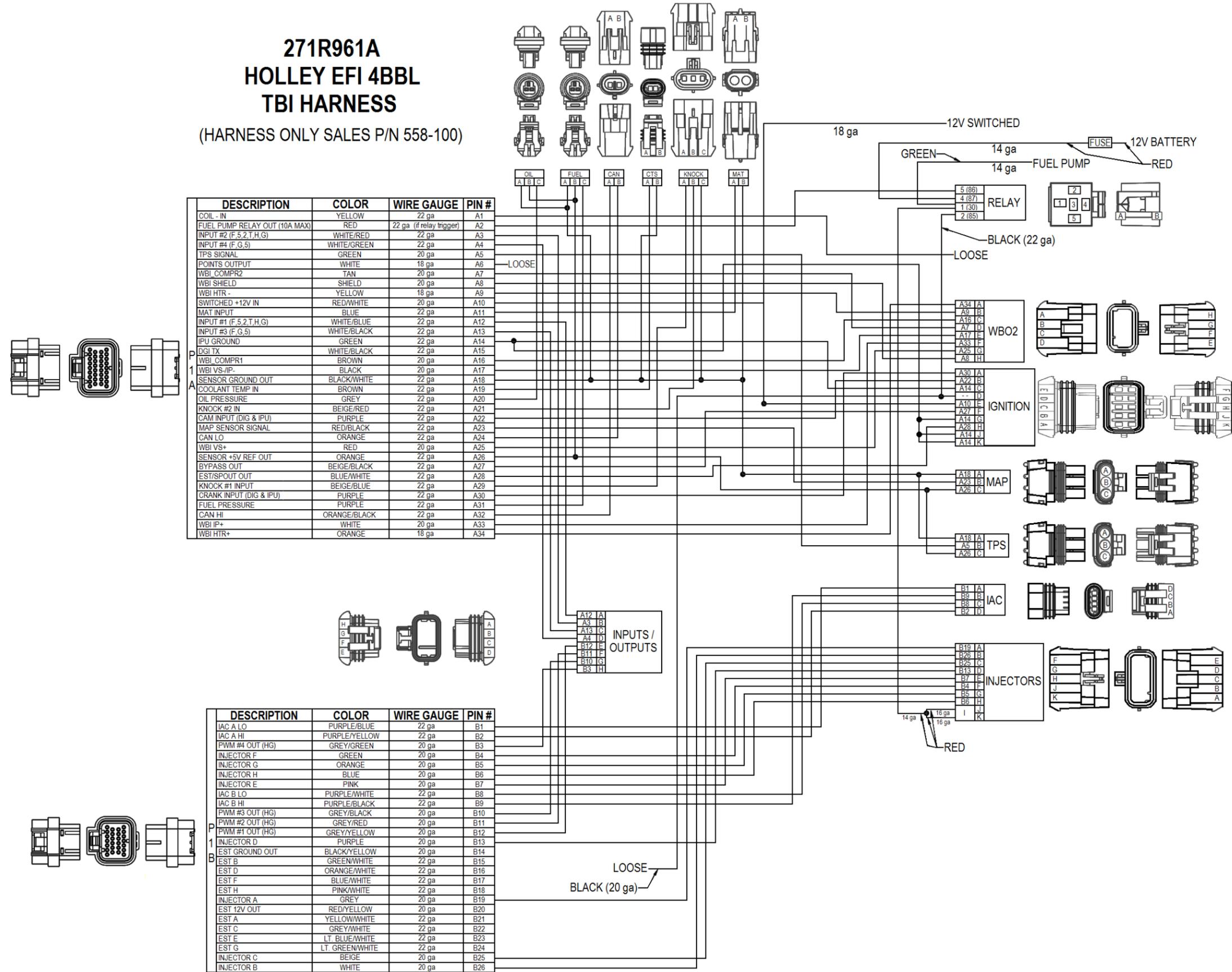


Figure 19

# 271R961A HOLLEY EFI 4BBL TBI HARNESS

(HARNESS ONLY SALES P/N 558-100)



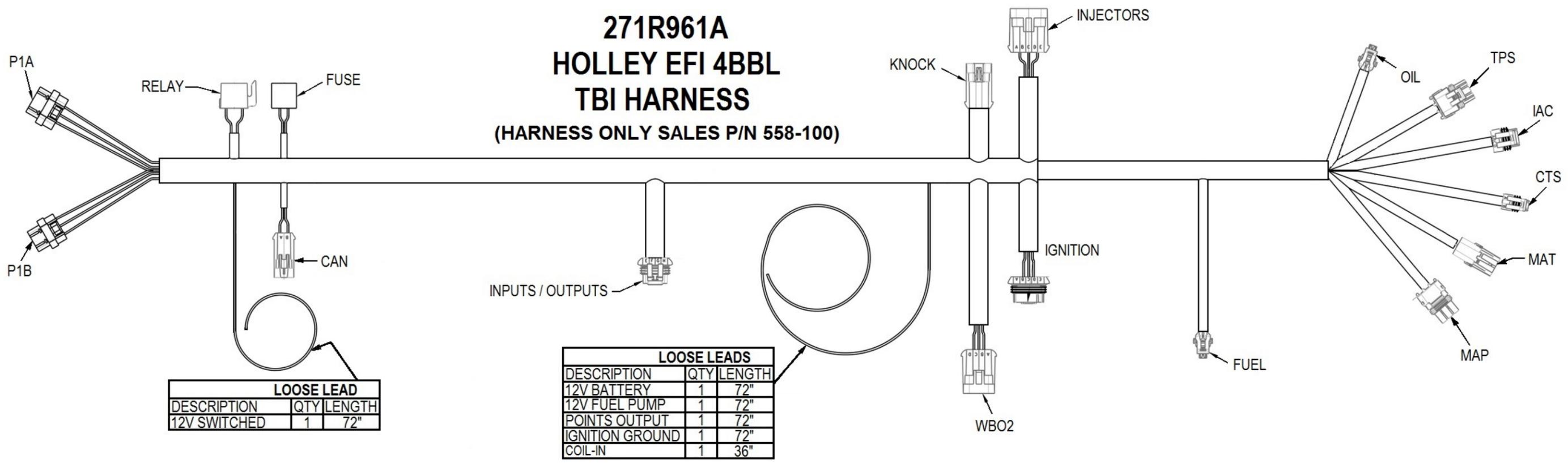
DESCRIPTION	COLOR	WIRE GAUGE	PIN #
COIL - IN	YELLOW	22 ga	A1
FUEL PUMP RELAY OUT (10A MAX)	RED	22 ga (if relay trigger)	A2
INPUT #2 (F,5,2,T,H,G)	WHITE/RED	22 ga	A3
INPUT #4 (F,G,5)	WHITE/GREEN	22 ga	A4
TPS SIGNAL	GREEN	20 ga	A5
POINTS OUTPUT	WHITE	18 ga	A6
WBI COMPR2	TAN	20 ga	A7
WBI SHIELD	SHIELD	20 ga	A8
WBI HTR -	YELLOW	18 ga	A9
SWITCHED +12V IN	RED/WHITE	20 ga	A10
MAT INPUT	BLUE	22 ga	A11
INPUT #1 (F,5,2,T,H,G)	WHITE/BLUE	22 ga	A12
INPUT #3 (F,G,5)	WHITE/BLACK	22 ga	A13
IPU GROUND	GREEN	22 ga	A14
DGI TX	WHITE/BLACK	22 ga	A15
WBI COMPR1	BROWN	20 ga	A16
WBI VS-/IP-	BLACK	20 ga	A17
SENSOR GROUND OUT	BLACK/WHITE	22 ga	A18
COOLANT TEMP IN	BROWN	22 ga	A19
OIL PRESSURE	GREY	22 ga	A20
KNOCK #2 IN	BEIGE/RED	22 ga	A21
CAM INPUT (DIG & IPU)	PURPLE	22 ga	A22
MAP SENSOR SIGNAL	RED/BLACK	22 ga	A23
CAN LO	ORANGE	22 ga	A24
WBI VS+	RED	20 ga	A25
SENSOR +5V REF OUT	ORANGE	22 ga	A26
BYPASS OUT	BEIGE/BLACK	22 ga	A27
EST/SPOUT OUT	BLUE/WHITE	22 ga	A28
KNOCK #1 INPUT	BEIGE/BLUE	22 ga	A29
CRANK INPUT (DIG & IPU)	PURPLE	22 ga	A30
FUEL PRESSURE	PURPLE	22 ga	A31
CAN HI	ORANGE/BLACK	22 ga	A32
WBI IP+	WHITE	20 ga	A33
WBI HTR+	ORANGE	18 ga	A34

DESCRIPTION	COLOR	WIRE GAUGE	PIN #
IAC A LO	PURPLE/BLUE	22 ga	B1
IAC A HI	PURPLE/YELLOW	22 ga	B2
PWM #4 OUT (HG)	GREY/GREEN	20 ga	B3
INJECTOR F	GREEN	20 ga	B4
INJECTOR G	ORANGE	20 ga	B5
INJECTOR H	BLUE	20 ga	B6
INJECTOR E	PINK	20 ga	B7
IAC B LO	PURPLE/WHITE	22 ga	B8
IAC B HI	PURPLE/BLACK	22 ga	B9
PWM #3 OUT (HG)	GREY/BLACK	20 ga	B10
PWM #2 OUT (HG)	GREY/RED	20 ga	B11
PWM #1 OUT (HG)	GREY/YELLOW	20 ga	B12
INJECTOR D	PURPLE	20 ga	B13
EST GROUND OUT	BLACK/YELLOW	20 ga	B14
EST B	GREEN/WHITE	22 ga	B15
EST D	ORANGE/WHITE	22 ga	B16
EST F	BLUE/WHITE	22 ga	B17
EST H	PINK/WHITE	22 ga	B18
INJECTOR A	GREY	20 ga	B19
EST 12V OUT	RED/YELLOW	20 ga	B20
EST A	YELLOW/WHITE	22 ga	B21
EST C	GREY/WHITE	22 ga	B22
EST E	LT. BLUE/WHITE	22 ga	B23
EST G	LT. GREEN/WHITE	22 ga	B24
INJECTOR C	BEIGE	20 ga	B25
INJECTOR B	WHITE	20 ga	B26

Figure 20

# 271R961A HOLLEY EFI 4BBL TBI HARNESS

(HARNESS ONLY SALES P/N 558-100)



LOOSE LEAD		
DESCRIPTION	QTY	LENGTH
12V SWITCHED	1	72"

LOOSE LEADS		
DESCRIPTION	QTY	LENGTH
12V BATTERY	1	72"
12V FUEL PUMP	1	72"
POINTS OUTPUT	1	72"
IGNITION GROUND	1	72"
COIL-IN	1	36"

Figure 21

# 271R962A LS2 MAIN HARNESS (HARNESS ONLY SALES P/N 558-103)

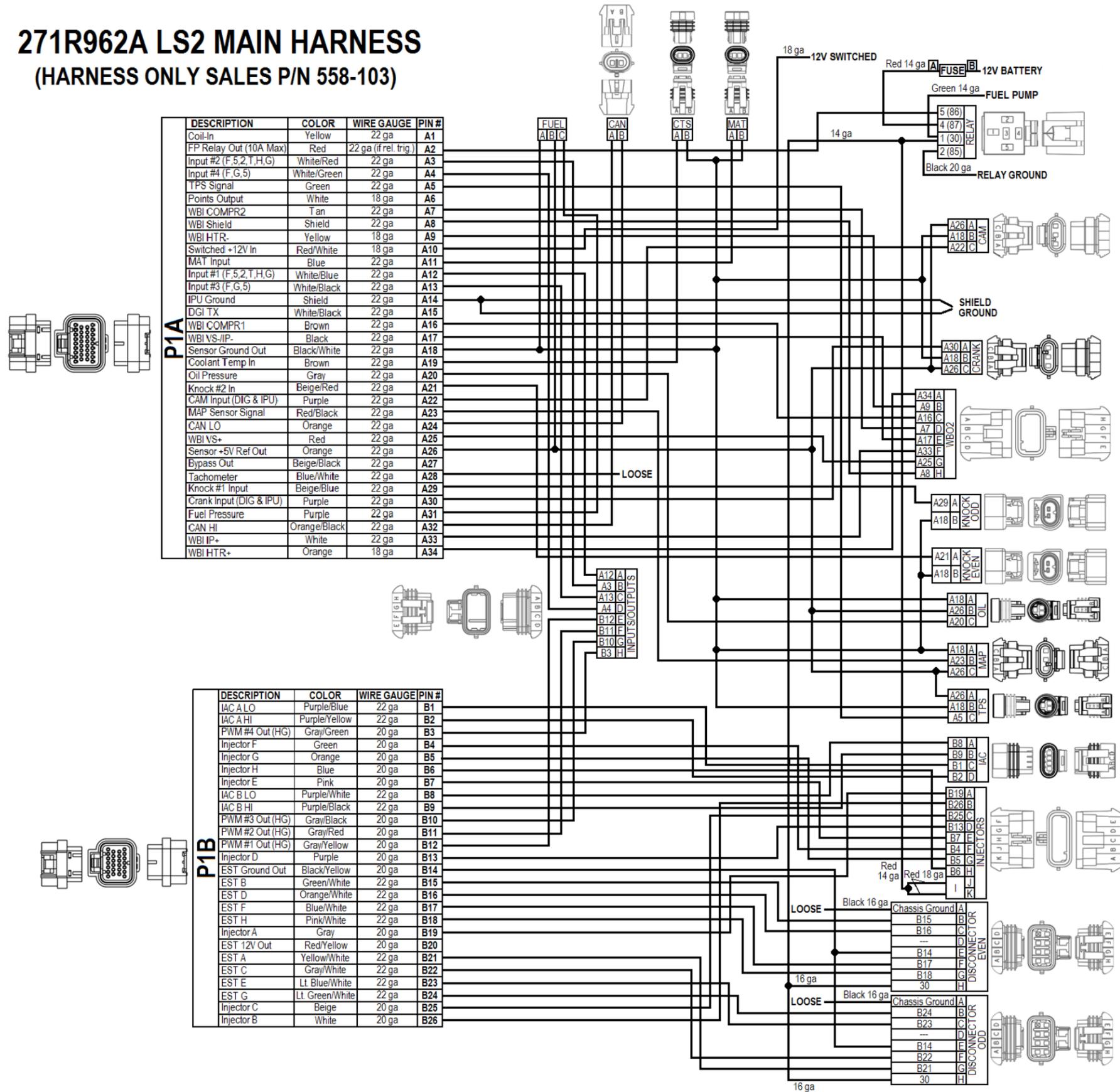


Figure 22

# 271R962A LS2 MAIN HARNESS

(HARNESS ONLY SALES P/N 558-103)

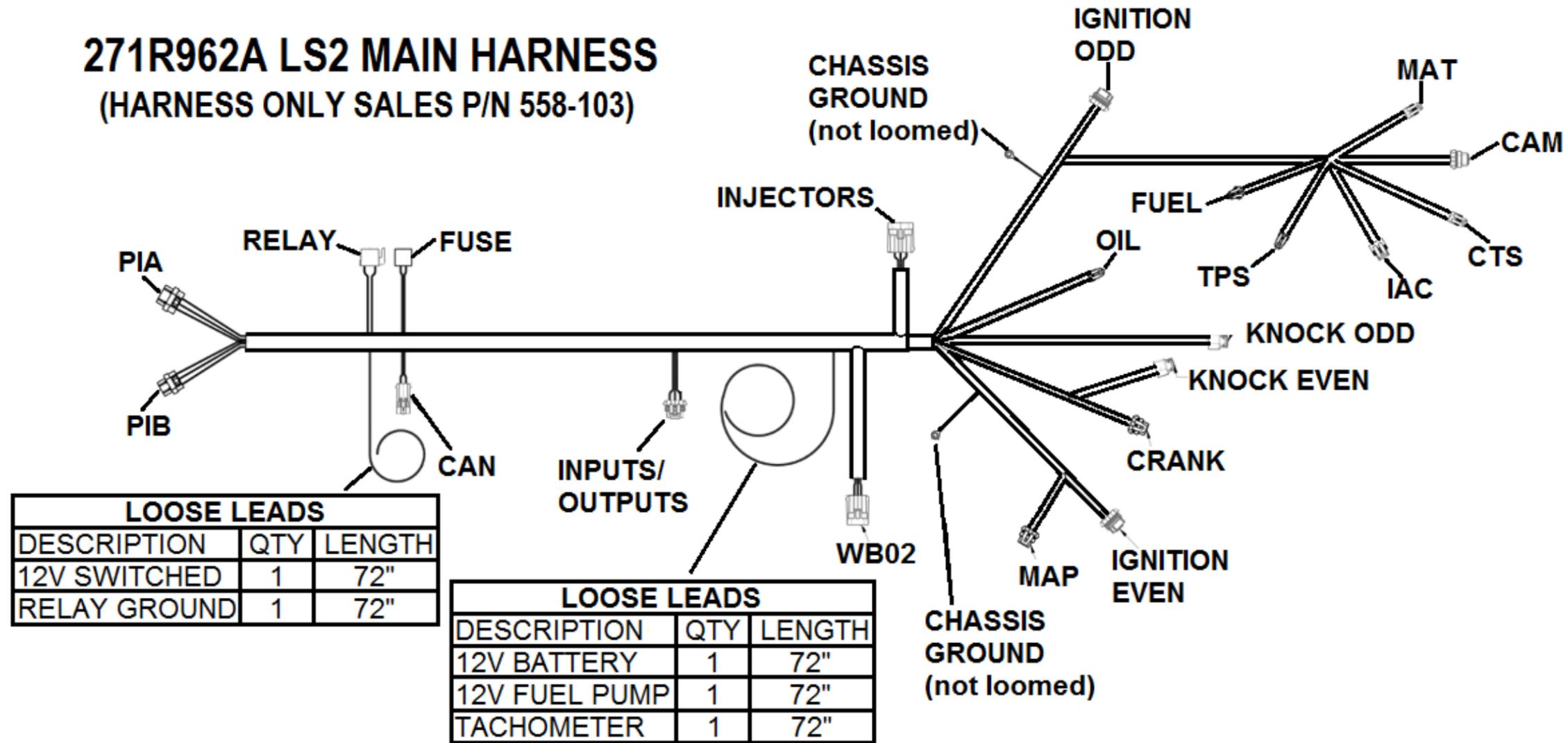


Figure 23

## 271R968A LS1 MAIN HARNESS (HARNESS ONLY SALES P/N 558-102)

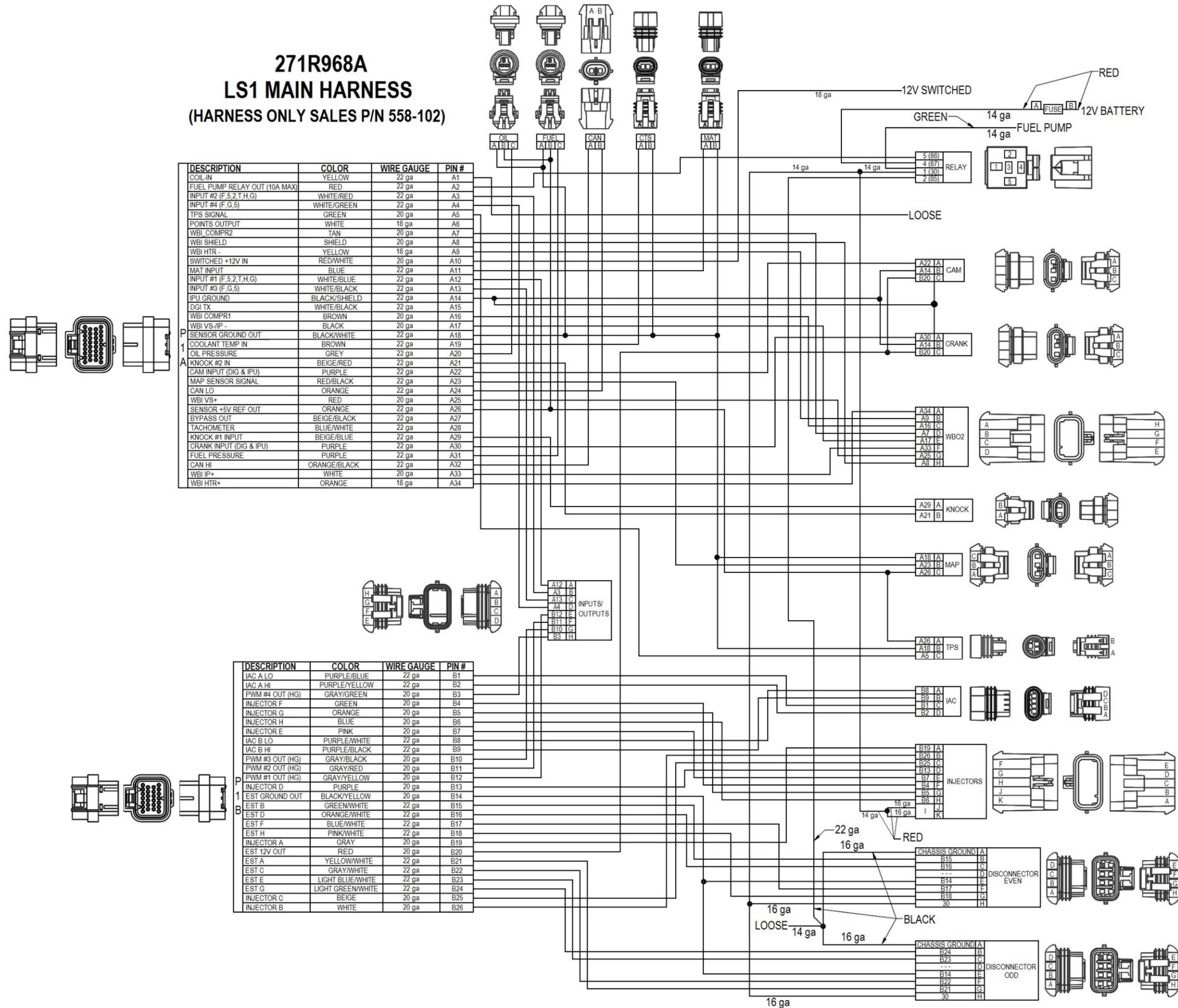


Figure 24

# 271R968A LS1 MAIN HARNESS

(WIRING HARNESS SALES P/N 558-102)

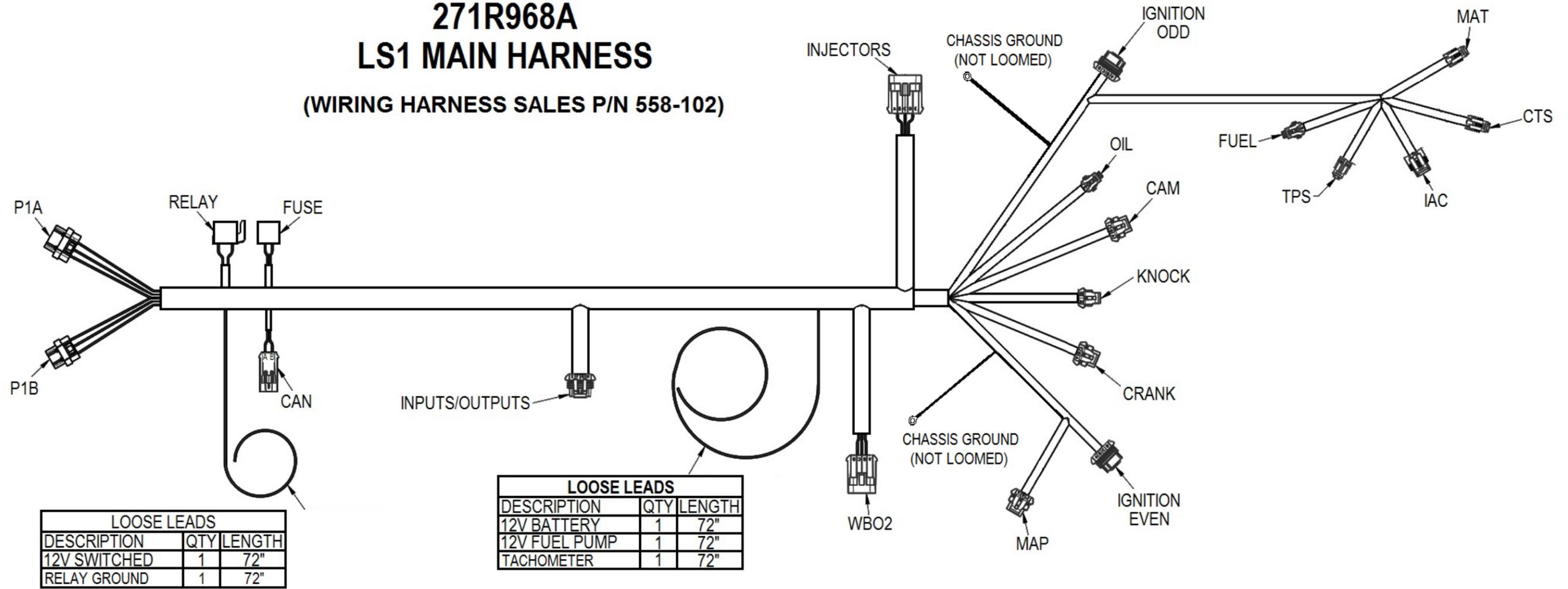


Figure 25

**271R973A  
HOLLEY EFI  
STEALTHRAM & TPI  
(HARNESS ONLY SALES P/N 558-101)**

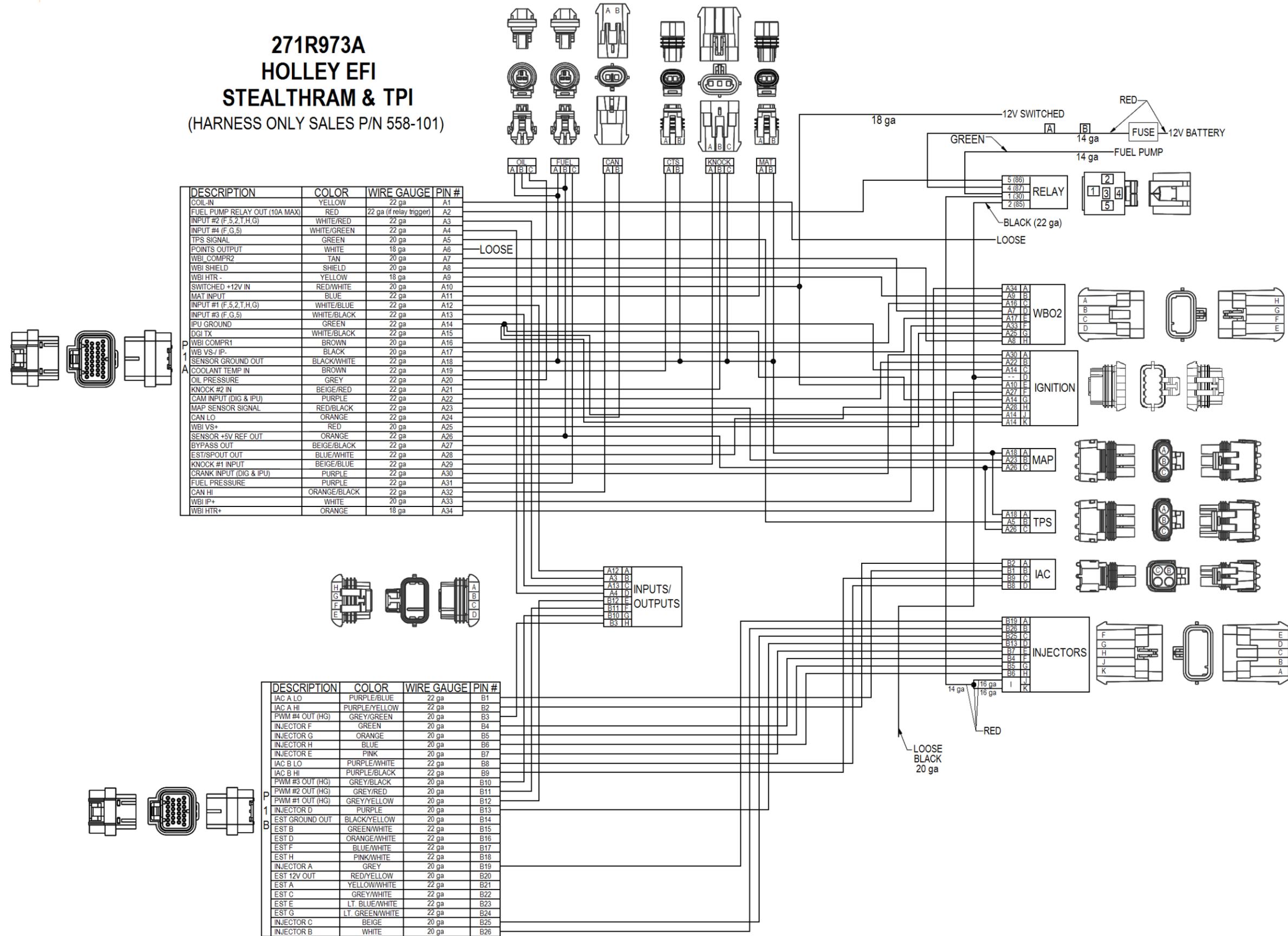


Figure 26

# 271R973A HOLLEY EFI STEALTHRAM & TPI

(WIRING HARNESS ONLY SALES P/N 558-101)

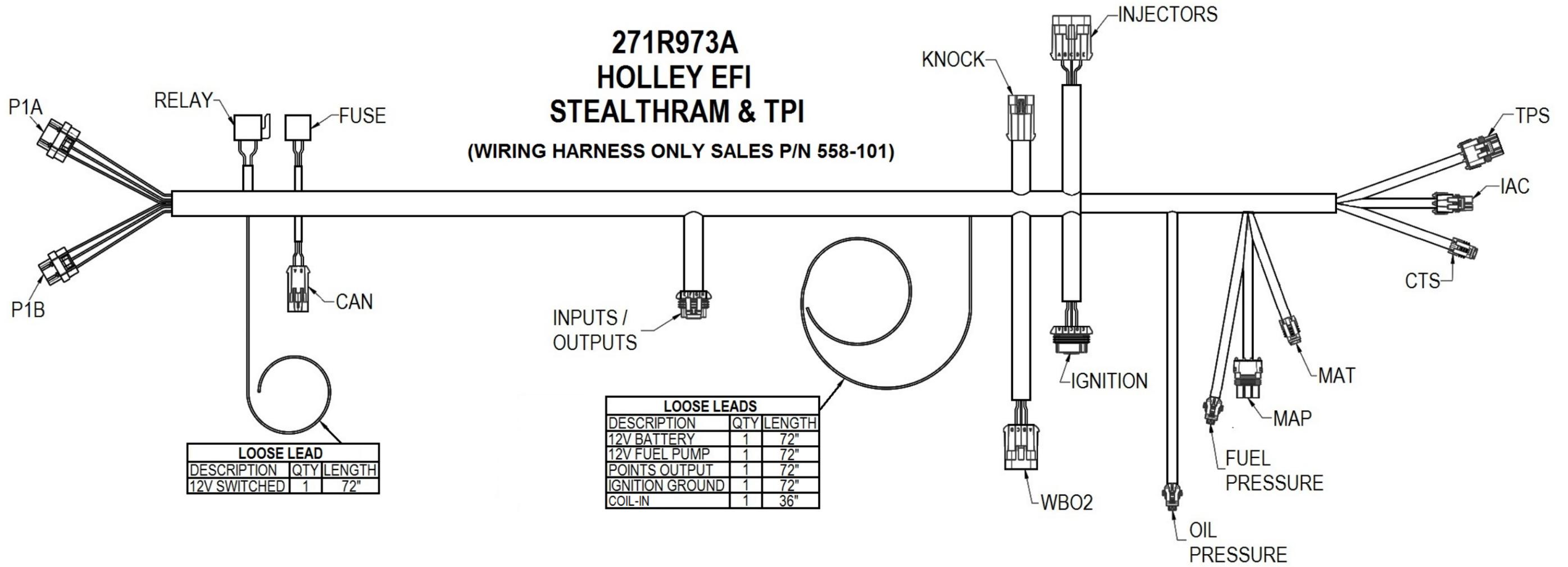


Figure 27

# 271R974A GM 4L60-4L80E TRANSMISSION HARNESS

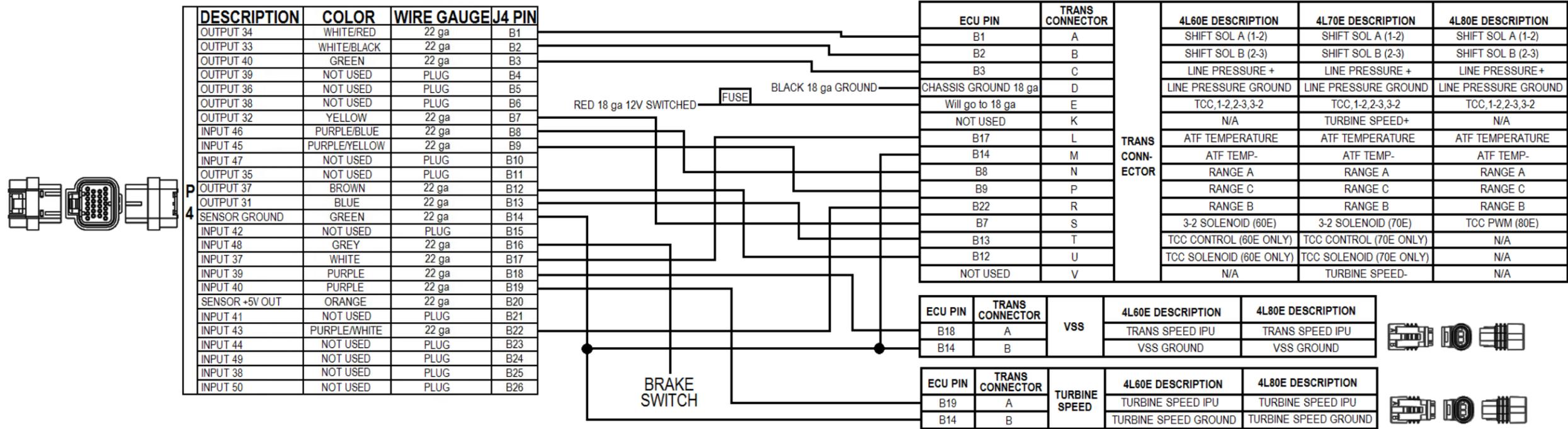


Figure 28

# 271R974A GM 4L60E-4L80E TRANSMISSION HARNESS

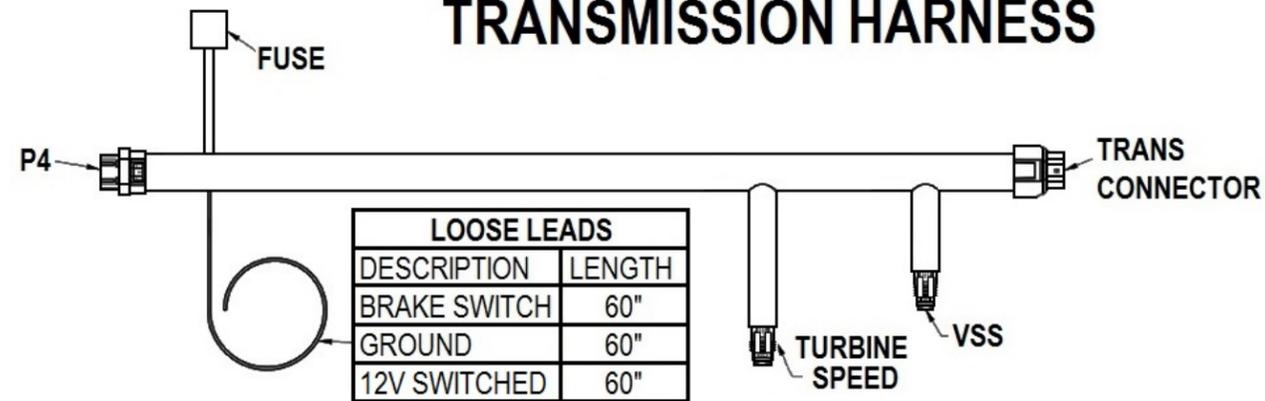


Figure 29

# 271R998A HOLLEY EFI 2BBL TBI HARNESS

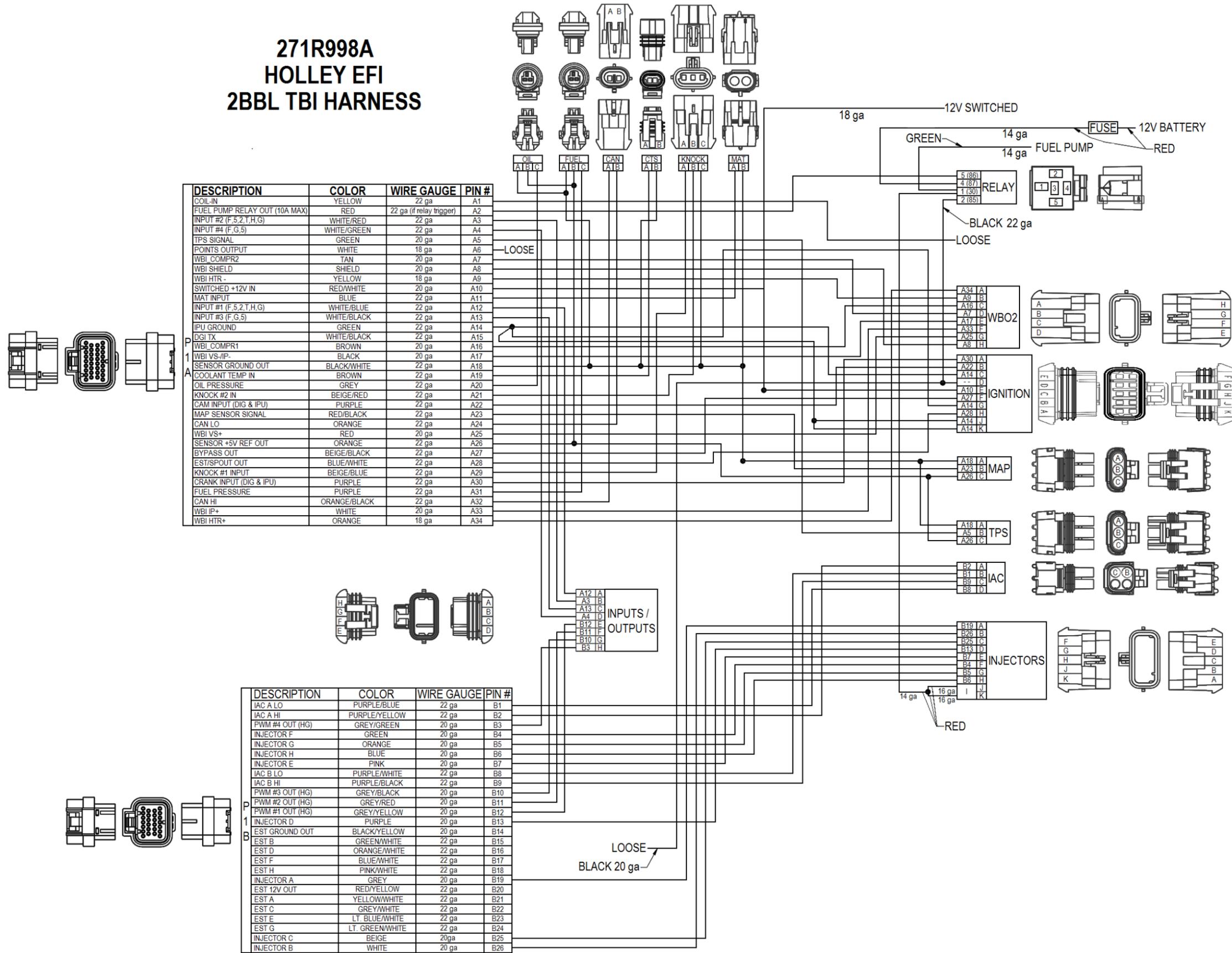


Figure 30

# 271R998A HOLLEY EFI 2BBL TBI HARNESS

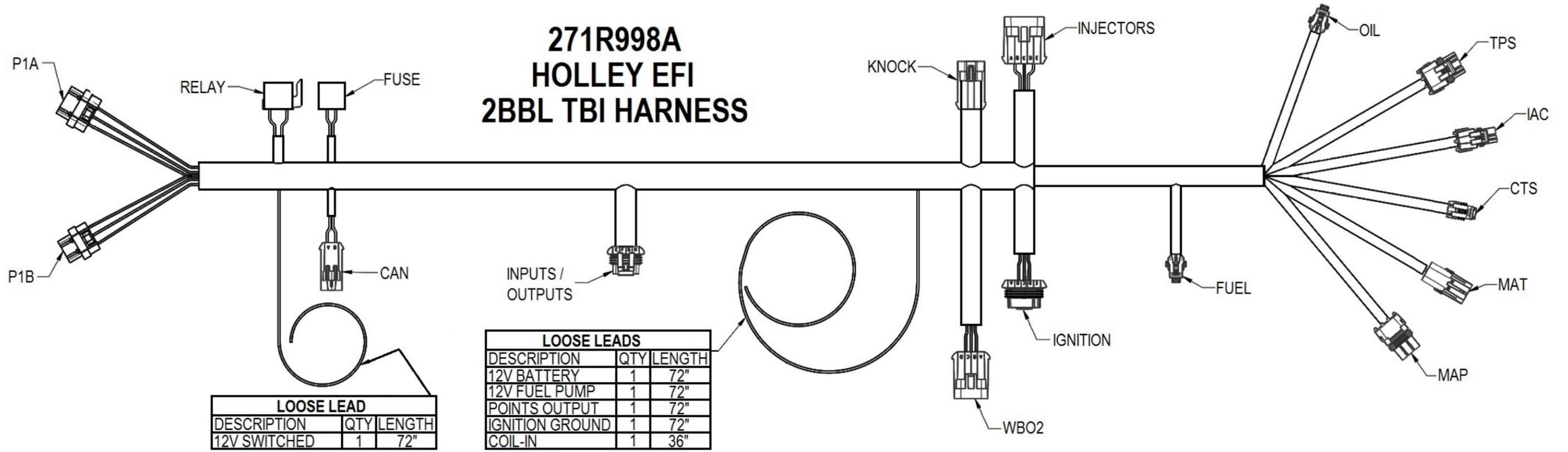
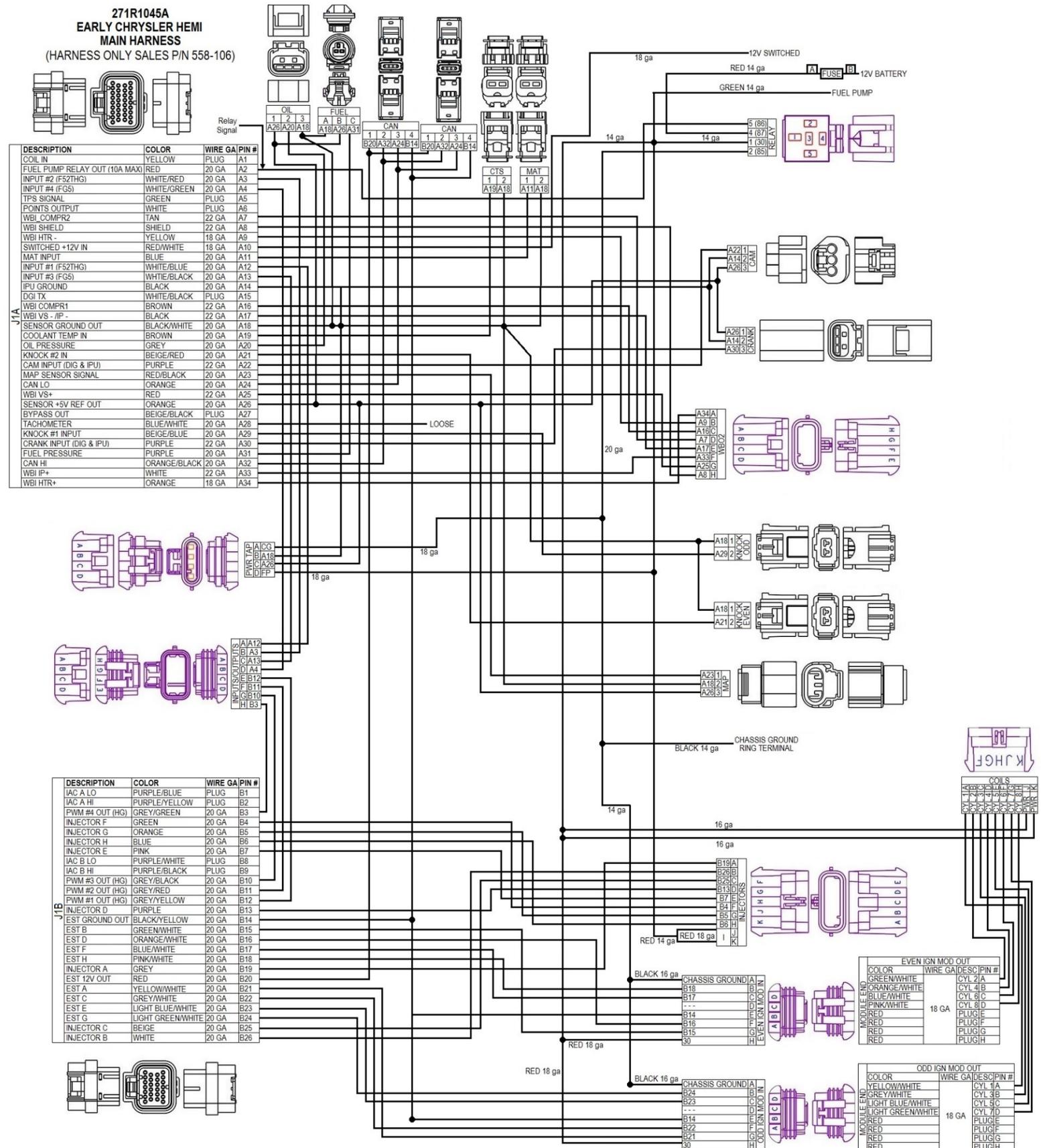


Figure 31

**271R1045A  
EARLY CHRYSLER HEMI  
MAIN HARNESS  
(HARNESS ONLY SALES P/N 558-106)**



DESCRIPTION	COLOR	WIRE GA	PIN #
COIL IN	YELLOW	PLUG	A1
FUEL PUMP RELAY OUT (10A MAX)	RED	20 GA	A2
INPUT #2 (F52THG)	WHITE/RED	20 GA	A3
INPUT #4 (F5G)	WHITE/GREEN	20 GA	A4
TPS SIGNAL	GREEN	PLUG	A5
POINTS OUTPUT	WHITE	PLUG	A6
WBI_COMPR2	TAN	22 GA	A7
WBI SHIELD	SHIELD	22 GA	A8
WBI HTR -	YELLOW	18 GA	A9
SWITCHED +12V IN	RED/WHITE	18 GA	A10
MAT INPUT	BLUE	20 GA	A11
INPUT #1 (F52THG)	WHITE/BLUE	20 GA	A12
INPUT #3 (F5G)	WHITE/BLACK	20 GA	A13
IPU GROUND	BLACK	20 GA	A14
DGI TX	WHITE/BLACK	PLUG	A15
WBI_COMPR1	BROWN	22 GA	A16
WBI VS - /P -	BLACK	22 GA	A17
SENSOR GROUND OUT	BLACK/WHITE	20 GA	A18
COOLANT TEMP IN	BROWN	20 GA	A19
OIL PRESSURE	GREY	20 GA	A20
KNOCK #2 IN	BEIGE/RED	20 GA	A21
CAM INPUT (DIG & IPU)	PURPLE	22 GA	A22
MAP SENSOR SIGNAL	RED/BLACK	20 GA	A23
CAN LO	ORANGE	20 GA	A24
WBI VS+	RED	22 GA	A25
SENSOR +5V REF OUT	ORANGE	20 GA	A26
BYPASS OUT	BEIGE/BLACK	PLUG	A27
TACHOMETER	BLUE/WHITE	20 GA	A28
KNOCK #1 INPUT	BEIGE/BLUE	20 GA	A29
CRANK INPUT (DIG & IPU)	PURPLE	22 GA	A30
FUEL PRESSURE	PURPLE	20 GA	A31
CAN HI	ORANGE/BLACK	20 GA	A32
WBI IP+	WHITE	22 GA	A33
WBI HTR+	ORANGE	18 GA	A34

DESCRIPTION	COLOR	WIRE GA	PIN #
IAC A LO	PURPLE/BLUE	PLUG	B1
IAC A HI	PURPLE/YELLOW	PLUG	B2
PWM #4 OUT (HG)	GREY/GREEN	20 GA	B3
INJECTOR F	GREEN	20 GA	B4
INJECTOR G	ORANGE	20 GA	B5
INJECTOR H	BLUE	20 GA	B6
INJECTOR E	PINK	20 GA	B7
IAC B LO	PURPLE/WHITE	PLUG	B8
IAC B HI	PURPLE/BLACK	PLUG	B9
PWM #3 OUT (HG)	GREY/BLACK	20 GA	B10
PWM #2 OUT (HG)	GREY/RED	20 GA	B11
PWM #1 OUT (HG)	GREY/YELLOW	20 GA	B12
INJECTOR D	PURPLE	20 GA	B13
EST GROUND OUT	BLACK/YELLOW	20 GA	B14
EST B	GREEN/WHITE	20 GA	B15
EST D	ORANGE/WHITE	20 GA	B16
EST F	BLUE/WHITE	20 GA	B17
EST H	PINK/WHITE	20 GA	B18
INJECTOR A	GREY	20 GA	B19
EST 12V OUT	RED	20 GA	B20
EST A	YELLOW/WHITE	20 GA	B21
EST C	GREY/WHITE	20 GA	B22
EST E	LIGHT BLUE/WHITE	20 GA	B23
EST G	LIGHT GREEN/WHITE	20 GA	B24
INJECTOR C	BEIGE	20 GA	B25
INJECTOR B	WHITE	20 GA	B26

COLOR	WIRE GA	DESC	PIN #
GREEN/WHITE	18 GA	CYL 2 A	1
ORANGE/WHITE	18 GA	CYL 4 B	2
BLUE/WHITE	18 GA	CYL 8 C	3
PINK/WHITE	18 GA	CYL 8 D	4
RED	18 GA	PLUG E	5
RED	18 GA	PLUG F	6
RED	18 GA	PLUG G	7
RED	18 GA	PLUG H	8

COLOR	WIRE GA	DESC	PIN #
YELLOW/WHITE	18 GA	CYL 1 A	1
GREY/WHITE	18 GA	CYL 3 B	2
BLUE/WHITE	18 GA	CYL 5 C	3
LIGHT GREEN/WHITE	18 GA	CYL 7 D	4
RED	18 GA	PLUG E	5
RED	18 GA	PLUG F	6
RED	18 GA	PLUG G	7
RED	18 GA	PLUG H	8

Figure 32

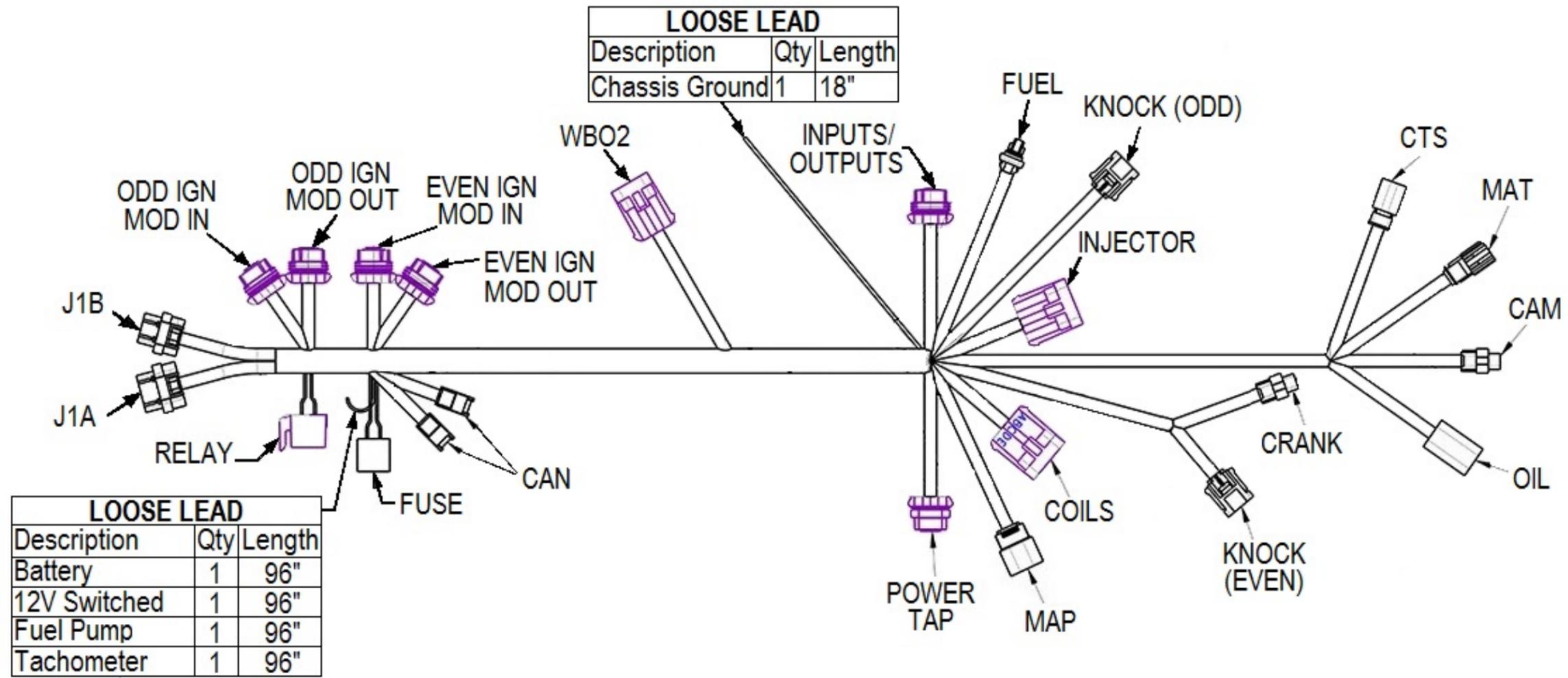


Figure 33

**271R1046A  
LATE HEMI  
MAIN HARNESS  
(HARNESS ONLY SALES P/N 558-107)**

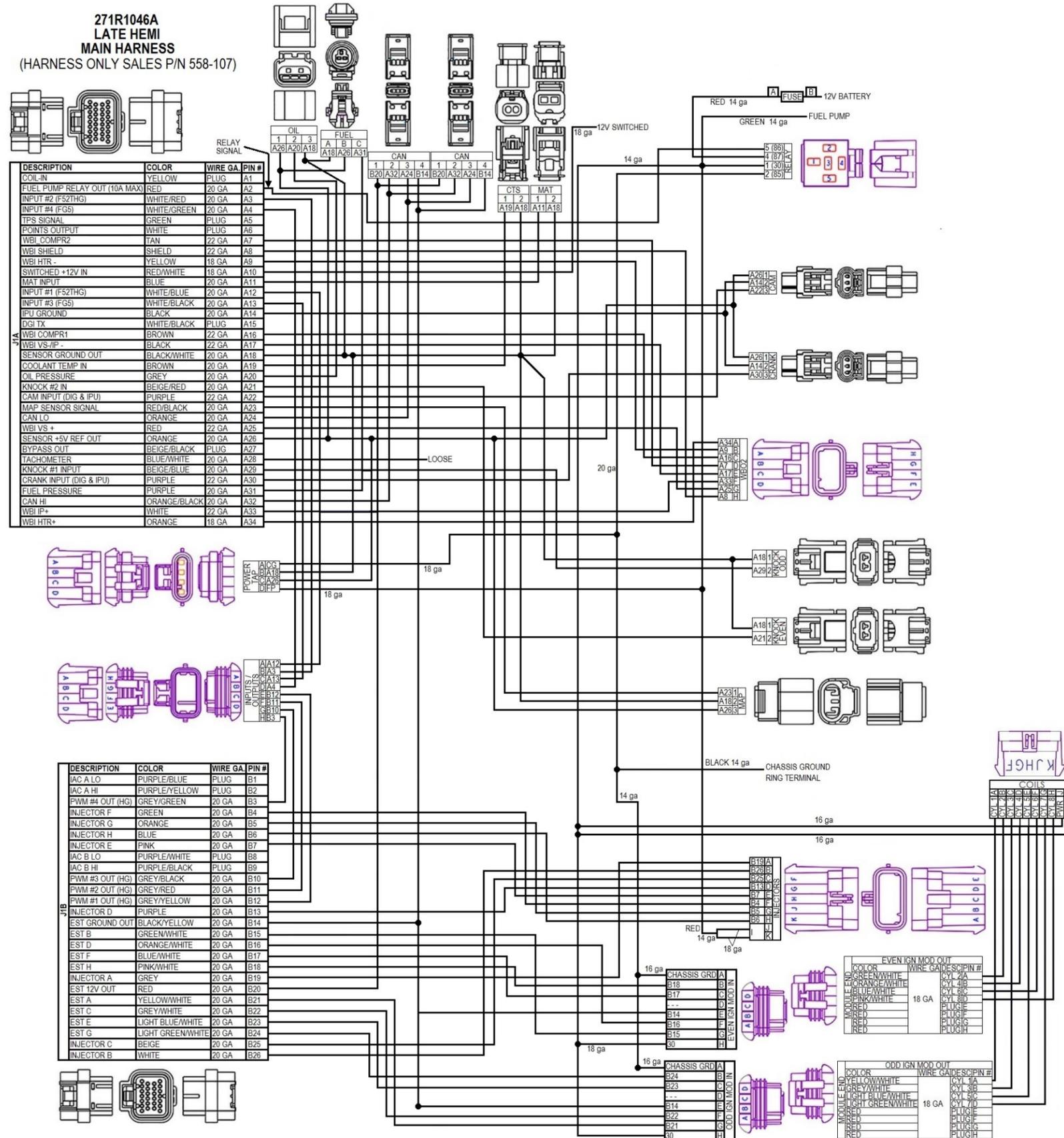


Figure 34

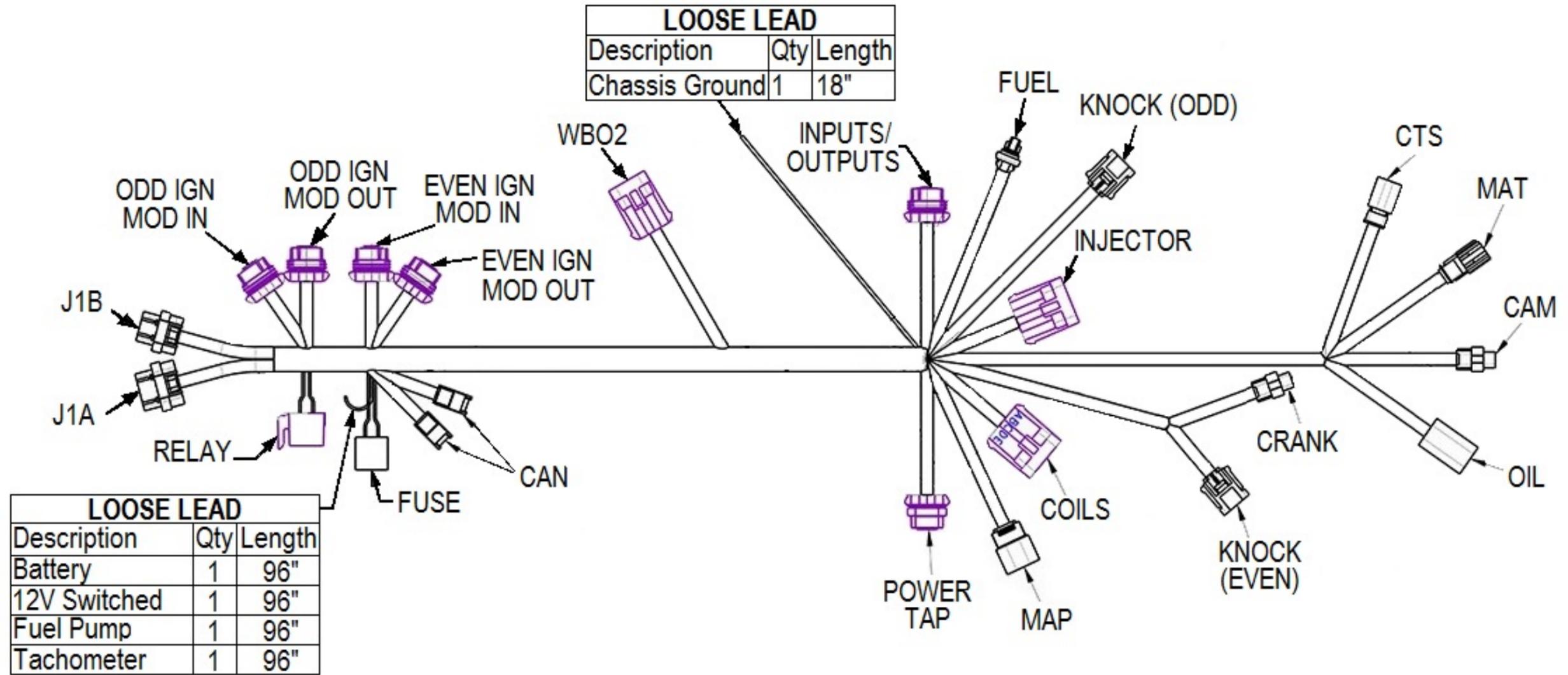


Figure 35

**HOLLEY TECHNICAL SUPPORT  
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[www.holley.com](http://www.holley.com)**

**199R10555  
Revision Date: 3-6-15**