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329021
21 Circuit Universal Hot Rod Wiring Harness

This harness is designed for several applications and therefore modifications may be required. It is designed for use with most GM, Ford or Chrysler vehicles and controls chassis, interior and carbureted engine functions. Please note that ground wiring is NOT included in this kit. We recommend black wire for all grounds for easy identification.

Installation of this wiring harness should be carried out by a qualified technician or a person with automotive wiring and electrical background/experience. As this is a "universal" harness, **technical information in regards to a specific application is not available for this product.**

Read thoroughly before starting installation. These instructions were developed based on a standard generic application, but installation should be straight forward if you take your time.
The harness comes separated into four sections. Front/Underhood, Dash, Steering Column and Rear Section. All wires are color coded and labeled with the circuit they apply to. (See charts)

1) Plan ahead! Lay out the harness on a large workspace or floor. Simplify your installation by deciding which wires will be used, moved or removed. Before eliminating any wires you think you do not need, (eg. power windows or air conditioning etc.) make sure you don't want to add them in the future. Make a worksheet as you go along. Use the "Notes" section in the charts on the next few pages. A little planning now, will make for a lot less hair-pulling later!

2) Prepare the harness for installation
Lay the harness next to the vehicle. DO NOT REMOVE THE 3 CABLE TIES NEAREST TO THE FUSE BOX. Start with the largest coil of wires. This is the front section. Remove the cable ties and uncoil towards the front of the vehicle. The next largest is the rear section. Remove the cable ties and uncoil to the rear of the vehicle. The remaining coils are the dash and steering column. The steering column is the one with the pre-attached plugs which will not need to be changed for most GM key-in-column applications. Ford, Mopar or other non GM applications will require removal of these plugs/terminals.
Remove the cable ties from the dash section and uncoil the wires next to the fuse panel.
Using the worksheet you made in step 1, remove any unused wires, (cutting as close to the fuse box as possible to avoid any shorts) move any wires you need to and decide on the routing you wish to take in your vehicle. At this time, you may want to add any wires that are not included in the harness for other accessories you may have in your vehicle. Now is the time! Just remember to make a note of the wire color(s) for future reference!
After all modifications have been made, use cable ties to bundle each section back together to prepare for installation.

3) Mount the fuse panel
The fuse panel is designed to be mounted under the dash on the drivers side. Mount securely to a flat surface taking care to keep it away from moving parts such as the gas or brake pedals. Ensure it is accessible for possible fuse replacement if necessary. Also ensure the steering column wires will reach the steering column. Mount the horn relay (that is pre-wired to the fuse panel - green and black wires) near the fuse panel.
Next find a suitable location for the front section to pass through the firewall into the engine compartment. Make sure there will be no interference on the engine side (brake booster, wiper motor, steering, exhaust etc.) and drill a 1-1/4" hole for the supplied grommet. Pass the front section wires through the grommet into the engine compartment.

4) Routing and attaching wires
Starting with the rear section and work forward, route each wire to its specified destination. When completing each section, tidy it up using cable ties and sleeving (such as our PerformaBraid) to have a professional looking installation.

The rear section is designed to be routed along the drivers side floor either under the carpet or doorsill in an area that is not subject to interference from seats or where passengers may step on it. The rear section includes wiring for brake & turn signal lights, reverse lights, gas tank sender, electric fuel pump (if used) and the dome & trunk lights.

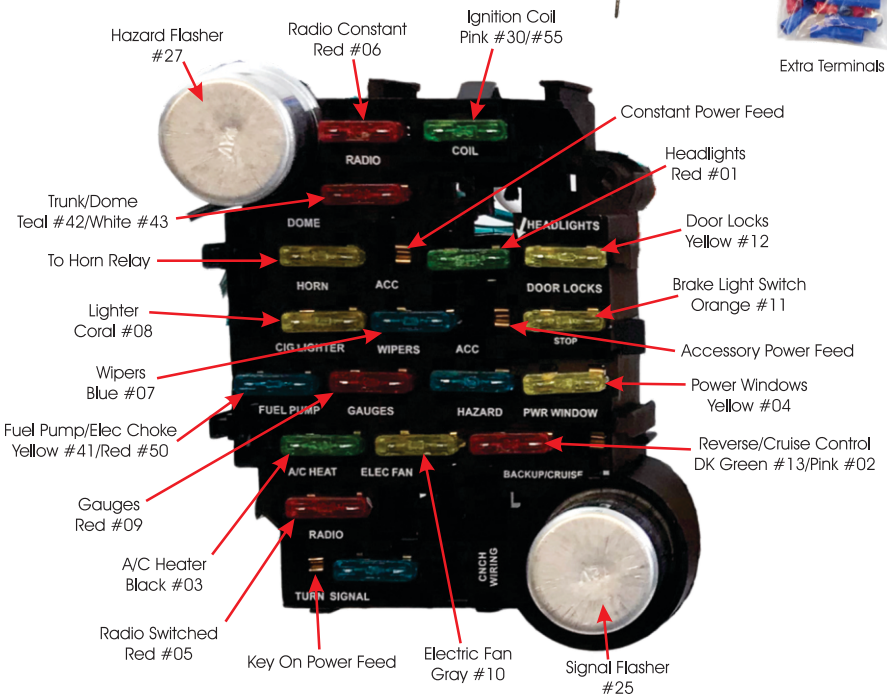
The front section wires include the front lighting, engine and accessories normally mounted at the front of the vehicle. Separate the engine wires from the rest. When connecting the 10ga. solenoid power = red wire, you MUST use a fusible link available at most parts stores. FAILURE TO USE ONE WILL VOID THE WARRANTY. If you are using an ammeter, this wire will need to route to one post of the ammeter gauge, and then from the other post to the solenoid positive + source.

The steering column section has the wires for your turn signals, headlights, hazards, horn, brake switch, ignition switch and dimmer switch. The plugs on these wires are for a GM steering column that has a column mounted ignition switch. If this is what you are using, plug the black and clear plugs into the column. The dimmer switch plug will fit a floor mounted dimmer switch or the GM column mounted dimmer. The turn signal/horn wires are pre-terminated for the GM column connectors. There are 2 GM plugs included in the kit. Pick the correct one to match your column. The plugs are letter coded as shown in the "Column Section" chart. Ford or Mopar applications require the plugs and terminals to be cut and terminated to suit the specific application.

The dash section contains the wires for the gauges, headlight switch, radio, AC/heater, wipers, cooling fan, door locks, windows, cruise control etc. The order in which they are installed depends on your application. Start from the drivers side and work towards the passenger side. Using cable ties, tie up the harness as you go along.

All wires should now be connected. Turn off all accessories. Ensure the ignition key is in the off position. Close the doors. Connect the + battery terminal. Before connecting the negative cable, check for a current draw. This is done with a test light between the negative cable and the negative terminal on the battery post. No light = no draw. If you have no light, or a very dim light, it is safe to connect the battery cable and start checking the system.

Included in Kit



Circuit Description

This kit includes circuits for:

Ignition	Dome Light
Headlights	Trunk Light
Brake Lights	Horn
Turn Signals	Power Windows
Reverse Lights	Power Door Locks
Hazard	Cruise Control
Wipers	Electric Fan
Radio	Electric Fuel Pump
Lighter	Electric Choke
A/C Heater	Accessory
Gauges	

Front Loop Section

#	Circuit	Color	Front loop	Fuse	Terminates at	Notes
44	alternator exciter	white	rear of alternator*		fuse box	READ *NOTES*
50	electric choke power	red	electric choke	15A	fuse box	
52	starter solenoid power	red	starter motor*	70A	fuse box	REQUIRES FUSE*
55	coil power	pink	coil +*	30A	fuse box	READ *NOTES*
58	alternator power	red	rear of alternator*		fuse box	READ *NOTES*
59	horn	LT green	horn	20A	relay/fuse box	
45	tachometer	purple	tachometer signal*		dash section	eg. Coil -
46	AC compressor	black	rear of AC compressor		dash section	
47	electric fan	gray	electric fan		dash section	Relay Required
48	front park lights	brown	front park lights		dash section	
51	power antenna	purple	power antenna (opt)		dash section	
56	oil sender	LT blue	oil sending unit		dash section	
72	temp sender	LT green	temp sending unit		dash section	
15	left front signal	LT blue	left turn signal light		column section	
17	right front signal	DK blue	right turn signal light		column section	
24	low beam	coral	low beam headlight		column section	
29	high beam	DK green	high beam headlight		column section	
32	ignition switch start	purple	starter motor		column section	Solenoid

Column Loop Section

#	Circuit	Color	Column loop	Fuse	Terminates at	Notes	GM Plug Code
14	left signal indicator	DK blue	turn signal switch		dash section	Black GM Plug	H
15	left front signal	LT blue	turn signal switch		front section	Black GM Plug	
16	right signal indicator	DK blue	turn signal switch		dash section	Black GM Plug	J
17	right front signal	DK blue	turn signal switch		front section	Black GM Plug	
18	brake switch	white	brake pedal switch		dash section	Black GM Plug	P
19	third brake light	orange	brake pedal switch		rear section	Black GM Plug	
20	LR turn signal	yellow	turn signal switch		rear section	Black GM Plug	M
21	RR turn signal	LT green	turn signal switch		rear section	Black GM Plug	N
25	turn flasher	purple	turn signal switch	15A	flasher/fuse box	Black GM Plug	L
26	horn switch	DK green	horn button	20A	relay/fuse box	Black GM Plug	G
27	hazard	brown	hazard switch	15A	flasher/fuse box	Black GM Plug	K
22	dimmer power	LT blue	Black 3-wire plug		dash section (HL Switch)	High/Low Switch	
24	low beam	coral	Black 3-wire plug		front low beam *relay	High/Low Switch	
29	high beam	DK green	Black 3-wire plug		front high beam *relay	High/Low Switch	
73	high beam indicator	DK green	Black 3-wire plug		dash indicator	High/Low Switch	
30	ignition switch to coil	pink	Clear 4-wire plug	30A	to fuse box	IGN Switch	
31	ignition key accessory	orange	Black 2-wire plug		to fuse box	IGN Switch	
32	ignition switch start	purple	Clear 4-wire plug		front section	IGN Switch	
33	ignition switch power	red	Clear 4-wire plug		to fuse box	IGN Switch	
33	ignition switch power	black	Black 2-wire plug				
N/A	ignition key on power	brown	Clear 4-wire plug		to fuse box	IGN Switch	

Dash Loop Section

#	Circuit	Color	Dash loop	Fuse	Terminates at	Notes
01	headlight power	red	headlight switch	30A	to fuse box	
03	AC/heat power	black	AC/Heater control	30A	to fuse box	
04	window power	yellow	power window relay	20A	to fuse box	
05	radio switched	red	radio	10A	to fuse box	
06	radio constant power	red	radio	10A	to fuse box	
07	wiper motor	DK blue	wiper switch	15A	to fuse box	
08	cigarette lighter	coral	cigarette lighter/aux	20A	to fuse box	
09	gauge power	red	gauge power	10A	to fuse box	
10	electric fan +	gray	fan switch (opt)	20A	to fuse box	
11	brake switch power	orange	pedal switch	20A	to fuse box	
12	door lock power	yellow	power lock relay	20A	to fuse box	
02	cruise power	pink	cruise control	10A	to fuse box	
13	reverse power	DK green	backup light switch		to fuse box	
14	left signal indicator	DK blue	dash indicator		column section	
16	right signal indicator	DK blue	dash indicator		column section	
18	brake switch	white	pedal switch		column section	Light
22	dimmer power	LT blue	headlight switch		column section	High/Low Switch
73	high beam indicator	DK green	headlight switch		column section	High/Low Switch
35	tail/park	brown	headlight switch		rear section	
38	reverse lights	DK green	backup light switch		rear section	Reverse Lights
40	fuel gauge	pink	fuel level gauge		rear section	Sender
45	tachometer	purple	tachometer input		front section	Gauge
46	AC compressor	black	AC control switch		front section	AC/Heater control
47	electric fan	gray	fan switch (opt)		front section	
48	front park lights	brown	headlight switch		front section	
51	power antenna	purple	radio power signal		front section	Radio
56	oil sender	LT blue	oil pressure gauge		front section	Gauge/Light
72	temp sender	LT green	water temp gauge		front section	Gauge/Light

Rear Loop Section

#	Circuit	Color	Rear loop	Fuse	Terminates at	Notes
19	third brake light	orange	third brake light		column section	brake switch
20	LR turn signal	yellow	left turn signal light		column section	turn signal switch
21	RR turn signal	LT green	right turn signal light		column section	turn signal switch
35	tail/park	brown	running lights		dash section	Headlight Switch
38	backup	DK green	reverse lights		dash section	Reverse Switch
40	fuel gauge	pink	fuel tank sender		dash section	Gauge
41	elec fuel pump +	yellow	fuel pump	15A	fuse box	Relay Required
42	trunk light +	teal	trunk light +	10A	fuse box	
43	dome light +	white	dome light +		fuse box	

*Notes:

If you are using a 3-wire (OE) style alternator over 80A, DO NOT use the red wire (#58) from the fuse box. Instead, connect a 10ga. (or heavier) wire directly from the rear of the alternator power stud to the main solenoid power (+) terminal or battery positive terminal. You will still use the white alternator exciter wire (#44).

If you are using a 1-wire (aftermarket) alternator over 80A, DO NOT use the red wire (#58) from the fuse box. Instead, connect a 10ga. (or heavier) wire directly from the rear of the alternator power stud to the main solenoid power (+) terminal or battery positive terminal. You will NOT use the white alternator exciter wire (#44) as the 1-wire alternators are self-exciting.

Circuit #52 is the main power feed to the fuse box. The large red wire runs from the fuse box to the large terminal on the starter/solenoid. (the large battery (+) cable is attached there) You will need to add an inline fuse or circuit breaker (eg. 70A not included) available at most parts stores.

The pink coil power + wire (#55) delivers 12V+ to the ignition coil. If you are using a points style ignition, you will need a ballast resistor to reduce the voltage. Ford and Mopar applications used a resisted wire but can use a ballast resistor instead. PLEASE NOTE - When using a ballast resistor, you must also install a bypass wire that supplies a full 12V+ to the coil during cranking only. GM applications can get the 12V+ cranking feed from the starter "R" terminal. Ford and Mopar applications can tap into the purple starter wire (#32) in this kit.

The purple tachometer signal wire (#45) can normally be connected to the coil (-) terminal in standard OE style ignition systems. For HEI, connect to the "TACH" terminal at the distributor cap. For capacitive discharge systems such as MSD etc., use the "TACH" terminal on the ignition box, or as described in their specific instructions.

Do's and Don'ts:

Don't forget to ground all accessories and switches that require grounding. Ground wires are NOT included in this kit.

Install good grounds from the engine to frame, engine to body, negative battery terminal to engine/body/frame.

Always crimp or solder connections and insulate/heat shrink to prevent shorting.

Always use grommets when passing through any firewall or metal.

Always double check connections using a volt/ohm meter.