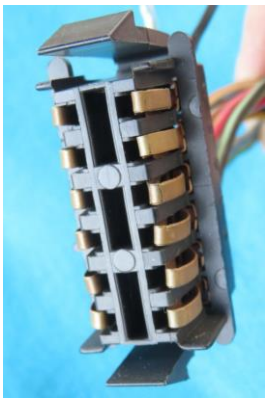
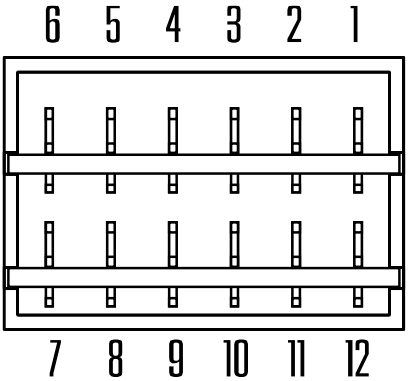
NEW VINTAGE USA
DETROIT

12-PIN ADAPT-O-PLUG INSTRUCTION BOOKLET
SELECTGM/FORD VEHICLES





GM VEHCILES:

67-72 GM truck
70-72 Malibu/Chevelle
70-81 Camaro
78-82 Corvette (2 req'd)

FORD VEHCILES:

70-72 Ford truck (without gauges)
71-73 Mustang (with tach/console)

INTRODUCTION

This product is designed to help the installer save time and create a professional installation of aftermarket gauges in less time than splicing in the old and new harnesses. Use this instruction manual as a guide. Due to the wide variety of variations over model years we have used the most popular applications as our wiring diagram guides.

The following will help you to an easy, trouble-free installation:

- Use the diagrams to help verify each pin and function as below.
- If you have a variation on a cluster/pinout, please let us know so we can add that to our diagrams for future installs
- Use a test light/multimeter to verify each connection before making a final decision/connection.
- Crimp wires to spade terminals (provided) in the same direction as the spade- this will save space between connections as we have done our best to minimize the size of the adapter plug.
- Commonize connections in the spade terminal crimp to save wiring and time. Power, ground, lights can all be common from all gauges
- LED lighting: All NVU gauges use LED lighting, ***which may or may not operate properly with OE dimmers.*** If your lights will not work on the plug try turning up the dimmer all the way. If that does not work, we recommend connecting directly into the parking lamp circuit for a constant 12v. If you would like to dim the gauges, we have our LED dimmer available, part number 99003-04
- Use care when removing spade terminals, the boards are held in with clips that snap into the housing. Hold the board in place while removing spade terminals (they are tight) so that the housing/snaps are not damaged or pull out.

Plugging into original harness plug:

Most plugs are directional meaning that it can only be plugged in one way. Some are not due to the original design. Note when plugging in , that the same pin count and any spacing is in the same direction as the original.

There are 2 types of connections used:

1. Snap in: Same as original, the plugs will snap in. To remove, depress the tabs just like OE
2. Mechanical: Other plugs did not have a mechanical attachment as part of the original design. While this may have been useful for use at the factory, our application needs to be mechanically held in place. This is done using the included hardware (screws, nuts) or a cable tie. In cable-tie applications, slide the tie through the holes and slot guides. Clamp tightly once you are ready to complete the installation.

TESTING THE TERMINALS BEFORE FINALIZING CONNECTIONS.

As stated earlier in the instruction booklet, the diagrams within are to be used as a guide. With the large variation and options available, we have provided the most popular/common diagrams to start with. If you find something new or better, please let us know so that this booklet can continually be updated with newer material.

HOW TO TEST FOR EACH FUNCTION:

Plug the adapter into the stock plug.

TESTING FOR 12V+ POWER:

Using a test light or multimeter, place one end on a good ground. Turn on the key if needed.
Turn on the function you would like to test, lights, ignition, etc that would be powered by 12v+.
Probe the pins/terminal with the other end of the test lamp/multimeter. When you reach the pin that operates that function, the lamp will illuminate, or the multimeter will read vehicle voltage (12V).
Turn that item on and off to verify that is the correct pin. Make a note of it so you remember.

TESTING FOR A GROUND TRIGGER:

Same procedure as above but swap the power to a good 12V source and probe the terminals with the ground side. The light will illuminate, or multimeter will show vehicle voltage (12V)

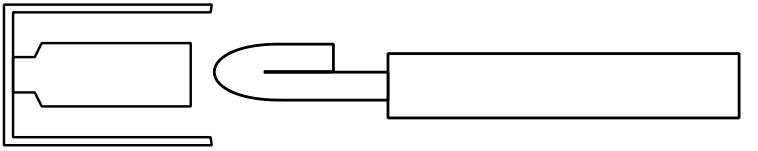
TESTING FOR OHMS (TYPICALLY FUEL SENDER)

This one is a little trickier as you will need to know what Ω (ohms) range you are looking for. In a fuel gauge its best to know how much fuel is in the tank before starting, and noting what the original fuel gauge was reading before removal. Give us a call if you need a hand with this.

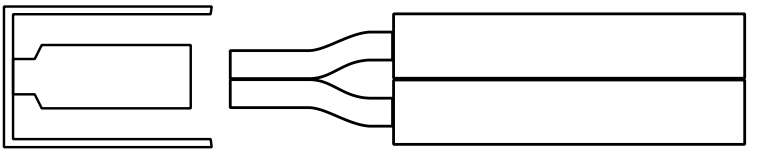
Using a multimeter set to the appropriate ohm scale (usually 200Ω), place the ground side probe on a good ground.
Start probing the terminals with your multimeter, look for the range that would be appropriate for your fuel gauge at that level.

THE LAST RESORT:
Take a look at the back of the cluster, you can often trace the printed circuit to identify which pin does which function.

VIDEO LINK HERE:



Single wire: fold over



Multiple wires

CRIMPING WIRES TO SPADE TERMINALS

We have included BLUE spade terminals for 18-20 ga wire. This is a larger size that can be used for 1 or 2 wires to be attached.

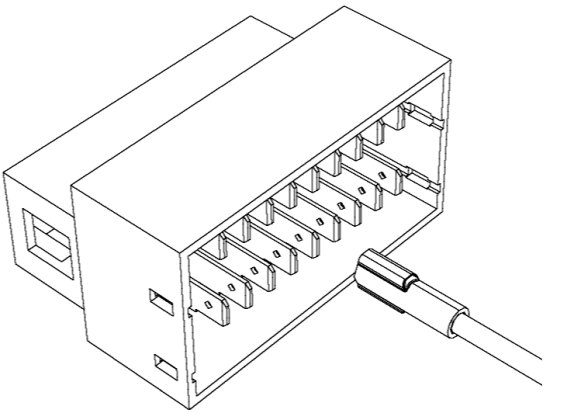
-When using one wire in the terminal, we find its best to strip off extra wire and fold it over to create a thicker piece for the crimp to attach to.

- 2 wires should fit in there nicely, be sure to strip off enough wire to extend full into the end of the terminal.

Use a quality crimper to ensure a good connection.

Connection should be tight and not be able to pull out. Make sure the crimp is in the same direction as the spade (red arrows) so that there is enough room between terminals.

The spade terminals will bottom out on the male side in the plug making a good connection. Remember to hold the board in if you need to remove the spades afterward to not damage the housing or pull the board(s) out.



GAUGE SIGNALS AND WIRING TIPS

NVU adapter plugs are designed to minimize your searching for the right wires as much as possible. Your new gauges probably have features your original vehicle was never designed to have, so some additional wiring may be required. Here are some helpful tips for a successful gauge installation.

ELECTRONIC SPEEDOMETER: this signal may or may not be in your wiring harness, LS swaps, new PCMs, cableless senders in older vehicles will require some additional wires to be run. If in doubt, just run new wires down to the new speed sender or PCM, that 15-20 minutes now can save you hours of troubleshooting later. If you are using a new "conversion" or "update" harness from a trusted harness manufacturer, these are already in place and you can use those designated wires.

TACHOMETER: Similar to above, old wires can also deteriorate, if you are unsure, just run a new wire to the appropriate tachometer signal source. Check page 12 in the NVU BIG BOOK or give us a call to help you through.

OIL PRESSURE SENDER: NVU recommends installing a new wire to the pressure sender to ensure you have the correct connection established. If you are using a new "conversion" or "update" harness from a trusted harness manufacturer, these are already in place and you can use those designated wires.

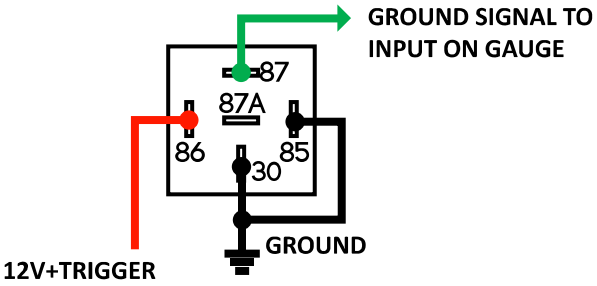
TEMPERATURE SENDER: NVU recommends installing a new wire to the temperature sender to ensure you have the correct connection established. If you are using a new "conversion" or "update" harness from a trusted harness manufacturer, these are already in place and you can use those designated wires.

FUEL SENDER: This one is a pain usually to run a new wire all the way to the tank. Its best to try to re-use the original wire unless there is an issue with the vehicle wiring.

LED lighting: All NVU gauges use LED lighting, ***which may or may not operate properly with OE dimmers.*** If your lights will not work on the plug try turning up the dimmer all the way. If that does not work, we recommend tying directly into the parking lamp circuit for a constant 12v. If you would like to dim the gauges, we have our LED dimmer available, part number 99003-04

SCAN THE QR CODE AT RIGHT TO SEE THE INSTRUCTIONAL VIDEO >>>

HOW TO SET UP A RELAY TO CONVERT A 12v+ OUTPUT TO A GROUND TRIGGER FOR THE GAUGE.



To trigger NVU indicator lights (in the gauge) will require 12V+ to illuminate the LEDs. If your signal is a ground trigger (brake light for example) there are 2 methods:

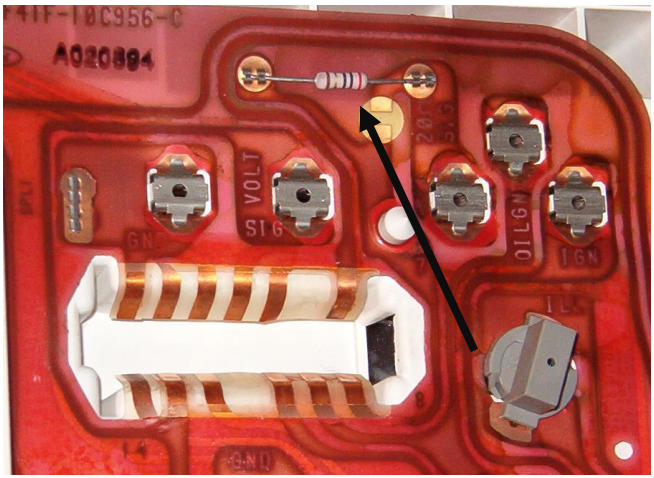
1. Use a relay as shown above, most any relay will do, LEDs draw less than 1 amp.

2. The NVU ground trigger controller can "flip" up to 3 ground triggers to power for use on almost any light or low amp circuit.

ALTERNATOR EXCITER JUMPER IF REQUIRED

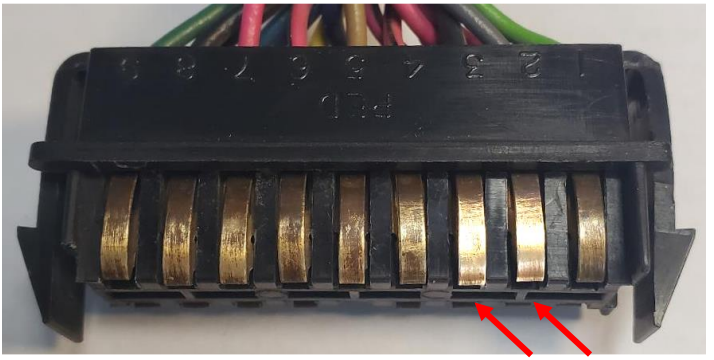
Some alternators may require a jumper to excite the unit to charge the battery. Often times the lamp in the cluster itself is "in charge" of that function. To simulate the bulb there are a few options:

- Use a 510 Ω resistor between the terminals. Most of the time there is already one on the back of the cluster itself.
- Convert to a 1 wire alternator
- Jump the excite wire on a 3-wire alternator basically converting it to one wire
- Use a bulb in that jumper location.



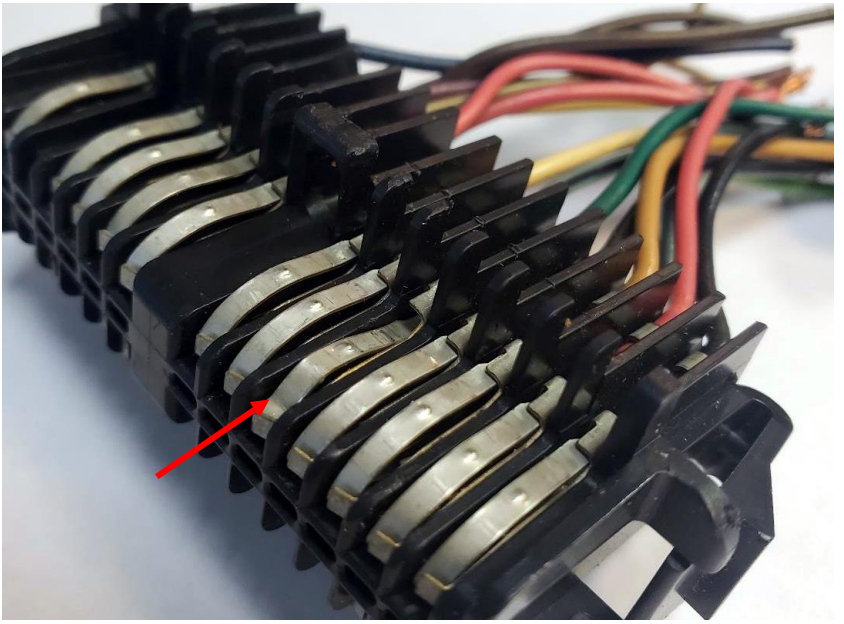
CLEANING PINS

The original plugs have been in the vehicle for a long time, for best results the pins should be gently cleaned. Use a Scotchbrite or similar pad or an eraser. Gently clean the contact area. DO NOT USE SANDPAPER OR STEEL WOOL OR A SHORT/FIRE MAY RESULT. Cleaned pins shown below (arrows)



BENT PINS

Before plugging together, inspect the original plug pins for any bent or pushed down pins that may not have good contact with the adapter. CAREFULLY adjust as needed.



CHECKING CONNECTIONS

Its always a good idea to make sure you have a good connection, bent or dirty pins can lead to frustration. A multimeter set to OPEN/CLOSED can be a fast way to double-check before you button things up.

LABELS ON BOARD

The boards have labels that match the pin layout on your drawings, use those as you install the wires onto the spade terminals.

VEHICLE MODELS AND USE

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This plug was used by many OE vehicle manufacturers over a period of over a decade. The number of clusters and variations on builds vary greatly. The following diagrams are for your guidance only. Please verify each connection prior to final installation of your NVU gauges or damage will result. Follow the pin verification procedure on prior pages in the book to ensure an easy installation.

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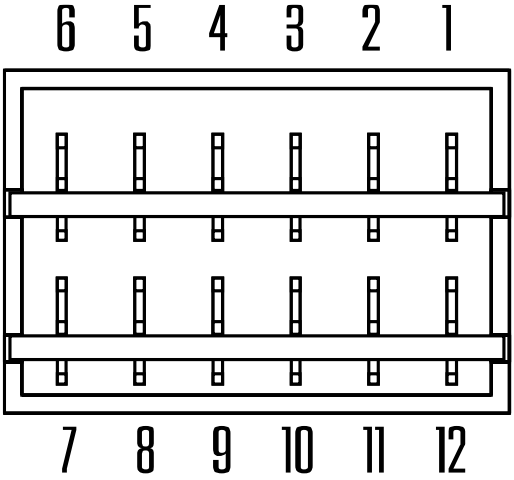
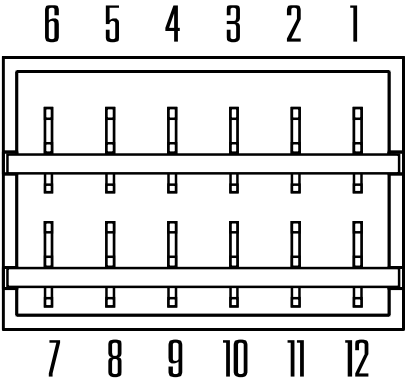


TERMINAL SIDE OF PLUG– NOTE: OE PLUG CAN ONLY BE PLUGGED IN ONE WAY- THERE ARE LOCATORS ON THE PLUG AND ADAPTER.

Below and next page are the available items on the stock cluster wiring. The above cluster is the only style supported by this diagram. Other options, pinouts and functions may be available based on your cluster, plug , PCM, model and year.
O= Optional: use this for warning lights and such
R= Required: the minimum items needed to get your gauges up and running
N/A= Available pin but not used on NVU gauges.

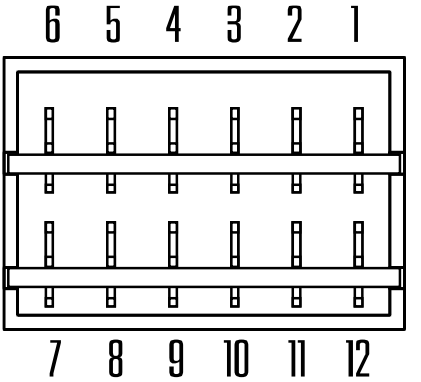
For ground trigger functions please see USING A RELAY in the previous section of this booklet.



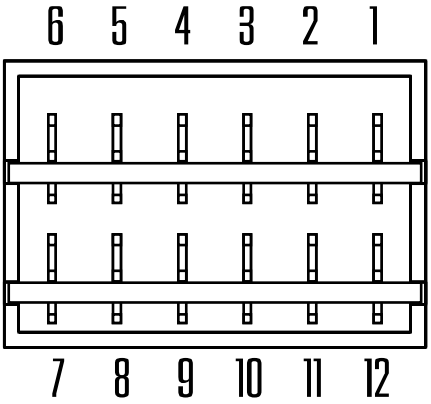
70-81 CAMARO OE CLUSTER WITHOUT GAUGES (BASE) TYPICAL

70-78 CAMARO CLUSTER WITH IDIOT LIGHTS (TYPICAL)			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
RED SPEEDO,TACH	1	PINK	12V SWITCHED
GREEN SPEEDO	2	LT BRN	FUEL SENDER 0-90 Ω
	3	DK BLU/WHT	OIL LIGHT - NOT USED
	4	BROWN	GEN LAMP-MAY REQUIRE ALTERNATOR EXCITER JUMP
WHITE SPEEDO,TACH	5	WHITE	GAUGE LIGHTING 12V+ DIMMER, SEE NOTES
BLACK SPEEDO,TACH	6	BLACK	GROUND
	7	TAN	BRAKE LAMP (GROUND TRIGGER)
	8	PINK/RED (2)	BRAKE LAMP POWER - NOT USED
BLUE SPEEDO	9	LT BLUE	LEFT TURN 12V+ TRIGGER
TAN SPEEDO	10	LT GREEN	HI BEAM 12V+ TRIGGER
GREY SPEEDO	11	DK BLUE	RT TURN 12V + TRIGGER
	12	DK GREEN	TEMP LIGHT - NOT USED

70-81 CAMARO OE CLUSTER FULL GAUGE PACKAGE (TYPICAL)

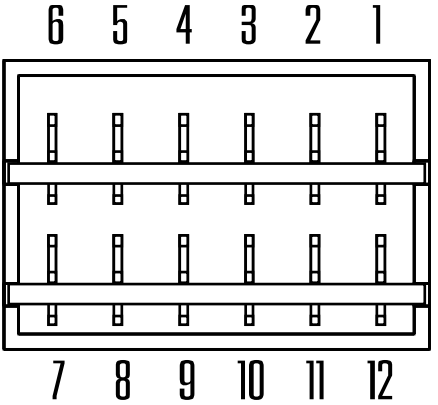


70-81 CAMARO CLUSTER WITH GAUGE PACKAGE (U14)			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
VIOLET TACH	1	BROWN	TACH SIGNAL- USE AT YOUR OWN RISK
	2	GR/WHT	TEMP SENDER- USE NEW WIRE
RED SPEEDO, TACH	3	PINK	12V + SWITCHED
GREEN SPEEDO	4	TAN/BLK	FUEL SENDER 0-90 Ω
WHITE SPEEDO, TACH	5	GREY	GAUGE LIGHTING 12V+ DIMMER, SEE NOTES
	6	BLACK	GROUND
	7	TAN	BRAKE LAMP (GROUND TRIGGER)
	8	PINK	12V SWITCHED ADDITIONAL LEAD
BLUE SPEEDO	9	LT BLUE	LEFT TURN LAMP 12V+ TRIGGER
TAN SPEEDO	10	LT GREEN	HI BEAM 12V+ TRIGGER
GREY SPEEDO	11	BLUE	RIGHT TURN 12V+
	12	BLUE/WHT	OIL SENDER -USE NEW WIRE



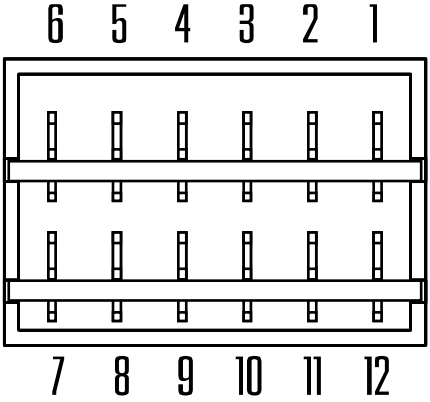
67-72 GM TRUCK WITH GAUGES

67-72 GM TRUCK WITH GAUGE PACKAGE			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1	BLK/BRN	ALTERNATOR- MAY NEED EXCITE JUMPER OR TIE INTO ALTERNATOR TO CHARGE
	2	TAN	BRAKE LAMP (GROUND TRIGGER)
RED SPEEDO, TACH	3	PINK	12V+ KEY ON
GREEN SPEEDO	4	TAN	FUEL SENDER 0-90 Ω
	5	N/A	N/A
	6	DK GRN	TEMP SENDER- USE NEW WIRE
BLACK SPEEDO, TACH	7	BLK	GROUND
WHITE SPEEDO, TACH	8	GREY 92 WIRES)	LIGHTING- SEE NOTES ON LED BULBS
GREY SPEEDO	9	DK BLUE	RIGHT TURN LAMP 12V+ TRIGGER
BLUE SPEEDO	10	LT BLUE	LEFT TURN LAMP 12V+ TRIGGER
TAN SPEEDO	11	LT GREEN	HI BEAM LAMP 12V+ TRIGGER
	12	BLK/BRN	CHARGE PORT TIE INTO TERMINAL BY BATTERY



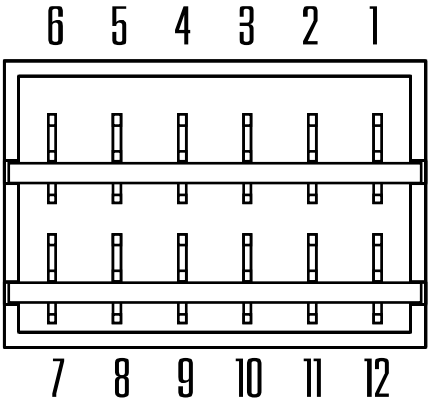
67-72 GM TRUCK
WITH IDIOT LIGHTS

67-72 GM TRUCK WITH IDIOT LIGHTS			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1	DK BLUE	OIL LAMP - USE NEW WIRE
	2	TAN	BRAKE LAMP (GROUND TRIGGER)
	3	N/A	N/A
GREEN SPEEDO	4	TAN	FUEL SENDER 0-90 Ω
	5	DK GREEN	TEMP LAMP- USE NEW WIRE
BLACK SPEEDO, TACH	6	BLK	GROUND
RED SPEEDO, TACH	7	PINK	12V+ KEY ON
	8	BRN	ALTERNATOR- MAY NEED EXCITE JUMPER OR TIE INTO ALTERNATOR TO CHARGE
TAN SPEEDO	9	LT GREEN	HI BEAM LAMP 12V+ TRIGGER
BLUE SPEEDO	10	LT BLUE	LEFT TURN LAMP 12V+ TRIGGER
GREY SPEEDO	11	DK BLUE	RIGHT TURN LAMP 12V+ TRIGGER
WHITE SPEEDO, TACH	12	GREY 2 WIRES	LIGHTING - SEE NOTES ON LED BULBS



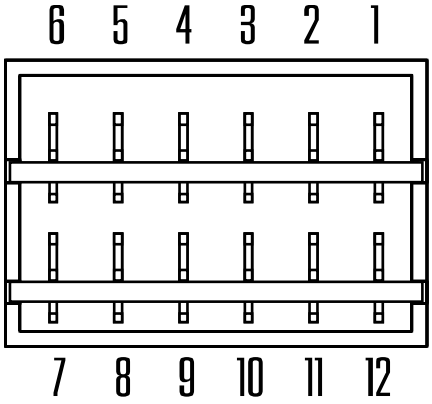
70-72 MALIBU SWEEP DASH

70-72 MALIBU/CHEVELLE SWEEP DASH			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
BLUE SPEEDO	1	LT BLUE	LEFT TURN LAMP 12V+ TRIGGER
WHITE SPEEDO, TACH	2	GREY	LIGHTS - SEE NOTES ON LED BULBS
	3	BROWN	ALTERNATOR- MAY NEED EXCITE JUMPER OR TIE INTO ALTERNATOR TO CHARGE
	4	N/A	N/A
RED SPEEDO, TACH	5	PINK	12V+ POWER KEY ON
	6	N/A	N/A
GREEN SPEEDO	7	TAN	FUEL 0-90 Ω
	8	TAN	BRAKE (GROUND TRIGGER)
	9	DK GREEN	TEMP LAMP USE NEW WIRE
	10	DK BLUE	OIL LAMP - USE NEW WIRE
TAN SPEEDO	11	LT GREEN	HI BEAM LAMP 12V+ TRIGGER
GREY SPEEDO	12	DK BLUE	RIGHT TURN LAMP 12V+ TRIGGER



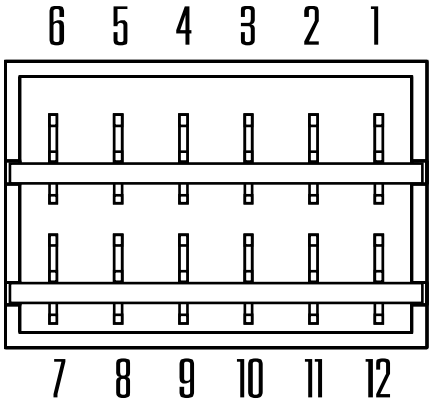
70-72 CHEVELLE MALIBU SS DASH

70-72 MALIBU/CHEVELLE SS DASH			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
BLUE SPEEDO	1	LT BLUE	LEFT TURN LAMP 12V+ TRIGGER
WHITE SPEEDO, TACH	2	GREY	LIGHTS - SEE NOTES ON LED BULBS
	3	BLK/WHT	AMMETER- MAY REQUIRE JUMPER/EXCITE
	4	BLACK	AMMETER- MAY REQUIRE JUMPER/EXCITE
TAN SPEEDO	5	LT GREEN	HI BEAM 12V+ TRIGGER
	6	DK BLUE	OIL LAMP/SENDER USE NEW WIRE
RED SPEEDO, TACH	7	PINK	12V+ POWER KEY ON
	8	TAN	BRAKE (GROUND TRIGGER)
	9	DK BRN	TACH SIGNAL-- USE NEW WIRE
	10	DK GREEN	TEMP LAMP USE NEW WIRE
GREEN SPEEDO	11	TAN	FUEL 0-90 Ω
GREY SPEEDO	12	DK BLUE	RIGHT TURN LAMP 12V+ TRIGGER



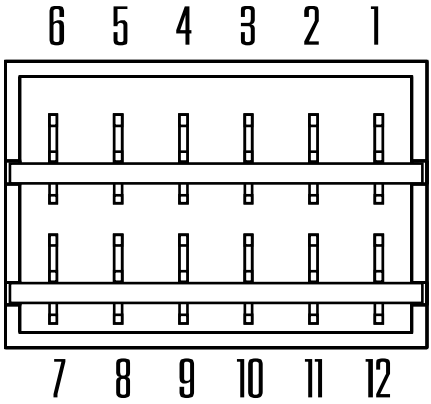
2 plugs may be required for 78-82 Corvette. The speedo/tach cluster and console use one each. The only thing you need from the console is the fuel sender, which can be tapped if needed to avoid using 2 plugs.

78-82 CORVETTE SPEEDO/TACH CLUSTER SEPARATE 12-PIN NEEDED FOR CONSOLE			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1	N/A	N/A
	2	N/A	N/A
	3		BRAKE LAMP GROUND TRIGGER
RED SPEEDO, TACH	4		12V+ POWER KEY ON
VIOLET TACH	5		TACH SIGNAL
BLACK SPEEDO, TACH	6		GROUND
GREY SPEEDO	7		RIGHT TURN 12V+ TRIGGER
BLUE SPEEDO	8		LEFT TURN LAMP 12V+ TRIGGER
TAN SPEEDO	9		HI BEAM 12V+ TRIGGER
WHITE SPEEDO, TACH	10		LIGHTS - SEE NOTES ON LED BULBS
	11	N/A	N/A
	12	N/A	N/A



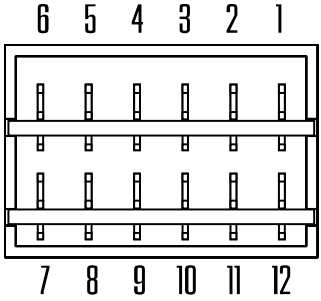
C3 CORVETTE CONSOLE PLUG/WIRING:
The only connection required is the fuel sender. Please decide if its best for your installation to use one plug or two.
Note 68-73 console clusters did not use a plug, please verify before ordering.

78-82 CORVETTE CONSOLE CLUSTER SEPARATE 12-PIN NEEDED FOR SPEEDO/TACH			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1	BLACK	GROUND
	2	DK GREEN	TEMP SENDER
	3	PINK/WHT	SEATBELT LAMP GROUND TRIGGER
	4	N/A	N/A
	5	N/A	N/A
	6	ORANGE	CLOCK 12V+ CONSTANT - NOT USED
	7	DK BLUE	OIL PRESSURE SENDER
	8	BROWN	ALTERNATOR- MAY NEED EXCITE JUMPER OR TIE INTO ALTERNATOR TO CHARGE
	9	BKACK	ADDITIONAL GROUND
GREEN SPEEDO	10	TAN	FUEL SENDER 0-90 Ω
	11	PINK	12V+ POWER KEY ON
	12	GREY	LIGHTS - SEE NOTES ON LED BULBS



71-73 MUSTANG WITH TACH/CONSOLE GAUGES.

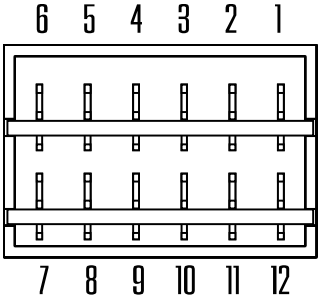
71-73 MUSTANG WITH PERFORMANCE GAUGE PACK- TACH/CONSOLE GAUGES			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1	N/A	N/A
	2	N/A	N/A
GREY SPEEDO	3		RIGHT TURN LAMP 12V+ TRIGGER
BLUE SPEEDO	4		LEFT TURN LAMP 12V+ TRIGGER
TAN SPEEDO	5		HI BEAM LAMP 12V+ TRIGGER
GREEN SPEEDO	6		FUEL SENDER 73-10 Ω
	7		12V+ ACCY VOLTAGE NOT FOR GAUGES
	8		5V+ NOT USED
	9		BRAKE LAMP GROUND TRIGGER
RED SPEEDO, TACH	10		12V+ KEY ON
BLACK SPEEDO, TACH	11		GROUND
WHITE SPEEDO, TACH	12		LIGHTS - SEE NOTES ON LED BULBS



1970 ONLY FORD TRUCK WITH IDIOT LAMPS NOT GAUGES USES LIGHTS HERE (ARROWS) NO GAUGES

1970 ONLY FORD TRUCK WITH IDIOT LAMPS NOT GAUGES

70 FORD TRUCK WITH IDIOT LIGHTS			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1		TEMP NOT USED
BLUE SPEEDO	2		LEFT TURN LAMP 12V+ TRIGGER
WHITE SPEEDO, TACH	3		LIGHTS - SEE NOTES ON LED BULBS
BLACK SPEEDO, TACH	4		GROUND
GREY SPEEDO	5		RIGHT TURN LAMP 12V+ TRIGGER
TAN SPEEDO	6		HI BEAM LAMP 12V+ TRIGGER
	7		BLANK NOT USED
	8		OIL LAMP NOT USED
RED SPEEDO, TACH	9		12V+ KEY ON
	10		ACC VOLTAGE 12V+
GREEN SPEEDO	11		FUEL SENDER 73-10 Ω
	12		BLANK NOT USED



1971-72 ONLY FORD TRUCK WITH IDIOT LAMPS NOT GAUGES USES LIGHTS HERE (ARROWS) NO GAUGES

1971-72 ONLY FORD TRUCK WITH IDIOT LAMPS NOT GAUGES

71-72 FORD TRUCK WITH IDIOT LIGHTS			
NVU COLOR	**PIN**	**OE COLOR**	**FUNCTION**
	1		ACCY VOLTAGE 12V+ NOT USED
BLUE SPEEDO	2		LEFT TUEN 12V+ TRIGGER
TAN SPEEDO	3		HI BEAM LAMP 12V+ TRIGGER
BLACK SPEEDO, TACH	4		GROUND
	5		BLANK NOT USED
GREY SPEEDO	6		RIGHT TURN LAMP 12V+ TRIGGER
WHITE SPEEDO, TACH	7		LIGHTS - SEE NOTES ON LED BULBS
	8		OIL LAMP NOT USED
RED SPEEDO, TACH	9		12V+ KEY ON
	10		TEMP NOT USED
GREEN SPEEDO	11		FUEL 73-10 Ω
	12		BLANK NOT USED