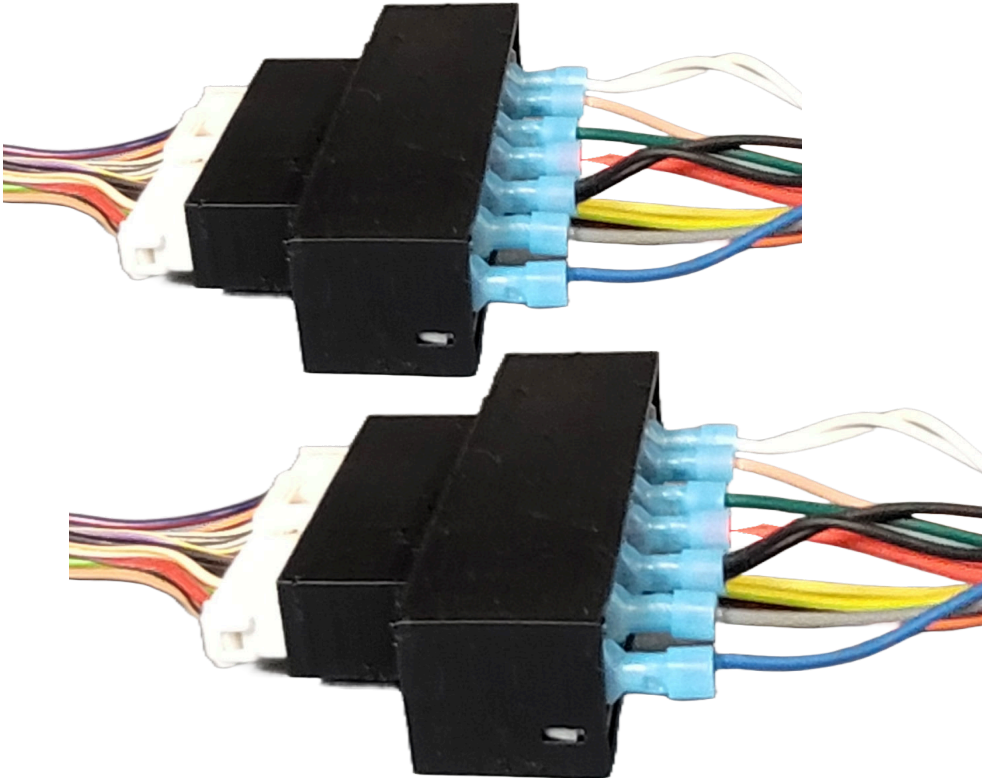




**NEW VINTAGE USA
DETROIT**

SNAP ADAPT INSTRUCTION BOOKLET

94-98 DODGE RAM



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.

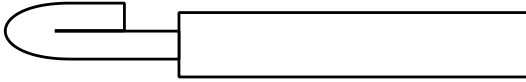
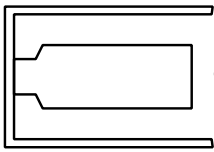
Using a multimeter set to the appropriate ohm scale (usually 200 Ω), place the ground side probe on a good ground.

Start probing the terminals with your multimeter, look for the range that would be appropriate for your fuel gauge at that level.

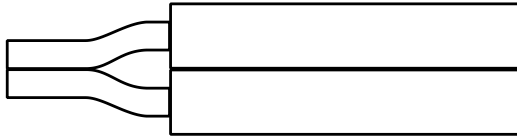
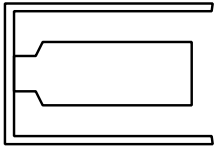
THE LAST RESORT:

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.

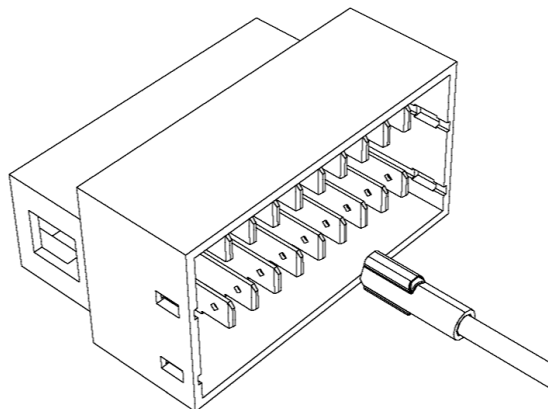
- When using one wire in the terminal, we find its best to strip off extra wire and fold it over to create a thicker piece for the crimp to attach to.
- 2 wires should fit in there nicely, be sure to strip off enough wire to extend full into the end of the terminal.



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. In if 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.

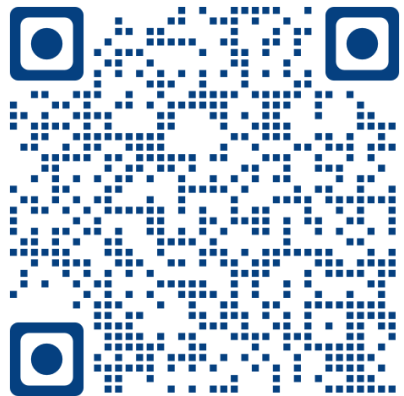
OIL PRESSURE SENDER: NVU recommends installing a new wire to the pressure sender to ensure you have the correct connection established. If you are using a new “conversion” or “update” harness from a trusted harness manufacturer, these are already in place and you can use those designated wires.

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.

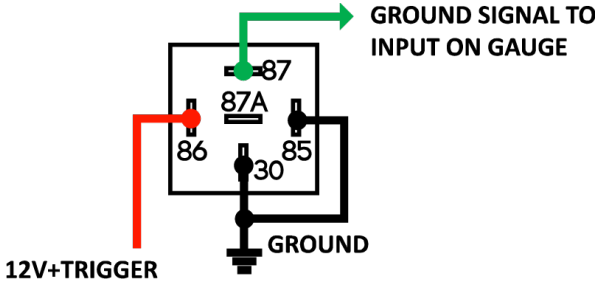
FUEL SENDER: This one is a pain usually to run a new wire all the way to the tank. Its best to try to re-use the original wire unless there is an issue with the vehicle wiring.

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.



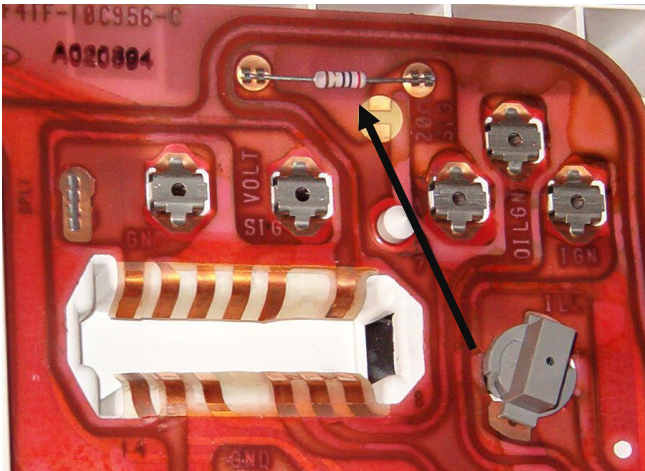
To trigger NVU indicator lights (in the gauge) will require 12V+ to illuminate the LEDs. If your signal is a ground trigger (brake light for example) there are 2 methods:

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

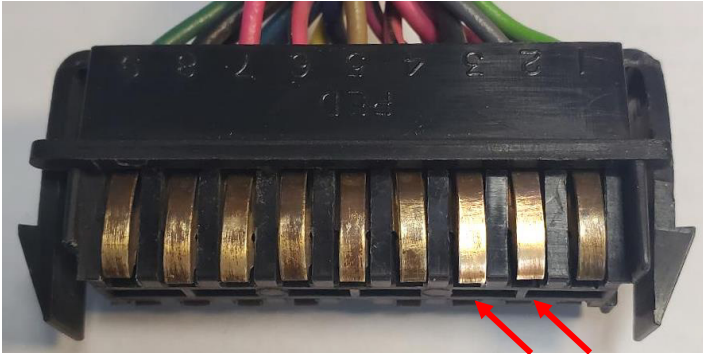
Some alternators may require a jumper to excite the unit to charge the battery. Often times the lamp in the cluster itself is “in charge” of that function. To simulate the bulb there are a few options:

- 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.



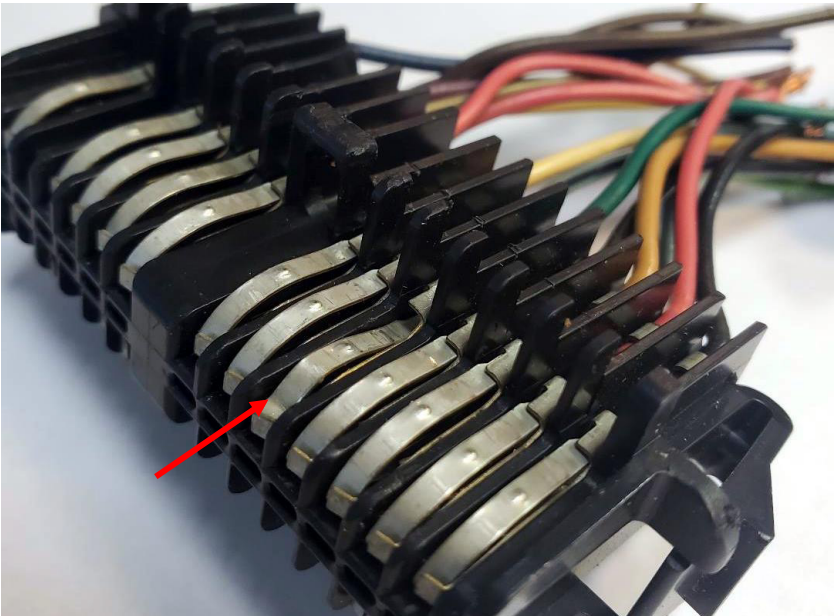
CLEANING PINS

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.



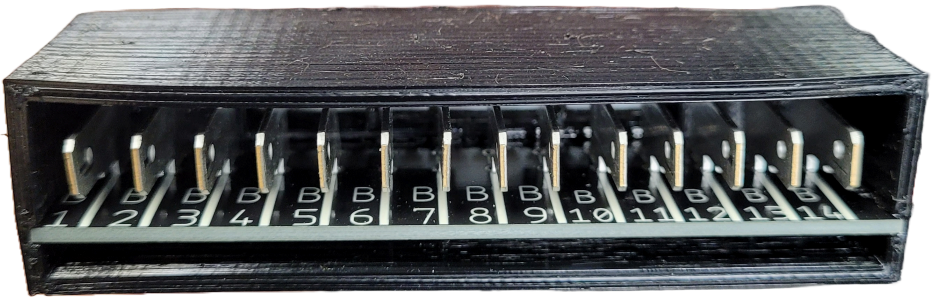
LABELS ON BOARD

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

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.



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

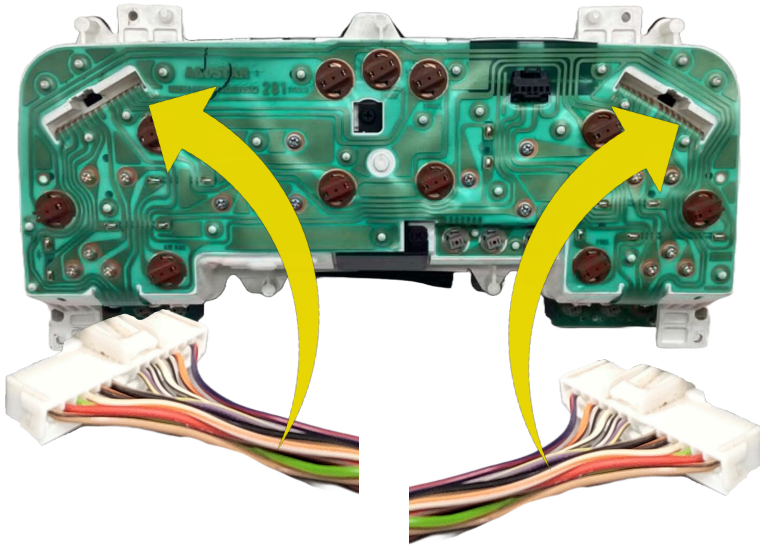
Below and next page are the available items on the stock cluster wiring. The above cluster is the only style supported by this diagram. Other options, pinouts and functions may be available based on your cluster, plug , PCM, model and year.

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

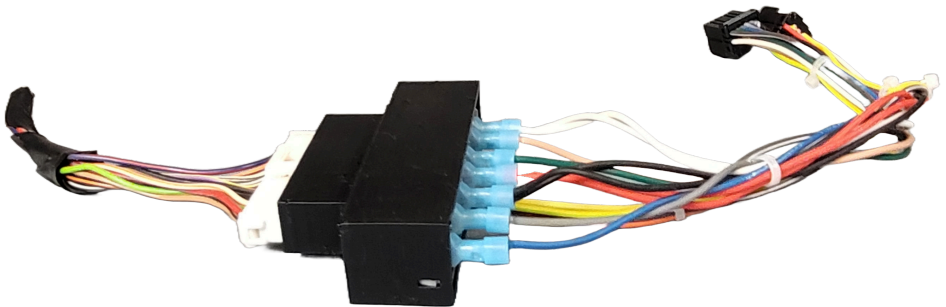
THIS IS AN EXAMPLE OF THE FACTORY INSTRUMENT CLUSTER



94-98 Truck have two harnesses connected on either end of the factory instrument cluster. You will use these factory connectors to easily wire your NVU gauges in a SNAP ADAPT!



SNAP ADAPT (SHOWN BELOW WIRED TO NVU HARNESS)



94-95 RAM



x2

94-5 RAM			Connector A
NVU COLOR	PIN	OE COLOR	FUNCTION
NOT USED	1	LIGHT GREEN/RED	WARNING LAMP DRIVER
NOT USED	1	LIGHT GREEN/RED	WARNING LAMP DRIVER
NOT USED	2	BLACK/GRAY	4WD SWITCH OUTPUT
NOT USED	2	BLACK/GRAY	4WD SWITCH OUTPUT 12V+
NOT USED	3	NOT USED	NOT USED
SPEEDO GREEN	4	DARK BLUE	FUEL LEVEL SENSOR SIGNAL Ω
	5	GRAY/YELLOW	OIL PRESSURE GAUGE SENDING UNIT(FACTORY)-** MUST USE SIGNAL FROM NVU SENDER**
SPEEDO&TACH BLACK	6	BLACK/WHITE	GROUND
NOT USED	7	LIGHT GREEN/YELLOW	FUSED IGNITION SWITCH OUTPUT (START/RUN)
NOT USED	8	BLACK/TAN	LOW WASHER FLUID INDICATOR LAMP
TACH TAN	9	BLACK/PINK	MALFUNCTION INDICATION LAMP
NOT USED	10	GRAY/PINK	SRI DRIVER
NOT USED	11	GRAY	OIL PRESSURE WARNING LAMP SWITCH
VIOLET TACH	12	GRAY/LIGHT BLUE	* TACHOMETER SIGNAL (- COIL)
NOT USED	13	NOT USED	NOT USED
NOT USED	14	RED	FUSED HEADLAMP SWITCH OUTPUT

***** SPEED SIGNAL & TACH: SEE PAGE 13

94-5 RAM			Connector B
NVU COLOR	PIN	OE COLOR	FUNCTION
SPEEDO GREY	1	TAN/BLACK 12V+	RIGHT FRONT TURN SIGNAL
SPEEDO TAN	2	RED/GRAY 12V+	HIGH-BEAM INDICATOR LAMP
SPEEDO BLUE	3	GREEN/YELLOW 12V+	LEFT FRONT TURN SIGNAL
SPEEDO ORANGE	4	WHITE/ORANGE *	VEHICLE SPEED SENSOR SIGNAL
NOT USED	5	BLACK/ORANGE	GROUND
NOT USED	6	BLACK/TAN	AIRBAG SYSTEM WARNING LAMP DRIVER
NOT USED	7	NOT USED	NOT USED
NOT USED	8	VIOLET/YELLOW	ENGINE COOLANT TEMPERATURE SENDING UNIT ** MUST USE SIGNAL FROM NVU SENDER**
NOT USED	9	BLACK/WHITE	GROUND
NOT USED	10	WHITE/BLACK	PARK BRAKE SWITCH SENSE
NOT USED	11	YELLOW/BLACK	BRAKE WARNING LAMP DRIVER
NOT USED	12	ORANGE/BLACK	UP SHIFT LAMP DRIVER
NOT USED	13	NOT USED	NOT USED
NOT USED	14	DARK BLUE/RED	SEAT BELT LAMP DRIVER

96-97 RAM



x2

96-97 Ram			Connector A
NVU COLOR	PIN	OE COLOR	FUNCTION
	1	RED	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
NOT USED	2	NOT USED	NOT USED
VIOLET TACH	3	GRAY/LIGHT BLUE	★ TACHOMETER SIGNAL (- COIL)
NOT USED	4	GRAY	OIL PRESSURE SENSE
NOT USED	5	TAN/YELLOW	GEN LAMP DRIVER
NOT USED	6	BLACK/PINK	MALFUNCTION INDICATOR LAMP DRIVER
NOT USED	7	BLACK/TAN	WASHER FLUID SWITCH SENSE
SPEEDO&TACH RED	8	LIGHT GREEN/YELLOW	FUSED IGNITION SWITCH OUTPUT (START/RUN) 12V+
SPEEDO&TACH BLACK	9	BLAKC/WHITE	GROUND
	10	GRAY/YELLOW	OIL PRESSURE SENSOR SIGNAL
SPEEDO GREEN	11	DARK BLUE	FUEL LEVEL SENSOR SIGNAL Ω
NOT USED	12	NOT USED	NOT USED
NOT USED	13	BLACK/GRAY	4WD LAMP
NOT USED	14	LIGHT GREEN/RED	ABS WARNING LAMP DRIVER

★ SPEED & TACH SIGNAL: SEE PAGE 13

NVU COLOR	PIN	OE COLOR	FUNCTION
NOT USED	1	DB/RD	DB/RD SEAT BELT LAMP DRIVER
NOT USED	2	NOT USED	
NOT USED	3	R/BK	R/BK UPSHIFT LAMP DRIVER
	4	GY/BK	RED BRAKE WARNING LAMP DRIVER
NOT USED	5	WT/BK	PARK BRAKE SWITCH SENSE
NOT USED	6	BK/WT	GROUND
NOT USED	7	VT/YL	ENGINE COOLANT TEMPERATURE SENDING UNIT ** MUST USE SIGNAL FROM NVU SENDER**
NOT USED	8	NOT USED	NOT USED
NOT USED	9	BK/TN	AIRBAG SYSTEM WARNING LAMP DRIVER
NOT USED	10	BK/OR	GROUND
ORANGE SPEEDO	11	WHITE/ORANGE	★ VEHICLE SPEED SENSOR SIGNAL
SPEEDO BLUE	12	LIGHT GREEN/YELLOW	LEFT TURN SIGNAL 12V+
SPEEDO TAN	13	RED/GREY	HIGH BEAM INDICATOR LAMP DRIVER 12V+
SPEEDO GREY	14	TAN/BLACK	RIGHT TURN SIGNAL 12V+

98 RAM



x2

98 Ram			Connector A
NVU COLOR	PIN	OE COLOR	FUNCTION
SPEEDO & TACH WHITE	1	RED	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL 12V+
TACH VIOLET	2	GRAY/LIGHT BLUE	TACHOMETER SIGNAL (- COIL)
NOT USED	3	NOT USED	NOT USED
NOT USED	4	GRAY	OIL PRESSURE SENSE
NOT USED	5	TAN/YELLOW	GEN LAMP DRIVER
NOT USED	6	BLACK/PINK	MALFUNCTION INDICATOR LAMP DRIVER
NOT USED	7	BLACK/TAN	WASHER FLUID SWITCH SENSE
SPEEDO&TACH RED	8	LIGHT GREEN/YELLOW	FUSED IGNITION SWITCH OUTPUT (START/RUN) 12V+
SPEEDO&TACH BLACK	9	BLACK/WHITE	GROUND
NOT USED	10	GRAY/YELLOW	OIL PRESSURE SENSOR SIGNAL
SPEEDO GREEN	11	DARK BLUE	FUEL LEVEL SENSOR SIGNAL Ω
NOT USED	12	NOT USED	NOT USED
NOT USED	13	BLACK/GRAY	4WD LAMP
NOT USED	14	NOT USED	NOT USED

★ SPEED SIGNAL: SEE PAGE 13

98 RAM			Connector B
NVU COLOR	PIN	OE COLOR	FUNCTION
NOT USED	1	NOT USED	DB/RD SEAT BELT LAMP DRIVER
NOT USED	2	NOT USED	NOT USED
NOT USED	3	NOT USED	R/BK UPSHIFT LAMP DRIVER
NOT USED	4	NOT USED	GY/BK RED BRAKE WARNING LAMP DRIVER
NOT USED	5	NOT USED	WT/BK PARK BRAKE SWITCH SENSE
NOT USED	6	NOT USED	BK/WT GROUND
NOT USED	7	NOT USED	VT/YL ENGINE COOLANT TEMPERATURE SENDING UNIT
NOT USED	8	NOT USED	NOT USED
NOT USED	9	NOT USED	BK/TN AIRBAG SYSTEM WARNING LAMP DRIVER
NOT USED	10	NOT USED	BK/OR GROUND
ORANGE SPEEDO	11	TAN/ORANGE	VEHICLE SPEED SENSOR SIGNAL
SPEEDO BLUE	12	LIGHT GREEN/TELOW	LG/YL LEFT TURN SIGNAL 12V+
SPEEDO TAN	13	RED/GREY	RD/GY HIGH BEAM INDICATOR LAMP DRIVER 12V+
SPEEDO GREY	13	TAN/BLK	RIGHT TURN SIGNAL 12V+

SPEED & TACH SIGNAL INFORMATION

In order for your new Speedometer to read correctly you will first need to calibrate your Speedometer to:

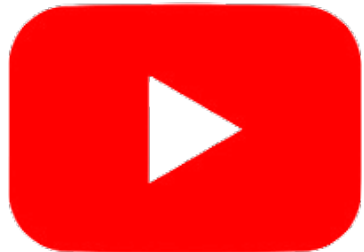
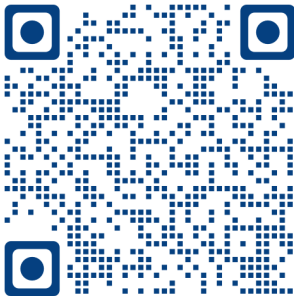
8000 PPM (Pulses Per Mile)

If you do not currently have a factory tachometer, you will need to pull the Tach signal from -Side of the Coil.

Based on our research: This model already has a Tach signal from factory connector via Snap Adapt!

**Simply Calibrate # of Cylinders
(Set to V8 from the factory)**

You will find information on how to do this in the Phoenix Big Book or by snapping a picture of this QR code link to the NVU Youtube Page below.



Intentionally Blank



21840 WYOMING PLACE SUITE 1
OAK PARK, MI 48237

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