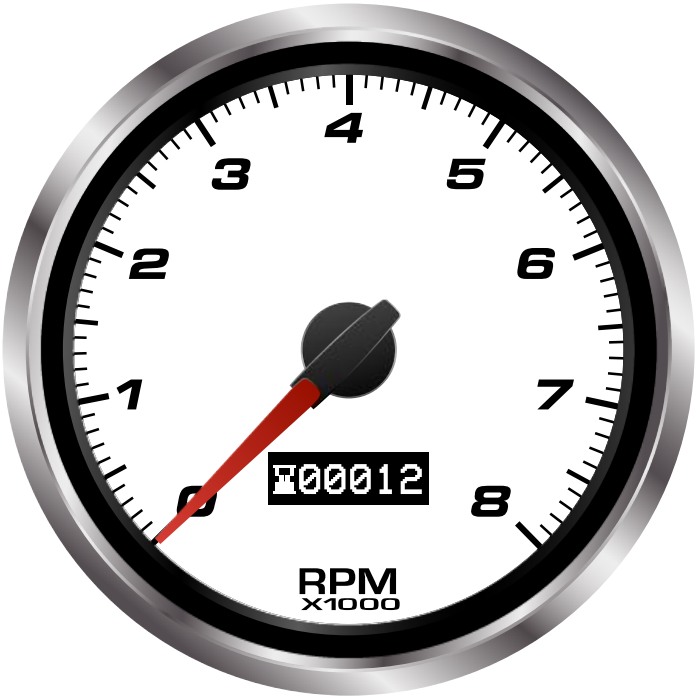
NEW VINTAGE USA
DETROIT

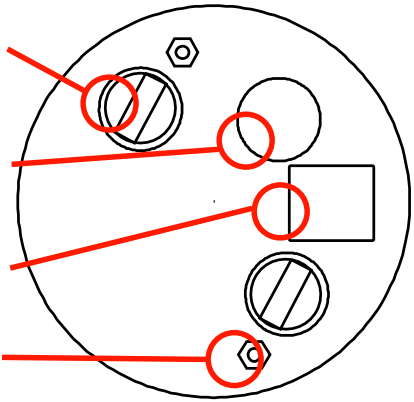
PHOENIX TACHOMETER WITH OLED DISPLAY

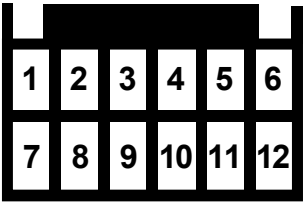


REV A0031418

PROGRAMMABLE TACHOMETER WIRING

Standalone tachometers with AMP plugs are incandescent perimeter, backlit or LED backlit. Incandescent bulbs will be in the access holes installed into the circuit board. DIP-switch settings are not required on tachometers . 3-3/8" and 4-3/8" are the same configuration. Programming/button wiring is different for tachometers with and without OLED display screen.





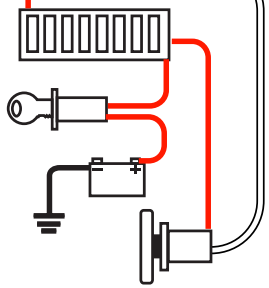
12-PIN AMP PLUG
PLUG #174045-2
PIN #173681-1

PIN	COLOR	FUNCTION
1	RED	12V+ SWITCHED 1A
2	GR/YEL	NOT USED
3	ORANGE	NOT USED
4	YELLOW	NOT USED
5	TAN	NOT USED
6	WHITE	LIGHTING
7	BLACK	GROUND
8	VIOLET	TACH SIGNAL
9	GREY	NOT USED
10	BLUE	NOT USED
11	GREEN	NOT USED
12	BROWN*	REMOTE BUTTON*

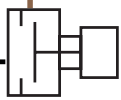
*** NOT USED ON TACHOMETER WITHOUT OLED DISPLAY**

PCM/CDI MAY REQUIRE PULL UP RESISTOR (SEE LATER IN THIS BOOK)

IGNITION COIL, CONNECT TO NEGATIVE SIDE OF THE COIL



LIGHTS/DIMMER



OLED MODELS ONLY: REMOTE BUTTON ONE SIDE TO GAUGE, ONE SIDE TO GROUND. MOMEN - TARY ON

GROUND

WARNING

Connecting Tach to High Discharge coil may cause damage to your unit!
THIS WILL VOID YOUR WARRANTY
Questions? Call Tech Support

INSTALLATION BASICS:

-Use a minimum of 20 gauge insulated, stranded wire, all connections should be connected with a crimp connection or solder and heat shrink.
-Keep speed signal wire(s) away from potential “noise” sources like ignition wires, tach signal wires, fan motors, pumps etc.
-Studded speedometers use #8 studs, use applicable eye terminals for wiring.
-Use a maximum of 5A fuse for the entire cluster, this is usually already in your fuse block
Commonize wiring, ground, power and lights can be common on all gauges and “daisy chained”

OLED DISPLAY TACHOMETERS WITH ANALOG POINTERS

With all of the features packed into NVU Phoenix platform tachometers, we have divided them into different menus. Your tach has a main “RUN” Menu, and a “SETUP” menu. The RUN menu utilizes the features used during normal operation. The SETUP menu stores all of the items that are setup during the installation process. Items can be changed any time after, if desired, and are separate to prevent inadvertently changing them during normal use.

RUN Menu Functions

Features can be accessed in the run menu during normal operation with the key on. To scroll to the various displays in the OLED screen, use a short push or tap of the remote button.

BLANK SCREEN: We have included a blank screen option to give the user an opportunity to not display any information.

HOURMETER: Displays the total hours the vehicle has been running. This is not resettable. This function is useful to track servicing the vehicle especially when idling for long periods is common such as in commercial, fleet and emergency vehicles, or when a speedometer or odometer is not used in the vehicle.

RUN MENU-CONTINUED

SERVICE HOURS: User resettable hourmeter to track engine use similar to a trip odometer. It is identified by the SH on the left side of the screen

This can be reset just like a trip odometer, while in this screen hold down the set button until zero is displayed. The hours will count up from there. This can be reset at any time and can also be used for tracking time to a destination as well as servicing the vehicle.

PEAK RPM is displayed on the following screen. This will store and allow the user to view the peak RPM achieved since the last reset.

This can be reset any time by holding in the programming button until all zeros are displayed. This may be reset at any time and the last peak RPM will be stored until reset.

BOOT or SETUP MENU. This area of the tachometer is used during set-up and any of the settings can be changed at any time. The items in the setup menu are “hidden” in this sub-menu to avoid inadvertently changing settings during normal use. To enter the setup menu, hold in the button while turning on the key (you do not have to start the vehicle if you do not want to). The setup menu screen will be displayed. To exit the setup menu, turn the key off, and restart normally.

BOOT MENU, CONTINUED

SET CYLINDERS Allows the user to set the tachometer to accommodate different number of cylinders for their vehicle. See notes on connecting to GM PCMs for later in this manual if required. Tachometers ship from the factory pre-set for 8 cylinders, all set up for 4 stroke engines. Custom ranges and inputs are available for diesel and 2-stroke engines.

To set the number of cylinders, hold in the button until the current setting is displayed. Scroll to the desired setting and hold until the confirmation message is visible. Select yes or no, and hold in the button until the setting is saved.

INPUT FILTER. Generally this setting does not require and adjustment. You may change the settings if you are having difficulty with noise in your signal or sharp spikes. To enter the filter mode, hold in the button until the settings are shown. There are 3 options low “L” medium ”M” and high “H”. You can experiment to see if the filters aid your signal. The changes can be made with the vehicle running so you can see the difference in settings.
To change the setting, scroll to L, M or H and hold in the button. Once you are at the desired setting, hold in the button until the confirmation message is displayed, and select Yes or NO, hold in the button to select. SAVED! will confirm the setting has been changed and now the filter is set.

SHIFT ALERT. The shift alert is built-into the OLED display and will give the driver a warning of when to shift based on RPM. The alert is a 3 stage display, warning 1,000 and 500 RPM before the shift point, and the actual shift point. This can be used to pre-set shift points for optimal horsepower, mileage or to prevent over-revving the engine, it is up to the driver to decide how they would like it to be set up. The shift alert can also be disabled by setting to zero RPM.

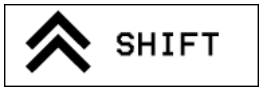
BOOT MENU, CONTINUED

SHIFT ALERT, CONTINUED. To enter the shift alert menu, hold in the button while at the screen.
The current shift point will be displayed (0000 for no shift alert). Tap the button to change the first digit which will be highlighted. Each tap will advance the digit by one number.
Hold the button in to advance to the next digit and follow the same sequence until you have the desired setting.
At the last digit, once satisfied, hold in the button to enter the verification menu. Select YES or NO and hold in the button. Once saved, the display will show the current shift setting and SAVED!

HOW THE SHIFT ALERT DISPLAYS INFORMATION: This is active all of the time when in any menu window during normal operation. For the setting above, 5,500 RPM, the display with indicate the engine is 1,000 RPM before the shift point with a single arrow on the screen:

500 RPM before the shift point 2 arrows will be displayed:

At the desired, set shift point, the screen will invert creating a highly visible sign that the engine is at the RPM designated to shift, the word SHIFT will display:



The arrows will operate in the inverse as RPM decreases. The shift point setting can be changed at any time desired, or disabled by setting the shift alert to all zeros (0000).

PROGRAM VERSION. This displays the current software version installed in the unit.

TACHOMETER SIGNALS

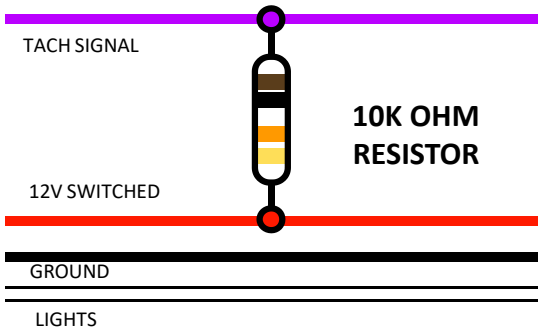
IGNITION COIL Even today the most common ignition source is the traditional coil. incorporates the coil and either points or electronic ignition all into the distributor. Use the negative side of the coil when using a distributor style with traditional points or electronic ignition . The signal is a high-voltage pulsed signal.

COIL ON PLUG (COP) Is essentially the same as a traditional coil with the exception of each cylinder having its own individually fired coil. This setup is used in conjunctions with PCMs. If you use the trigger on a COP the tachometer should be set to 1 cylinder (2PPR) operation.

AFTERMARKET HIGH ENERGY IGNITION SYSTEM

Aftermarket distributors "MSD" boxes, CDI, etc. **ALWAYS HAVE TACH OUTPUT DO NOT CONNECT TO THE COIL OR DAMAGE WILL RESULT.** These types of systems have multiple high energy signals going to the coil and will produce overvoltage feedback damaging to the tachometer, this is why there is a separate tach signal.

GM PCM have an open collector signal tach output, consult your PCM documentation for exact pin. You will need a 10K-ohm pullup resistor to change the open collector signal to a square wave (see diagram). Thgis is installed to pull up the signal between the power and tach signal from the PCM. All GM PCMs output a 4 cylinder signal regardless of number of cylinders or if it is gas or diesel.



CRANK TRIGGER type generates an AC sinewave signal by using a magnetic sender to "count" the number of teeth. Your NVU tachometer may require bypassing of the internal filter call for more information. You will also need to calibrate the PPR (programmable models with OLED) (pulse per revolution) to the number of teeth or magnets on the flywheel

ALTERNATOR "W" TERMINAL also outputs an AC sinewave like the above crank trigger, a reference tachometer is the best way to determine the exact RPM, then the tach can be properly calibrated by setting the PPR (programmable models with OLED)

THANK YOU
Thank you for choosing NVU products. We strive to provide the finest quality and designed products available on the market.

TECH SUPPORT
DO NOT contact the retailer for tech/installation assistance. The retailer will not have the technical expertise to know the contents of the kit or the nuances of installing in your specific vehicle. We are here to help!
Contact NVU directly, our qualified installation technicians have the knowledge of the product and its installation to help you get going right away.
If you need technical assistance please feel free to call us at 248.850.5482 or email us at service@newvintageusa.com

NVU 5-YEAR WARRANTY
Service can be obtained during the normal warranty period by contacting New Vintage and obtaining a Return Authorization Number (RZA#). New Vintage will repair or replace any item found to be defective and return ship to no cost via ground or post office services. Other shipping/international services will be applied at additional cost. Buyer is responsible for shipping to New Vintage for warranty repair. Return shipping will be the responsibility of the customer if the product is found to be damaged or out of warranty. An RZA number must be obtained and proper return/warranty form accompanied with the product.

MISSING ITEMS/RETURNS
Hey, we all make mistakes, no problem just give us a call if you believe that you are missing something in the box. DO NOT CONTACT THE RETAILER, as they will not have the complete packing list or the pertinent information to properly help you. We will take care of it for you.
Missing items/returns must be processed within 15 days of end user receiving the product. All returned must be shipped back to the place of purchase. Any return shipping costs to New Vintage are the responsibility of the purchaser. An RZA number must be obtained and proper return/warranty form accompanied with the product. A restocking fee not to exceed 10% may be applied to items that must be repackaged. Any item returned in a non-usable condition will be returned or charged to the customer.
Missing items must be reported within 15 days of receiving the product. Items found to be missing will be shipped via ground or postal service at no charge. Expedited/international shipping options are available at an additional charge. It is the policy of New Vintage to quickly replace any items that may be missing in a timely manner but not to overnight or expedite shipping in any way at no cost.

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