NEW VINTAGE USA
DETROIT

FULL SWEEP STEPPER MOTOR INSTRUMENT KIT
INSTRUCTION MANUAL
1969,REDLINE, 2020 SERIES

REVB071211

INDEX

Thank you for choosing New Vintage USA products. We strive to provide the finest quality and design components available on the market. If you need technical assistance, please call 248.259.4964 or email info@newvintageusa.com

New Vintage USA 5-Year Warranty

New Vintage USA warrants all merchandise against defects in workmanship and materials for 60 months. After the 60 month period, a pro-rated service fee of no more than 50% production costs may be applied. This warranty applies to all instrumentation products, excluding senders. The warranty does not apply to a product used in a manner for which it was not designed, of if it has been altered in any way.; New Vintage USA LLC is not responsible for any damage or costs associated with any product that has been purchased. This is a limited warranty as identified in the Magnunson-Moss Warranty Act of 1975.

Warranty Service

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.

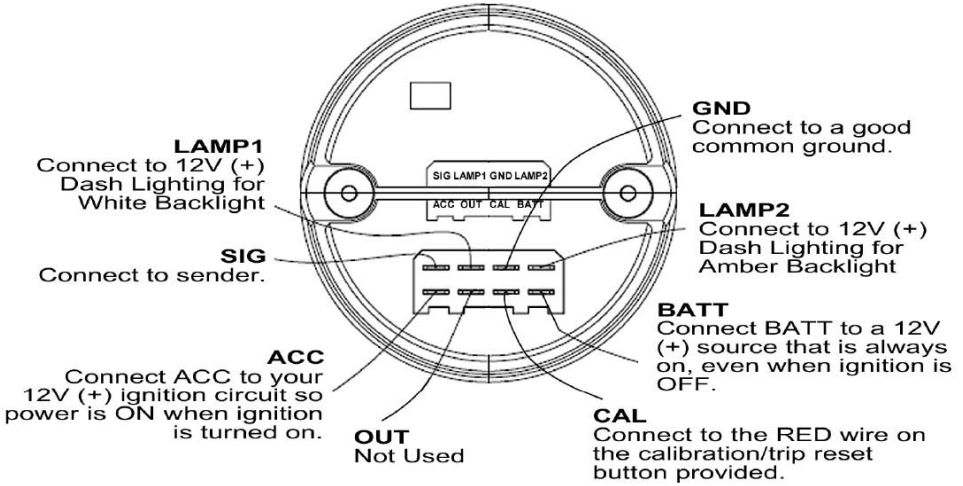
Missing items/Returns

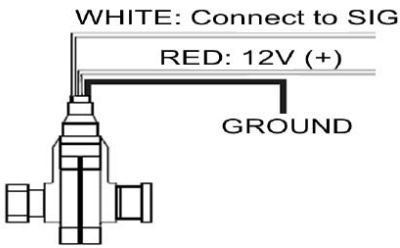
Missing items/returns must be processed within 15 days of end user receiving the product. All returned must be shipped back to the place of purchase. Any return shipping costs to New Vintage are the responsibility of the purchaser. An RZA number must be obtained and proper return/warranty form accompanied 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.

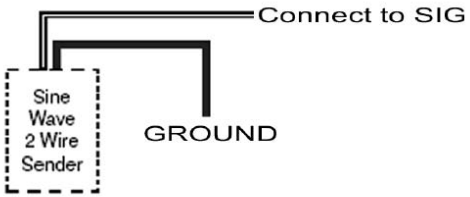
NEW VINTAGE USA,LLC
2415 BURDETTE
FERNDALE, MI 48220
248.2594964
www.newvintageusa.com

3-3/8” PROGRAMMABLE SPEEDOMETER WIRING





Hall Effect (3 Wire) Sender



Sine Wave (2 Wire) Sender

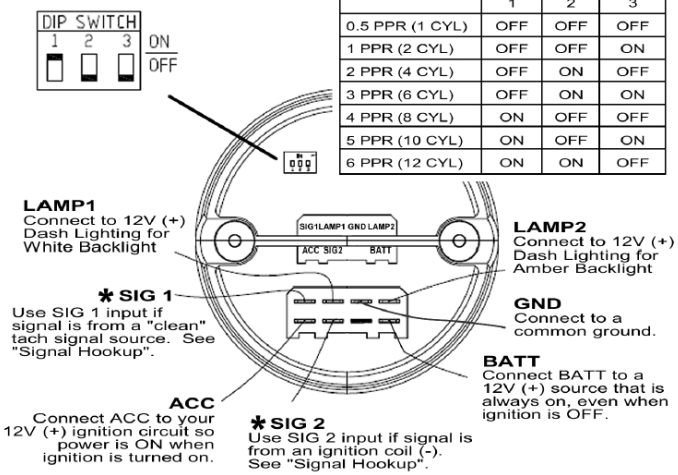
	PIN	ROW	NOTE
SIGNAL	1	TOP	Connect to signal wire on speedometer sender.
LAMP 1	2	TOP	Connect to 12V+ dash lighting for white backlight.
GROUND	3	TOP	Connect to a good common ground.
LAMP 2	4	TOP	Connect to 12V+ dash lighting for amber backlight.
ACC	5	BOTTOM	Connect to 12V+ ignition circuit so power is ON when ignition is turned on.
NOT USED	6	BOTTOM	
CAL	7	BOTTOM	Connect to the RED wire on the calibration/trip button.
BATT	8	BOTTOM	Connect to a 12V+ source that is always on, even when ignition is OFF (i.e. Battery +)

Installation Instructions for 3-3/8” Programmable Speedometer
Before You Start
General Information
Signal Interface
This speedometer is designed to work with both hall effect senders and magnetic pickup sensors. The input level can range from TTL 5V square wave (hall effect) to AC sign wave signals (magnetic pickup). Connect the signal output wire from the sender to the SIG terminal on the gauge. Always consult the service manual for the vehicle you are working on to ensure proper connection. Incorrect hookup will damage the speedometer and void warranty. Please read these instructions carefully.
Wiring
Use 20 AWG stranded or heavier wire for installation. Route wires away from any moving parts and hot engine components. Secure wires firmly along their route. **Note:** As a safety precaution, the ACC and 12V+ connections should be fused. We recommend using a 1 Amp, 3 AG fast-acting type cartridge fuse.
Calibration
1. With the ignition off, press and hold the CAL/TRIP button. Turn the ignition on, then release the CAL/TRIP button.
2. The odometer/trip display will indicate CAL to verify that calibration mode has been accessed. The pointer will move to 50% scale.
3. Drive the vehicle EXACTLY one (1) measured mile then stop.
4. Press the CAL/TRIP button again to complete the calibration.
5. If the number of pulses is between 4,000 to 200,000 the odometer/trip display will indicate the actual pulses counted by the speedometer for five (5) seconds. This indicates a successful calibration. The speedometer will return to normal operation automatically. If the number of PPR is below 4,000 OR ABOVE 200,000 at the end of one mile, the odometer/trip display will show zeros for five (5) seconds after the button is pressed. The calibration will not be updated, and the original calibration will be maintained. **Calibration/Trip Button Installation**
The speedometer includes a remote mount calibration/trip reset button. Connect the BLACK wire on the button to a common ground. Connect the RED wire to the CAL terminal on the speedometer. Mount the remote button in a convenient location.
Odometer and Trip Operation
The speedometer comes with an odometer (ODO) and two trip functions (TRIP 1 and TRIP 2). Press the CALIBRATION/TRIP button multiple times to cycle from ODO to TRIP 1 to TRIP 2. To reset a specific TRIP reading, hold the
CALIBRATION/TRIP button for 3 seconds. The Odometer can not be reset.
Dimmable LED Lighting
This gauge features through-dial, high-definition LED lighting that will not dim when used with standard dash dimmers. A dimmer switch specifically designed for use with this gauge is available separately.

3-3/8” TACHOMETER WIRING

Dipswitches for Calibration Setting

	1	2	3
0.5 PPR (1 CYL)	OFF	OFF	OFF
1 PPR (2 CYL)	OFF	OFF	ON
2 PPR (4 CYL)	OFF	ON	OFF
3 PPR (6 CYL)	OFF	ON	ON
4 PPR (8 CYL)	ON	OFF	OFF
5 PPR (10 CYL)	ON	OFF	ON
6 PPR (12 CYL)	ON	ON	OFF



SIGNAL HOOKUP

Determine which SIGNAL input to use **(SIG 1 or SIG 2)**. **Only connect ONE signal input**. If you are unsure which SIGNAL input to use connect your signal source to SIG 1.

"Clean" Tach Signal
Connect the signal wire from the signal source to SIG 1 if you are using a tach signal from any of the following: ignition with tach output terminal, ECU, tach adapter, other "clean" tach signal source

Ignition Coil (-)
if you are using a signal from an ignition coil (-), connect the signal wire from the coil negative (-) to SIG 2.

	PIN	ROW	NOTE
SIG 1	1	TOP	Use SIG 1 input if signal is a “clean” signal (tach output terminal, ECU, tach adapter etc.).
LAMP 1	2	TOP	Connect to 12V+ dash lighting for white backlight.
GROUND	3	TOP	Connect to a good common ground.
LAMP 2	4	TOP	Connect to 12V+ dash lighting for amber backlight.
ACC	5	BOTTOM	Connect to 12V+ ignition circuit so power is ON when ignition is turned on.
SIG 2	6	BOTTOM	Use SIG 2 input if you are using a signal from an ignition coil (-).
NOT USED	7	BOTTOM	
BATT	8	BOTTOM	Connect to a 12V+ source that is always on, even when ignition is OFF (i.e. Battery +)

3-3/8” TACHOMETER INSTALLATION, CONTINUED

General Information

12-volt DC negative (-) ground electrical systems.

Wiring

Use 20 AWG stranded or heavier wire for installation. Route wires away from any moving parts and hot engine components. Secure wires firmly along their route. **Note:** As a safety precaution, the ACC and 12V+ connections should be fused. We recommend using a 1 Amp, 3 AG fast-acting type cartridge fuse.

Tachometer Signal Hookup

This performance tachometer has two signal input options (SIG 1 & SIG 2).

See Fig 1. Signal Hookup. Choose the option best suited for your vehicle's ignition system. **Only connect 1 signal input.** If you are unsure which signal input to use, connect your signal source to SIG 1.

NEVER CONNECT SIGNAL WIRE TO THE COIL WHEN USING AN MSD OR SIMILAR HIGH OUTPUT CAPACITIVE DISCHARGE STYLE IGNITION SYSTEM. Incorrect installation will damage the tachometer and the warranty will be voided.

Calibration

Calibration of the tachometer is done via dipswitches in the back of the gauge.

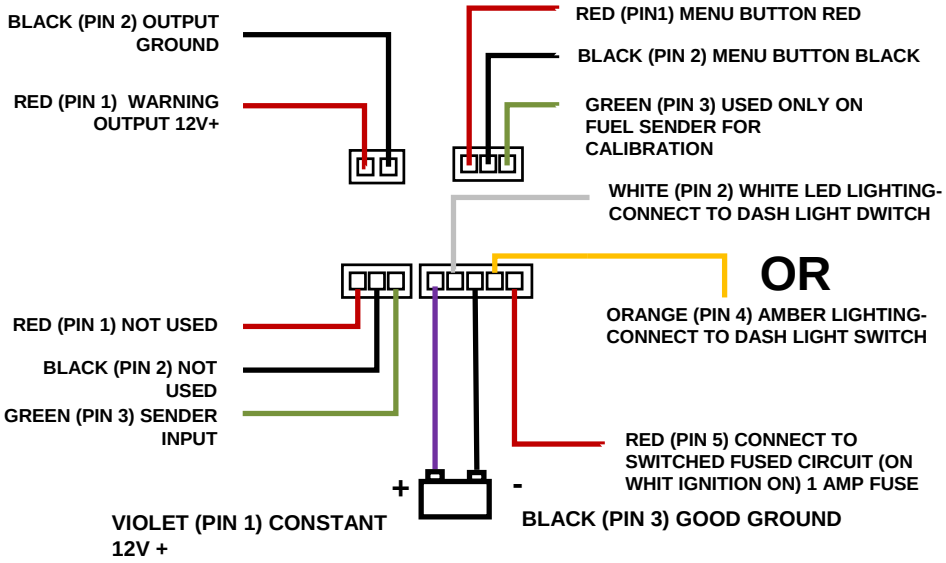
There are 3 dipswitches, each of which can be set to OFF (down) or ON (up).

See Fig 1 for dipswitch settings.

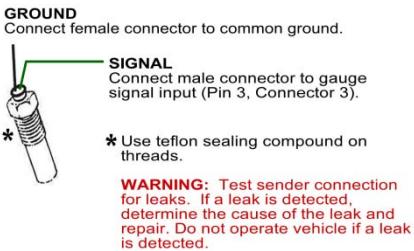
Dimmable LED Lighting

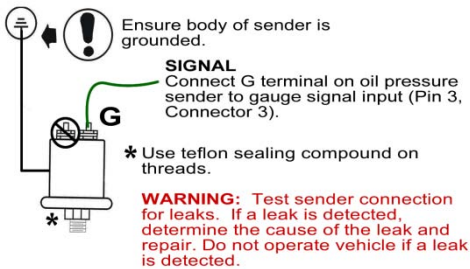
This gauge features through-dial, high-definition LED lighting that will not dim when used with standard dash dimmers. A dimmer switch specifically designed for use with this gauge is available separately.

2-1/16” INSTRUMENT WIRING DIAGRAM



Pressure and temperature sender installation:





Pressure and temperature sender wiring:
Sender input is by wiring the sender to the green wire SENDER INPUT

Voltmeter wiring:
Voltmeter input is via a switched 12V+ (ignition on) by connecting the green wire SENDER INPUT

Fuel Level Gauge Calibration (CAL)
Before installing the 5-in-1 fuel level gauge you may need to calibrate it to match your fuel level sending unit. The gauge factory default calibration setting
is 0-90 Ohms (Empty-Full). The 5 available programmable input ranges are
shown in Table 2 below. To change the calibration setting:
1. To access calibration mode, turn the power to the gauge on with the CAL wire grounded. The CAL wire is the GREEN wire on Pin 3 of Connector 2 (see Fig 1).
2. The pointer will stop at 50% scale (2/4) to indicate you have successfully accessed calibration mode.
3. Once the pointer stops at 50% scale (2/4) remove the CAL wire from the ground source. The pointer will move to indicate the current calibration setting per Table 2 below.
4. To change the calibration setting, momentarily ground the CAL wire. Each time you momentarily ground the CAL wire the calibration setting will change.
5. When the desired calibration setting is obtained (i.e. 73-10), leave the CAL wire ungrounded for 5 seconds. The gauge will save the new calibration setting, exit calibration mode and return to normal operating mode.

FUEL GAUGE CALIBRATION SETTINGS, TYPICAL

Typical Application	Ohms (Empty-Full)	Pointer Position
Most GM Vehicles After 1965	0-90	1/8
Most Ford & Chrysler Vehicles	73-10	3/8
Most GM Vehicles Before 1965	0-30	5/8
Most Ford Vehicles After 1986	20-150	3/4

2-1/16” INSTRUMENTS WITH HI/LOW WARNING AND PEAK RECALL

Before You Start

This gauge features peak recall, programmable high and low full dial warning and external warning output. Please read instructions completely before installing.

- **ALWAYS WEAR SAFETY GLASSES.**
- Install gauge only when engine is cool and ignition is off.
- Make sure all necessary tools, materials, and parts are on hand.
- Disconnect negative (-) battery cable before installing gauge.
- 2-1/16" gauge mounts in a 2-1/16" diameter hole.
- Make sure mounting location does not impair visibility or interfere with driving. Also check behind the mounting location for any wiring or components before drilling.

MENU Button Installation

Installation of the remote MENU button is only necessary if you want to use the
RECALL and WARNING features of the gauge. Installation of the MENU button is NOT required if you do not wish to use the RECALL or WARNING features.

Mount the included MENU button in a location that is convenient. Connect the red wire from the button to Connector 2, Pin 1 (Red) and the black wire on the button to Connector 2, Pin 2 (Black). See Fig 1.

Dimmable LED Lighting

This gauge features through-dial, high-definition LED lighting that will not dim when used with standard dash dimmers. A dimmer switch specifically designed for use with this gauge is available separately.

Viewing and Clearing Peak Value (RECALL)

1. To view the peak value, press the MENU button one time.
2. To exit RECALL mode press the MENU button one time.
3. To clear the stored peak value press and hold the MENU button for 3 seconds while in RECALL mode.

External Warning Output

When warning mode is active the gauge outputs a 12V+ DC signal (500mA) on Pin 1 of Connector #1 (See Fig 1). This output is 0V when warning mode is not active. This output can be used to activate an external warning light or activate a switch.

Do not install Connector 1 if external warning output is not required.

2-1/16” FUNCTION, CONTINUED

Programming Full Dial Low Warning (WARN LO)

This gauge can be configured to show a full dial low warning (flashing amber backlight) when the gauge goes BELOW a specific value (i.e. pressure goes below 10psi).

1. To access WARN LO programming mode, press and hold the MENU button until the pointer moves to 25% scale (approx 1 second). Release the MENU button after the pointer has reached 25% scale.
2. After releasing the MENU button the pointer will move to the current low warning set point. Factory default is 0% scale (WARN LO deactivated).
3. To change the set point, press the MENU button repeatedly to move the pointer by 2% increments. Once the pointer reaches 100% scale, pressing the MENU button will decrease the pointer position by 2% increments.
4. Once the pointer indicates your desired low warning set point leave the MENU button untouched for 5 seconds. The low warning set point will be saved and the gauge will return to normal operating mode.

To turn the low warning OFF, repeat steps 1-4 above and change the low warning set point to 0% or 2% scale. Setting the low warning set point to 0% or 2% deactivates the low warning feature.

Programming Full Dial High Warning (WARN HI)

This gauge can be configured to show a full dial high warning (flashing amber backlight) when the gauge goes ABOVE a specific value (i.e. pressure goes above 80psi).

1. To access WARN HI programming mode, press and hold the remote button until the pointer moves to 75% scale (approx 3 seconds). Note: the pointer will stop at 25% scale for approx 1 second (for WARN LO programming mode), continue holding the button until the pointer has reached 75% scale. Release the button after pointer has reached 75% scale.
2. After releasing the button the pointer will move to the current high warning set point. Factory default is 100% scale (WARN HI deactivated).
3. To change the set point, press the MENU button repeatedly to move the pointer by 2% increments. Once the pointer reaches 0% scale, pressing the MENU button will increase the pointer position by 2% increments.
4. Once the pointer indicates your desired high warning set point leave the MENU button untouched for 5 seconds. The high warning set point will be saved and the gauge will return to normal operating mode.

To turn the high warning OFF, repeat steps 1-4 above and change the high warning set point to 98% or 100% scale. Setting the high warning set point to 98% or 100% deactivates the high warning feature.

Notes:

NEW VINTAGE USA,LLC
2415 BURDETTE
FERNDALE, MI 48220
248.2594964
www.newvintageusa.com

RETURN AUTHORIZATION FORM

RZA # _____

CIRCLE ONE RETURN WARRANTY

NAME _____

ADDRESS _____

CITY _____ STATE_____ ZIP _____

PHONE(_____) _____-_____

EMAIL _____

RETURN SHIPPING CHARGE INFO

NAME ON CARD _____

ADDRESS, ZIP _____

CARD (CIRCLE ONE) VISA M/C

NUMBER _____

EXPIRATION _____

SECURITY CODE (ON BACK)_____

DESCRIPTION OF ISSUE: