

with Installation Instructions

# Owner's Manual

## Hall Effect RPM Sensor

**For use with Banks iDash & 5 ch Analog  
with Frequency Sensor Module**

THIS MANUAL IS FOR USE WITH THE FOLLOWING PART NUMBERS:  
66567 - HALL EFFECT RPM SENSOR

Gale Banks Engineering  
546 Duggan Avenue • Azusa, CA 91702  
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565  
Customer Support: (888) 839-5600  
Installation Support: (888) 839-2700

**[bankspower.com](http://bankspower.com)**

# General Installation Practices

Dear Customer,

If you have any questions concerning the installation of your exhaust pressure sensor remote mount kit, please call our Technical Service Hotline at (888) 839-2700 between 7:00 am & 4:00 pm (PT).

If you have any questions relating to shipping or billing, please contact our Customer Service Department at (888) 839-5600.

Thank you.

**1.** Before starting work, familiarize yourself with the installation procedure by reading all of the instructions.

**2.** Route and tie wires and hoses a minimum of 6" away from exhaust heat, moving parts and sharp edges. Clearance of 8" or more is recommended where possible.

**3.** When raising the vehicle, support it on properly weight-rated safety stands, ramps or a commercial hoist. Follow the manufacturer's safety precautions. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the front wheels are centered squarely on the topsides; put the transmission in park; set the hand brake; and place blocks behind the rear wheels.

**CAUTION! Do not use floor jacks to support the vehicle while working under it. Do not raise the vehicle onto concrete blocks, masonry or any other item not intended specifically for this use.**

## Introduction

This sensor picks up magnetic pulses from a trigger wheel to read things such as Engine RPM, Wheel Speed, Shaft Speed, etc. Plug and play with 5' long harness. The sensor has a 15/32"-32 Aluminum threaded body with nut for easy mounting. When used with the Banks 5ch analog with frequency module and iDash 1.8 gauge you can configure the sensor to convert frequency pulses to RPM and assign the sensor to a unique parameter such as Engine Speed.

## Technical Specs:

- Thread - 15/32"-32
- Aluminum body
- IP67 rated
- Max speed: 15 kHz
- Operating Temperature: -40 to 275° F
- Pull Up Resistor built into harness

# Included Parts

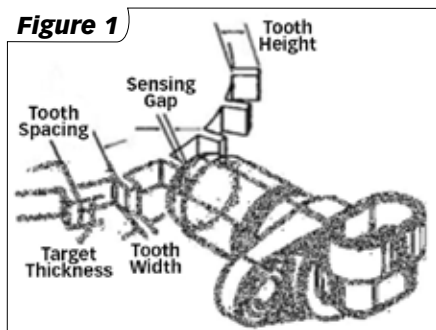
## Trigger Wheel Recommendation

For best results, we recommend targets made from low carbon cold rolled steel. Other factors that influence sensor performance include gear tooth height and width, space between the teeth, shape of the teeth and thickness of the target. As a general guideline, consider a target with minimum parameters as shown below. Note that smaller dimensions may work, but testing for the application is required.

**Figure 1** Banks Hall Effect RPM Sensor

Item	Description	Part #	QTY
1	Sensor, Hall Effect RPM	63095	1

**Figure 1**



**Tooth Height:** 5.0 mm (.200")

**Tooth Width:** 2.5 mm (.100")

**Distance between Teeth:** 10 mm (.400")

**Target Thickness:** 6.35 mm (.250")

## Sensor Installation

1. Make sure trigger wheel teeth are magnetic to ensure proper measurement.
2. Fabricate bracket to mount the Banks Hall Effect sensor. The sensorbody is 15/32" – 32 thread.
3. Install the Hall Effect sensor in the bracket by using 1 of the supplied nuts on each side of the bracket. Set the air gap to 1.5mm (0.060") **See Figure 2.**

**Figure 2**



**NOTE:** Optimal air gap will vary based on material type and thickness and may need to be adjusted later.

**NOTE:** Nominal Torque for the nuts are 5.65 Nm (50 in lb)

4. Plug the opposite end of the wire harness to the frequency connector on your Banks 5ch Module harness. **See Figure 3**

**NOTE:** If you have the 4ch harness which does not have the 4 pin ch-E plug, you will not be able to use the Banks Turbo Speed sensor. You will need to order the 61301-16 harness.

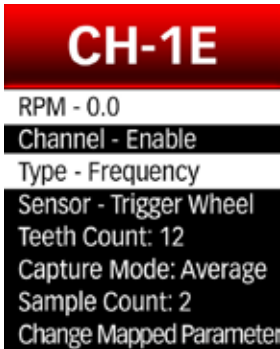
**Figure 3**



## iDash & 5ch Module Configuration

1. Update both iDash and 5 ch analog module to the latest firmware on the website: [bankspower.com/update](http://bankspower.com/update)

2. On the iDash go to: **Menu -> Banks Modules -> 4 Ch Analog Module ->**



3. Set the Sensor Type to **“Trigger Wheel”**

4. Input the Teeth count for your trigger wheel.

**NOTE:** If you have a 60-2 wheel, this has 58 total teeth so 58 should be entered into the iDash.

5. Set Capture mode to **“Averaging”**

6. Set Sample count to 2 (this can be increased if the sensor signal is noisy).

7. Select **“Change Mapped Parameter”**, then select **“Speed and Velocity”**, then select the appropriate parameter that the sensor is measuring.

8. Return to the main menu and add the newly configured frequency parameter to the iDash layout to confirm sensor is reading accurately.

## Troubleshooting

**If the data is always 0 or data is choppy:**

The optimal sensor air gap will vary depending on the material and thickness of the trigger wheel. You may need to adjust the air gap in our out to achieve an optimal signal for your trigger wheel.

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