SR20 Crank Trigger Kit
Part #200016v2

WARNING! Please read the whole guide before installing this part.

Legals:

TAARKS crank trigger kit has been designed and is intended for off-road use only. The installation of this part on a vehicle intended for use on public roads may violate laws and regulations in your country/state. Additionally, this part is sold with a LIMITED warranty that only covers defects in manufacturing. This warranty does not cover any damage incurred by using this part. The installation of this part may also void any vehicle warranties. Refer to a performance specialist for proper installation.

After opening the packaging please check to see if any parts are missing or damaged. If something is missing or damaged please contact us immediately. Do not install the product.

Do not modify this part in any way. Modifying the part may result in failure of the part and voids all possible warranties.

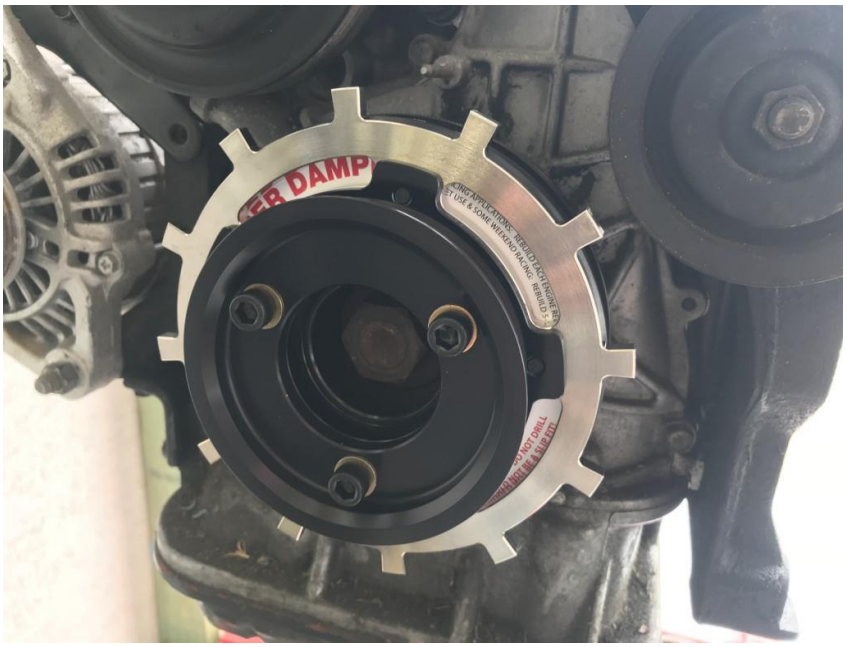
Installation Guide

Place the black anodised hub adapter on a flat surface with the cut outs facing down. Install the trigger wheel onto the hub adapter.

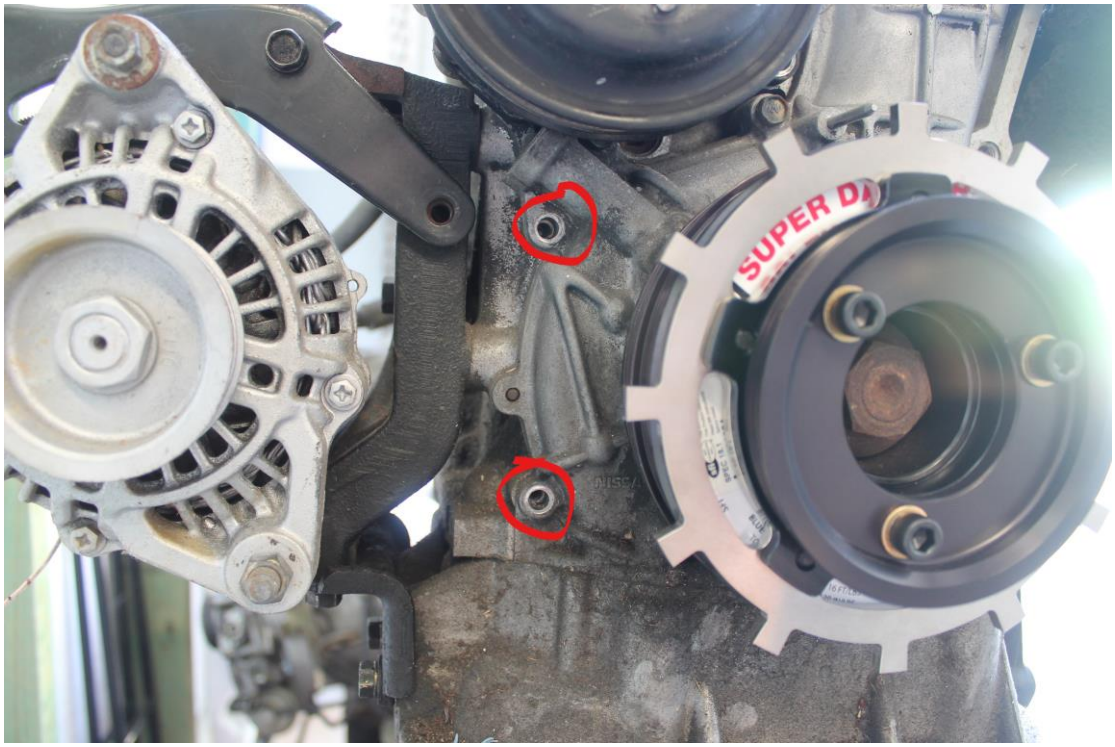
Install the 5x M6 countersunk bolts to secure the trigger wheel onto the hub. Use red high strength Loctite on the threads. Use a 4mm allen key to tighten.

Remove the power steering pulley from the ATI balancer and set the bolts aside, keep the washers handy.

Install the trigger wheel onto the ATI balancer (part number: 918582) between the power steering pulley and main balancer. Use the supplied bolts and existing washers to bolt the kit together. Torque to 10 ft/lbs using blue Loctite as per ATI specs.

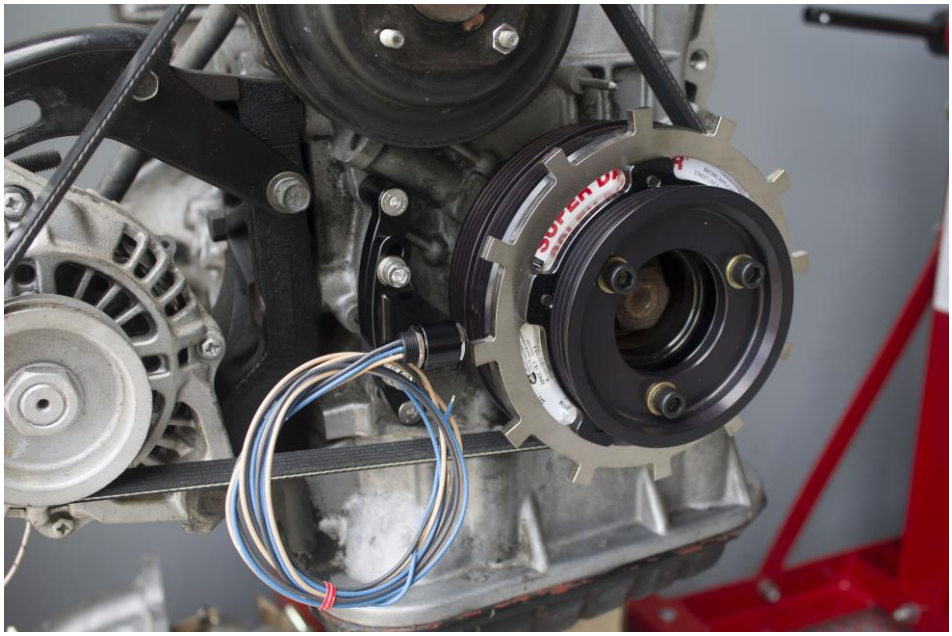


Remove the 2x M6 bolts from the oil pump as shown below.

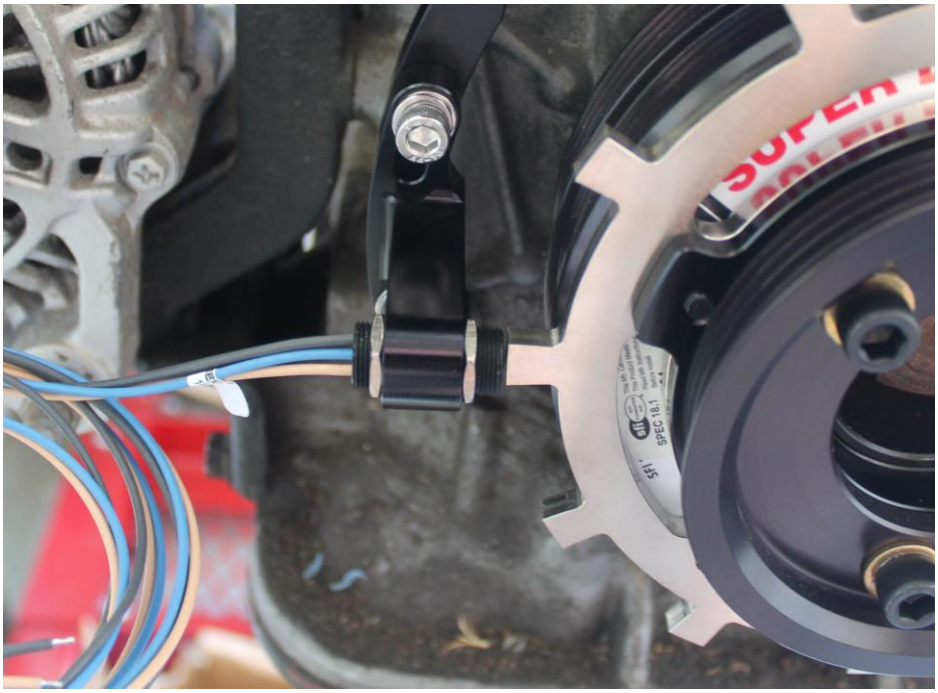


Using the supplied 2x M6x25mm cap screws, split washers and flat washers assemble the sensor mount as shown below. Also thread the sensor into the mount and thread a locking nut either side.

Install the sensor bracket onto the engine using the supplied M6x50mm counter sunk bolts.



Continue to wind the sensor in until you reach an air gap of between 1mm-1.5mm. Now tighten the lock nuts to keep the sensor in place. A small amount of blue Loctite can be used.



And that’s it, you’re all done. Thank you for supporting TAARKS.

Note: Wiring and sensor details can be found on the next page.

Gear Tooth Speed Sensors

GS1005 – GS1007 Sensors

Hall Effect gear tooth speed sensor
with adjustable anodized aluminum housing

Description

The GS1005-GS1007 series gear tooth speed sensors are Hall Effect devices designed for use in applications where ferrous edge detection/near zero speed sensing is needed. They provide a sinking current output.

Features

- From near zero speed up to 15 kHz sensing capability
- 10 bit dynamic threshold direction offers:
  - Automatically adjusting magnetic range
  - Self-compensating to target geometry
- Compatible with unregulated power supply
- RoHS compliant
- IP67
- Typical air gap of 1.5 mm*

Typical Applications

- Speedometers
- Anti-lock braking systems
- Exercise equipment
- CNC machine tools

PLEASE NOTE

CHERRY will become ZF in 2017.

Environmental Specifications

Vibration	Sinusoidal, 15 g max from 40 Hz to 2 kHz
Mechanical Shock Resistance	50 g
Maximum Speed Detection	15 kHz
Operating Temperature (GS100501)	-40 °C to 105 °C (-40 °F to 221 °F)
Operating Temperature (GS100502, GS100701)	-40 °C to 125 °C (-40 °F to 257 °F)
Storage Temperature	-40 °C to 125 °C (-40 °F to 257 °F)
Ingress Protection	IP67

Electrical Specifications

Operating Supply Voltage	5 to 24 VDC
Maximum Input Voltage	30 VDC
Maximum Reverse Voltage	24 VDC
Supply Current	3 mA typ., 6 mA max
Output Sink Current	20 mA max
Recommended Pull-Up Resistor	See chart

Mechanical Specifications

Housing Material	Anodized Aluminum
Maximum Installation Torque Limit	5.65 Nm (50 in lb) on threads
Operating Air Gap / Sensing Distance* * With recommended target type; see drawing	1.5 mm (0.06")
Sensor Orientation	Not sensitive

Products

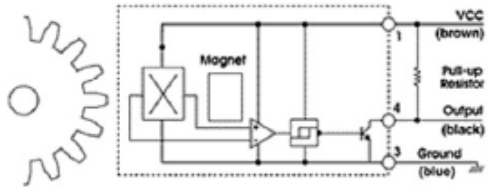
Part Number	Thread	Leads	Connector
GS100501	M12-1		12 mm, 4-pin circular mating connector, type IEC 60947-5-2
GS100502	M12-1	20 AWG x 1 m	
GS100701	15/32"-32	20 AWG x 1 m	

Note: An external pull-up resistor is required, the value of which is dependent on the supply voltage. The resistor should be connected between the output and Vcc. Refer to the wiring diagram for lead colors or pin numbering as applicable.

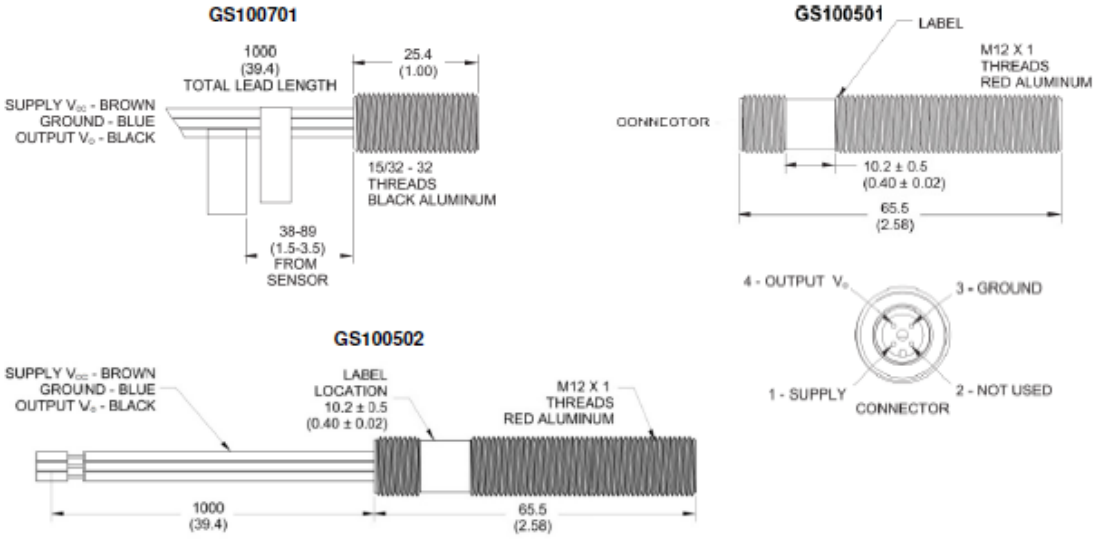
Recommended External Pull-Up Resistor

Volts DC	5	9	12	15	24
Ohms	1k	1.8k	2.4k	3k	3k

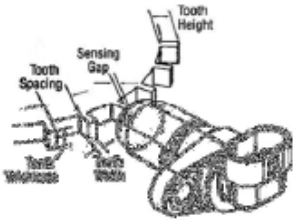
Open Collector Sinking Block Diagram



Dimensions mm (inches)



Installation



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.

Tooth Height	Tooth Width	Distance between Teeth	Target Thickness
5.0 mm (.200")	2.5 mm (.100")	10 mm (.400")	6.35 mm (.250")