

Tach Sensor Installation

Our standard Tach sensor can be installed on both two and four cycle engines. For best results, keep the Tach sensor cable separated as much as possible from all other cables running to your instrument.

Use a cable tie on the shrink tube, at the end of the colored wire, to attach the sensor to the plug wire, keeping the end at least 2" from the plug boot. Keep the sensor electronics (black shrink tube) away from any ignition component. Attach the end of the black ground wire to bare metal on the engine block.

Four cycle engines: The Tach sensor is a small antenna that picks up the energy radiated by the spark plug wire. Four cycle engines produce weaker signals than other engines. To receive a stronger signal with a four cycle engine, spiral the colored wire down the spark plug wire. This creates the antennae.

Two cycle engines: These engines usually produce a strong signal. Attaching the end of the Tach sensor to the spark plug wire should be sufficient to get a strong reading. If it is not, spiral the colored wire down the spark plug wire.

CHT Sensor Installation

Our standard CHT sensor is a type K thermocouple temperature sensor. To install the sensor, remove the spark plug from the cylinder you wish to monitor and discard the plug washer. Check the surface of the head around the spark plug hole for a smooth, flat finish to assure a good seal when the sensor is installed.

Position the sensor over the spark plug hole and check that you have sufficient clearance around the outside of the sensor body to avoid damage when the plug is installed and tightened. This may require some minor machining on some installations.

Install the spark plug finger tight to hold the sensor in position. Finish tightening with a plug wrench to the same torque as normally recommended. **Do not allow the sensor to turn as you tighten the plug.** The sensor is easily damaged if forced into a cooling fin.

EGT Sensor Installation

Our standard EGT sensor is a type K thermocouple temperature sensor. Install the sensor clamp assembly, or weld on, to the exhaust header. Position the clamp so that the sensor will be in the center of the header. Contact your engine builder for the distance from the exhaust flange. Using the fitting on the clamp assembly as a drill bushing, drill a 3/16" hole through the header. Reinstall the clamp assembly and align it with the hole.

Insert the sensor into the fitting so that the tip of the sensor extends 1/4" past the center of the header. Tighten the compression nut to lock it in place. Connect the black wire to any clean, unpainted metal surface on the engine (it is important that this is a good electrical connection).

Secure the cable with cable ties to prevent excessive movement. **The thermocouple cable will break at the flex points if not properly tied down. It is also good practice to protect the sensor with fuel line, especially at any point where the cable may rub against a hard surface.**

Jackshaft RPM Sensor Installation

The Jackshaft RPM function uses a magnetic pick up. The sensor detects the passing of any ferrous object (steel bolt head or nut, etc.). Mount the sensor so that any ferrous object rotating on the jackshaft passes within 1/16" (or less) of the sensor.

The sensor can pick up any number of ferrous objects on the jackshaft that are evenly spaced, one or two objects is preferable. If this is not available on your installation, mount our collar on the jackshaft. Attach the sensor and adjust the angle of the mounting bracket from side to side so the sensor is in line with the middle of the collar. Secure the sensor in this position with the nuts and lock washers provided. Modify the mounting bracket as needed.

MPH Sensor Installation

The MPH sensor detects the passing of any ferrous object (steel bolt head or nut, etc.). Mounting the sensor so that any ferrous object rotating with the wheels passes within 1/16" (or less) of the sensor. The ideal place for sensing MPH is off one of the front wheels. Sensing MPH off the front wheels avoids errors that can occur when wheels are locked up and when the kart bounces off the ground. Due to a lack of standardization among karts, we do not build a mount for the front wheel. You can build your own mount for the front wheel or use our mount on the rear axle.

When mounting on the rear axle, there are two options:

1. You can attach our collar to your axle and sense the ferrous objects in it.
2. You can sense the ferrous objects that can usually be found on the brake disc and hub assembly.

For either option, attach one end of the MPH mounting bracket to the bearing hanger on the kart frame. Mount the sensor in the other end of the bracket so that the end of the sensor is within 1/16" of the object to be sensed. Adjust the angle of the mounting bracket from side to side so the sensor is in line with the rotating objects. Secure the sensor in this position with the nuts and lock washers provided.

Route the cable assembly to the instrument and secure it with cable ties to keep it away from moving parts.

Manual Lap Switch Placement (Optional)

The Lap switch is used in place of the infrared beacon receiver. It should be mounted to the steering wheel within thumbs reach of the driver. This switch requires a 15/32" mounting hole for installation. Mount the switch in a position that will provide easy access while driving. Tie the coil cord to the steering column where needed.

If the Lap switch or beacon receiver is not used, leave its input connector open. Do not use a shorting plug.

Oil Pressure Sensor

The Oil Pressure Sensor will replace the one you are currently using. Mount the sensor directly to the engine block or to a steel braided hose with an added grounding wire. When locating the sensor, remember to avoid the ignition system. If using a braided hose to attach the sensor, a clamp will be required to mount the sensor securely. (A 1 3/4" muffler clamp works well for this purpose) Be sure that the clamp assembly is grounded to the block. Attach the Sensor Extension terminal end to the post on the rear of the sensor.

Route this sensor extension lead to the instrument paying attention to the wire routing notes listed earlier.. Twist the sensor connector 1/4 turn to lock the connector in place.

Refer to the model number on the back of your instrument for the appropriate pressure sensor:

U: 16# pressure

X: 30# pressure

Y: 100# pressure

Z: 150# pressure

Fuel Pressure Sensor

The Fuel pressure sensor should be installed into the fuel system to monitor the fuel pump outlet pressure. The sensor should be mounted in the same way as the Oil Pressure Sensor. Attach the Sensor Extension terminal end to the post on the rear of the sensor. Route this sensor extension lead to the instrument paying attention to the wire routing notes listed earlier. Twist the sensor connector 1/4 turn to lock it in place.

NOTE: If you are burning alcohol, you must *remove* the sensor after draining your fuel. Alcohol vapors will damage the seals in the sensor

Refer to the model number on the back of your instrument for the appropriate pressure sensor:

U: 16# pressure

X: 30# pressure

Y: 100# pressure

Z: 150# pressure

Beacon Receiver Placement (Optional)

The Digatron beacon receiver is used in conjunction with the Digatron transmitter to automatically record race times. Mount the beacon receiver on your vehicle with an unobstructed view of the transmitter. Other racers will rarely interfere with the beacon signal, but mounting the receiver as high as practical will help to avoid that situation. Mount it with the lens facing where the transmitter is located.

Attach the receiver to your vehicle with cable ties or hook and loop material (such as Velcro).