

INSTALLATION GUIDELINES

The following guidelines are provided in order to support our clients in installing and reliably their system.

ROUTING WIRES

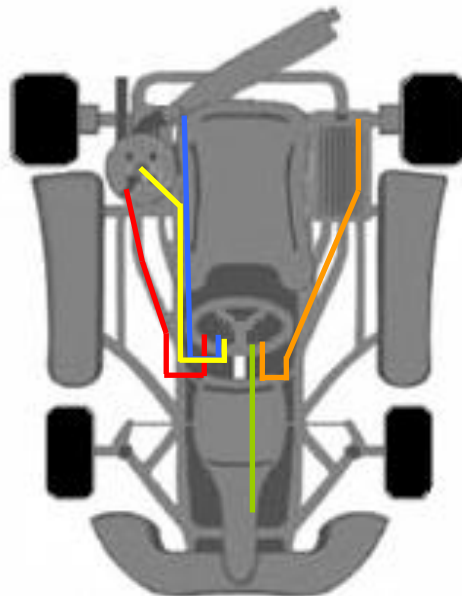
While installing sensors and wiring it's important to follow basic rules.

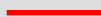
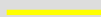
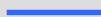
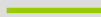
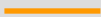
Proximity of ignition high voltage pulses can induce noise into sensor wiring and affect signal quality. In some extreme cases with very strong ignition systems it can also affect the correct operation of the instrument.

In order to prevent this to happen we'd suggest the following:

- Always route rpm pick up wire as far as possible from the other sensors wires (H2O, CHT, EGT, SPEED, LT)
- Keep H2O/CHT/EGT at least 100mm clear from spark plug wire
- Avoid tightening together multiple wires close to spark plug area
- Avoid leaving open wires (i.e. connected to the instrument but not to the sensor).

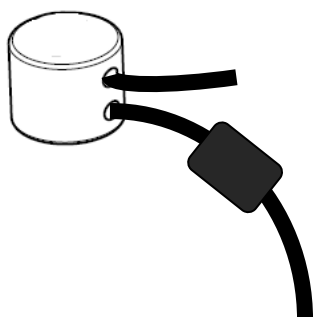
Suitable wire routing is shown below:



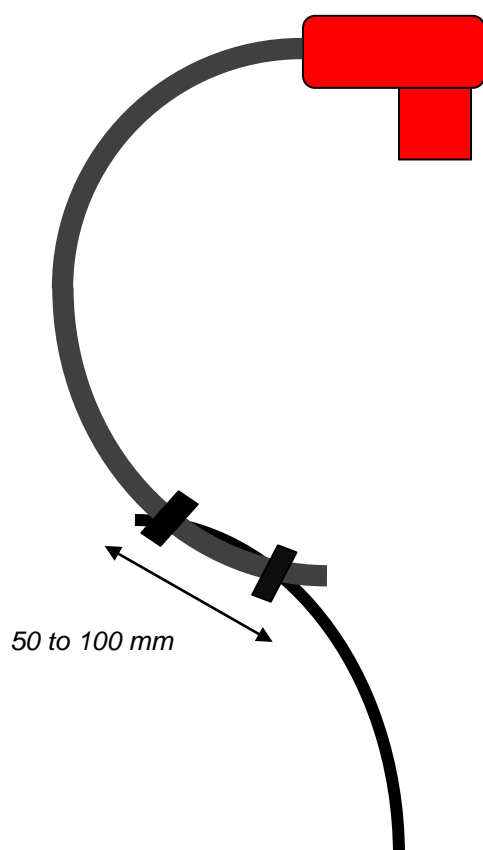
	RPM pick up
	CHT
	H2O/EGT
	Lap Trigger (LT)
	Wheel Speed

ENGINE SPEED PICK UP WIRE

The proper installation of engine pick up wire is fundamental for the correct functioning of the system. We remind that a weak signal can bring to absence of logged data or to incomplete data. It's strongly recommended to follow these suggestions:



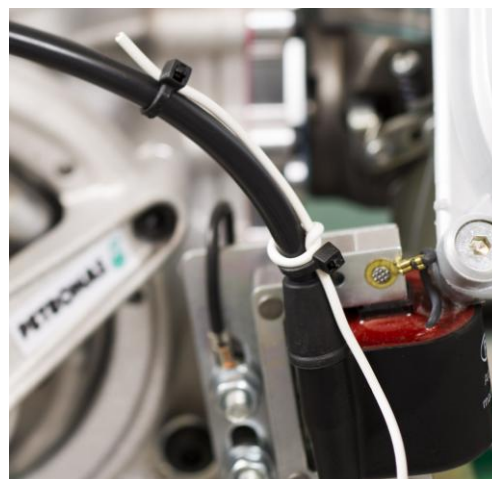
Use the wire supplied with your kit and fit it to the display as shown. The presence of the grey ferrite is important to eliminate electrical noise when your ignition is very noisy.



Couple engine speed pick up wire with spark plug cable. In most cases 50cm will be sufficient to guarantee a strong signal.

However if the signal will still be weak feel free to extend coupling up to 100mm.

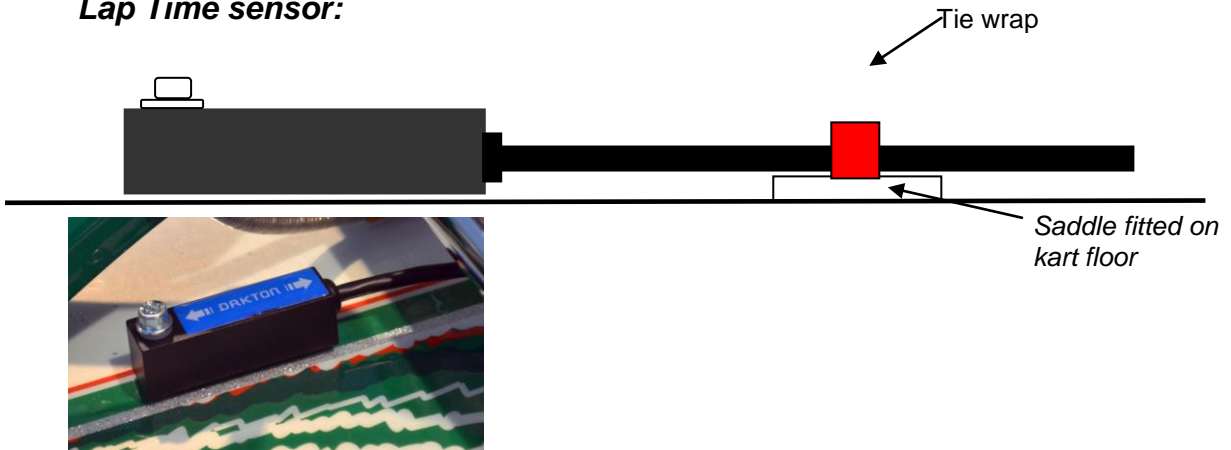
Fit 2 tie wraps to secure the wire.



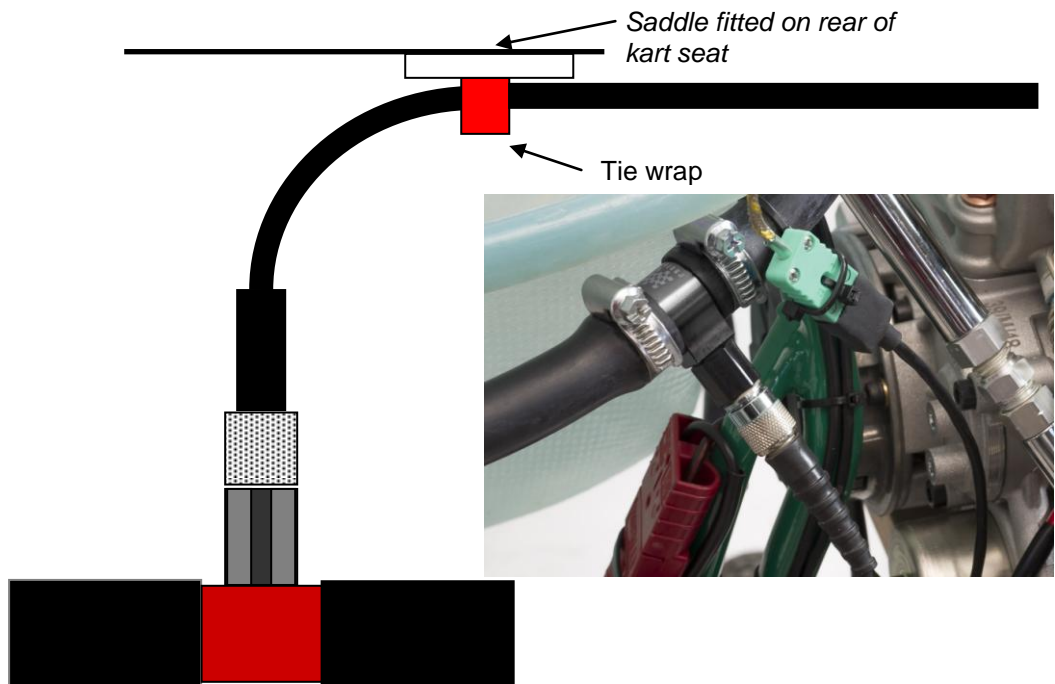
SECURING SENSOR WIRING

In order to minimize sensors wiring failures and damage it's important to make sure these are secured through tie wraps in specific positions. Below some suitable examples:

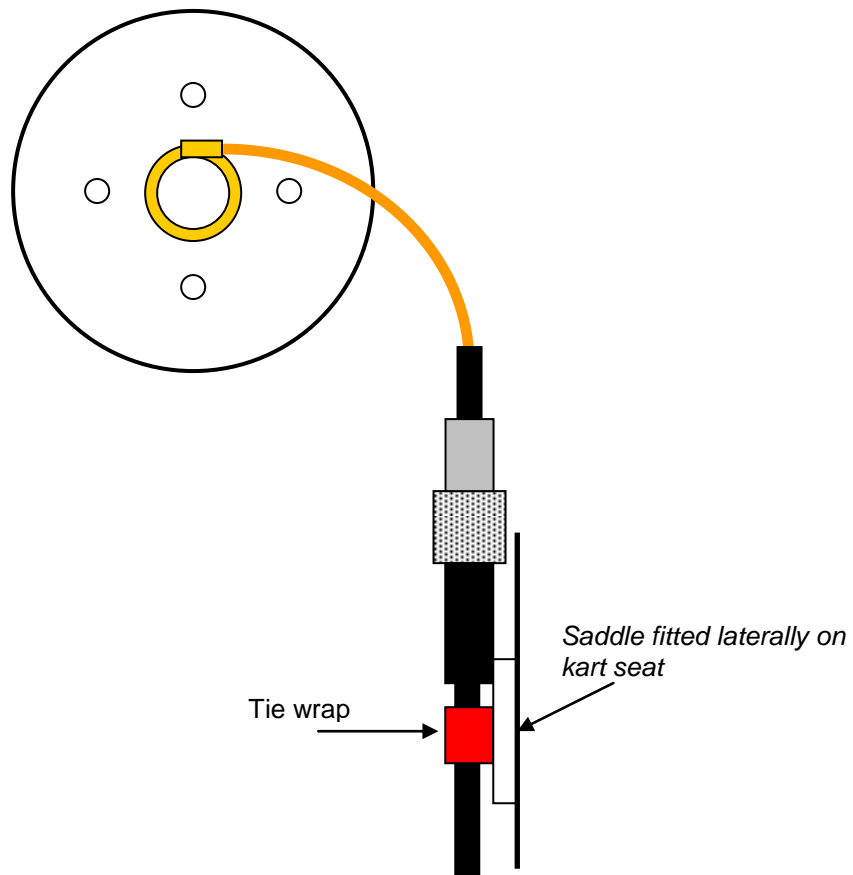
Lap Time sensor:



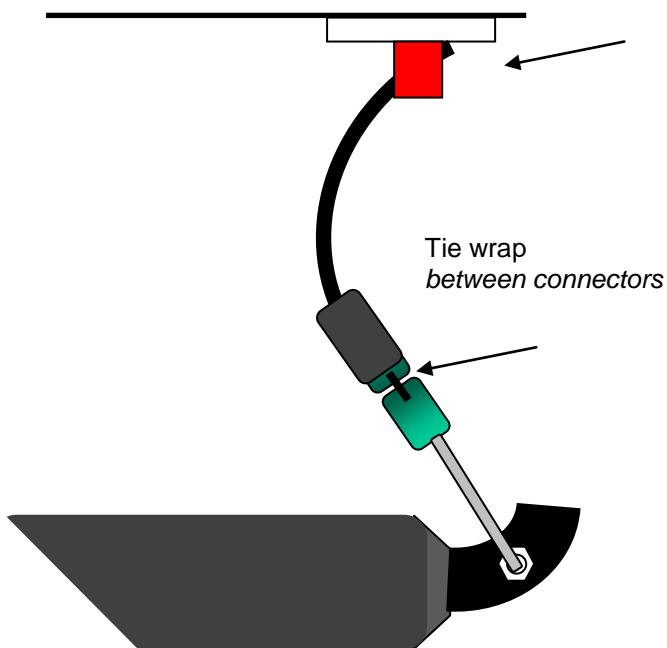
H2O/EGT sensor:



CHT SENSOR:



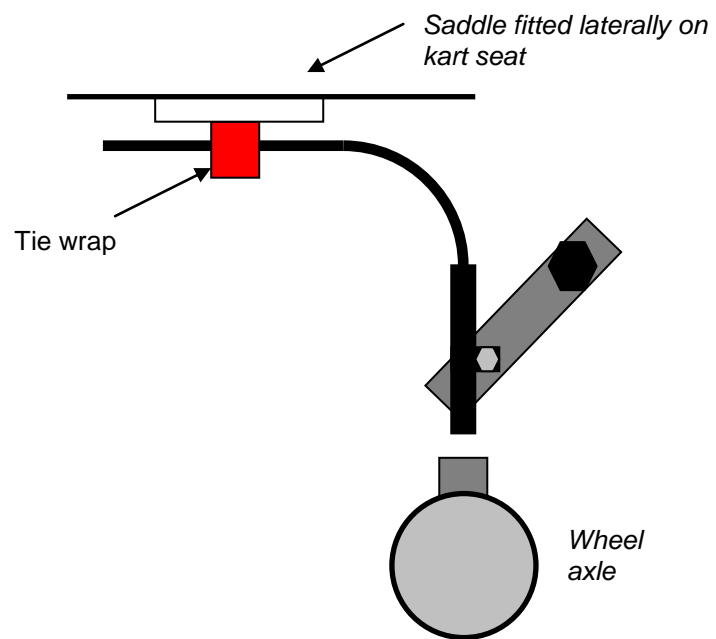
Sensore EGT:



Saddle fitted on rear of kart seat



SPEED SENSOR:



TIGHTENING CONNECTORS

It happens frequently to see sensor side connectors not enough tightened, this obviously causing to lose sensor signal.

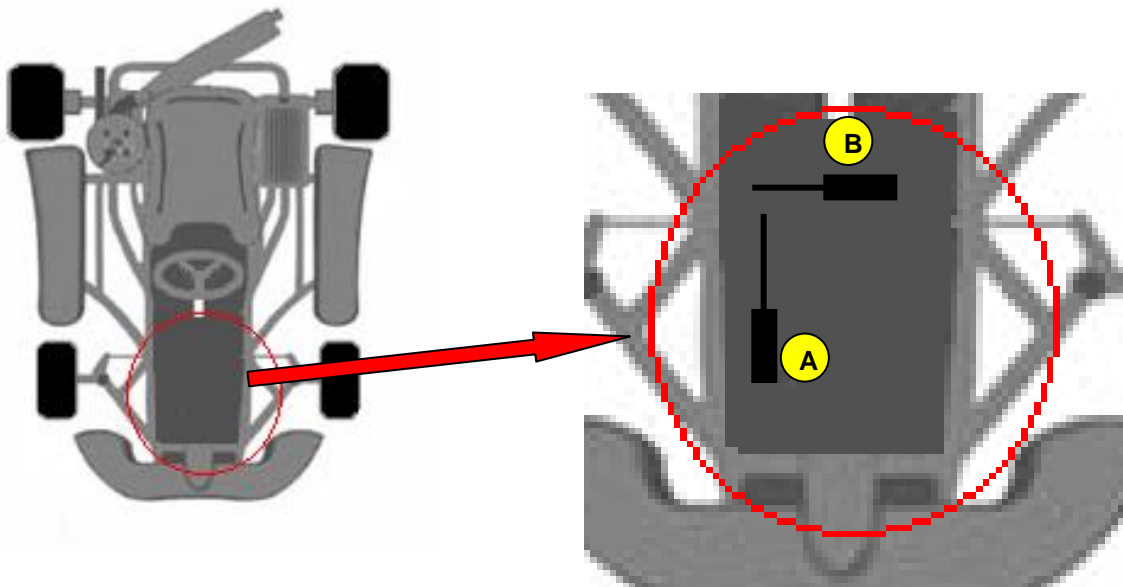
All connectors that secure wires directly to sensor body (i.e. LT, H2O and partially CHT) need to be strongly tightened to avoid losing connection under vibration or movement.

On the other side, connectors fitted to the instrument don't need to be strongly tightened. In fact these could be damaged if tightened too strongly.

We recommend as a reference a max locking torque of 1.5Nm for sensor side connectors and 0.5 Nm for instrument side connectors.

POSITIONING SENSORS

MAGNETIC LAP TRIGGER (LT)

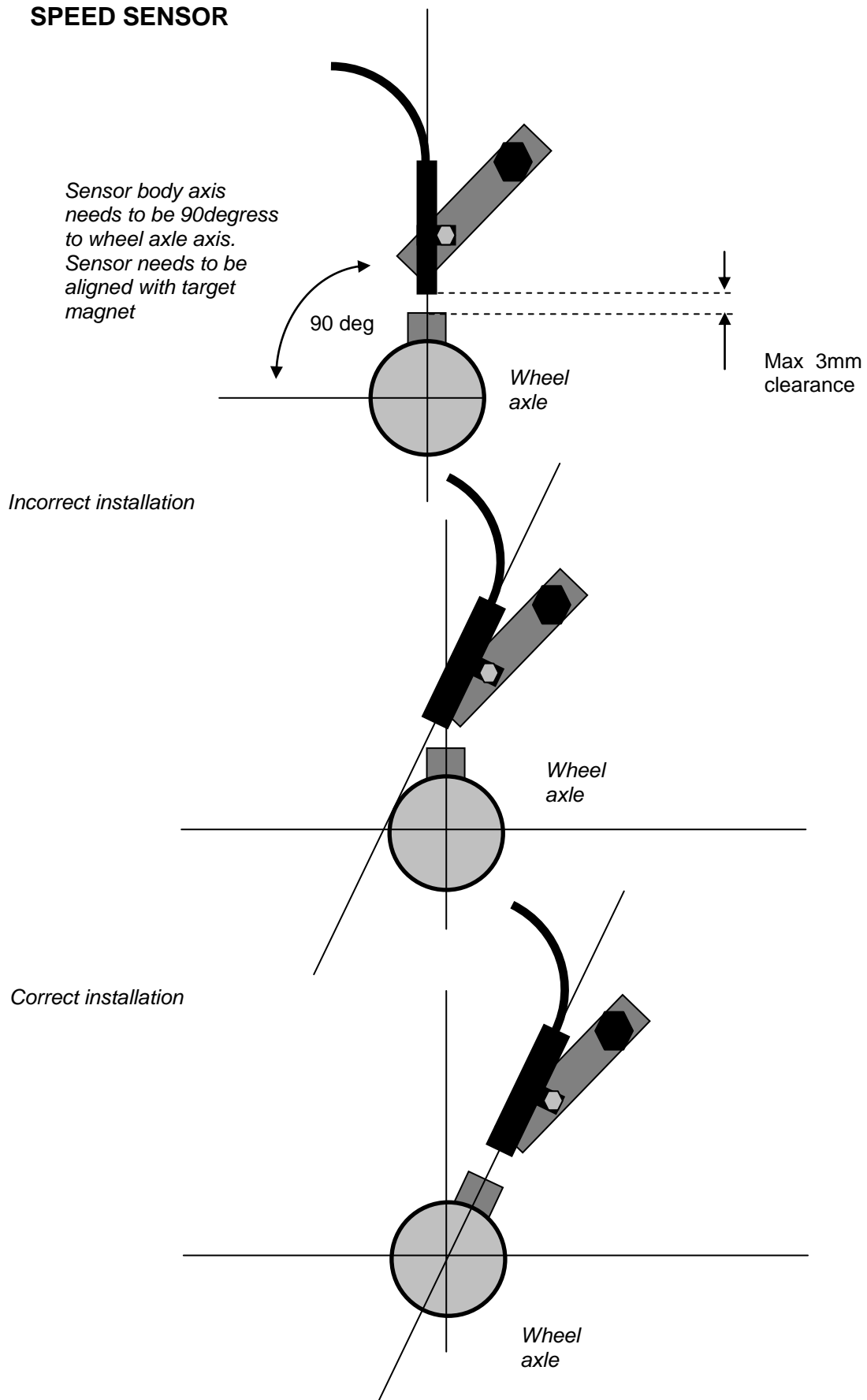


A- Correct orientation (parallel to direction of movement, clear from magnetized parts)

B- Incorrect orientation (90 degrees from direction of movement)

It's always good practice to test the sensor once installed by sliding a magnet underneath the floor.

SPEED SENSOR



It's always good practice to test the sensor once installed by manually rotating the wheel. The speed value will be displayed on the instrument.

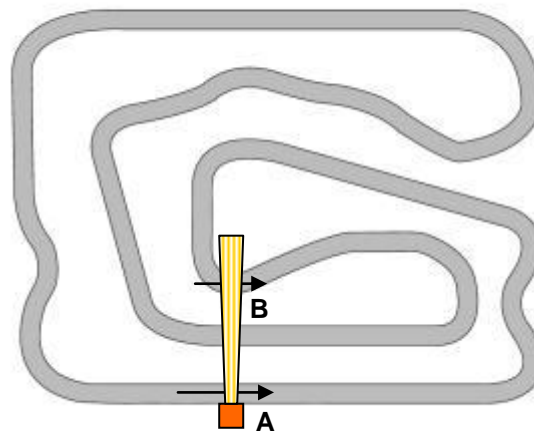
INFRARED BEACON

POSITIONING INFRARED TRANSMITTER ON CIRCUIT

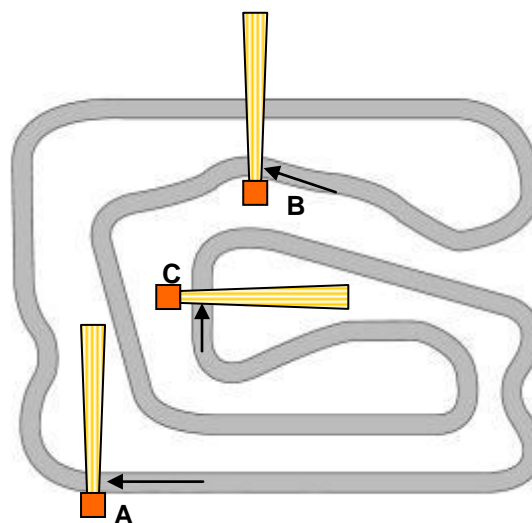
Height from ground and choice of its on track position could be critical for a correct use of infrared beacon.

Height must be set up through its tripod bringing in mind where its receiver has been fitted.

Specific on track position needs to be chosen to avoid the same transmitter could generate multiple trigger point along the circuit (see example below).

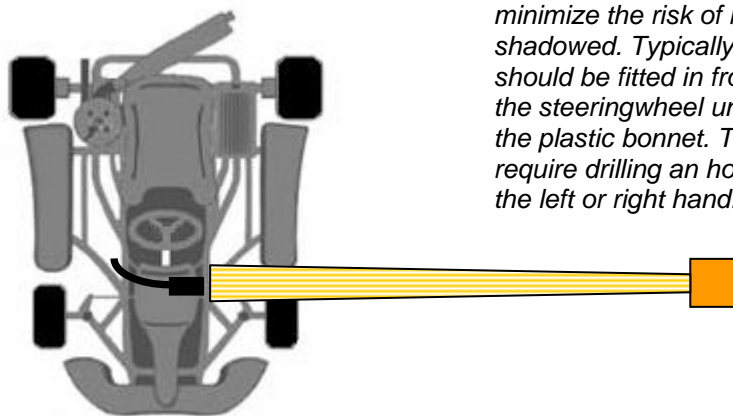


A transmitter in the position shown could trigger the on board receiver both on position A and position B of same lap if the distance between A and B is less than 20 meters



Example of good positions for a 3 sector infrared beacon arrangement

POSITIONING INFRARED RECEIVER ON BOARD



Infrared beacon receiver should be positioned as high as possible to minimize the risk of being shadowed. Typically it should be fitted in front of the steering wheel under the plastic bonnet. This will require drilling a hole on the left or right hand.

It's always good practice to test the infrared receiver once installed by sliding the transmitter through the receiver field of view.