

Installation Procedure for Airtronics SG-1 Gyro System

There are three components to the SG-1 Gyro System:

The Gyro Mixer

The Gyroscope or SENSOR

The Switch/Gain Control Unit or SW UNIT

1. Begin with the Gyroscope (SENSOR). The orientation of the sensor is very important. The unit needs to be mounted to the vehicle such that the SG-1 label is perpendicular to the axis of rotation desired. Use two pieces of 3mm foam double sticky tape to mount the unit.

To sense YAW – SG-1 label should be up

To sense ROLL – SG-1 label should be facing aft

To sense PITCH – SG-1 label should face right

2. The gyroscope plugs into the SENSOR slot on the Mixer unit.
3. The switching/gain unit plugs into the SW UNIT slot on the Mixer.
4. On the Mixer unit, the slot labeled SX RUDDER goes to the servo the gyro will command, i.e. YAW – rudder, PITCH – elevator, ROLL – aileron.
5. The Futaba servo has a tab on the connector that needs to be removed to connect with the Mixer (Andrew will do this). The servo connector will have a white mark, which should match with the white mark on the Mixer. Connect such that white touches white.
6. There are two longer cables coming from the Mixer unit. The red, white and blue (RWB) cable is labeled RX AUX and goes to channel 5 (Gear) of the Receiver (RX). The other cable, black, black and red (BBR) is labeled RX RUD and goes to the channel that commands the control surface for the axis of interest. Connect these two cables to the proper slots on the RX. For the Futaba R127DF Receiver, the white mark of the connector should face the next highest channel. Thus the two connectors with the white marks should face the same direction toward CH 7.
7. The Mixer and SW UNIT should be wrapped in 1/2" foam and secured to the model.

Installation Checklist

After the gyro is connected to the vehicle's control system, it needs to be checked for proper operation, sensing and feedback commands.

1. With the Gyro System OFF, servo should operate as normal.
2. Switch the Gyro System ON, the gyroscope should be heard spinning up. If not, check Mixer/RX connections for proper orientation and power.
3. With Channel 5 (Gear) switch in the UP position, the servo should operate normally. If the vehicle is moved, no input from the gyro should be seen, no servo motion should be observed.
4. With Channel 5 (Gear) in the DOWN position, the gyro is now providing feedback control to the servo. Test for proper SENSOR orientation by rotating the model around the desired axis. Do the servos deflect to correct for this motion? If not, select REV on the Mixer unit.
5. To neutralize the control surfaces, use trim on TX and N. ADJ on the mixer control.