

GSU gun stabilize unit highlight features -

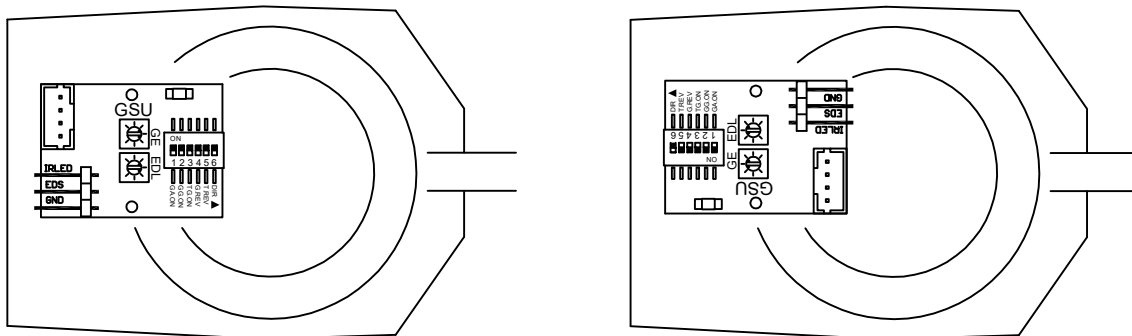
GSU is an optional module of ACU (auxiliary control unit). When GSU is turned on, it will detect the gun rotation and elevation and will stabilize the gun automatically. When the operator moves the control sticks, the GSU will return control back to the operator. When the operator stops, GSU will stabilize the gun in its new position. GSU have the following features:

- 2-axis gun stabilization in turret rotation and gun elevation.
- Turret rotation stabilize by gyro sensor. Can be disabled by dip switch.
- Gun elevation stabilize by gyro sensor and accelerometer. Each sensor can be disabled by dip switches.
- Two mounting directions select by dip switch.
- Stabilization turns on/off by CH5, or by stick motions for 2-4 CH receivers.
- Gun elevation angle adjustable by trimmer.
- Optional engine deck sensor. Gun raise automatically when gun moves above engine deck.
- Engine deck level adjustable by trimmer.
- Dimensions: 20 x 28 x 10mm (0.8" x 1.1" x 0.4")

GSU connection - See Fig.1 for connection of GSU to ACU and MTC-2.

Power on reset - When power on, GSU will undergo a reset process and must be kept stationary. **The led indicator will blink during reset and you must not move the GSU during reset. The MTC-2 and ACU will freeze control during reset.** The motion sensors are very sensitive and you should not touch or vibrate the GSU during power on reset.

Mounting of GSU - The GSU must be mounted horizontally on the turret by two M1.7 screws. There are two mounting directions select by dip switch 6 as shown:



DIR on - GSU in forward direction

DIR off - GSU in reversed direction

GSU on/off by CH5 - GSU can be turned on/off by CH5 of MTC-2 (Fig.1). Stabilization turns on when pulse width of CH5 is more than 1.6ms.

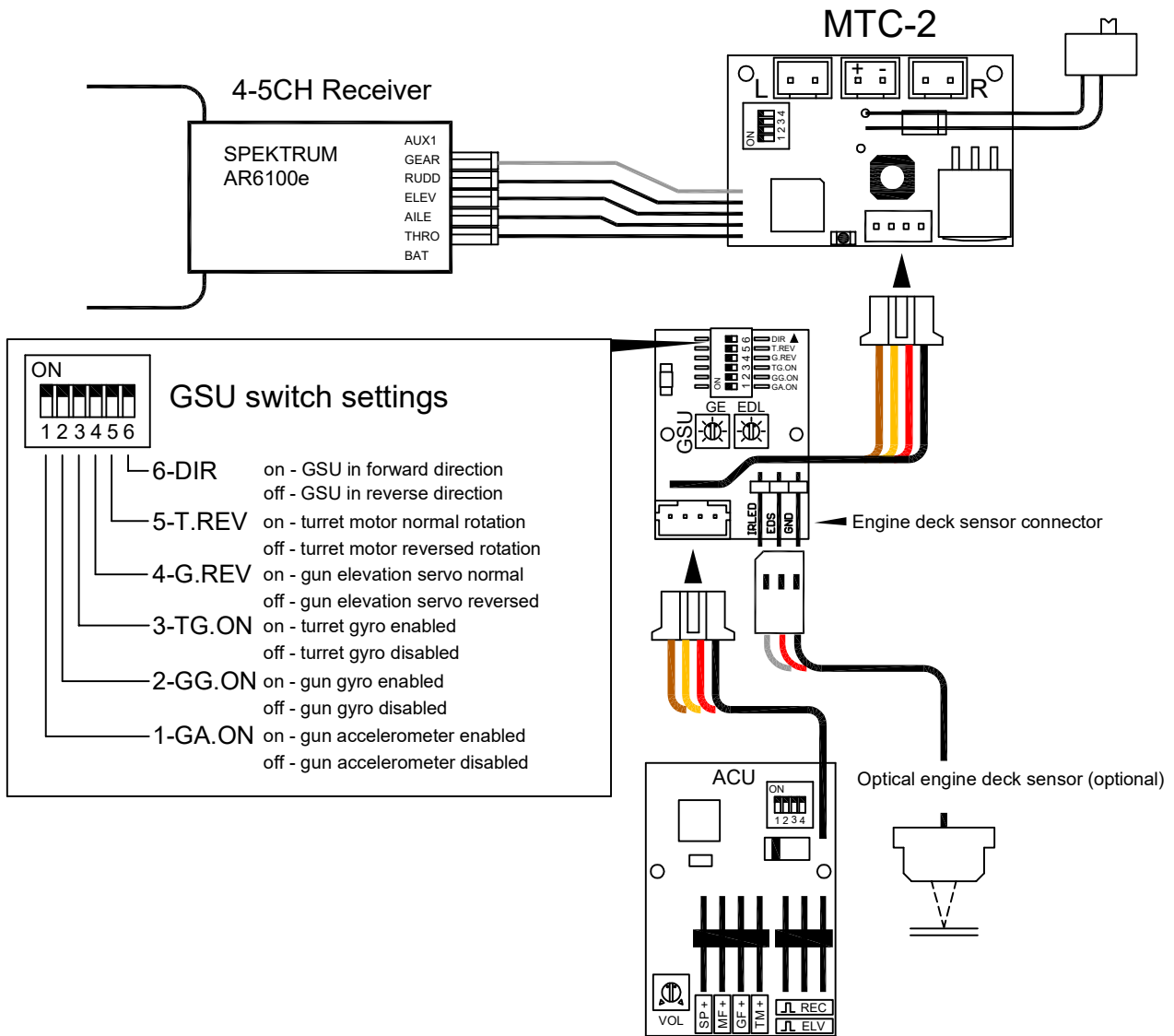
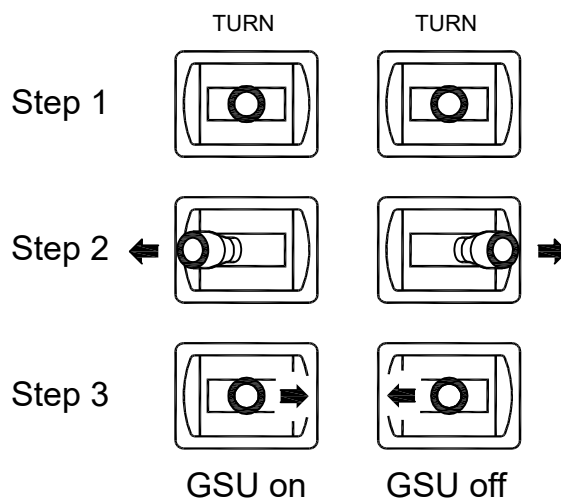
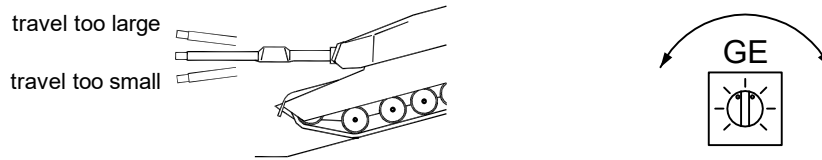


Fig.1 - GSU connection with MTC-2 and ACU

GSU on/off by stick motions - For 2 - 4 CH receivers, GSU can be turned on/off by stick motion as shown. The speed control stick must be kept in center position throughout the process.

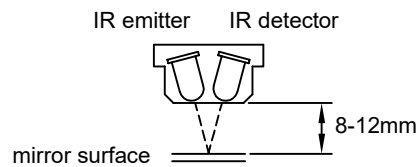


Adjusting gun elevation angle - The gun elevation (GE) trimmer is used to adjust the gun elevation angle. Turn GSU on and moves the gun to horizontal position. Tilt the tank for 15-20 degree. Adjust the GE trimmer until the gun is horizontal again.



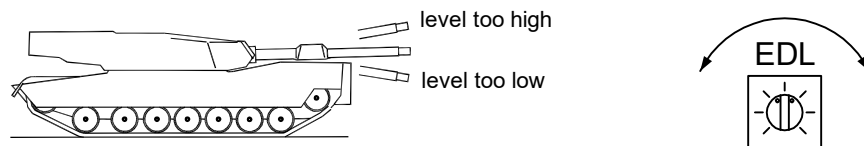
Adjust gun elevation (GE) trimmer

Engine Deck Sensor - The engine deck sensor is an optional sensor for detecting the engine deck position. Gun will raise automatically when the gun rotations above the engine deck position. It contains an IR emitter / detector and a mirror surface as shown. The emitter / detector is mounted at the turret bottom position. The mirror surface is mounted at the lower hull of tank.



Engine deck sensor

Adjusting Engine Deck Level - The engine deck level (EDL) trimmer is used to adjust the engine deck level. With engine deck sensor connected and the gun rotated to engine deck position, adjust the trimmer until the gun can avoid the engine deck.



Adjust engine deck level (EDL) trimmer

T.REV switch - When the T.REV switch is off, the turret motor will rotate in reverse direction. Usually, this switch is keep in on position unless the turret motor runs away when GSU is turned on. Alternatively, you can reverse the turret motor leads of ACU.

G.REV switch - When the G.REV switch is off, the gun elevation servo will rotate in reverse direction. Do this when the gun elevation servo needs to rotate in opposite direction.

TG.ON switch - When the TG.ON switch is on, the turret gyro sensor is enabled. Turret rotation is stabilized by gyro sensor.

GG.ON and GA.ON switches - Gun elevation is stabilized by a gyro sensor and an accelerometer. The gyro sensor measure rotation. The accelerometer measure change in tilt angle, but is also sensitive to vibration and will introduce unwanted servo vibrations. Each sensor can be enabled or disabled as follows:

GG.ON - on GA.ON - on : Both sensors enabled. When tank is moving, gun elevation is stabilized by gyro sensor. When tank is stopped, gun elevation is stabilized by accelerometer. When tank is stopped in a slope, gun elevation will stabilized due to change in tilt angle when turret rotates.

GG.ON - on GA.ON - off : Only gyro sensor is enabled. Gun elevation is always stabilized by gyro sensor. Gun elevation will not stabilized due to change in tilt angle when turret rotates in a slope.

GG.ON - off GA.ON - on : Only accelerometer is enabled. Gun elevation is always stabilized by accelerometer.

GG.ON - off GA.ON - off : Both sensors are disabled. Gun elevation is not stabilized. Select this option in a rough terrain when gun elevation is difficult to stabilize.