

Trig ADS-B Installation In an ASW-27B



Updated: December 19, 2022

ADS-B

Automatic Dependent Surveillance Broadcast

What is ADS-B?

ADS-B is a surveillance technology ... in which an aircraft determines its position via satellite navigation or other sensors and periodically broadcasts it, enabling it to be tracked.

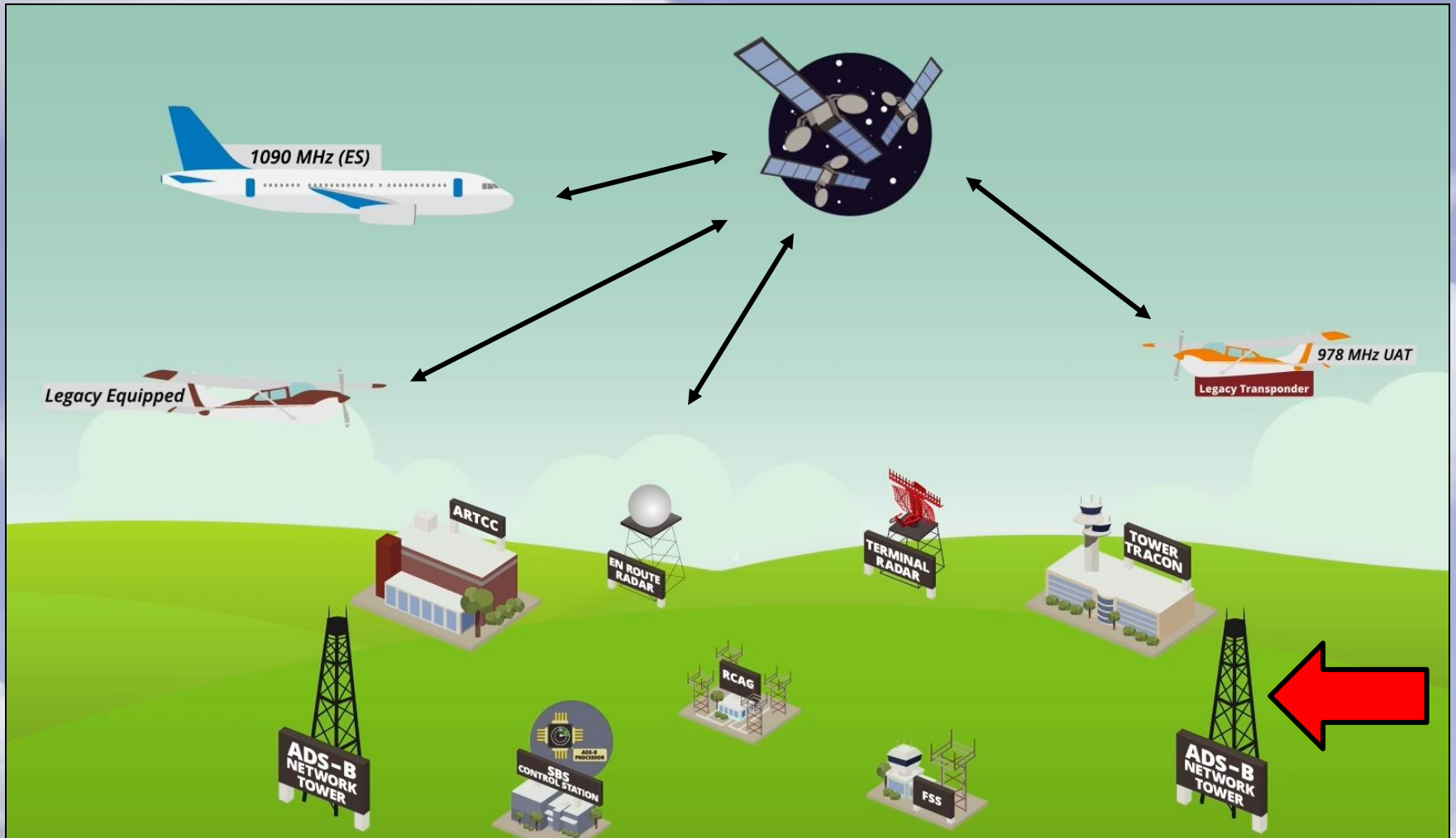
The information can be received by air traffic control ground stations as a replacement for secondary surveillance radar, as no interrogation signal is needed from the ground.

It can also be received by other aircraft to provide situational awareness and allow self-separation. ADS-B is "automatic" in that it requires no pilot or external input. It is "dependent" in that it depends on data from the aircraft's navigation system.

ADS-B, which consists of two different services, "ADS-B Out" and "ADS-B In", could replace radar as the primary surveillance method for controlling aircraft worldwide.

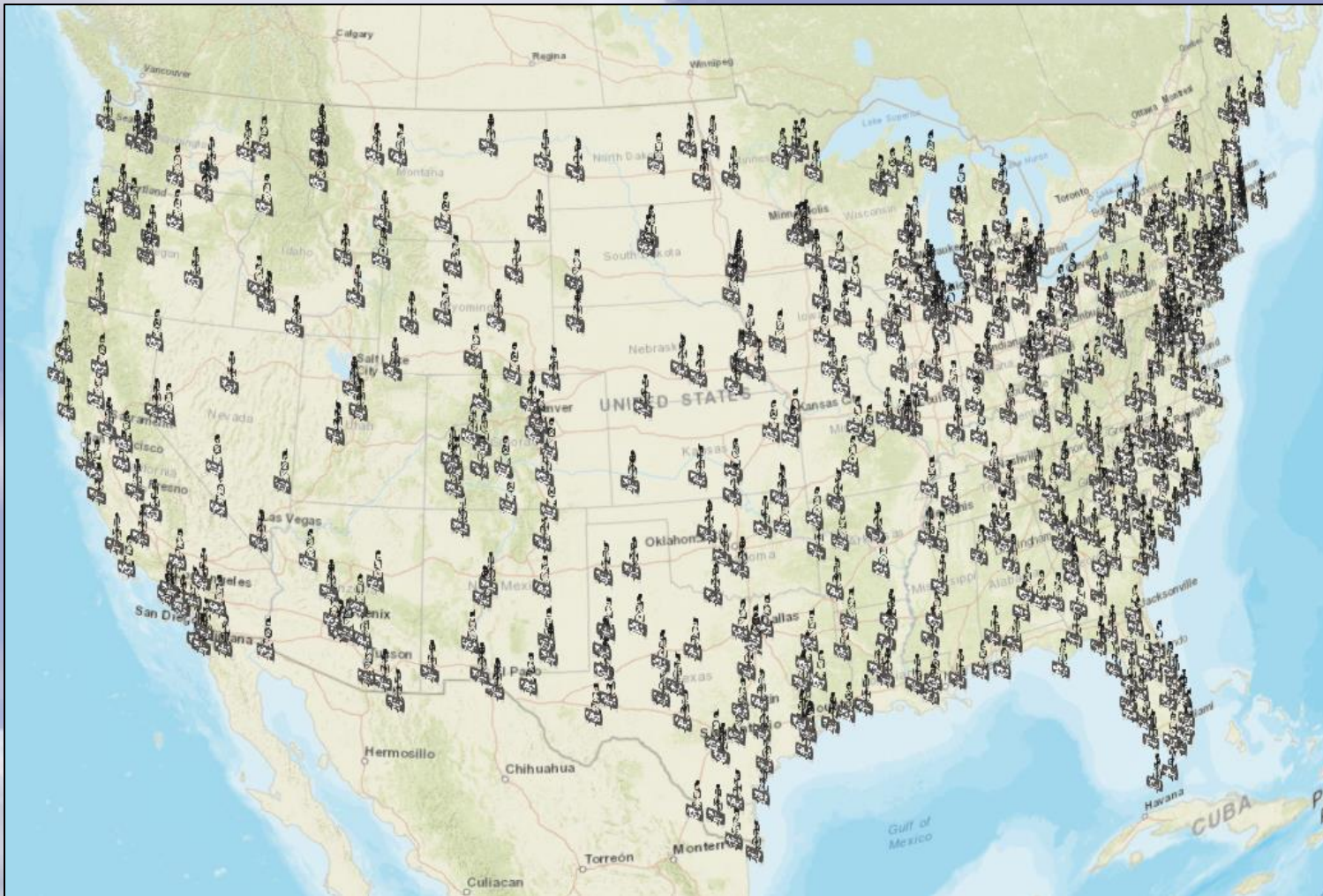
ADS-B

Automatic Dependent Surveillance Broadcast

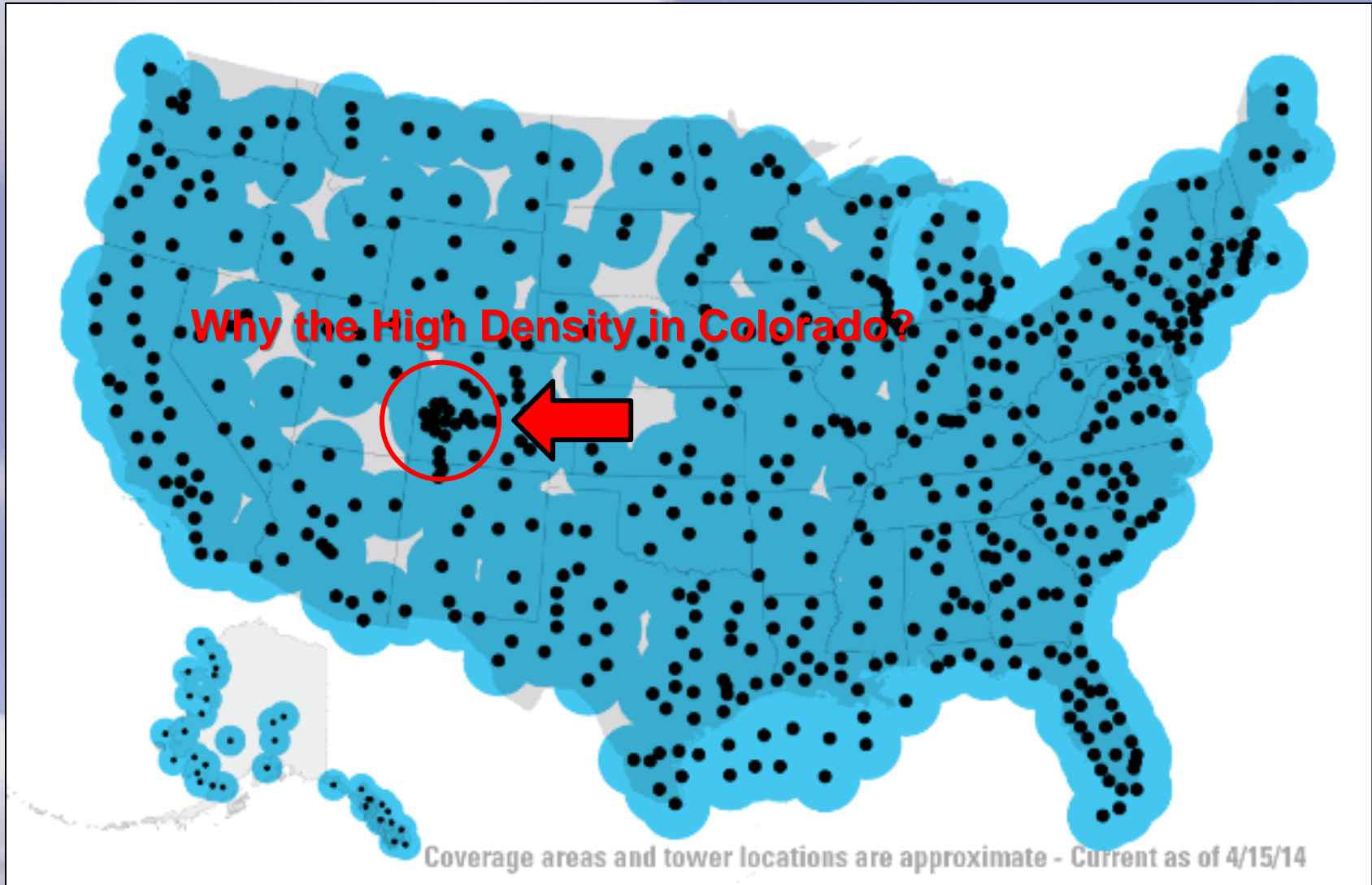


ADS-B Network Towers

623 ADS-B Network Towers in the Lower 48 States



ADS-B Coverage Map



N227BB



N227BB



Legacy Instrument Panel



Legacy Transponder and Altitude “Digitizer”

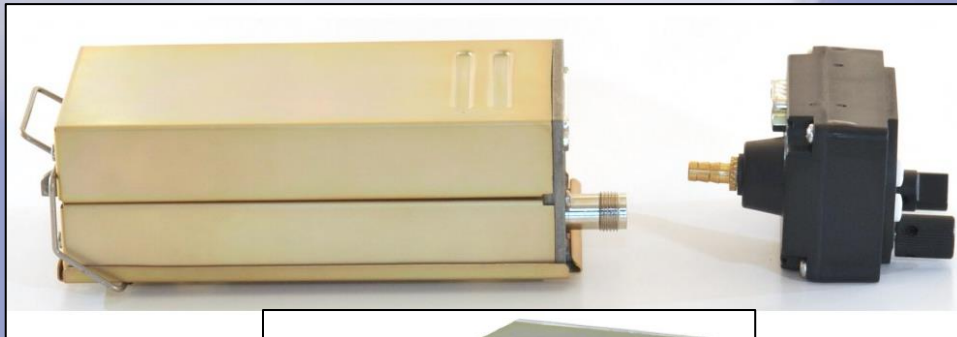
Becker ATC 4401



ACK A-30 Encoder

Equipment to be Installed

Trig TT22 Transponder and TC20 Control Head



Trig TN72 GPS Receiver



Trig TA50 GPS Antenna



Equipment to be Installed

Problem #1

The Becker was a single unit while the Trig is in two separate pieces

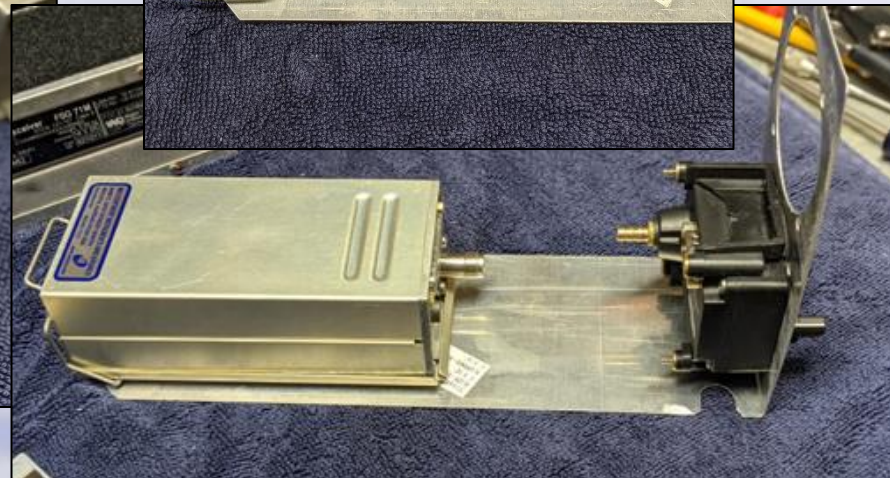
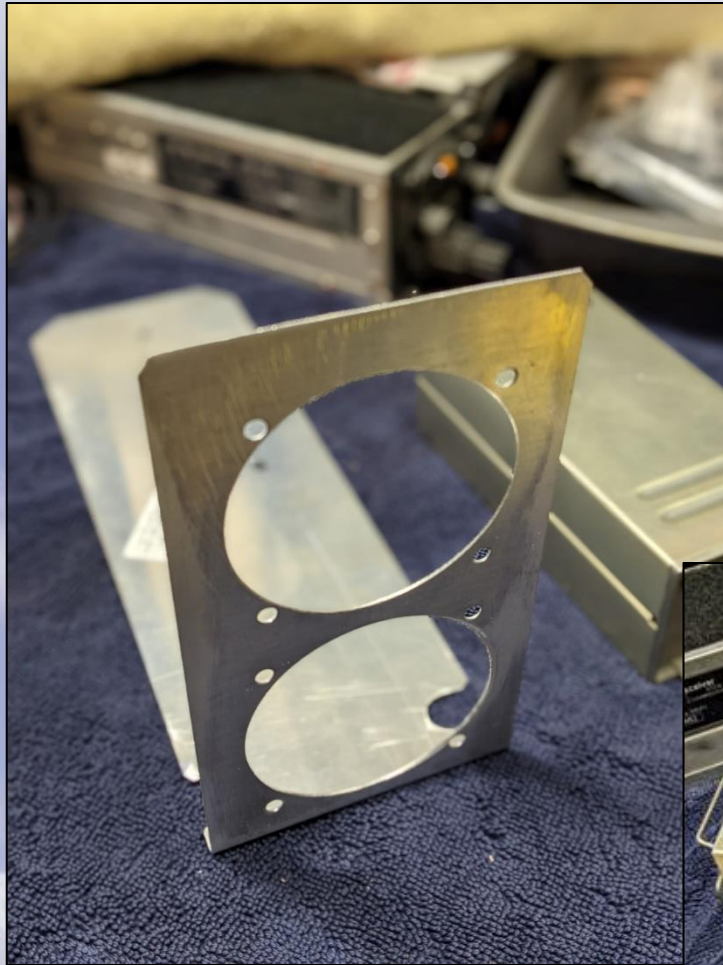


Trig TT22 Transponder and TC20 Control Head

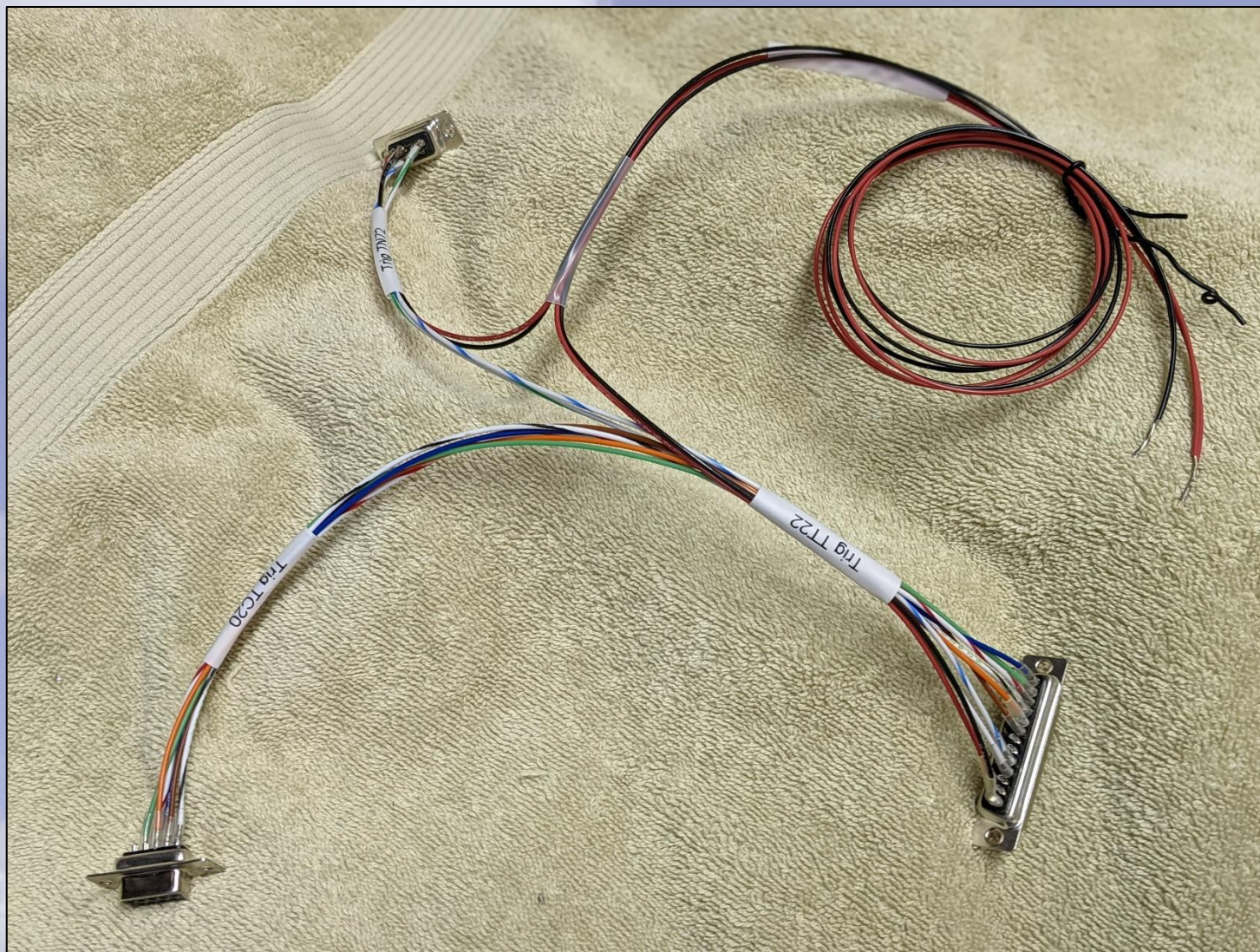
How to mount the Trig's pieces to the bottom of the crowded instrument panel?



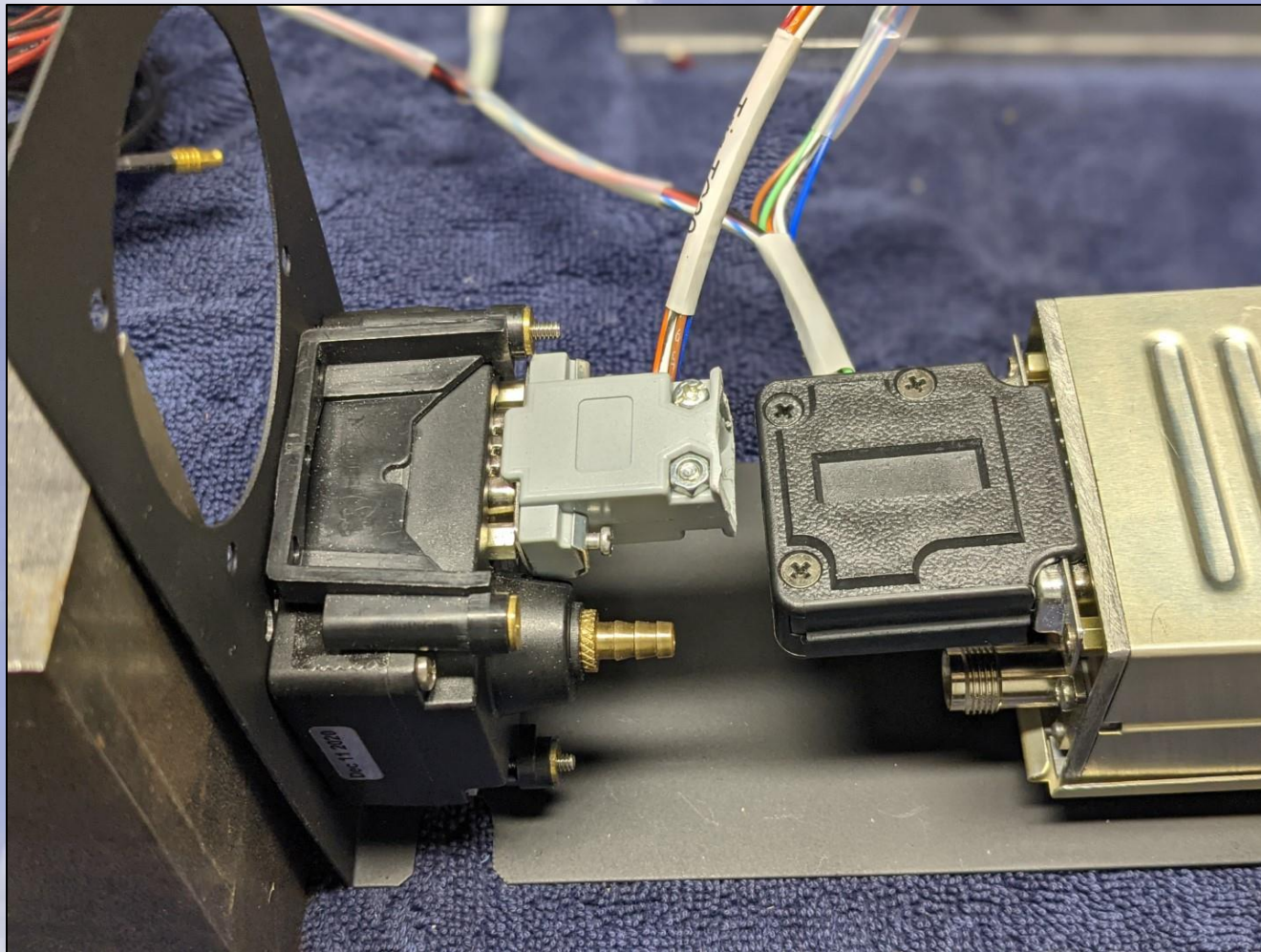
Trig ADS-B Equipment Installation



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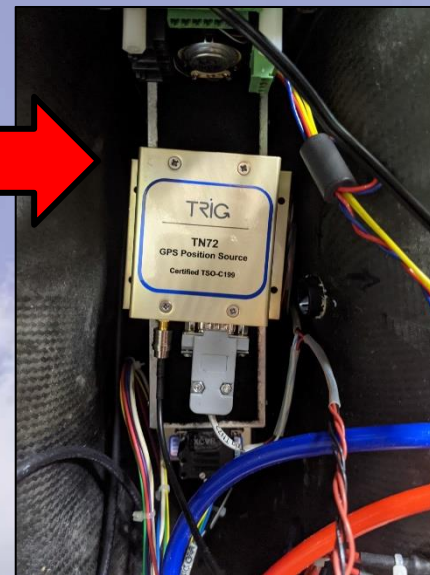
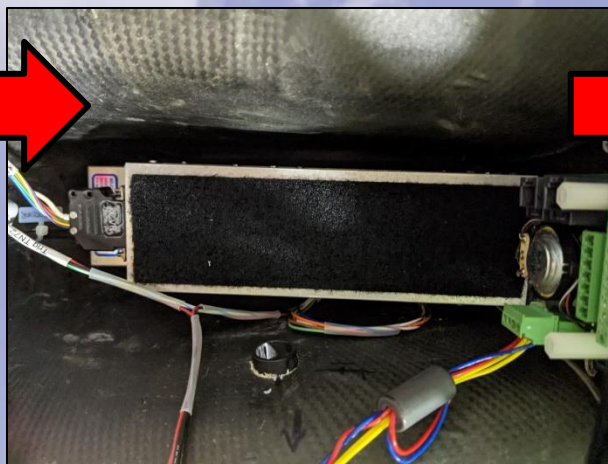
Problem #2

Where/How to mount the GPS Receiver?

Trig TN72 GPS Receiver



Dittel FSG 71M Transceiver



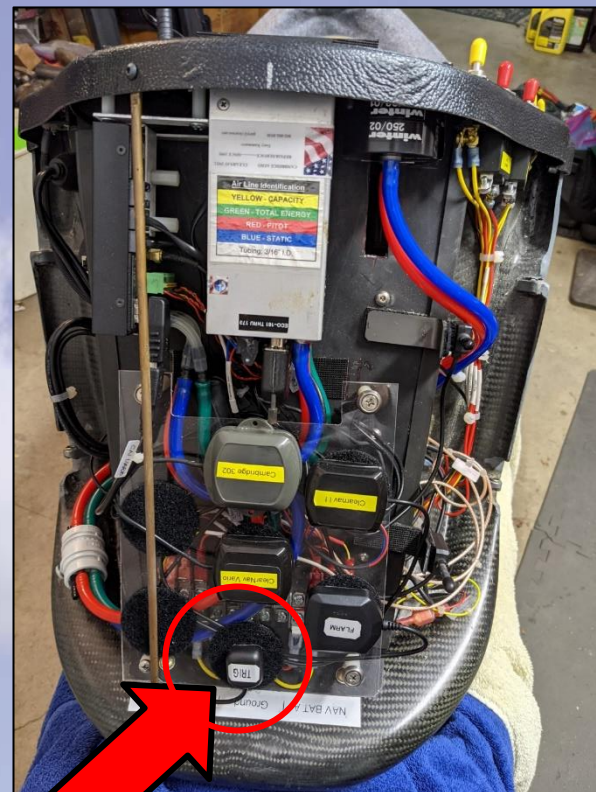
*The Velcro was used to hold
the ACK Altitude Encoder*

Trig ADS-B Equipment Installation

Problem #3

Where/How to mount the Trig TA50 GPS antenna?

Trig TA50 GPS Antenna



Antenna "Farm"

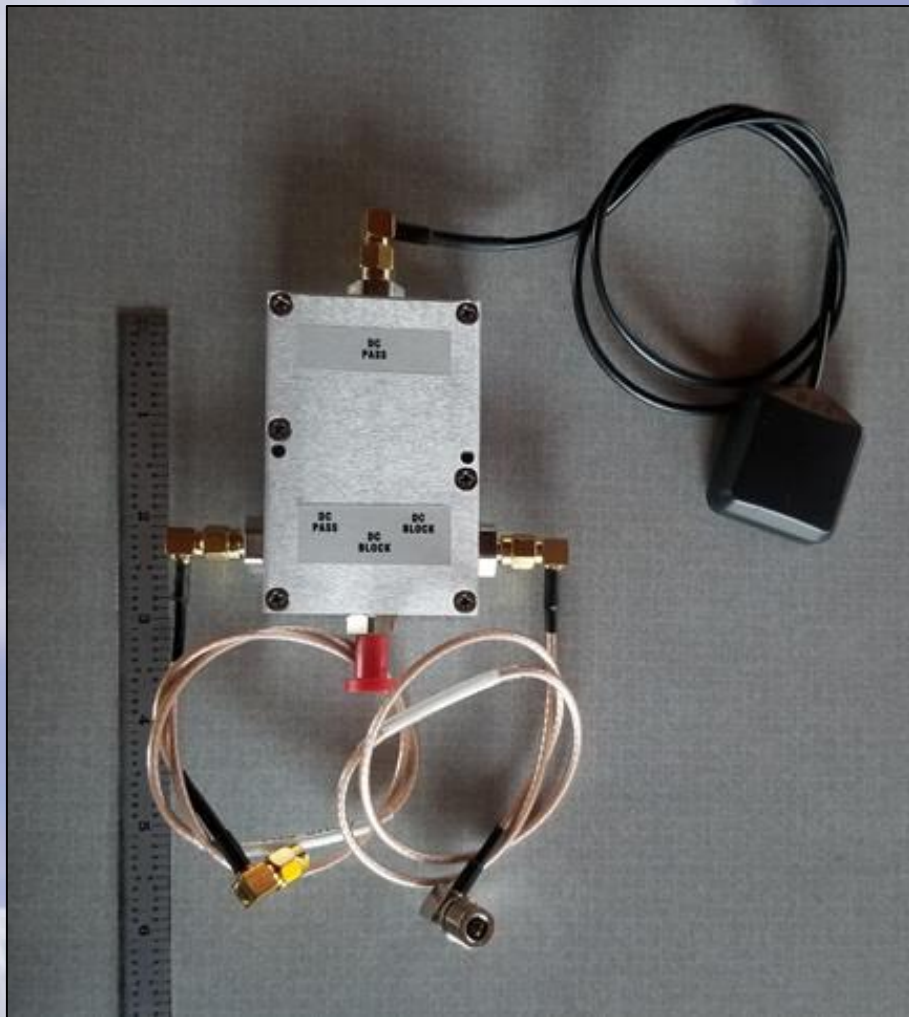
Trig ADS-B Equipment Installation

Antenna “Farm” Plastic Mounting Platform



Mounted onto an aluminum equipment mounting platform

Trig ADS-B Equipment Installation



GPS Signal “Combiner”

Combines signal from a single GPS antenna to 2 or 3 different navigation devices.

One device provides power to the combiner.

Source: <http://www.craggyaero.com/>

Transponder Antenna Location

Previous owner originally installed a rod type transponder antenna



Then later moved to a center fed L2 transponder antenna mounted inside the vertical stab's empty battery box



Trig ADS-B Installation

Q&A



<http://www.chicagolandglidercouncil.com/presentations>



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- Transceiver Troubleshooting
- Oxygen Systems
- Working with Glider Air Lines
- Trailer Wiring & LED Lights
- Pilot Relief Systems
- Battery Testing
- Emergency Location Devices
- Spar Alignment Tool
- L'Hotellier Fittings
- Carbon Fiber Panels
- IGC Filename Decoding
- Blanik L-23 Strut Work
- Landout Survival Kit
- Bailout Survival Kit
- Working with Glider Air Lines

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