

# COPITRAIL INSTALLATION MANUAL

FOR ALL SUPPORTED VEHICLES

BY

 **GAP INNOVATION**

INSTALLATION MANUAL, VERSION 1.2

**WARNING**

*For your safety and that of others, please read this manual before using CoPiTrail. Failure to follow instructions could result in serious consequences.*

**WARNING**

*CoPiTrail is a navigation unit with embedded dashboard. It is also possible to proceed with diagnostic tasks and analyze engine data.*

*Read this instruction manual carefully!*

## Disclaimers

Neither the distributors nor the manufacturer (GAP Innovation, Inc.) accept any responsibility or liability for damages incurred through use of CoPiTrail. This includes all damages to the vehicle itself, vehicle systems or property. This also includes injuries to the user or other persons. The warranty is limited to the functionality of the CoPiTrail unit itself (for further warranty details, please consult the last page of this document). This includes especially:

- Damages incurred through improper use of CoPiTrail
- Damages incurred through the use of CoPiTrail to change vehicle configuration and / or settings, etc.
- Damages incurred through clearing faults without effecting proper repairs
- Damages incurred through usage of any third party products delivered by the CoPiTrail (remap, etc.).

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Specifications are subject to change without prior notice.

## Suggestions

For convenience and even security purposes, it is suggested that the user keeps an updated version of this manual in PDF format on his or her mobile devices. Thus, accessibility to procedures will be possible anywhere and anytime. By the same token, the computerized version facilitate searching for a particular topic.

You can proceed to download the User's Manual and Installation Guide on the manufacturer's website :

<http://www.gapinnovation.com>

The manual and guide are updated regularly.

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# 1. Installing CoPiTrail on the vehicle

The CoPiTrail module, brackets and wiring harness are installed on the vehicle instrument panel.

## 1.1 Yamaha Sidewinder, Arctic Cat 9000, Thundercat (998cc Turbo)



**Figure 1.** CoPiTrail installed overview 998cc Turbo snowmobiles

### 1.1.1 Removing the instrument cluster

- 1- Remove both side panels and pull the hood forward a few inches.



**Figure 2.** Hood pulled forward 998cc Turbo snowmobiles

- 2- Remove the goggle bag or grill. The grill is removed by pulling towards the rear of the vehicle.
- 3- The cluster is held by tabs located on its rear housing. Insert your hand behind the cluster, press on two clips from one side and pull the cluster outwards with your other hand.



**Figure 3.** Instrument cluster removal 998cc Turbo snowmobiles

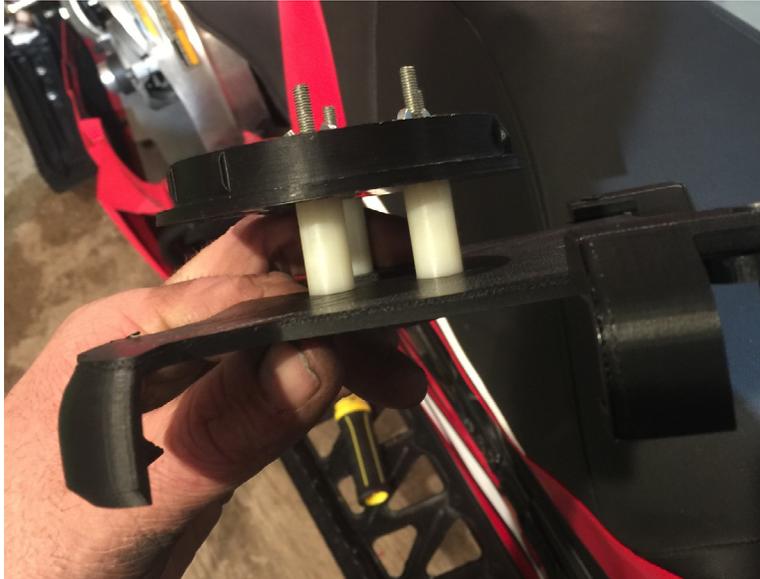


**Figure 4.** Instrument cluster locking tabs locations 998cc Turbo snowmobiles

- 4- Disconnect the instrument cluster wiring harness.

## 1.1.2 Installing the iPad support

**Note:** When using a windshield bag, spacers can be added to allow for easier access to the bag. In which case, the metal inserts shall be removed and replaced with screws.



**Figure 5.** Modifications when using a windsheild bag, 998cc Turbo snowmobiles

Simply place and push the iPad bracket assembly for proper fitting. Pull the heater pad wire towards the handle bar.



**Figure 6.** Installing the iPad support 998cc Turbo snowmobiles

Removal is achieved by pushing on the back of the round insert the same way the original instrument cluster is removed. **Do not pull on the iPad holder.**

### 1.1.3 Installing the wiring harness and module

- 1- The harness previously connected on the instrument cluster mates with the CoPiTrail wiring harness.



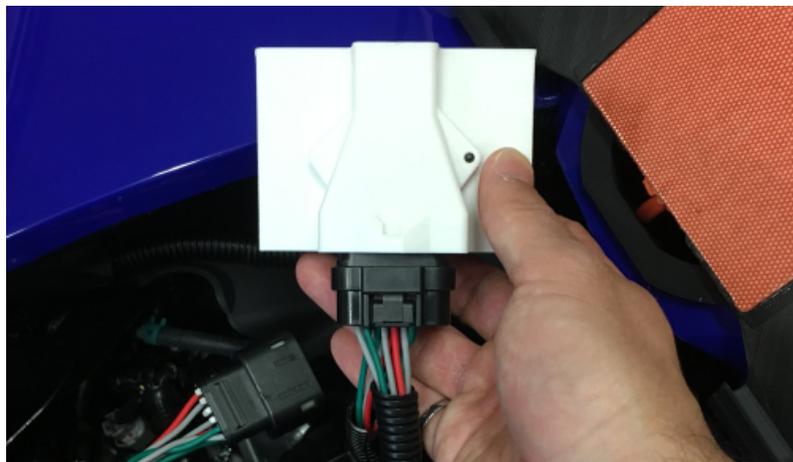
**Figure 7.** Connect CoPiTrail and instrument cluster harnesses 998cc Turbo snowmobiles

- 2- Connect the heating pad to the CoPiTrail harness.



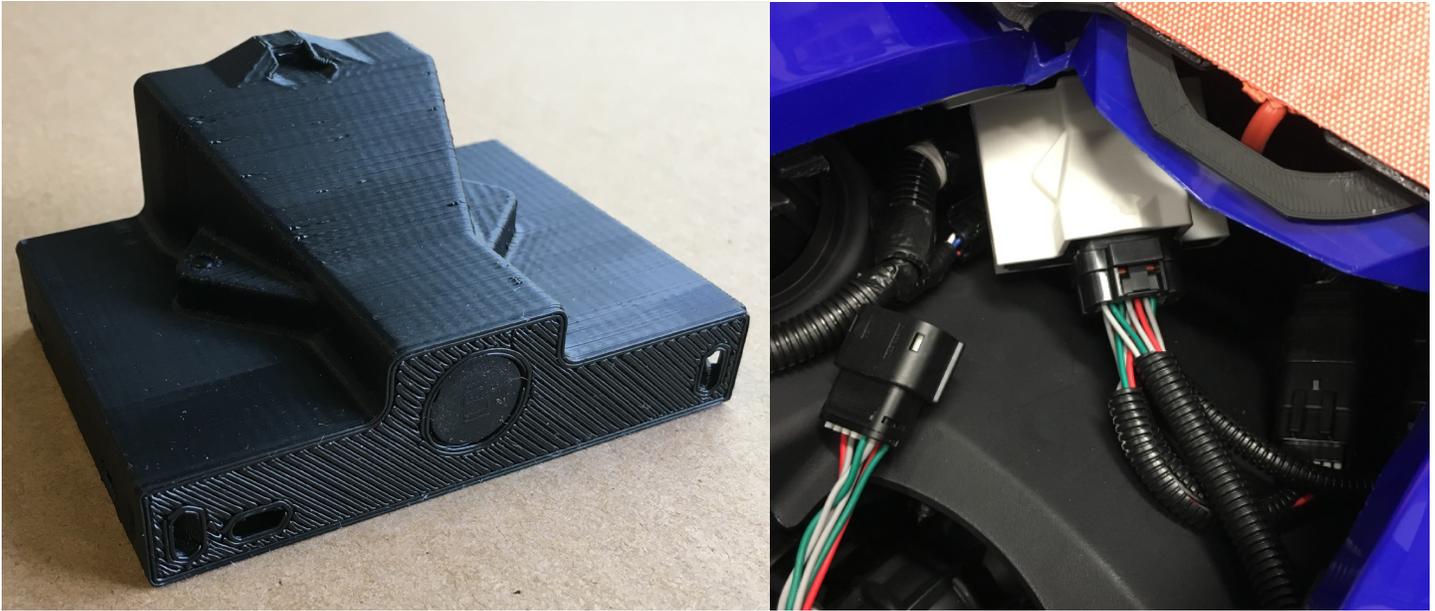
**Figure 8.** Connect the heating pad to the CoPiTrail harness 998cc Turbo snowmobiles

- 3- Connect the CoPiTrail module to its connector



**Figure 9.** Connect CoPiTrail module 998cc Turbo snowmobiles

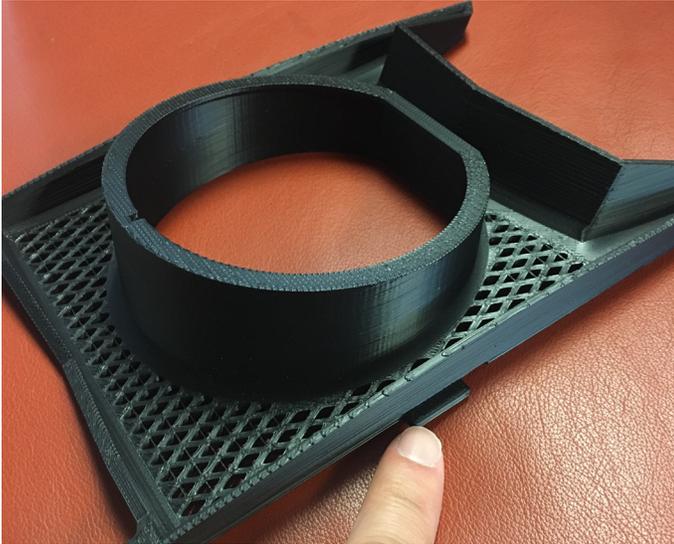
- 4- Secure the CoPiTrail module with nylon cable ties (tie wraps, zip ties). **The CoPiTrail module must be placed upwards to ensure good GPS reception.**



**Figure 10.** Secure the CoPiTrail module 998cc Turbo snowmobiles

### 1.1.4 Installing the instrument cluster relocating bracket

- 1- Locate the tabs, one per side, on the instrument panel on which the bracket will be held. The relocating bracket tabs (left picture) will be placed on top of the lower tabs of the instrument panel (right picture). The hood can be removed for better access if needed.



**Figure 11.** Relocating bracket tabs locations, 998cc Turbo snowmobiles



**Figure 12.** Instrument panel tabs locations, 998cc Turbo snowmobiles

- 2- Slide the bracket sideways and towards the rear of the vehicle.



**Figure 13.** Relocating bracket initial steps, 1, 998cc Turbo snowmobiles

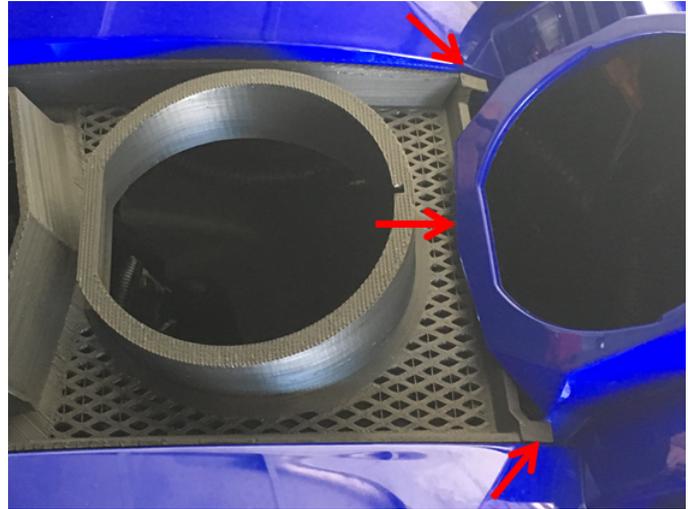


**Figure 14.** Relocating bracket initial steps, 2, 998cc Turbo snowmobiles

- 3- Place your finger below the lower tab of the panel (next figure) to locate it and slide the bracket forward making sure both side tabs (bracket) are placed on top of the lower tab (panel). Remove your hand and move the bracket forward until it reaches the original cluster support (red arrows).

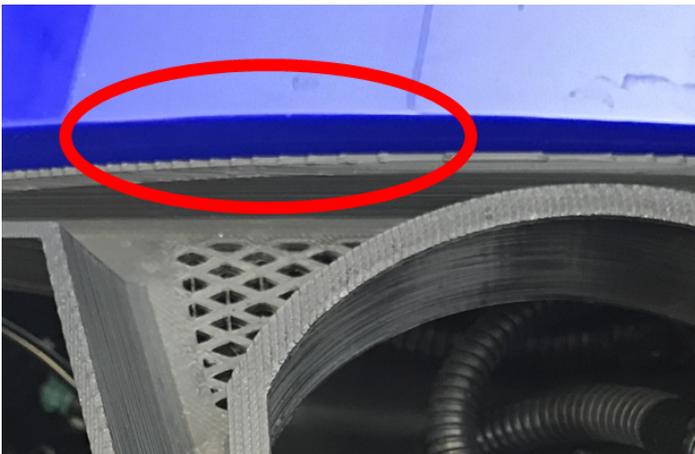


**Figure 15.** Relocating bracket positioning, 998cc Turbo snowmobiles

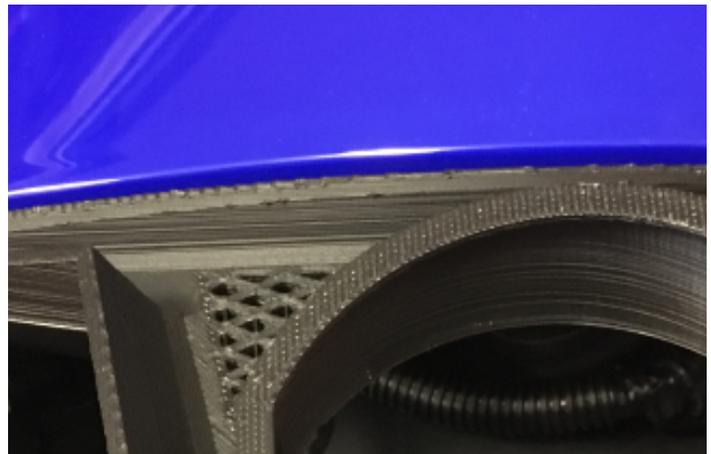


**Figure 16.** Relocating bracket final position, 998cc Turbo snowmobiles

Notice the space between the top of the bracket and panel. The photo on the left shows a correct installation while the one on the right is incorrect.

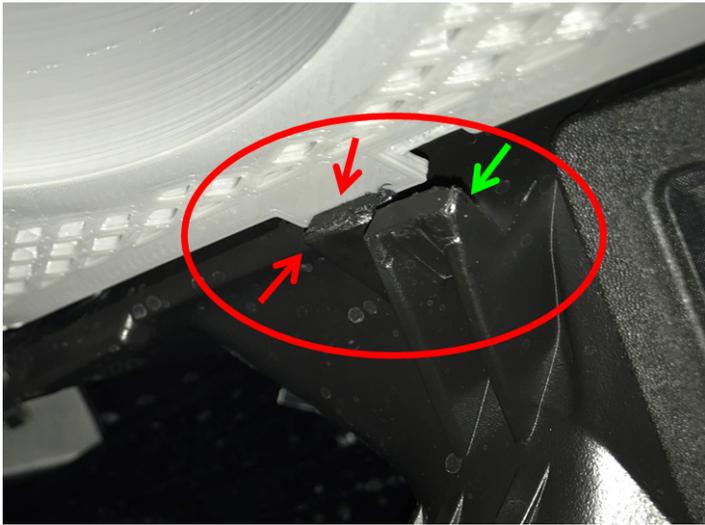


**Figure 17.** Relocating bracket correct position, 998cc Turbo snowmobiles

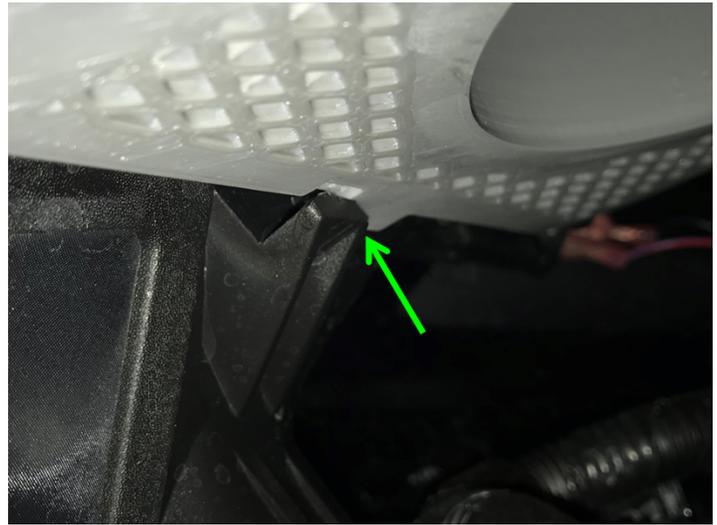


**Figure 18.** Relocation bracket incorrect position, 998cc Turbo snowmobiles

**Notes:** Usage of a phone to take a picture is quite helpful to determine if proper installation was performed as per the following figures. Mechanical differences between machines may affect the spacings. The bracket used for the following 2 figures is grey for better visibility.



**Figure 19.** Relocating bracket incorrect position, 998cc Turbo snowmobiles



**Figure 20.** Relocating bracket correct position, 998cc Turbo snowmobiles

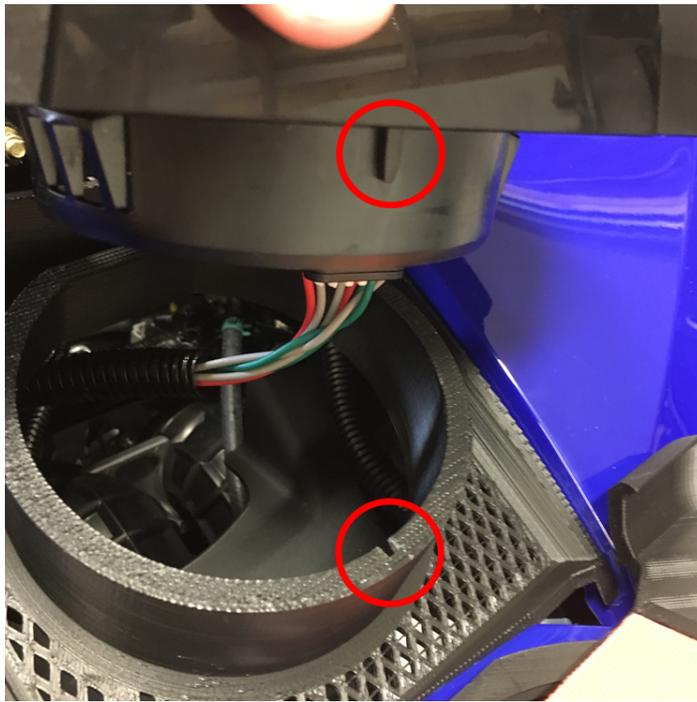
### 1.1.5 Installing the original instrument cluster

- 1- Locate the remaining connector from the wiring harness and connect it to the instrument cluster.



**Figure 21.** Instrument pack connection to the CoPiTrail Harness, 998cc Turbo snowmobiles

- 2- Insert the instrument cluster into the relocating bracket. Be sure to align the tab and the notch (red circles).



**Figure 22.** Instrument cluster installation, 998cc Turbo snowmobiles

Removal is achieved by gently pulling on both sides of the instrument cluster.

### **1.1.6 Finalizing**

Push the hood back into position and install side panels. Make sure that no wires or others come in contact with the steering post or down into the hole in front of it

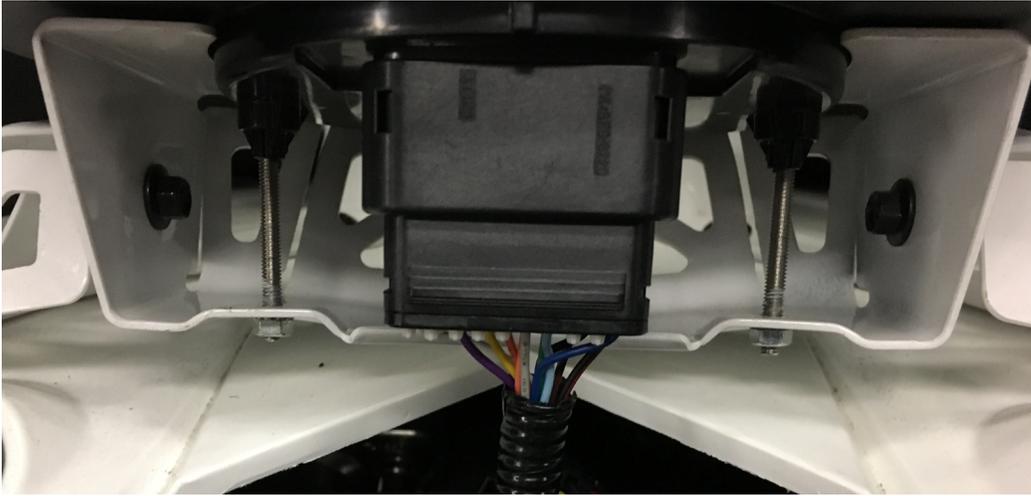
## 1.2 Arctic Cat fitted with the 1100cc Suzuki Turbo and non-Turbo engine (2012+)



**Figure 23.** CoPiTrail installed overview 1100cc Arctic Cat snowmobiles

### 1.2.1 Removing the instrument cluster

- 1- Unscrew the instrument cluster. Access to the bolts is easier with the windshield removed and the instrument cluster turned towards the front of the snowmobile.



**Figure 24.** Instrument cluster removal, 1100cc Arctic Cat snowmobiles

- 2- Disconnect the wiring harness from the instrument cluster and connect the supplied CoPiTrail harness.



**Figure 25.** Connecting the CoPiTrail harness to the instrument cluster harness, 1100cc Arctic Cat snowmobiles

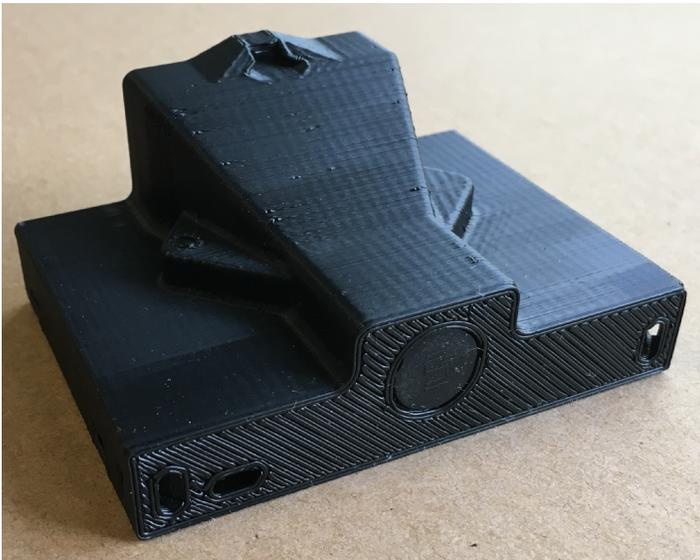
## 1.2.2 Installing the CoPiTrail module

- 1- Connect the wiring harness to the CoPiTrail module.



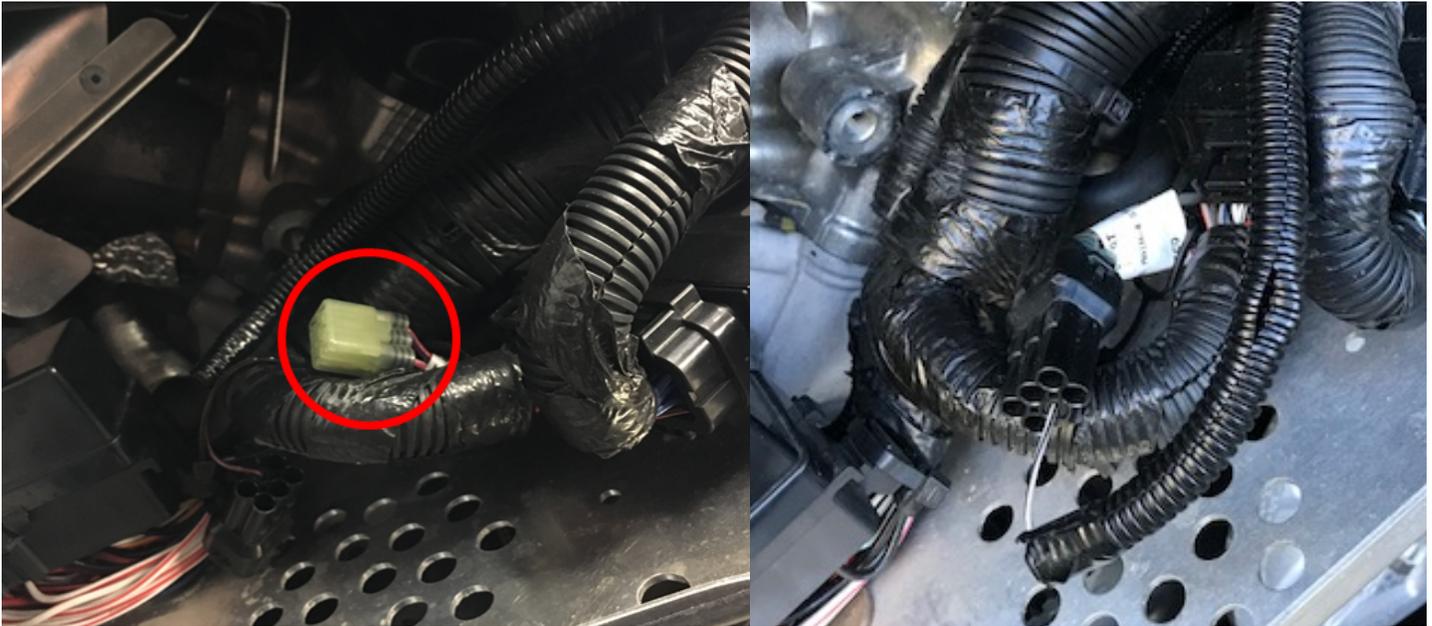
**Figure 26.** Connect the CoPiTrail module, 1100cc Arctic Cat snowmobiles

- 2- Fix the CoPiTrail module on the instrument panel, close to the headlamps. Ensure there's sufficient clearance for the original cluster relocation bracket to be installed. **The CoPiTrail module must be placed upwards to ensure good GPS reception.**



**Figure 27.** Fix the CoPiTrail module, 1100cc Arctic Cat snowmobiles

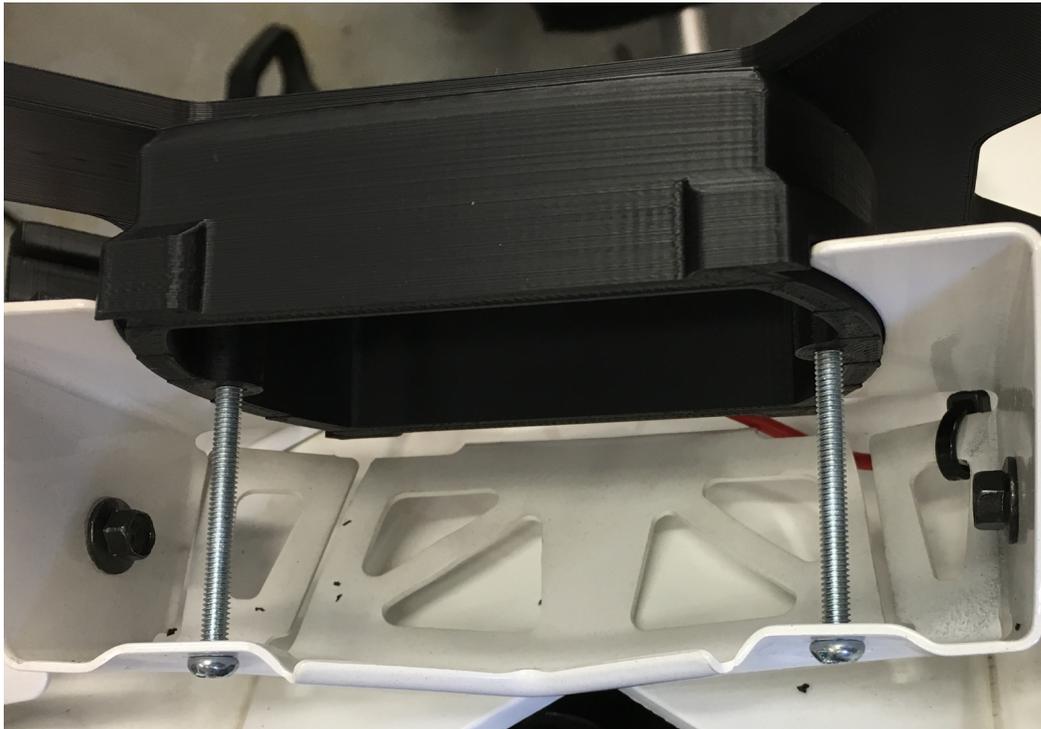
- 3- Route the six way black connector down to the diagnostic connector located on the clutch guard. Avoid routing close to the turbocharger, muffler, headers or moving parts. Secure with zip ties.



**Figure 28.** Diagnostic port connection, 1100cc Arctic Cat snowmobiles

### 1.2.3 Installing the iPad cradle

- 1- Using the supplied screws, install the iPad cradle at the original instrument cluster location. **Do not overtighten the screws.** (only base shown here for clarity)



**Figure 29.** iPad cradle installation, 1100cc Arctic Cat snowmobiles

- 2- Connect the heating pad to the CoPiTrail harness.



**Figure 30.** Heating pad connection, 1100cc Arctic Cat snowmobiles

### 1.2.4 Installing the optional AEM Wide band O2 sensor

- 1- Install the wide band sensor on the exhaust bong
- 2- Route the sensor harness into the instrument panel. Avoid routing close to the turbocharger, muffler, headers or moving parts. Secure with zip ties.
- 3- Connect the sensor module to the CoPiTrail harness.
- 4- Connect the AEM module to the CoPiTrail harness as follows:
  - Before inserting the terminals, unplug the CoPiTrail connector by pushing on the large white lock.

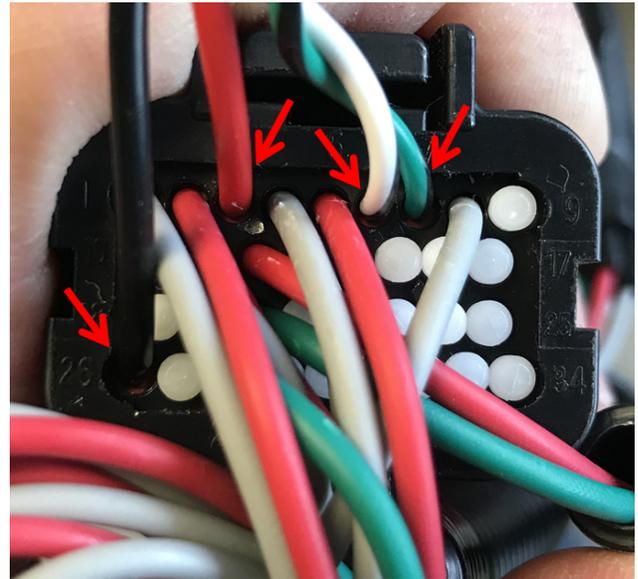
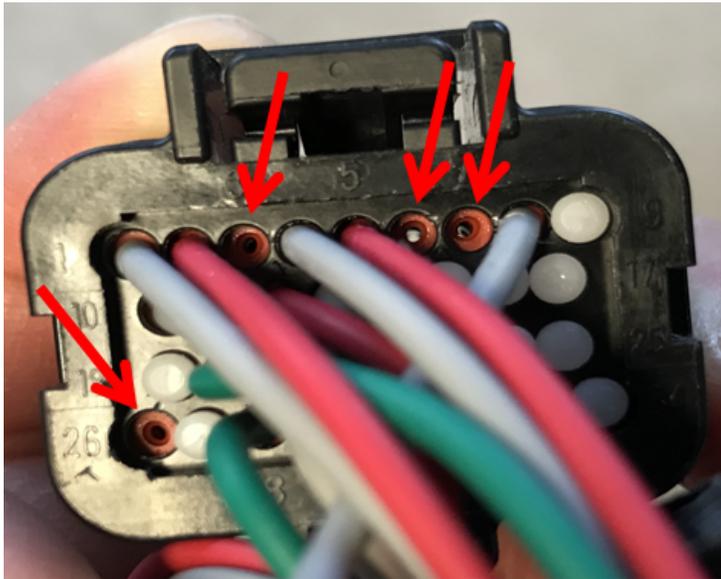


**Figure 31.** Locked connector



**Figure 32.** Unlocked connector

- Remove the seals for pins 3, 6, 7 and 26



**Figure 33.** Wire positions on CoPiTrail connector for AEM, 1100cc Arctic Cat snowmobiles

- Insert the AEM wires as so:

Wire colour	Pin number
Red	3 (12V)
Black	26 (Ground)
White Black	6 (CAN H)
Green Black	7 (CAN L)

Make sure the terminals are completely pushed in and lock the connector as per step 4. If the lock does not engage, terminals are not pushed in enough.

- 5- Secure the sensor module using zip ties and cables.

## 1.2.5 installing the relocating bracket and instrument cluster

- 1- Install the instrument cluster on the relocating bracket using the original nuts.



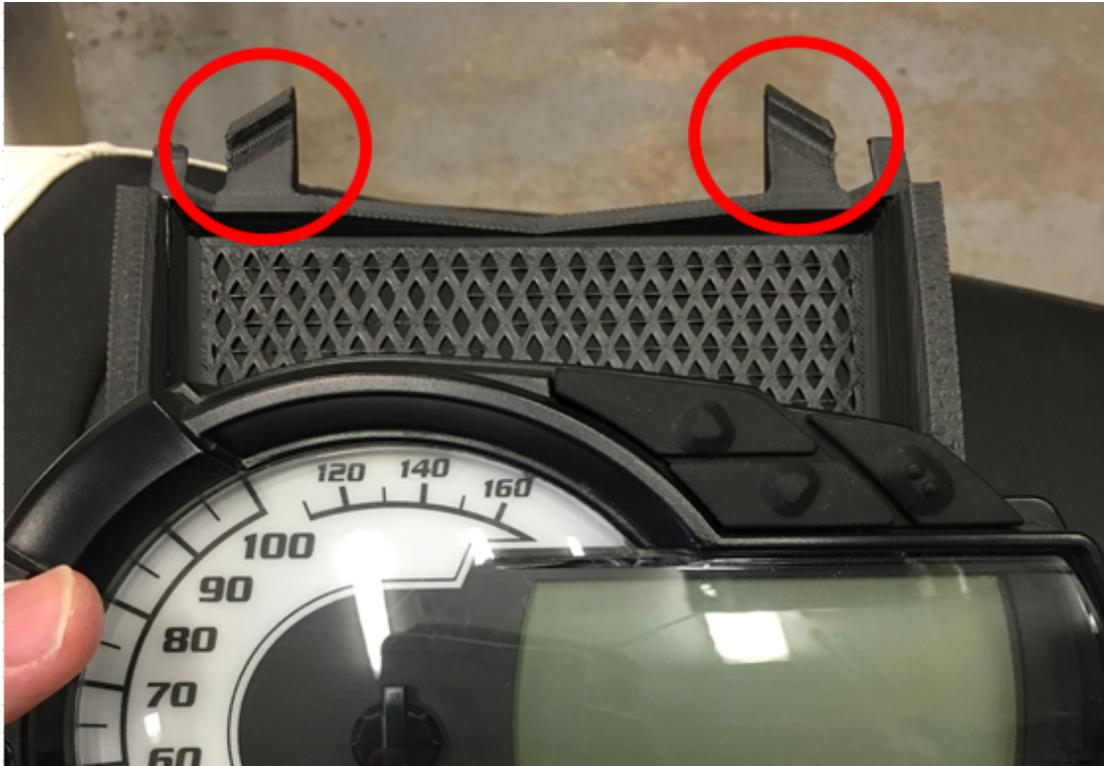
**Figure 34.** Instrument cluster installed on relocating bracket, 1100cc Arctic Cat snowmobiles

- 2- Connect the instrument cluster to the CoPiTrail wiring harness.
- 3- Insert the relocating cluster bracket assembly (instrument pack is removed for clarity). Gently pry on one of the holder sides and slide the assembly downwards. **Do not pry the sides too much.**

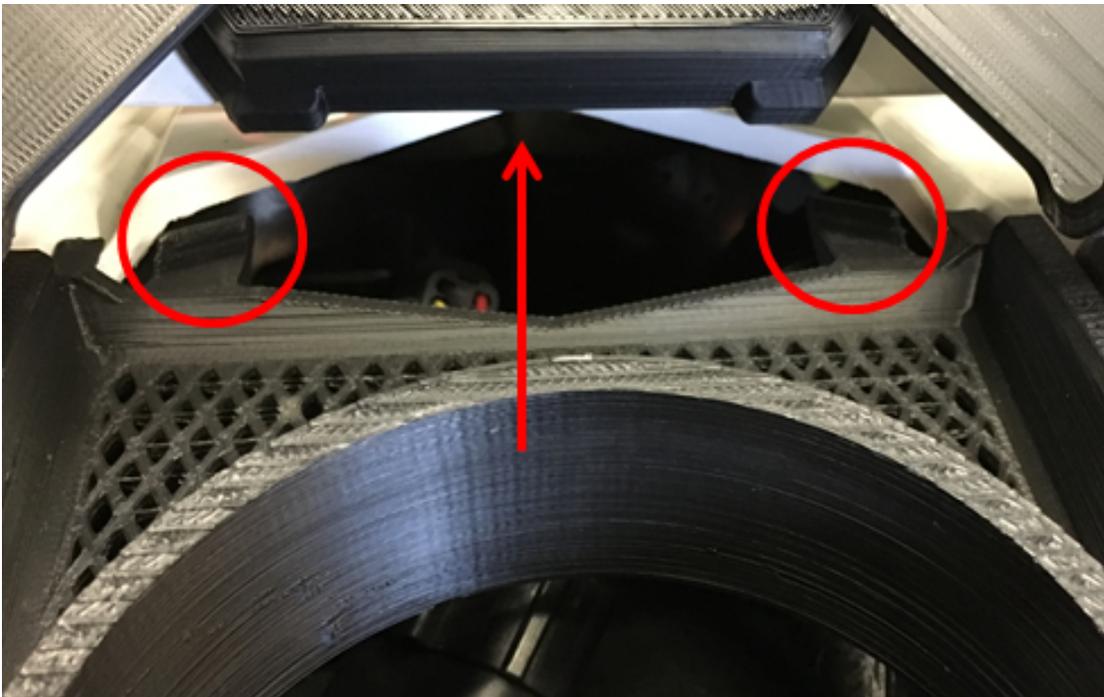


**Figure 35.** Relocating bracket installations, 1100cc Arctic Cat snowmobiles  
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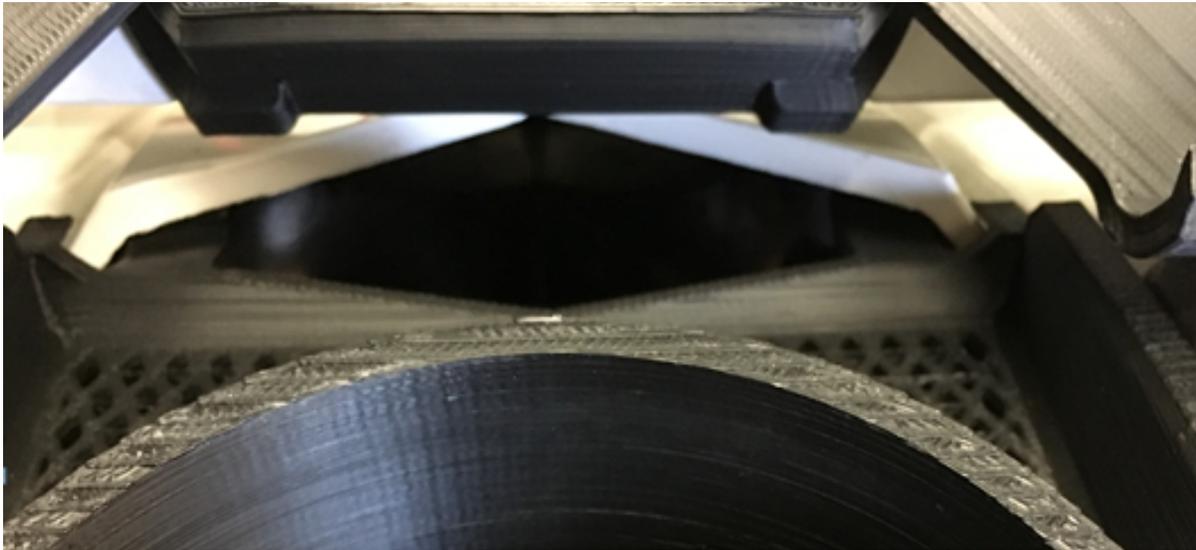
4- Slide the assembly forwards until the locking tabs are into place.



**Figure 36.** Relocating bracket locking tabs, 1100cc Arctic Cat snowmobiles



**Figure 37.** Relocating bracket locking tabs direction, 1100cc Arctic Cat snowmobiles



**Figure 38.** Relocating bracket locking tabs locked, 1100cc Arctic Cat snowmobiles

### 1.2.6 Finalizing

Install side panels. Make sure that no wires or others come in contact with the steering post or down into the hole in front of it.

## 1.3 Can Am Maverick

### 1.3.1 iPad Support

iPad support is available from BRP, part number: 715002874



**Figure 39.** iPad Mini 4 support for Can Am Maverick

### 1.3.2 Connecting the CoPiTrail harness

- 1- Open the fusebox cover



**Figure 40.** Fuseholder location, Can Am Maverick

- 2- Insert the CoPiTrail cable like so:



**Figure 41.** CoPiTrail Harness, fuseholder location, Can Am Maverick

- 3- Locate the diagnostic connector inside the glove compartment



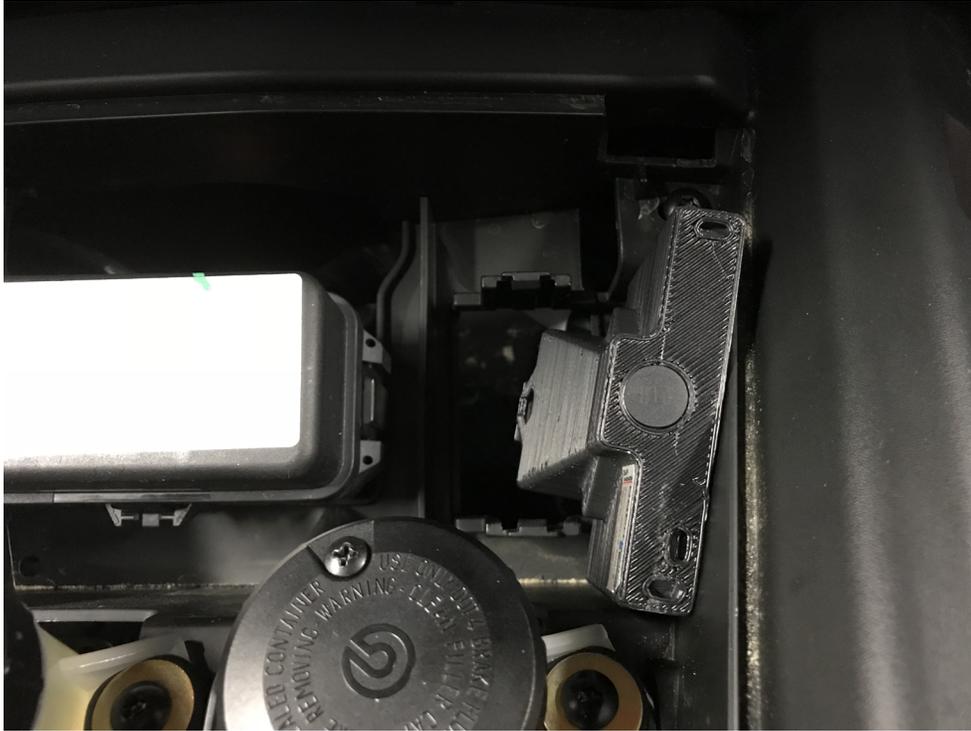
**Figure 42.** Diagnostic connector, Can Am Maverick

- 4- Route de cable towards the glove box. Disconnect the diagnostic connector from its cover and connect the CoPiTrail harness



**Figure 43.** CoPiTrail harness connected to the diagnostic port, Can Am Maverick

- 5- Connect the CoPiTrail module and fix it to the fuse compartment using the supplied velcro.

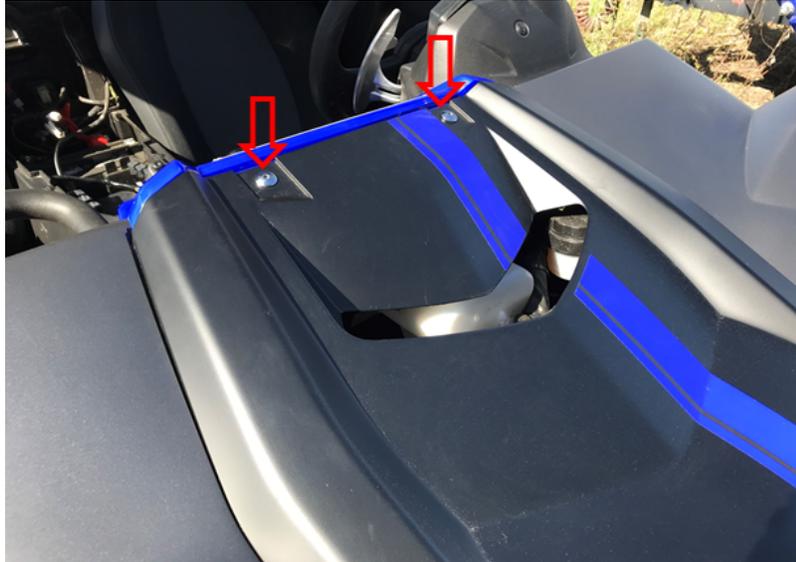


**Figure 44.** CoPiTrail module installation, Can Am Maverick

## 1.4 Yamaha YXZ 1000

### 1.4.1 Console disassembly

- 1- Remove top panel screws using a 5/32 Hex key.



**Figure 45.** Top panel screw removal, YXZ

- 2- Slide the top panel towards the rear of the vehicle and lift it up for removal.



**Figure 46.** Top panel removal, YXZ

- 3- Remove top panel screws using a 10mm box spanner



**Figure 47.** Centre console cover screw removal, YXZ

- 4- Open the battery and fuse box cover by pulling on it. Remove the clip shown by the arrow.



**Figure 48.** Centre console cover clip removal, YXZ

5- Lift and remove the centre console cover.



**Figure 49.** Centre console cover lift and removal, YXZ

6- Remove the left side console screw.

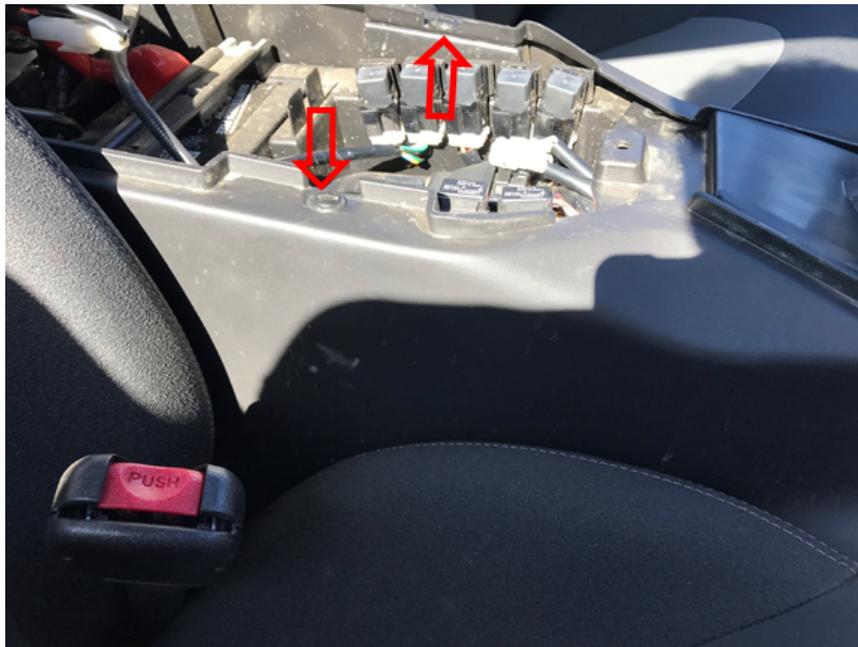


**Figure 50.** Side console screw removal, YXZ

7- Remove the side consoles clips and remove left side console



**Figure 51.** Side consoles clips 1, YXZ



**Figure 52.** Side consoles clips 2, YXZ

8- Remove the left side console.

## 1.4.2 Ignition Cable installation

- 1- Locate the unused accessory connector found under the hood, centre right. Wires are yellow and black.



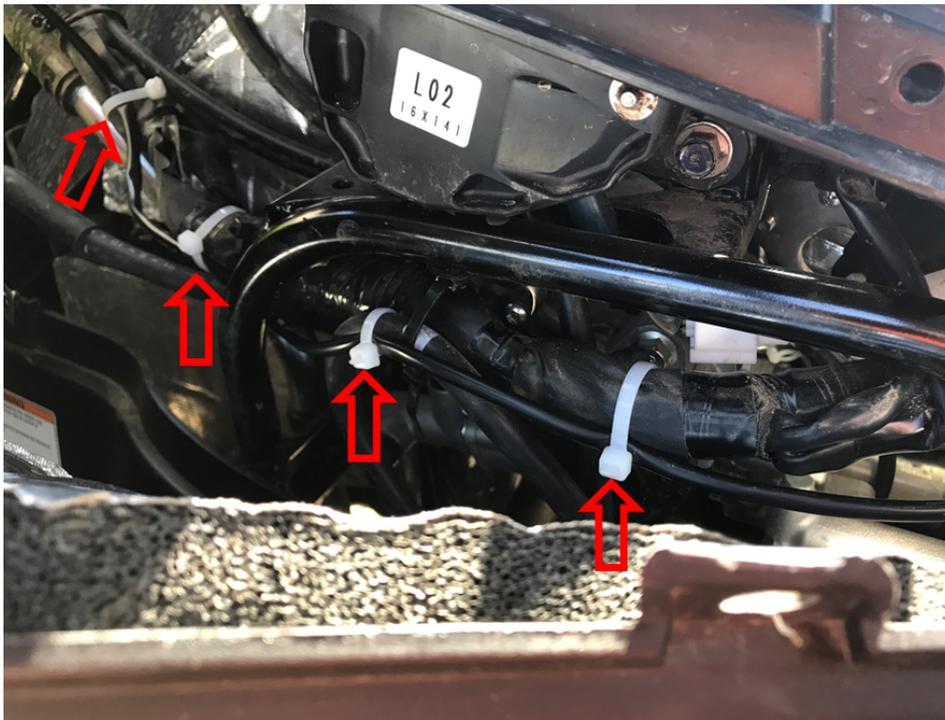
Figure 53. Accessory connector location, YXZ

- 2- Remove the protective cover, connect the ignition cable and route the cable towards the cabin (red arrow) by following the main vehicle harness.



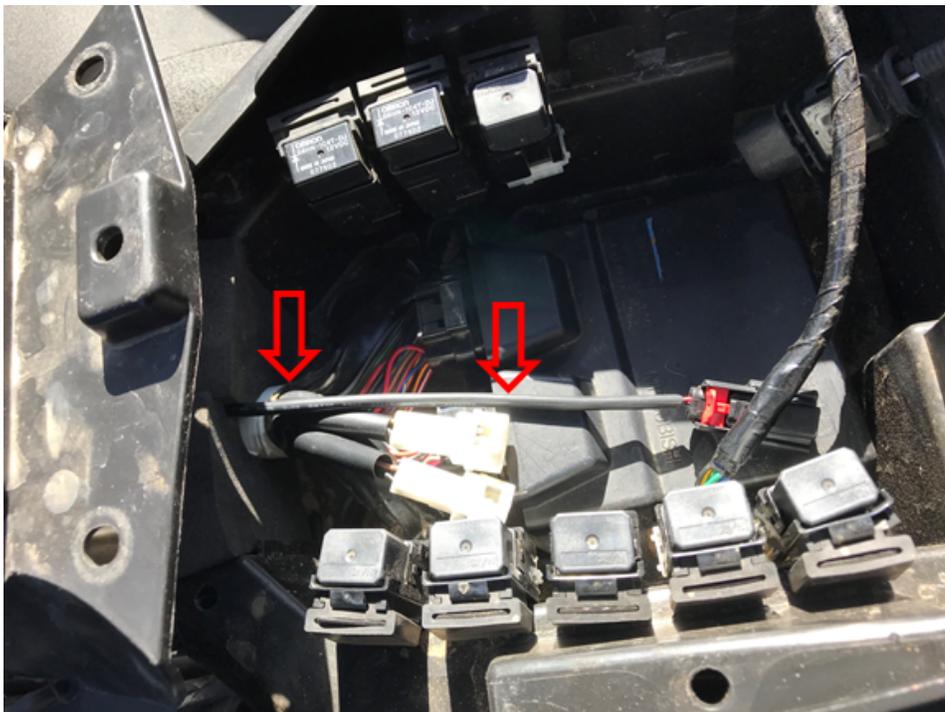
Figure 54. Ignition cable connection at the accessory connector, YXZ

3- Route the cable towards the battery



**Figure 55.** Ignition cable routing 1, YXZ

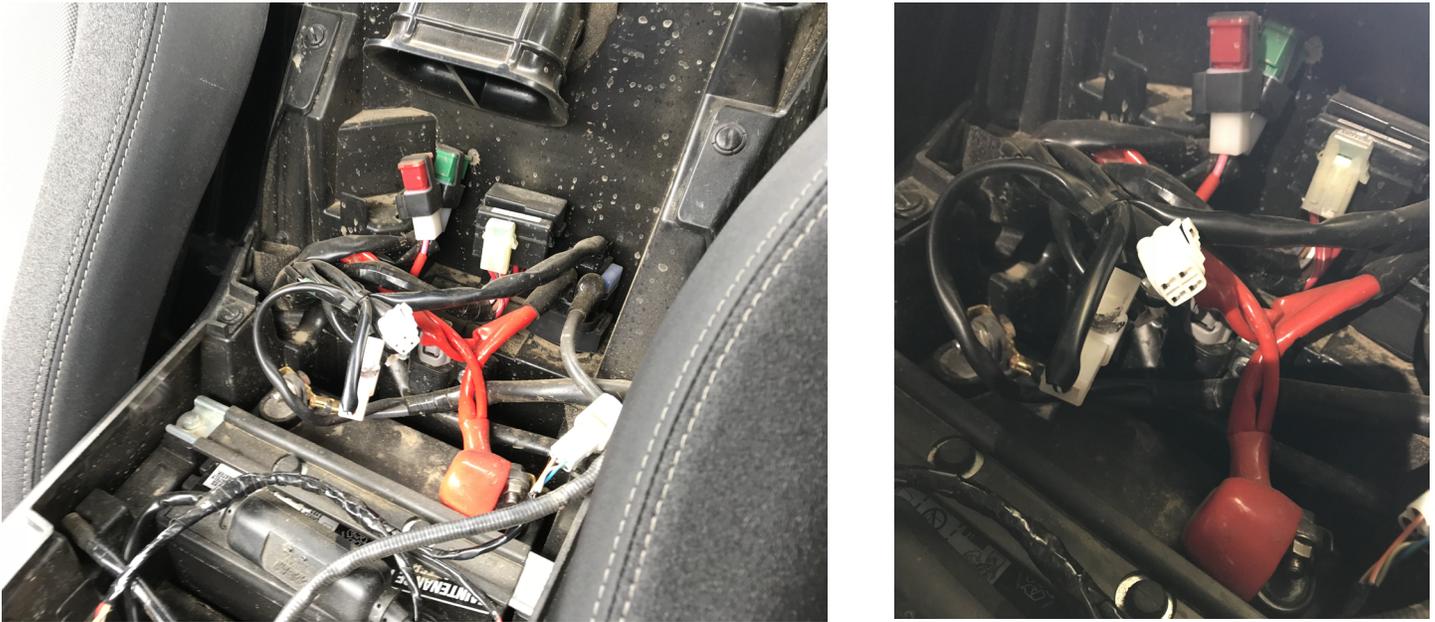
4- Lift the remaining console to allow the connector to enter the battery compartment.



**Figure 56.** Ignition cable routing 2, YXZ

### 1.4.3 CoPiTrail module installation

- 1- Locate the diagnostic port and remove its protective cover.



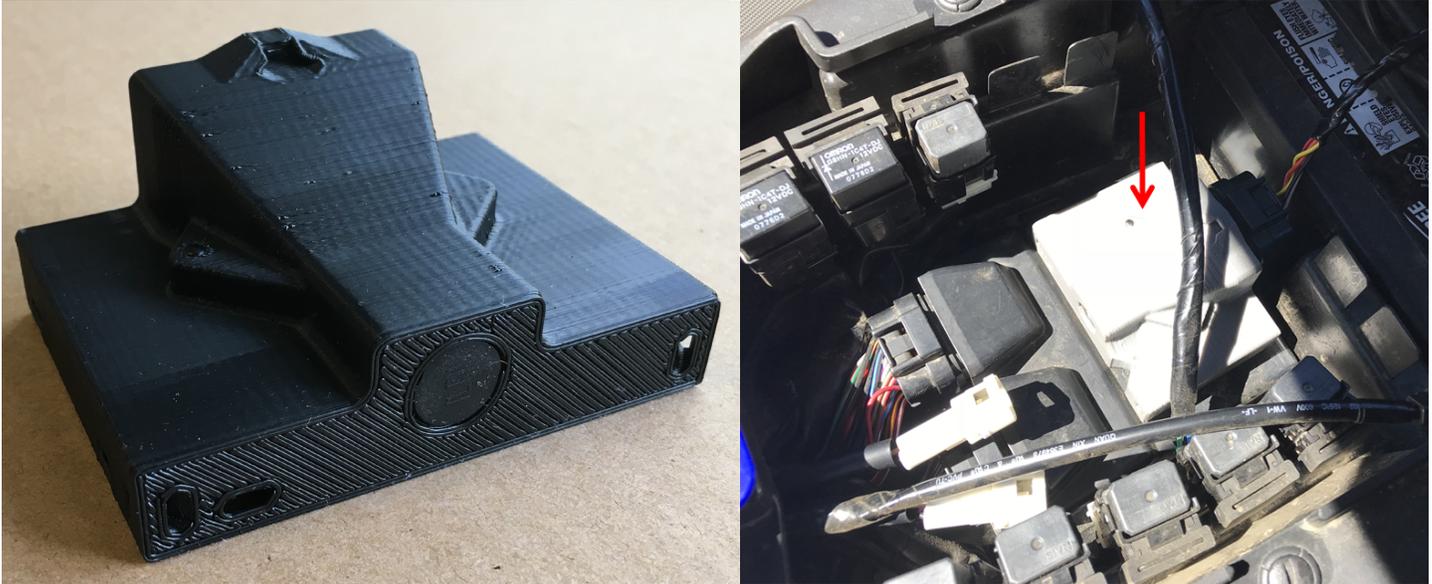
**Figure 57.** Diagnostic port location, , YXZ

- 2- Connect the CoPiTrail harness to the diagnostic port and to the ignition cable.



**Figure 58.** Connections to CoPiTrail main harness, YXZ

- 3- Fix the CoPiTrail using the provided velcro to the desired location. **The CoPiTrail module must be placed upwards to ensure good GPS reception.**



**Figure 59.** CoPiTrail module installed on top of the engine ECU in this example, YXZ

## 1.4.4 Bracket and iPad support installation



**Figure 60.** Bracket installation, YXZ

- 1- Place and centre the bracket and push on it so that the bottom section locks into place.



**Figure 61.** Bracket positioning, YXZ

2- Install the supplied screws. Do not overtighten.



**Figure 62.** Bracket fixation with supplied screws, YXZ

3- Reinstall the side and top consoles in the reverse order.

4- Install the iPad support



**Figure 63.** iPad support installation with supplied screws, YXZ

## 2 Installing accessories

### 2.1 Installing the optional AEM Wide band O<sub>2</sub> sensor



#### **WARNING**

*Frequent usage of the Anti-Lag function with a Wide band O<sub>2</sub> sensor connected may damage the sensor. This sensor is not warranted.*

*Neither GAP Innovation nor the tuner shall be held responsible for damages incurred while using the CoPiTrail.*

#### **Preparation**

Having installed the O<sub>2</sub> sensor bong on the exhaust path.

#### **2.1.1 For Arctic Cat fitted with the 1100 Suzuki Turbo and non-Turbo engine (2012 and up)**

Please refer to [section 1.2.4](#).

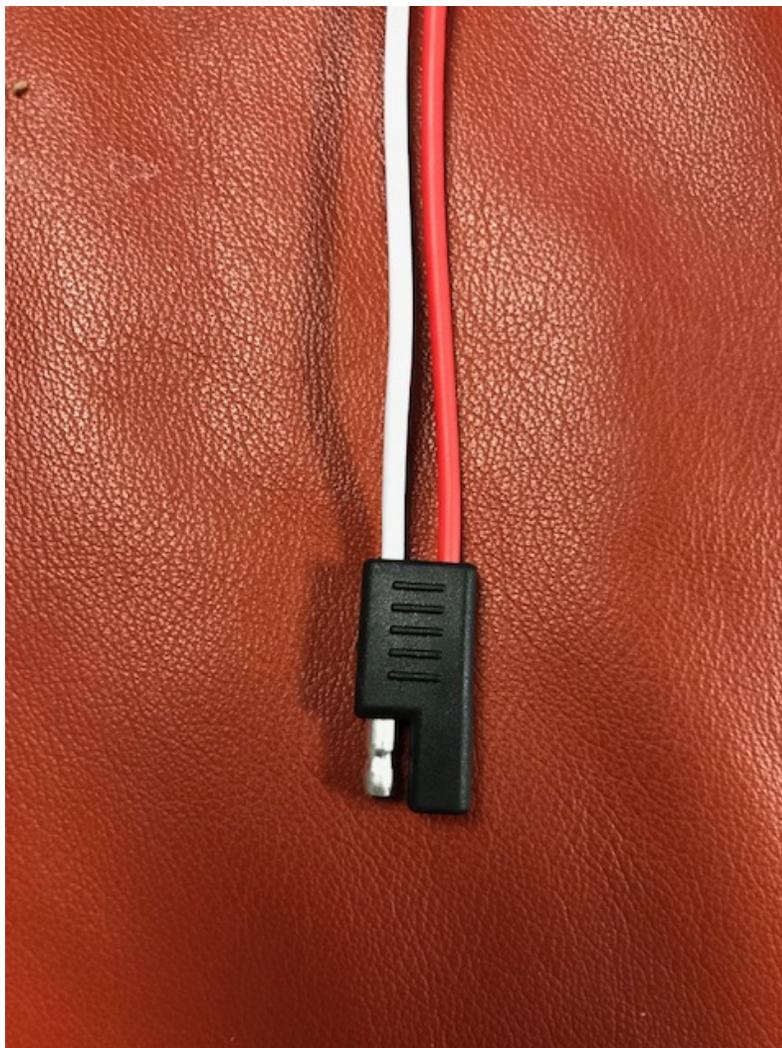
#### **2.1.2 For Arctic Cat 9000 series including Thundercat and Yamaha Sidewinder (998cc Turbo) 2017 and up.**

- 1- Remove both side panels and the hood.
- 2- Locate the black diagnostic connector besides the chain case and remove its cover.



**Figure 64.** Diagnostic port, AEM installation, 998cc Arctic Cat snowmobiles

- 3- Locate the accessory connector at the same location and remove its cover (2 way trailer type connector).



**Figure 65.** Accessory connector, AEM installation, 998cc Arctic Cat snowmobiles

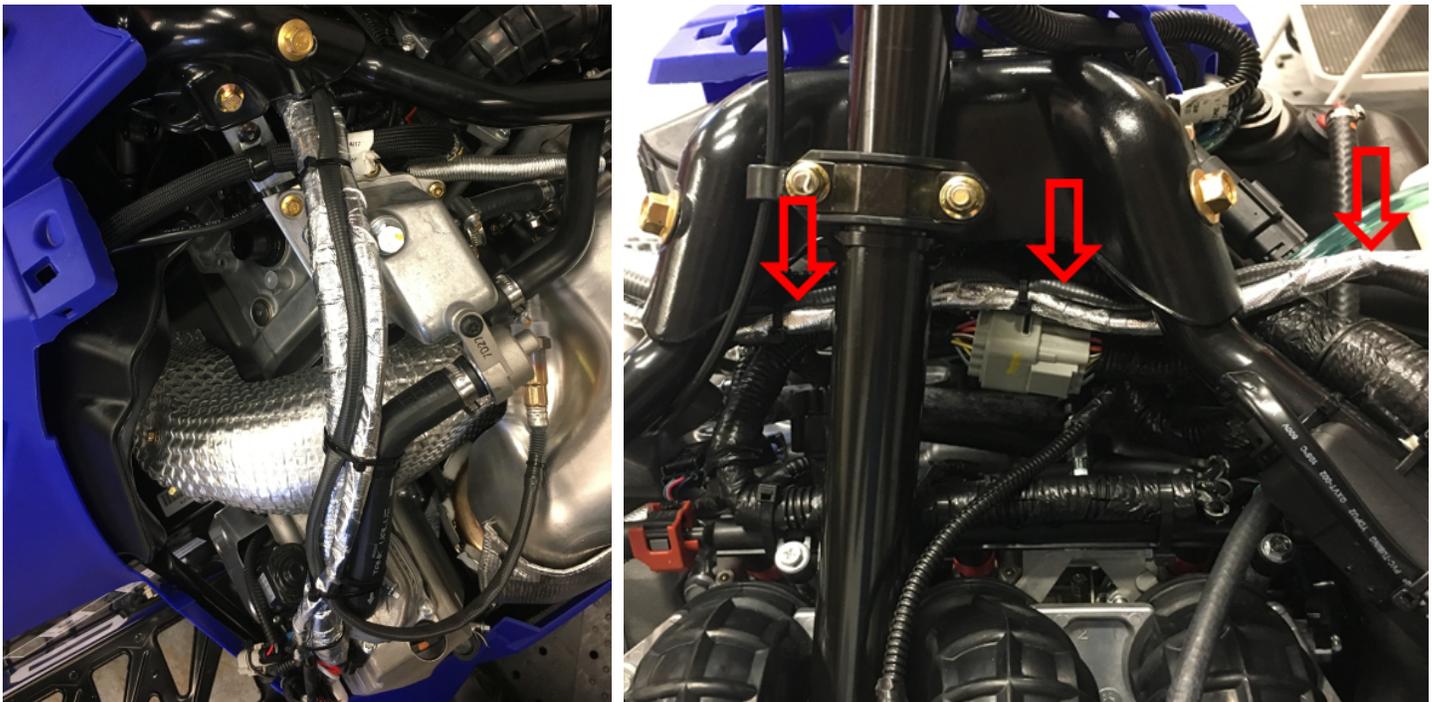
**Note:** *Splitter for the accessory connection (power and ground) are available. Total current consumption should be considered when connecting multiple accessories on this connector.*

- 4- Connect both AEM connectors on the accessory and diagnostic connectors.



**Figure 66.** Connecting the AEM harness, 998cc Arctic Cat snowmobiles

- 5- Route all wires towards the top of the engine bay. Avoid routing close to the turbocharger, muffler or headers. Secure wires using zip ties.



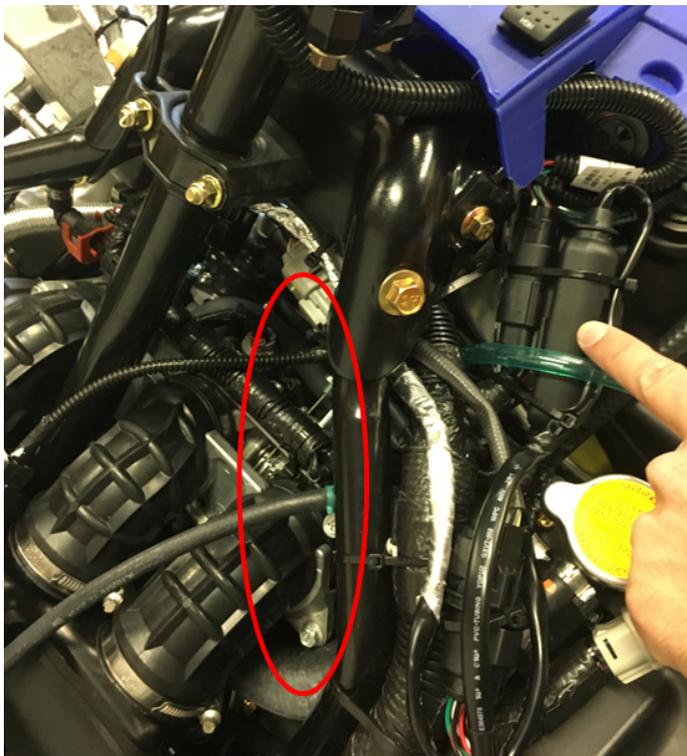
**Figure 67.** Routing the AEM wires, 998cc Arctic Cat snowmobiles

- 6- Connect the sensor connector to the AEM O<sub>2</sub> Wide band module



**Figure 68.** Connecting the sensor on AEM module, 998cc Arctic Cat snowmobiles

- 7- Find a good location for the module and secure it using zip ties. Avoid the area in red since the hood will not close properly.



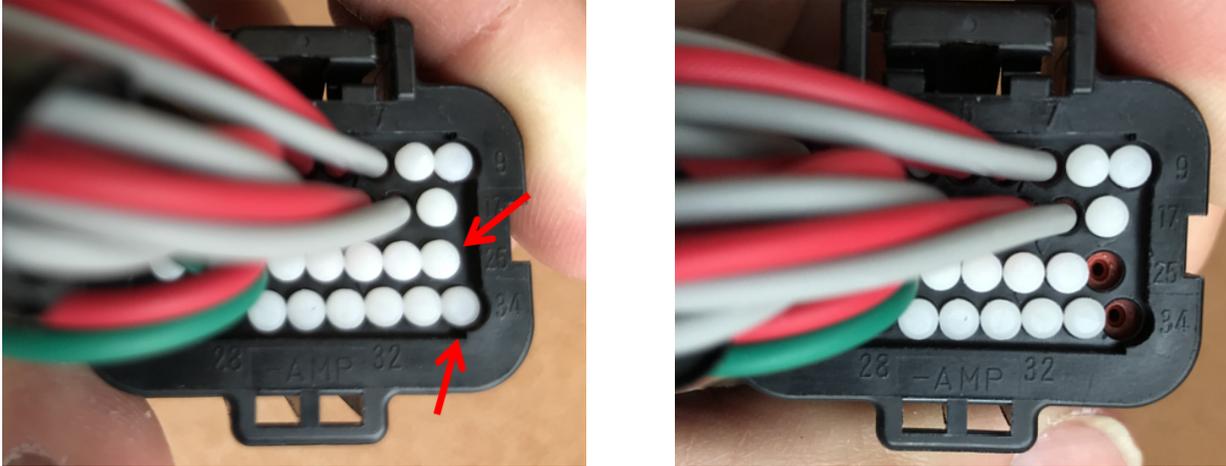
**Figure 69.** Fixing the AEM module, 998cc Arctic Cat snowmobiles

- 8- Install the hood and side panels. Make sure they fit properly and that the AEM module is not interfering.

## 2.2 Installing the optional button

### 2.2.1 Connections to the CoPiTrail connector

- 1- Locate positions 25 and 34 of the CoPiTrail connectors and remove the seals



**Figure 70.** Positions 25 and 34 of the CoPiTrail connector

- 2- Unlock the connector

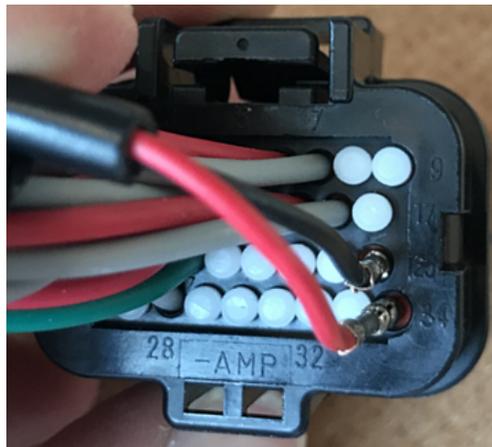


**Figure 71.** Locked connector



**Figure 72.** Unlocked connector

- 3- Insert the wire terminals. Red and black can be in either position, 25 or 34. Make sure the terminals are completely pushed in and lock the connector as per step 2. If the lock does not engage, terminals are not pushed in enough.



**Figure 73.** Inserting terminals, positions 25 and 34 of the CoPiTrail connector

4- Route the cable by following the hood harness.

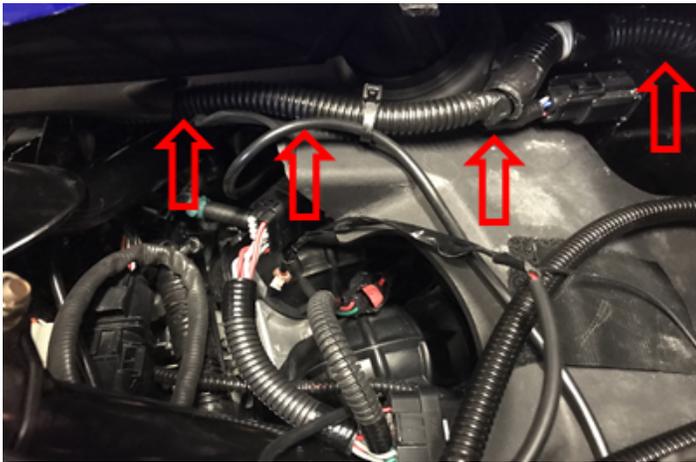


Figure 74. Routing on hood, 998cc Arctic Cat snowmobiles

### 2.2.2 Button Installation

1- The support embarks on the handle and its harness as per the notch and recess made for this purpose. Place the button and position it so that it is straight, pointing towards the rear of the vehicle. **It is sometimes necessary to move the control block (high beam, heating handle switches) to the right to be able to install the button.**

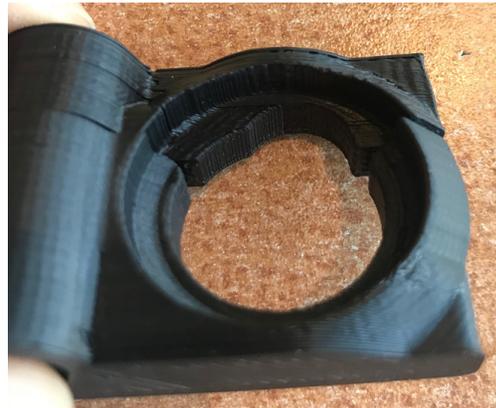
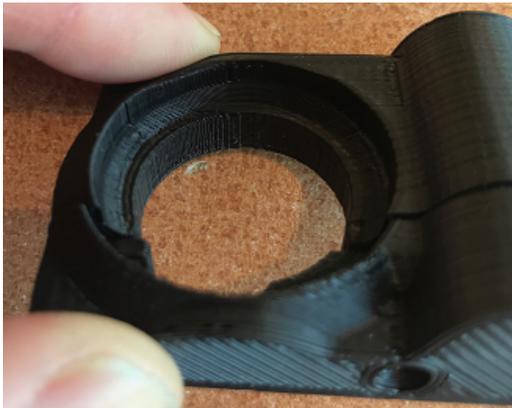


Figure 75. Button installation, notch and recess



**Figure 76.** Button installation, two types, button at the top (left) or bottom (right), 998cc Arctic Cat snowmobiles

2- Assemble the back part of the button. Do not over tighten the screws.



**Figure 77.** Button installation, back installation, 998cc Arctic Cat snowmobiles

- 3- Route the cable by following the handlebar harness. Hood removed for clarity.



**Figure 78.** Routing on handlebar, 998cc Arctic Cat snowmobiles

- 4- Connect the button harness with the one previously routed to the junction of the hood harness.



**Figure 79.** Connection at hood connector, 998cc Arctic Cat snowmobiles

## 3 Installing the iPad

### 3.1 All except Can Am Maverick

**Note:** The key should be inserted before placing the iPad in the cradle on 1100 cc fitted vehicles.

- 1- Install the iPad into the supplied protective case.
- 2- Connect the charger to the 12 V accessory connector.
- 3- Install the iPad on the cradle. The iPad will only fit correctly when in this orientation:



**Figure 80.** Installing the iPad

- 4- Lower the securing tabs.



**Figure 81.** Securing the iPad

- 5- Open the charge port of the iPad protective case and connect the charger to the iPad.

## Limited Warranty

GAP Innovation warrants this product for one (1) full year after the date of purchase with the exception of the AEM Wide band sensor which does not come with a warranty. The warranty covers only the CoPiTrail and accessories of the original purchaser (non-transferable). It covers manufacturing and workmanship defects for the duration defined above. The warranty is limited to the functionality of the system and the system itself. It is the user's responsibility to use CoPiTrail safely.

The user must return the CoPiTrail or accessory to GAP Innovation to have the warranty honoured. The user must provide a proof of purchase.

The warranty is void if:

- The product has been damaged or altered in any way
- The product is damaged by water, fire, accident or other condition beyond the control of GAP Innovation
- The product has been improperly installed or misused

The warranty does not cover:

- Shipping and handling.
- Any material damages other than the CoPiTrail or accessory itself.

Under no circumstances will GAP Innovation be liable whatsoever for incidental or consequential damages. The warranty is limited to the value of the product.

Contact:

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