

SATLOC® BANTAM2™

Installation Guide 875-3012-000, Rev. A



Overview: This installation guide lists all the parts in the Bantam 2 GPS System kit and provides instructions on installing the components, associated cables, and switches.

Read this manual thoroughly before beginning the installation.
If you have any questions, contact your local dealer or Satloc Customer Service.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

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Latest Version of the Bantam 2 Installation Guide

Satloc is dedicated to providing updated versions of installation guidebooks for its customers. For the latest version of the Bantam 2 Installation Guide, visit www.Satloc.com.

Notice to Customers

Contact your local dealer for technical assistance. To find an authorized dealer near you, visit www.Satloc.com.

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Warranty is voided if you feed aircraft power through low voltage IO.

If this occurs, there will be evidence within the Bantam 2 CPU. Please see pictures below as examples of someone feeding aircraft power through low voltage IO.



Results of Improper Wiring

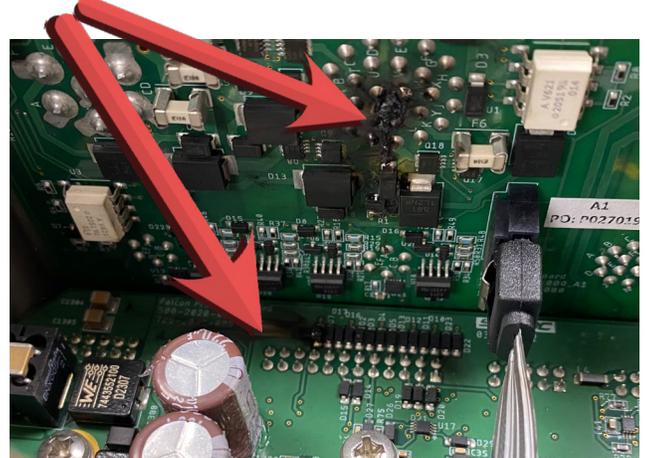
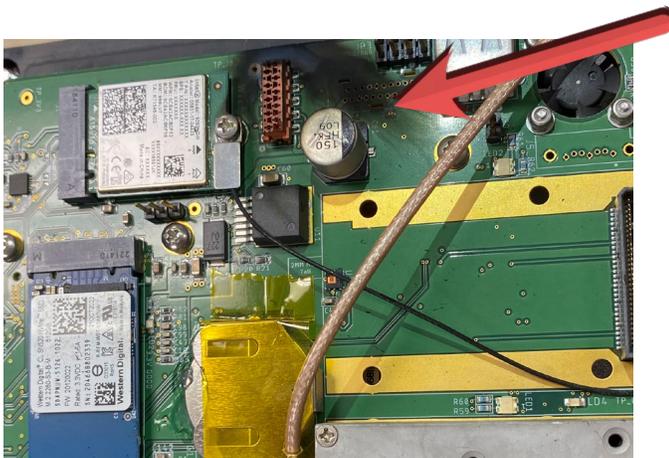


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SAFETY INFORMATION

Read and Follow Safety Messages



Satloc GPS systems are intended for VFR (visual flight rules) use only. Information provided is intended solely for recording aerial application activities and enhancing application guidance. Satloc is not a replacement for best pilot practices. Follow required procedures, flight rules, and regulations during use.

- In these instructions, you may see the heading  and/or the safety alert symbol . They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.
- Read and understand this manual and all the warnings below before installing, operating, or performing maintenance or service. FAILURE TO DO SO MAY CAUSE IRREVERSIBLE DAMAGE TO YOUR SYSTEM.
- Keep this manual and all related safety information with the manuals for your aircraft.



Plan your installation by considering the following:

- Cable lengths
- Clearance space
- Power source
- Aircraft structure
- Visibility



Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).



Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.



Do not allow anyone to operate without instruction.



For trouble-free operation and maintenance of your Bantam 2 system, avoid using Bantam 2 in extreme environmental conditions (40-140°F is recommended operating temperature range).



Warranty is voided if you feed aircraft power through low voltage IO. If this occurs, there will be evidence within the Bantam 2 CPU.

Chapter 1: Getting Started

1.1 Parts Lists

1.2 Upgrade Kit Parts List

1.3 Component Weights

1.4 Planning the Installation

The system modules that ship with the Bantam 2 and connect to the CPU are:

- 7" or 9" color touchscreen
- Lightbar
- Antenna



Read this entire manual before beginning installation. Failure to follow instructions in this manual could void your warranty. **Warranty is voided if you feed aircraft power through low voltage IO.** If this occurs, there will be evidence within the Bantam 2 CPU.

Pay careful attention to safety reminders and warnings to eliminate the possibility of personal injury or damage to the system. Comply with all electrical connections and requirements to prevent damage to the system.

1.1 PARTS LISTS

Review the contents of your Bantam 2 purchase to ensure the components are not damaged. Tables 1-1 and 1-2 represent full kits with 9 inch or 7 inch displays. Optional upgrade kits are only included with additional purchase(s).

Table 1-1: Bantam 2 CPU with 9" Screen Kit (PN 900-2044-000)

Component	Part Number	Qty
Satloc Bantam 2 (CPU/Controller)	806-2034-000	1
9" Display	806-4405-000	1
Cable, Video, Signet LCD	051-0326-000#	1
A21 GPS antenna	150-0056-01	1
Antenna cable, RF-X, TNC(M)-TNC(M) 5M	052-0005-000#	1
ASSY, Harness	726-1096-000#	1
Antenna, WIFI, dual band	804-4001-000	1
Cable, GPIO	051-0244-000#	1
Cable, USB-extender, Type A M/M, 5M	051-0234-000	1
SW STR-Lever SPDT MOM CONT	075-4001-000#	1
SW PNL PSH SPDT 125V 6A RB	075-4002-000	1
CONN, RECPT, USB-A, PNL MNT with Cover	400-0127-000#	1
MNL, Installation Guide, Satloc Bantam 2, Multi Language	875-3112-000	1
Quick Reference Guide, Bantam 2	875-3013-000	1
Portuguese Quick Reference Guide, Bantam 2	875-3813-000	1
Spanish Quick Reference Guide, Bantam 2	875-3913-000	1

Table 1-2: Bantam 2 with 7" Screen Kit (PN 900-2046-000)

Component	Part Number	Qty
Satloc Bantam 2 (CPU/Controller)	806-2034-000	1
7" Display	806-4406-000	1
Cable, Video, Signet LCD	051-0326-000#	1
A21 GPS antenna	150-0056-01	1
Antenna cable, RF-X, TNC(M)-TNC(M) 5M	052-0005-000#	1
ASSY, Harness	726-1096-000#	1
Antenna, WIFI, dual band	804-4001-000	1
Cable, GPIO	051-0244-000#	1
Cable, USB-extender, Type A M/M, 5M	051-0234-000	1
SW STR-Lever SPDT MOM CONT	075-4001-000#	1
SW PNL PSH SPDT 125V 6A RB	075-4002-000	1
CONN, RECPT, USB-A, PNL MNT with Cover	400-0127-000#	1
MNL, Installation Guide, Satloc Bantam 2, Multi Language	875-3112-000	1
Quick Reference Guide, Bantam 2	875-3013-000	1
Portuguese Quick Reference Guide, Bantam 2	875-3813-000	1
Spanish Quick Reference Guide, Bantam 2	875-3913-000	1

Table 1-3: Bantam 2 L8 Lightbar Kit (PN 900-4300-000)

Component	Part Number	Qty
L8 Lightbar	806-4400-000	1
Cable, extension 22	050-2205-000	1
Kit, L8 Lightbar mounting	710-0031-000	1

1.2 UPGRADE KIT PARTS LIST

Review the contents of your Bantam 2 purchase to ensure the components are not damaged. Tables 1-1 and 1-2 represent full kits with 9 inch or 7 inch displays. Optional upgrade kits are only included with additional purchase(s).

Table 1-4: Upgrade Kit: Bantam 1 to Bantam 2 (PN 900-2055-000)

Component	Part Number	Qty
Satloc Bantam 2 (CPU/Controller)	806-2034-000	1
Antenna, WIFI, dual band	804-4001-000	1
L8 Lightbar Kit	900-4300-000	1

1.3 COMPONENT WEIGHTS & DIMENSIONS

Table 1-5: Bantam 2 Component Weights & Dimensions

Component	Weight	Dimensions
CPU with cables	11.4 lbs (1.99 kg)	<i>CPU Dimensions:</i> 3.15" H x 8.65" W x 5.50" D (8 cm H x 21.97 cm W x 13.97 cm D)
9" Display Screen	3 lbs (1.36 kg)	6.74" H x 9.08" W x 2.50" D (17.11 cm H x 23.06 cm W x 6.35 cm D)
7" Display Screen and Cables	2.7 lbs (1.22 kg)	5.50" H x 8.04" W x 3.20" D (13.97 cm H x 20.42 cm W x 8.12 cm D)
L8 Lightbar (Including Cable & Brackets)	9 lbs (4.08 kg)	<i>Lightbar Dimensions:</i> 2.53" H x 14.17" W x 6" D (6.4 cm H x 36 cm W x 15.24 cm D)
A21 Antenna	1 lb (0.45 kg)	<i>Diameter:</i> 5 1/8" (13.08 cm)

1.4 PLANNING THE INSTALLATION



- **Turn off aircraft power before connecting or disconnecting cables. Failing to do so can damage the system.**
- Plan your installation by considering the following: 1) cable lengths, 2) clearance space, 3) power source, 4) aircraft structure, and 5) visibility.
- Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).
- Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.
- Do not route cables alongside power generator wire and other high-noise electric sources. This will cause interference.
- Do not kink or force cables into sharp bends. This can damage the cable. Instead, bend individual wires to a minimum radius of ten times the outside diameter of the wire, except at terminal boards where the wire is suitably supported at each end of the bend, a minimum radius of three times the outside diameter of the wire is acceptable.
- Bend wire bundles to a minimum radius of ten times the outside diameter of the largest wire in the bundle. Never bend coaxial cable to a smaller radius than six times the outer diameter.
- Route the excess cable along the plane's length, doubling back for weight and balance. Avoid high-temperature exposure (for example, exhaust manifold) when routing cables.
- Do not allow anyone to operate without instruction.

In planning the installation locations, see Chapter 3, "Connecting the CPU," for a visual overview of how the components are connected.

Chapter 2: Mounting the Components

2.1 Mounting the CPU

2.2 Mounting the Touchscreen

2.3 Installing Cockpit Parts

2.4 Mounting the L8 Lightbar

2.5 Mounting the A21 GPS Antenna

2.1 MOUNTING THE CPU

Before mounting (installing) components, read the short section, “Planning the Installation” in Chapter 1.



Remember, the Bantam 2 CPU has no quick-release mechanism—it is a semi-permanent fixture once installed. Your decisions in the installation process carry significant weight.

Install the CPU in any location inside the aircraft that has the necessary room and is sheltered from the elements, such as a storage compartment, in the cab, or behind the seat. The CPU must have sufficient clearance to be accessible for attaching/removing cables (front and both sides) and inserting and removing the USB drive. Obtain the appropriate hardware to secure the CPU through its fitting points at each corner and install it in your selected location.



Review all warnings in Chapter 3, “Connecting the CPU,” before attempting to connect any of the components together using the supplied cables. Connecting cables improperly can damage your system.

Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).

Where hardware such as screws, washers, and nuts, is not provided for a particular mounting or installation, you will need to provide the hardware appropriate to your specific needs.

Table 2-1: Bantam 2 CPU Mount Parts

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
	806-2034-000	1	Bantam 2 CPU	

2.2 MOUNTING THE TOUCHSCREEN

Usually, the console is located in the front center of the cockpit, just below normal line of sight and within the operator’s reach. Use the following parts list and instructions to hard mount the touchscreen on the cockpit dashboard. Mount the touchscreen inside the cockpit of the aircraft where it is:

- Easily visible while flying
- Within arm’s reach of the operator (pilot), depending on the pilot’s arm length, the display can be mounted either further or closer to the pilot
- Mount the display far enough back as to not interfere with the yoke, with a gloved hand wrapped around it, when in full nose down position



Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.



The following tools are needed to mount the touchscreen:

- Drill and drill bit
- Phillips head screwdriver
- Four screws for hard mount (size and length vary with different installs)
- Marker pen



Based upon different installs, screw size and length varies for hard mounting the touchscreen. Larger screws could crack or otherwise damage the screen. Do not drill holes in screen cover. This will void the warranty.

Table 2-2: Bantam 2 Touchscreen Mount Parts

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
A	806-4405-000	1	9" Display	
	or	or	or	
	806-4406-000	1	7" Display	
B	051-0326-000#	1	Video, Signet LCD	

Step One

Choose Mounting Location

Step Two

Put Appropriate Screws
in Corner Holes and
Attach Nuts to Screws

Do not drill holes in screen cover. This will void the warranty.



Determine where, within easy reach and visibility of the operator to mount the touchscreen.

Put screws of appropriate size and length through the four corner holes and through the dashboard. Attach nuts to screws to secure the display console in place.

- Choose a location inside the cockpit of the aircraft where it is:
- Easily visible while flying
 - Within arm's reach of the operator (pilot), depending on the pilot's arm length, the display can be mounted either further or closer to the pilot
 - Mount the display far enough back as to not interfere with the yoke, with a gloved hand wrapped around it, when in full nose down position

2.3 INSTALLING COCKPIT PARTS

Table 2-3: Bantam 2 Cockpit Switch

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
	075-4001-000#	1	SW STR-Lever (075-4001-000#)	

Table 2-4: USB Port Mount Parts (Kit 880-1031-000)

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
	400-0127-000#	1	Conn, Recpt, USB-A, PNL MNT with/cover	
	051-0234-000	1	Cable, USB-extender, Type A M/M, 5M	

In case WiFi is unavailable, a USB port can be installed for use with the Bantam 2. It is recommended to install USB port in cockpit where it can be easily accessed. The cable from the USB port is 5 meters long or 16.4 feet in length; please keep this in mind when choosing the location to mount the USB port PN 400-0127-000#.

USB Panel Mount

1. Using your own hardware, attach the panel mount to the cockpit surface, making the location accessible to the pilot. Place a gasket between the panel mount and the mounting surface.
2. Install extender cable at the panel mount. Once the CPU is installed, connect the other end to one of the CPU's USB side ports.



Figure 2-1: USB Panel Mount

2.4 MOUNTING THE L8 LIGHTBAR

Table 2-5: L8 Lightbar Mount Parts

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
A	806-4400-000	1	L8 for Bantam 2 GPS	
B	602-1014-000	2	Lightbar brackets, standard, 5.25"	
	602-1012-000	2	Lightbar brackets, short, 3"	
	602-1016-000 (RH) & 602-1017-000 (LH)	Optional	Lightbar brackets, Wingman, 7.5" (RH and LH)	
C	602-1018-000	2	Top bracket	
D	*80011	4	Bolt, #10-32 x 21/32"	
	*80570	4 (of 10)	Nut, #10-32	
	*81219	4 (of 10)	Washer, #10-32	
E	*80922	4	Screw, #10-32 x 5/8"	
	*81202	4	Washer, Internal Lock, #10-32	
F	*80013	4	Bolt, #10-32 x 25/32"	
	*80570	4 (of 10)	Nut, #10-32	
	*81219	4 (of 10)	Washer, #10-32	
	*601-1045-000	2	Backing plate	
G	*86071 OR * 86436	2	Adel clamp	
	*80007	2	Bolt, #10-32 x 17/32"	
	*80570	2 (of 10)	Nut, #10-32	
	*81219	2 (of 10)	Washer, #10-32	
H	050-2205-000	1	L8 Lightbar cable for Bantam 2	

*Part of Hardware Kit
P/N 710-2003-000



A drill and 1/4" drill bit are required for this installation.

Unpack the kit and identify the required parts as shown. Kit items are referenced A, B, C, etc. The references are used in the installation steps and pictures. Be sure to mount the lightbar in front of the pilot at a comfortable viewing distance.



WARNING Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.

Step One

Assemble Lightbar
Mounting Brackets



Step Two

Attach Mounting Brackets
to Lightbar



Step Three

Marking Holes for Drilling



Using hardware D, assemble two mounting brackets using parts B and C.

Note: There are three size options for the mounting brackets.

 Tilting of lightbar brackets is available in 2.5 degree increments. Plus or minus 10 degrees. Examples shown below.

Using hardware E, attach the two mounting brackets to the Lightbar.

Using the assembled lightbar and brackets as a template, mark the four mounting hole positions on a suitable surface/location on the aircraft. Using a 1/4" drill bit, carefully drill the four holes.

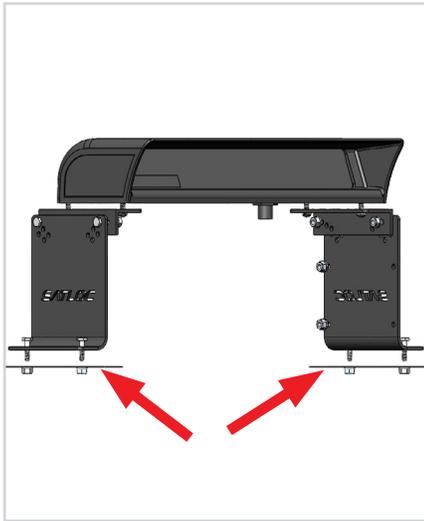
 Do not hit any wires or hydraulics while drilling. Check both sides of the aircraft before drilling.



Figure 2-2: Tilting Angles of L8 Lightbar

Step Four

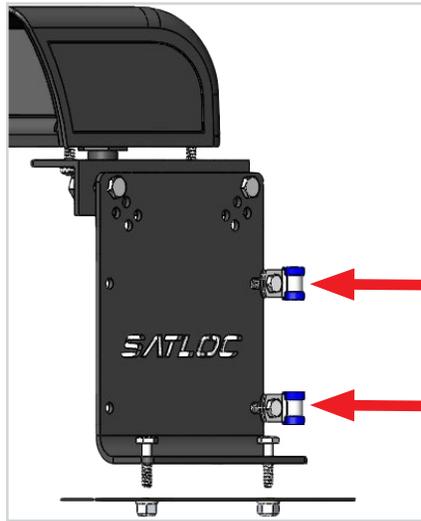
Secure Lightbar to Aircraft



Using hardware F, secure the lightbar to the aircraft. Use the backing plates on the underside of the mounting surface for additional reinforcement (These provide additional support to prevent the bolts from pulling through the surface under vibration).

Step Five

Attach Cable to Lightbar



Connect cable to the bottom of the lightbar. Using hardware G, attach the cable to the lightbar. Be careful not to make any sharp turns or bends.

Note: There are two size options for the Adel clamps.

Step Six

Tighten Hardware



When finished, tighten all hardware.

NOTE:

Adjust the lightbar brightness by turning the lightbar DIMMER control knob on the Bantam 2 power panel located in the cockpit.

EXPLODED VIEW

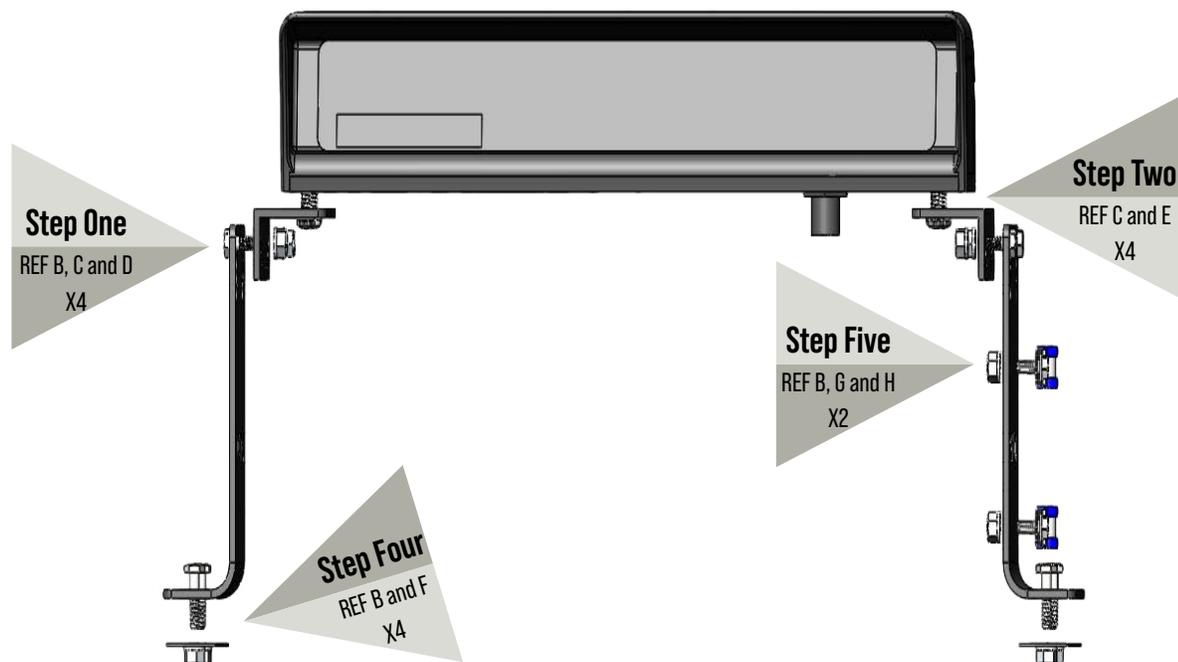


Figure 2-3: Exploded View of L8 Lightbar Mount

2.5 MOUNTING THE A21 GPS ANTENNA

NOTE:

Appendix A provides mounting dimension for the A21 GPS antenna.  Appendix A is not a template.

Antenna position is critical to system performance. Therefore, these conditions must be met for proper system operation:

- Mount the antenna at least 5 ft (1.524 m) from transmitting antennas of any frequency
- Mount the antenna at the highest practical point that will give a good view of the horizon.
- The positions that the receiver calculates are at the positions of the antenna. Mount the antenna on the aircraft's centerline.



The following tools are needed to mount the antenna:

- Phillips screwdriver
- Four #8-32 screws
- Drill, 1/8" drill bit and 7/16" drill bit
- Marker pen



WARNING

Positioning the antenna less than 5 ft (1.524 m) from transmitting antennas of any frequency may cause overloading of RF circuits.

NOTE:

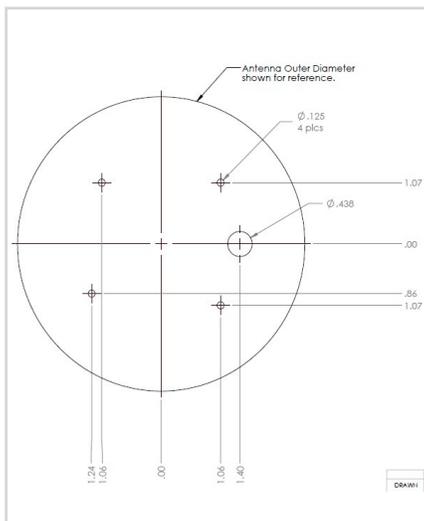
Satloc recommends flush mounting the antenna along the aircraft's centerline, with an unobstructed view of the sky and horizon.

Table 2-6: A21 GPS Antenna Mount Parts

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
	150-0056-01	1	A21, L1 GNSS, LBAND antenna	
	052-0005-000#	1	Cable, RF-X, TNC(M)-TNC(M), 5M	

Step One

Use the A21 GPS Antenna Mounting Dimensions Drawing (Appendix A)



Using the Antenna Mounting Dimension Drawing (Appendix A) as a guide (**this is not a template**), mark the mounting position and the antenna connector hole locations on the aircraft's outer surface.

Step Two

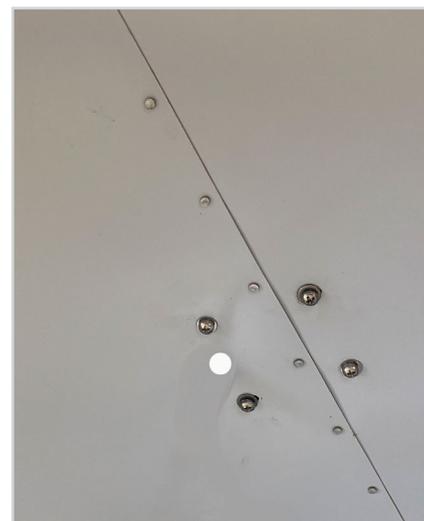
Drill the Antenna Holes



Using a 1/8" drill bit, carefully drill the four screw holes.

Step Three

Drill the Antenna Connector Holes



Using a 7/16" drill bit, carefully drill the hole for the antenna connector.

Step Four

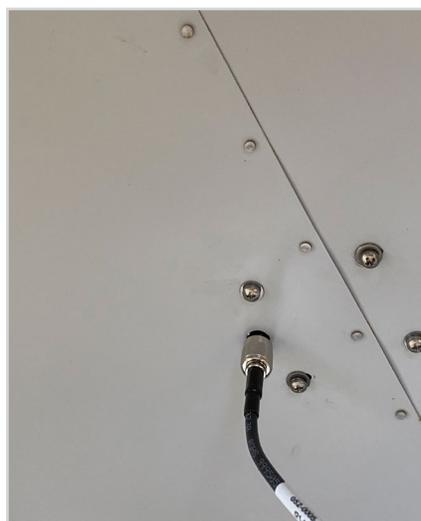
Secure Antenna to Aircraft Surface



Use four #8-32 thread screws to secure the antenna (PN 150-0056-01) to the aircraft's surface. Black RTV silicone can be used to seal around the antenna base. **A doubler backing plate may be necessary.**

Step Five

Connect Wire to Antenna



Connect cable PN 052-0005-000# to antenna PN150-0056-01.

Chapter 3: Connecting the CPU

3.1 Warnings

3.2 CPU Cable Installation

3.3 CPU Cable Connections

3.4 Powering the System On/Off

3.1 WARNINGS

Heed all warnings before continuing. Failure to do so could void your warranty.

General Cable Connection Warnings



- **Turn off aircraft power before connecting or disconnecting cables.** Failing to do so can damage the system.
- Finger tighten all cable connections. Do not use any tools.
- Do not route cables alongside power generator wire and other high-noise electric sources. This will cause interference.
- Do not kink or force cables into sharp bends. This can damage the cable. Instead, bend individual wires to a minimum radius of ten times the outside diameter of the wire, except at terminal boards where the wire is suitably supported at each end of the bend, a minimum radius of three times the outside diameter of the wire is acceptable.
- Bend wire bundles to a minimum radius of ten times the outside diameter of the largest wire in the bundle. Never bend coaxial cable to a smaller radius than six times the outer diameter.
- Route the excess cable along the plane's length, doubling back for weight and balance.
- Do not coil the cables. This will introduce noise in the system.
- Avoid high-temperature exposure (for example, exhaust manifold) when routing cables.

Antenna Cable Warnings



- Never connect or disconnect the antenna cable with the power on.
- Do not route the antenna cable with any other radio system cables. This will cause interference. Keep 12 inches apart.
- If you must cross the antenna cable with other cables, do so at a 90° angle. This will prevent interference between systems.
- Do not coil excess cable length. Doing so can introduce noise and cause signal degradation.

GPIO Cable Warnings



- Do not connect Spray On/Off leads to a flow system if it contains live voltage.

Table 3-1: Connections to the Bantam 2 CPU

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
	051-0234-000	1	Cable, USB-extender, Type A M/M, 5M	
	052-0005-000#	1	Antenna cable, RF-X, TNC(M)-TNC(M) 5M	
	726-1096-000#	1	ASSY, Harness	
	051-0244-000#	1	Cable, GPIO	

Table 3-1: Connections to the Bantam 2 CPU — Continued

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
E	051-0326-000#	1	Cable, Video, Signet LCD	
F	804-4001-000	1	Antenna, WIFI, dual band	
G	82404	1	Diode	
			NOTE: This diode provides transient voltage suppression. In other words, it absorbs random and irregular bursts in the voltage. Basically, it shunts those spikes to Ground.	
H	050-2521-000	Optional	Cable, extension for WIFI antenna	

3.2 CPU CABLE INSTALLATION

Installing Cables



WARNING

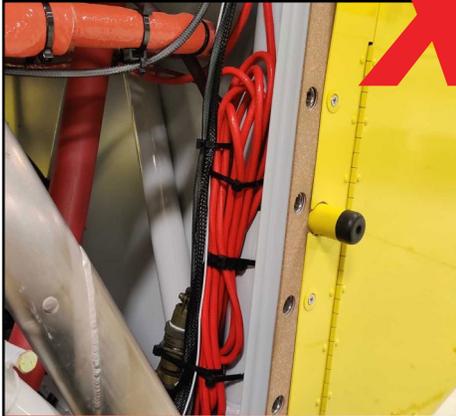
- **Turn off aircraft power before connecting or disconnecting cables. Failing to do so can damage the system.**
- Finger tighten cable connections — do not use tools.
- Do not route cables alongside power generator wire and other high-noise electric sources. This will cause interference.
- Ensure no chafing of cables can occur.
- Do not kink or force cables into sharp bends. This can damage the cable. Instead, bend individual wires to a minimum radius of ten times the outside diameter of the wire, except at terminal boards where the wire is suitably supported at each end of the bend, a minimum radius of three times the outside diameter of the wire is acceptable.
- Bend wire bundles to a minimum radius of ten times the outside diameter of the largest wire in the bundle. Never bend coaxial cable to a smaller radius than six times the outer diameter.
- Route the excess cable along the plane's length, doubling back for weight and balance.
- Do not coil the cables. This will introduce noise in the system.
- Avoid high-temperature exposure (for example, exhaust manifold) when routing cables.
- Cross the antenna cable (if necessary) at 90° to any other cable (prevents cross-interference).

Don't

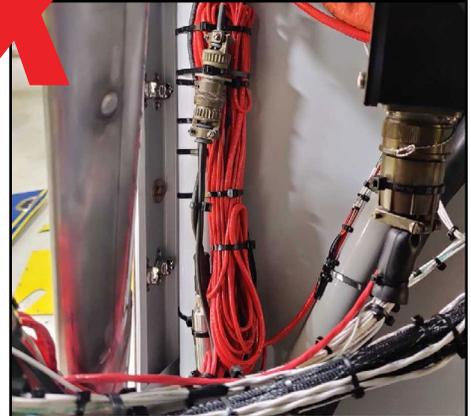


Negative Consequences of Bad Cable Installation

- Damage to cables.
- Damage to the system.
- Introduces noise interference.
- Voiding of warranty.



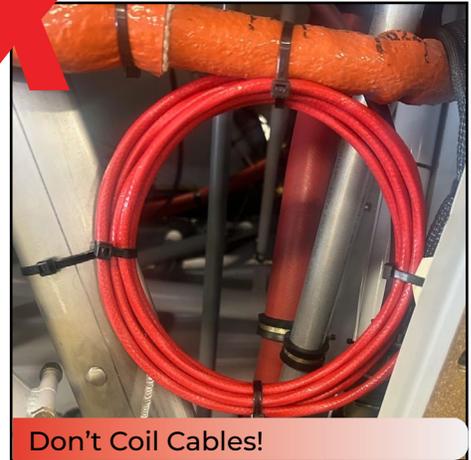
Don't Kink and Bundle Cables



Don't Cross Excess Cables



Don't Run Cables Near High Current Devices



Don't Coil Cables!



Never force cable connections, finger-tighten only (do not use tools).

3.3 CPU CABLE CONNECTIONS

The following diagram provides a visual representation of the Bantam 2 CPU and the touchscreen display connections. Install each Bantam 2 cable between the CPU and a modular component. Each cable is labeled with its name and part number. A color band is also on each cable. The color matches a port on the Bantam 2 CPU port where the connection needs to be inserted. Each cable fits into its appropriate port. Line up a connector with its matching pins and gently insert and turn. Finger tighten the connectors until they lock into place.



Figure 3-1: Cable Connections to Bantam 2 CPU

Flow Control Cable Connections

Connect the cable that comes with your flow control system—IntelliFlow 2 or 3 — to the CPU port labeled ‘FLOW’.

NOTE: If planning to use a Satloc flow controller, it is recommended to use separate switches to detect spray on/off. The GPS and flow control systems operate off of different voltage signals. Therefore, there is a possibility that feedback will occur with only one switch. Also, as a switch ages, there might be degradation in the signal.



Figure 3-2: Bantam 2 CPU Flow Port

Lightbar Cable Connections

1. Connect the connector on the lightbar cable (050-2205-000) to the CPU port labeled 'LIGHTBAR'.
2. Connect the metal Bendix connector on the lightbar cable to the matching connector on the bottom of the lightbar.

NOTE:

Adjust the lightbar brightness by turning the lightbar DIMMER control knob on the Bantam 2 power panel located in the cockpit.



Figure 3-3: Lightbar Cable (PN 050-2205-000) to Bantam 2 CPU Lightbar Port

Touchscreen Display Cable Connections

1. Connect the Conxall connector on the video cable (051-0326-000#) to the CPU port labeled 'DISPLAY'.
2. Connect the other end of the video cable to the connector on the back of the touchscreen.



Figure 3-4: Video Cable (PN 051-0326-000#) to Bantam 2 CPU Display Port

GPIO Cable Connections

The GPIO cable (051-0244-000#) comprises several individual cables: for the spray on/off switch, the swath advance switch, a serial port connector.

1. Connect the Conxall connector on the video cable (051-0244-000#) to the CPU port labeled 'GPIO'.
2. Connect the GPIO's spray on/off switch cable leads to the provided lever switch (075-4001-000# - Figure 3-6). Use the switch in conjunction with your spray system on/off controls to synchronize actual spraying with the spray data collection functionality of Bantam.



Figure 3-5: GPIO Cable (PN 051-0244-000#) to Bantam 2 CPU GPIO Port



WARNING

Do not connect spray on/off leads to a flow system if it contains live voltage. Connection to a DC voltage will damage the circuit.

Optional: Connect the GPIO's cable leads to push switch (075-4002-000) to control swath advances remotely.



Figure 3-6: Lever Switch (PN 075-4001-000#)

Power Cable Harness Connections

The power cable harness (726-1096-000#) includes a power panel that has (Figure 3-7):

- An ON/OFF switch
- A dimmer switch to control the lightbar's brightness.
- A 3 A (max) circuit breaker that prevents voltage spikes and reverse polarity from damaging the system.



Figure 3-7: Power Panel for Cockpit

The ON/OFF switch powers the CPU and the touchscreen. The dimmer switch on the power panel controls lightbar brightness.



Warning is voided if you feed aircraft power through low voltage IO.



Power Cable: Source and Polarity

- Do not connect to a power source of less than 10 V.
- Do not use a cigarette lighter as a permanent power source.
- Do not reverse the polarity of the power leads—incorrect installation can damage the system. Connect RED to POSITIVE (+) and BLACK to NEGATIVE (-).



Power Cable: and CEMF

A potential problem when installing an electronic system in any vehicle is counter electromagnetic force (CEMF). CEMF is caused when relays or solenoids connected to the common aircraft DC power bus are de-energized. The voltage produced may exceed 400 V. CEMF can be produced by equipment such as:

- Electric fan brakes and air conditioners
- Starter relays and electric pump relays

To eliminate CEMF, install diodes at the relays and solenoids that cause the CEMF and at the power supply cable connection of the Bantam system. Use a 47 V, 5 W Zener Diode (1N5368 or equivalent).

1. Mount the power panel—part of power cable harness (726-1096-000#)—in an appropriate location inside the cockpit, and within the pilot's easy reach. **Warning:** Do not obstruct the view, access to other instruments, or the pilot's flying visibility.
2. Depending on the selected location, use appropriate hardware (not supplied) to secure the power panel.
3. Label power panel in the cockpit.
4. Connect the Conxall connector on the power cable (726-1096-000#) to the CPU port labeled 'POWER' (see Figure 3-8).
5. Connect the red and black power leads to a suitable power source that can supply between 10 and 36 V (for example, aircraft battery, generator).



Figure 3-8: Power Cable Harness (PN 726-1096-000#) to Bantam 2 CPU Power Port

NOTE:

The touchscreen has its own power button but it works as an on/off switch only when the power panel switch is ON.

Antenna Cable Connections



Where wiring is attached downward to a connector, terminal block, panel or junction box, a drip loop shall be provided in the wiring to prevent fluids or condensation from running into the components.

The Antenna cable (PN 052-0005-000#) connects on the side of the Bantam 2's CPU to the GPS port. The other end of the cable connects to the A21 GPS Antenna.



Figure 3-9: Connect A21 antenna cable to Bantam 2 CPU and A21 antenna

The WIFI Antenna (PN 804-40001-000) can connect directly to the WIFI port on the side of the Bantam 2's CPU. To place the WIFI antenna somewhere besides on side of the Bantam 2's CPU, use optional cable PN 050-2521-000. This cable will connect directly into the WIFI port on side of the Bantam 2's CPU while the other end will connect to the WIFI antenna.



Figure 3-10: Connect WIFI antenna to Bantam 2 CPU

USB Extension Cable Connection

Connect the USB extension cable (PN 051-0234-000) connects on the side of the Bantam 2's CPU to the USB panel mount.



Figure 3-11: Connect USB extension cable to Bantam 2 CPU

NOTE:

The other USB side port can be used for an external device, such as a tracking device, keyboard, or mouse.

3.4 POWERING THE SYSTEM ON/OFF

Powering the System ON

1. The Bantam 2 power panel's ON/OFF switch supplies power to the CPU and the touchscreen. Note that the touchscreen also has its own ON/OFF power button, which functions when the lever switch is ON.
2. Turn on the aircraft's main power source (aircraft battery, generator, other) and set the ON/OFF lever switch on the power panel to ON. This powers up all components.
3. When the system is powered up, it will start the Windows-based Bantam software.

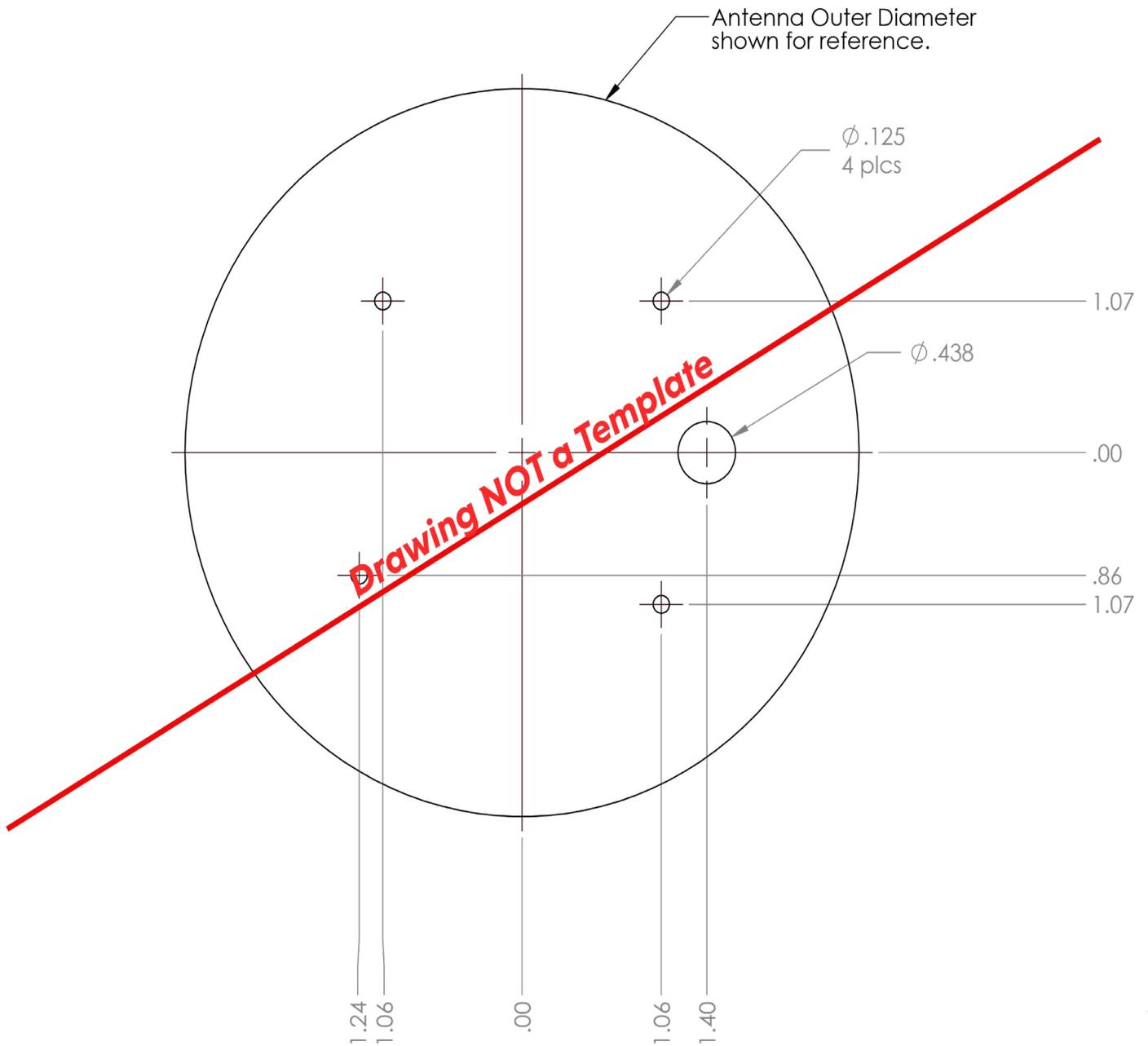
Powering the System OFF

Before turning off the touchscreen or the main power source, it is important to shut down software and Windows by following this procedure.

1. Press KEYPAD > CLEAR > CLEAR, a confirmation/option screen appears. Choose:
 - **NO** (cancel exit, return to Bantam)
 - **EXIT TO WINDOWS** (exits to Windows desktop; use the Bantam shortcut icon to return the Bantam software)
 - **YES** (Windows saving/shutting down advice screen appears, followed by the final 'safe to turn off' message). After selecting YES, turn off system power when the 'safe to' message appears.

APPENDIX A: A21 GPS ANTENNA MOUNTING DIMENSIONS

The “Antenna Mounting Dimensions” **drawing is not a template**. Instead, it gives the mounting dimensions. When mounting the antenna, measure off the center, where zero initiates.



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