

LiteStar IV Installation Guide

Kit: LiteStar IV Installation Kit
P/Ns 900-2017-000 & 900-2018-000

Read and Follow Safety Messages

- In these instructions, you may see the heading **WARNING** 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.
- Before installing, operating, or performing maintenance or service on any part of the system, read and understand this installation guide.
- Keep these instructions and all related safety information with the manuals for your aircraft and other equipment.

If you have questions or need assistance, contact your local dealer or distributor.

Overview

This installation guide lists all the parts in the kit and provides step-by-step instruction on how to install the LiteStar IV controller and L7 lightbar and associated cabling and switches.

Please read this manual thoroughly before beginning the installation. Observe all warnings.

⚠ WARNING: Plan your installation by considering the following:

- Cable lengths
- Clearance space
- Power source
- Aircraft structure
- Visibility
- Balance (see “Component Weights” on page 4 for weight of major components)

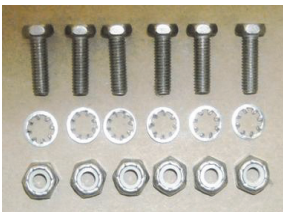
⚠ WARNING: Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).

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

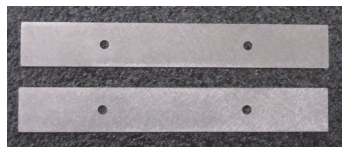
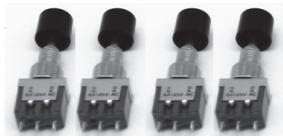
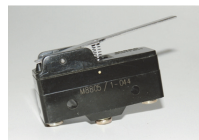


Kit Contents

Unpack this kit and identify the required parts as shown. Kit items are referenced A, B, C etc. and those references are used in the installation steps and pictures.

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
Controller, lightbar and antenna/receiver				
A	806-1051-000#	1	LiteStar IV controller, logging (‘Controller’)	
B	806-2023-000#	1	LiteStar IV L7 lightbar, logging (‘Lightbar’)	
C	150-0056-01	1	A21 air antenna	
Controller mounting hardware				
D	675-1036	4	Screw, #8-32 x 1/2 PPHC, SS	
	676-1018	4	Nut, 8-32, hex, self lock, SS	
	678-1010	4	Washer, flat, #8, SS (Mount controller A)	
Lightbar mounting kit: 710-0029-002				
E	602-1007-000#	4	Mounting bracket, 1” (Mount lightbar B using E/E or F/E combina- tion—see steps)	
F	602-1008-001#	2	Mounting bracket, 3” (Mount lightbar B using F/E combination—see steps)	
G	675-1083-000#	6	Bolt, #10-32 x 5/8”	
	678-1038-000#	6 (of 14)	Washer, internal star, #10-32	
	676-1022-000	6 (of 10)	Nut, nyloc, #10-32 (Bolt mounting brackets [E, F] together— whichever combination used)	

Kit Contents *(continued)*

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
H	675-1086-000#	4	Bolt, #10-32 x 1/2"	
	678-1038-000#	4 (of 14)	Washer, internal star, #10-32 (Attach mounting bracket combination— whichever used—to lightbar)	
I	675-1084-000	4	Bolt, #10-32 x 3/4"	
	(675-1085-000)	(4)	(Bolt, #10-32 x 1-3/4" - optional)	
	678-1038-000#	4 (of 14)	Washer, internal star, #10-32	
	676-1022-000	4 (of 10)	Nut, nyloc, #10-32 (Attach mounting bracket combination— whichever used—to aircraft. Use J if neces- sary.)	
J	601-1045-000#	2	Backing plate (Use with I if required - see steps)	
Cables and switches				
K	051-0298-000#	1	Lightbar cable (Connect lightbar B to controller A)	
L	051-0414-000#	1	GPIO/power cable LSIV (Connect controller A to push switches N and power source)	
M	052-0005-000#	1	Antenna cable, TNC(M)-TNC(M), 5 m (Connect antenna C to lightbar B)	
N	075-4002-000	4	Switch - push, SPDT 125V 6A RB (Connect to GPIO/power cable L - swath advance, swath decrement, spray on/off, set mark)	
O	075-4001-000#	1	Switch - lever, SPDT MOM CONT (Boom pressure - connect to cable labeled SPRAY ON/OFF)	

Kit Contents (*continued*)

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
Documentation				
-	876-0259-000	1	This installation guide	
-	875-0359-000	1	User Guide	
-	875-0360-000	1	Quick Reference Guide	

Component Weights

Component	Weight
Controller	1.57 lb (0.71 kg)
L7 lightbar	4.18 lb (1.9 kg)
External lightbar CAN cable	1.12 lb (0.51 kg)
External power/GPIO cable	0.95 lb (0.43 kg)
Antenna cable	0.45 lb (0.20 kg)
Antenna	0.8 lb (0.36 kg)

Lightbar Installation

Mount the lightbar in front of the cockpit at a comfortable viewing distance. You can mount the lightbar either inside or outside the cockpit.

⚠ WARNING: *Do not obstruct the view of, or access to, other instruments or the flying visibility of the pilot.*

NOTE: *This installation requires some drilling—you will need a 1/4" drill bit.*

1. Assemble the lightbar mounting brackets.

Using hardware **G** assemble either:

- Two 1"/1" (**E/E**) bracket combinations (Figure 1-i)
- Two 3"/1" (**F/E**) bracket combinations (Figure 1-ii).

2. Mount the lightbar.

- Using hardware **H** (not visible), attach the lightbar to the assembled brackets (Figure 2a - E/E bracket combination shown).
- 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.
- Using hardware **I** (short or long bolts as required) secure the lightbar to the aircraft (Figure 2b - E/E bracket combination shown). If required, use the backing plates **J** on the underside of the mounting surface for additional reinforcement: they provide additional support to prevent the bolts pulling through the surface under vibration.

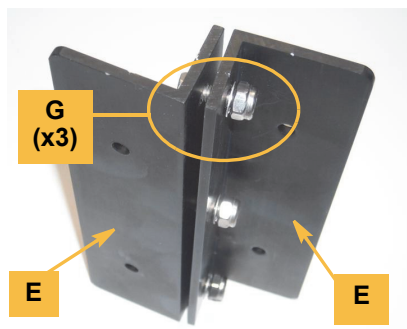


Figure 1-i: Mounting brackets (E/E)

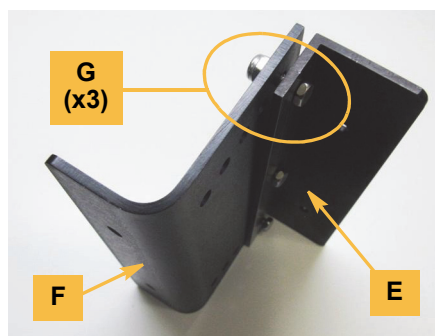


Figure 1-ii: Mounting brackets (F/E)

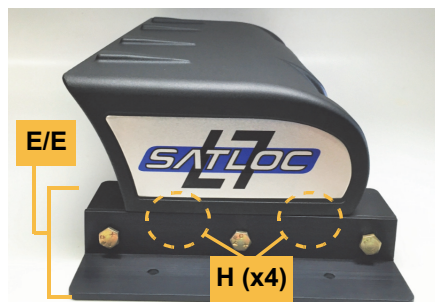


Figure 2a: Lightbar on brackets (E/E shown)

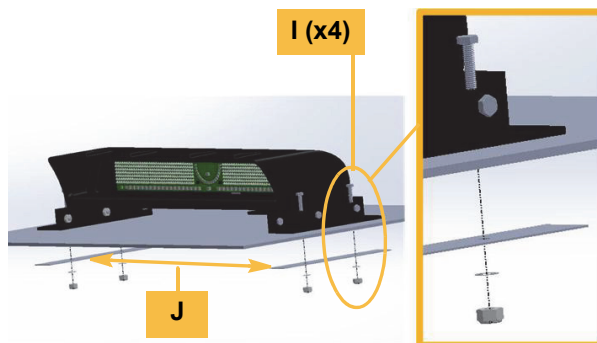


Figure 2b: Lightbar on aircraft—backing plates used (E/E shown)

Controller Installation

Controller Mounting Location

⚠ WARNING:

Do not obstruct the view of, nor access to, other instruments or the flying visibility of the pilot.

Mount the controller **A** inside the cockpit within the pilot's easy reach—but see preceding warning. Depending on the selected location, use hardware **D** or your own hardware to secure the controller.

Cable(s) and Switches Installation/Connections

⚠ WARNING:

- Never connect or disconnect the antenna cable with the power on.
- Do not route cables alongside power generator wire and other high-noise electric sources (will cause interference).
- Do not kink or force cables into sharp bends (will destroy the cable).
- Store excess cable lengths with a minimum six-inch bend radius.
- Do not coil cables (introduces noise).
- Avoid high-temperature exposure (for example the exhaust, exhaust manifold) when routing.
- Do not route the antenna cable with any other radio system cables (causes interference—keep twelve inches apart).
- Cross the antenna cable (if necessary) at 90° to any other cable (prevents cross-interference).

⚠ WARNING:

Finger tighten cables only—do not use tools. Plug the connector into its port and turn the connector ring to secure.

1. Install the lightbar cable.

NOTE:

The lightbar cable can withstand all types of conditions so can be fitted inside or outside the cockpit.

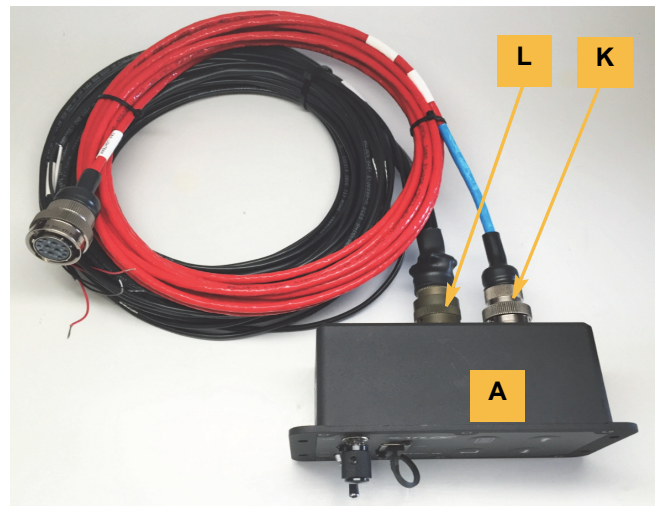
Install lightbar cable **K** between the lightbar and the matching controller port (right port viewed from front - see figure).

2. Install the GPIO/power cable.

- a. Connect GPIO cable **L** to the matching controller port (left port viewed from the front - see figure).
- b. Connect **L**'s wires labeled POWER to a 12 V source.
- c. Connect **L**'s wires labeled SWATH ADVANCE, SWATH DECREMENT, SPRAY ON/OFF and MANUAL MARK to push switches **N** and locate and secure the push switches appropriately.

3. Install the antenna cable.

Install antenna cable **M** between the antenna **C** and lightbar **B**.



GPIO and lightbar cables connected to controller

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