



Part 23 Instructions for Continued Airworthiness (ICA)

INCLUDING INSTALLATION INSTRUCTIONS
PULSAR, N, NS, NSP, SUNTAIL, AND SUNBEACON POSITION, NAVIGATION, STROBE,
AND ANTI-COLLISION LIGHTS INSTALLED ON AIRCRAFT LISTED IN APPROVED
MODEL LIST, 0031-0002



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1 System Description

The AeroLEDs Pulsar™ series light is made for Navigation, Strobe, and Position of a standard wingtip light length. The AeroLEDs Pulsar™ N-series lights com in 3 models. Pulsar N is made for Navigation only, whereas the Pulsar NS is made for Navigation and Strobe, leaving the last configuration, the Pulsar NSP, made for Navigation, Strobe, and Position. These lights are designed as LED drop-in replacements for existing wingtip light configurations. The AeroLEDs SunTail™ series light offers Strobe and Position and can be wired for both or position only. This light is also designed as LED drop-in replacements for existing tail light configurations. Lastly, the AeroLEDs SunBeacon™ series lights come in 2 configurations, white or red. These lights are designed as LED drop-in replacements for existing beacon light configurations, however some of these installations require an adaptor to retrofit to OEM sized mounting area. This is due to LED lights being smaller and more efficient than legacy OEM incandescent beacons of the past. All of these lights are designed to provide increased intensity with full-scale color rendering. The standard configuration for the Pulsar N lights contains 2 wire terminations. The Pulsar NS and NSP lights contain 4 wire terminations. The SunTail lights contain 4 wires, terminating only 2 for position and all 4 for position and strobe. The SunBeacon contains 4 wire terminations. Wiring diagrams for each can be found below.

2 Model Numbers

Table 1

Model	Part Number	Description	Voltage (VDC)	Current (Amps)			Weight (oz.)
				Strobe		Nav	
				AVG	Peak		
Pulsar (12V) 11-1100-12	11-1100-12-L	Navigation, Position, Anti-collision	9-15	1.2	9.9	1.6	8*
	11-1100-12-R						
Pulsar (24V) 11-1100-24	11-1100-24-L	Navigation, Position, Anti-collision	18-30	0.8	6.3	0.8	
	11-1100-24-R						
Pulsar N (12V) 11-1280-A-12	11-1280-A-12-L	Navigation	9-15	-NA-	-NA-	1.6	
	11-1280-A-12-R						
Pulsar NS (12V) 11-1280-B-12	11-1280-B-12-L	Navigation, Anti-Collision		1.3	9.8		
	11-1280-B-12-R						
Pulsar NSP (12V) 11-1280-C-12	11-1280-C-12-L	Navigation, Position, Anti-Collision	0.8	6.1	0.8		
	11-1280-C-12-R						
Pulsar N (24V) 11-1280-A-24	11-1280-A-24-L	Navigation	18-30	-NA-	-NA-	7.6*	
	11-1280-A-24-R						
Pulsar NS (24V) 11-1280-B-24	11-1280-B-24-L	Navigation, Anti-Collision		0.8	6.1		
	11-1280-B-24-R						
Pulsar NSP (24V) 11-1280-C-24	11-1280-C-24-L	Navigation, Position, Anti-Collision	0.8	6.1			
	11-1280-C-24-R						
SunTail	11-1260-12	Position, Anti-Collision Light	9-15	.52	4	.4	2.5*
	11-1260-24		18-30	.26	2	.2	
SunBeacon II	11-2200-A-12	Red Navigation, Anti-Collision	9-15	1.2	4.4	-NA-	3.5*
	11-2200-B-12	White Navigation, Anti-Collision					
	11-2200-A-24	Red Navigation, Anti-Collision	18-30	0.6	2.3		
	11-2200-B-24	White Navigation, Anti-Collision					

* Verify no appreciable effect to weight and balance after installation of LED lights.

3 Applicability

These Instructions for Continued Airworthiness (ICA) are applicable to all Pulsar series lights, Pulsar N series lights, SunTail series lights, and SunBeacon series lights listed in the Master Drawing List (MDL) document 0031-0003, as listed on AML document 0031-0002 for STC Project No. ST09897NY-A, STC No. TBD. AeroLEDs Pulsar, Pulsar N-series, SunTail, and SunBeacon II LED lights contained in this document are approved for installation on the makes and models listed on AML 0033-0002.

4 ICA Availability and Location

The latest FAA approved revision to this ICA is available on the AeroLEDs website located at www.aeroleds.com. Changes to the ICA, once approved by the FAA, will be communicated via email, telephone, or US Post to every registered owner and dealer/distributor of AeroLEDs lights. The ICA and its location are referenced in the installation guides for all Pulsar series, SunTail, and SunBeacon lights.

5 Airworthiness Limitations

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under 14 CFR §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

There are no additional airworthiness limitations associated with this equipment and/or installation.

6 Periodic Inspections

Interval	Inspection	Remedy	Notes
Pre-Flight	<ul style="list-style-type: none">Perform a functional check and observe that all LEDs are illuminated.	<ul style="list-style-type: none">If all LEDs are not illuminated replace light as soon as is practicable.	<ul style="list-style-type: none">Lights are not user serviceable.Lights are very bright and to reduce eye strain during inspection use an optical filter such as dark glasses or welding goggles.
Annually, unless the OEM specifies a shorter interval	<ul style="list-style-type: none">Perform a functional check and observe that all LEDs are illuminated.Check mounting, connections, and wire integrity.	<ul style="list-style-type: none">If all LEDs are not illuminated, the light must be replaced.Adjust or replace wiring, and connectors as required.	

7 General Installation Procedures

7.1 General

Consult **AC 43.13-1B Ch 11** for guidance on acceptable methods, techniques, and practices. Procedures contained herein are not intended to conflict with procedures set forth by aircraft OEM, nor do they supersede FAA approved manuals and FAA regulations.

7.2 Removal and Installation Procedures

The Pulsar, Pulsar N, NS, NSP, SunTail, and SunBeacon II lights included in this STC are drop-in replacements for legacy lights. The following instructions are general in nature. Please refer to the OEM Aircraft Maintenance Manual for specific removal and installation procedures.

7.3 Pulsar Series Wingtip Lights

Section 7.3 provides the installation instructions for the Pulsar series wingtip lights.

7.3.1 Installation

General Installation Notes:

1. Position Lights: Connect the single positive wire to the position light(s) designated terminal
2. Anti-Collision Strobe (ACS) Lights: Connect the dedicated positive wire for the ACS function to the ACS light(s) specific terminal
3. ACS Synchronization (Optional): To synchronize the flash of multiple ACS lights, connect the "SYNC" wires between ACS light units. **NOTE:** This step is optional, the Anti-Collision strobe frequency remains unaffected even if "SYNC" wires are unconnected.
4. Beacon Lights: Connect the dedicated positive wire to the beacon light terminal
5. Beacon Synchronization (Optional): For asynchronized beacon flashing with any AeroLEDs Position/Anti-Collision Strobe light, connect the "SYNC" wires between beacon light and Position/Anti-Collision Light. **NOTE:** This step is optional. The beacon's frequency remains unaffected even if "SYNC" wires are unconnected.
6. Ground Connection: For both position, ACS, and beacon light(s), a single "ground" connection is used; ensure all lights are connected to this shared ground terminal
7. Unused Wires: Cap and Stow any unused wires on any light positions, either light side or aircraft side to ensure safe stowage.

1. Disconnect aircraft power or disable applicable circuit breakers
2. Ensure all switches are in the OFF position
3. Reference OEM manual
 - a. Remove existing light assembly (retain hardware)
 - b. Bypass or remove existing high voltage power supply (if applicable)

Note: Connecting light to high voltage power supply will result in permanent damage and will void warranty.

4. Install suitable connectors and/or splices to connect light assemblies in accordance with wiring diagram(s) per Section 8.1
5. Using the appropriate hardware install as per Section 9.1
6. Re-connect aircraft power or enable applicable circuit breakers
7. Verify proper operation of LED light(s)
8. Record installation with logbook entry

Note: Shielded cable is recommended although not required for installation.

Note: It is recommended that ground connections for all lights be made at a single location on aircraft central ground bus. This “single point ground” scheme helps to eliminate ground loops and ground bounce that can occur when using airframe as a ground.

7.3.2 Troubleshooting

If light is not functioning properly, not fully powering up, or not staying powered on, try the following steps to correct problem:

1. Check for proper voltage at power input wire to light
2. Ensure light is adequately grounded
3. Check for continuity in wiring and connections
4. If wiring is verified, remove light and bench-check with appropriately sized power supply

If above actions do not correct problem, contact AeroLEDs tech support at 1-208-850-3294 for a resolution.

7.4 Pulsar and Pulsar N-series Wingtip Lights

Section 8.1 provides the installation instructions for the Pulsar and Pulsar N-series wingtip lights.

7.4.1 Installation

1. Disconnect aircraft power or disable applicable circuit breakers
2. Ensure all switches are in the OFF position
3. Reference OEM manual
 - a. Remove existing light assembly (retain hardware)
 - b. Bypass or remove existing high voltage power supply (if applicable)

Note: Connecting light to high voltage power supply will result in permanent damage and will void warranty.

4. Install suitable connectors and/or splices to connect light assemblies in accordance with wiring diagram(s) per Section **Error! Reference source not found.**
5. Using the appropriate hardware install as per Section 9.2
6. Re-connect aircraft power or enable applicable circuit breakers
7. Verify proper operation of LED light(s)
8. Record installation with logbook entry

Note: Shielded cable is recommended although not required for installation.

Note: It is recommended that ground connections for all lights be made at a single location on aircraft central ground bus. This “single point ground” scheme helps to eliminate ground loops and ground bounce that can occur when using airframe as a ground.

7.4.2 Troubleshooting

If light is not functioning properly, not fully powering up, or not staying powered on, try the following steps to correct problem:

5. Check for proper voltage at power input wire to light
6. Ensure light is adequately grounded
7. Check for continuity in wiring and connections
8. If wiring is verified, remove light and bench-check with appropriately sized power supply

If above actions do not correct problem, contact AeroLEDs tech support at 1-208-850-3294 for a resolution.

7.5 SunTail Series Tail Light

Section 8.2 provides the installation instructions for the SunTail series tail light.

7.5.1 Installation

1. Disconnect aircraft power or disable applicable circuit breakers
2. Ensure all switches are in the OFF position
3. Reference OEM manual
 - a. Remove existing light assembly (retain hardware, if applicable)
 - b. Bypass or remove existing high voltage power supply (if applicable)

Note: Connecting light to high voltage power supply will result in permanent damage and will void warranty

4. Install suitable connectors and/or splices to connect light assemblies in accordance with wiring diagram(s) per Section 0
5. Using the appropriate hardware install per Section 9.3
 - a. Install with vent hole facing downward per Section 9.3
 - b. For horizontal mounting PN: KIT-0064 required (sold separately)
6. Re-connect aircraft power or enable applicable circuit breakers
7. Verify proper operation of LED light(s)
8. Record installation with logbook entry

Note: Shielded cable is recommended although not required for installation.

Note: It is recommended that ground connections for all lights be made at a single location on aircraft central ground bus. This “single point ground” scheme helps to eliminate ground loops and ground bounce that can occur when using airframe as a ground.

7.5.2 Troubleshooting

If light is not functioning properly, not fully powering up, or not staying powered on, try the following steps to correct problem:

1. Check for proper voltage at power input wire to light
2. Ensure light is adequately grounded
3. Check for continuity in wiring and connections
4. If wiring is verified, remove light and bench-check with appropriately sized power supply

If above actions do not correct problem, contact AeroLEDs tech support at 1-208-850-3294 for a resolution.

7.6 SunBeacon Series Beacon Lights

Section 8.3 provides the installation instructions for the SunBeacon II series beacon lights.

7.6.1 Installation

1. Disconnect aircraft power or disable applicable circuit breakers
2. Ensure all switches are in the OFF position
3. Reference OEM manual
 - a. Remove existing light assembly (retain hardware)
 - b. Bypass or remove existing high voltage power supply (if applicable)

Note: Connecting light to high voltage power supply will result in permanent damage and will void warranty

4. Install suitable connectors and/or splices to connect light assemblies in accordance with wiring diagram as per Section 8.3
5. Using the appropriate hardware install SunBeacon II as per Section 9.4
6. Re-connect aircraft power or enable applicable circuit breakers
7. Verify proper operation of LED light(s)
8. Record installation with logbook entry

Note: Shielded cable is recommended although not required for installation.

Note: It is recommended that ground connections for all lights be made at a single location on aircraft central ground bus. This “single point ground” scheme helps to eliminate ground loops and ground bounce that can occur when using airframe as a ground.

7.6.2 Troubleshooting

If light is not functioning properly, not fully powering up, or not staying powered on, try the following steps to correct problem:

5. Check for proper voltage at power input wire to light
6. Ensure light is adequately grounded
7. Check for continuity in wiring and connections
8. If wiring is verified, remove light and bench-check with appropriately sized power supply

If above actions do not correct problem, contact AeroLEDs tech support at 1-208-850-3294 for a resolution.

8 Wiring Diagrams

8.1 Wiring Diagram for Pulsar & Pulsar N Series Navigation, Position, and Strobe Lights

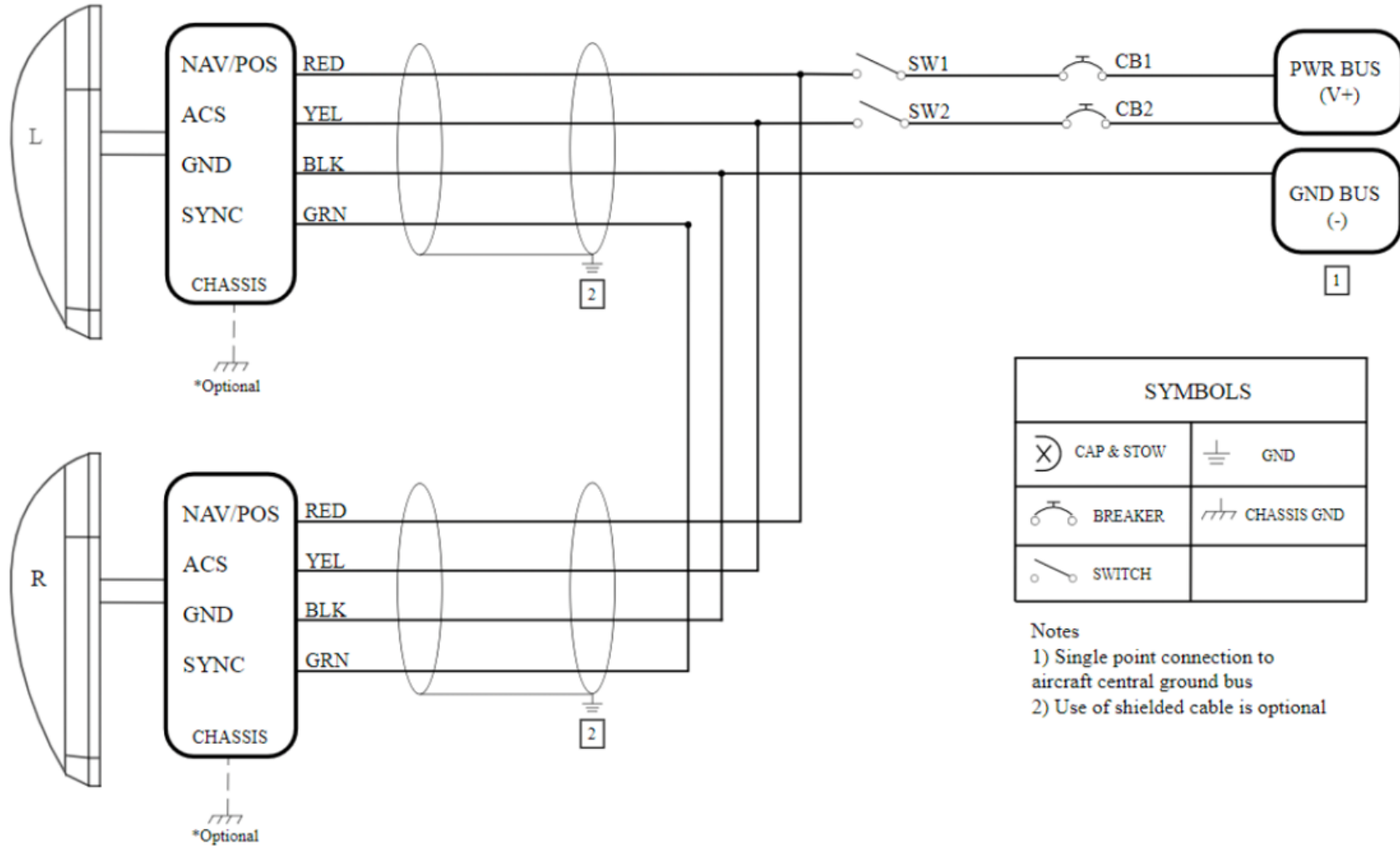
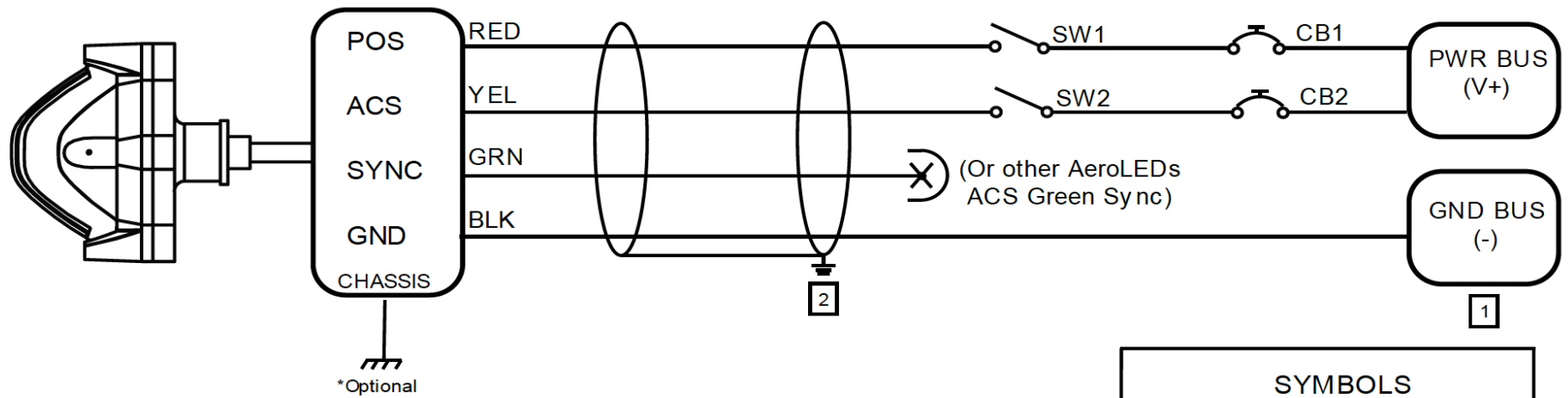


Figure 8-1

8.2 Wiring Diagram for SunTail Position and Strobe Light



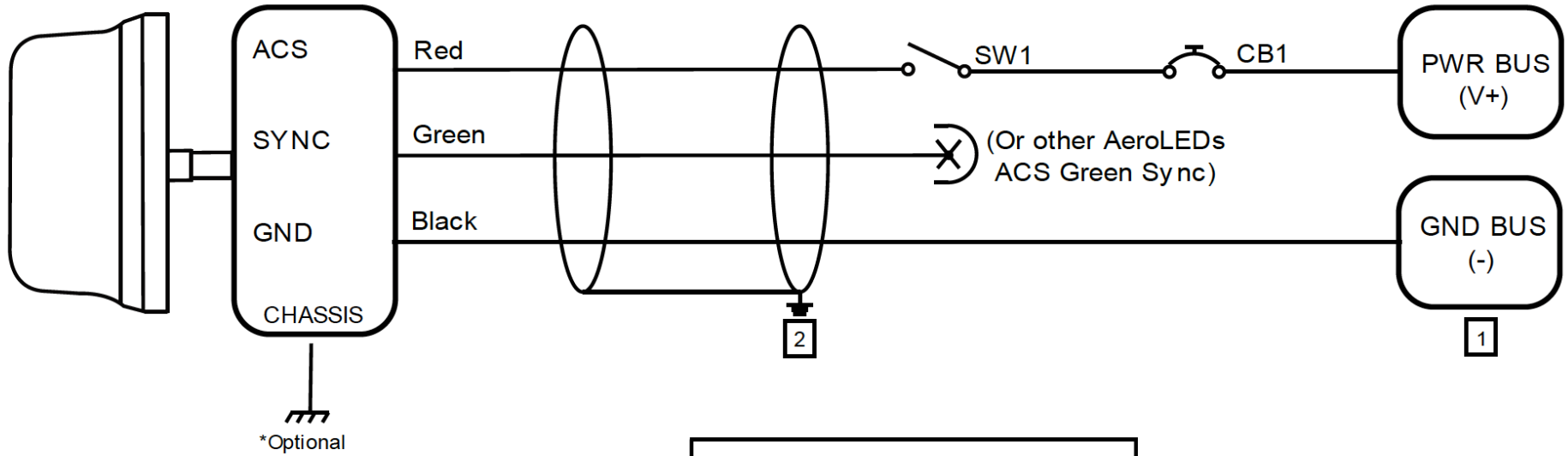
SYMBOLS			
	CAP & STOW		GND
	BREAKER		CHASSIS GND
	SWITCH		

Notes

- 1) Single point connection to aircraft central ground bus
- 2) Use of shielded cable is optional

Figure 8-2

8.3 Wiring Diagram for SunBeacon II Series Beacon Light



SYMBOLS	
CAP & STOW	GND
BREAKER	CHASSIS GND
SWITCH	

Notes

- 1) Single point connection to aircraft central ground bus
- 2) Use of shielded cable is optional

Figure 8-3

9 Mounting Diagrams

9.1 Mounting Diagram for Pulsar Navigation, Position, and Strobe Lights

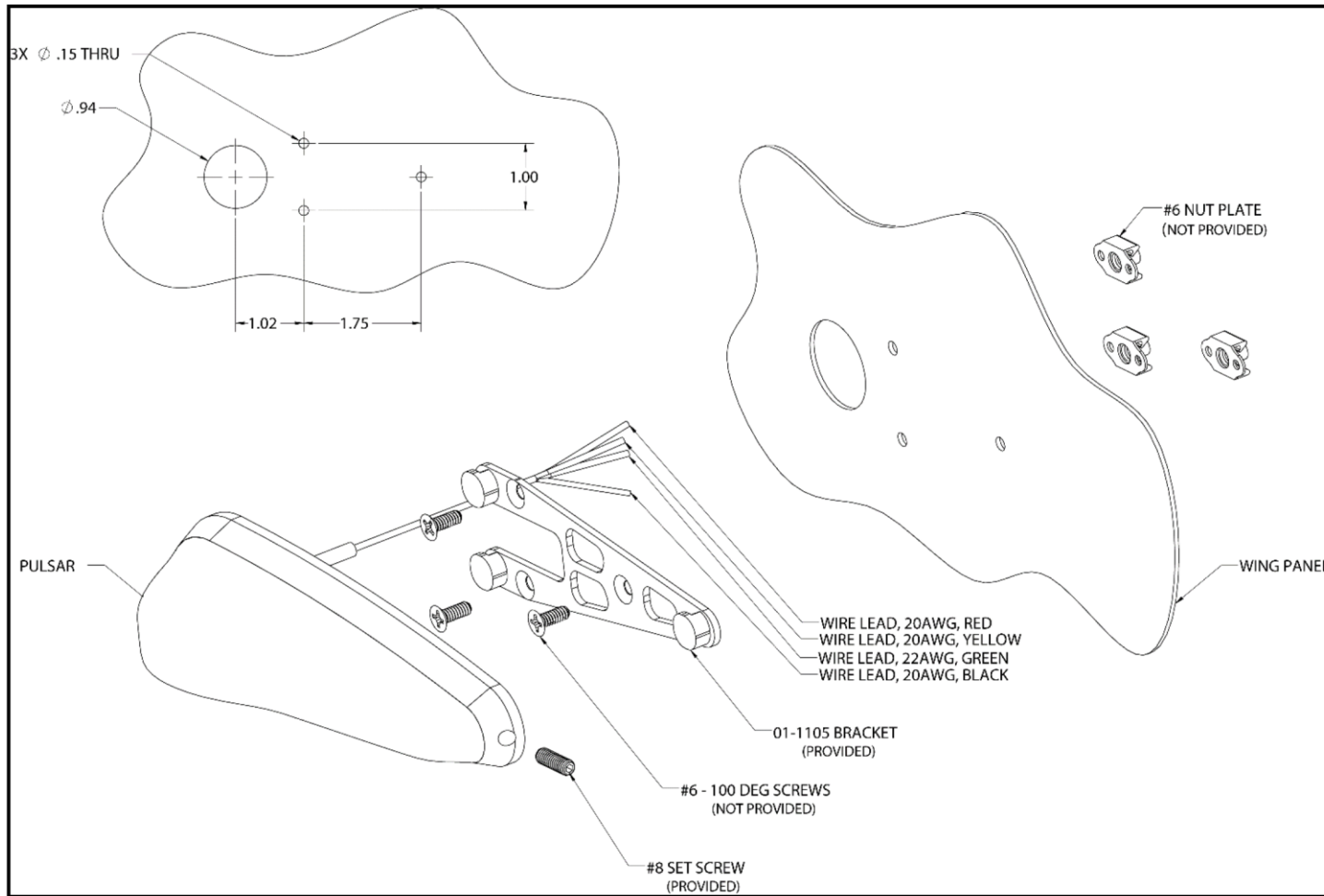


Figure 9-1-1

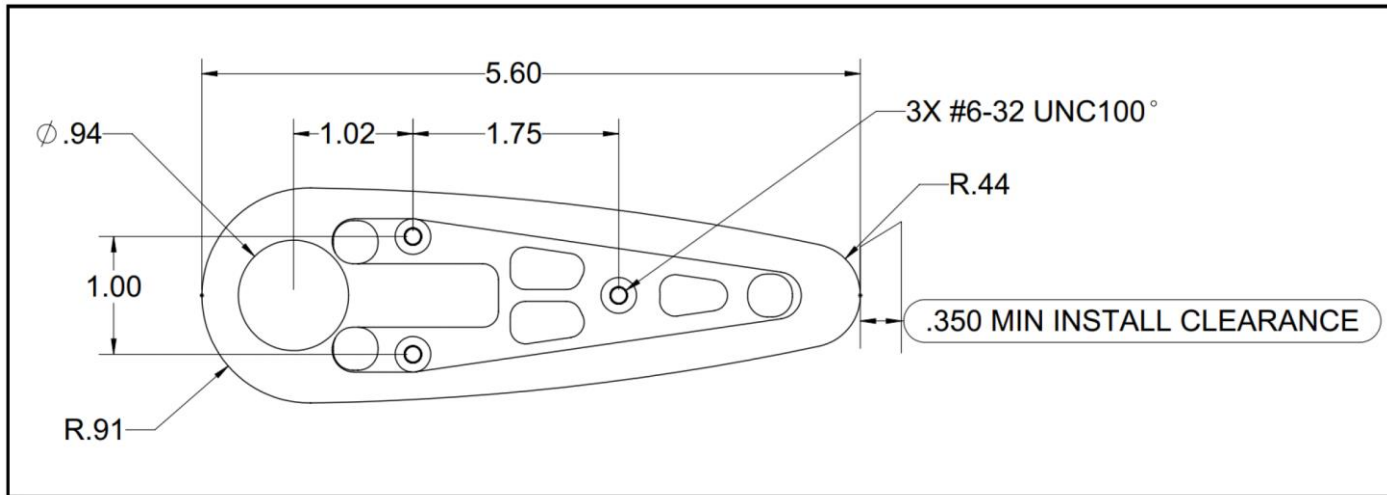


Figure 9-1-2

9.2 Mounting Diagram for Pulsar N-series Navigation, Position, and Strobe Lights

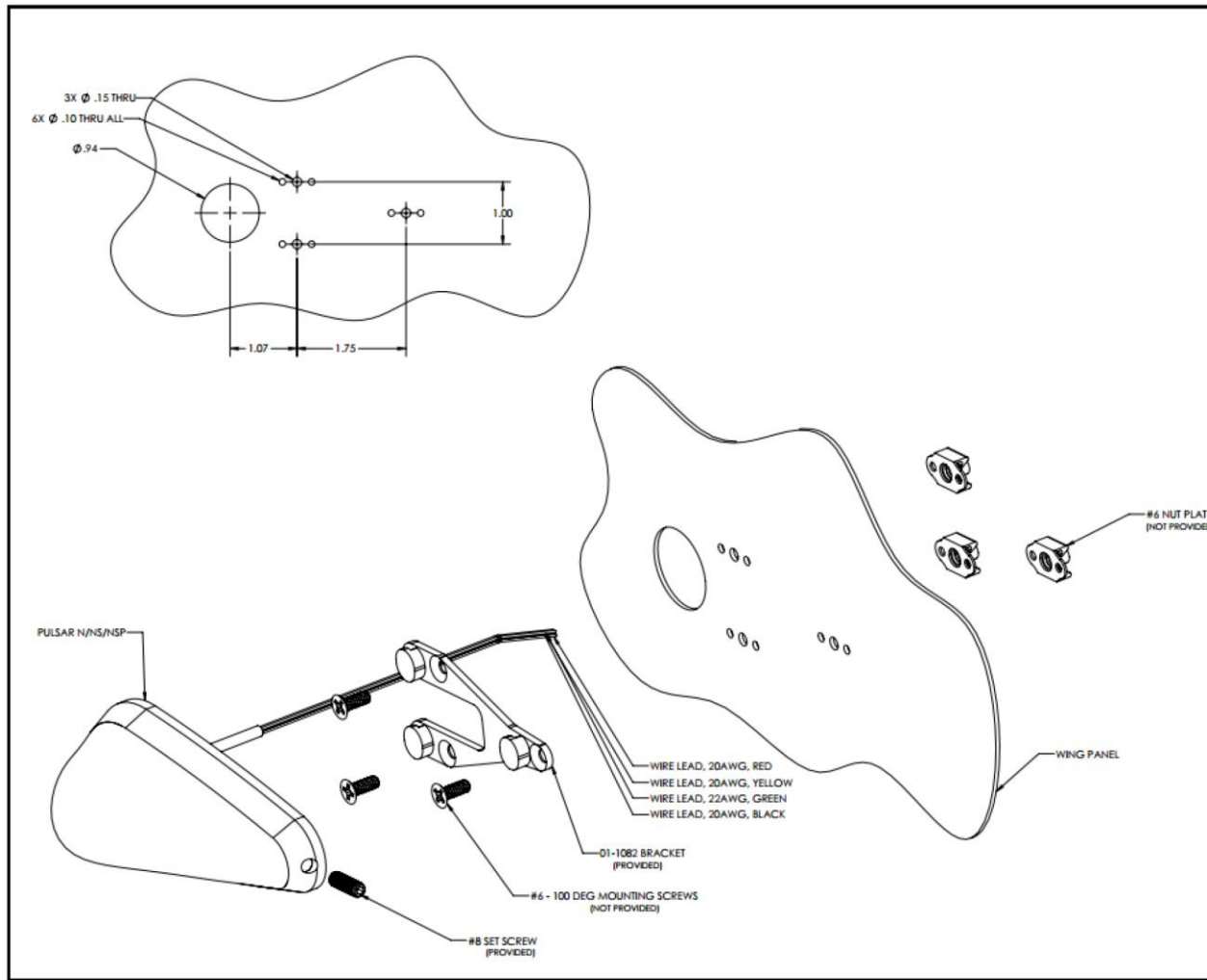


Figure 9-2-1

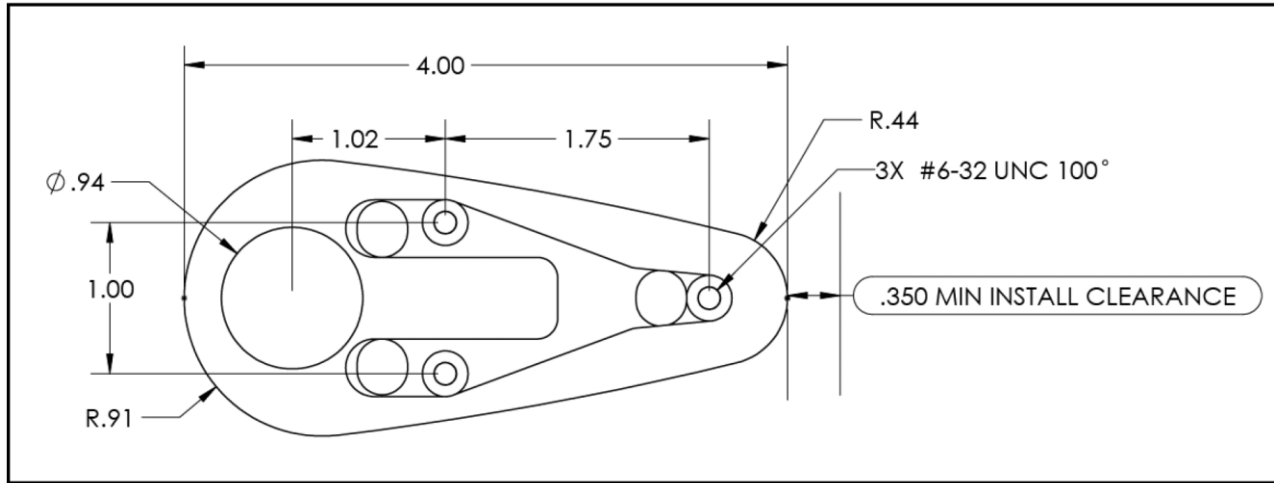


Figure 9-2-2

9.3 Mounting Diagram for SunTail Series Tail Lights

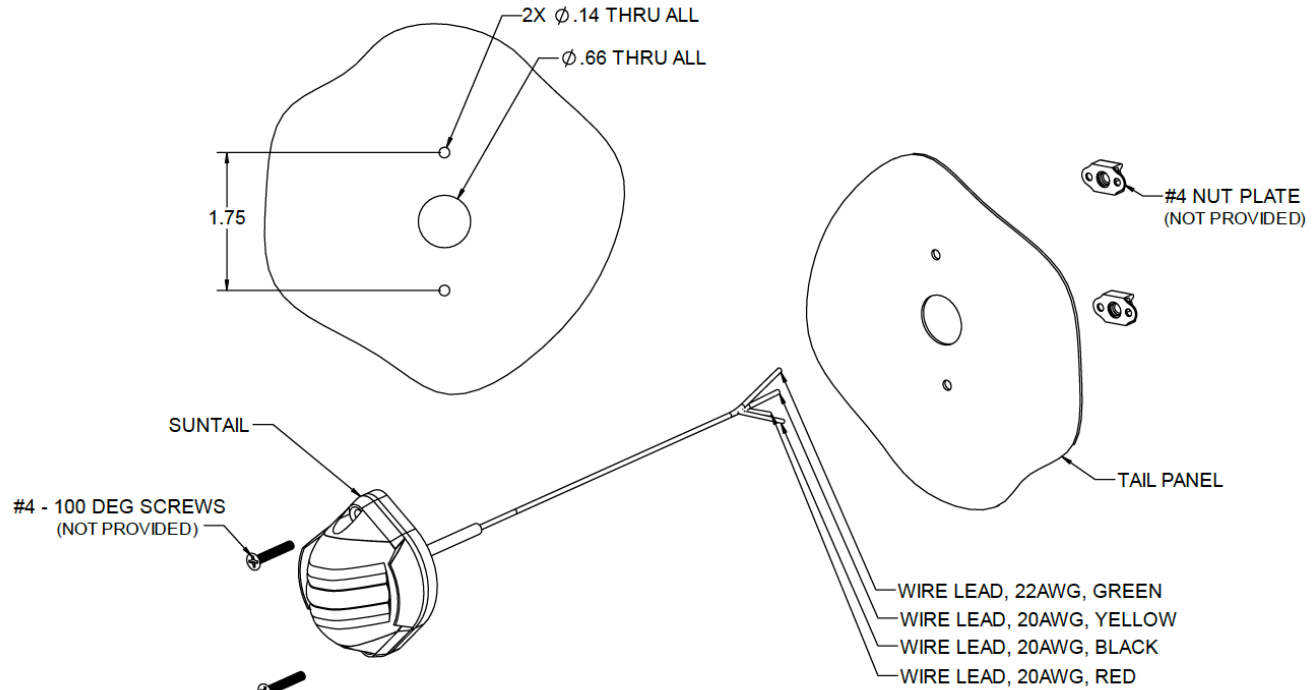


Figure 9-3-1

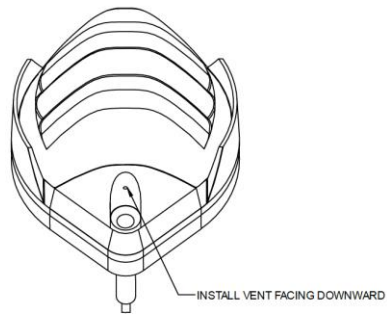


Figure 9-3-2

9.4 Mounting Diagram for SunBeacon Beacon Lights

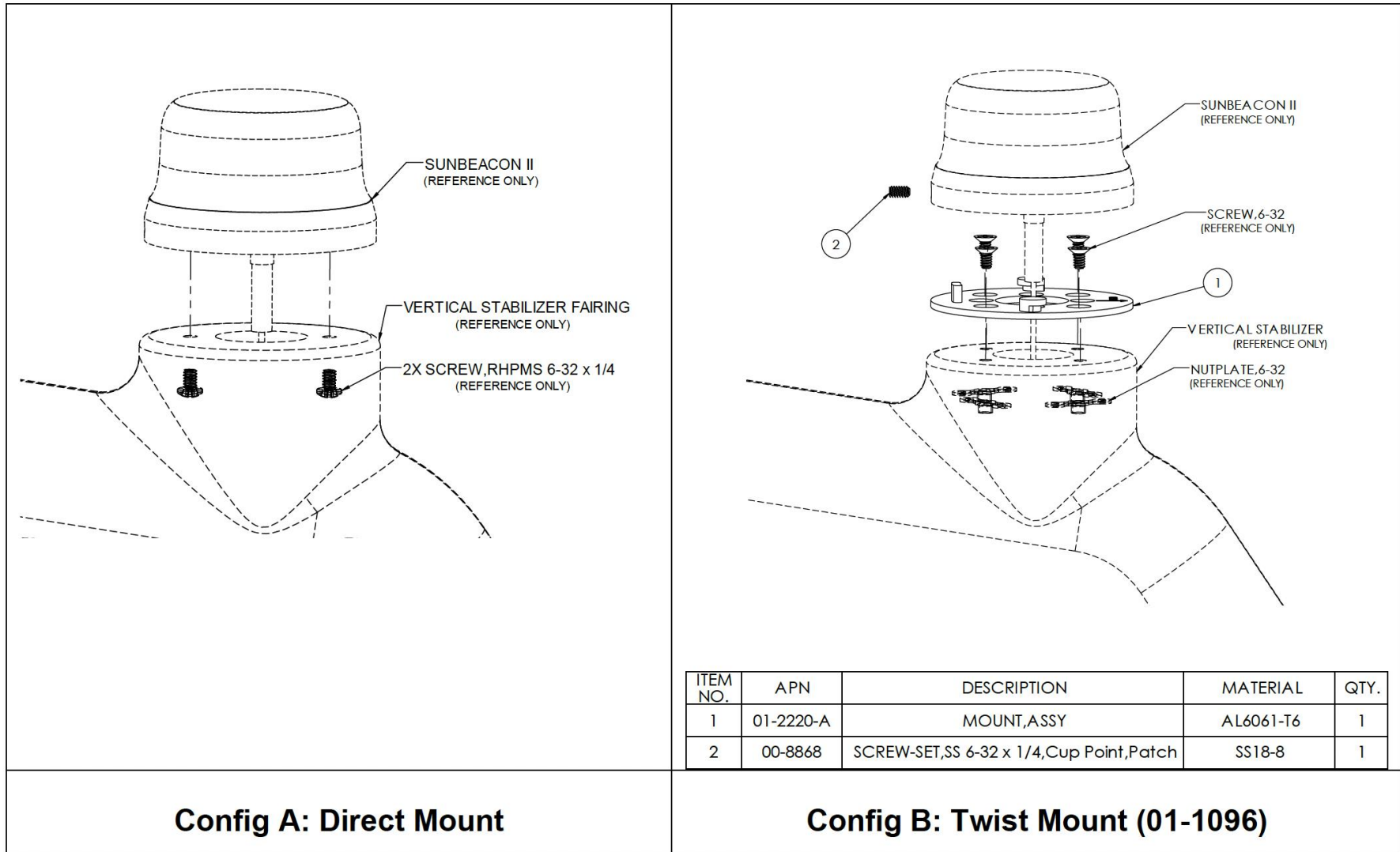
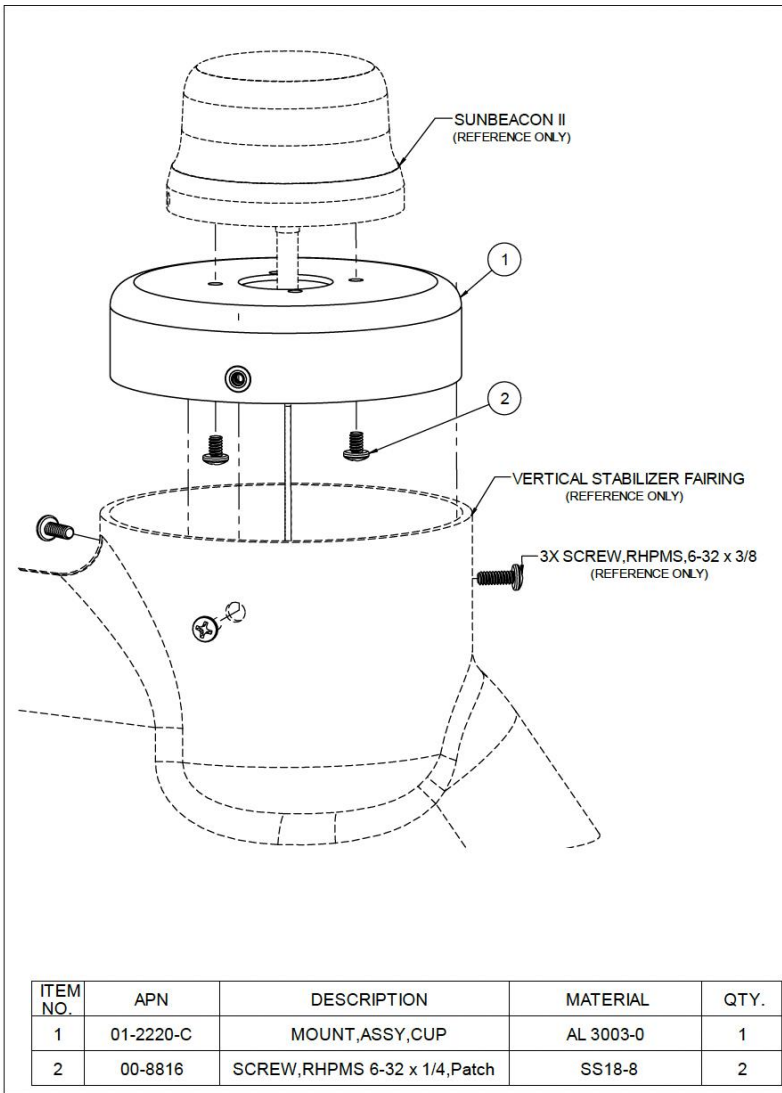
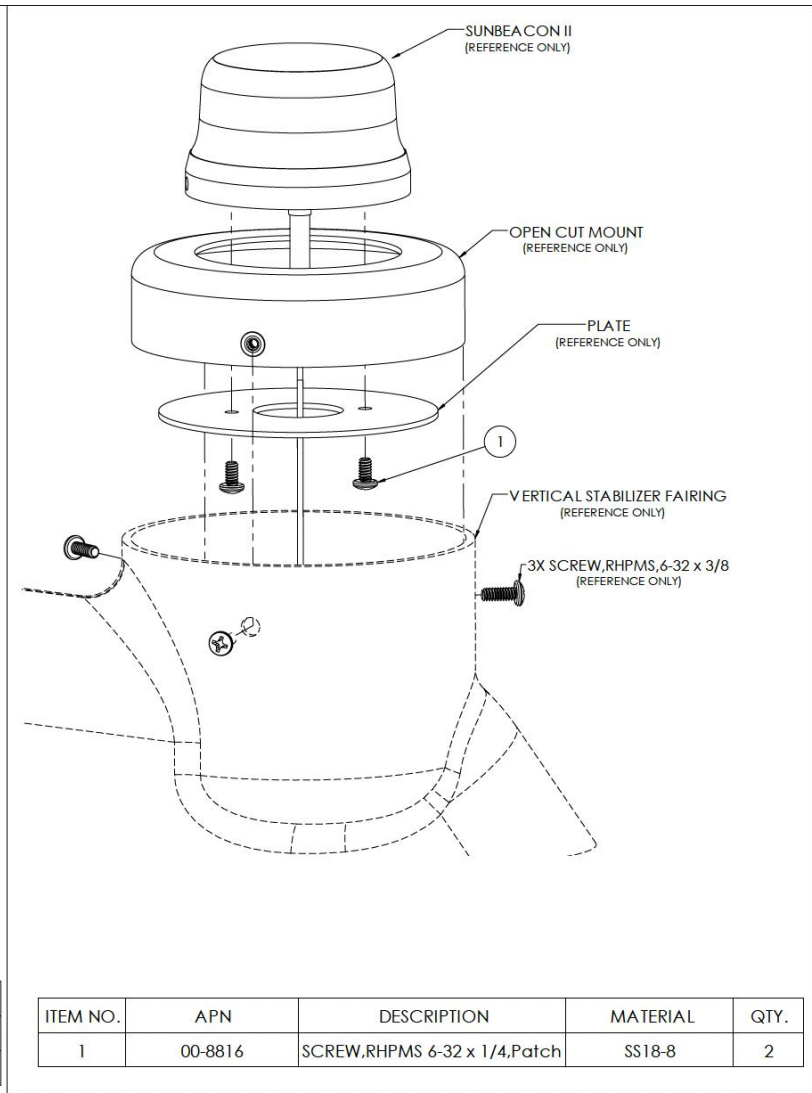


Figure 9-4-1



Config C: Cup Mount Adapter (KIT-0049)



Config D: Plate Mount

Figure 9-4-2