

Charles SHRD5 Add-On Kit

97-SHRD5-2822xW

General Description and Installation

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1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides general information for the 97-SHRD5-2822xW add-on kit for SHRD5 Series pole-top radio shrouds. Figure 1 shows the kit components. Mounting hardware is not shown.

-NOTE-

*Hereafter, the Charles 97-SHRD5-2822xW add-on kit will be referred to as the "kit."
The 22" SHRD5 Series radio shroud will be referred to as the "SHRD5."*

1.2. Product Purpose

The kit is a protective housing for three customer supplied C-band radios. The kit is installed underneath a Charles Industries SHRD5 Ø22" pole-top radio shroud.

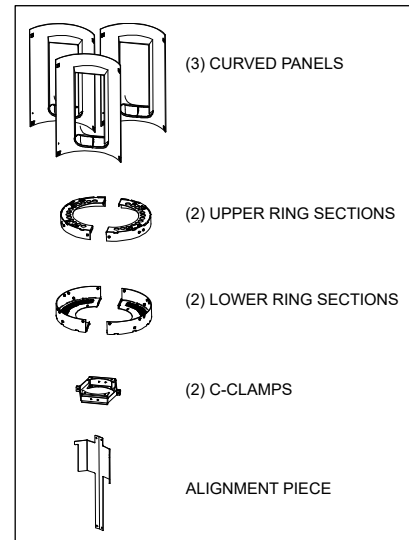


Figure 1 Kit Components

2. INSTALLATION

2.1. Inspecting the Product

The kit is shipped in a carton. Unpack the unit and dispose of the packaging material.

-INSPECTION NOTE-

Visually inspect the unit for damages prior to installation. If the equipment was damaged in transit, immediately report the extent of the damage to the transportation company.

2.2. Following and Using Safety Precautions

Read the following site and safety tips, cautions, and warnings, then proceed with the paragraphs that follow.

- Read all instructions, warnings and cautions on the equipment and in the documentation shipped with the product.
- Do not place this product on weak or unstable surfaces which may allow the product to fall, resulting in potentially serious damage(s) to persons or product.
- Only authorized trained personnel shall install the kit.

2.3. Obtaining Tools and Equipment

Obtain the following recommended or needed items for installing the kit.

- Protective and/or insulated work gloves
- Safety glasses
- Any exterior cable strain relief, per company practice
- Slotted, hex, and Phillips screwdrivers
- Torque wrench

2.4. Mounting the Kit

The kit’s upper ring is secured to the bottom of the Ø22” SHRD5, while the lower ring and C-clamps are mounted lower on the pole. The customer mounts the radios in between these rings, and then places the three curved panels around the radios.

2.4.1. Torque Requirements

Torque all hardware as shown below (unless otherwise noted). These values apply to SAE Grade 1 & 2 Low Carbon Steel, ASTM A307 Low Carbon Steel, and Stainless Steel Grade 18-8.

Thread Size	In-lbs	Ft-lbs
4-40	4±10%	
6-32	8±10%	
8-32	16±10%	
10-32	26±10%	
12-24	50±10%	
1/4-20/M6	60±5%	5±5%
5/16-18	125±5%	10.4±5%
3/8-16	180±5%	15.0±5%
1/2-13	500±2%	41.7±2%
5/8-11	1000±1%	83.3±1%

2.4.2. Prepare the SHRD5

Prior to installing the kit, remove the SHRD5 curved panels from the mast assembly to allow access to the SHRD5 bottom panel (Figure 2). The curved panels have tethers that keep them connected to the mast assembly. Do not remove these tethers.

It is not necessary to remove any radio equipment or disconnect the cables from the SHRD5.

2.4.3. Install Upper Ring

Locate the two upper ring sections of the kit. Secure these to the underside of the SHRD5 bottom panel using eight sets of 1/4-20 (5/8" long) hex screws with split and flat washers (Figure 3).

Join the two upper ring sections to each other using two 1/4-20 (5/8" long) hex screws (Figure 4).

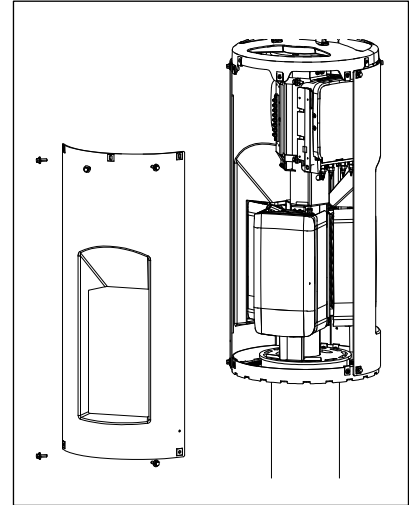


Figure 2 Remove SHRD5 Panels

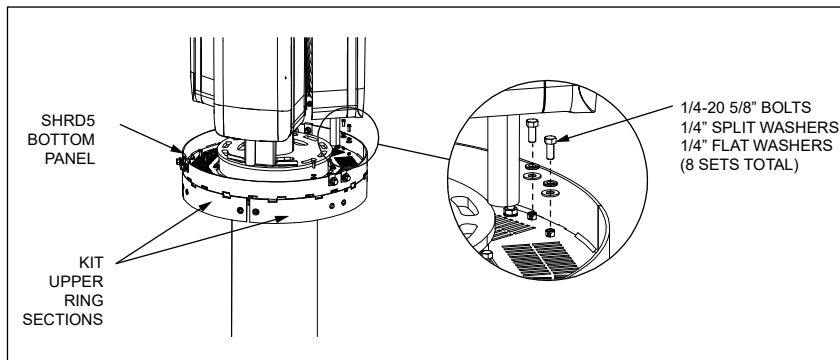


Figure 3 Attach Upper Ring Sections to SHRD5

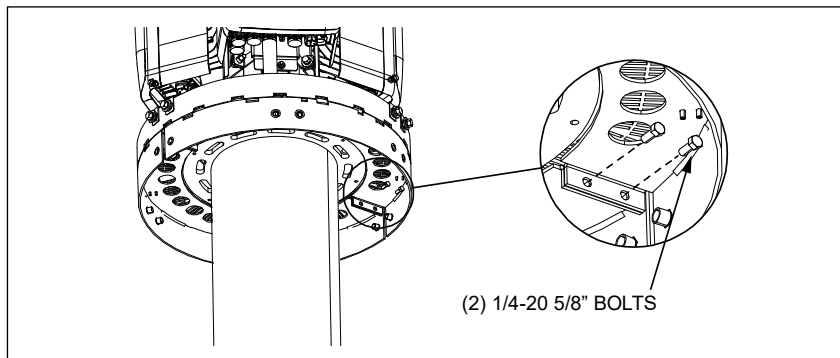


Figure 4 Join Upper Ring Sections Together

2.4.4. Install C-clamps and Lower Ring

Attach the two c-clamps to each other around the pole. Use two 3/8-16 (1.25" long) hex screws with split washers and flat washers (Figure 5). Do not fully tighten the c-clamps. At this point they should be able to slide up or down the pole as needed.

Secure the two lower ring sections to the C-clamps (Figure 6). Use four sets of 1/4-20 (5/8" long) hex screws with split and flat washers from below the ring sections, through the slots in the ring sections, and upward into the mounting holes on the c-clamps. Use the same size screws to secure the two sections to each other.

Use the alignment piece as shown in Figure 7 (shaded in gray) to fix the vertical distance between the upper and lower rings. The alignment piece also ensures the correct orientation of the two rings relative to each other. Install the alignment piece to the upper and lower rings using four 3/8-16 (1.25" long) screws. Then fully tighten the c-clamps on the lower section so that it can no longer move vertically.

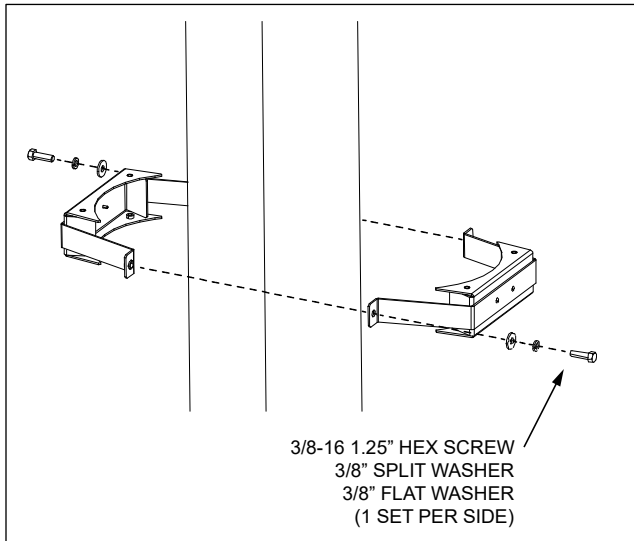


Figure 5 Attach C-clamps Around Pole

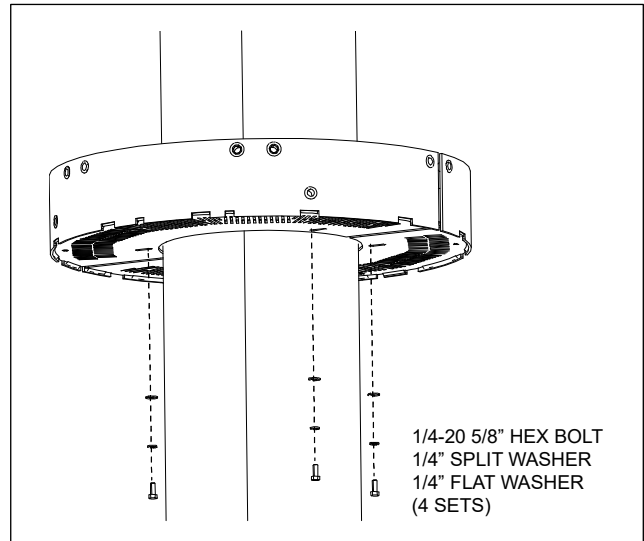


Figure 6 Attach Lower Ring Sections to C-clamps

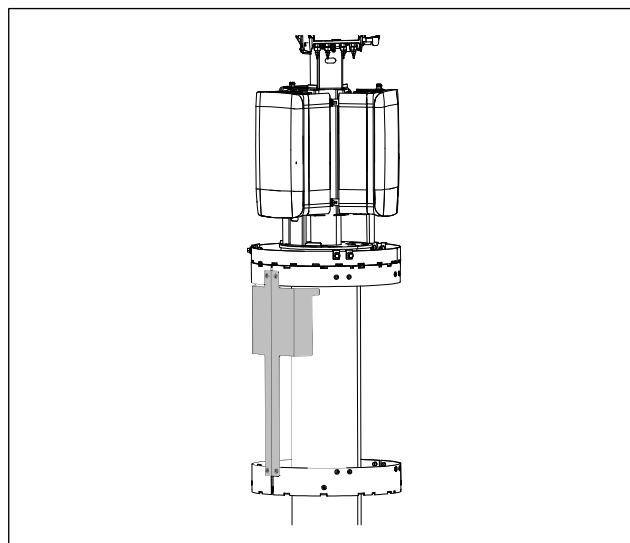


Figure 7 Install Alignment Piece

2.4.5. Install Radios

The radios and radio mounting brackets are customer supplied (Figure 8). Install the radios and brackets per the manufacturer’s instructions.

When installing the first radio, ensure the side of the radio is flush against the alignment piece (top left corner of the radio fits against the upper corner of the alignment piece). Position the other two radios so that they are each 120° in either direction from the first radio (all radios are equidistant around the pole). Then fully tighten the radio brackets so that the radios cannot shift position.

When the radios are secure, remove the alignment piece. Store or discard per company practice. Keep the screws used to hold the alignment piece in position, as these will also be used to secure the curved panels in place.

Connect radio fiber and power cables as needed.

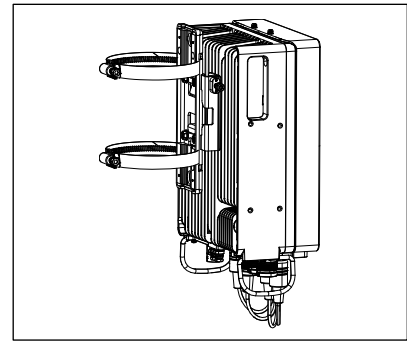


Figure 8 Radio and Bracket

2.4.6. Install Curved Panels

Connect the tethers to the inside of the curved panels using one 1/4-20 screw and Keps nut per panel (Figure 10). Connect the other end of each tether to a 1/4-20 stud on the inside of the lower ring using another Keps nut.

Install the curved panels that ship with the kit. Ensure that the tethers are fully inside the enclosure. Secure the panels to the upper and lower rings using 3/8-16 (1.25” long) hex screws with split and flat washers (four sets per panel).

Re-attach the SHRD5 curved panels to the SHRD5 mast assembly. Figure 11 shows the complete assembly (shown with optional SKRT1 series, see Table 1).

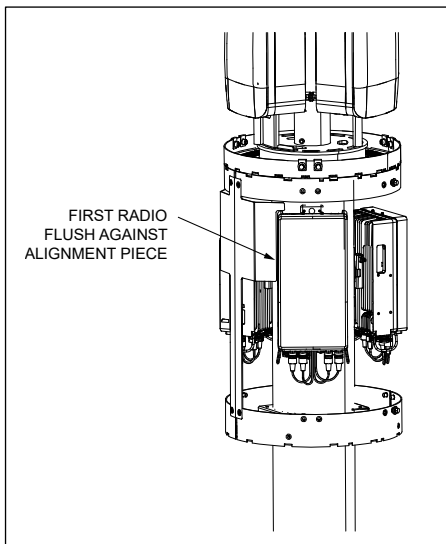


Figure 9 Install Radios

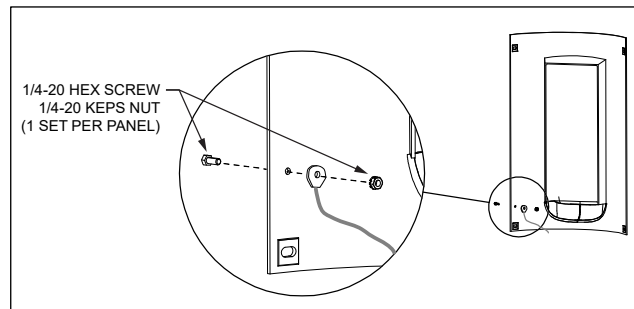


Figure 10 Install Tethers

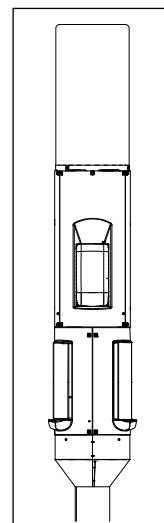


Figure 11 Complete Assembly

3. TECHNICAL ASSISTANCE AND REPAIR SERVICE

For questions on product repair or if technical assistance is required, contact Charles Technical Support.

847-806-8500
techserv@charlesindustries.com (email)
<http://www.charlesindustries.com/techserv.htm>

4. WARRANTY & CUSTOMER SERVICE

Charles Industries LLC offers a one-year warranty on the kit product. The Charles warranty is limited to the operation of the kit hardware as described in this documentation and does not cover equipment that may be integrated by a third party. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative.

847-806-6300
mktserv@charlesindustries.com (email)
http://www.charlesindustries.com/main/telecom_sales_support.htm

5. SPECIFICATIONS

Physical	
Weight	Approx. 30 lbs. as shipped
Materials	Ring sections: 0.125" aluminum and steel Alignment piece: 0.125" aluminum Curved Panels: fiberglass composite
Environmental	
Operating Temp. Range, Outside Enclosure	-40° to +115°F, -40° to 46°C
Operating Temp Range, Inside Enclosure	-40° to +131°F, -40° to 55°C
Humidity	0 to 95% (non-condensing)
Altitude	Up to 2,000 meters (6560 feet)
Kits and Replacement Parts	
Optional Radio Skirt	SKRT1-1422ATVxX

Table 1 Kit Specifications

Model Number	Color	Touch-up Paint
97-SHRD5-2822DW	Classic Texture Gray	02-000642-0
97-SHRD5-2822FW	Onyx Black	02-000640-0
97-SHRD5-2822GW	National Park Brown	02-000747-0
97-SHRD5-2822HW	Hunt Club Green	02-000748-0

Table 2 Available Colors