

Charles Retrofit Kit

97-002493-A

General Description and Installation

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1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides general information for the 97-002493-A retrofit kit for the Charles Industries SH60-702018 radio shroud. Figure 1 shows the kit components. Mounting hardware is not shown.

-NOTE-

Hereafter, the Charles 97-002493-A retrofit kit will be referred to as the "kit." The SH60-702018 radio shroud will be referred to as the "SHRD60."

1.2. Product Purpose

The kit consists of a set of brackets to be installed in the SHRD60. The brackets support (1) Nokia AHFIB radio, (1) Nokia AZHL, (1) Nokia APAM power supply, (2) CommScope CBC1726T-4310 diplexers, and (1) Nokia POD-8 multiplexer. All equipment is customer supplied.

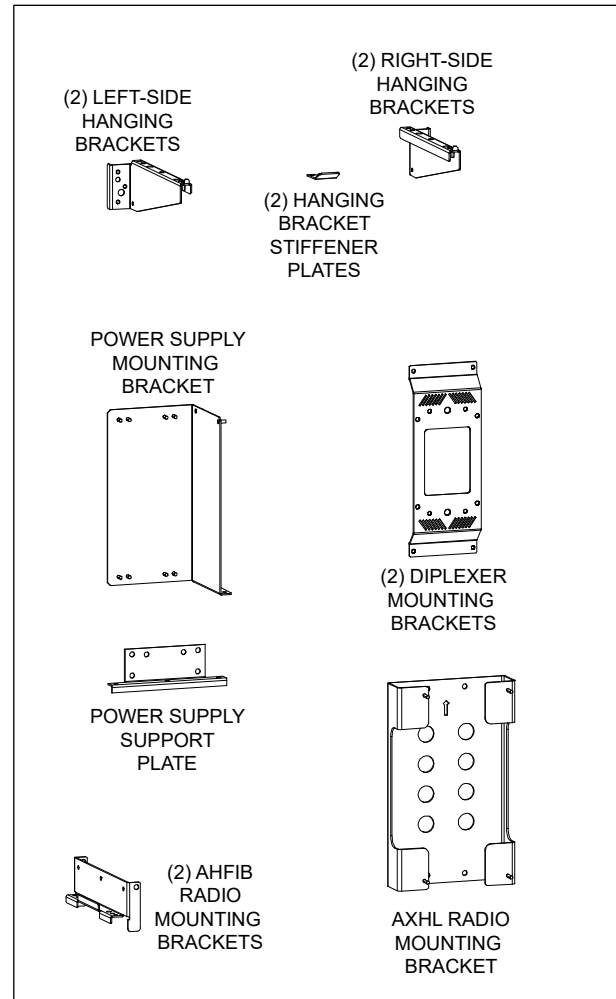


Figure 1 Kit Components

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.
- In windy conditions, be sure to engage the wind latch to secure the door in a stationary position.

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
- Can wrench (216 type tool)
- Tape measure
- Marking utensil
- Drill with 5/16" bit
- Hex screwdriver
- Torque wrench
- Level

2.4. Mounting the Kit

In all images in this section, the SHRD60 door is hidden for clarity.

Prior to mounting the kit, remove all radio equipment and brackets from the SHRD60.

Figure 2 shows the SHRD60 prepared for the kit installation.

Hardware for mounting the kit brackets into the SHRD60 is supplied with the kit. Hardware for mounting the radio equipment is customer supplied.

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% |

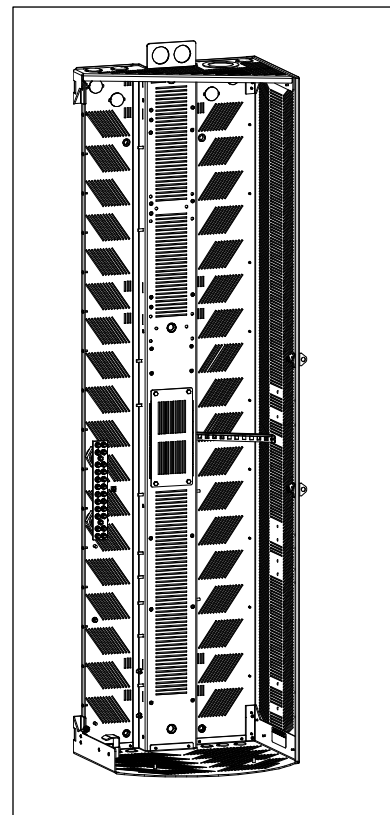


Figure 2 Empty SHRD60

2.4.2. Mount Diplexers

1. Attach the diplexers to the diplexer mounting brackets using customer supplied hardware.
2. Mount the diplexer brackets onto the existing mounting studs on the right-side panel of the SHRD60
3. Secure the brackets onto the studs using 1/4-20 Keps nuts included with the kit.

2.4.3. Drill Holes for AZHL Radio Bracket

Drill holes for the Nokia AZHL radio as described below.

1. Hold the AZHL mounting bracket against the SHRD60 central spine as shown below. Ensure the bottom edge of the bracket is 8.50" from the bottom of the SHRD60 and the right side of the bracket is flush against the SHRD60 central spine.
2. Mark the locations of the four holes indicated in Figure 4.
3. Set the bracket aside.
4. Use a 5/16" drill bit to drill holes at the marked locations. Use touch-up paint on the insides of these holes to prevent corrosion.
5. Attach the AZHL mounting bracket to the central spine use a 1/4-20 hex screw with lock washer and flat washer through the front of the hole and a 1/4-20 Keps nut to secure from behind the SHRD60.
6. Attach the Nokia AZHL radio to the studs on the front of the mounting bracket and secure in place using customer supplied hardware (Figure 5).

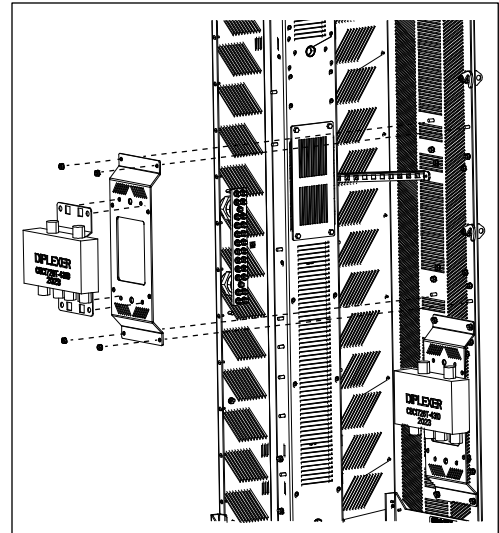


Figure 3 Mount Diplexers

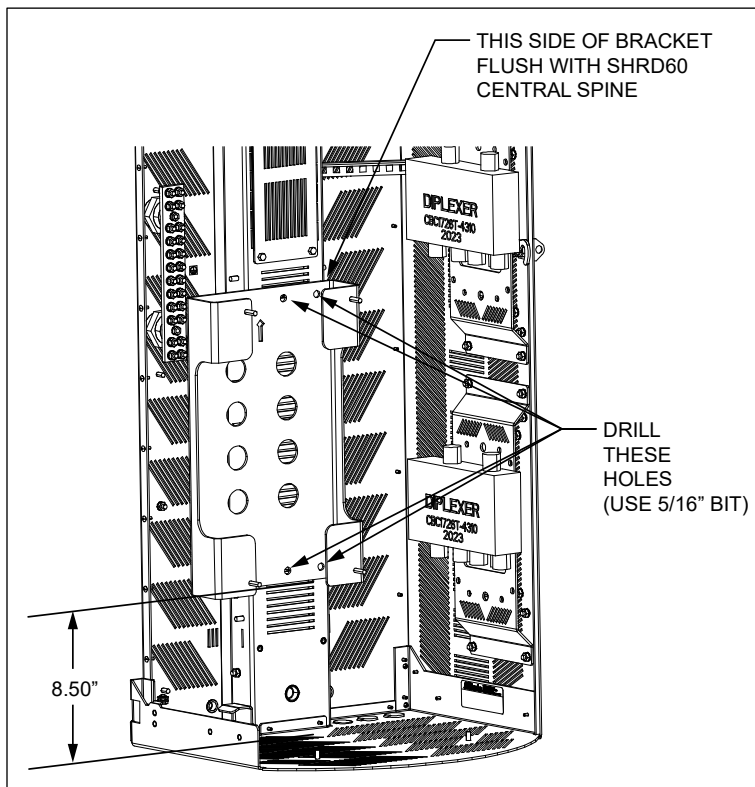


Figure 4 Mount Diplexers

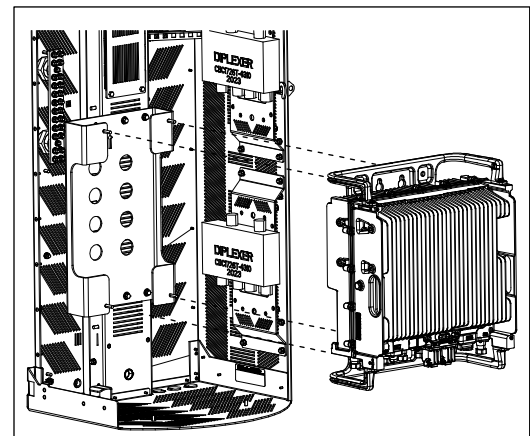


Figure 5 Mount AZHL Radio

2.4.4. Install Hanging Brackets

The hanging brackets are mounting in pairs (upper pair and lower pair). Within each pair, one bracket is on the left side of the central spine, while the other is on the right.

1. Hold the brackets against the central spine with the bracket flange snug against the side of the spine (Figure 6). Make sure that each pair of brackets is horizontally level to each other, and that each pair is positioned at the distance shown from the top of the SHRD60.
2. Mark the locations of the mounting studs on the bracket flanges indicated (Figure 6, three holes per bracket). Set the brackets aside.
3. Use a 5/16" drill bit to drill holes at the marked locations. Use touch-up paint on the insides of these holes to prevent corrosion.
4. Mount the hanging brackets by setting the studs into the drilled holes. Secure from behind the SHRD60 using 1/4-20 Keps nuts included with the kit.
5. Install the stiffener plates on the front of each pair of hanging brackets. The stiffener plates fit onto the two studs on the underside of the hanging brackets (Figure 7). Secure using two 1/4-20 Keps nuts included with the kit.

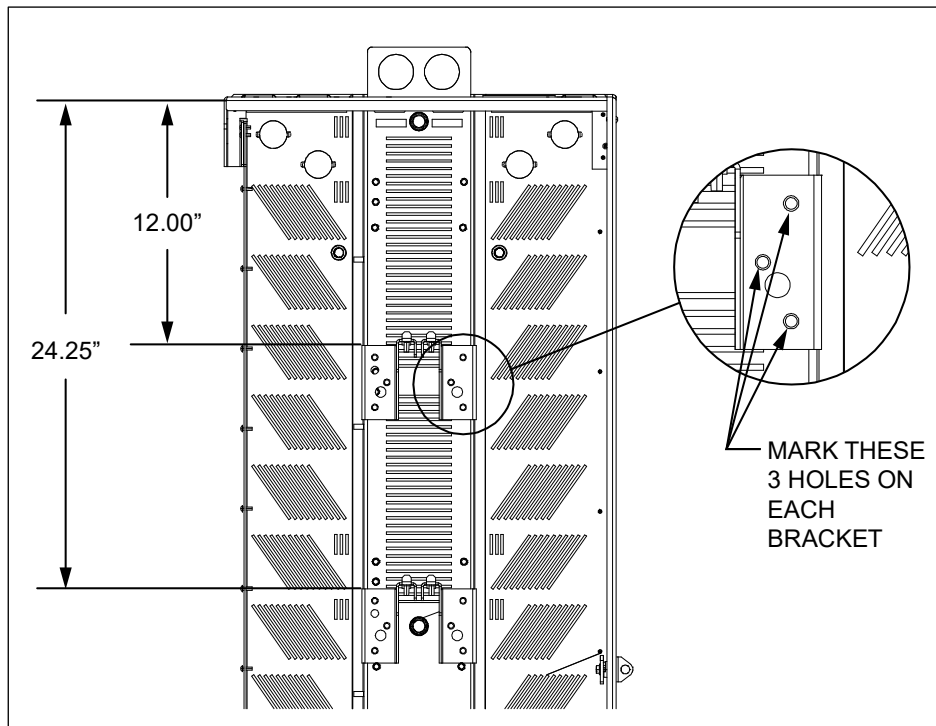


Figure 6 Hanging Brackets

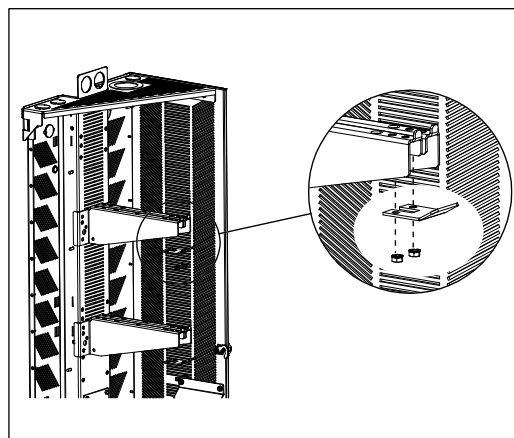


Figure 7 Mount Stiffener Plates

2.4.5. Mount Nokia AHFIB Radio

The kit includes two mounting brackets for the AHFIB radio. Attach these to the back of the radio as shown (Figure 8) using customer supplied hardware.

Attach the AHFIB brackets to the right side of the hanging brackets (Figure 9). Secure from the top using 1/4-20 hex screws with lock washers and flat washers (two hardware sets per hanging bracket).

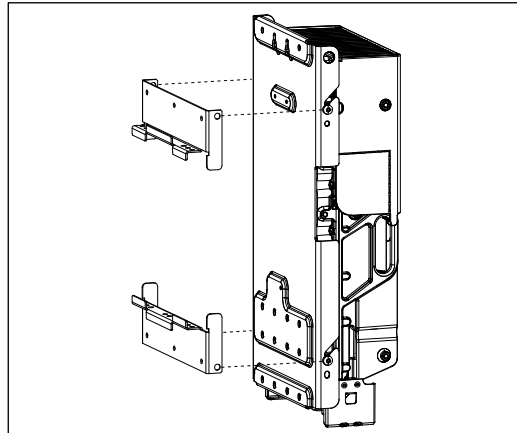


Figure 8
Attach AHFIB Mounting Brackets to Radio

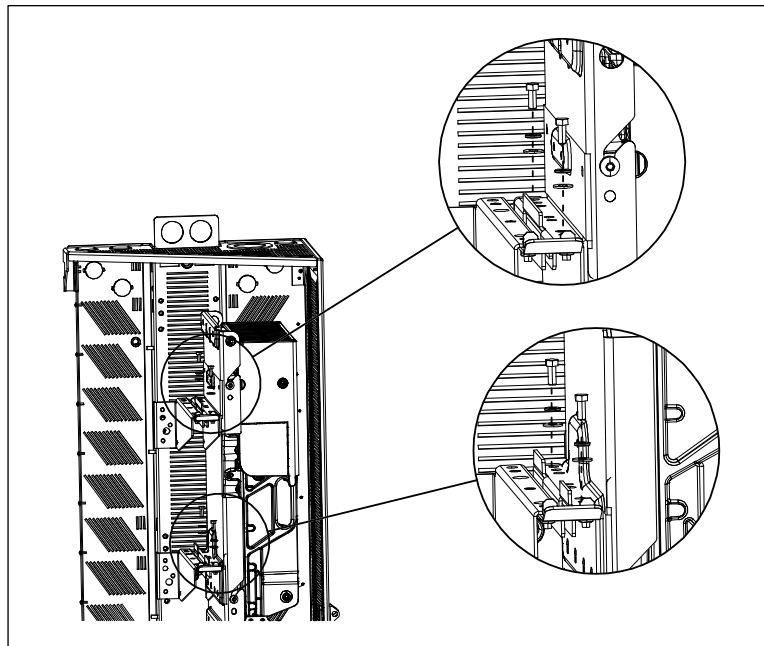


Figure 9
Mount AHFIB on Hanging Brackets

2.4.6. Mount Multiplexer and Power Supply

1. Mount the power supply support plate onto the upper left hanging bracket (Figure 10). Secure using two 1/4-20 hex screws with lock washers and flat washers.
2. The Nokia POD-8 multiplexer and the Nokia APAM power supply are mounted onto the L-shaped power supply mounting bracket. This bracket does not have mounting holes for these devices, so they must be drilled. See Figure 11 for positioning information. For the multiplexer, position the device in the location shown and mark the locations of the mounting holes.
3. Use a 5/16" drill bit to drill holes at the marked locations. Use touch-up paint on the insides of these holes to prevent corrosion.
4. Attach the multiplexer and power supply to the mounting bracket using customer supplied hardware.
5. Attach the power supply mounting bracket to the left side of the hanging brackets (Figure 12).

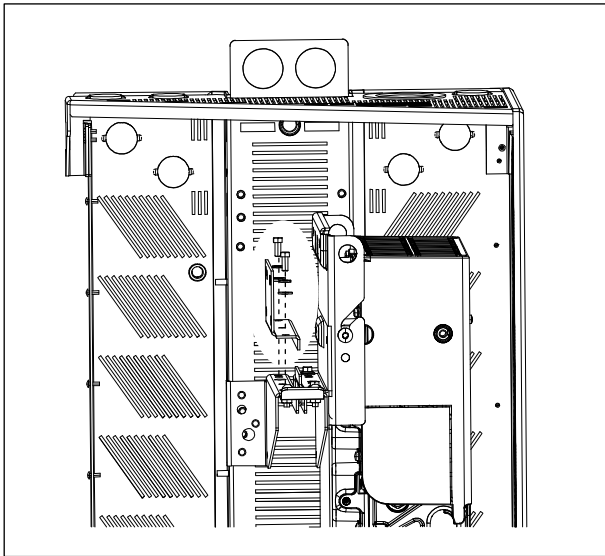


Figure 10
Power Supply Support Plate

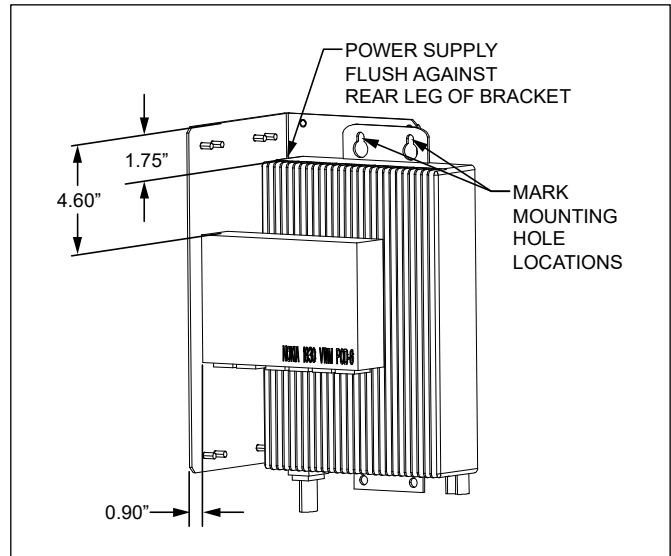


Figure 11
Power Supply and Multiplexer onto Mounting Bracket

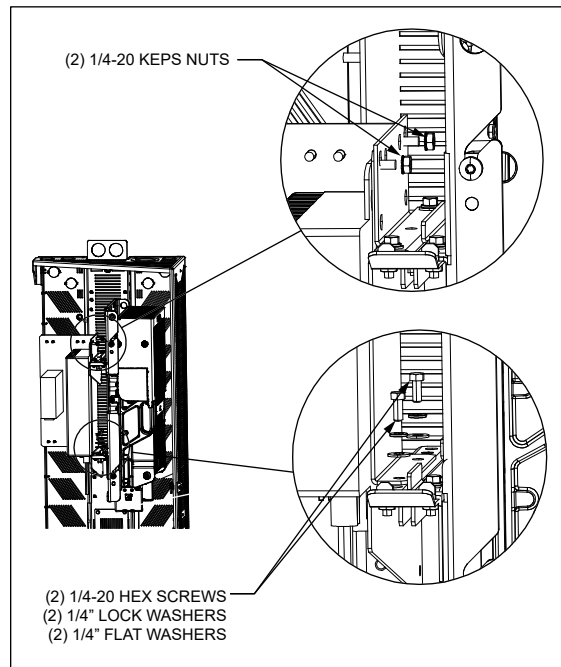


Figure 12
Mount Power Supply and Multiplexer

2.4.7. Complete the Installation

The complete kit installation is shown in Figure 13.

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)

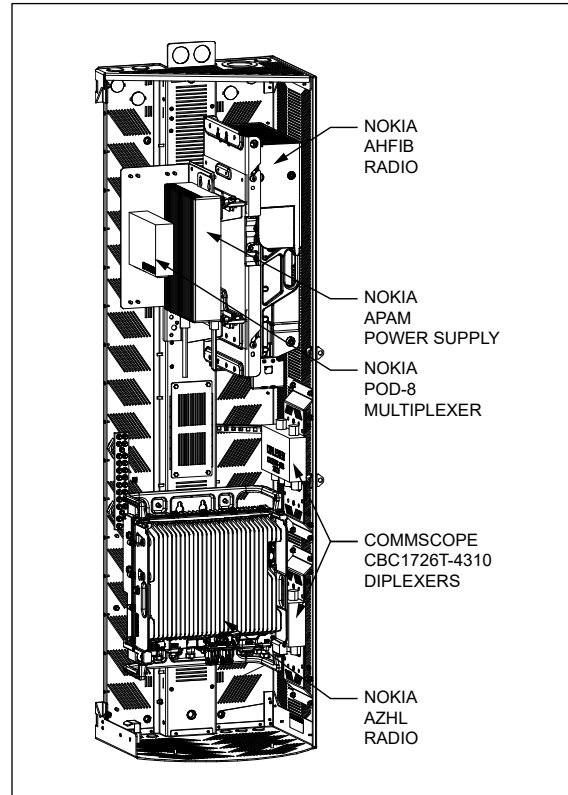


Figure 13 Complete Installation

http://www.charlesindustries.com/main/telecom_sales_support.htm

5. SPECIFICATIONS

| Physical | |
|------------------------|---|
| Weight | Approx. 40 lbs. as shipped |
| Materials | Power supply support plate, stiffener plates, AHFIB bracket, AZHL bracket, power supply bracket: Steel Diplexer mounting brackets, hanging brackets: 0.125" aluminum |
| Color | Off-white |
| Touch-up Paint | 02-000290-0 |
| 216 Type Security Tool | 07-002070-0 |

Table 1 Kit Specifications