



# A2 Service Barrier Installation Instruction Guide

## Suitable for the Lug Range: 1 AWG-300MCM

### Introduction

This Installation Guide should be used when installing service entrance barrier kit for A2 Breaker having cable range capacity 1 AWG-300Kcmil.

These barriers are required when the breaker is used as a single service entrance main device inside a lighting panel in compliance with UL67/2018, Clause 6.4. Barrier installation is required on the line side of the main device prior to energizing in forward or reverse feed applications, ensuring isolation from live parts on the line side when the main breaker is turned off.

If a lug barrier is removed from a circuit breaker for maintenance while the incoming line is shut off, it must be reinstalled prior to reenergizing in order to maintain isolation.

### Contents per Installation Kit

#### A2P3SB1 – A2-3P Lug Service Barrier Kit

Description	Qty.
A2 Finger Safe Barrier	3

#### A2P2SB1 – A2-2P Lug Service Barrier Kit

Description	Qty.
A2 Lug Barrier	2

### Installation

A service entrance panelboard with A2 as a main circuit breaker will require one lug barrier for each phase.

Figure 1 depicts the Lug Barrier included in the kit.

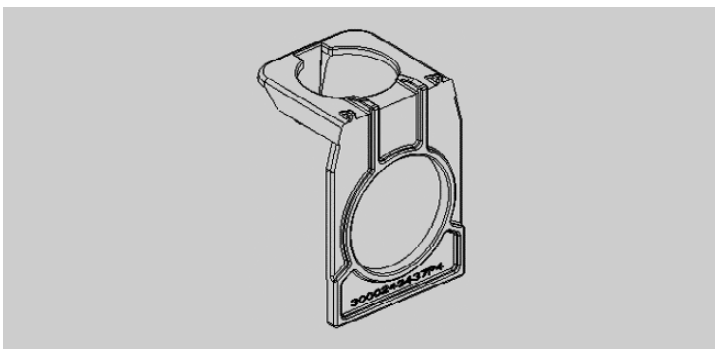


Figure 1: A2 Finger Safe Barrier



**NOTICE:** These instructions do not purport to cover all details or variations in equipment or to provide for every possible contingency to be met in connection with the installation, operation or maintenance. Should further information be desired, or should particular problems arise which are not covered sufficiently for the purposes, the matter should be referred to ABB. These instructions are intended for use by qualified and trained personnel only.

### Hazard Classifications

The following important highlighted information appears throughout this document to warn of potential hazards or to call attention to information that clarifies a procedure.

**Carefully read all instructions and become familiar with the devices before trying to install, operate, service or maintain this equipment.**



**DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**CAUTION:** Indicates that if the hazard is not avoided could result in minor or moderate injury.



**NOTICE:** Is used to notify of practices not related to personal injury.





**DANGER:** Electrical arc flash hazard. Personal protection equipment required. Turn off power to the equipment before working inside.

## Kit Installation Steps

To install Finger Safe Barrier follow steps provided under this installation procedure.

This Finger Safe Barrier must be installed prior to the wire connection to the circuit breaker.

- Item A Terminal Cover Screw
- Item B Terminal Cover
- Item C Lug Top Screw (M8 Socket Head, )
- Item D Terminal Screw (M8 Socket Head, )
- Item E Finger Safe Barrier
- Item F Lug Insulation Barrier
- Item G Lug
- Item H Lug Assembly (Lug assembled with Finger Safe Barrier)

Step 1: Remove Item A and Item B

Step 2: Remove Item C and D

Step 3: Remove Item G and ensure the Item F remains in the terminal slot

Step 4: Assemble Item E on Item G to form sub assembly Item H. Ensure the Item E assembled as per Figure 5.

Step 5: Assemble Item H

Step 6: Assemble Item D by torque value 135 lb-in

Step 7: Assemble Item C

Step 8: Assemble Item B using Item A with two fingers tight

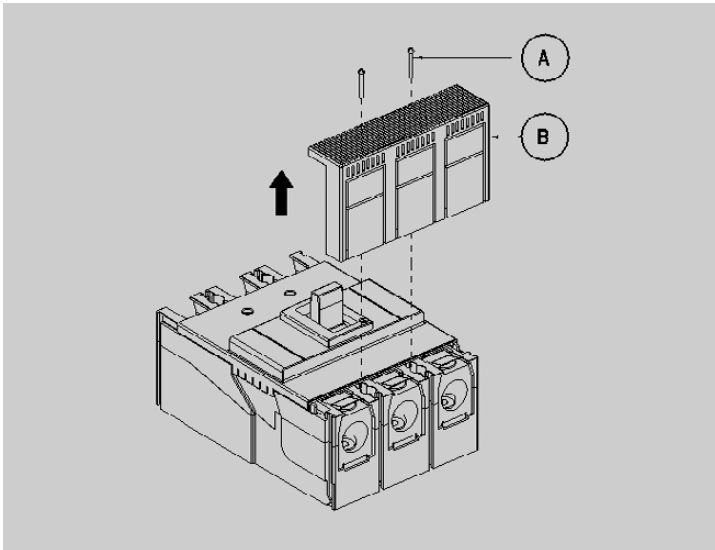


Figure 2: Remove the Item A and B from Circuit Breaker

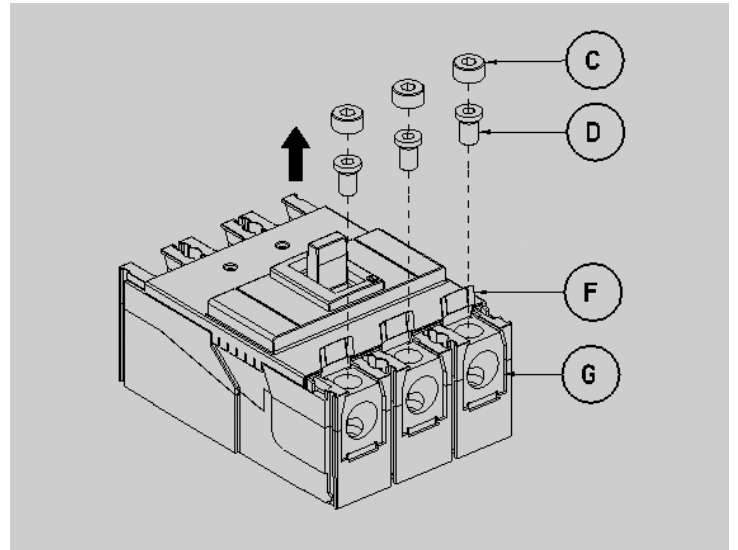


Figure 3: Remove the Item C and D on Lug

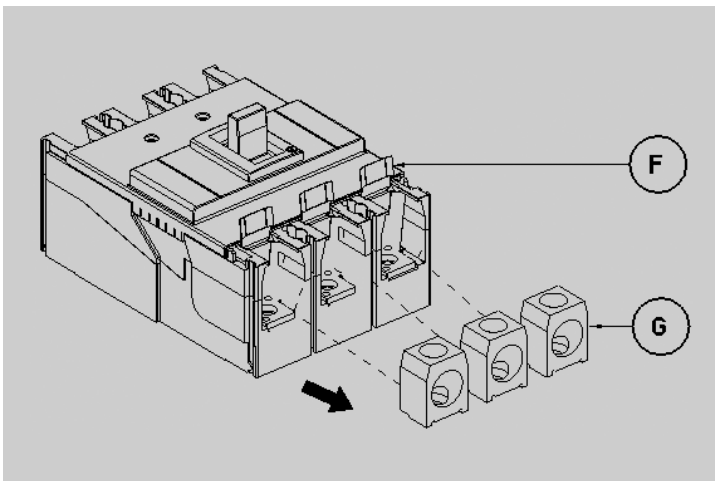


Figure 4: Remove the Item G from Terminal Slot

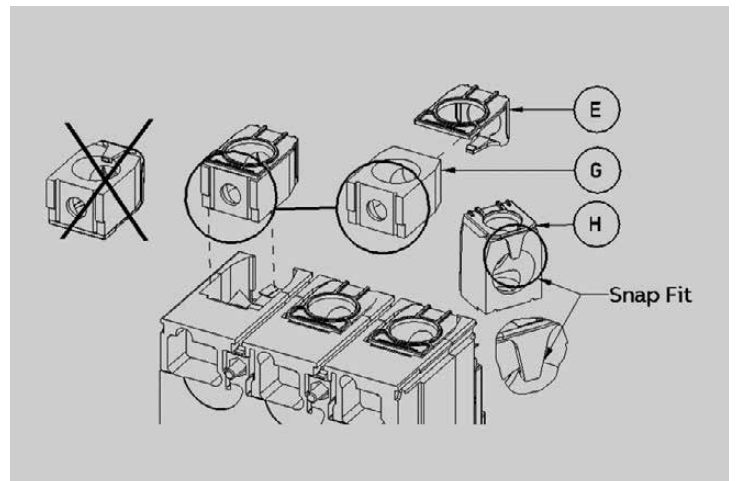


Figure 5: Item H Assembly Process

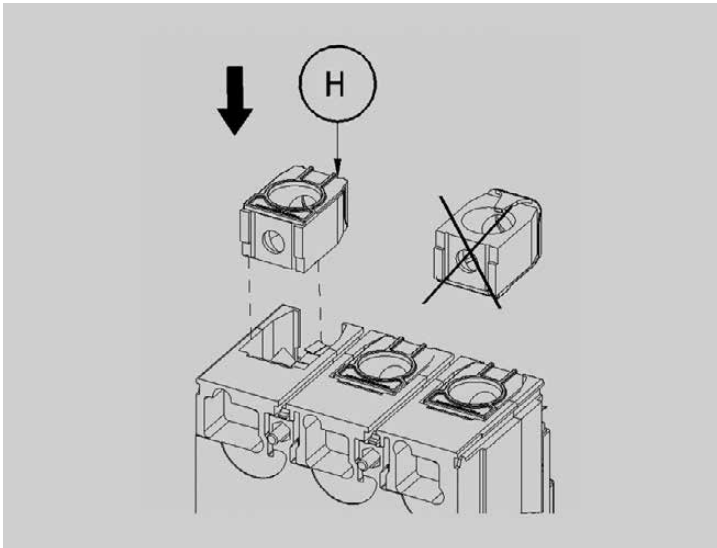


Figure 6: Item H Installation

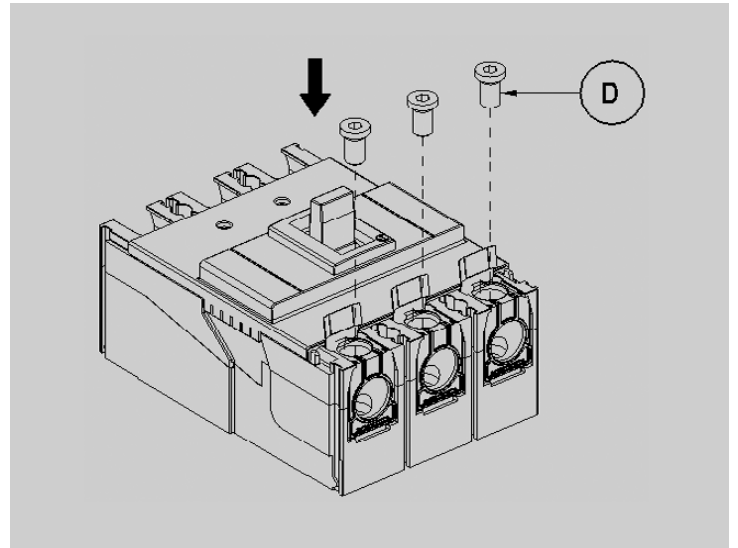


Figure 7: Assemble the Item D

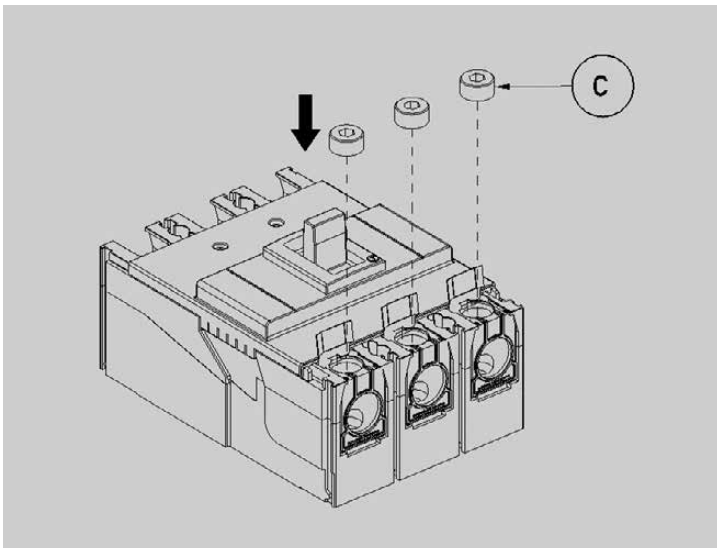


Figure 8: Assemble the Item C

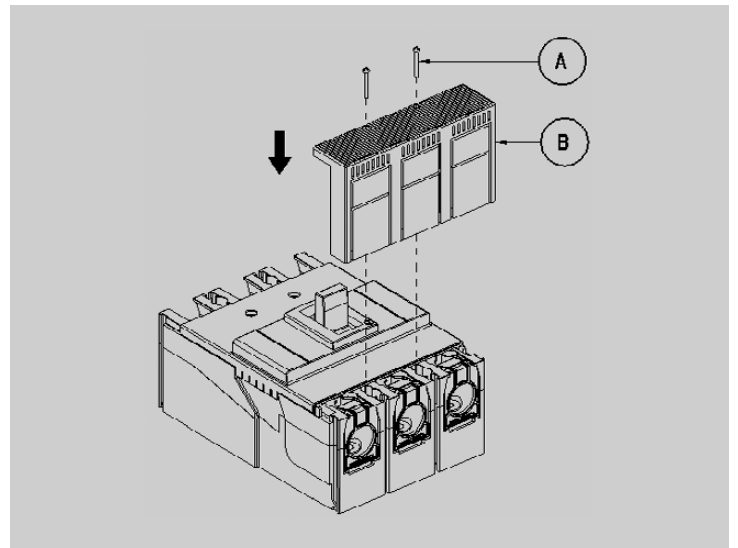


Figure 9: Assemble the Item A and B

**WARNING:** Lug service barriers must be correctly installed on the line side of a main device in ABB Lighting Panels.

**WARNING:** Installing size wire other than the specified sizes for each circuit breaker frame will negate the barrier's ability to protect personnel from exposed live components.

### Cable Installation

Before installing the cable, remove necessary knock outs as shown in Figure 11.

The wires must be stripped to the correct length to maintain isolation. After stripping the wires to the required length, the wires can be installed as shown in Figure 12. The lug barrier must be correctly installed to maintain electrical isolation from accidental contact. Torque the wires according to the torque specification on the breaker.

**Table 1: Shows the allowable wire sizes for the barrier.**

Lug	Range	Strip Length
225 A	1 AWG to 300MCM Cu/Al	0.80"

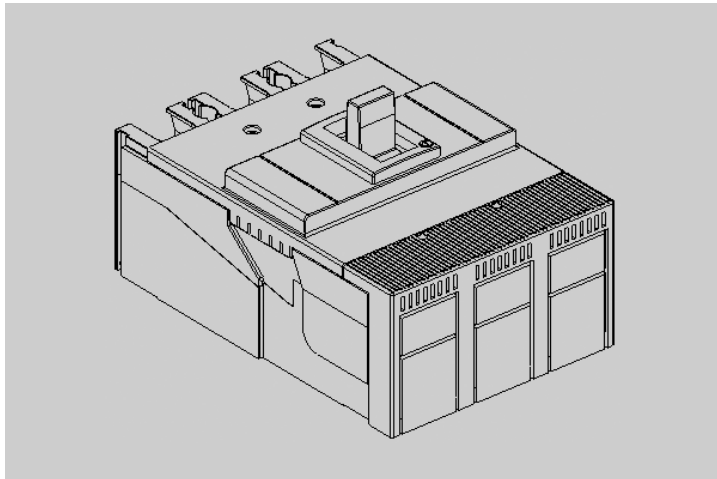


Figure 10: After Assembly of Item A to H

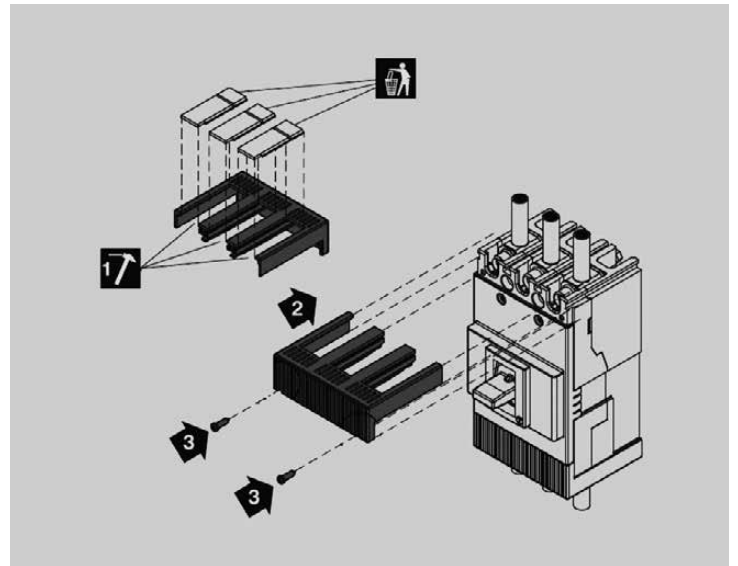


Figure 11: Fix the terminal cover after wiring installation

	Cu	Al
225A	OK	OK
250A	OK	-

① 135 lb-in 1AWG - 4/0AWG Cu cable  
 ② 177 lb-in 250kcmil Cu cable  
 ③ 135 lb-in 2/0AWG - 300kcmil Al cable

	Stranded	Flexible
Cu	MIN 1 AWG MAX 250 kcmil	
Al	MIN 2/0 AWG MAX 300 kcmil	

Figure 12: Maximum Wire Strip Length