

Reballing Kit Installation and Operation Instructions



Figure 1. APR [670001](#) Reballing Kit with North American Power Cord, 110VAC



Figure 2. APR [670002](#) Reballing Kit with European Power Cord, 220VAC

Description

The APR Reballing Kit is used to replace solder balls onto BGA components. A vacuum pump is used to secure the BGA while solder balls are poured and brushed over a custom reball screen. The component is then transferred to a reflow station where the solder balls are reflowed securely to the package.

Packaging

- 1 Vacuum Fixture
- 1 Vacuum Pump
- 1 Vacuum Tube
- 1 Transfer Plate
- 1 Small Brush
- 1 Large Brush

Features and Components

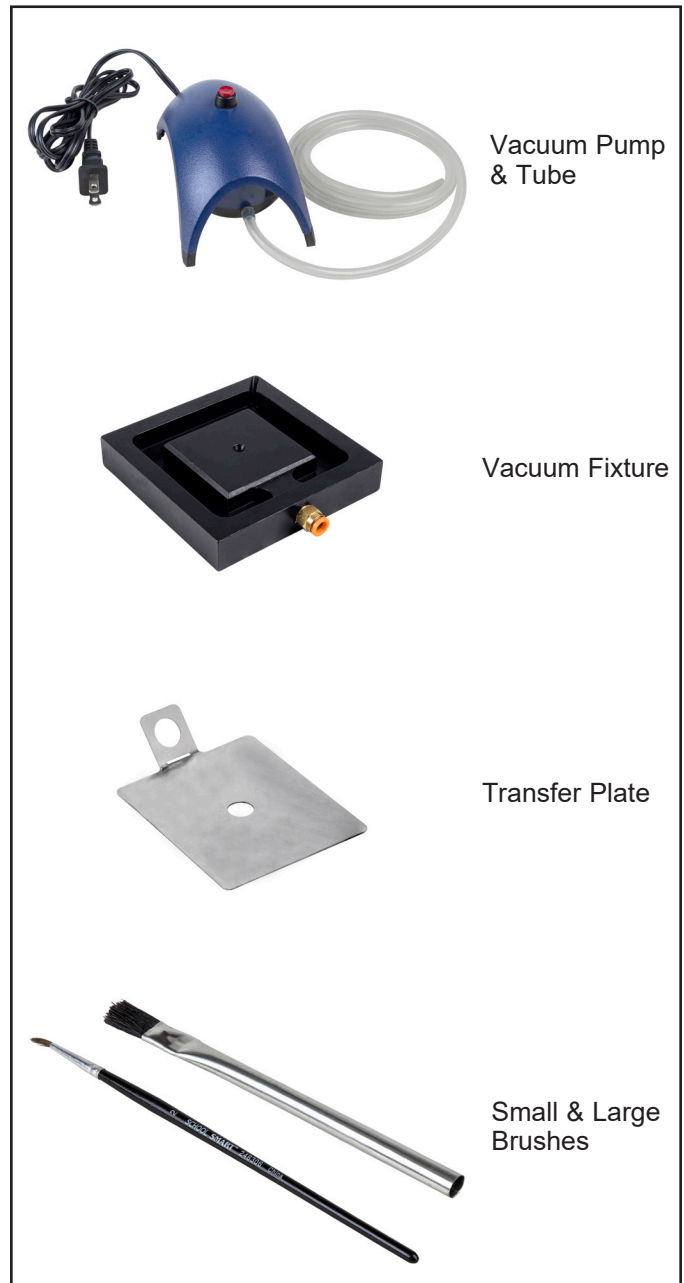


Figure 3. Reballing Kit features and components

Operation

1. Place the transfer plate on vacuum fixture and turn on the vacuum pump. The hole on the transfer plate should line up with the hole on the vacuum fixture.

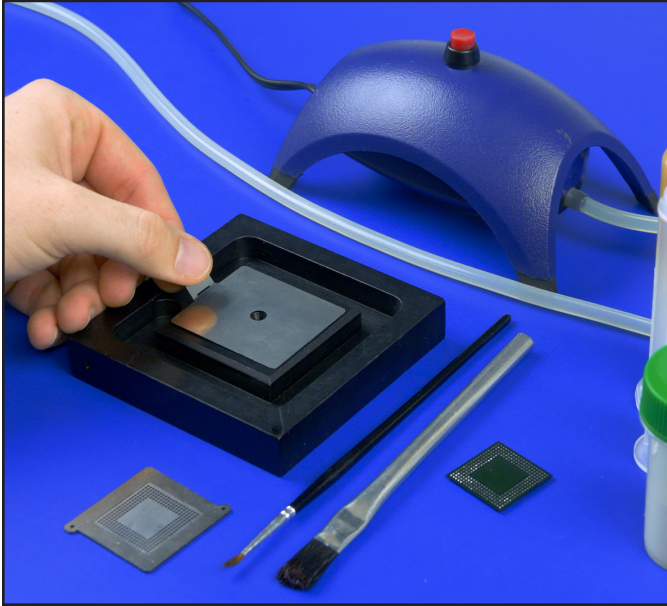


Figure 4. Placing the transfer plate on the vacuum fixture and aligning the holes

2. Set the non-balled BGA component over the vacuum hole to hold it in place.



Figure 5. Placing the BGA component on the transfer plate over the vacuum hole

3. Apply a thin layer of tacky flux onto the component's terminals and use the large brush to spread it evenly.

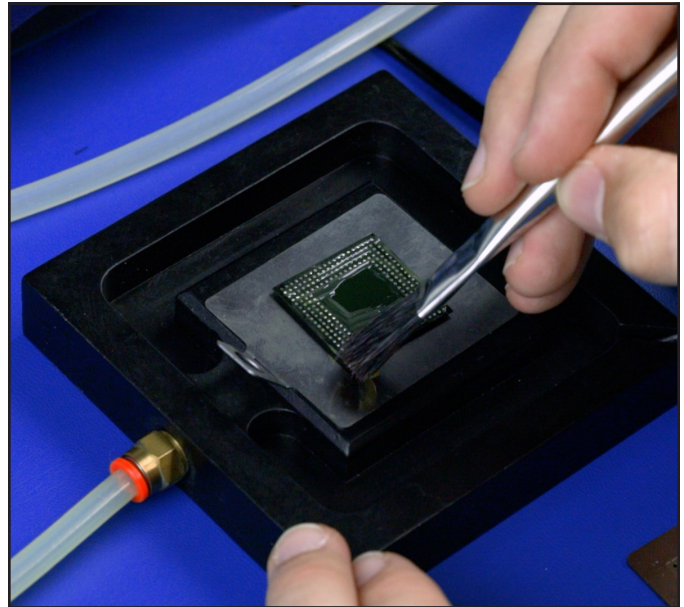


Figure 6. Applying tacky flux to the component's terminals

4. Place the reball screen (sold separately) onto the component and verify that the reball screen's apertures are aligned with the component's pads. See page 4 for information on the custom reball screens.



Figure 7. Placing the reball screen onto the component and aligning the apertures to the component pads

5. Pour enough solder balls onto the reball screen to cover the screen's apertures. Use the small brush to push the solder balls into every aperture and excess balls into the vacuum fixture's gutter. Click [here](#) to view the solder balls offered by APR.



Figure 8. Pouring solder balls onto the reball screen

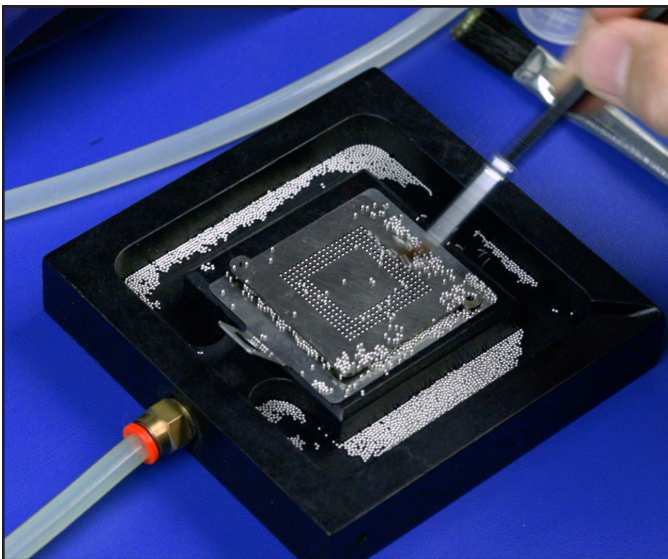


Figure 9. Using the small brush to move solder balls into the reball screen's apertures

6. Turn off the vacuum and carefully lift the component and reball screen using the transfer plate's handle. Once the component is removed from the fixture, use the vacuum fixture's spout to pour the excess solder balls into a container.



Figure 10. Lifting the component and reball screen using the transfer plate's handle



Figure 11. Pouring excess solder balls into a container

7. Place the transfer plate on a flat metal surface and use convection heating to reflow the solder balls onto the component. Solder balls only need to be reflowed for a short time to bond to the BGA. A time above liquidous of about 10 to 20 seconds should be enough time to reflow all the solder balls to the BGA component.

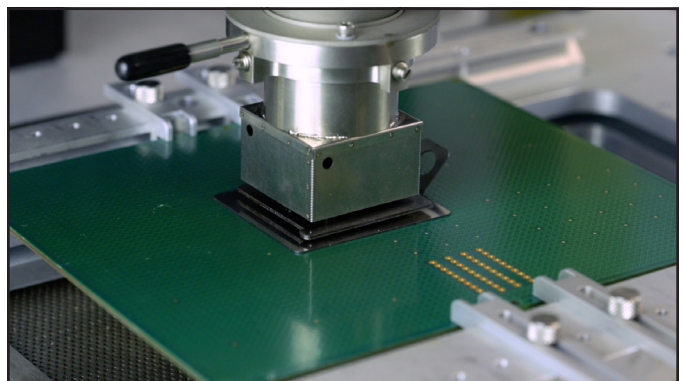


Figure 12. Placing the component on a flat surface and using convection air to reflow the solder balls onto the component

- Allow the items to cool and use isopropyl alcohol to aid in the removal and cleaning of the component.

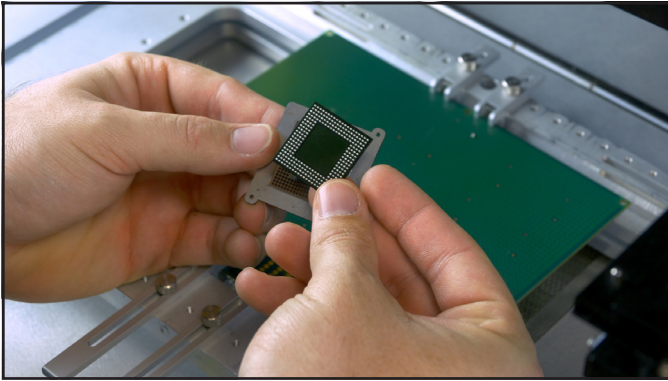


Figure 13. Removing the component from the reball screen using isopropyl alcohol

Reball Screens

A custom reball screen is required for every BGA package being reballled. Reball screens are customized to match the pitch, pattern, and solder ball size of the BGA. These screens are sold separately. Contact [APR Customer Service](#) for pricing.

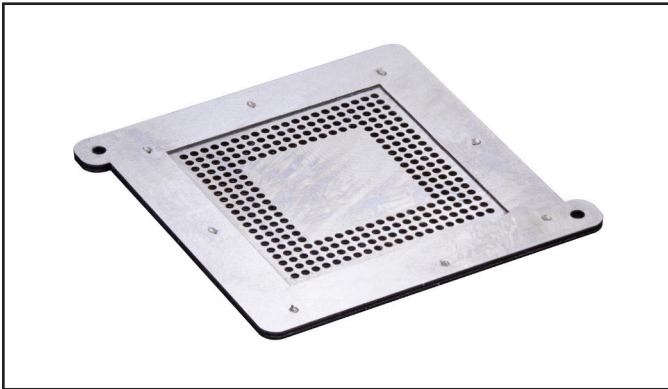


Figure 14. Reball screen

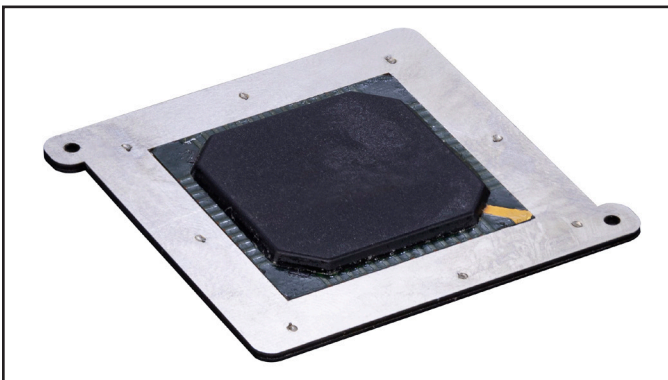


Figure 15. Using the reball screen

Specifications

Pump

Pump Input Voltage and Frequency	Power Input: 670001: 110 VAC, 50/60 Hz 670002: 220 VAC, 50/60 Hz
	Cable Length: 6 ft. (1.8 m)
Tube Length	4 ft. (1.2 m)
Dimensions	5.7" x 3.2" x 3.1" (145 mm x 81 mm x 79 mm)
Weight	0.9 lbs (0.41 kg)

Fixture

Dimensions	4.0" x 4.0" 0.75" (102 mm x 102 mm x 19 mm)
Weight	1.0 lbs (0.45 kg)

Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See the APR Warranty - APR-Rework.com/Limited-Warranty.aspx