

# Quik Kit®

## INSTRUCTIONS

KIT1660A, KIT1660J, KIT1660M

### APPRENTICE KIT INCLUDES:

1. REPAIR RESINS
2. CONNECTOR HOSE
3. CARRYING CASE
4. INSPECTION MIRROR
5. PIT POLISH
6. PIT FILLER
7. UV LAMP (LMP2001 SHOWN)
8. BREAK CLEANING BRUSH
9. CARBIDE PROBE
10. REPAIR FIXTURE
11. RAZOR BLADES
12. PUMP W/ GAUGE
13. QUAD RING
14. MYLAR® SHEETS
15. RESIN CHAMBER

(SEE PAGE 9 FOR OTHER KITS)



KIT1660A (APPRENTICE KIT) SHOWN



# Preparing to Use the Kit



**NOTE:** This kit is intended for use in compliance with the ANSI/NWRA/ROLAGS 001 Standard. Users should be trained in all relevant industry and regulatory standards applicable in their region before attempting to repair windshields.

1. Park the vehicle in shade, if possible. Otherwise, shade the repair area with an appropriate sun screen (such as KIT1044 [fig. 1], sold separately), to prevent premature curing of Repair Resin.
2. Suitable glass temperatures for performing a repair are 40° - 85° F (5° - 30° C). Verify that the glass is not too hot or too cold before starting.
3. Protect the vehicle from resin (see **Caution 1**) and tool damage using an appropriate cover (such as HDW5523 [fig. 2], sold separately).



Figure 1



Figure 2

**CAUTION**

**CAUTION 1:** If resin contacts the paint, do not wipe it off; cure the resin with the UV lamp (see “Curing the Resin”) and carefully peel it off.



Wear appropriate personal protective equipment and follow trade association guidelines.

4. Test the UV Lamp. It may not produce a strong beam, even in low-light conditions. However, at least a slight glow should be visible on either side of the lamp when attached. If not, see step 5 under “Curing the Resin”.
5. Clean the glass by spraying isopropyl alcohol on a soft cloth and wiping the repair area. Do not spray directly on the break (see Note 1).



**NOTE 1:** If moisture is present, dry the break with a moisture evaporator (such as TLS5000 [fig. 3], sold separately).



Figure 3

6. Remove loose glass fragments and dirt from the impact point, using the Carbide Probe and/or Break Cleaning Brush.

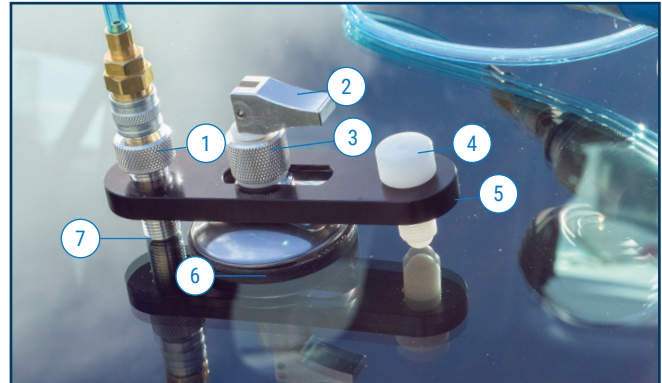
# About the Repair Fixture

The Repair Fixture has a Suction Cup with a Locking Lever. Once the cup is attached to the glass, it securely holds the Support Arm, Resin Chamber, and Balance Screw during the repair. A Barrel Nut secures the support arm to the suction cup (see Note 2).



**NOTE 2:** If the repair area is angled  $\geq 80^\circ$ , the optional Vertical Glass Adapter FIX2048 is needed to perform the repair successfully.

1. RESIN CHAMBER
2. LOCKING LEVER
3. BARREL NUT
4. BALANCE SCREW
5. SUPPORT ARM
6. SUCTION CUP
7. QUAD RING



# Setting Up the Fixture

1. Make sure the Resin Chamber and Balance Screw do not protrude more than 1/4" (6 mm) from the bottom of the Support Arm. This prevents them from interfering with the setup.
2. With the Locking Lever of the Suction Cup in the unlocked position (*perpendicular* to cup face), place the Repair Fixture against the glass.
3. Position the chamber over the break. Then hold the suction cup firmly against the glass and move the locking lever to the locked position (*parallel* to cup face).
4. Adjust the support arm by loosening the Barrel Nut and sliding the arm until the chamber is positioned directly over the impact point of the break. Then tighten the nut.
5. Position the Inspection Mirror inside the windshield as needed to inspect the setup and monitor repair progress from outside the vehicle. Verify that the impact point is centered within the chamber's Quad Ring (see Note 3).



**NOTE 3:** If the impact point is larger than the inside diameter of the quad ring, you may need to use the optional Large Pit Adapter FIX2045.

# Applying the Resin



**NOTE:** Only use resins in a well-ventilated area, and avoid contact with skin and eyes (see Additional Safety Information).

1. Choose the best Repair Resin for the application (fig. 4), based on the type of break (see Note 4 and Caution 2):

- Crack Filler (LIQ2070) works well on most types of breaks, including those with tight cracks.
- Extreme II (LIQ2060) is our thinnest resin, providing better flow for filling the most difficult breaks or working in cool temperatures.



Figure 4



**NOTE 4:** Check the expiration date on the resin bag. Do not use any expired resin.

**CAUTION**

**CAUTION 2:** Do not combine different resins; contamination will occur.

2. Remove the Resin Chamber from the support arm and the Quad Ring from the chamber. Inspect the chamber and quad ring for dirt or resin buildup and clean them as necessary (see “Cleaning the Components”). Make sure the quad ring is dry before proceeding.
3. Remove a tube from the resin bag and remove the cap. Then cut the tip off the tube, install the dispensing needle and coat both sides of the quad ring with resin. This will help the quad ring remain sealed to the glass during the repair. Reinsert the quad ring in the chamber with dimples facing inward.

4. Screw the chamber into the support arm until you feel the quad ring contact the glass. Then tighten the chamber another 1/4 turn. Next, tighten the Balance Screw until it contacts the glass. This will also help ensure a good seal (See Caution 3).

**CAUTION**

**CAUTION 3:** An effective seal is critical: If the quad ring is too loose, leaks can result during the pressure or vacuum cycles; if the ring is too tight, this can cause the break to expand, or pinch off cracks and prevent them from being filled.

5. Dispense resin into the bottom of the chamber, to avoid bubbles. Use enough resin to cover the impact point completely (see Note 5). For larger breaks, you may need a little more resin. However, applying too much resin can cause it to be drawn into the Connector Hose during the vacuum cycle (see Caution 4).



**NOTE 5:** Monitor the resin level throughout the repair. Add resin only when needed.

**CAUTION**

**CAUTION 4:** Resin can damage the suction cup and greatly reduce its service life.

# First Pressure Cycle

1. Attach the ends of the Connector Hose to the Resin Chamber and the Pump: Pull back on the sleeve of each connector socket and push it firmly onto the corresponding fitting. Give the hose a gentle tug to check the connections.
2. Prepare the pump for a pressure cycle by sliding the knurled collar *toward the pump body* (see Note 6).
3. Use the pump to gradually apply 10 – 20 psi (0.7 – 1.4 bar) of pressure, as you monitor the Gauge (see Cautions 5 and 6).



**NOTE:** The first pressure cycle allows you to make sure there is a clear pathway for resin to flow into the break.



**NOTE 6:** The pressure scale reads clockwise while the vacuum scale reads counter-clockwise.

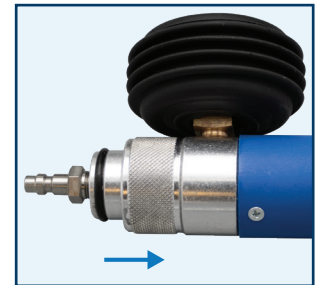


**CAUTION 5:** Adequate pressure levels are reached in less than 1 pump stroke, so monitor the gauge carefully and increase pressure slowly.



**CAUTION 6:** If the break begins to increase:

- a. Release pressure immediately.
- b. Re-evaluate the break; it may not be repairable.
- c. Place the suction cup in the direction the break is moving, to prevent further spreading.
- d. Slowly reapply pressure at a lower level.

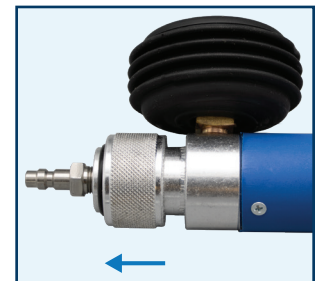


**PRESSURE**

4. Maintain pressure for 1 minute or less – just long enough to confirm that Repair Resin is flowing into the break. If it is not, check whether the Quad Ring is covering the impact point and readjust the Repair Fixture as needed. If the resin pathway is blocked, drill an opening as directed under “Repairing a Crack”.

# Vacuum Cycle

1. Prepare the Pump for a vacuum cycle by sliding the knurled collar *away from the pump body*.
2. Pump 4 to 6 times, to create a vacuum that will draw trapped air out of the break. The Gauge should indicate 15” – 25” Hg (-0.50 – -0.85 bar), though readings can vary due to atmospheric pressure. Maintain the vacuum cycle for 5 to 10 minutes. In the case of longer cracks or larger combination or star breaks, extended vacuum could be beneficial, if time allows (see Note 7).



**VACUUM**

3. At the end of the vacuum cycle, apply 2 more quick pump strokes, to remove any remaining air in the Resin Chamber.



**NOTE 7:** If you see bubbles coming from the inside edge of the Quad Ring, the seal is leaking. Tighten the resin chamber an additional 1/4 turn.

## Second Pressure Cycle

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1. Prepare the Pump for the second pressure cycle by sliding the knurled collar *toward the pump body*.
2. Gradually apply 20 – 30 psi (1.4 – 2.0 bar) of pressure, as you monitor the Gauge. Bull's-eye breaks generally require less pressure (see [Caution 7](#) and [Note 8](#)).
3. Maintain pressure until the break fills with Repair Resin. This may take 5 minutes or slightly longer. If the resin level gets low enough to expose the impact point, add just enough resin to cover it. Re-establish vacuum for 1 to 2 minutes and resume the pressure cycle.
4. When you inspect the repair, air within the break will appear as black spots. If these are visible, release the pressure and turn the Resin Chamber counterclockwise 1/2 turn. This releases stress on the glass while retaining resin in the chamber over the break. Capillary action should then fill the remaining areas of the break. If it is not completely filled after 10 minutes, repeat the vacuum and pressure cycles.



### CAUTION

**CAUTION 7:** Greater pressure increases the risk of losing the seal, causing the break to expand, or causing the windshield to delaminate. Do not exceed 35 psi (2.4 bar).



**NOTE 8:** If the Quad Ring expands, disconnect the hose. Then reconnect it and slowly reapply pressure at a lower level.

## Curing the Resin

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1. Disconnect the Connector Hose from the Repair Fixture. Otherwise, pressurized Repair Resin will spray out during step 2.
2. Remove the fixture from the glass.
3. Quickly place a Mylar® Sheet over the break, to contain the resin.

4. Turn on the UV Lamp (fig. 5, option LMP2007 shown) and place it over the break for 1 to 7 minutes, depending on the lamp used. Cured resin is hard, with a light surface film; uncured resin is wet to the touch (see [Caution 8](#) and [Notes 9, 10 and 11](#)).



Figure 5

**CAUTION**

**CAUTION 8:** Wear eye protection when using a UV lamp. Excessive exposure can cause permanent eye damage.



**NOTE 9:** Larger Mylar® sheets (HDW3010, sold separately) can be used, as well.

**NOTE 10:** Curing times vary, depending on the model of UV lamp used.

**NOTE 11:** If the UV lamp does not appear to be working, consult the lamp instructions, when applicable. In the case of LMP2001, replace the batteries or, if the resin still does not cure, replace the bulb (LMP5000).

## Finishing the Repair

1. Lift a corner of the Mylar® Sheet in order to gently peel it away, using a Razor Blade if needed.
2. Remove excess Repair Resin by holding a razor blade perpendicular to the glass and applying smooth, fast strokes, without lifting the blade off the surface.
3. Remove the Inspection Mirror.
4. Clean the repair area with isopropyl alcohol and a soft cloth. If needed, finish the surface as directed in “Filling and Polishing a Pit”.

## Filling and Polishing a Pit

1. Apply a drop of Pit Filler on the windshield just above the pit, allowing it to flow slowly into the pit without trapping any air. Apply a Mylar® Sheet to prevent the pit filler from flowing down the glass. Make sure the pit is filled completely.
2. Cure the pit filler with the UV Lamp. Then remove the Mylar® sheet, as previously directed. Curing takes 1-7 minutes, depending on the lamp used.
3. If needed, remove excess pit filler with the Razor Blade, as previously directed.
4. Polish the surface with Pit Polish and a soft cloth or a buffing wheel (such as DRL2025 [fig. 6], sold separately).



Figure 6



# Repairing a Crack

Certain cracks require drilling a pathway to inject the Repair Resin (see [Caution 9](#)). In such cases, we recommend using a Hi-Speed Rotary Tool (such as option PWR5400 [fig. 7] or PWR5070, sold separately) and a Carbide Bur (such as option DRL2021 [fig. 8], or DRL2031, sold separately).

**For cracks shorter than 2" (<5 cm),** drill a small hole in the center, making sure it intersects with the crack.

**For cracks 2" to 6" (5 cm to 15 cm),** up to three holes may be required: one at each end and a third in the center, if the crack is not completely filled from the ends.

**For cracks longer than 6" (>15cm),** AEGIS recommends using the Long Crack Repair Kit (KIT1036), sold separately.

Follow the repair procedures previously described. Set up the Repair Fixture to place the Resin Chamber over each drilled opening. Apply 25 – 35 psi (1.7 – 2.4 bar) during the second pressure cycle. Observe the crack from an angle, so you can see the resin filling the void. Cover the crack with Mylar® Sheets (or extra-large sheets HDW3010 [fig. 9], sold separately) as the break fills, to prevent air from re-entering the crack.

## Cleaning the Components



Clean the following components daily or more often, as needed.

1. Remove the Resin Chamber from the Repair Fixture. Clean off any Repair Resin with isopropyl alcohol and an appropriate brush (such as Chamber Cleaning Brush FIX2004, sold separately). Then wipe it clean with a lint-free cloth.
2. Remove the Quad Ring and use a cloth dampened with isopropyl alcohol to remove any resin. Gently rub and pat it dry.
3. Use isopropyl alcohol to remove resin from the support arm, chamber opening and other components of the fixture, as well as the Connector Hose. If needed, use an appropriate brush (such as Hose Cleaning Brush HOS2001, sold separately). Then wipe them clean with a lint-free cloth.
4. Use soapy water and a clean, lint-free cloth to clean the face of the Suction Cup.

**CAUTION**

**CAUTION 9:** Do not drill into the plastic interlayer between the glass layers.

Figure 7



Figure 8



Figure 9

## Tips for Best Results

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- Inexperienced personnel should perform practice repairs on a scrap windshield before repairing a customer's vehicle. Their technique and results should improve with each attempt.
- Do not use lubricants on Quad Rings, as contamination of Repair Resin may result.
- Larger breaks usually require longer vacuum and pressure cycles.

## Additional Safety Information

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- Read all Repair Resin labels and Safety Data Sheets provided.
- If resin gets on your skin, wash thoroughly with soap and water.
- If resin gets in your eyes, flush them with water for 15 minutes and seek medical attention immediately.
- If you swallow any resin, drink 2 glasses of water and seek medical attention immediately.

## Parts and Supplies

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PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
DRL2021	CARBIDE BURS (10 QTY)	LIQ2022	PIT FILLER
DRL2025	BUFFING WHEEL	LIQ2030	PIT POLISH
DRL2031	CROSS-CUT TAPERED BURS (5 QTY)	LIQ2060	EXTREME II RESIN, 1 ML TUBES (25 QTY)
HDW3000	MYLAR SHEETS, 1.25" (3.175 CM) SQUARE (100 QTY)	LIQ2070	CRACK FILLER RESIN, 1 ML TUBES (25 QTY)
HDW3010	MYLAR SHEETS, 2.362" (6 CM) SQUARE (100 QTY)	LMP2001	UV LAMP (FOR APPRENTICE KIT)
HDW5040	CARBIDE PROBE	LMP2007	UV LAMP (FOR JOURNEYMAN KIT)
HDW5042	BREAK CLEANING BRUSH	LMP2008	UV LAMP (FOR MASTER KIT)
HDW5410	RAZOR BLADES (100 QTY)	LMP5000	UV LIGHT BULB (FOR LMP2001)
HDW5523	FENDER COVER	MIR2000	INSPECTION MIRROR
HOS2000	CONNECTOR HOSE, 3' LENGTH	PMP4013	PUMP REPAIR KIT
FIX2004	CHAMBER CLEANING BRUSH	PWR5400	HI-SPEED ROTARY TOOL WITH ACCESSORIES, MINI
FIX2044	RESIN CHAMBER WITH 3/16" QUAD RING	PWR5070	HI-SPEED ROTARY TOOL WITH ACCESSORIES, DREMEL®
KIT1036	LONG CRACK REPAIR KIT	SBX2016	3/16" QUAD RINGS (5 QTY)
KIT1044	UV SUN SCREEN	TLS5000	MOISTURE EVAPORATOR

## KIT1660J Journeyman Kit includes:

- APPRENTICE KIT\*
- LARGE PIT ADAPTER (FIX2045)
- UV LAMP (LMP2007)



## KIT1660M Master Kit includes:

- JOURNEYMAN KIT\*
- VERTICAL GLASS ADAPTER (FIX2048)
- HI-SPEED MINI ROTARY TOOL  
W/ ACCESORIES (PWR5400)
- CARBIDE BURS (10 QTY) (DRL2021)
- UV LAMP (LMP2008)



\* except for upgrades, as noted

## Limited Warranty

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AEGIS Tools International® products are warranted to be free from defects in manufacturing or materials for 1 year from the date of purchase. Read the [Warranty Return Form](#) at [aegistools.com](http://aegistools.com) for important details about the warranty.

If a problem develops during the warranty period, follow the instructions below to obtain warranty service. If inspection shows that the product has a defect, AEGIS will repair or replace the product without charge.

## To Obtain Warranty Service or Repair Service

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**For customers in the U.S. and Canada:** Go to the [Warranty](#) page at [aegistools.com](http://aegistools.com) and click the applicable link. Alternatively, you may contact AEGIS Tools International (see contact information).

**For customers in all other localities:** Contact AEGIS Tools International (see contact information) or your dealer for assistance.

## CONTACT INFORMATION

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