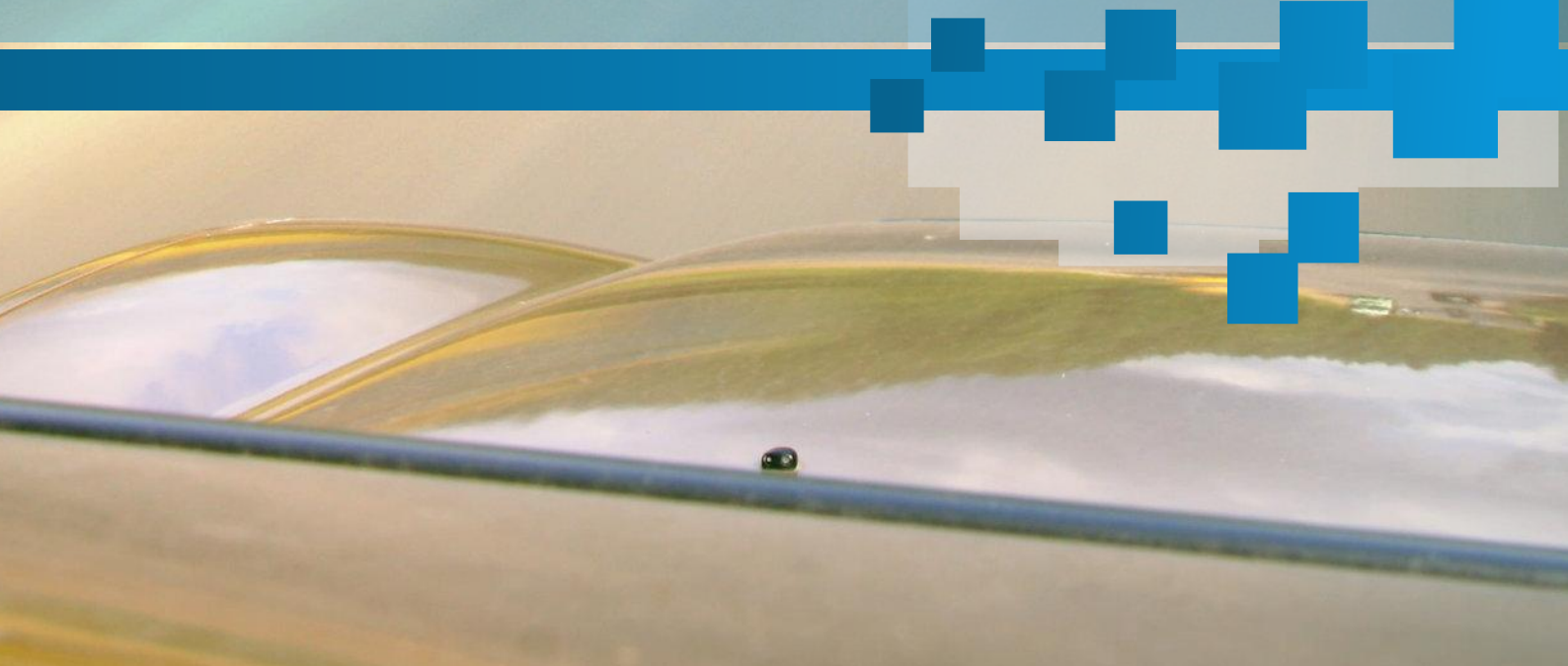




**DUOBOND®**



**MANUAL  
WINDSHIELD REPAIR  
IN 8 STEPS**



[www.duobond.com](http://www.duobond.com)  
[info@duobond.com](mailto:info@duobond.com)

# MANUAL WINDSHIELD REPAIR

Attack

Fixter

IQ-2

Iris BB9

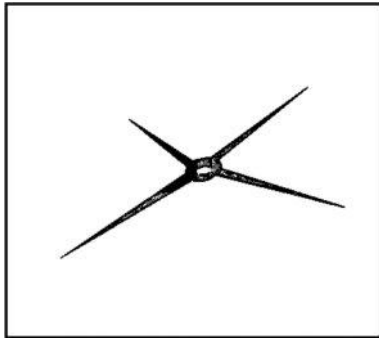


# STEP 1: Diagnosing damage

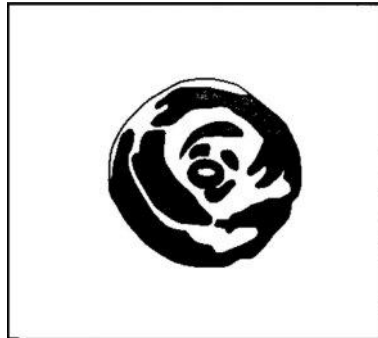
Determine whether the damage can be repaired or not.

The following image shows different types of impacts.

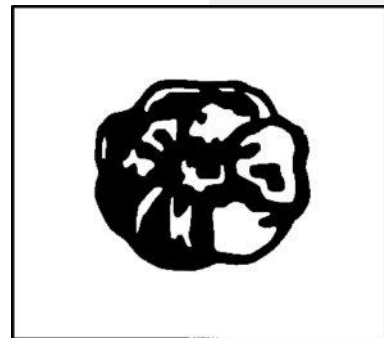
Combinations of these basic types of impacts are also possible.



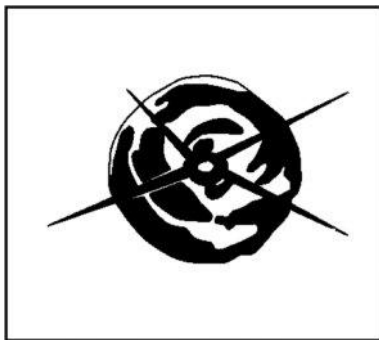
Star break



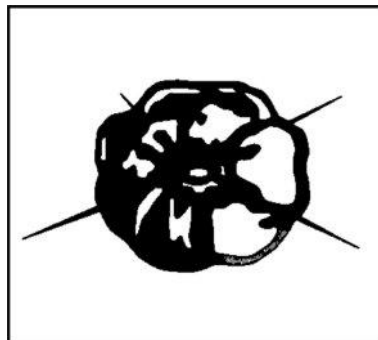
Bull's Eye



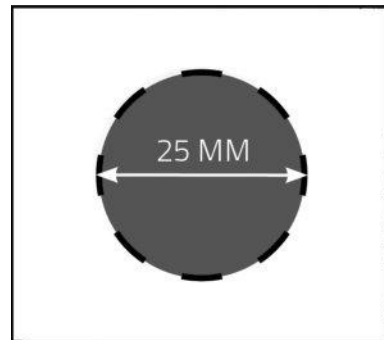
Clover leaf



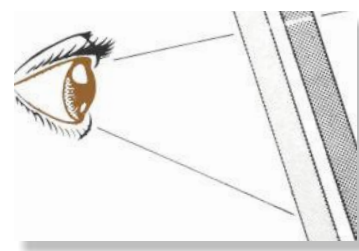
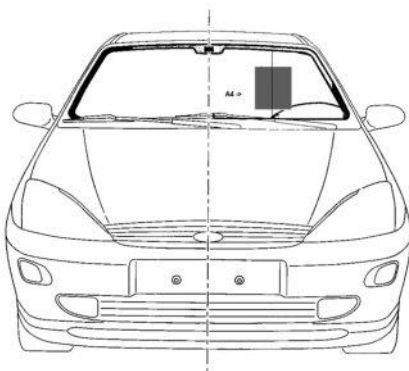
Combination



Combination



Do not repair damage greater than 25 mm (2 euro coin)



**NOTE:** The damaged location must not be in the driver's field of view as above. Always perform repairs in accordance with your local standards.

**NOTE:** Stone damage can only be repaired on laminated glass! DO NOT attempt the repair if the inner layer of glass or interlayer has been damaged or if the break has a milky appearance as this is the start of the delamination process.

# STEP 2: Equipment

## Recommended equipment:

- Inspection mirror 84150.
- Rubber gel transparent 84070
- LED inspection lamp 841300
- Scratching pen 841400
- Repair bridge (Attack, Fixter, IQ-2 or Iris)
- Injector 882140
- Duobond UV Resin 8420..
- Duobond UV Finishing sheets 840600
- Duobond UV Impact filler 8820..
- Duobond UV lamp
- Drill 840200
- Drill bit for drill 8419..
- Polisher for drill 842300
- Finishing Polish 841200
- Single edge razor blade 840910

## Additional equipment:

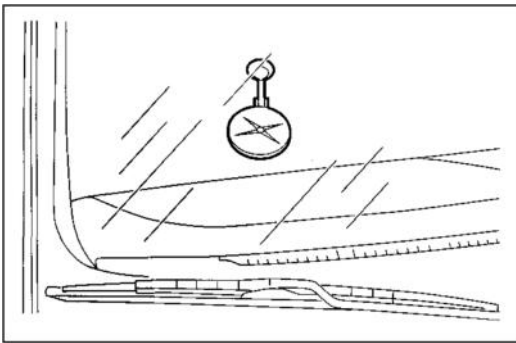
- Duobond Prep-clean glass primer 882010
- DART Duobond Air Removal Tool 402100
- Syringe with separate needle 1ml 842009A
- Duobond Pulse windscreen repair automat complete 440012



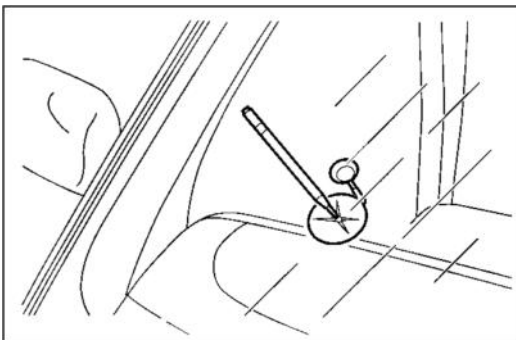
# STEP 3: Preparation

Gently open the impact point with a scratching pen or drill and clean the repair area. For old, dirty impacts use Duobond Prep-clean to clean the impact and remove any moisture.

The glass temperature must be at least 20° C. If necessary, heat from the inside.

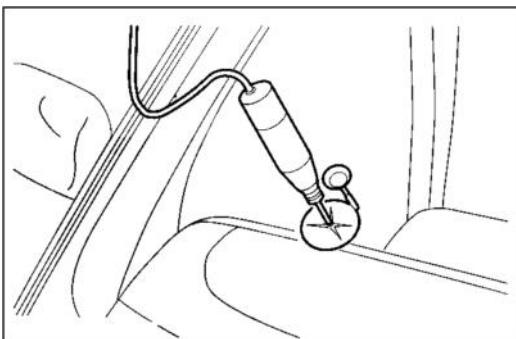


Apply a thin layer of gel to the suction cup of the inspection mirror and position the mirror under the repair area on the inside of the vehicle. The repair area should be clearly visible in the mirror.



Clean the repair area from dirt and small glass splinters with a scratching pen  
NOTE: This should not enlarge the damaged area.

NOTE: use Duobond PrepClean for optimal cleaning and for a better adhesion.



With small inaccessible impact points the impact area should be drilled using the carbide tipped drill bit.

NOTE: The drill should be at a 90° angle to the glass.

Gentle drill the impact area checking regularly, ensure not to drill deeper than the drill head (approx. 1mm)

DO NOT penetrate the interlayer as this will damage the integrity of the windshield.

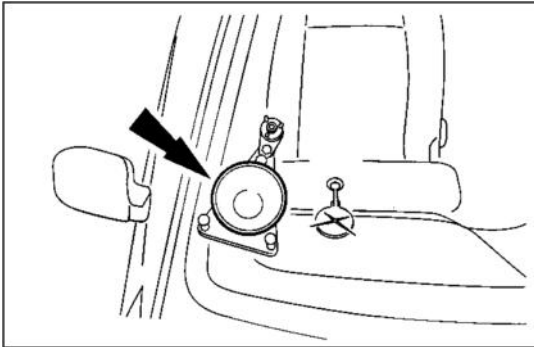


# STEP 4: Install the repair bridge

Before starting, put the suction cup of the repair bridge in neutral position and turn the sputnik upward.

For the Fixter repair bridge:

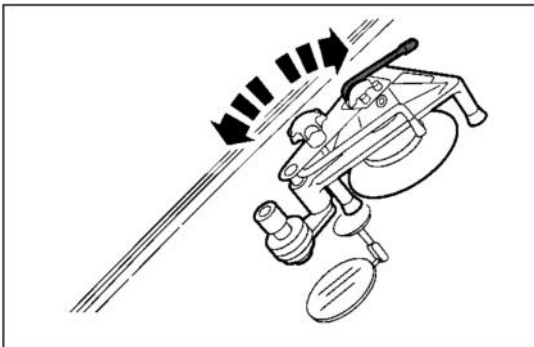
Turn the black adjustment knob counterclockwise so that there is no tension on the sputnik head, push the right lever towards the sputnik head, (forward) you will see the suction cup rise.



Apply a thin coating of gel to the suction cup of the Bridge

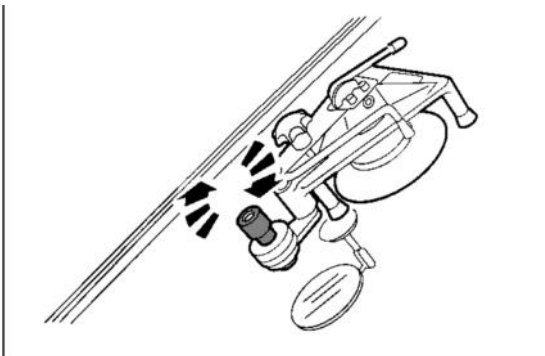
Place the Bridge on the outside of the windshield so that the sputnik head is positioned precisely over the repair area (impact point).

If necessary, move the Bridge.



Press the suction cup firmly onto the glass and pull the handle away from the sputnik head. (backwards)  
Lower the cup by turning the adjusting knob clockwise. The sputnik is properly secured when the three rubber caps give a black print on the glass.

**NOTE:** Do not apply too much pressure or tension. Cracks can arise from the repair area.



Screw the injector into the sputnik head. Turn the injector into the holder, and turn until the rubber of the injector gives a light print on the glass

**NOTE:** Rotate the injector cylinder until the rubber gasket rests on the glass.

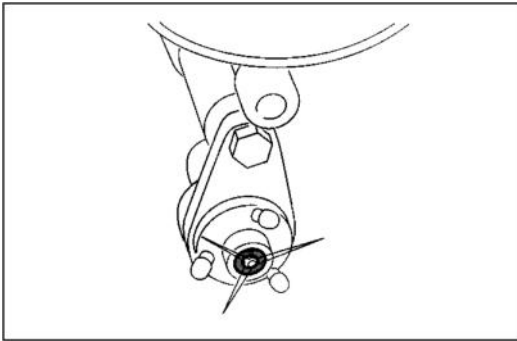
The three support legs must remain in contact with the glass.



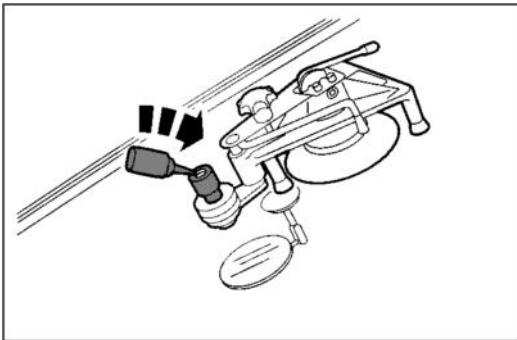
# STEP 5: inject Uv-Resin

Carefully check the position of the injector. It must be placed exactly above the damaged area.

Ensure if working outside or on sunny days, to move the vehicle to a shaded area or use a cover over the windshield.

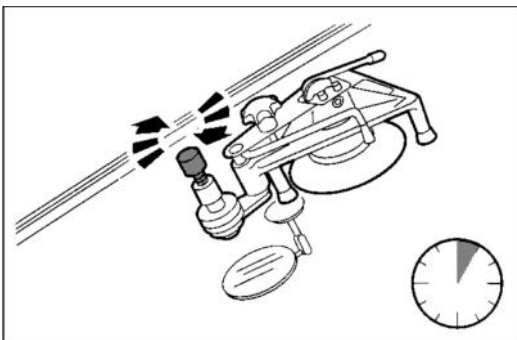


The dark ring of the injector, lying exactly around the point of impact, must be visible in the inspection mirror. Otherwise adjustment is necessary.



Put 3 to 4 drops of resin in the injector cylinder (depending on the damaged area)

NOTE: Seal the resin bottle immediately after use and protect against UV light (sunlight).



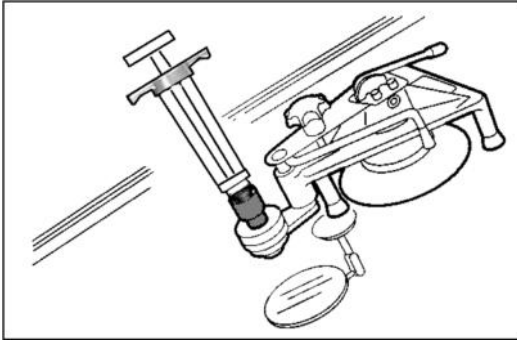
Screw the injector piston into the injector cylinder until light pressure is created. Then hold this injector plunger position for 5 minutes.

NOTE: In this position a pressure of approx. 16 bar acts on the repair area. The enclosed air is now slowly forced out of the repair area.



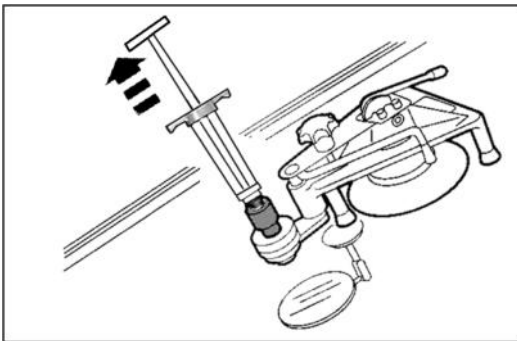
# STEP 6a: DART Duobond Air Removal Tool

If there is still air present in the impact (dark spots) it is important to use DART to create a higher vacuum.



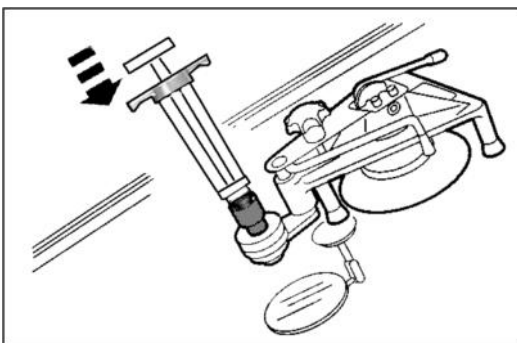
Remove the injector piston from the injector cylinder and take DART. Place the black adapter in the injector cylinder.

If necessary, heat the impact on the inside of the windshield for a few seconds. (Keep a space between the flame and the glass)



Turn the plunger counterclockwise = vacuum until it is completely out of the thread. Increase the vacuum even more by pulling out the screw for even more vacuum. To fix the plunger, turn the screw a quarter turn and DART is on vacuum.

The air present is now extracted by DART and in this way makes room for the UV resin.



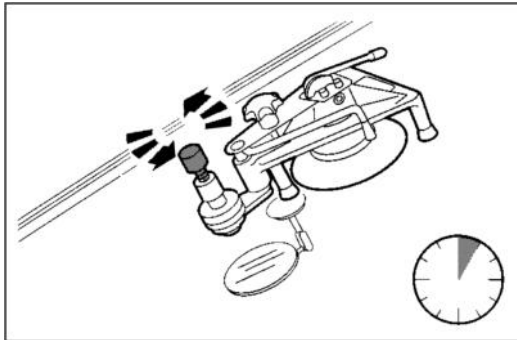
Turn the screw a quarter turn and the vacuum is interrupted to immediately apply a light pressure again. Keep repeating this at intervals to remove all air.





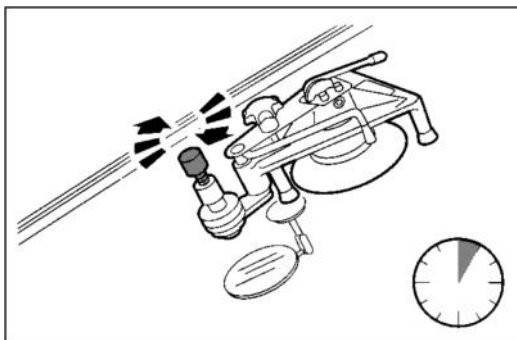
# STEP 6b: vacuum and pressure

Instead of using DART, you can also screw in and out the injector piston.  
This action also creates vacuum and pressure.  
Repeat until all dark spots (= trapped air) are removed and no longer visible.



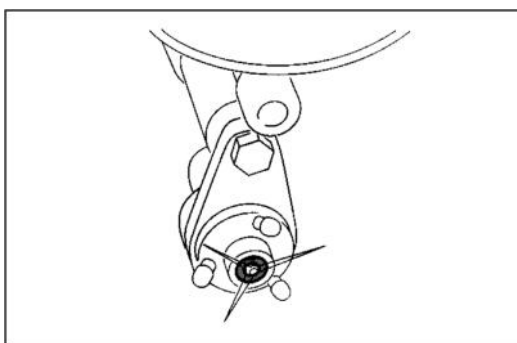
Loosen the injector piston a few turns, but do not remove the piston from the cylinder. Keep the plunger in this position for about 5 minutes.

NOTE: A vacuum will now form in the injector cylinder so that the remaining air is sucked out of the damaged area.



Tighten the injector piston until the injector pin is just visible in the inspection mirror.

NOTE: A pressure will now form in the injector cylinder to force the UV resin into the damaged area.



NOTE: The repair area can be gently heated from the inside to decrease the viscosity of the resin.

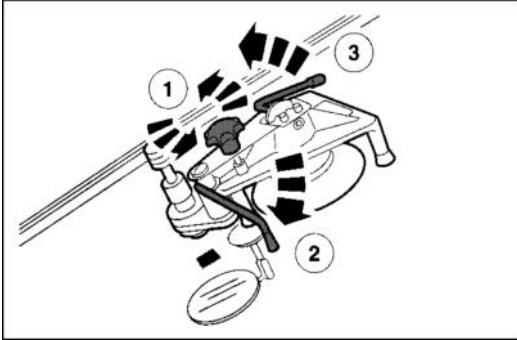
WARNING: Overheating can lead to stress cracks.



# STEP 7: Sealing point of impact

Remove the repair bridge, apply sealing Impact-Filler, place Finishing Sheet (mylar) and cure with UV light.

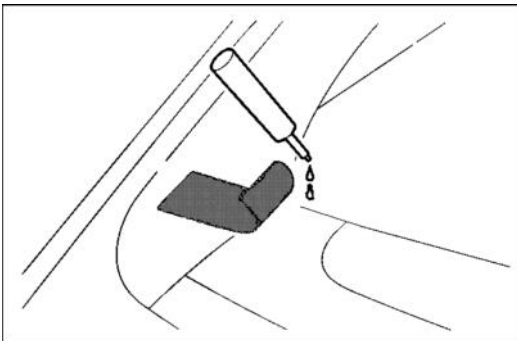
NOTE: Iris has the UV lamp built in and therefore does not need to be removed.



Loosen the knurled screw (1).  
Swing the support head to the side (2).

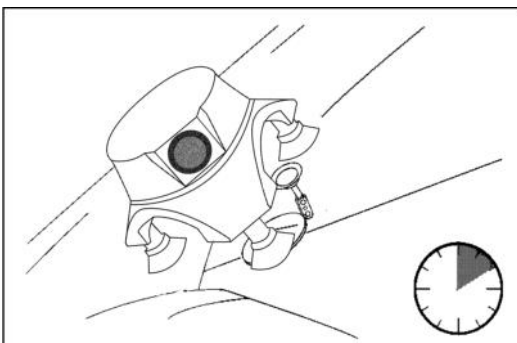
NOTE: Repair damage inspection can be performed.  
If there is still air in it (black bubbles), turn the support cup back and lower it back onto the glass to resume the repair.

Release the locking lever (3) and remove the repair bridge when the repair area is completely filled with resin.



Apply a drop of Impact-Filler above the point of impact and let it run into the point of impact so that no air bubbles remain in the point of impact.  
Place the curing film over the damaged area.

NOTE: Do not press the Finishing Sheet onto the repair area.

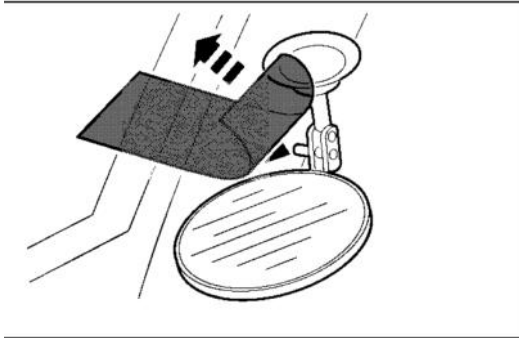


Place the UV lamp over the repair area, switch on the lamp and let the lamp automatically cure the resin and impact filler.  
The UV lamp turns off automatically, then turn off the lamp with the button and remove the UV lamp.

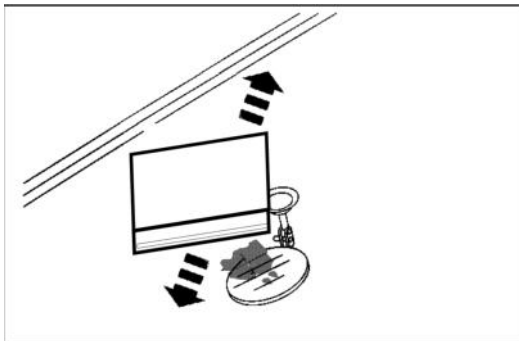


# STEP 8: Cleaning and polishing

Ready to complete the repair with razor blade and Polisher

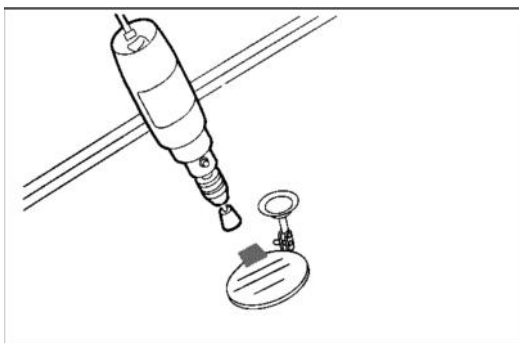


Carefully remove the Finishing Sheet.



Remove any excess resin with a razor blade. Pull the razor blade over the repair area at a 90 ° angle and carefully scrape off the excess resin with an upward and downward movement.

**NOTE:** Scrape with the razor blade, never stab or cut the excess resin from the window.



Clean the repair area with a lint-free cloth. Polish the surface with liquid polish and a Polisher on the drill until clean and smooth.





Scan this code for the video:  
"Manual Duobond Windshield Repair impacts prepare"



Scan this code for the video:  
"Manual Windshield Repair"

