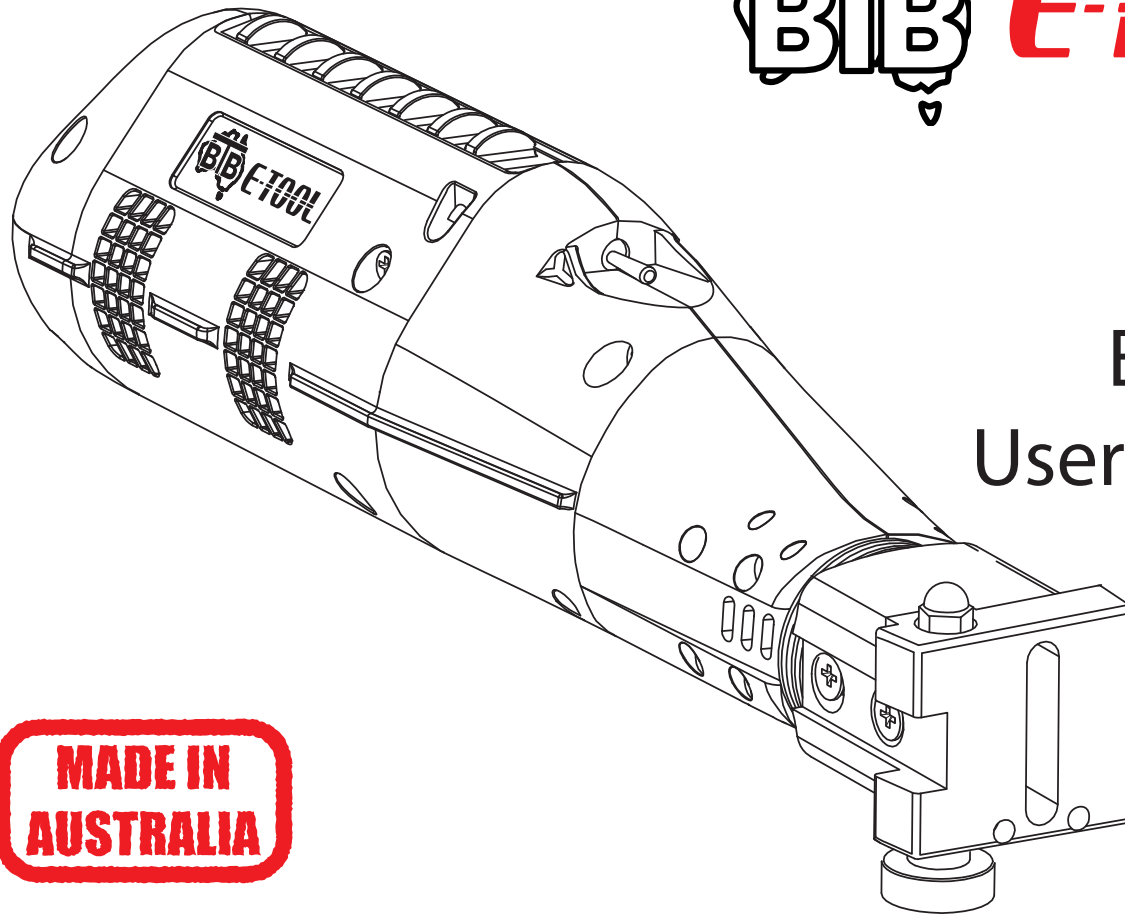




E-TOOL

Removal System for
Adhesive Bonded
Glass and Panels



ETS1200 User Manual

**MADE IN
AUSTRALIA**

PATENTED DESIGN

BTB has Registered and Pending Patents and/or Designs Extending Worldwide applying to their Power Tools, Control System, and Cutting Blades.

The Battery Powered Auto Glass Cut-Out Tool

Designed and Built specifically
for Mobile Installations

The **E-TOOL** uses the same famous BTB Blade & Cutting Depth Control System and has the same great features as the BTB WK10HD Air Tool and more.

Same Kits with a choice of power tool.

The proven BTB System is available with either the BTB **E-Tool** for total portability or with the **WK10HD** Air Tool for heavy duty applications and workshop-based glass removals.



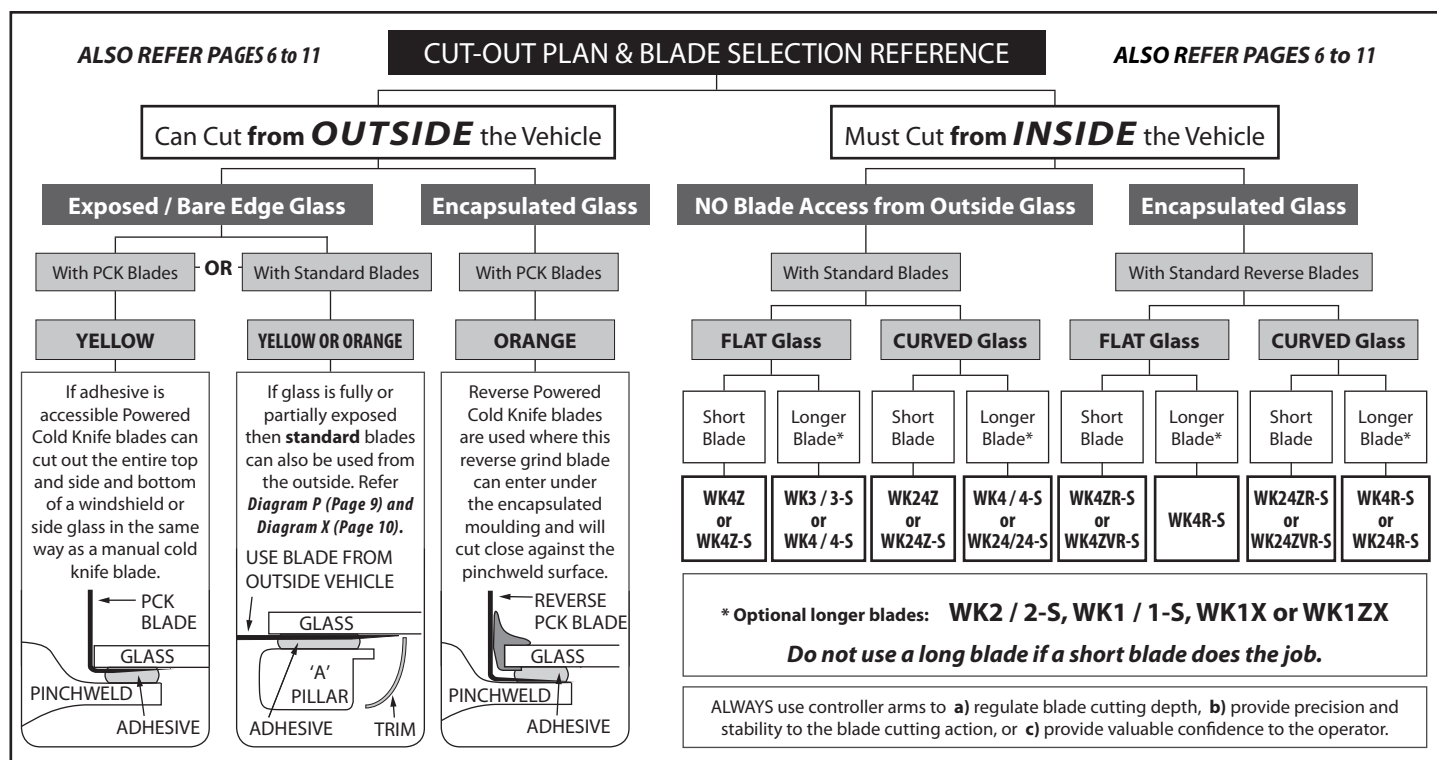
E-TOOL

Air Tool

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⚠ WARNING! Before using, servicing, changing blades on or working near this tool/kit, read all safety instructions and warnings, including those given in the training video. Failure to follow the warnings and instructions may result in injury and/or property damage. Care and good judgement are the best protection against injury.

Store this user manual for future reference.

1. Introduction: Power Tool and Safety

BTB's patented windshield and auto glass removal tool successfully removes all types of adhesive set automotive glass and components including glasses with bonded mouldings, encapsulated mouldings and/or where the adhesive is located away from the edge of the glass, or hidden far below the dashboard area. The blade reciprocates against the surface of the glass OR the pinchweld / car body, to quickly and efficiently cut the adhesive. Force is eliminated and expensive undamaged glass and mouldings may be reused. A certain level of skill and proficiency quickly develops from applying the tool to a range of cut-out types.

1.0.1 Tool and Kit Part Numbers for Re-Ordering

The E-Tool power tool may have been supplied on its own or as part of a kit. Part numbers for the tool and most common kits are:

- ETS1200 - E-Tool (Power Tool Only)
- ETK1205 - E-Tool+5Ah Battery Pack+Charger
- ETS12B5 - E-Tool 5Ah Battery Pack
- ETK12STR - Starter 4 Blade Kit (includes ETK1205)
- ETK12CLS - Classic 7 Blade Kit (includes ETK1205)
- ETK12TEC - Technician 11 Blade Kit (includes ETK1205)

When ordering product your country/region should be specified to ensure the correct power cord for the charger is supplied.

For user instructions for the **WK10HD BTB Air Tool** please refer to its separate user manual.

1.0.2 Warranty and Serial Number Location

The serial number for your power tool can be found:

- a. on a temporary tag attached to the power cord, and
- b. permanently marked into the front of the guide bush housing underneath the controller cap. Remove the two screws (**SPB32**) and controller cap (**SPB34K**) to access. See **Diagram 2H**.

BTB provides a warranty from your date of purchase on the following E-Tool kit components. Warranty is subject to valid proof of purchase and the following:

E-Tool Mechanism, Electronics & Other Accessories.....	1 year
Battery	3 months
Blades	Nil

Any part found to be defective in material or workmanship within its listed warranty period from date of purchase will be repaired or replaced at BTB's discretion. BTB, its distributors and/or its authorised repair agents reserve the right to refuse any claim where the purchase date cannot be verified.

This warranty does NOT cover fault and/or damage caused by foreign objects or contamination entering the power tool, neglect, lack of/incorrect lubrication, evidence of abuse, overloading and/or overheating, any modification, or every-day wear and tear.

This tool incorporates a diagnostic feature where BTB and BTB's authorised repair agents will both be able to determine abuse or overloading of the tool.

Please review section **3 Troubleshooting (page 13)** prior to returning for repair.

Section **1.6 Power Tool Maintenance (page 5)** provides some guidelines which will help extend the life of the tool.

When returning a tool for service or repair, send the tool, freight prepaid, to your BTB supplier or authorised BTB repair agent. Please include your contact details and the reason for returning the tool, noting any symptoms.

1.1 Reciprocating Power Tool Safety Instructions

Do not use this product in any way other than for normal use as stated.

1.1.1 Operator Safety

- Always wear impact resistant eye protection such as safety glasses or goggles when operating the tool.
- For hand and finger protection, use of protective gloves is recommended.
- Wear sturdy nonslip footwear.
- Maintain a balanced body position and secure footing when operating the tool.
- Take care when handling blades as cutting edges are sharp.
- Always sharpen blades in a direction away from your hands.
- Ensure the blade retaining screw is tight when securing blades in the power tool.
- Do not bend blades or blade cutting tips in an incorrect manner or use them for purposes other than which they are designed, as blade breakage could occur.
- Do not use cracked or distorted blades.
- When cutting adhesives, always use cutting lubrication to avoid heat build up and possible toxic smoke produced from overheated adhesive.

1.1.2 Power Tool Operation Safety

- Always turn off or disconnect the tool from the power supply when changing blades or when the tool is not in use.
- Do not start the power tool until the tool and blade are in a safe correct operating position.
- Do not let any cutting lubricant or water enter the tool or motor. If this occurs, avoid using the tool until any moisture has had sufficient time to dry.
- Only use recommended blades or accessories in the power tool.
- The tool, blades and accessories must not be modified.
- Always check for damaged or loose power cord or fittings.

1.1.3 Vehicle Safety

- Remove all loose dirt, grit or debris from glass edges before proceeding with cut-out.
- Cover vehicle roof, hood or bonnet, interior seats and carpets with protective covers prior to cutting.
- If necessary, remove internal and external trims or mouldings, or apply protective/masking tape to protect paintwork and trims.
- Prior to cut-out, locate and identify fittings on the glass such as electrical connections, heater elements and rain sensors etc.
- E-Tool can be powered by an applicable special high amp draw 12 volt socket if it has been fitted to a vehicle. Do not plug the E-Tool into a vehicle's standard 12 volt cigarette lighter socket.

1.2 Vibration Emission Levels

The vibration emission level of the tool has been measured in accordance with a standardised test given in EN 60745 and may be used to compare one tool with another. It may be used for a preliminary assessment of exposure.

The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or is poorly maintained, the vibration emission may differ. This may significantly increase the exposure level over the total working period.

Vibration Total Value:8.03 m/s²
Daily Exposure Action (EAV) Duration:0hr 46min
Daily Exposure Limit (ELV) Duration:3hr 31min

Based on the results the E-tool can be used to cut out 9 windscreens which have an average actual cutting time of 5 minutes each (9 x 5min = 45min) to stay within the 46min EAV limit without requiring the implementation of management programs to reduce exposure and risk.

An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is free running but not actually doing the job. This may significantly reduce the exposure level over the total working period.

Additional safety measures to protect the operator from the effects of vibration include: maintaining the tool and the accessories, keeping hands warm, organisation of work patterns, adhering to a duty cycle times for heavy duty work. Refer to section **1.5.1 Tool Duty Cycle Times**.

Testing carried out at BTB Tools by Computerised Bearing Analysis (Aust) Pty Ltd identified the main operational factors that contribute to high vibration levels during use of the E-Tool:

- Excessively pushing or forcing the tool and blade rather than letting the tool do the cutting.
- Forcing the cutting process until the blade jams in the adhesive.
- Not applying cutting lubrication regularly as instructed or improperly applying it prior to cutting.
- Using the wrong blade or not aligning the blade tip correctly.
- Contact with metal body (e.g. pinchweld) or mouldings and fittings of the car.
- Using blades that have not been kept sharp.
- Using blades that are not specified to fit the BTB system.

BTB Tools recommends against all of above.

1.3 EC Declaration Of Conformity

We declare under our sole responsibility that this product is in conformity with the following standards or standardized documents: EN 60745, EN 55014-1, EN 55014-2, in accordance with regulations and directives 2009/127/EC, 2004/108/EC and 2002/44/EC

1.4 Technical Specifications

Free Speed6400 strokes/min
Reciprocating Stroke Length4 mm
Noise at 1.0 metre..... 80 dBA
Motor Power Output 112 W
Voltage Input 12 V DC
Tool Weight.....1.3 kg
Overall Length Excluding Power Cord..... 280 mm
Vibration emission value (vector sum in three axes) a_{hv} ...8.03 m/s²

1.5 Power Tool Operation

1.5.1 Tool Duty Cycle Times & Overload Shut Down

BTB's E-Tool is designed for technicians carrying out in-shop and mobile domestic vehicle glass removals, with short/quick actual cutting periods e.g. 2- 8 minutes (average 5 minutes) per job.

When used efficiently and appropriately, BTB's E-Tool is also excellent for incidental bus / train glass cut-outs and bonded panel removals. These applications often involve wide and hard adhesive and large, thick, rigid glasses requiring heavy duty continuous cutting, which may result in excessive heat build-up. If this happens, BTB recommend 10-15 minutes of continuous cutting then to stop the tool to allow an adequate cooling down period before continuing. The tool incorporates an **overload protection feature** and will shut down repeatedly if overloaded. The tool will re-start by releasing and re-engaging the On/Off slide trigger.

Faster cut-out and longer life-span of the tool results when the E-Tool is operated efficiently and used as instructed, including the use of cutting lubrication. Inefficient use with lack of lubrication and overloading of the E-Tool will result in a slower cut-out and a shorter tool life span of the tool.

Repeated overload may void warranty of the tool if evidenced by the diagnostic feature of the E-Tool. Refer to section **1.0.2 Warranty and Serial Number Location (Page 3)**.

1.5.2 Power On/Off Slide Trigger

The slide action trigger caters for multiple hand locations. Finger pressure locks at the front, centre and rear of the trigger hold the tool in the ON position. Auto OFF with trigger release.

1.5.3 Speed Control Switch

Off = Switch at **0** position.

Low Speed = Switch at **I** position (**Green LED blinks**).

High Speed = Switch at **II** position (**Green LED is continuously lit**).

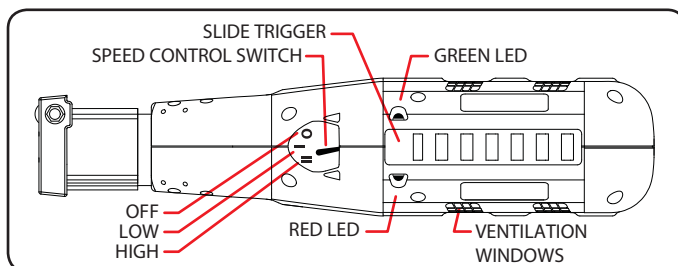


Diagram B

1.5.4 LED Light Warnings

If Red LED blinks while trigger in ON position = Overload Warning (Tool Stops to indicate abusive load - Auto Reset on trigger release).

If Red LED is continuously lit while trigger in ON position = Low Battery Warning, re-charge battery.

1.6 Power Tool Maintenance

Use only BTB accessories and spare parts. If components need replacing which have not been described, contact your BTB supplier.

1.6.1 Oiling The Felt Seal

It is important to regularly oil the felt seal to protect the chuck drive shaft from water/dust ingress. Oil should only be applied to the small countersunk hole located in the controller cap behind the securing screws. Using the oil bottle supplied, apply 3 to 4 drops of oil, one drop at a time, while the tool is running on low speed. If excess oil appears from chuck area, cut back on the number of drops applied. Mobil DTE 10 Excel 68 is supplied / recommended. If the recommended oil is not available, use multi-purpose fine grade power tool oil.

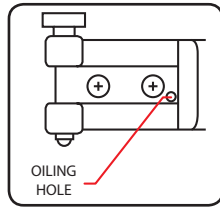


Diagram C

1.6.2 Cleaning The Tool

The ventilation windows of the tool and the sliding trigger should be kept clean and clear at all times. Refer to **Diagram B**.

1.7 Batteries & Alternate 12V Power Supply

1.7.1 Battery Use

Make sure battery terminals are connected correctly. The E-Tool features reverse polarity protection, so the tool will not work if the battery terminals are connected incorrectly.

A fully charged standard E-tool battery should have enough charge to cut out 9 windscreens when used under normal cutting conditions, assuming average actual cutting time of 5 minutes each.

Battery packs which have not been used for some time should be recharged before use. The battery will give best performance and last longest if maintained at full charge. **BTB recommends the battery is placed on charge after each use or at least once daily.**

Temperatures in excess of 50°C (122°F) reduce the performance of the battery pack. Extended exposure to heat or direct sunlight may cause the battery to overheat.

The electrical contacts of chargers and battery packs must be kept clean. The leads inside the battery bag which connect the spade terminals of the battery to the merit plug must be securely attached to maintain optimum power/performance.

1.7.2 IMPORTANT - Battery Charging & Life Span

- **DO NOT** charge E-Tool batteries with a charger other than that supplied or recommended by BTB Tools or warranty will be void
- **DO NOT** charge battery during temperatures above 40°C (104°F)
- During temperatures between 30°C - 40°C (86°F - 104°F), do not leave battery on charge for any longer than 3 hours, or overnight
- BTB recommends using an AC countdown/shut-off timer if charging batteries during hot weather. These are readily available at electrical/hardware stores
- Only recharge batteries in a well ventilated area. Allow adequate space and air circulation around the charger to reduce internal heat buildup
- Use the charger indoors only. If the charger is exposed to rain or moisture, refer service to an authorised service & repair agent

Batteries should be recharged between uses for optimal battery life and must remain in the battery bag during charging. Charging time depends on the battery charge level before charging. Maximum charge time of the supplied E-Tool battery using the E-Tool Smart Charger (included in E-Tool kits) is 90 minutes, however, overnight charging during **cooler** weather may further increase usage time.

The charger will automatically switch into a float (trickle) charge mode when the battery is charged but is not designed to operate as a standalone power supply.

All batteries wear out over time and periodically need to be replaced. When the battery's operating time becomes noticeably less it should be replaced. A **three (3) month** manufacturer's warranty is provided on batteries supplied by BTB Tools.

The charger cord must be plugged into a properly installed AC outlet and grounded in accordance with all local and national codes and ordinances. ***If charging via plugging charger into a DC-to-AC power inverter, the inverter must be a pure sine-wave inverter, not a square-wave or modified sine-wave inverter.***

The charger housing may become warm during the charging cycle.

Do not leave charger plugged in when not connected to a battery.

Make sure any cords are located so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress. Do not operate the charger with a damaged cord or plug – replace the complete unit immediately. To reduce risk of damage to the electric plug, disconnect charger by pulling by plug rather than cord.

Do not operate charger if it has received a sharp blow, has been dropped, or is damaged in any way. Do not disassemble the charger. Refer service to an authorised service & repair agent.

Always keep children away from charging equipment when in use. Do not allow them to handle or play with chargers when not in use.

1.7.2.1 BATTERY CHARGER LED INDICATOR LIGHTS

The BTB supplied battery charger LEDs glow:

Green when connected to AC power without a battery inserted

Red when battery is being charged

Green when battery is fully charged and during trickle/float charge.

1.7.3 Battery Storage

Batteries should be stored in a safe dry place away from oil and fire and be kept dry at all times. A temperature of around 20°C is desirable. **It is important that the battery is charged at least every six months if stored, otherwise permanent loss of capacity might occur.**

Do not store the battery pack together with metal objects to avoid risk of short circuit.

Never break open battery packs and chargers.

Battery acid may leak from damaged batteries under extreme load or extreme temperatures. In case of contact with battery acid, wash it off immediately with soap and water. In case of eye contact rinse thoroughly for at least 10 minutes and immediately seek medical attention.

1.7.4 Battery Disposal

Never throw a battery into a fire. Batteries should be disposed of in an environmentally friendly manner.

1.7.5 Alternate 12Volt Power Supply Options

The E-Tool can be powered by any reliable 12 Volt source fitted with wiring and sockets compatible with E-Tool merit plug, able to supply 10 - 15 Amps and occasional 20 Amp spike draw. These include:

- Mobile vehicle 12 Volt battery power utilising an appropriate extension power cord. See catalogue for BTB extension cords
- Portable 12 Volt jump-start battery pack
- Larger 12 Volt battery connected via appropriate power leads.
- AC to 12 Volt DC power transformer for use where AC power is readily available

2. Cut-Out Guidelines & Examples

2.1 Blade Types, Blade Usage, Blade Depth Control

Details of BTB's full product range can be found in our dedicated Removal System catalogue supplied with the power tool, and available for viewing or downloading from BTBTOOLS.COM. A training video can also be viewed from this website.

2.1.1 SIX BASIC BLADE TYPES

- Standard Straight Blades
- Standard Bent Blades
- Standard "Z" Blades
- Standard Spade "Z" Blades
- Powered Cold Knife Blades
- Winged Scraper Blades

Variations of these include:

- Length up to 375 mm
- Flexibility of blade tip
- Serrated or Non-Serrated
- Cutting Tip Length of PCK blades
- Wing Width of Scraper Blades
- Cutting Tip Profile (designated by colour, see below)

Refer to Diagram A on page 2 and Section 2.2 on page 7 to plan your cut out.

Refer to Hints, Tips and Operating Techniques on page 14 for further blade use guidelines.

A full blade list can be found on page 15.

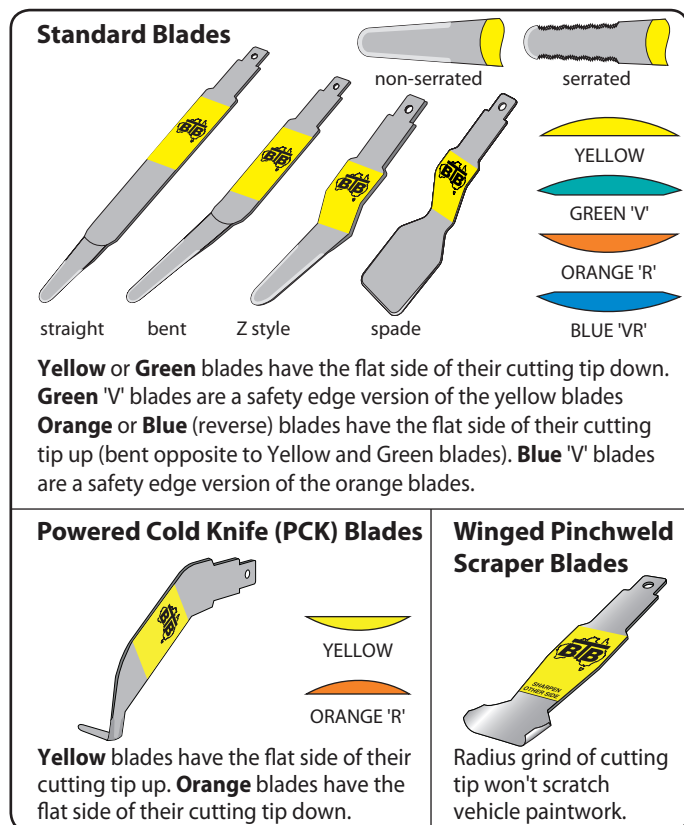


Diagram D

2.1.1.1 STANDARD NON-SERRATED AND SERRATED BLADES

Non-Serrated blades can be used in all glass and panel applications. **Serrated** blades are optional and can provide a faster more aggressive cutting action.

2.1.2 Fitting and Changing Blades in the Power Tool

To fit blades, always turn power switch to the OFF (right) position or disconnect the power cord. Using the 4.0mm **WKKEY** Allen key provided, unscrew the **SPB33** cone point retaining screw (located

via the hole in the controller cap) two full rotations counter clockwise. Insert the blade as far as it will go into the chuck and firmly re-tighten retaining screw in clockwise motion. Check that the blade is securely held before reconnecting or turning on power.

NOTE: All blades will also fit in the WK7 and WK7L manual handles.

2.1.3 Sharpening Blades

The best cutting results are obtained with sharp blades. The procedure for sharpening the blades is as follows:

1. Sharpen blades from radiused (rounded) side only.
2. Keep flat side of blade smooth to allow sliding motion on the glass surface.

WARNING: COARSE GRINDING OR BLUNT BLADES WILL SERIOUSLY REDUCE PERFORMANCE, EFFICIENCY AND SAFETY.

2.1.4 Replace Worn Blades

If shape / length of blade tip reduces from repeated sharpening, or is varied from its original shape, replace blade to regain efficiency.

2.1.5 Cutting Lubricant is Important

Using Cutting lubrication is important for blade movement. Always spray both the inside and the outside of the glass where possible. Use water or a cutting lubricant / additive mixed with water that has been **approved** by your adhesive manufacturer.

2.1.6 Blade Vibration When Cutting Internally

If a blade vibrates or flaps against the glass, the operator is doing something wrong. Refer to the following points 1, 2 and 3 below and also **Diagrams J, K and Diagram L**.

1. Check blade tip is flat against the glass or panel.
2. Ensure blade and tool are held firm, the angle is correct, and the controller cap is against the glass.
3. When cutting below dashboard with long blade, keep tool and blade in straight line. See **Diagram L** and **Diagram M**.

2.1.7 Protect Glass and Painted Panel Surfaces

As an extra precaution to avoid scratching the glass with the back of the cutting blade, you can apply a small Velcro® pad (supplied in kits) to the offending section of the blade. Ensure the blade is dry. The **WK11PP** paint protector controller arm can be used in conjunction with external Powered Cold Knife blades.

2.1.8 Rest the Nylon Controller Cap Against the Glass

The nylon controller cap will not scratch glass or panel and is to be held against the glass surface for internal cutting. This also guarantees efficient cutting and operator control because the blade and cutting tip is held at the correct angle and hugging the glass surface. It is also designed to attach blade cutting depth controller arms. See also **2.1.9 Adjustable Cutting Depth Controller Arms (page 7)**.

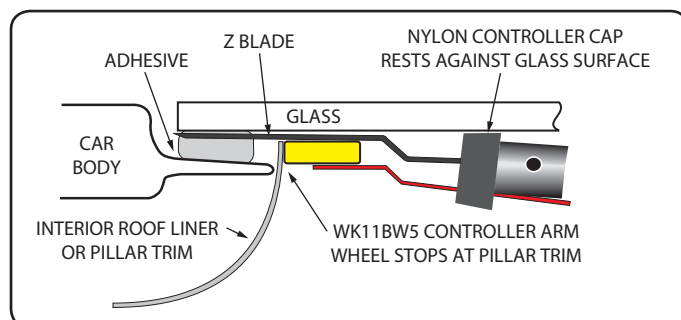


Diagram E

2.1.9 Adjustable Cutting Depth Controller Arms

A range of controller arms are provided with each toolkit to provide precise cutting depth control, avoiding damage to blade, pinchweld, mouldings and glass. These are to be used **against the rounded side of the cutting blade tip**. They can be quickly attached into the controller cap jaw and adjusted to required depth.

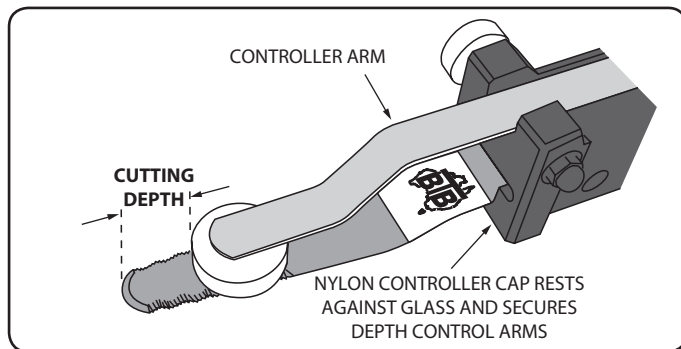


Diagram F

2.1.9.1 SELECTING CONTROLLER ARMS

Controller arms with a **Thick Nylon** roller wheel are for use with the wheel rolling against the head liner or trim. See **Diagram E**.

Controller arms with a **Thin Steel** roller wheel are for use with the wheel rolling against adhesive. See **Diagrams H, M, U** and **Diagram V**.

For the full range of controller arms refer to the table in section 7.

2.1.9.2 SETTING BLADE DEPTH CONTROL

Refer following instructions together with the example in **Diagram G**.

- Place blade tip against adhesive
- Calculate adhesive thickness
- Adjust controller arm wheel a distance away from stop point C and equal to adhesive thickness B.

Refer **Diagrams U, V, E, G, H, ZB** and **Diagram ZC**.

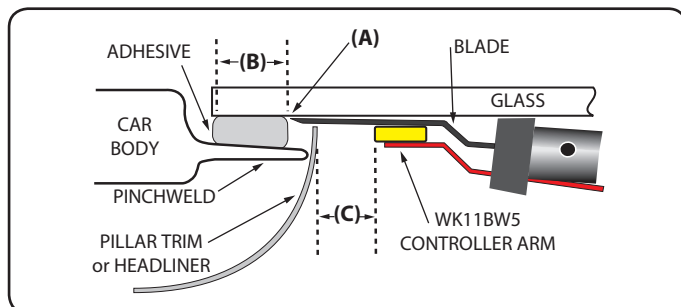


Diagram G

2.1.9.3 USING CONTROLLER ARMS ON TOP OF CUTTING BLADES

Mostly used on top of blades while the flat side of the blade reciprocates against glass surface. Refer **Diagram F** and **Diagram G**.

2.1.9.4 USING WK11CW CONTROLLER ARM UNDER 'R' BLADES

To steer the ORANGE and BLUE "Reverse" blades safely away from and encapsulated glass, the WK11CW controller arm is fitted under an "R-S" or "VR-S" blade to cut against the pinchweld and NOT against the glass. The Control arm provides critical support to the reciprocating blade, besides blade depth control. Refer to **Diagrams H, U** and **Diagram V**.

2.1.9.5 SPACING CONTROLLER ARMS AWAY FROM GLASS

Fit Velcro® pads to Controller Arm Wheel to further space Control Arm away from glass. Velcro® pads can also stop unnecessary noise. Refer **Diagrams H, M** and **Diagram V**.

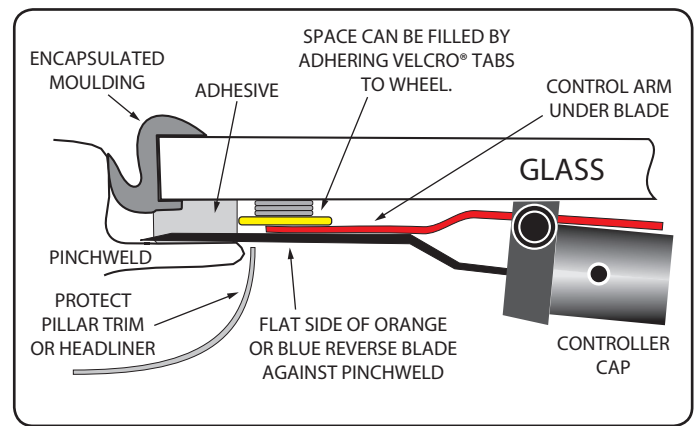


Diagram H

2.2 Cut-Out Planning & Instructions

IMPORTANT! CONSIDER ALL OPTIONS AND PLAN YOUR CUT-OUT FIRST.

When planning a cut-out many factors need to be considered. For example:

The same glass may require different cut-out techniques.

- Damaged glass has less risk and may be removed more aggressively and quickly. Refer to **Diagram W** on page 10.
- Undamaged glass (to be reinstalled) has high risk and requires a patient, stress free and well-planned cut-out, which may require a combination of cutting from both inside and outside of the vehicle.

Take advantage of BTB's versatile and precise system which allows you to cut the adhesive:

- from outside the vehicle
- from inside the vehicle
- against surface of glass
- against surface of pinchweld/panel
- combining the cutting from inside and outside as a solution for difficult removals.

Use this user manual as a reference document. Specifically the following sections:

- Cut-Out Plan & Blade Selection Reference (**Diagram A**, page 2)
- Blade Types shown (**Diagram D**, page 6)
- Hints, Tips and Operating Techniques (page 14)
- Blade Chart (page 15)
- The many practical examples in this user manual.

Now select a cutting blade type and colour which allows the blade cutting tip to cut the adhesive:

- with the flat side facing and against the glass surface (**Diagram G** and **Diagram N**)
- with the flat side facing and against the pinchweld or panel surface (**Diagrams H, U** and **V**)

Select depth control arm. See 2.1.9 Adjustable Cutting Depth Controller Arms section.

2.2.1 Cutting From Inside Vehicle

2.2.1.1 PREPARE TO START CUTTING FROM INSIDE

- Fit cutting blade and depth controller arm if needed
- Spray cutting lubrication to the immediate cutting area
- Position the tool and blade against the glass. Refer to **Diagram N**. Also note controller cap against glass as shown in diagrams on page 7, 8, and 9
- Don't push blade into adhesive before starting the tool.** Refer **Diagram N**
- Start the tool and proceed to cut the adhesive
- For narrow bands and/or softer adhesive, operate the tool and blade at 45° to 90° and encourage fast and continuous cutting using the tip and side of the blade. Refer **Diagram Q**.

2.2.1.2 CORRECT CUTTING USING STANDARD INTERNAL CUTTING BLADES

The correct method of operating the power tool using a long straight blade is shown in **Diagram J** and **Diagram M**. The controller cap and blade are flat against the glass and the operator's hand is placed under the tool to allow the back of the power tool to also operate as close to the glass as possible. Note, the operator's thumb is on the tool's trigger. Refer to **2.2.1.4 Cutting Below Dashboard while Standing in Doorway**.

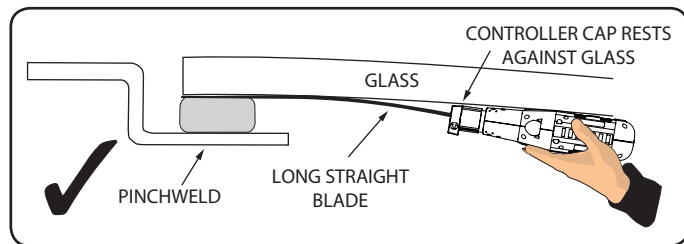


Diagram J

2.2.1.3 INCORRECT & INEFFICIENT CUTTING

Diagram K shows the incorrect method of operating the power tool with a long straight blade being forced into an unnatural bent position and the hand is placed incorrectly between the power tool and the glass surface. This will cause blade vibration and 'flapping', plus inefficient cutting of the adhesive, especially when cutting below dashboards.

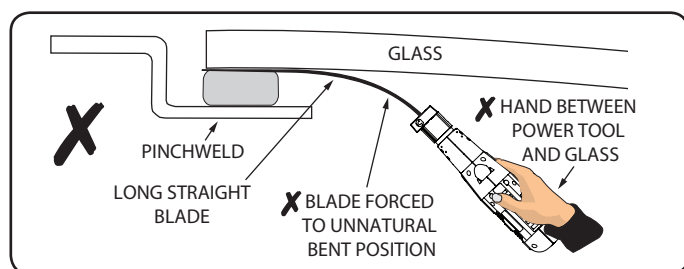


Diagram K

2.2.1.4 REMOVING WINDSHIELDS WHILE STANDING IN DOORWAY

Standing in the doorway while cutting below a dashboard or along top and sides of windshield provides a technician comfort and allows viewing the cut-out through the glass from outside vehicle. When cutting below dashboard, hold the tool in one hand with an outstretched arm and thumb on the trigger, cut the central region back to the A-pillar/lower corner, using two hands when able. When changing to other side of vehicle, if you want to maintain your thumb on the trigger, remove the blade, rotate it 180° and re-insert into tool. See **Diagrams J, K, L, M** and **Diagram N**.

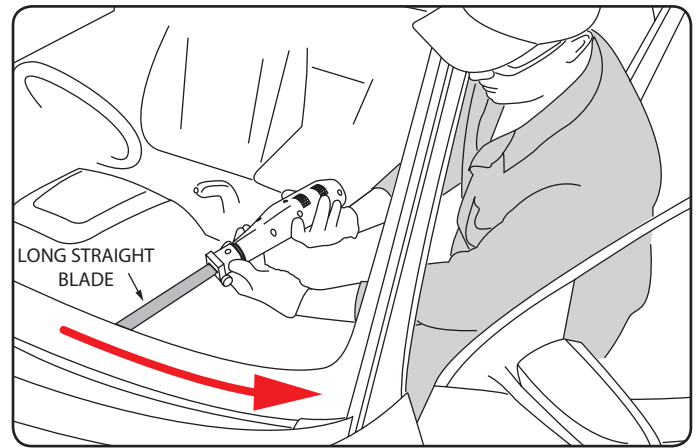


Diagram L

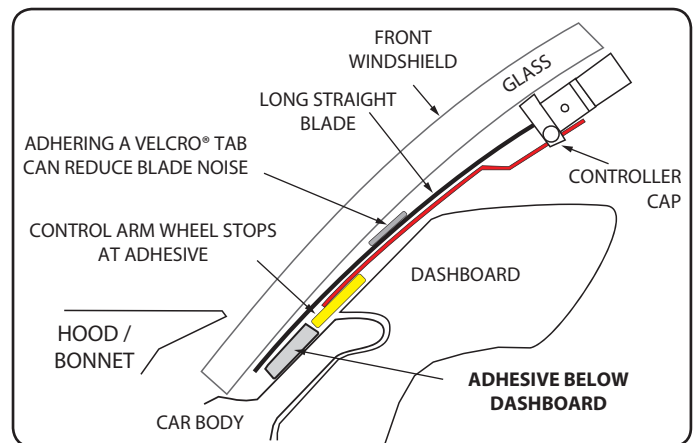


Diagram M

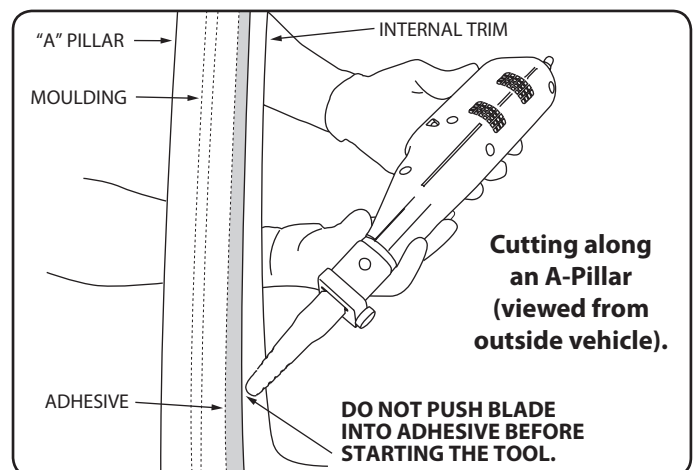


Diagram N

2.2.2 USING LONG BLADES FOR HARD TO REACH AREAS & SMALL GLASSES

Long straight blades are used to reach and cut hidden adhesives. Many small glasses (including encapsulated) can be safely removed using methods shown in **Diagram P and **Diagram X**.**

Use the flat side of a standard long straight blade to cut against the glass, OR for encapsulated glasses turn blade over so that the flat side is cutting against the pinchweld. The blade cuts (1)st section of adhesive then (2)nd section of adhesive. Refer to **Diagram P**.

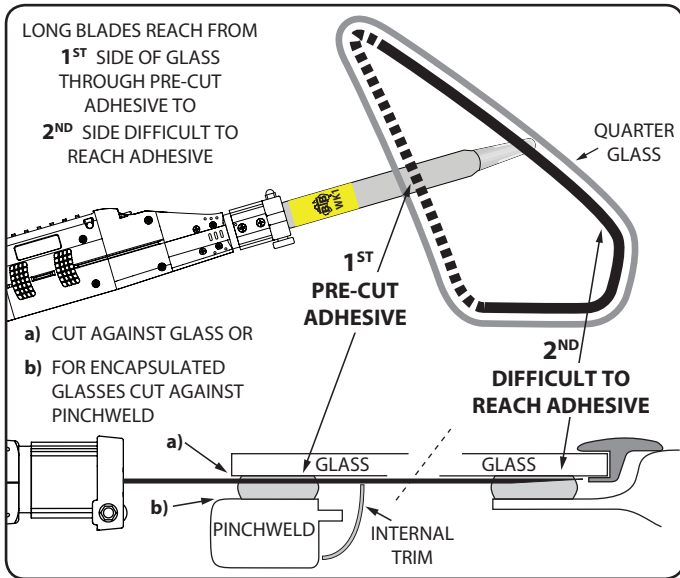


Diagram P

2.2.2.1 EXTRA HARD AND / OR WIDE ADHESIVE

When cutting extra hard and/or wide adhesives, make sure blades are sharp and cutting lubrication is regularly applied especially where adhesives are hidden below dashboard areas. With the tool and blade operating in a straight line, apply the tip of the blade directly at the adhesive and combine weight of tool with a quick jabbing action, move from left to right over a short distance, progressively cutting through the adhesive. Ensure separation is complete before moving on to next section. (Refer *Diagrams M, Q and Diagram R*, and section 4. *Hints, Tips and Operating Techniques* (page 14)).

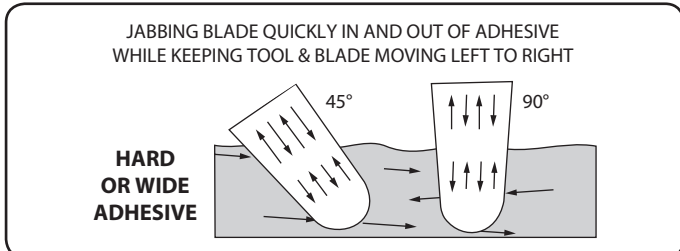


Diagram Q

Do not force blades deep into adhesive or unnecessary jamming may result and **tool will shut down by overload protection**. **Remember to allow the power tool and blade cutting tip to OPERATE CONTINUOUSLY while cutting all adhesives.**

2.2.2.2 REMOVING GLASS WHERE GLASS AND ADHESIVE IS COMPRESSED CLOSE TO THE PINCHWELD

When cutting compressed adhesive (instead of using the serrated section of the blade), use the cutting tip of a very sharp standard blade to progressively cut adhesive. This always provides success where wire and most other methods fail or may break the glass. Refer to *Diagram Q, Diagram R* and *Diagram Y*.

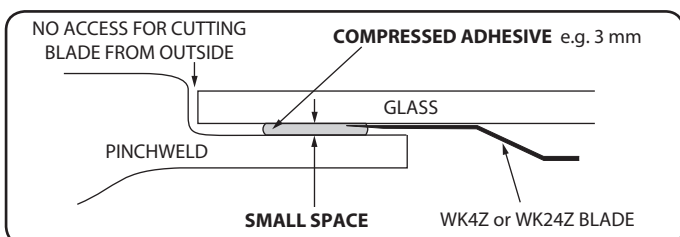


Diagram R

2.2.3 Removing Glass Fitted With Applied Mouldings

When expensive or unremovable bonded mouldings are present, always carry out the normal internal cut of glass, then apply one of the following steps:

1. Cut from inside the vehicle and release 100% of the glass.
2. (A) Lift glass out with mouldings still attached to glass OR (B) slide glass out of the moulding using WK16 blade. See *Diagram S*.

For encapsulated mouldings, refer to *2.2.7 Encapsulated Glass Removal using Reverse 'R-S' and 'VR-S' Standard Blades* (page 10), and *Diagram U*.

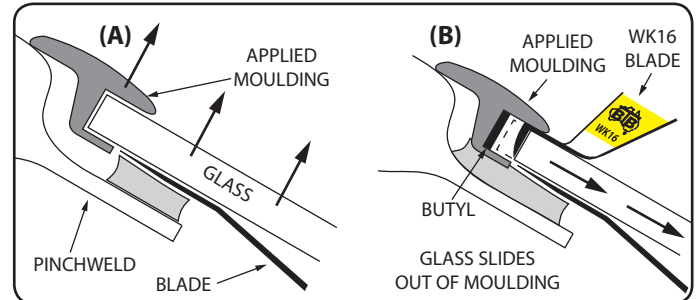


Diagram S

2.2.4 Flexible Blades for Curved Glass

The cutting tips of flexible blades are ground thinner and longer allowing the blade to flex and reciprocate against the curvature of the glass, panel or controller arm. Also refer to *Diagram V*.

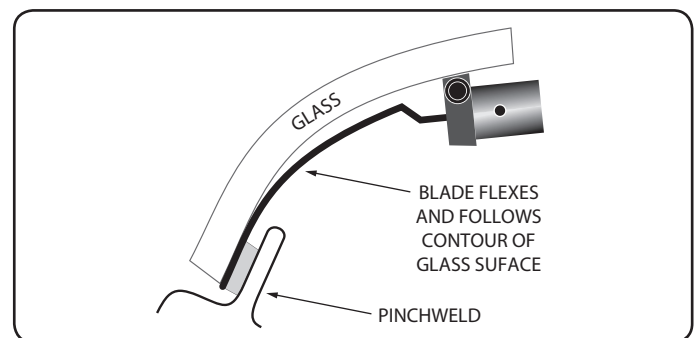


Diagram T

2.2.5 Undamaged and Risky Glass Removal

The power and speed of the tool provides a safe, powerful cutting action when needed, or a gentle and precise cutting action for delicate work. Plan removal and refer to section 2.2 *CUT-OUT PLANNING & GUIDELINES* (page 7).

When operating in high risk areas or corner regions, or removing undamaged laminated glass, **always complete cutting of easy to get at sections first** which will reduce stress to the glass allowing safer access for cutting risk areas and total separation. Always allow the tool and blade to do the cutting and do not create leverage or force the blade into adhesive, which may cause pressure points. Do not attempt to push / force the glass out until the cut out is 100% complete. You may carry out a final check with a hand held blade to ensure separation.

2.2.6 Removal of Cracked or Badly Damaged Laminated Glass

To overcome the difficulties of cutting wire and narrow cutting tips of cold knife blades consistently catching on cracks in the uneven underside surface of an extensively damaged laminated glass, use Standard blades either from inside glass (or outside if possible) with their wide and flat cutting tips to effectively cut against the surface.

2.2.7 Encapsulated Glass Removal using Reverse 'R-S' And Reverse 'VR-S' Standard Serrated Blades

- When using ORANGE and BLUE reverse serrated blades for precision cutting against pinchwelds, as per **Diagram U** operate at approximately 45° to 90° and pull in a sideways or backward sawing motion utilising the serrated edges of the blade cutting tip, as per **Diagram Q**.
- Use caution when operating ORANGE and BLUE reverse serrated blades close to headliners or pillar / trim panels. If required, protect or remove interior trims or headliner. Also see **Diagram U**.
- When using 'R' blades, always use a controller arm **between** the glass and blade.

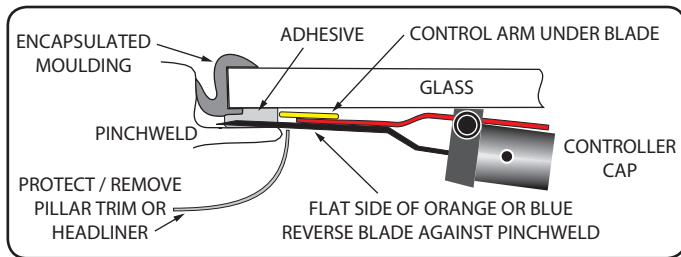


Diagram U

2.2.7.1 REMOVAL OF ENCAPSULATED GLASS FOR RE-INSTALLATION

For safe removal of undamaged encapsulated glass it is necessary most times to use BTB's specially designed reverse bend 'R-S' (orange) and 'VR-S' (blue) blades to cut against the pinchweld or car body, and NOT against the glass, **OR** for long reach, turn over the WK1-S or WK2-S long straight blades to again place the flat side of the cutting tip against the pinchweld and cut safely underneath the encapsulation. Refer to **Diagrams P, U, V** and **Diagram X(3)**.

Controller arms should be fitted underneath 'R-S' AND 'VR-S' blades to support and steer the blade against the pinchweld and away from encapsulated glass, but also precisely control the depth of blade penetration. Refer to **Diagram U** and **Diagram V**.

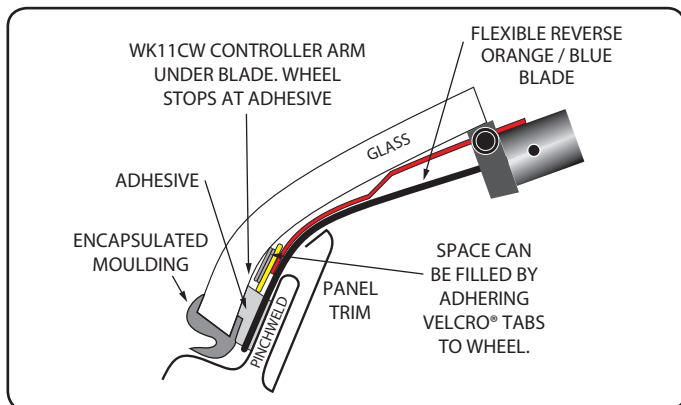


Diagram V

2.2.7.2 REMOVAL OPTIONS FOR UNUSABLE / DAMAGED ENCAPSULATED GLASS

- Use a Standard blade to cut off bottom of encapsulated mould OR
- Cut away (or cap) moulding using a winged WK6 pinchweld blade or desired method then use a Powered Cold Knife blade to cut between moulding and glass.

Also refer to options shown in **Diagram X**.

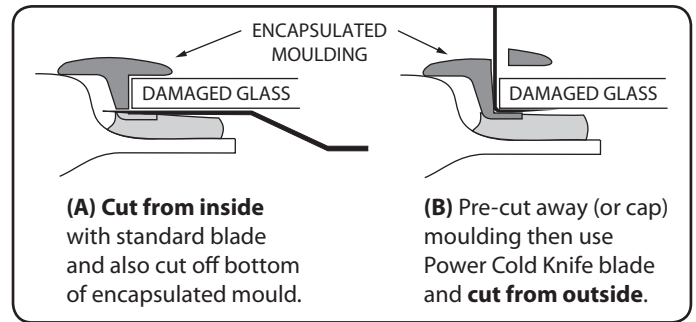


Diagram W

2.2.8 Exposed or Bare Edged Glass

Exposed and/or bare edged glass allows many effective and safe solutions using BTB's range of blades for cutting either against the glass or against the pinchweld while operating from outside of a vehicle. See **Diagrams N, X** and **Diagram Y**.

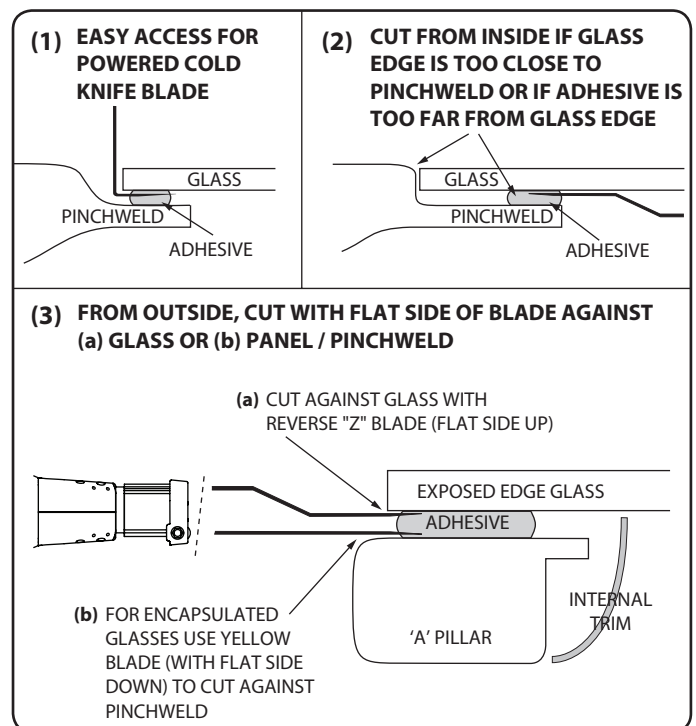


Diagram X

2.2.9 Cutting from Outside the Vehicle with Standard Flat Blades Or 'ZR-S' Blades

Using an Orange reverse 'ZR-S' blade or standard flat blade, with flat side facing the surface you want to cut against, is a good alternative to using a Powered Cold Knife blade when cutting from outside the vehicle where the adhesive is hard and / or too wide for a Powered Cold Knife blade. Refer to **Diagram P, Diagram X(3)** and **Diagram Y**.

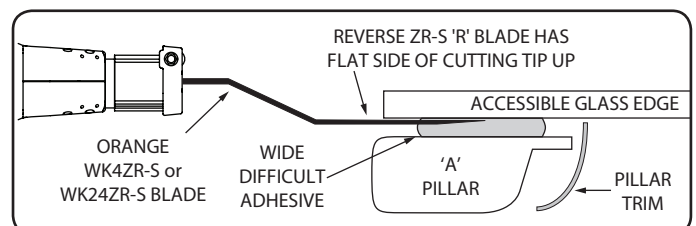


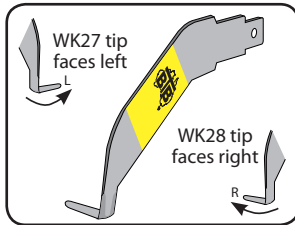
Diagram Y

2.2.10 Cutting from Outside Vehicle with a Powered Cold Knife (PCK) Blade

2.2.10.1 GUIDELINES FOR USING WK27 & WK28 POWERED COLD KNIFE BLADES

First refer to *Diagrams X(3), Z and W.*

The most effective method for using PCK blades with the E-Tool is to push the blade in a forward motion. However, pulling the blade is optional, allowing many more valuable benefits, refer item h. below.



- Select the PCK blade best suited to the task.
 - The WK27 (blade tip facing left) and WK28 (blade tip facing right) PCK blades are available in optional cutting tip lengths, 'S' Short 19mm (¾"), 'M' Medium 25mm (1"), 'L' Long 30mm (1¼") and 'XL' Extra Long 45mm (1¾"). The 'L' blade has a taller profile servicing situations where the vehicle A-pillar or pinchweld wall is excessively high.
 - YELLOW** WK27 and WK28 blades operate (in the same manner as a manual cold / pull knife) from the outside of exposed or bare edge glass and will hug and cut adhesive against the internal side of glass surface. **They can also be used from inside vehicle on selected installations** (e.g. encapsulated glass) to cut against the pinchweld.
 - The **ORANGE** reverse PCK blades are also used from the outside for removing undamaged encapsulated glass but with flat side down, to cut against the pinchweld. Refer to *Diagram A* (right diagram) on page 2.
- Apply protective tape to the vehicle paintwork if necessary.
- Ensure that blade cutting edges are sharp at all times.
- If required, cut any excess adhesive away from the glass edge using a WK5 or WK5-S blade in manual handle.
- Fit required length WK27 or WK28 blade into the power tool.
- Regularly spray cutting lubrication to the immediate cutting area. Apply to both outside and inside of the glass if possible.**
- Similar to a manual cold knife, identify an accessible entry point for the blade and insert blade tip under the glass edge. If necessary, turn power tool to low to assist entry under glass. If it is difficult to enter the blade then use a standard blade (see *Diagrams E and N*) to cut a corner section from the inside, which allows the glass to flex away slightly and for insertion of a PCK blade. Do not apply excessive pressure or force to the blade.
- Alternatively, the E-Tool's FIXED, fast, short reciprocal stroke also allows the PCK blade to be entered/started at the bottom of an 'A' pillar (below the guard or bonnet/hood) and **pulled in a backward** direction (up the 'A' pillar).
- If the adhesive is extremely hard to cut or the glass edge is too close to the pinchweld with possible risk of contact with vehicle paintwork, it is recommended to use BTB's internal blade cutting method or a combination of both. Refer to *Diagram X (2)*

2.2.10.2 CORRECT BLADE & TOOL ALIGNMENT FOR EFFICIENT CUTTING USING PCK BLADES

Refer to *Diagram Z.*

- Do not force or twist PCK blades. Align the power tool and blade tip parallel to the glass, spray cutting lubrication and steer the blade along the line of the glass edge. For best results allow the reciprocating action of the power tool to do the work whilst applying light pressure to steer the blade in a forward or backward motion.
- When cutting hard adhesive, regularly spray lubrication to the cutting areas on outside and inside of glass if possible.

- If cutting wide adhesive bands, always use a short cutting tip first (19mm), then a longer version (25mm or 30mm) to complete the cut out.

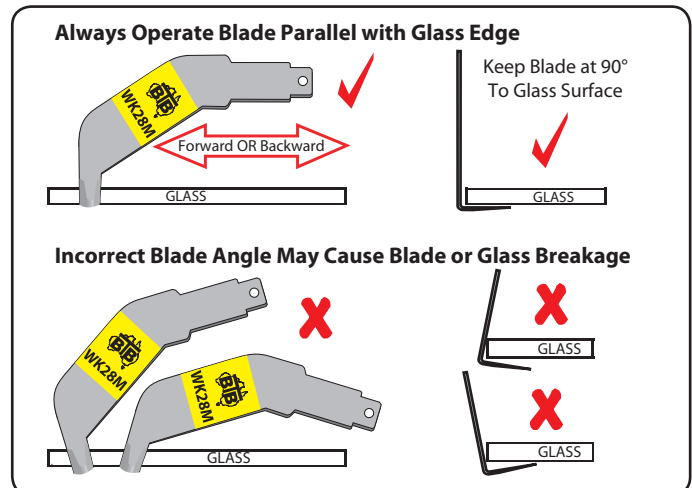


Diagram Z

- Do not force the blades. If the blade is not cutting:
 - Blade is not sharp or is being held at the wrong angle to the glass, OR
 - Adhesive is too wide, hard or close (see *Diagrams R, Y*). **Consider combining the cutting from inside with a Standard blade and outside with a PCK blade as a solution for difficult removals.**
- The WK27 and WK28 blades may also be used in the WK7 or WK7L manual handles (supplied with toolkits) for use on soft or small amounts of adhesives.

2.2.11 Pinchweld Trimming With No Damage to Paintwork

BTB's WK6 range of 'winged' pinchweld scraper blades are for safely trimming excess adhesive from pinchwelds and have a special and distinct radius grind cutting edge to the underside extending up the vertical wing on each side, which avoids any damage to painted pinchwelds. These blades are normally used in the WK7 or WK7L manual handles but can also be used in the power tool for heavier duty tasks such as removal of body deadener, soundproofing or seam sealer. Use with yellow label side facing upward. Refer to *Diagram ZA.*

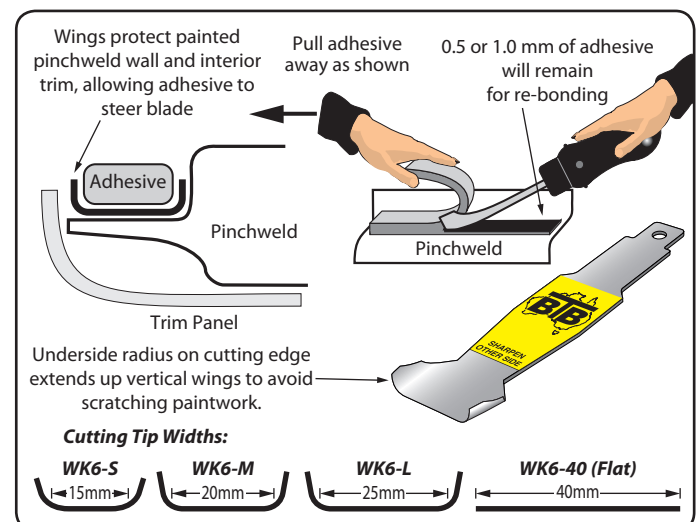
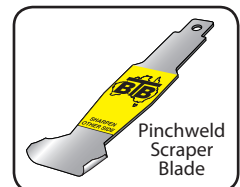


Diagram ZA

2.2.12 Backfill Adhesive Removal (Bus & Train Glasses)

When the glass edge is surrounded by adhesive backfill, a separation from the glass edge must be created prior to the cut out procedure. The two options for removing backfill are outlined next. Refer to **Diagram ZB** and **Diagram ZC**.

2.2.12.1 REMOVING BACKFILL USING A WK5-S BLADE

1. Fit a WK5-S or WK5 blade and WK11DW5 controller arm to the power tool with flat side of blade facing controller arm wheel.
2. Apply the first cut with the flat side of the blade against the glass edge operating at approximately 45°. The controller arm wheel rolls along the glass to control the blade's cutting depth.
3. To create the V cut, remove the blade from the tool, turn it over and refit it. Flip the tool over so that the flat side of the blade still faces the glass.
4. Apply a second V cut in the backfill to expose the glass edge, again operating at approximately 45°. The controller arm wheel rolls along the panel edge to control the blade's cutting depth.

Refer to **Diagram ZB** below.

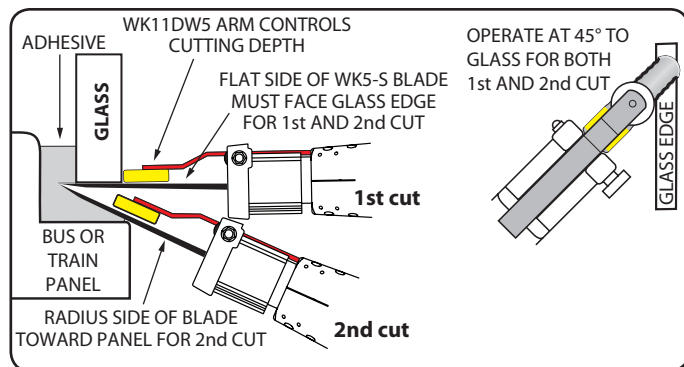


Diagram ZB

2.2.12.2 REMOVING BACKFILL USING A WK17 CHANNEL BACKFILL BLADE

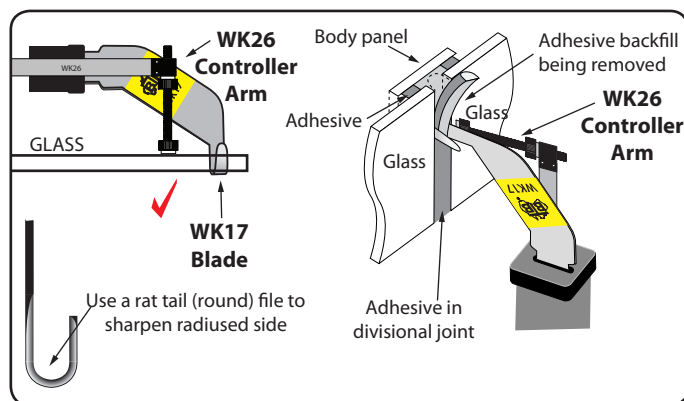


Diagram ZC

1. Always use a WK26 controller arm when using a WK17 channel backfill blade to keep the power tool and blade parallel to the glass surface and regulate cutting depth.
2. Blades must be kept very sharp. Use a small rat-tail file to sharpen the radiused side of the blade.
3. The backfill blade is cut so that it will naturally dig in to create a U-Shape cavity around the glass edges. Do not force or twist the blade.
4. With the E-Tool, the backfill blade can be pushed or pulled along the backfill.

2.3 Bonded Panel & Glass Roof Removal

2.3.1 Bonded Panel & Roof Module Frame Removal

Bonded panel removal and complete roof module removal (including frame) are similar to glass removal in many ways. You need to study & plan your removal technique:

- Choose whether to cut against the bonded panel or against the vehicle frame.
- Select the appropriate blade that will place the flat side of the blade toward the surface you want to cut against.
- Decide if a depth control arm is required.
- **Cut all easily accessible areas first.**
- If space to enter a blade between the frame and panel is small due to a thin layer of adhesive, use the tip of the blade and the tool's reciprocal stroke to jab in and out to progressively cut the adhesive.
- To reduce compression or pressure and allow faster cutting of adhesive, progressively pull and flex the panel away, or insert a lever/wedge or another blade to the adhesive area already cut.

Where bonded panel removal differs from glass removal:

- Panels are not subject to cracking/breaking
- Most panels can be flexed/peeled away as cutting progresses
- Panels are often lapped and bonded on top of another. Again, this requires systematic and progressive separation as described above.

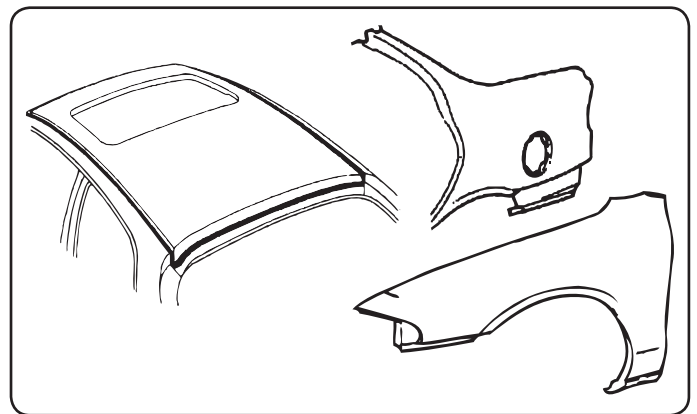


Diagram ZD

Also refer to **Diagram A** on **page 2**.

2.3.2 Panoramic Glass Roof Removal (See also 2.3.1)

Panoramic glass roof is similar to glass removal in many ways:

- Refer to the hints and tips provided throughout this user manual.
- Removal of a glass roof or roof module generally require a combination of cutting from inside vehicle and from the outside, leveraging and wedging to reduce weight of the module compressing the adhesive. Use depth control arms where required, and **NOTE**: Cutting lubrication is very important. Refer to Section 2.1.5 **Cutting Lubricant Is Important (Page 6)**.
- When cutting against softer material frames or panels (e.g. aluminium, fibreglass, plastic), use of a double bevelled V (green) or VR-S (blue) safety edge blade is recommended.

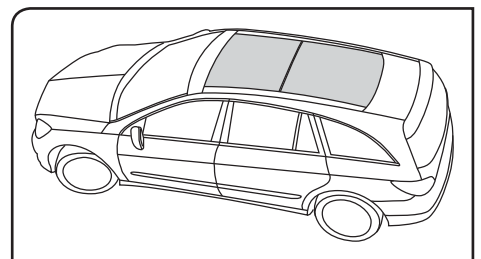


Diagram ZE

2.4 Removing Side Mouldings & Emblems

Quickly and safely remove adhesive fitted decorative mouldings, emblems, badges and rear spoilers without causing damage to moulding, spoiler or painted surface. Use blade similar to auto glass removal but always with the flat side of the blade operating against the lubricated painted panel surface. BTB recommends using non-serrated WK18Z and WK19Z Spade Blades where possible on flat panels. Blades can be used in the Power Tool or WK7 manual handle.

NOTE: Do not use serrated blades for badge/moulding removal.

NOTE: Using cutting lubrication with cutting blades is very important to avoid damage to painted surfaces. Refer to Section 2.1.5 *Cutting Lubricant Is Important* (Page 6).

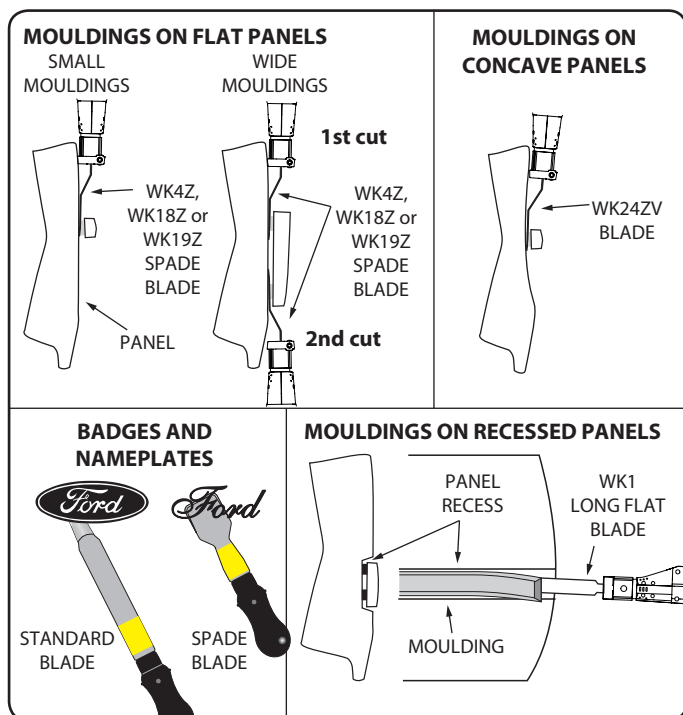


Diagram ZF

To remove mouldings from flat panels, operate the flat side of the blade against the panel surface.

To remove mouldings from recessed panels start from one end using a WK1 long straight blade and work along the panel surface, progressively separating the moulding from the panel.

2.5 Using the Tool as a Power Hacksaw

To convert the tool into a power hacksaw:

1. Turn off and disconnect the tool from the battery to avoid accidental injury.
2. Remove the **cone point blade chuck screw** in tool chuck.
3. Insert the power hacksaw blade and blade guide.
4. Fit the **flat nose retaining screw** and tighten.
5. Reconnect the tool to the battery and operate as normal.

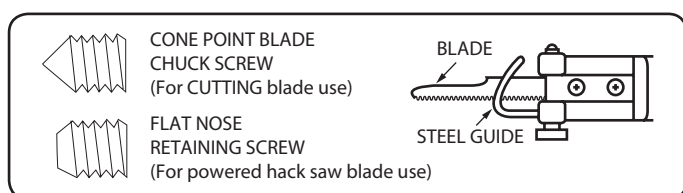


Diagram ZG

3. Troubleshooting

Behaviour	Possible Reason	Action
Blade noise, vibration or flapping	Using incorrect blade or blade angle or cutting action.	Refer to <i>Diagram J</i> and <i>Diagram K</i> for cutting technique.
Blade keeps coming loose in chuck	Flat Nose Grub Screw (for hacksaw blade) has wrongly been used in place of the Cone Point Blade Chuck Screw.	Fit the correct SPB33 Cone Point Blade Chuck Screw.
Inefficient cutting	Cutting lubrication not being used	Use either plain water or adhesive manufacturer approved cutting lubricant
Inefficient cutting	Blade not sharp.	Sharpen blade.
Inefficient cutting	Tool on low speed.	Switch to high speed.
Inefficient cutting	Trying to cut hard/wide adhesive in one pass or forcing the blade into the adhesive.	Keep blade and tool operating continuously and at maximum speed.
Tool won't start	Controller cap screw (SPB32) protruding and jamming chuck.	Incorrect screw used to replace SPB32; use correct screws.
Tool won't start	Blade chuck screw SPB33 loose and jamming on controller cap body.	Ensure SPB33 is firmly screwed in at all times.
Tool won't start	Battery is flat, indicated by solid red LED on tool.	Charge the battery.
Tool won't start	Tool-Battery connectors are loose.	Check all connections.
Tool won't start	Speed control switch is in off (0) position.	Press speed control switch to low (I) or high (II) position.
Tool won't start	Charger may not be charging battery	Test tool power using another 12V battery
Tool stops, red LED lit continuously	Low Battery or battery needs replacing	Recharge or replace battery.
Tool stops	Power cord is unplugged or not fully inserted, or terminals are loose inside battery bag.	Check external and internal battery bag connections are properly seated.
Tool stops	Tool is accidentally turned off.	Check speed control switch is in the high or low position.
Tool stops	SPB33 Cone Point Blade Chuck Screw is loose and jamming in controller cap.	Whenever tool is running, always ensure that chuck screw is tight, with or without blade inserted in tool.
Tool repeatedly stops, red LED blinks	Overloading from jamming blade in hard/wide adhesive, which activates shutdown feature.	Lubricate cutting area regularly. Reduce the amount of overload force being applied.
Tool repeatedly stops	Tool is set on low speed setting which may activate overload shut down.	Switch to high speed.
Lack of power	Tool is on low speed setting.	Switch to high speed.

4. Hints, Tips and Operating Techniques

4.1 Standard Blades (Including Serrated Blades)

1. Select a blade type and colour that allows the flat side of the blade to hug the surface you want to cut the adhesive away from.
2. When the flat side of a **YELLOW** or **GREEN** blade tip is against glass it will always cut close to the glass surface.
3. When the flat side of an **ORANGE** 'R' or **BLUE** 'VR' (reverse) blade tip is against the pinchweld it will always cut close to the pinchweld, away from encapsulated mouldings, heater elements or sensors.
4. **Standard** (non-serrated) blade tips cut adhesive with a reciprocating (in and out) action with the tip of the blade jabbing in and out of the adhesive bead, rather than a sawing action.
5. **Serrated** blades should be operated at approximately 45° to 90° to the adhesive in a sideways or backward sawing motion. Use caution when operating reverse (ORANGE) blades close to headliners or trim panels and use headliner protection methods.
6. Do not force the blade deep into adhesive. It is more effective for the power tool to operate continuously while progressively steering the blade back and forth along a short section.
7. On difficult removals, always cut the easy-to-get-at areas first. This will release pressure on the glass and provide easier access to the difficult areas, resulting in a faster cut-out.
8. Do not use long blades when a short blade will do. A short blade brings the blade cutting tip closer to the nylon controller cap, resulting in faster and more precise cutting of the adhesive.
9. If a blade is not cutting efficiently, is flapping against the glass or is making excessive noise, the tool and blade are being held at an incorrect angle and/or the wrong blade is being used.
10. For efficient cutting and to avoid heat build up, ensure blades are sharp. Also ensure the cutting area is regularly lubricated with an appropriate cutting fluid, to both inside and outside glass surfaces if possible.
11. To overcome the difficulties of cutting wire and small cutting tips consistently catching on cracks in the uneven surface of a damaged laminated glass, use Standard blades with their wide and flat cutting tips to effectively cut against the surface.
12. When cutting from inside the vehicle, the nylon controller cap should be held against the glass surface wherever possible. It will not scratch the glass or painted panel and will steer the blade tip to the correct cutting angle.
13. Use adjustable cutting depth controller arms to avoid causing damage to the painted body panel, mouldings or blade. When using Orange or Blue Reverse blades, always use a control arm between the glass and blade See **Diagrams H, U and Diagram V**.
14. Adhesive Velcro® protection pads (included in BTB kits) can be fitted to blades to protect the glass surface and painted panels.
15. Plastic locator pins, Velcro® pads or bolts are often used in addition to adhesive when a glass is installed. Use a blade to pre-cut plastic pins or Velcro®. When cutting around steel bolts or pins, to avoid blade damage, mark the location of bolts/pins with masking-tape, then carry out a normal cut out while working as close as possible around the pin. Use blades in a manual handle to finish around difficult areas.
16. To retain thumb on trigger of E-Tool when switching from the left side to right side, refer to section **2.2.1.4 Cutting Below Dashboard while Standing in Doorway (page 8)**.

4.2 Powered Cold Knife Blades (WK27 and WK28 Blade range)

1. Do not force the Powered Cold Knife (PCK) blades. Align the power tool and blade tip parallel to the glass. Allow the reciprocal action to do the work. The recommended and most effective method for using PCK blades with the E-Tool is to push the blade in a forward motion. Where pushing is not possible refer to section **2.2.10.1.h**. Always apply cutting lubrication, ensuring the leading edge of blade tip is hugging the glass surface. Refer to **Diagram Z** for WK27 and WK28 usage instructions regarding correct angle of blades. If cutting wide adhesive bands, always use the shortest cutting tip first, then a longer version to complete the cut out.
2. To create a starting point for a PCK blade, a combination of inside and outside cutting can be the most effective. e.g. From inside, first cut a small section at a corner, which allows entry for the PCK blade from outside. For windshield removal, the PCK blade can also be operated in a pulling motion, allowing these blades to be entered/started at the bottom of an 'A' pillar (below the guard or bonnet) pulling in a backward direction (up the 'A' pillar).
3. Performance will be reduced if the blades are not sharp or spacing between the glass and pinchweld is minimal.

5. Tool Repair & Part Replacement

For all other problems contact your nearest BTB Distributor or your nearest Authorised BTB Repair Agent. Do not try to repair the tool yourself. Opening the tool up will void your warranty.

For additional tools or replacement controller caps contact your place of purchase.

6. Spare Parts

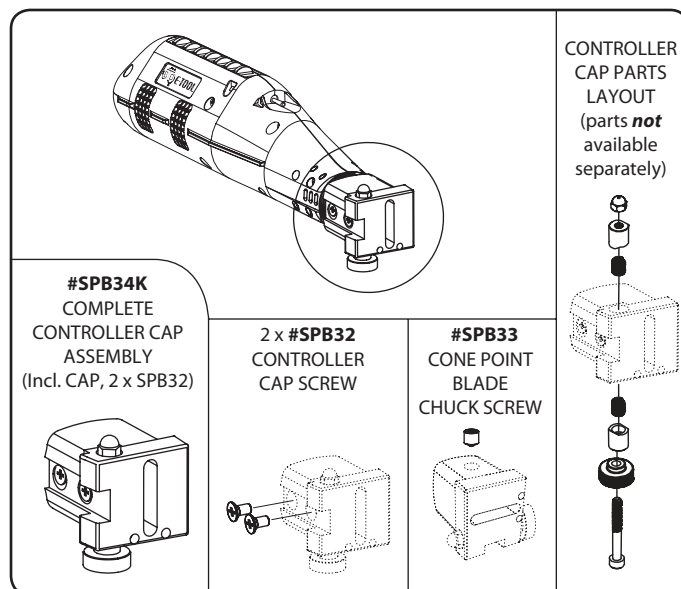


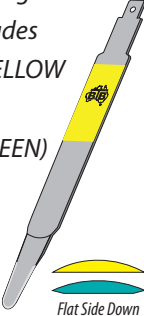

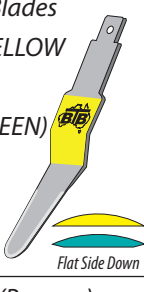

Diagram ZH

Note:

- The controller cap assembly on the BTB E-Tool and BTB WK10HD air tool is identical / interchangeable
- Other controller cap assembly parts are **not** available individually (e.g. screws, nuts, springs etc.)
- For replacement batteries, bags, tools, blades and kits contact your nearest BTB supplier.

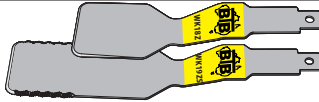
7. Blade Chart

Standard Blades

		BLADE SPECS			IN KIT		
		Colour	Serrated	Flexible	Length (mm)	Control Arm	
Group	Part						
Straight Blades (YELLOW OR GREEN) 	WK1	Y			300	WK11EW	
	WK1-S	Y	✓		300		✓
	WK1X	Y			370	N/A	
	WK1ZX	Y			370		
	WK2	Y			240	WK11FW	
	WK2-S	Y	✓		240		✓
	WK2V-S	G	✓		240		✓
	WK5	Y			130	WK11DW5	
	WK5-S	Y	✓		130		✓
Bent Blades (YELLOW) 	WK3	Y			190	WK11FW	✓
	WK3-S	Y	✓		190		
	WK4	Y		✓	190		
	WK4-S	Y	✓	✓	190		✓
	WK24	Y		✓	240		
Z Blades (YELLOW OR GREEN) 	WK24-S	Y	✓	✓	240		✓
	WK4Z	Y			140	WK11AW / WK11BW5	
	WK4Z-S	Y	✓		140		✓
	WK4ZV-S	G	✓		140		✓
	WK24Z	Y		✓	150		✓
	WK24Z-S	Y	✓	✓	150		✓
	WK24ZV	G		✓	150		
	WK24ZV-S	G	✓	✓	150		
'R' (Reverse) Z Blades (ORANGE OR BLUE*) 	WK4ZR-S	O	✓		140	WK11CW	
	WK4ZVR-S	B	✓		140		✓
	WK24ZR-S	O	✓	✓	150		✓
	WK24ZVR-S	B	✓	✓	150		
	WK4R-S	O	✓	✓	190		✓
	WK24R-S	O	✓	✓	240		

* Orange and Blue blades have cutting tips opposite to Yellow and Green blades. Note profiles shown.


Spade Blades (40mm Wide)

Group	Part	Colour	Serrated	Flexible	Length (mm)	Control Arm		
Spade Blades 	WK18Z	Y		✓	140	WK11BW5		
	WK18Z-S	Y	✓	✓	140			
	WK19Z	Y		✓	180	WK11AW / WK11BW5		
	WK19Z-S	Y	✓	✓	180			

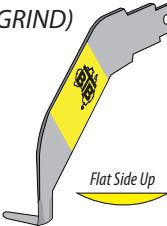

Backfill Adhesive Removal Blades

Part	Control Arm	Part	Control Arm
WK5-S	WK11DW5	WK17-6	WK26
		WK17-4	WK26

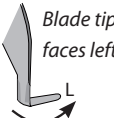
Pinchweld Trimming Blades

		IN KIT		
Group	Part	Width (mm)	ETK12STR	ETK12CLS
Pinchweld Trimming Blades 	WK6-S	15		
	WK6-M	20	✓	✓
	WK6-L	25		
	WK6-40	40		
	WK6-25	25		
	WK6-15	15		

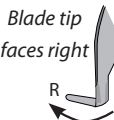
Powered Cold Knife Blades

		IN KIT		
Group	Part	Colour	Length (mm)	Controller Arm
				ETK12STR
				ETK12CLS
				ETK12TEC
PCK Blades (YELLOW REGULAR GRIND) 	WK27S	Y	19	
	WK27M	Y	25	✓
	WK27L	Y	30	✓
	WK27XL	Y	45	✓
	WK28S	Y	19	
	WK28M	Y	25	✓
	WK28L	Y	30	✓
	WK28XL	Y	45	
'R' (Reverse) PCK Blades (ORANGE*) 	WK27RM	O	25	
	WK28RM	O	25	

WK27
Blade tip
faces left



WK28
Blade tip
faces right



Cutting Depth Controller Arms

WK11AW Use over YELLOW 'Z' blades and WK3 & WK4 blades. Roller Wheel will roll along urethane bead to control cutting depth.

WK11BW5 Use over YELLOW 'Z' blades and WK3 & WK4 blades. Roller Wheel will roll along A-Pillar or vehicle trim to control cutting depth.

WK11CW Use under ORANGE blades for safe encapsulated glass removal. Roller Wheel rolls along urethane bead to control cut depth.

WK11DW5 Use under WK5 & WK5-S blades for removing backfill on bus & train glasses.

WK11EW Use over YELLOW WK1 & WK1-S long blades for cutting below dashboards and where long reach depth control is required.

WK11FW Use long end over YELLOW WK2 and WK4 blade range or under ORANGE WK24R-S. Use shorter end over YELLOW WK3 blades.

WK26 Use alongside WK17 backfill removal blades. The nylon guide runs along glass surface to steer the blade and regulate cutting depth.

WK11PP Use with WK27 & WK28 range of powered cold knife blades between blade and pinchweld wall to avoid contact with paintwork.

The data contained in this catalogue is correct at the time of publication, however BTB and their suppliers take no responsibility for omissions or errors.



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