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SOFTLINE CUTTER SL80

PRODUCT CODE No. 980248

INSTRUCTIONS FOR INSTALLATION, OPERATION & MAINTENANCE

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DESCRIPTION

The SL80 softline cutter is a double acting tool suitable for cutting softlines and dyneema /aramid ropes up to 80mm (3 1/8") diameter. It requires a dual line hydraulic supply for operation and is suitable for use subsea.

1 SAFETY

Before operation, read and understand this operations manual.

Ensure that the tool and all its associated equipment, including any attached lifting equipment and pipework, are in good condition.

Before operating the tool hydraulically, ensure that a return hydraulic line is fitted as well as the pressure line. This is to prevent fluid locks and the possibility of generating very high pressures within the system.

Ensure that suitable pressure regulation equipment is used and that the unit is not subjected to pressures higher than those stated in section 3.

If an operator is adjacent to the tool during trials or other tests, ensure that moving parts are shielded to prevent entrapment. Appropriate personal safety equipment should be worn (e.g. Safety glasses, Helmet & Gloves as a minimum)

If the item to be cut is under tension, a risk assessment must be carried out by a competent person with emphasis on the possible recoil of the severed ends

If in doubt please contact the manufacturer (Allspeeds Ltd) or an authorized distributor for assistance.

CAUTION - Any modification made to this tool will invalidate the warranty and may lead to equipment failure or personal injury.

INSPECT THE TOOL BEFORE USE

With the cutter isolated from the hydraulic supply, check the condition of the blade edge. If the blade is damaged or blunt replace with a fresh blade before cutting. This procedure is described in section 6. Ensure that care is taken when checking the blade as the edge may be sharp.

Check the condition of the anvil. It is normal that the anvil will show an indent where the blade is pressed down into it and can withstand multiple cuts, but any excessively damaged anvil should be replaced. This procedure is described in section 6.

Ensure that all retaining bolts are tight.

IMPORTANT: Please note this tool is designed for intermittent subsea use. Please refer to the manufacturer should you wish to use this tool subsea for any period over 14 days. If in doubt, please contact the manufacturer (Allspeeds Ltd) or an authorized distributor for assistance.

CAUTION - USE OF BLADES & PARTS NOT APPROVED BY WEBTOOL MAY RESULT IN TOOL FAILURE AND CONSEQUENTIAL DAMAGE.

2 CUTTING CAPACITY

The SL80 cutter is designed to cut softlines up to a diameter of 80mm (3 1/8"). This tool is for cutting softlines only and **MUST NOT** be used to cut wire rope. Cutting unsuitable materials can result in damage to the tool and/or blade.

3 INSTALLATION

HYDRAULIC CONNECTIONS

Two ports are provided in the tool, one in the end of the cylinder for the cutting stroke, (herein referred to as the power port) and one in the housing block for the return stroke (herein referred to as the return port). Both ports are tapped 1/4" BSPP and are factory fitted with 7/16" BSPP to 7/16" JIC male adaptors.

The maximum input pressure into the power port for the cutting stroke is 690 bar (10000 psi)

The maximum input pressure to the return port is 690 bar (10000 psi)

CAUTION - DO NOT EXCEED THE MAXIMUM STATED PRESSURES AS THIS MAY LEAD TO PERSONAL INJURY, DAMAGE TO THE TOOL AND LOSS OF HYDRAULIC OIL. IT IS ADVISED THAT ANY HYDRAULIC CIRCUIT THAT THIS TOOL IS ATTACHED TO CONTAINS SUITABLE PRESSURE LIMITING EQUIPMENT.

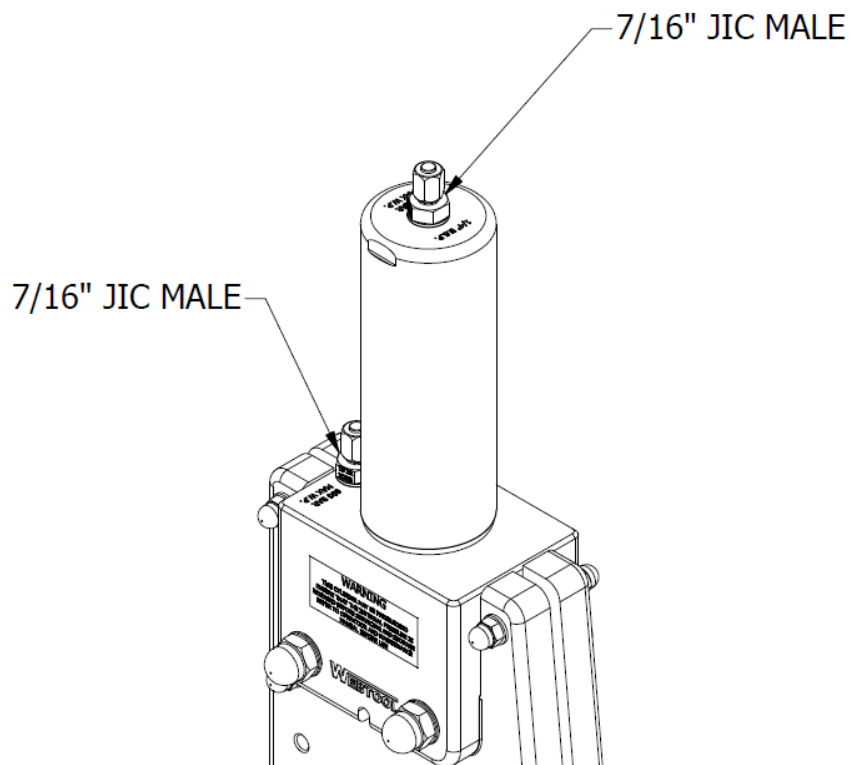


Fig 1 – Hydraulic connection points.

LIFTING AND MOUNTING POINTS

The cutter has 2 holes, tapped M10 x 22.5 (through the plate) on each side. These holes are for the attachment of lifting and mounting equipment or buoyancy (not supplied as standard).

The weight of this tool is approximately 14.18kg in air and 9.9kg in water (not including oil). Ensure that any attached lifting equipment is capable of lifting the weight of this tool with a suitable safety margin

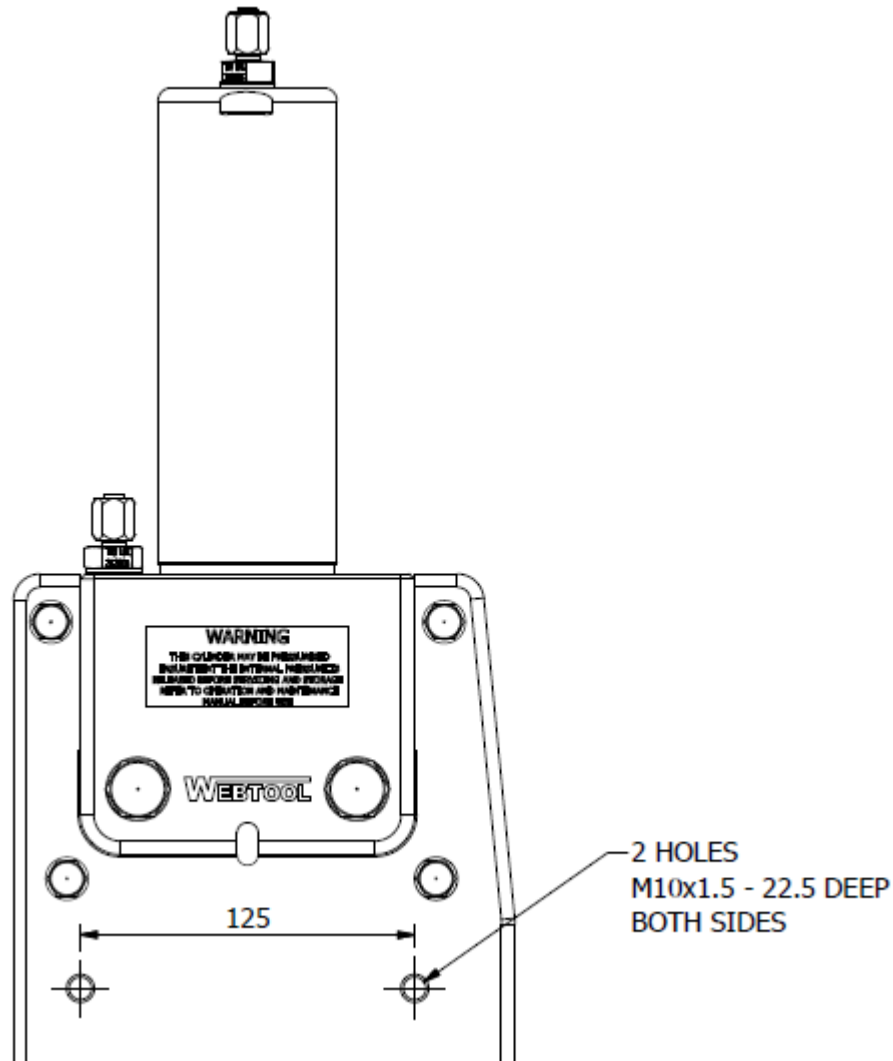


Fig 2 – Mount points.

4 SEQUENCE OF OPERATION

IMPORTANT – Before deployment, function test the tool and ensure that all operators are familiar with this procedure. ROV observation of the tool should be maintained at all times during operation.

DEPLOYMENT

1. Manoeuvre the cutter around the rope to be cut so that the rope sits fully in the jaw of the tool, against the anvil as shown below.

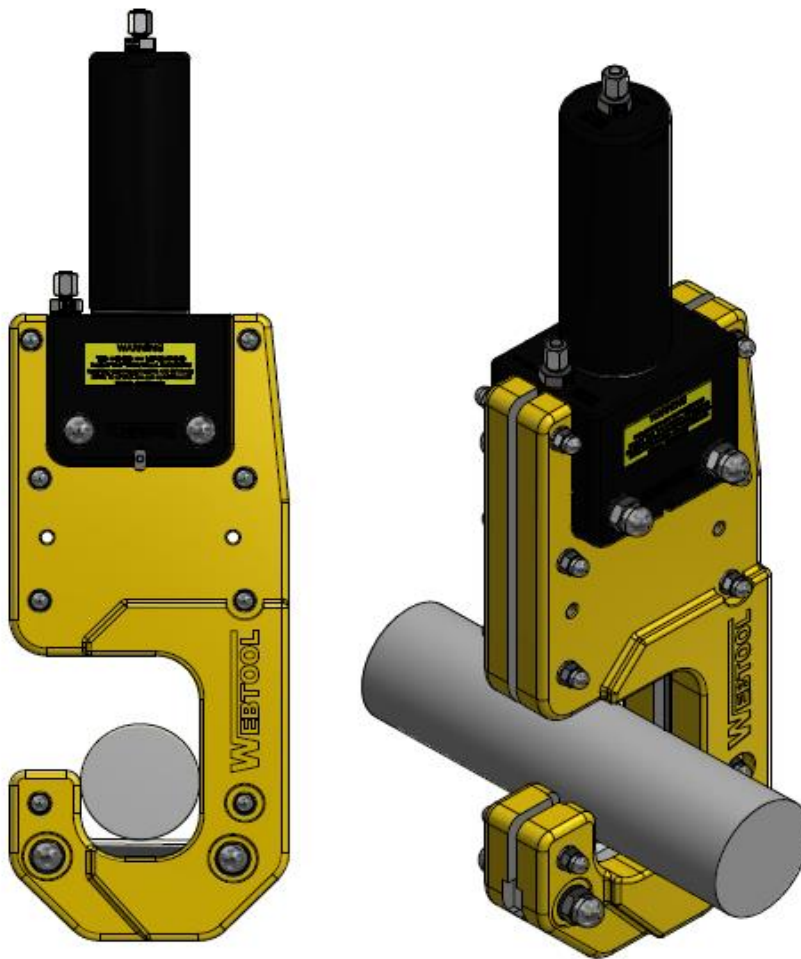


Figure 3 – Rope correctly positioned

2. Operate the hydraulic supply to the power port, whilst ensuring the return port is open to tank, to drive the blade downwards through the rope.
3. Once the rope is fully cut, retract the blade by pressurising the return port. Ensure the power port is open to tank.

TROUBLESHOOTING

If the rope does not cut through completely on the first attempt, cycle the blade by retracting it slightly and then attempting the cut again.

If the rope does not completely cut after multiple cycles of the blade, check the input pressure to the main input of the cylinder. This can be a maximum of 690 bar (10000 psi).

If the rope to be cut is still not severed after multiple cycles and at pressure of 690 bar, return the tool to the surface for inspection of the blade and anvil as described in section 6. Replace if necessary.

IMPORTANT NOTE - ENSURE THAT THE BLADE IS RETRACTED AND THAT ALL PRESSURE TO THE CUTTER IS RELIEVED AS IT IS RAISED TO THE SURFACE. FAILURE TO DO THIS CAN LEAD TO A DANGEROUS BUILD UP OF PRESSURE IN THE CYLINDER.

5 AFTER USE

If the tool has been used in a marine environment **IT IS ESSENTIAL** that it is fully hosed down with clean water, allowed to drain and sprayed with a de-watering fluid. Before storage inspect the general condition of the tool and make good any damage. Pay particular attention to the blade and anvil as described in section 6.

IMPORTANT – DO NOT STORE THE TOOL WITH A COMPLETELY SEALED CYLINDER AS PRESSURE MAY BUILD UP DUE TO TEMPERATURE CHANGES

6 SERVICE

CAUTION – ENSURE THAT THERE IS NO HYDRAULIC PRESSURE IN THE CYLINDER BEFORE PERFORMING ANY SERVICE OR MAINTENANCE PROCEDURES ON THIS CUTTER

It is unlikely that service should be required on the hydraulic components of the tool under normal circumstances; however spare seal kits are available if required.

It is normal to have to replace the blade and anvil during the life of the tool, depending on the frequency of use and the materials being cut.

It is advised to keep stock of the following spares at all times

Description	Part Number
Seal Kit	995158
Blade	705078S
Anvil	761299
Retaining Pin	029114

Table 1 – Recommended spares

If required, the tool can be returned to the manufacturer Allspeeds Ltd for servicing and testing.

INSPECTING THE BLADE

With the cutter isolated from the hydraulic supply, check the condition of the blade edge. If the blade is damaged or blunt replace with a fresh blade before cutting as described below. Ensure that care is taken when checking the blade as the edge may be sharp.

BLADE REPLACEMENT PROCEDURE

Connect the cutter to a hydraulic supply, and fully retract the blade so that the retaining pin is fully visible through the slots in the side plate and cylinder housing.

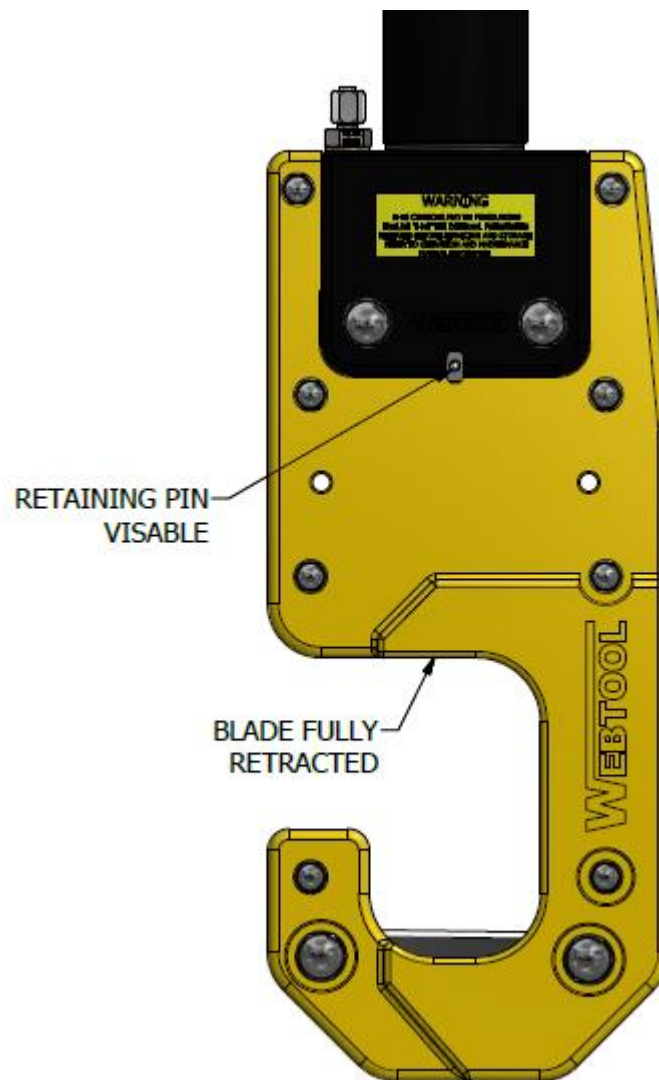


Figure 4 – Retaining pin visible

IMPORTANT - DISCONNECT THE HYDRAULIC SUPPLY BEFORE PROCEEDING

Ensure that the cutter is led on its side before carrying out the next stage as the blade will come loose and drop onto the anvil if the cutter is stood up.

Using a suitable drift and hammer, drive the retaining pin out of the end of the piston rod. The blade will now be loose but retained within the body of the tool.

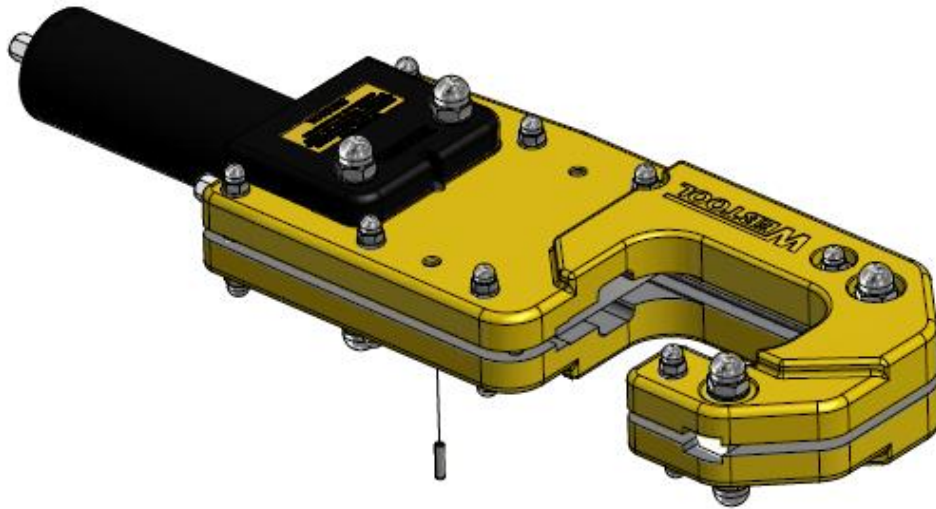


Fig 5 – Retaining pin removed

Remove the 2 off bolts with nuts that connect the cylinder housing to the side plates using two 21mm spanners.

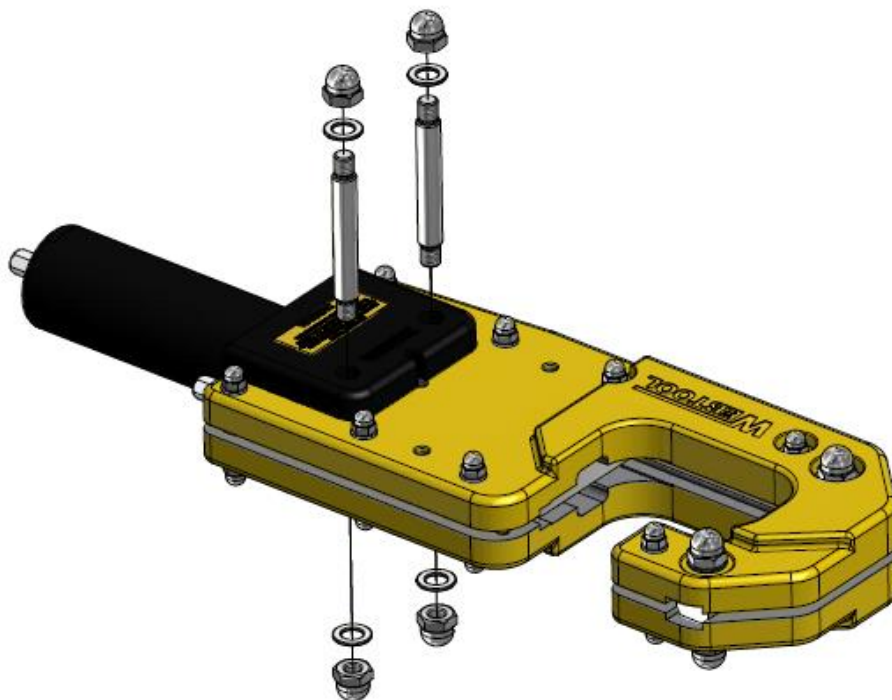


Fig 6 – Removal of domed nuts and bolts

Slide the housing and piston assembly from the side plates. Care must be taken to avoid damage to the piston rod during this procedure.

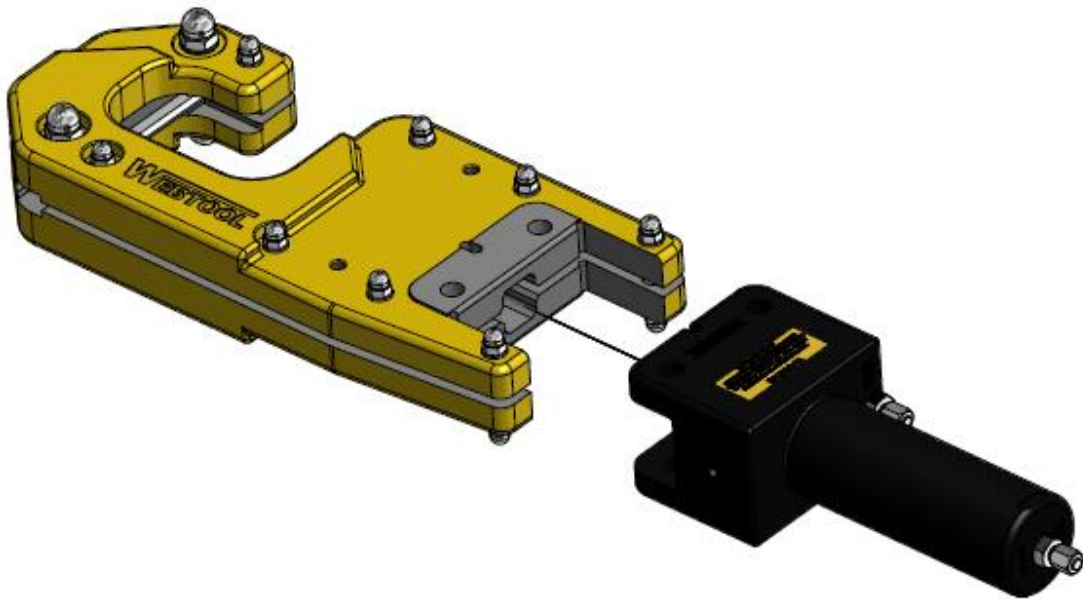


Fig 7 – Removal of piston housing assembly

Remove the 10 8mm bolts that hold the side plates together using a pair of 13mm sockets.

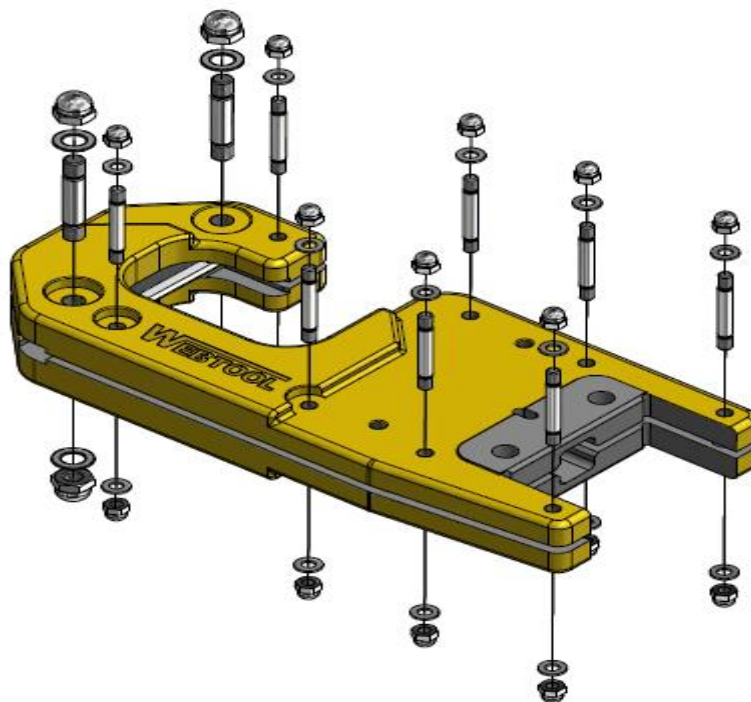


Fig 8 – Removal of nuts & bolts

Lift the side plate off, taking care not to lose the spacers.

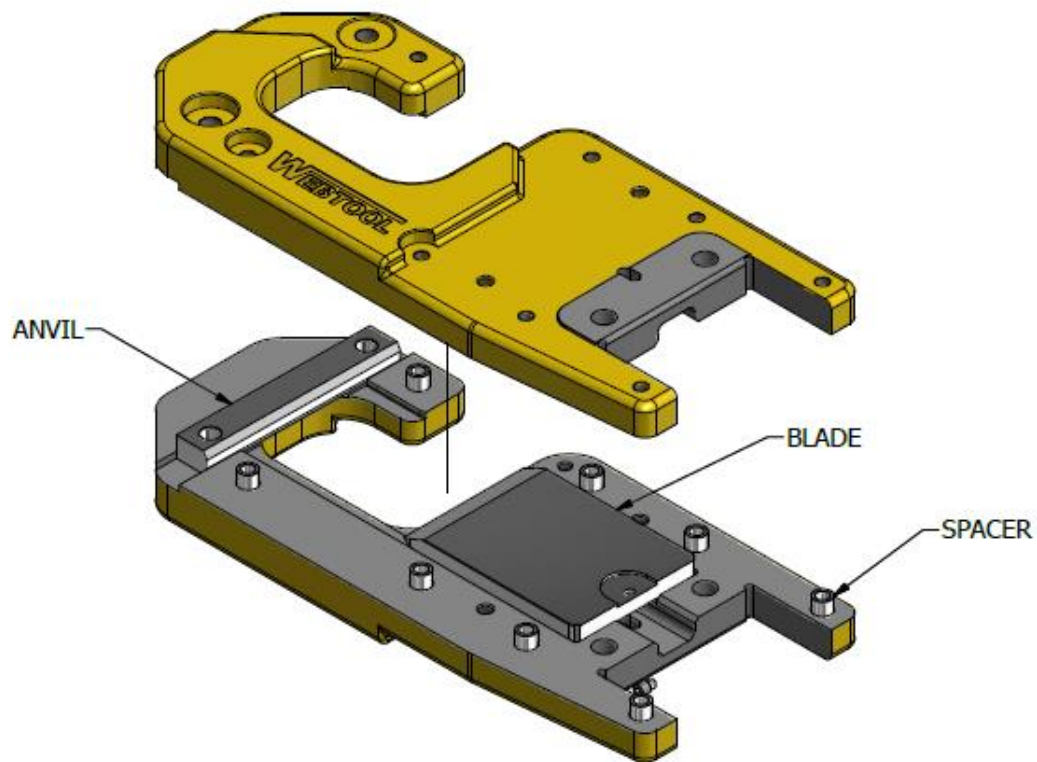


Fig 9 – Removal of side plate

Remove the blade and replace with a new one.

Visually inspect all components before reassembling.

Reassembly is the reverse of disassembly. Ensure that the retaining pin is driven into the piston and blade correctly and does not stand proud of the outer diameter of the piston.

After reassembly, function test the tool by connecting it to a hydraulic supply and cycling the blade up and down.

CAUTION – ENSURE THAT ALL PERSONNEL ARE KEPT AT A SAFE DISTANCE FROM THE TOOL DURING FUNCTION TESTING

INSPECTING THE ANVIL

Check the condition of the anvil. It is normal that the anvil will show an indent where the blade is pressed down into it. It can withstand multiple cuts, but any excessively damaged anvil should be replaced as described below.

ANVIL REPLACEMENT PROCEDURE

Ensure that the blade is NOT in contact with the anvil before carrying out this procedure, and that the tool is disconnected from the hydraulic supply

Remove the 2 bolts that pass through the side plates and anvil using two 21mm sockets. Loosen off the 2 bolts above with two 13mm sockets, as shown below.

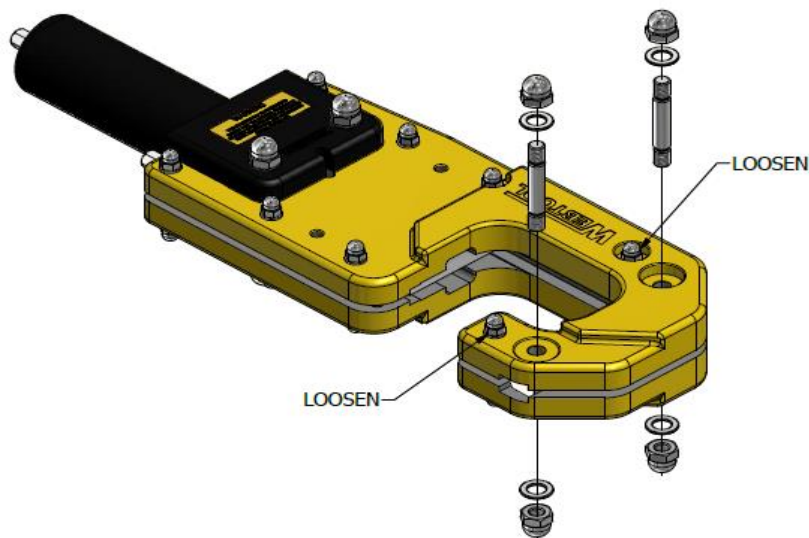


Figure 10 – Bolt removal

Remove the anvil by sliding it out of the side plates.

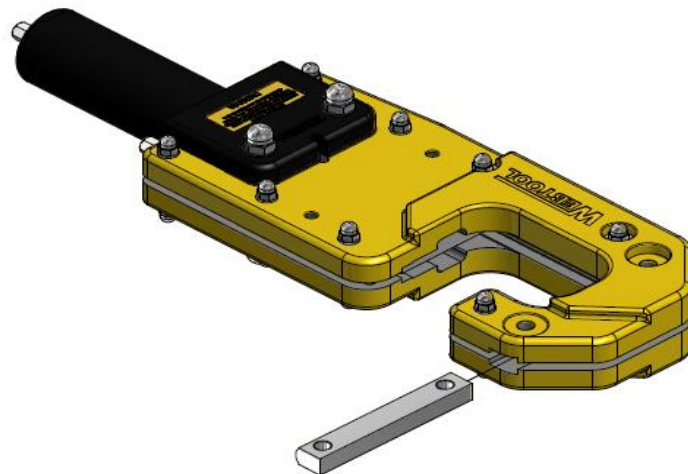


Figure 11 – Anvil removal

Replace the anvil and the two bolts. Ensure that all 4 bolts are correctly tightened. Check that all other bolts are correctly tightened.

7 CYLINDER PROOF TESTING

If at any time it is necessary to carry out proof tests on the tool, e.g. after service on the hydraulic cylinder, the following procedure should be followed.

CAUTION – ENSURE THAT ALL PERSONNEL ARE KEPT AT A SAFE DISTANCE FROM THE TOOL DURING PROOF TESTING

- a. A return line as well as a pressure line must be connected at all times, and the tool must be guarded during the test operation.

b. The proof test should not exceed the following pressures:

- 750 bar for the power port
- 750 bar for the return port

Note - The relief valve blow off pressure for the power port of this model of cutter is 760 Bar. Any significant, sharp drop in pressure will be down to the activation of the relief valve.

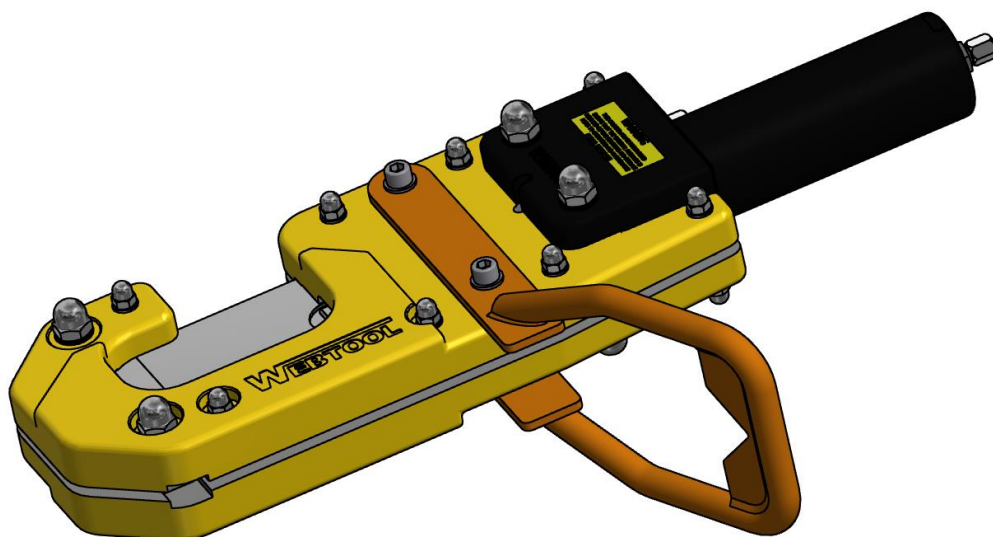
c. The proof test pressure should be applied gradually by means of a handpump, until the maximum test pressure is reached.

Also available as an optional extra for this tool is:-

Webtool Hydraulic Intensifier – HP690A (available in a range on intensification ratios)



Webtool handle kit - part number 999027 an optional add op available for this cutter shown below



For further information contact the manufacturer (Allspeeds Ltd) or an authorised distributor.

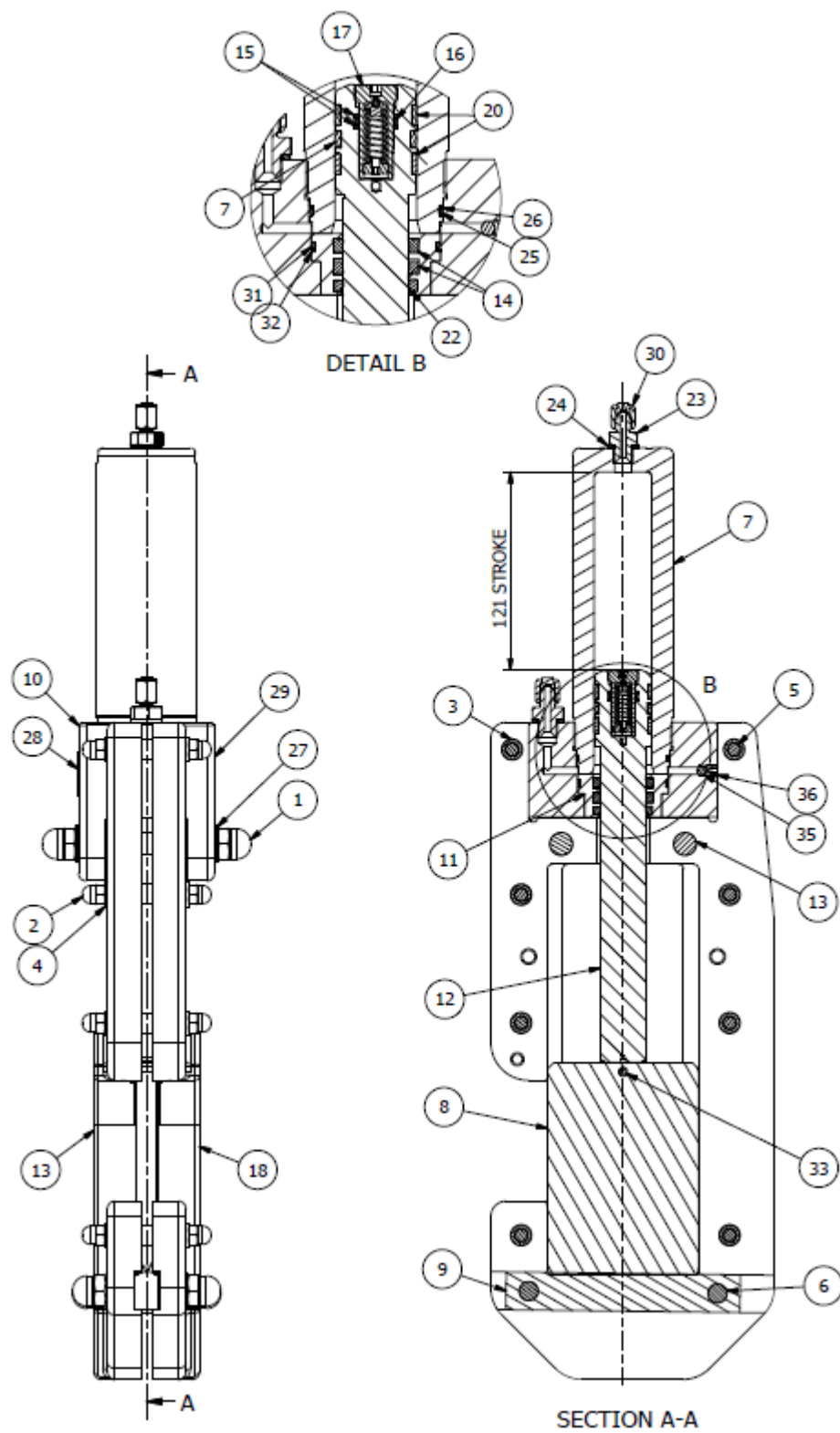


Figure 12 – Parts List Identifier

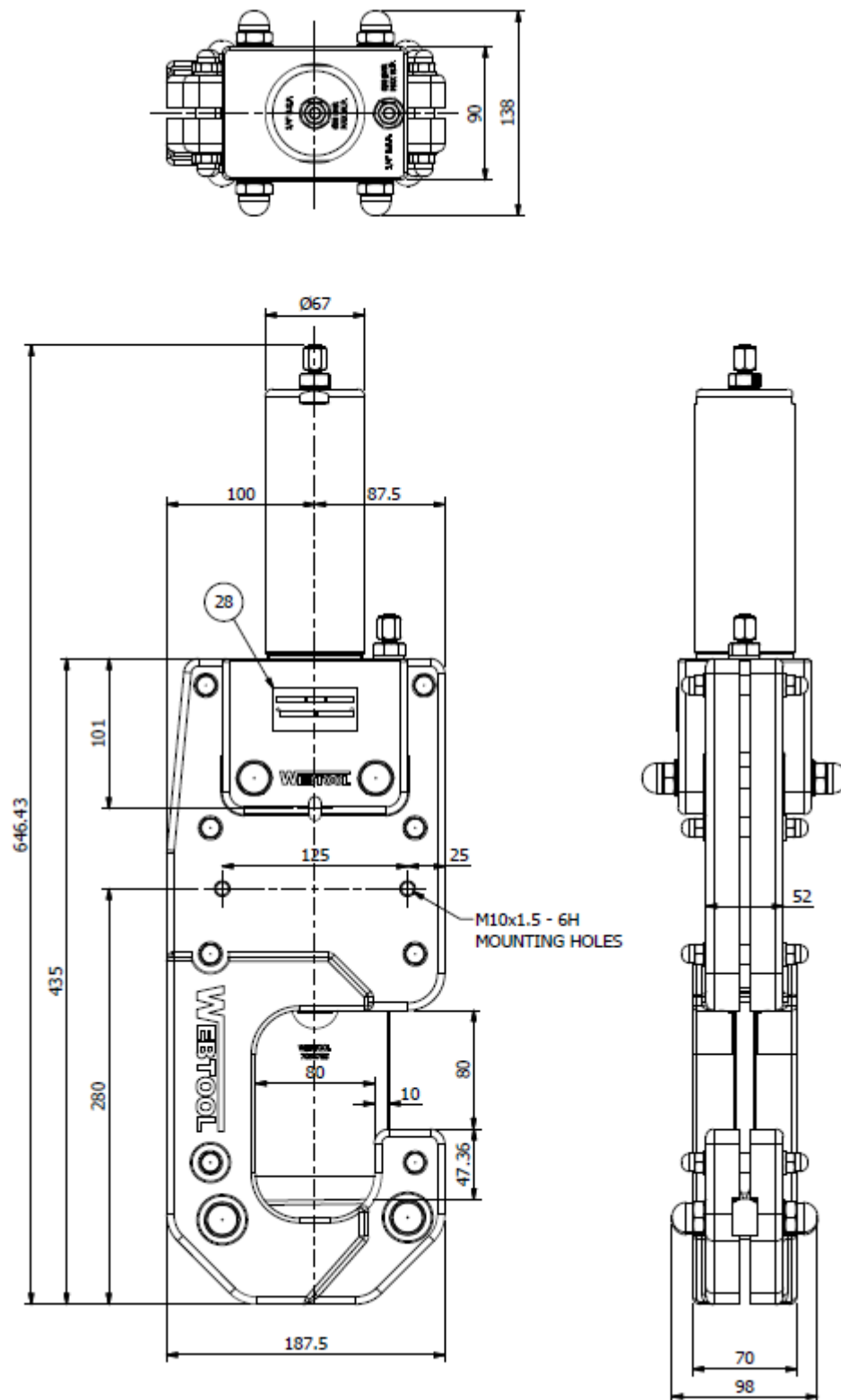


Figure 13 – Overall Dimensions

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	8	020114	M12 DOMED NUT
2	16	020113	M8 DOMED NUT
3	8	715390	SPACER
4	16	080614	PLAIN WASHER - M8
5	8	035165	M8 FITTED BOLT
6	2	035166	M12 FITTED ANVIL BOLT
7	1	728122	CYLINDER
8	1	705078S	BLADE
9	1	761322	ANVIL
10	1	749066	CYLINDER HOUSING
11	1	749065	BEARING RING
12	1	764163	PISTON
13	1	765355A	SIDE PLATE A
# 14	2	025935	ROD SEAL
# 15	2	32-61-2413	RELIEF VALVE A/E RING
# 16	1	32-60-2413	RELIEF VALVE O-RING
17	1	1155009	RELIEF VALVE
18	1	765355B	SIDE PLATE A
# 19	1	025959	PISTON SEAL
# 20	2	025960	PISTON SEAL GUIDE RING
21	2	035152	DOWEL BOLT
# 22	1	025961	WIPER SEAL
23	2	791157	1/4" BSPP TO JIC 4 STRAIGHT ADAPTOR
# 24	2	32-07-0035	BONDED SEAL 1/4" BSP
# 25	1	025947	CYLINDER O-RING
# 26	1	32-61-2432	CYLINDER A/E RING
27	8	080988	PLAIN WASHER - M12
28	1	752342	NAME PLATE
29	1	752563	PRESSURE WARNING LABEL
30	2	791161	BLANKING PLUG
# 31	1	025962	BEARING RING O-RING
# 32	1	025963	BEARING RING A/E RING
33	1	029114	PIN
35	1	704013	1/4" BALL - STAINLESS
36	1	035167	M8x8 CUP POINT SOCKET SCREW - STAINLESS

= SEAL KIT COMPONENTS

Table 2 – SL80 Parts list

WEBTOOLTM

CUTTING EDGE TECHNOLOGY

Webtool specialise in engineering hydraulic tools for cutting and gripping rope, cable and umbilical.

Models are designed for use in subsea environments by ROV, and surface applications in hostile environments, including:

- Wire rope cutters (WCS and WCOS) – capable of cutting steel wire rope up to 75mm diameter
- Wire Rope Cutters (RCV) – capable of cutting steel wire rope up to 190mm diameter
- Cable Cutters (HCV) – capable of cutting cable, umbilical and armoured flexible pipe lines up to 330mm diameter
- Softline Cutters (SL) – capable of cutting fibre ropes in various sizes
- Wire Rope/Cable Grippers
- Wire Rope Clamps
- Automatic Shackles

Application specific solutions

Our in house design and manufacturing capability means we can quickly and efficiently develop a solution to suit your particular application. Contact us to discuss how we can help.



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