WEBTOOL™

Allspeeds Ltd.
Royal Works, Atlas St
Clayton le Moors
Accrington
Lancashire
England
BB5 5LW

Tel +44 (0)1254 615100
www.allspeeds.co.uk

SOFT LINE CUTTER SL165

PRODUCT CODE No. 980547

INSTRUCTIONS FOR INSTALLATION, OPERATION & MAINTENANCE

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DESCRIPTION

The SL165 softline cutter is a double acting tool suitable for cutting softlines and ropes up to 165mm (6.5”) in 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 2.

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.

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 as 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 5.

Ensure that all retaining bolts are tight.

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

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.

CUTTING CAPACITY

The SL165 cutter is designed to cut softlines up to a diameter of 165mm (6.5”). 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.

2 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 ¼” BSPP and are factory fitted with ¼” BSPP to 7/16” JIC male adaptors.

Table 1:

Function	Max Working Pressure		Swept Volume	
	psi	bar	ml.	U.S. Gallon
Working Stroke	10,000	690	524	(0.138)
Return Stroke	10,000	690	336	(0.089)

CAUTION - DO NOT EXCEED THE MAXIMUM STATED PRESSURES AS THIS MAY LEAD TO 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.

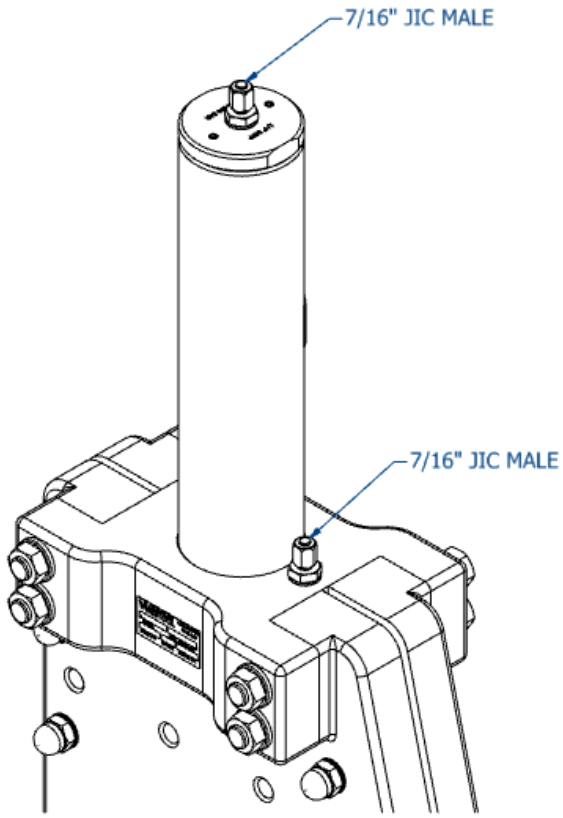

Fig 1 – Hydraulic Connection Points.

LIFTING AND MOUNTING POINTS

The cutter has 4 holes, tapped M16 x 30 deep on each side plate. These holes are for the attachment of lifting and mounting equipment or buoyancy (not supplied as standard).

The weight of this tool is approximately 54kg in air and 36kg 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

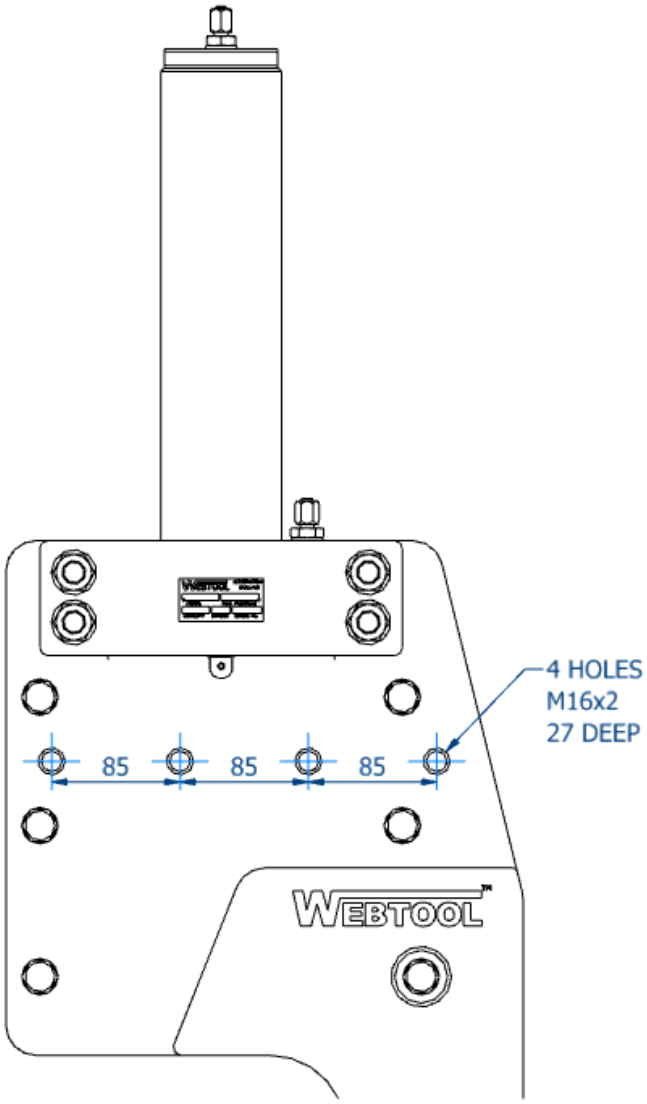

Fig 2 – Mount Points.

3 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.

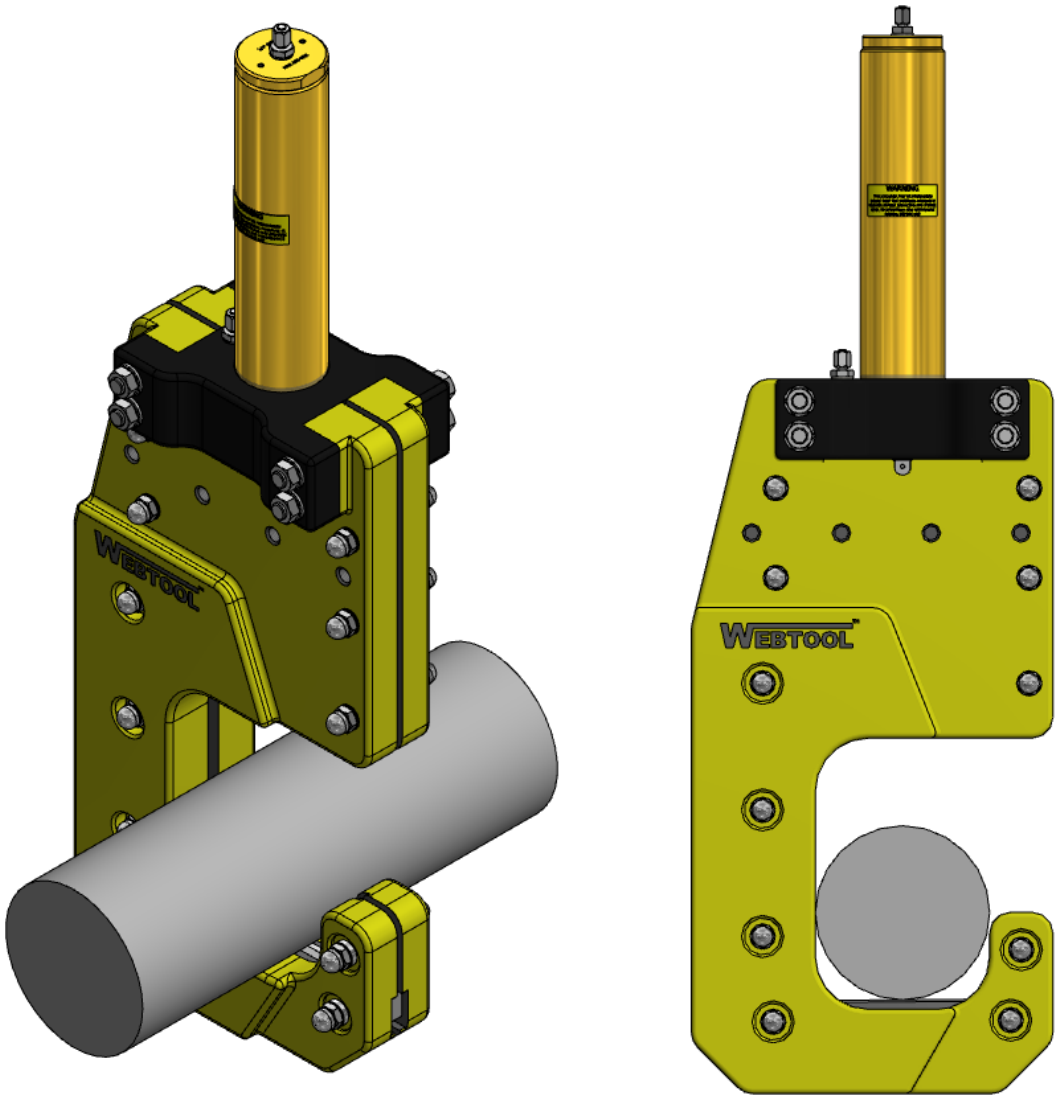

Figure 3 – Rope Correctly Positioned

2. Operate the hydraulic supply to the power port to drive the blade downwards through the rope. Ensure the return port is open to tank.

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 5. 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.

4 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 5.

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

5 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	995177
Stainless Blade	705085
Anvil	761345
Retaining Pin	029524

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 retract the blade so that the retaining pin is fully visible through the slot in the side plate.

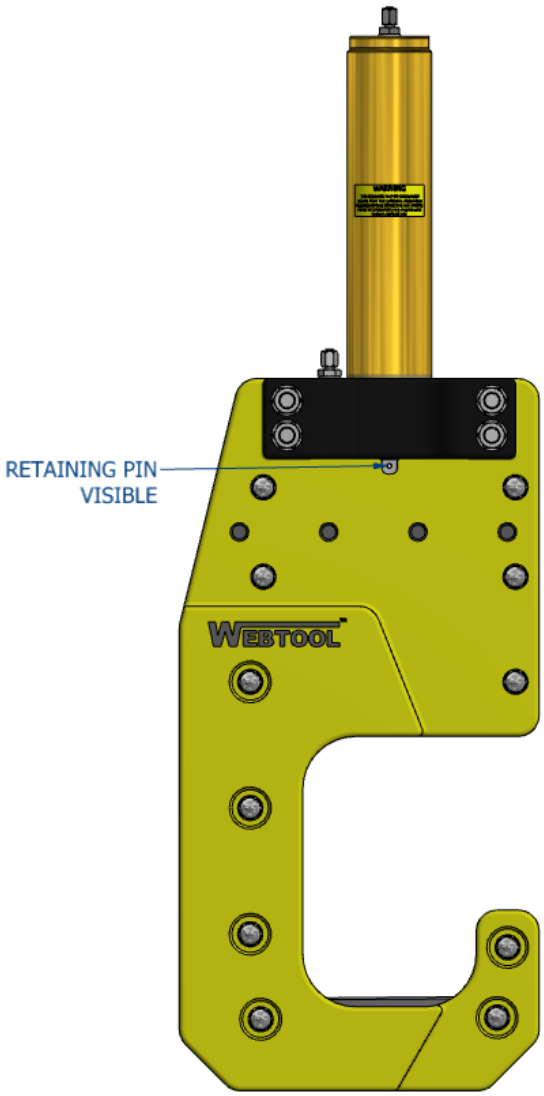

Figure 4 – Retaining Pin Visible

IMPORTANT - DISCONNECT THE HYDRAULIC SUPPLY BEFORE PROCEEDING

Ensure that the cutter is led down before carrying out the next stage as the blade will come loose and will 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.

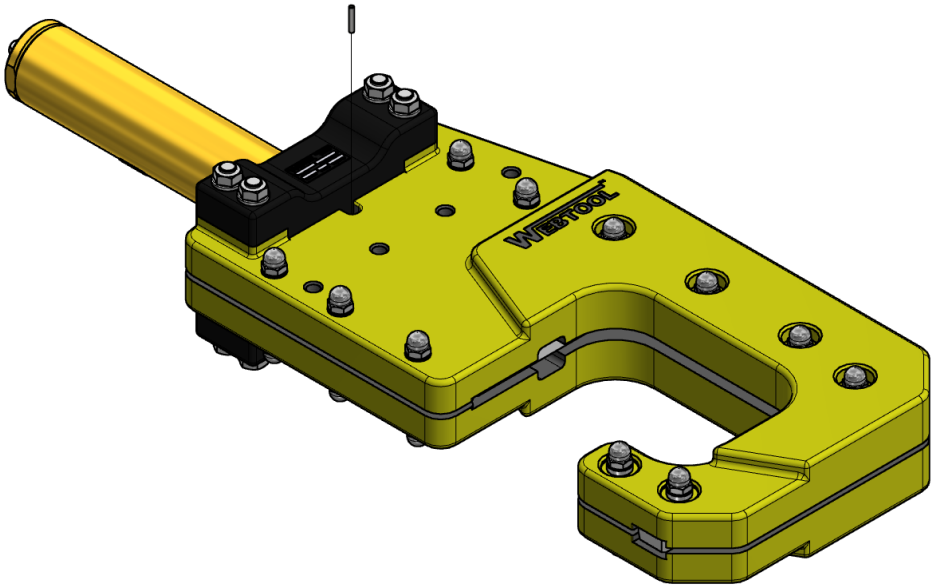

Fig 5 – Retaining Pin Removed

Remove the 2 off 16mm bolts with nuts that connect the cylinder housing to the side plates using two 24mm spanners. Lift the retaining plate away and knock out the two dowels, taking care not to damage the anodized aluminium cylinder housing.

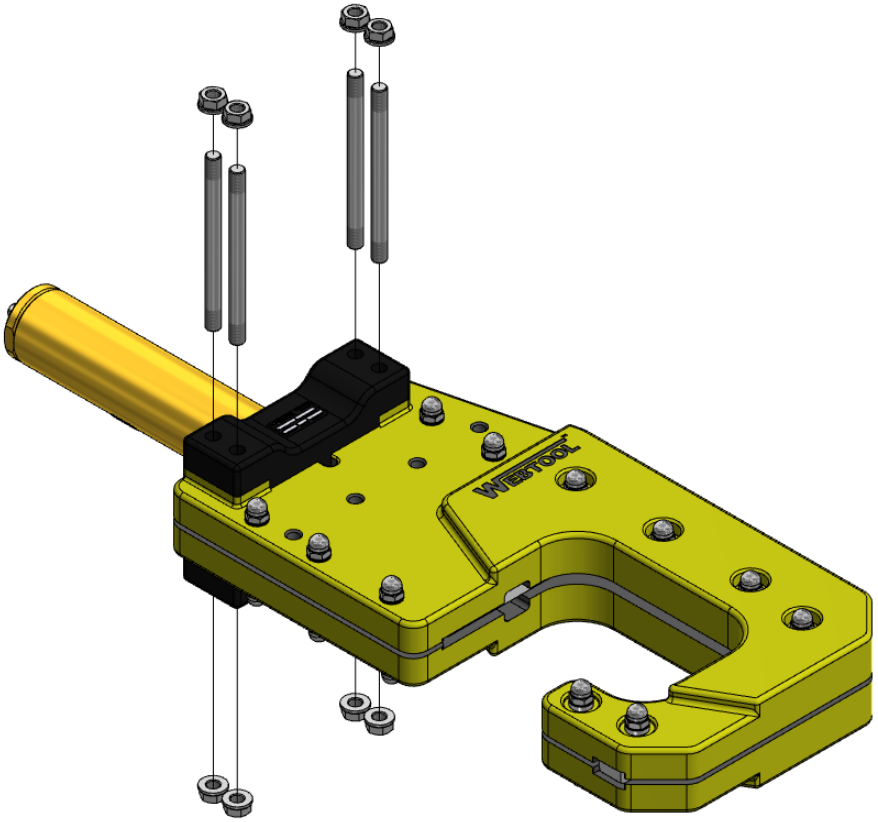

Fig 6 – Removal of 16mm Bolts

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

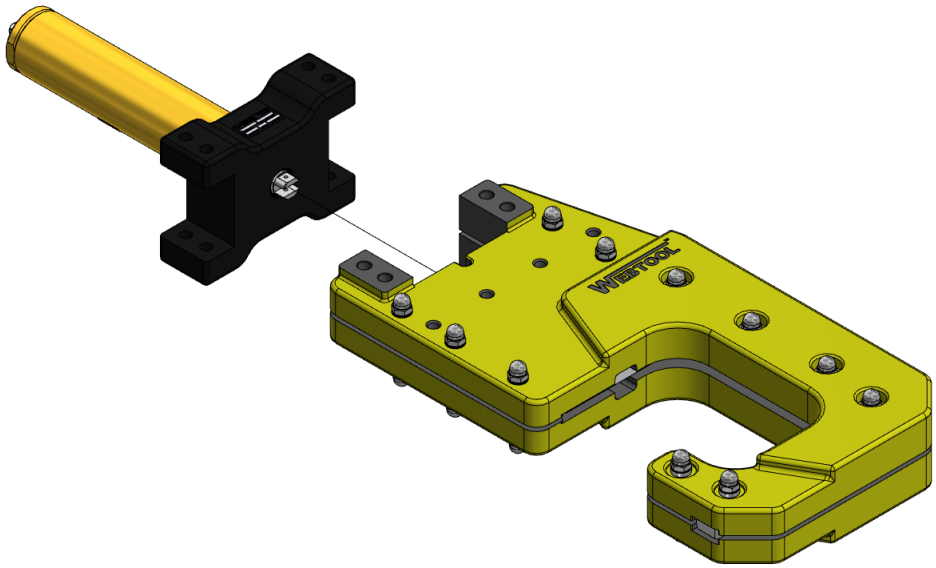

Fig 7 – Removal of Piston Housing Assembly

Remove the 11 off 14mm bolts that hold the side plates together using two 21mm spanners.

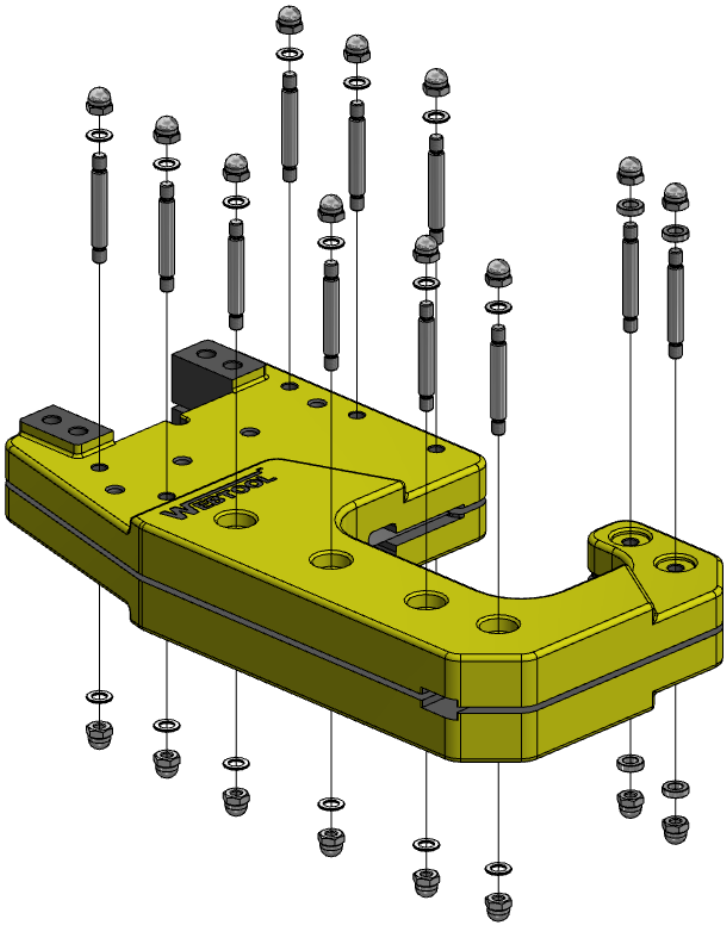

Fig 8 – Removal of 14mm Bolts

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

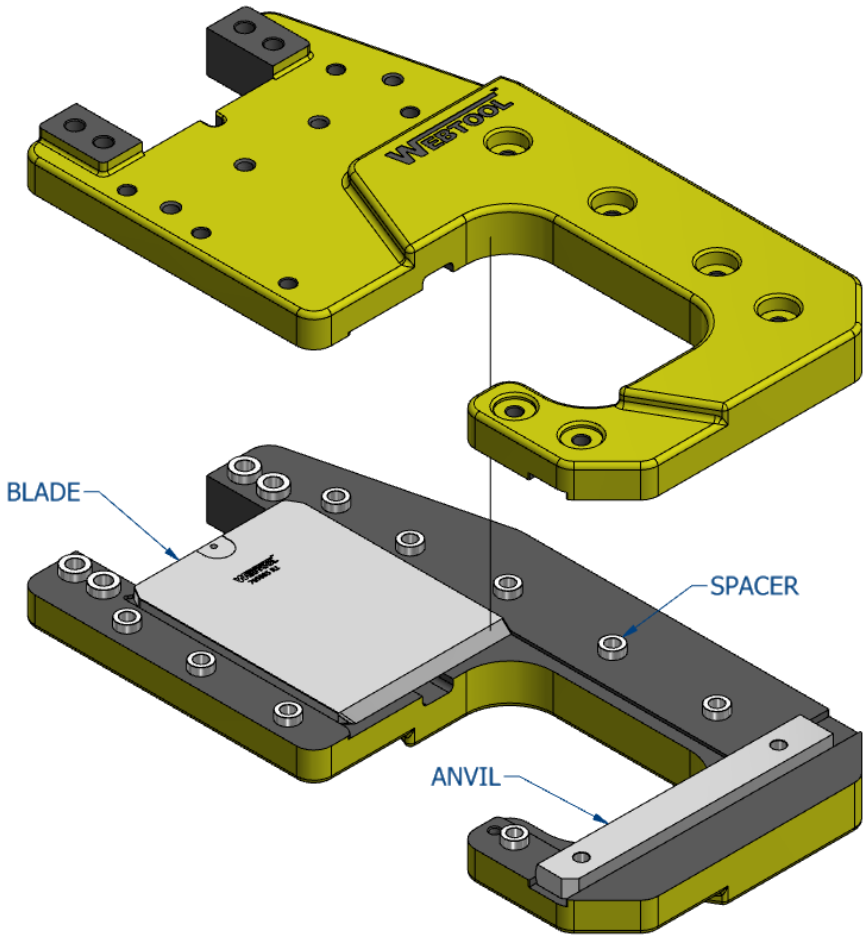

Fig 9 – Removal of Side Plate

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 and 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 off 14mm bolts that pass through the side plates and anvil using two 21mm spanners. Loosen off the 2 off 14mm bolts as shown below.

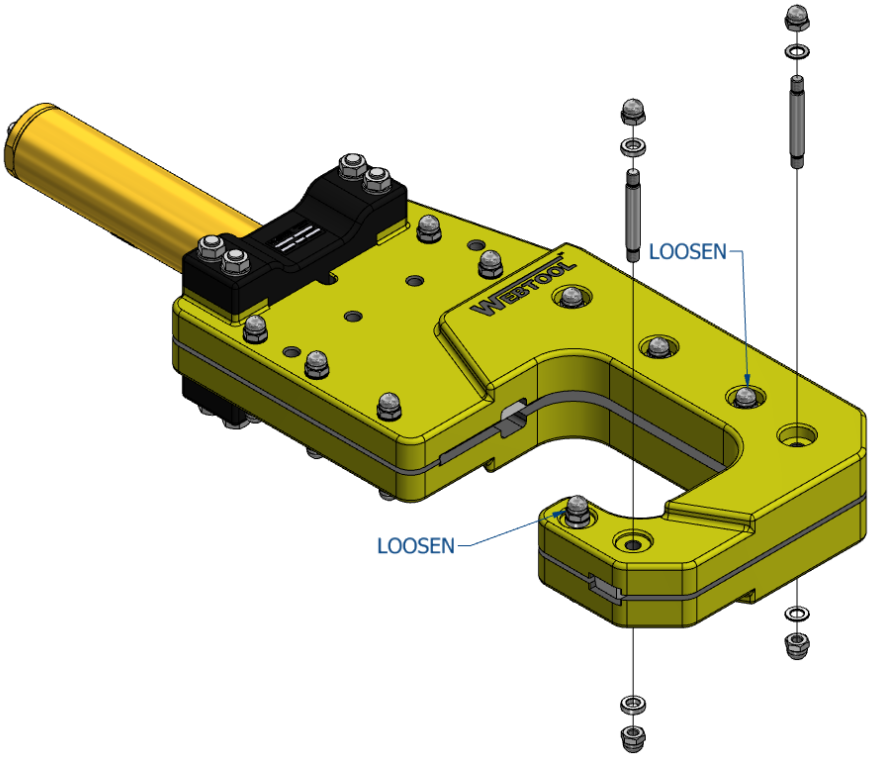

Figure 10 – Bolt Removal

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

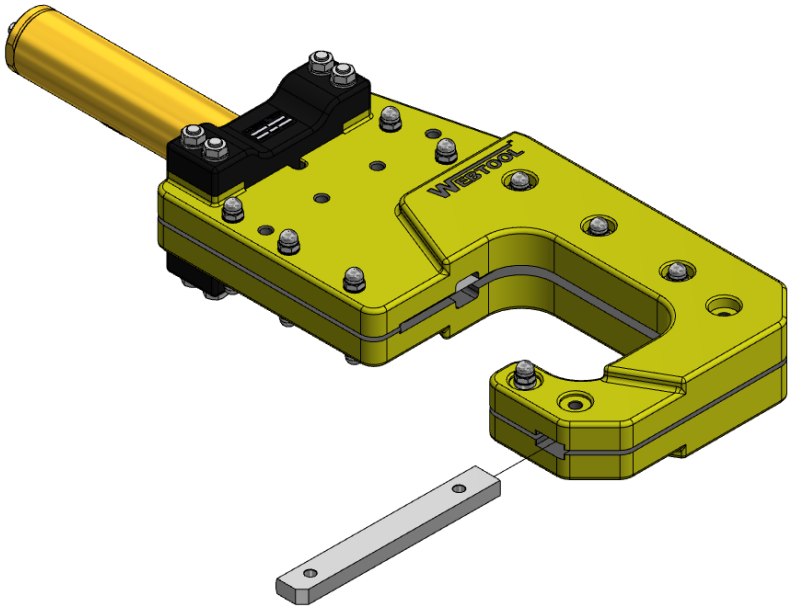

Figure 11 – Anvil Removal

Replace the anvil, and the 2 off 14mm bolts. Ensure that all 4 bolts are correctly tightened.
Check that all other bolts are correctly tightened.

6 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

6.1 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.

6.2 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 this model of cutter is 760 Bar, any significant, sharp drop in pressure will be down to the activation of the relief valve.

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

Also available as optional extras for this tool are:-

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

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

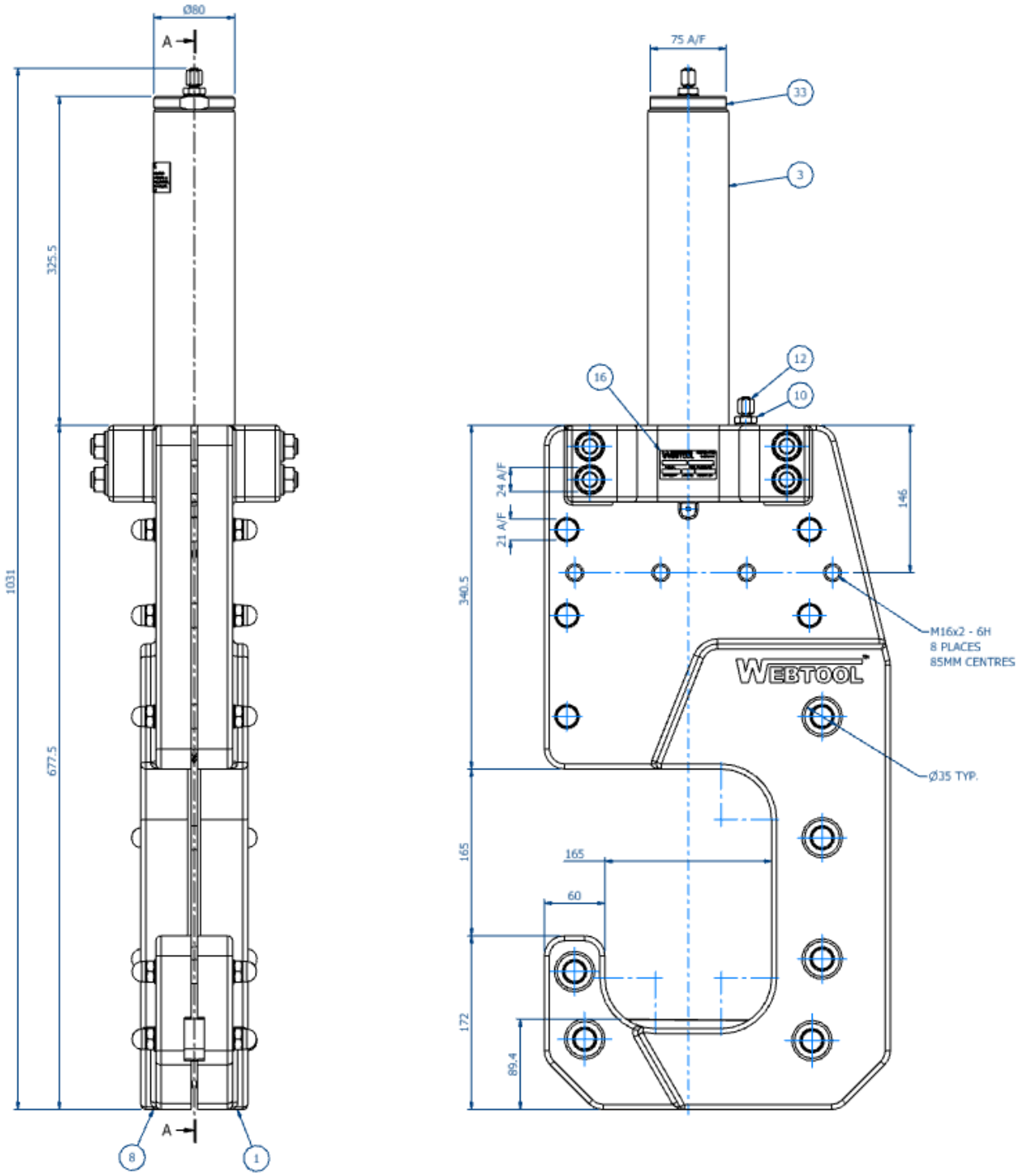

Figure 12 – Parts List and Dimensions 1

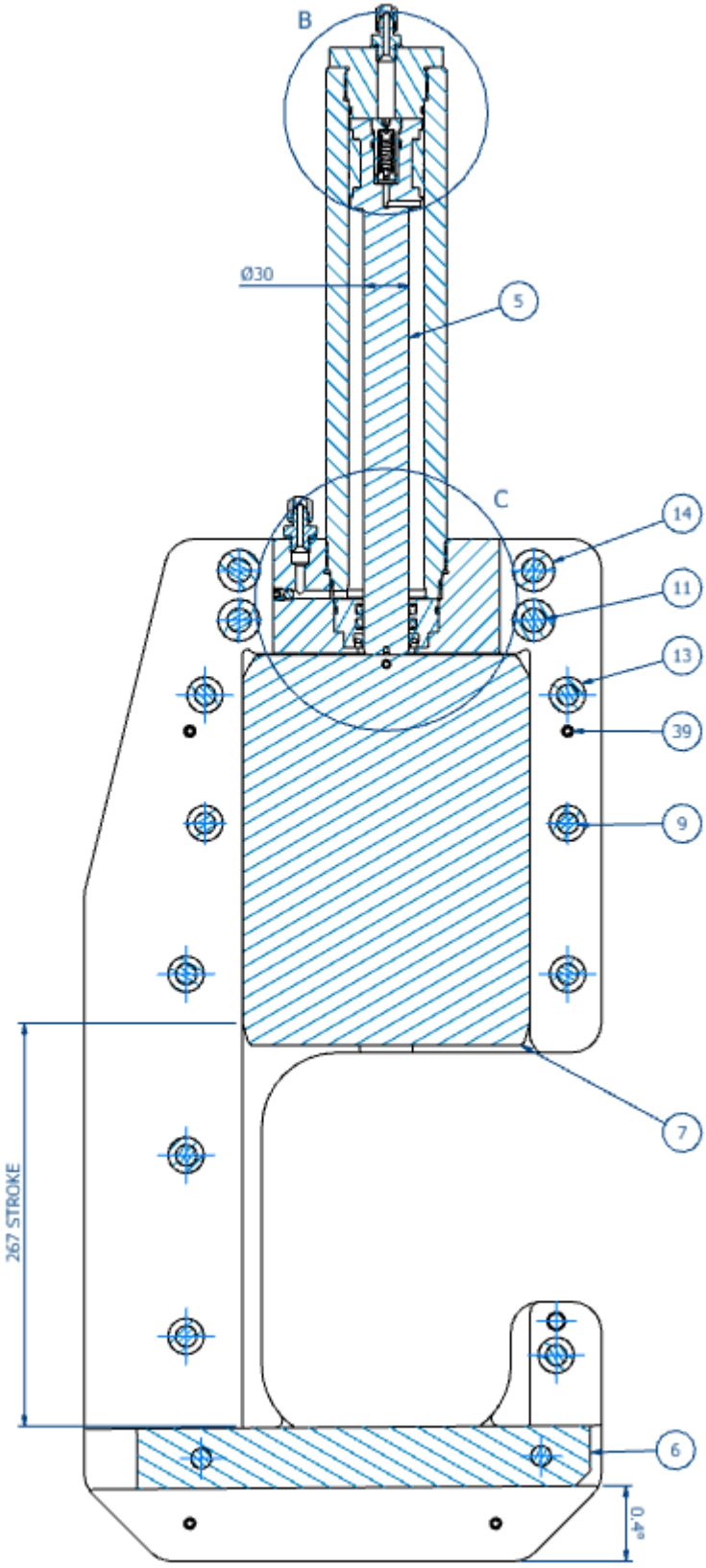

Figure 13 – Parts List and Dimensions 2

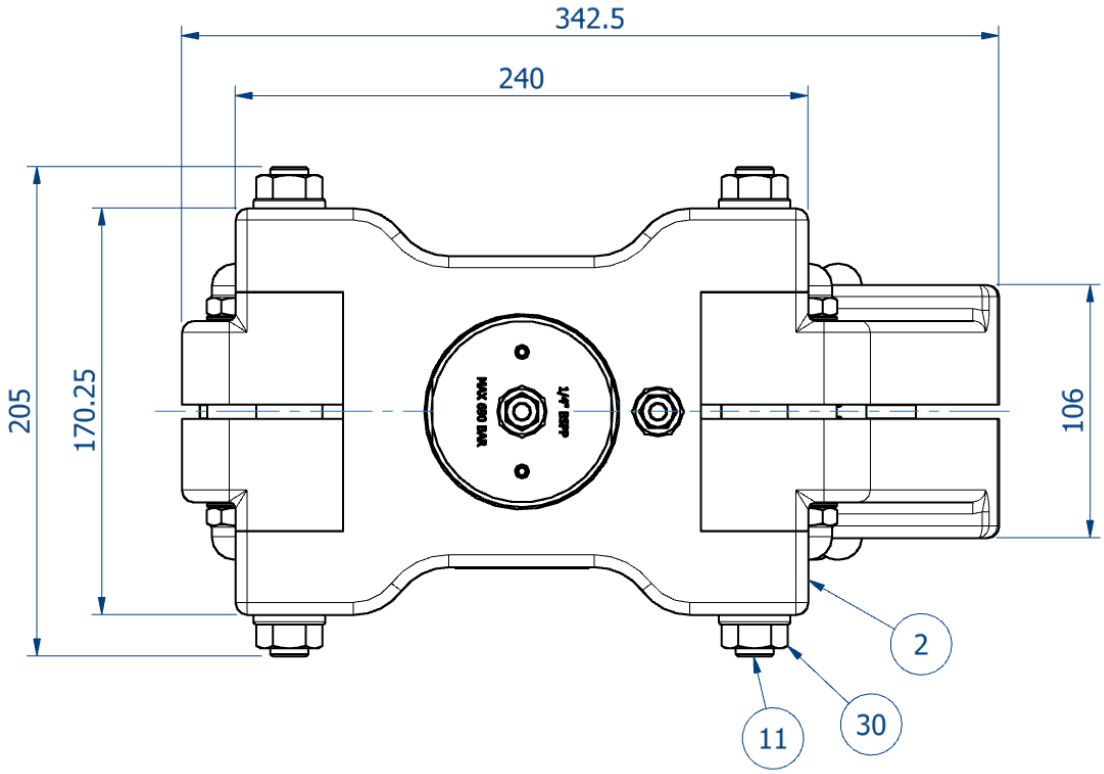

Figure 14 – Parts List and Dimensions 3

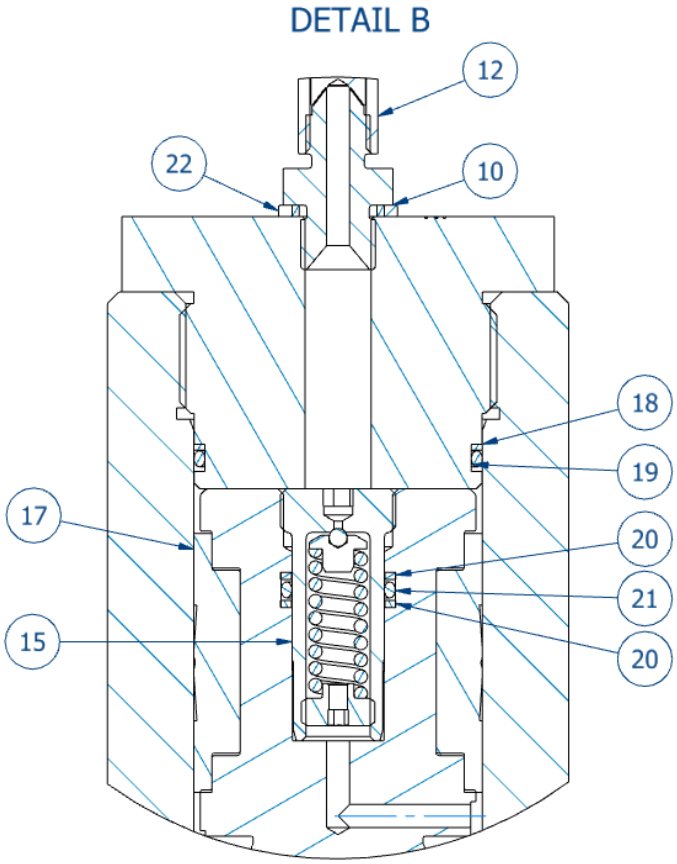

Figure 15 – Parts List and Dimensions 4

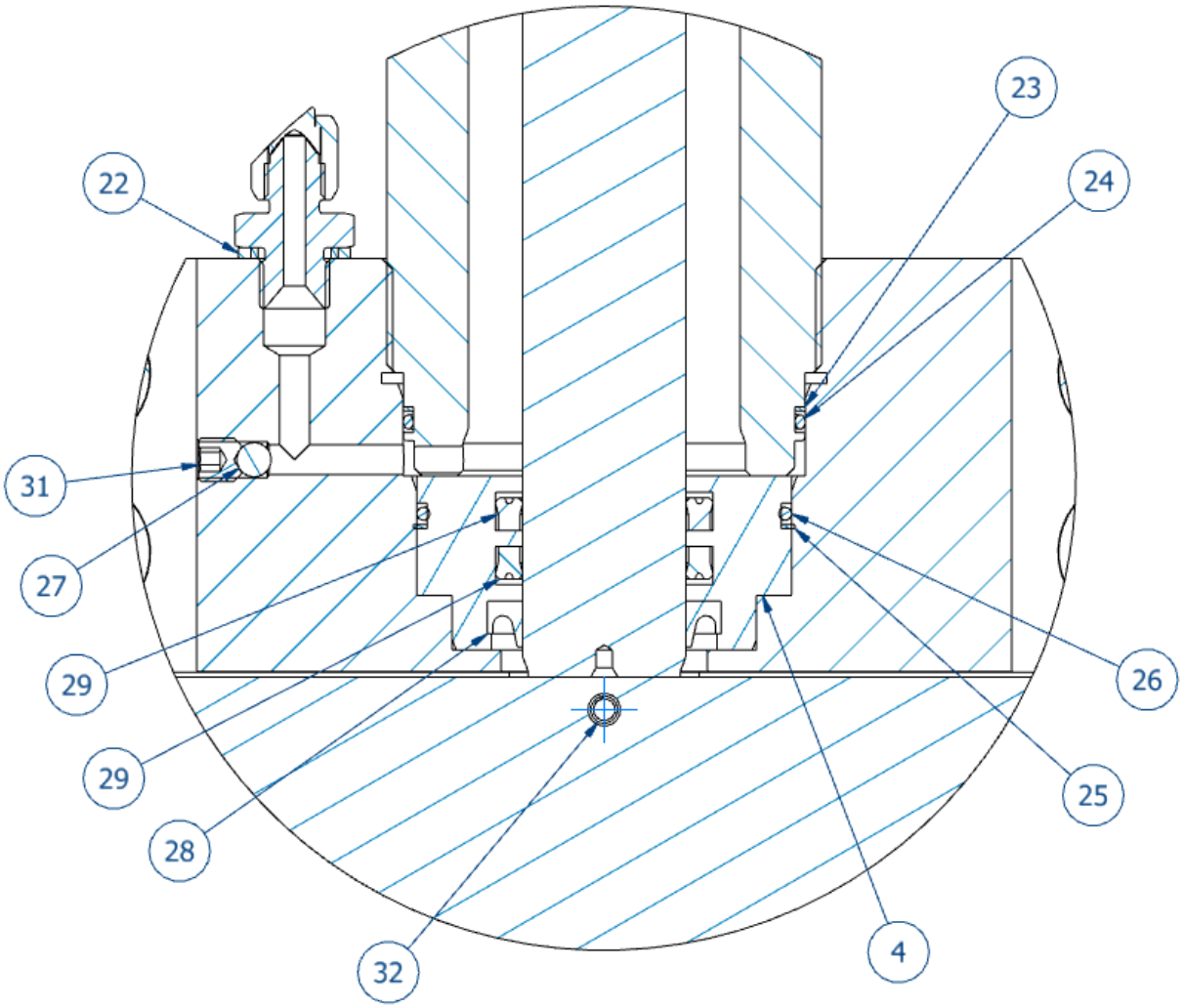

Figure 16 – Parts List and Dimensions 5

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	765232A	SIDE PLATE RIGHT HAND
2	1	749091	HOUSING
3	1	728130	CYLINDER
4	1	774039	BEARING RING
5	1	764171	PISTON
6	1	761345	ANVIL
7	1	705085	BLADE
8	1	765232B	SIDE PLATE RIGHT HAND
9	11	035196	SMALL DOWEL PIN (M12X1.75)
10	2	791157	COUPLING 1/4" BSP TO 7/16" JIC
11	4	035195	LARGE DOWEL PIN (M16X2)
12	2	791161	JIC 4 MALE BLANKING PLUG
13	9	715403	SMALL SPACER
14	4	715402	LARGE SPACER
15	1	1155009	RELIEF VALVE
16	1	752342	WEBTOOL NAMEPLATE
17	1	025956	PISTON SEAL
18	1	32-61-2427	A/E RING
19	1	32-60-2427	O RING
20	2	32-61-2413	RELIEF VALVE A/E RING
21	1	32-60-2413	RELIEF VALVE O-RING
22	2	32-07-0035	BONDED FACE SEAL
23	1	32-61-2437	BACKUP RING
24	1	32-60-2437	O RING
25	1	32-61-2435	BACKUP RING
26	1	32-60-2435	O RING
27	1	704013	1/4" BALL - STAINLESS
28	1	025933	WYCLIP WIPER SEAL
29	2	025935	ROD SEAL
30	8	758080	NUT, COLLAR SPECIAL M16
31	1	035167	M8 X 8 CUP POINT SOCKET SCREW
32	1	029524	BLADE RETAINING PIN
33	1	728113	CYLINDER CAP
34	4	080605	SPACER WASHER
35	2	035091	SOCKET SET SCREW
36	1	752573 R40	PRESSURE WARNING LABEL
37	18	080988	PLAIN WASHER M12
38	22	020114	M12 DOMED NUT
39	8	035081	M8 GRUB SCREW

Table 2 – SL165 Parts list

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.

Allspeeds Ltd, Royal Works, Atlas Street, Clayton-Le-Moors,
Accrington, Lancashire, BB5 5LW, England

T: +44 (0)1254 615100
F: +44 (0)1254 615199
E: info@allspeeds.co.uk
W: www.allspeeds.co.uk