

**WIRE ROPE CUTTER, TYPE RCV 115**

**PRODUCT CODE No. 980-290**

**INSTRUCTIONS FOR INSTALLATION,  
OPERATION & MAINTENANCE**

**ISSUE 3 - 16<sup>TH</sup> SEPTEMBER 1999**

## 1. INSTALLATION

**1.1** Eight tapped holes are provided in the tool body, see Fig. 1, which can be used for any attachment necessary to mount the cutter.

**1.2** Two hydraulic supplies are required, ported as shown in Figs. 2 & 3. The maximum working pressures are shown in *Table 1* and pressure limiting valves should be fitted into the sources to limit the pressures to these levels.

*TABLE 1.*

Function	Max. Working Pressure		Swept Volume	Port Tapping
	psi	bar	ml.	
Main ram working stroke.	10,000	690	2,125	<sup>3</sup> / <sub>8</sub> " NPT
Main ram return stroke.	10,000*	690*	810	<sup>3</sup> / <sub>8</sub> " NPT
Auxiliary cylinder out stroke. (To retract anvil)	2,750	190	100	<sup>1</sup> / <sub>4</sub> " NPT
Auxiliary Cylinder Instroke. (To reset anvil)			60	<sup>1</sup> / <sub>4</sub> " NPT

\* **N.B.** Actual Pressure Required To Return Ram < 200 P.S.I.

## 2. CUTTING CAPACITY

The cutter is primarily intended for use on wire rope, having a maximum strength of 1770 Nmm<sup>-2</sup> (180 grade rope) and will cut ropes up to 4 ½" diameter. It may be used on alternative materials, such as electrical power or communication cables, again up to a maximum of 4½" diameter. Where diameters smaller than 4½" are to be cut, an effort should be made to place the material centrally along the anvil to minimise offset loadings.

If it is required to extend the use of the cutter, for instance to cut solid bar members of steel, please refer to the manufacturer with full details of size and tensile strength. Failure to do so may result in damage to the anvil and blade.

### 3. OPERATION

**3.1** Prior to use, the auxiliary cylinder outstroke should be operated to withdraw the anvil. This clears access for the cutter to be placed over the wire rope.

**3.2** Place the cutter over the wire rope. Ensure that the wire rope is as far into the cutter as possible so that the anvil does not foul as it is reset.

**3.3** Operate the auxiliary instroke to position the anvil fully home under the wire rope. Be sure that the auxiliary cylinders are operated to the full extent of their stroke.

**3.4** Operate the main ram downstroke to sever the wire rope. When this is done, retract the main ram until it is fully home.

**3.5** If a further cut is required, the above procedure should be repeated.

**N.B.** Do not operate the auxiliary cylinders when the main ram is fully extended since this would damage the anvil.

### 4. AFTER USE

When the tool is retrieved, it should be hosed off with clean water, allowed to drain and sprayed externally with a de-watering fluid. Before storage, inspect the general condition of the tool. Attention should be paid to the anvil and blade in particular. The anvil should be clean and free from any damage or bruising on the outside diameter that would prevent it from retracting properly. The blade edge should be smooth and free from any serrations. Note that a slight ripple to the blade edge is acceptable and will not cause problems. Any minor damage can be smoothed off with an oil stone if necessary.

### 5. SERVICE

It is unlikely that service would be required on the hydraulic components of the tool under normal circumstances, but a seal spares kit is available if required. The only parts that would need intermittent replacement would be the anvil and blade, this depending on the frequency of use and materials being cut. These parts can be ordered up on the following spares reference numbers, but in addition please quote the tool serial number.

Seal Kit	Part Number	995290
Anvil	Part Number	SSC6475
Blade	Part Number	705036

If required, the tool can be returned to the manufacturer at any time for servicing and testing. If servicing is undertaken by the user, see note on proof testing under SAFETY.

## 6. SAFETY

Whilst the tool is intended for remote operation sub-sea, there is no reason why it should not be used above surface and be powered by a suitable hand pump.

**6.1** In all cases, where an operator is present, the safety aspects must be reviewed before cutting operation is commenced.

### **6.2**

*i.* Ensure that the tool, hoses and pump are in good condition and properly connected.

*ii.* No attempt should be made to cut wire ropes, or other material, that is under tension.

*iii.* Ensure that the operator is shielded from the cutting blade during the cutting operation. When cutting the very end of a rope, individual cut wires can be expelled from the tool, so ensure that the operator is shielded from these.

### **6.3** Proof Tests.

If at any time it is necessary to carry out proof tests on the tool, e.g. after service on the hydraulic cylinders, the following applies.

*i.* The proof test pressure is 770 bar for main cylinder cutting stroke and 240 bar for main cylinder return stroke and auxiliary cylinders.

*ii.* The tool should be guarded during the proof test operation.

*iii.* The proof pressure should be applied gradually, by means of a hand-pump, until the maximum pressure is reached.

## **7 REPLACEMENT OF ANVIL AND BLADE**

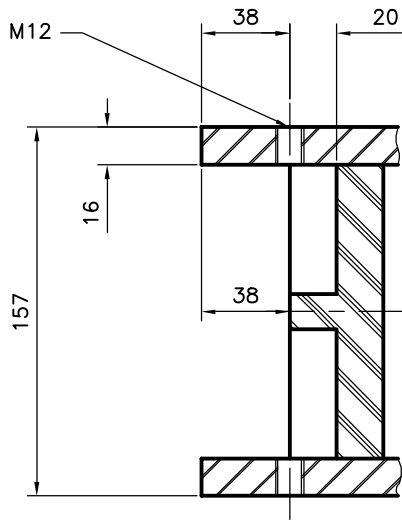
To withdraw the anvil and/or blade, proceed as follows.

- i.* Disconnect the anvil (11) from the anvil bracket (9) by removing the spring pin (22). The anvil should be passed through the body and removed.
- ii.* To remove the blade (29), pump out the main ram until the two ¼" diameter blade retaining pins (21) can be seen. Remove the pins and slide the blade out of the tool.
- iii.* Replacing the blade and/or anvil is the reverse of the above.

**NOTE:**

The blade may be removed without removing the anvil; operate the auxiliary cylinders out-stroke to full limit, thus allowing the blade to slide out of the tool.

8-MOUNTING HOLES  
DRILLED AND TAPPED M12  
AS SHOWN



SCRAP SECTION **X-X**  
SHOWING MOUNTING HOLES

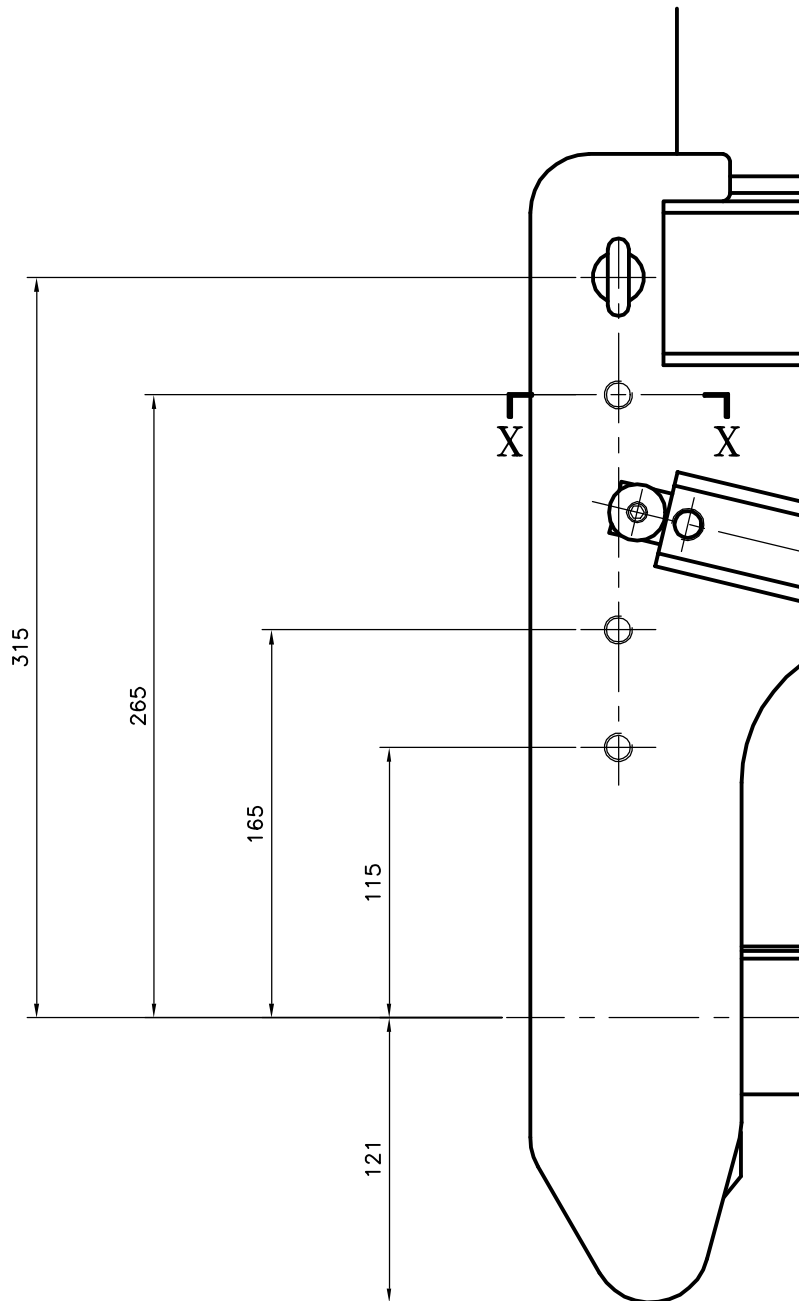


FIGURE 1

RCV115  
PARTS LIST - Refer to Fig. 2.

PART No.	DESCRIPTION	QUANTITY
709-047	Sliding Block	2
715-328	Anvil Guide Bush	1
715-329	Anvil Bush	1
728-060	Cylinder Barrel	1
761-227	Pivot Pin, Auxiliary Cylinder	2
761-228	Pivot Pin, Lever Frame	1
764-098	Ram	1
765-171	Blade Guide Plate	2
765-172	Anvil Bracket	1
774-301	Ram Bearing Ring	1
SSC 6475	Anvil	1
035-082	Sliding Block Screw	2
079-041	Mounting Stud	2
080-956	Washer, Sliding Block	2
080-971	Washer, Auxiliary Cylinder	2
32-99-1325	Rod Seal	1*
32-16-1110	Rod Wiper	1*
32-60-5723	`O` Ring	1*
32-61-5723	A.E. Ring	1*
32-60-5725	Piston Seal	1*
030-636	Spring Pin, Blade	2
030-820	Spring Pin, Anvil	1
035-079	Screw, Anvil Bush	10
035-081	Screw, Main Cylinder	2
035-080	Screw, Guide Plate Support	8
035-084	Screw, Lever Frame Pivot Pin	2
035-085	Screw, Guide Plate Fixing	16
035-086	Screw, Lower Guide Plate Fixing	4
705-036	Blade	1
752-342	Nameplate	1
752-560	Label	1
1 240 010	Bush	2
766 047	Blanking Plug	4
766 061	Blanking Plug	2
982 115	Body	1
982 116	Auxiliary Cylinder	2
993 012	Lever Frame	1

*N.B Parts marked thus \* are in seal kits.*

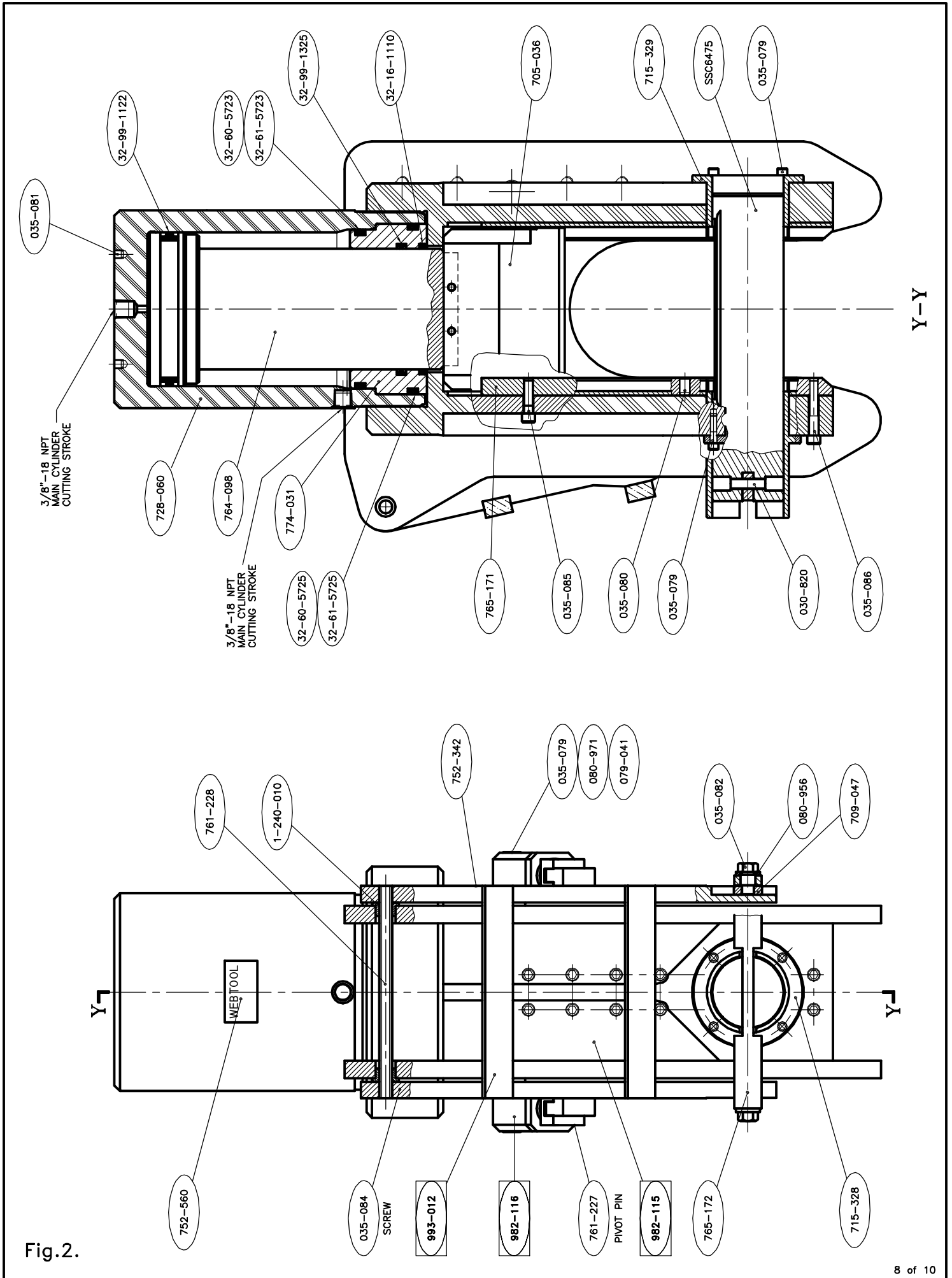


Fig.2.

RCV115 - Auxiliary Cylinder  
PARTS LIST - Refer to Fig. 3.

PART No.	DESCRIPTION	QUANTITY
728-061	Cylinder Barrel	1
764-099	Piston	1
SSC 6476	End Cap	1
742 014	Piston Fork	1
025-311	`O` Ring	1*
025-59	Rod Scraper	1*
025-801	Piston Seal	1*
025-802	Rod Seal	1*
035-074	Screw, Piston Fork	1
035-063	Screw, End Cap Fixing	4

N.B.           Parts marked thus \* are in seal kits

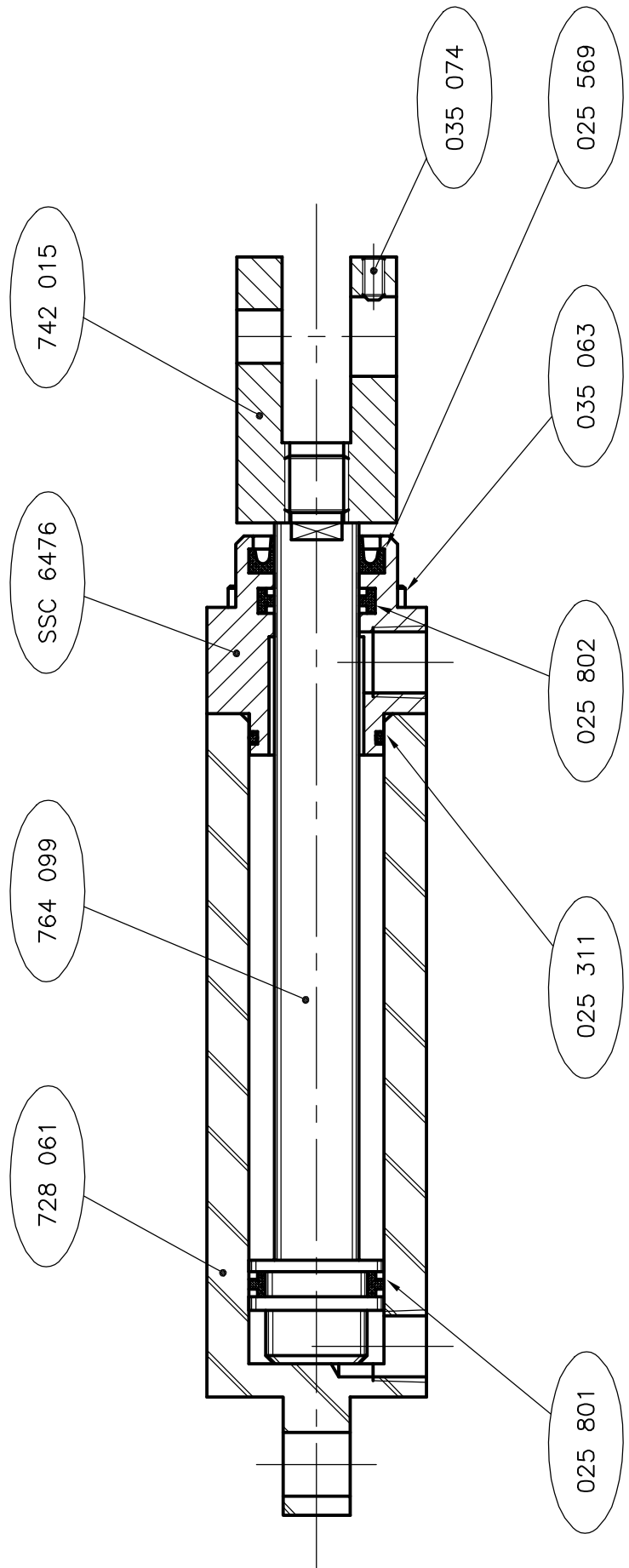


Fig.3. - Auxiliary Cylinder (982-116)