

**HYDRAULIC CRIMPING TOOL**

**LS-131L - 502.771**




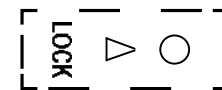
**OPERATION AND MAINTENANCE MANUAL**



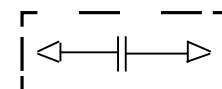
## HYDRAULIC CRIMPING TOOL HT 131-C (LS 131L)

### 1. GENERAL CHARACTERISTICS

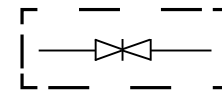
- **Application range:** suitable for compression of electrical connectors on conductors up to ..... 400 mm<sup>2</sup> (800 MCM)
- **Crimping force:** ..... 130 kN (14.6 sh ton)
- **Rated operating pressure:** ..... 700 bar (10,000 psi)
- **Dimensions:** length ..... 473 mm (18.6 in.)  
width with handles closed ..... 144 mm (5.7 in.)  
width with handles open ..... 344 mm (13.5 in.)
- **Weight (without dies):** ..... 5,5 kg (12.3 lbs)
- **Recommended oil:** ..... **AGIP ARNICA 22** *or*  
**ESSO INVAROL EP22** *or equivalent*
- **Operating positions.** The three operating positions are identified on the main handle, which rotates relative to the reference symbol,  (see Fig. 1).



**Rest position** (Handles locked): lock handles together when tool is not in use.



**Release position:** close the moveable handle (56) against the main handle (04), in order to discharge the oil pressure and retract the dies.



**Operating position:** operate the moveable handle (56), to build up pressure and close the dies.

- **Advancing speed.** The tool has a twin speed operation and automatically switches from a rapid advancing speed of the ram to a slower, more powerful crimping speed.

- **Safety.** The tool is provided with a max pressure valve; MPC1 special manometer, is available as an optional accessory to check the proper setting of the valve.

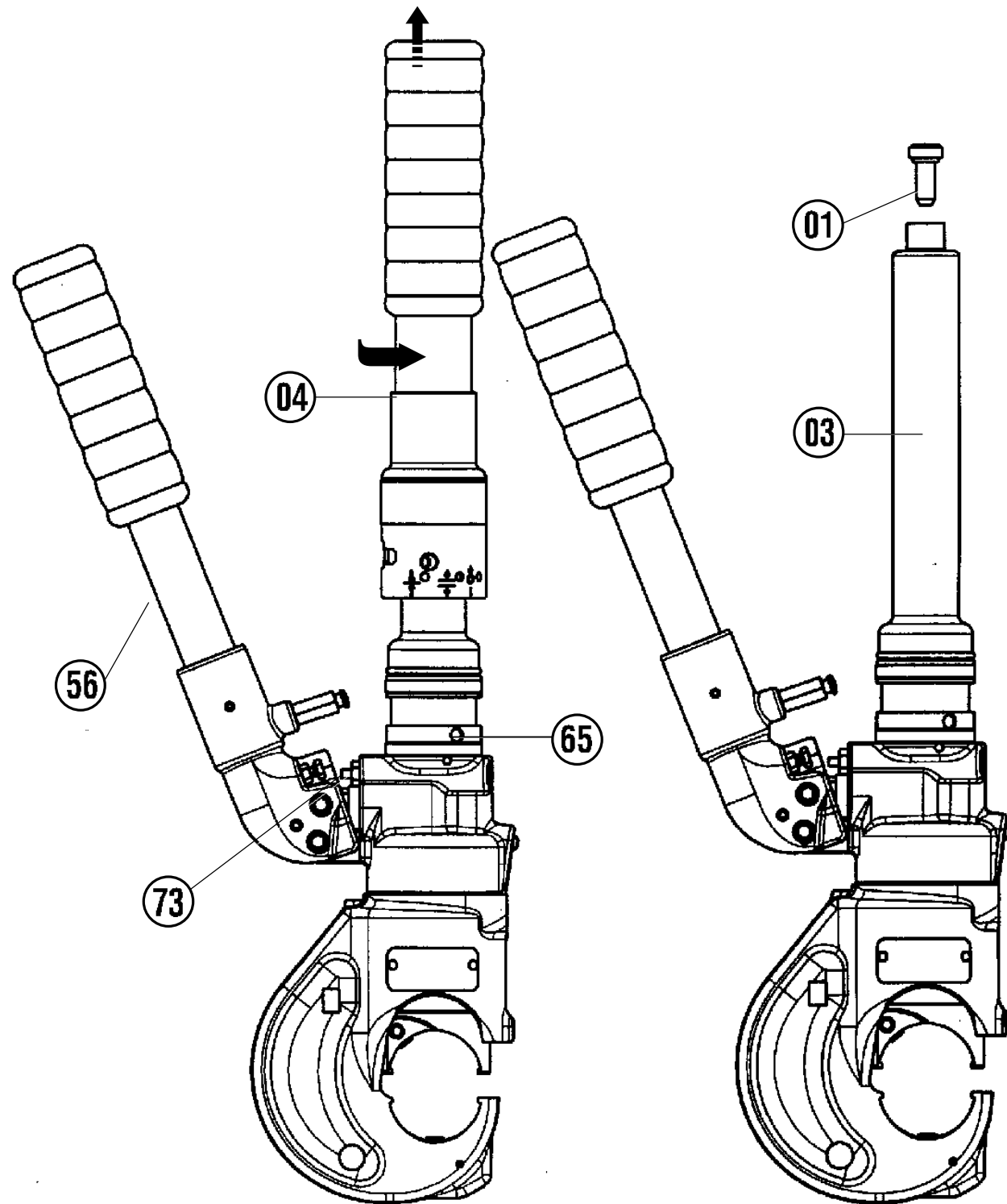



FIG. 4 TOOL POSITION FOR MAINTENANCE OPERATIONS

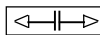
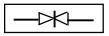
## 2. INSTRUCTIONS FOR USE (Ref. to Fig. 1 and 2)


### 2.1) Setting

With the tool is in rest position  operate as follows:

- Select the appropriate die set for the connector.
- Insert the die (91) in the upper seat of the tool head until it is locked by die/head pin (34). To ease the die insertion, keep die/head release pin (32) depressed.
- Insert the die (90) in the seat on the head of main ram (28) until it is locked by die/ram retainer pin (39). To ease this operation, keep die/ram release pin (38) depressed.
- Insert the conductor in the connector.
- Position the connector between the dies and ensure the correct location of the crimp.

### 2.2) Die advancement

- Set the tool on release position  by rotating main handle (04); open the moveable handle (56).
- Rotate main handle (04) to operating position .
- Operate moveable handle (56) for lower die advancement. This first stage rapidly closes the dies to the connector.

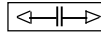
 **Never place the tool under pressure without inserting the dies, as this could cause damage to the head and the ram.**

**Make sure the dies are exactly positioned on desired crimp point, otherwise re-open dies following instructions as per § 2.4 and position the connector again.**

### 2.3) Crimping

- Continue operating the moveable handle (56). The tool will automatically change over to the high pressure stage. The ram will advance until the dies meet.
- It is recommended to continue pumping until the maximum pressure valve is activated and a "click" is heard.

### 2.4) Dies re-opening

- Rotate the main handle to release position .
- Close handles thoroughly: the ram will then retract, with the consequent opening of the dies.

### 2.5) Rest setting

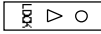
- Retract thoroughly the ram, operating as per § 2.4.
- Keeping handles closed rotate further the main handle to rest position ; the moveable handle will be thus locked.
- Store the tool in the case.

FIG. 2 DIE REPLACEMENT

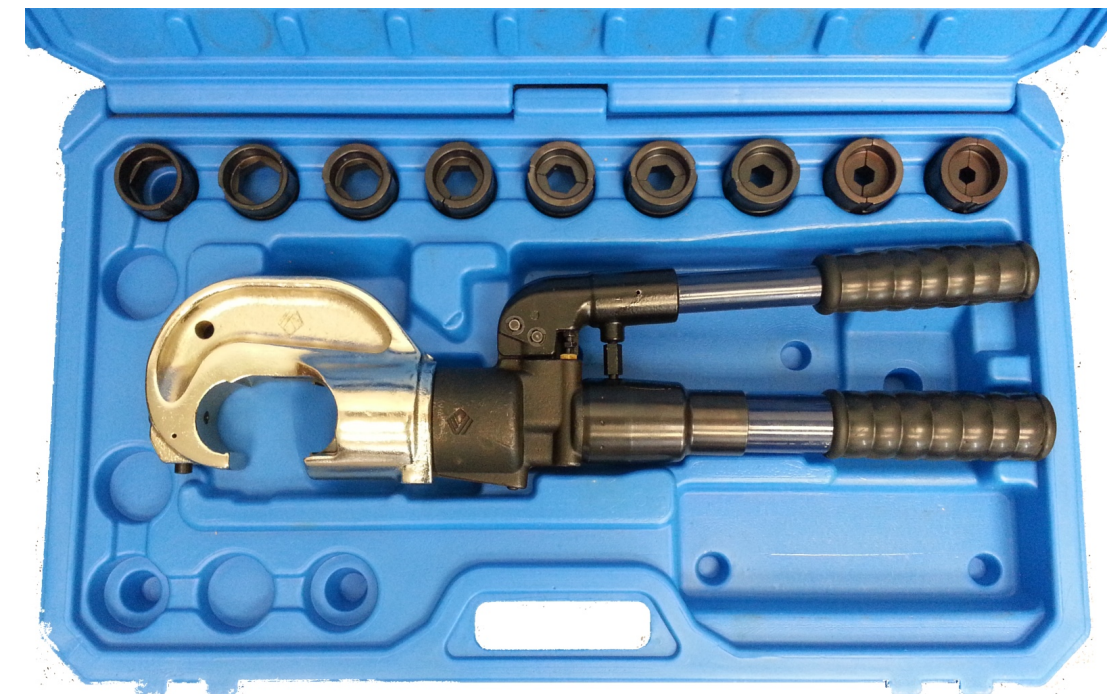
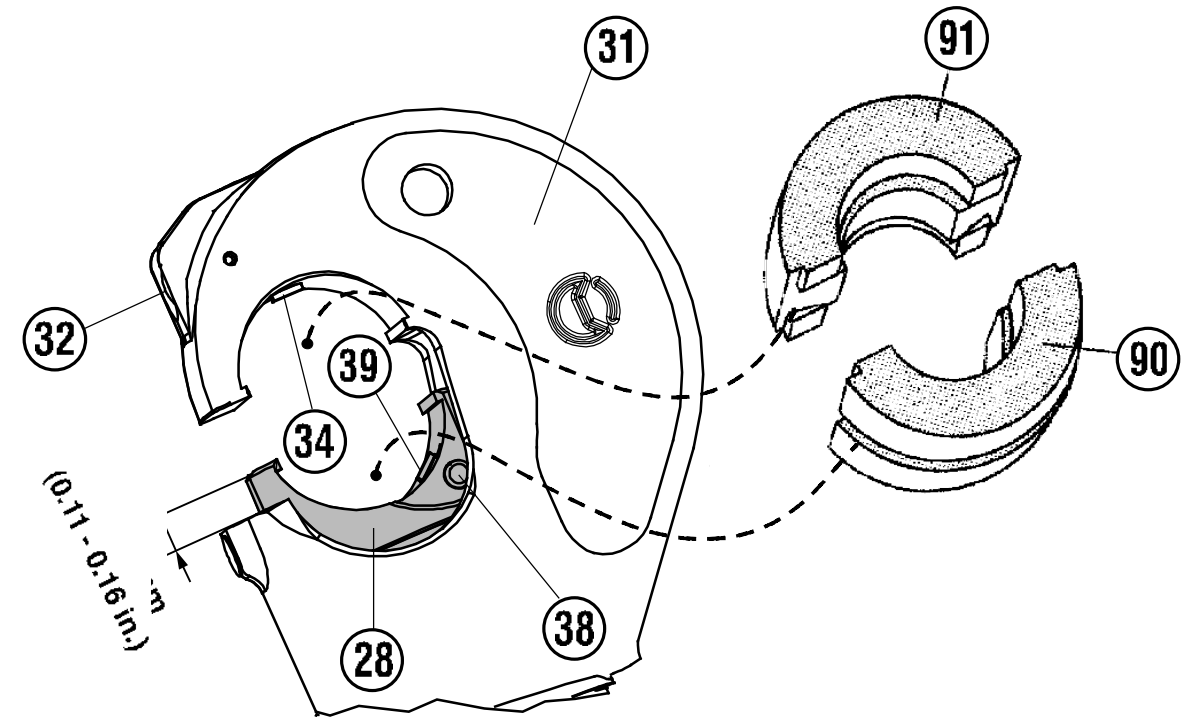


FIG. 3  
STORAGE CASE

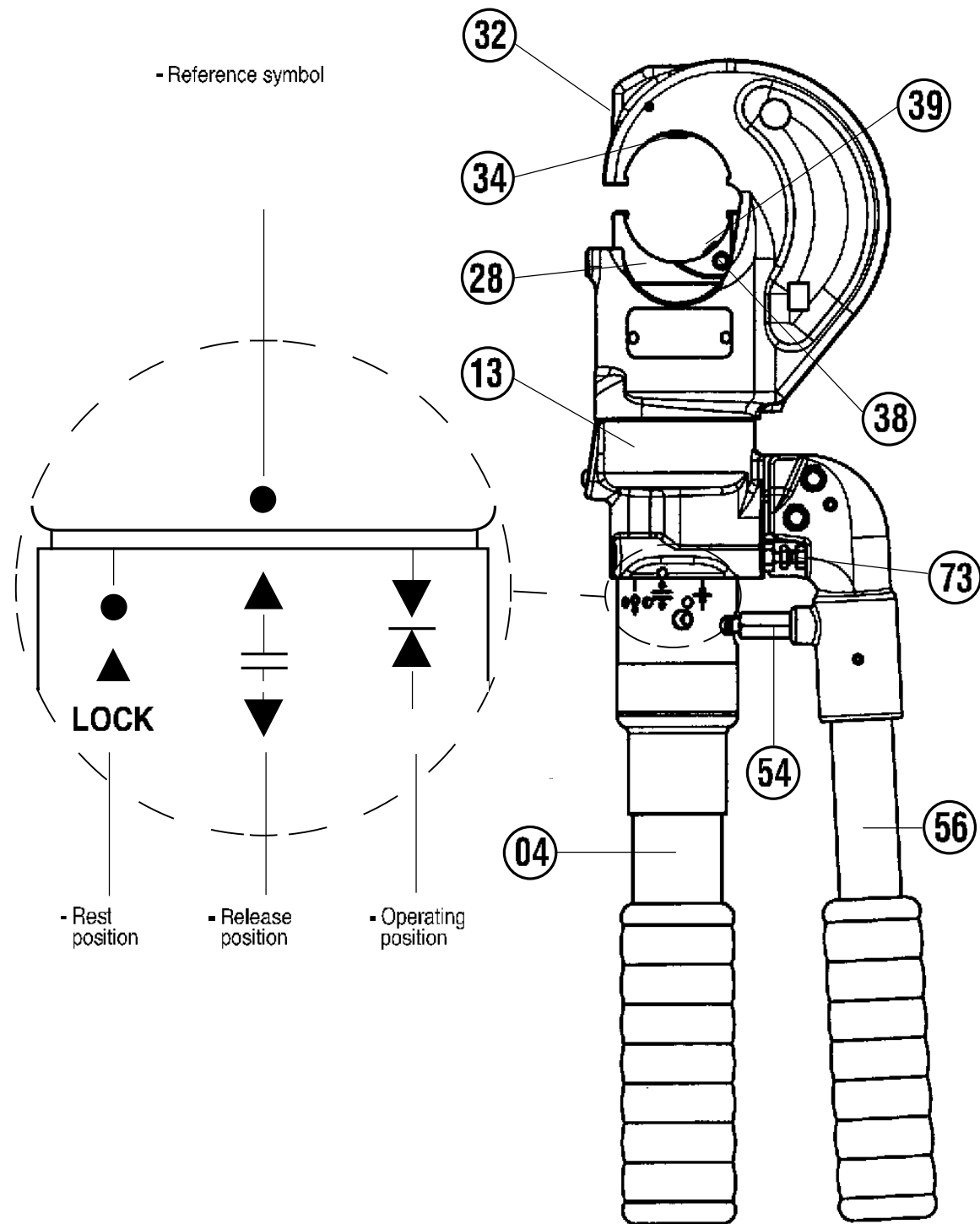


FIG. 1 OVERALL VIEW

## 2.6) Die replacement (Ref. to Fig. 2)

To replace dies operate as follows:

### – Upper die (91)

Take the die off its guide by pushing the die/head release pin (32).  
Insert replacement die until secured by the die retaining pin (34).

### – Lower die (90)

Take the die off its guide by pushing the die/ram release pin (38).  
To facilitate this operation an advancement of 3÷4 mm (0.11-0.16 in.) of the ram (28) is suggested.  
Insert the new die in its guide till die/ram retainer pin (39) will hold it properly.

## 3. WARNING

The tool is robust and requires very little daily maintenance.  
Compliance with the following points, should help to maintain the optimum performance of the tool.

### 3.1) Accurate cleaning

Dust, sand and dirt are a danger for any hydraulic device.  
Every day, after use, the tool must be wiped with a clean cloth, taking care to remove any residue, especially close to pivots and moveable parts.

### 3.2) Storage (Ref. to Fig. 3)

When not in use, the tool should be stored and transported in the plastic case, to prevent damage.  
These plastic case (Type **VAL P3**) is dimensioned 620x380xh135 mm (24.4x14.9x5.3 in.) and weights 2,5 kg (5.5 lbs).

### 3.3) Head rotation

For ease of operation, the tool head can rotate through 180°.

**Warning: do not attempt to turn the head if the hydraulic circuit is pressurised.**

#### **4. MAINTENANCE** (Ref. to Fig. 4 and 5)

Air in the hydraulic circuit may affect the performance of the tool; e.g. no lower die advancement, slow advancement of the lower die; lower die pulsating.

In this case proceed as follows:

##### **4.1) To purge air bubbles from hydraulic circuit**

- a** – Hold tool upright in a vice with handles open (Fig. 4).
- b** – By an hexagonal 2,5 mm key, remove screw (65) and main handle (04) to expose oil reservoir (03).
- c** – Remove reservoir cap (01).
- d** – Operate three or four times the moveable handle (56), to advance the ram (28).
- e** – Depress pressure release pin (73) until ram is fully retracted.
- f** – Repeat points (**d** - **e**) at least five times, to ensure all air bubbles in the hydraulic circuit are purged into the reservoir.
- g** – If the oil level is low, top up as directed in § 4.2.
- h** – Remove all air from reservoir and fit cap (01).
- i** – Assemble main handle (04), and holding screw (65).

If the tool continues to malfunction return the tool for service/repair as detailed in § 6.

##### **4.2) Oil top up**

Every six months check the oil level in the reservoir. If necessary, top up the oil level to the upper lip of the reservoir and remove all air from the reservoir, see 4.1, points **a**, **b**, **c**, **e**, **g**, **h** and **i**.

*Always use clean recommended oil, see § 1.*

*Do not use old or recycled oil.*

*Do not use hydraulic brake fluid.*



**Ensure that disposal of used oil is in accordance with current legislation.**

## 5. PARTS LIST (Ref. to Fig. 5)

Code N°	Item	DESCRIPTION	Qty	Code N°	Item	DESCRIPTION	Qty
6800040	01	RESERVOIR CAP	1	6362020	★ 45	SEAL	1
6380265	● 02	MAIN HANDLE GRIP	1	6620382	46	PUMPING RAM	1
6720100	03	OIL RESERVOIR	1	6760320	✚ 47	5x30 SPLIT PIN	1
6480043	● 04	MAIN HANDLE	1	6780265	✚ 48	MOVEABLE HANDLE SUPPORT	1
6760014	● 05	3x4 PIN	1	6700100	★ 49	SPRING RING	4
6780105	● 06	MAIN HANDLE SUPPORT	1	6080060	✚ 51	MOVEABLE HANDLE BUSHING	4
6360260	★ 07	O-RING	1	6560420	53	MOVEABLE HANDLE PIVOT	2
6040685	08	GUIDING RING	2	6200030	✚ 54	MOVEABLE HANDLE LATCH	1
6900621	09	SUCTION SCREW	1	6760280	✚ 55	4x30 SPLIT PIN	1
6360160	★ 10	O-RING	1	6480269	✚ 56	MOVEABLE HANDLE	1
6740060	★ 11	3/16" BALL	1	6380240	✚ 57	MOVEABLE HANDLE GRIP	1
6520765	★ 12	SUCTION SPRING	1	6232006	58	LABEL	1
6160234	13	BODY	1	6650118	59	RIVET	2
6740060	★ 14	3/16" BALL	1	6232062	60	METAL LABEL (TG. 0262)	1
6520765	★ 15	SUCTION SPRING	1	6760040	▲ 61	3x8 SPLIT PIN	1
6740140	★ 16	9/32" BALL	1	6740020	★ 62	1/4" BALL	1
6520180	★ 17	SPRING	1	6520280	63	MAIN HANDLE SPRING	1
6340566	18	BALL POSITIONING DOWEL	1	6640205	64	WASHER	1
6900059	19	4x8 SCREW	1	6900060	65	4x8 SCREW	1
6100020	20	KEY	1	6895050	66	MAX PRESSURE VALVE	1
6700250	▲ 21	SPRING RING	1	6360160	★ 67	O-RING	1
6170140	▲ 22	SPRING COVER	1	6740120	★ 68	7/32" BALL	1
6362107	★▲ 23	SEAL	1	6600100	69	BALL POSITIONING DOWEL	1
6520620	▲ 25	RAM RETURN OUTER SPRING	1	6520260	70	SPRING	1
6520610	▲ 26	RAM RETURN INNER SPRING	1	6740080	★ 71	5/16" BALL	1
6300040	▲ 27	RAM SPRING GUIDE	1	6340540	72	10x8 GRUB SCREW	1
6620315	▲ 28	RAM	1	6620120	73	PRESSURE RELEASE PIN	1
6900211	29	5x10 SCREW	1	6360120	★ 74	O-RING	1
6100035	30	KEY	1	6040060	★ 75	BACK-UP RING	1
6370212	■ 31	"C" HEAD	1	6080080	76	PRESSURE RELEASE RAM BUSHING	1
6620460	■ 32	DIE HEAD RELEASE PIN	1	6900280	✚ 77	5x18 SCREW	1
6760160	■ 33	3x28 SPLIT PIN	1	6180200	✚ 78	M5 NUT	1
6620440	■ 34	DIE HEAD RETAINER PIN	1	6340566	79	BALL POSITIONING DOWEL	1
6522006	■ 35	SPRING	1	6520180	★ 80	NO RETURN SPRING	1
6340540	■ 36	10x8 GRUB SCREW	1	6740140	★ 81	9/32" BALL	1
6760040	▲ 37	3x8 SPLIT PIN	1	6635011	82	PRESSURE RELEASE PIN	1
6620445	▲ 38	DIE RAM RELEASE PIN	1	6520861	83	PRESSURE RELEASE SPRING	1
6620320	▲ 39	DIE RAM RETAINER PIN	1	6340720	84	PRESSURE RELEASE DOWEL	1
6522006	▲ 40	SPRING	1	6480042	●	COMPLETE MAIN HANDLE	
6362035	★ 41	SEAL	1	6620316	▲	COMPLETE RAM	
6362010	★ 42	SEAL	1	6370213	■	COMPLETE "C" HEAD	
6641140	★ 43	BACK-UP RING	1	6480194	✚	COMPLETE MOVEABLE HANDLE	
6360240	★ 44	O-RING	1	6000074	★	SPARE PARTS PACKAGE	

When ordering spare parts always specify the following:

- code number of item
- name of item
- type of tool