

OPERATORS' GUIDE



REL-430, REL-510, & REL-510K HAND OPERATED HYDRAULIC CRIMPING TOOLS

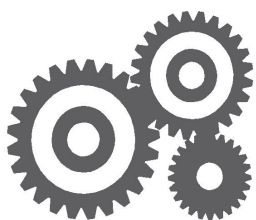


WARNING



All information found in this guide must be read and understood before use or testing of this tool.

Failure to read and understand these warnings and safe handling instructions could result in severe personal injury and or death.



RELIABLE EQUIPMENT & SERVICE CO., INC.

MAN. HYD. CRIMPING Manual 09-14

DISTRIBUTED BY

REGISTRATION

UPON RECEIPT OF THIS TOOL, COMPLETE THE REGISTRATION BELOW.

COMPANY _____

ADDRESS _____

PHONE _____ FAX _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

DEALER NAME _____



CAUTION

The information in this manual is intended to guide the user in the use and application of this tool. It is not intended as a substitute for proper training and experience in safe work practices for this type of equipment.

Consult your supervisor or safety personnel if you have any questions regarding the safe operation of this tool.

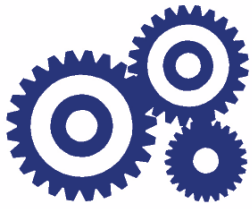
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THIS SYMBOL INDICATES ITEMS OF EXTREME IMPORTANCE.

Safety of user and others may be in jeopardy if these instructions are not read and understood.



RELIABLE EQUIPMENT & SERVICE CO., INC.



REL-430

Weight: 13.5 lbs., Length: 24 inches

REL-430 MANUAL HYDRAULIC 12 TON CRIMPING TOOL

Designed to crimp splices to 600 MCM and lugs to 750 MCM. The REL-430 Accepts standard Reliable R12 (12 ton) "U" style dies as well as many dies from Alcoa, Burndy, Blackburn, Thomas & Betts, and Huskie. The 1-3/16" jaw opening allows use on larger cable diameters and connectors than standard 1" opening tools. The 180° swivel head permits use in confined areas. Replaceable drop out by-pass cartridge facilitates shop repairs. Two-stage pumping piston for rapid advance, and twist handle release. Magnetic oil reservoir plug traps metal contaminants.

FEATURES:

- Crimping Head rotates 180°
- Replaceable drop-out bypass cartridge
- Accepts all existing R12 "U" Style dies
- Two stage pumping piston
- Twist handle release
- Carrying case included

Connector Range:

Lugs	Up to 750 MCM
Splices	Up to 600 MCM

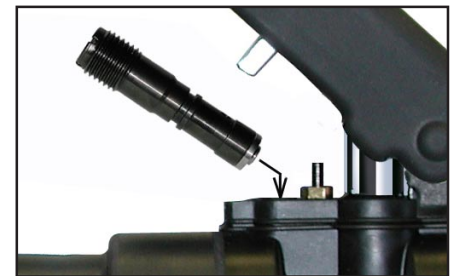


Reliable Equipment's line of manual hydraulic compression tools offer a unique bypass system, featuring an adjustable, replaceable bypass cartridge.

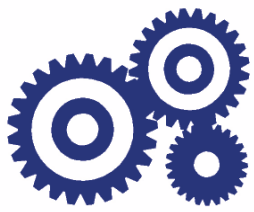


Bypass Cartridge

This unit can be easily replaced or externally calibrated without dismantling the tool.



This tool can be recalibrated in the field, using a hex wrench to adjust desired pressure, without removing the tool from service.



RELIABLE EQUIPMENT & SERVICE CO., INC.



REL-510

Weight: 14.5 lbs., Length: 25 inches

REL-510 MANUAL HYDRAULIC 12 TON CRIMPING TOOL

Designed to crimp splices to 750 MCM and lugs to 750 MCM Al & Cu. The REL-510 Accepts standard Reliable R12 (12 ton) "U" style dies as well as many dies from Alcoa, Burndy, Blackburn, Thomas & Betts, and Huskie. The 1-1/2" jaw opening allows use on larger cable diameters and connectors than standard 1" opening tools. The 180° swivel head permits use in confined areas. Replaceable drop out by-pass cartridge facilitates shop repairs. Two-stage pumping piston for rapid advance, and twist handle release. Magnetic oil reservoir plug traps metal contaminants.

FEATURES:

- Crimping Head rotates 180°
- Replaceable drop-out bypass cartridge
- Accepts all existing R12 "U" Style dies
- Two stage pumping piston
- Twist handle release
- Carrying case included

CONNECTOR RANGE:

Lugs	Up to 750 MCM
Splices	Up to 750 MCM



Reliable Equipment's line of manual hydraulic compression tools offer a unique bypass system, featuring an adjustable, replaceable bypass cartridge.

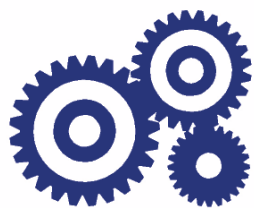


Bypass Cartridge

This unit can be easily replaced or externally calibrated without dismantling the tool.



This tool can be recalibrated in the field, using a hex wrench to adjust desired pressure, without removing the tool from service.



RELIABLE EQUIPMENT & SERVICE CO., INC.



Weight: 17 lbs., Length: 26 inches

REL-510K MANUAL HYDRAULIC 12 TON CRIMPING TOOL

Designed to crimp splices to 477ACSR and lugs to 1033 MCM. The REL-510K accepts standard Kearney style dies. The 1-1/2 inch jaw opening allows use on larger cable diameters and connectors than standard 1" opening tools.

Additional features include: 180° swivel head which permits use in confined areas. The replaceable drop out by-pass cartridge facilitates shop repairs. Two-stage pumping piston for rapid advance, and twist handle release. Magnetic oil reservoir plug traps metal contaminants.

FEATURES:

- Crimping Head rotates 180°
- Replaceable drop-out bypass cartridge
- Accepts all existing R12 "U" Style dies
- Two stage pumping piston
- Twist handle release
- Carrying case included

Connector Range:

Lugs	Up to 477 ACSR
Splices	Up to 1033 MCM

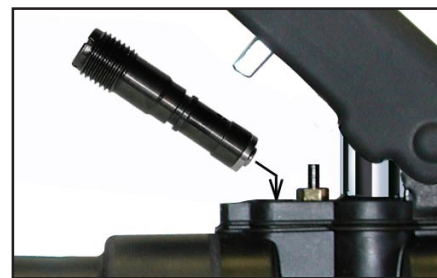


Reliable Equipment's line of manual hydraulic compression tools offer a unique bypass system, featuring an adjustable, replaceable bypass cartridge.



Bypass Cartridge

This unit can be easily replaced or externally calibrated without dismantling the tool.



This tool can be recalibrated in the field, using a hex wrench to adjust desired pressure, without removing the tool from service.



WARNING

BEFORE USING THIS TOOL, READ THE WARNINGS and the recommended practices described in this manual. Failure by the operator to read and fully understand these warnings will leave this person unqualified to use and operate this tool. Property damage, severe personal injury, and/or death could result by not following these warnings.

These warnings will appear in appropriate locations when they are pertinent to the particular subject being shown. Read each one carefully and follow them strictly.



Eye Protection

WARNING

Always wear eye protection to avoid injury from flying debris or hydraulic oil leaks. Failure to do so can result in serious personal injury.



Dust Mask

WARNING

Always wear a dust mask. Failure to observe this warning may result in serious health issues and/or breathing difficulty.



Hard Hat

WARNING

Always wear a hard hat to avoid injury from falling debris. Failure to do so can result in serious personal injury.



Foot Protection

WARNING

Always wear foot protection. Failure to do so can result in serious personal injury.



Hearing Protection

WARNING

Always wear hearing protection, to avoid hearing loss due to long term exposure to high noise levels.



Protective Gloves

WARNING

Always wear protective gloves. Failure to do so can result in serious personal injury.



WARNING

Operation/Safety methods may vary in accordance with the working guidelines established by each utility or contractor.

For your own safety, ensure that you fully comply with all safe operation guidelines required by your employer.



WARNING

ELECTRICAL SHOCK HAZARD

Always wear and use the necessary clothing, equipment and safety practices to protect against electrical shock. Failure to follow these rules can result in serious personal injury or death.



GENERAL SAFETY



USE ALL APPROPRIATE AND APPLICABLE PERSONAL SAFETY EQUIPMENT as required by the operating company.

ALWAYS INSPECT TOOL for wear or deterioration every day.

Replace all parts that show signs of wear or damage.

INSPECT TOOL BEFORE USE. Replace any worn, damaged or missing parts. A damaged or improperly assembled tool may injure operator and/or nearby personnel.

KEEP ALL PARTS OF THE BODY AWAY from moving parts of the tool.

KEEP HANDS OUT FROM BETWEEN CRIMPING JAWS AT TOOL HEAD.

ALL BODY PARTS SHOULD BE OUTSIDE DANGER ZONE PRIOR TO CRIMPING.

MAKE SURE there is no person in close proximity to you or the tool who could be injured by any operation being performed, tool malfunction or flying debris.

DO NOT OVEREXTEND your position by overreaching or unbalancing the footing necessary to maintain physical control of your body and the tool.

ALWAYS MAINTAIN a firm grip on the tool to avoid loss of control during an operation, causing property damage, serious injury or death.

USE THIS TOOL FOR THE MANUFACTURERS' INTENDED PURPOSE ONLY.

OBSERVE CLOSELY ALL SAFETY RULES FOR A PARTICULAR JOB CLASS

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN
PROPERTY DAMAGE, SERIOUS PERSONAL INJURY OR DEATH.**

DAILY MAINTENANCE

The life, reliability, and safety of the tool is dependent on proper maintenance.

Clean all surfaces including head, die seat, ram, and handles.

Inspect for wear and damage. Worn or damaged parts may malfunction during operation.

All parts must be replaced with new parts if signs of wear or damage are evident.

Keep Label Set clean and legible. Replace decals when necessary.

OPERATION

Read entire manual prior to using this tool.

(Refer to all safety recommendations and warnings)

Observe all safety precautions and procedures required by the operating company. Also refer to SAFETY information found on pages 7 and 8)

Before crimping, ensure that crimp is within the capacity listed for the tool.

Ensure that you are using the proper die, as recommended by the connector manufacturer.

Insert proper die into die seat using die buttons. NEVER OPERATE WITHOUT DIES.

Place tool over connector.

Advance ram to connector with fast advance feature on handle.

Align jaw as necessary to ensure proper crimp.

NOTE: Jaw may be released as needed at any point in the crimp cycle.

Continue pumping until relief valve “pops” off. Action will become very easy.

Crimp is complete.

To release ram from connector, open pump handle completely.

Rotate pump handle (movable) 45° & hold while closing completely.

This will release the ram & retract from connector.

Repeat steps above as necessary.

Manufacturer recommends regular testing for proper pressure and operation.

Test at least every 6 months, test more often under heavy usage.

**IF YOU HAVE ANY QUESTIONS REGARDING THE PROPER USE
AND/OR OPERATION OF THIS TOOL, CONSULT YOUR AREA SUPERVISOR,
OR CONTACT RELIABLE EQUIPMENT AT 800-966-3530**

MAN. HYD. CRIMPING HANDLE PARTS LIST

ITEM	QTY	PART NO	DESCRIPTION	DRAWING #
1	1	R19101	BODY, MACHINED	2
7	1	R18007	RETURN SPRING	2
8	1	R18008	CAP, SPRING	2
9	1	R18009	SNAP RING, CAP STOP	2
10	1	R19010	REAR STOP	1
12	2	R18012	HARD BALL, 7/32 DIA.	1, 2
13	2	*R18013	O'RING	1, 2
14	2	*R18014	BU RING	1, 2
15	1	R18015	RELEASE PLUNGER	2
16	1	R18016	SPRING, RELEASE	1
17	1	R18017	BRASS NUT	2
18	1	R18018	SIDE PLUG	2
19	1	R18019	PINTLE, SIDE PLUG	2
20	1	R18020	CHECK CAP	1
21	1	R18021	BALL, 3/16, FEED CHK.	1
22	1	R18022	FILTER BODY	1
23	1	R18023	SCREEN, BRASS	1
24	1	R18024	FINGER CLIP	1
25	1	R18025	MOUNT, BODY HANDLE	1
26	1	R18026	RESERVOIR PLUG ASSY, R410-55	1
27	1	R18027	MAGNET, ASSY R410-55	1
28	1	R18028	HANDLE, FIBERGLASS BODY, 430-10HT	1
29	1	R18029	PUMP ARM, FIBERGLASS, 410-30	2
30	1	R18030	SHOULDER HOUSING	2
31	1	R18031	POINTER	2
32	1	R18032	RELEASE FINGER	2
33	4	R18033	BRONZE BUSHINGS	2
34	1	R18034	KNUCKLE	2
35	1	R18035	FAST ADV. PLUG	1
36	1	R18036	SET SCREW, 6-32 X 3/16	2
37	1	R18037	3/32 BALL	2
38	1	R18038	LOWER CHK. SPRG.	1
39	2	R18039	UPPER CHK SPRG.	1
40	1	R28540	PISTON INJECTOR	2

MAN. HYD. CRIMPING HANDLE PARTS LIST

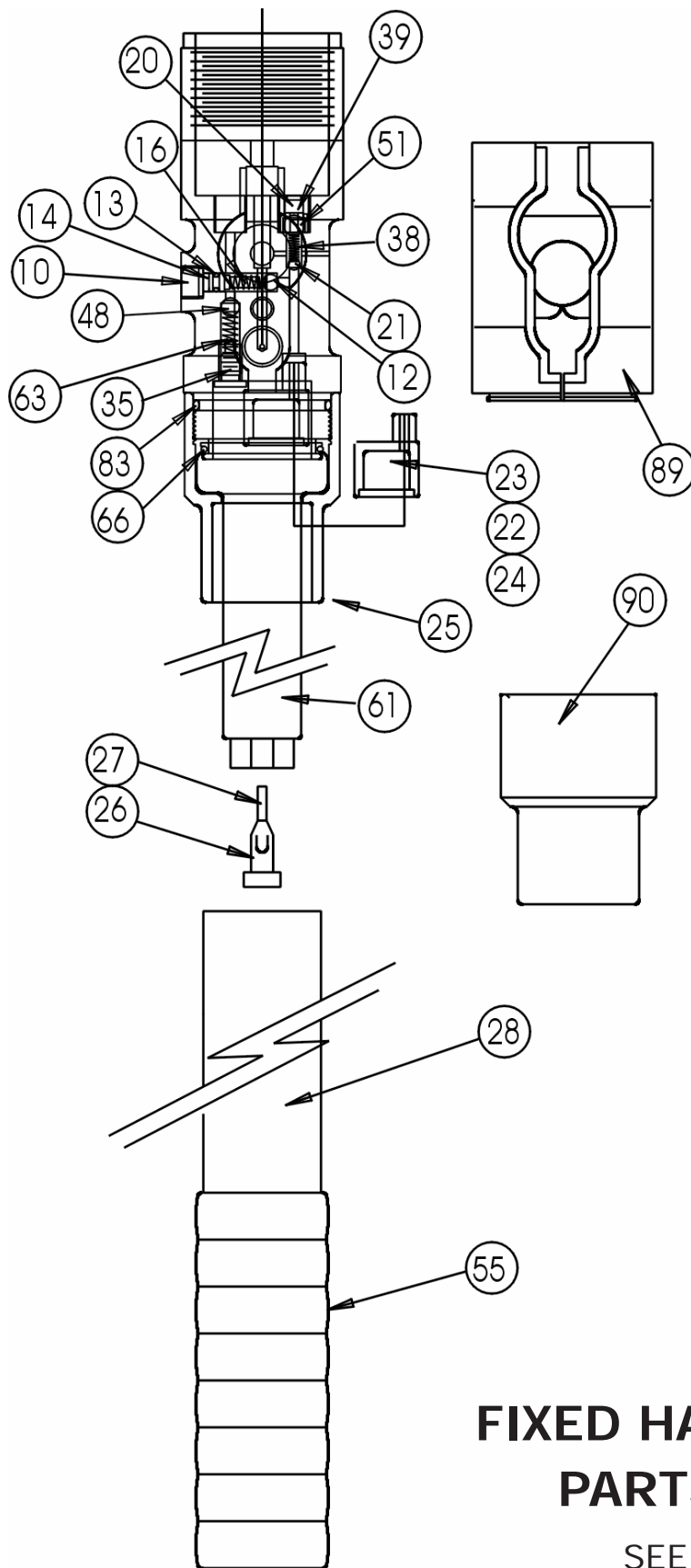
ITEM	QTY	PART NO	DESCRIPTION	DWG #
41	1	*R28541	WIPER	2
42	1	*R18042	O'RING, LO PR PISTON	2
43	1	*R18043	O'RING, HI PRESS PISTON	2
48	1	R18048	BALL, 1/4	1
49	1	R18049	PIVOT PIN, SHOULDER	2
50	1	R18050	TORSION SPRING	2
51	2	R18051	9/32 BALL	1
54	1	R19054	GRIP, PUMPARM, R410-31	2
55	1	R19055	GRIP, HANDLE, R510-31	1
56	2	R18056	SNAP RINGS, C31	2
57	2	R18057	3/16 X 1 3/8 ROLL PIN	2
60	1	R18200	PRESET PRES. RELIEF	2
61	1	R430-09	RESERVOIR	1
63	2	R18077	SPRING	1, 2
66	1	*R13821	O' RING	1, 2
68	1	R18080	SPRING	2
75	1	R410-57	COVER, HANDLE HEAD, R410-57	2
80	1	*R18013	O'RING, SIDE PLUG	2
82	1	R13082	10-32 X 3/8 SHCS	2
83	1	*R18058	O'RING	1, 2
84	1	*R18059	O'RING	2
89	1	REL510-A-31	RUBBER COVER, BODY	1
90	1	R510-31	RUBBER MOUNT COVER	1
SEAL KIT INCLUDES PARTS MARKED *				

Complete disassembly is not recommended. Return the unit to an authorized dealer for total disassembly and/or repair.

All maintenance or disassembly should take place on a flat, clean work surface covered with towels or wipers so as to have a clean space for the disassembled parts.

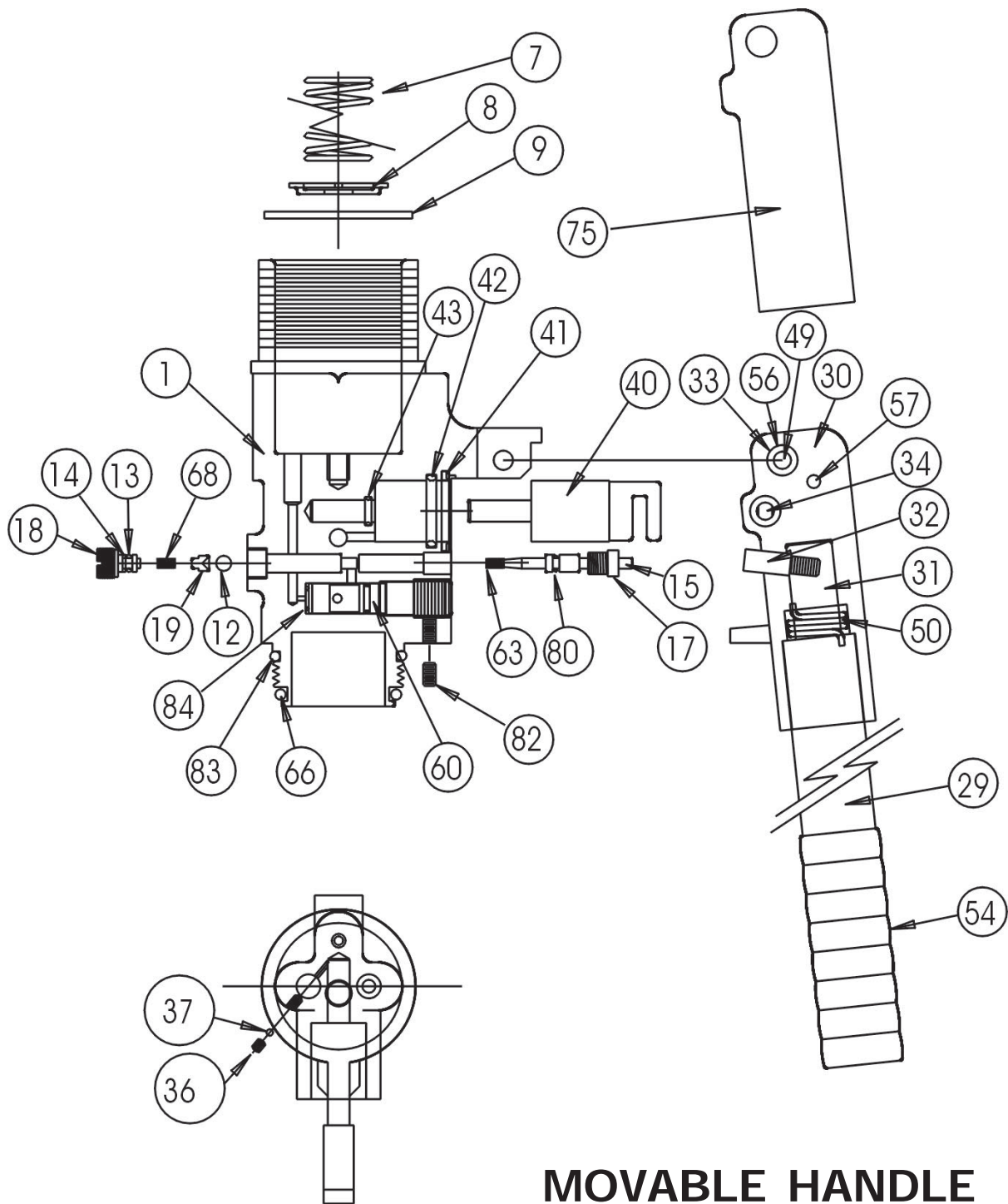
Inspect each part during disassembly for wear, scratches, and cuts. Discard the worn or damaged parts and replace with new factory authorized parts.

O-rings are sensitive to sharp edges. Inspect closely for cuts or damage. A small cut will cause a leak. When assembling or disassembling O-rings, use hydraulic fluid as a lubricant to help disassembly or installation.



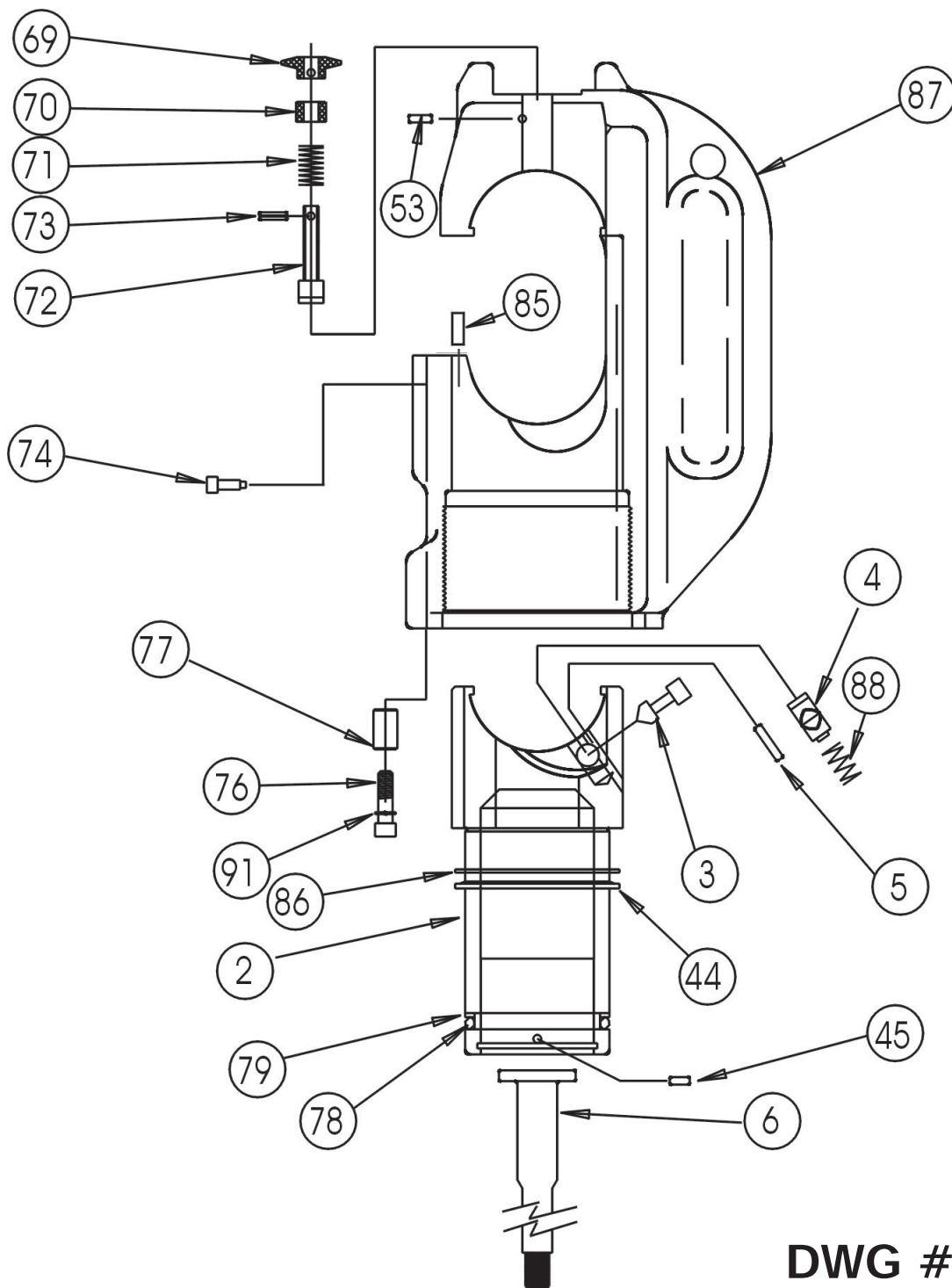
FIXED HANDLE DWG #1 PARTS DRAWING

SEE PAGE #10-11



MOVABLE HANDLE DWG #2 PARTS DRAWING

SEE PAGE #10-11



DWG #3
REL-510 HEAD
PARTS DRAWING

SEE PAGE #10-11

REL-510 HEAD PARTS LIST

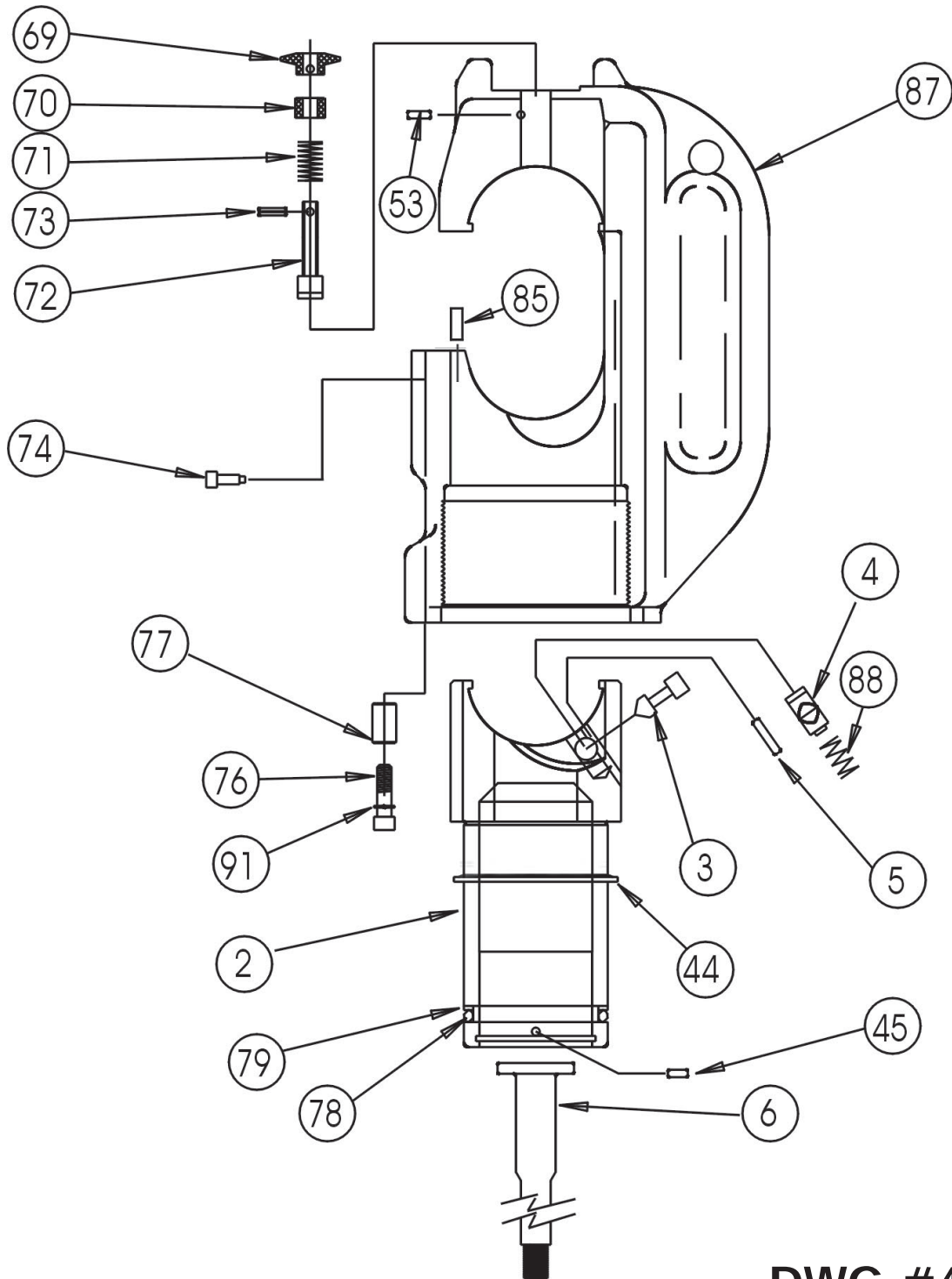
ITEM	QTY	PART NO	DESCRIPTION	DRAWING #
2	1	R19002	RAM	3
3	1	R18003	DIE BUTTON	3
4	1	R18004	DIE PIN	3
5	1	R19005	SPRING PIN, 3/32 X 1/2	3
6	1	R18007	CENTER POST	3
44	1	*R19044	WIPER	3
45	1	R18045	PIN, 3/32 X 1/4, FOR RAM	3
53	1	R19053	PIN, 2.4 X 24MM	3
69	1	R19149	KNOB, 1220-20 D	3
70	1	R19051	SCREW W/THRU HOLE, 1220-3	3
71	1	R19052	SPRING, 1220-4	3
72	1	R19058	DIE RETAINING PIN	3
73	1	R19059	DRIVE PIN, 1220-16	3
74	1	R19020	5 X 10MM SHCS, 1220-15	3
76	2	R19076	5 X 15MM SHCS	3
77	2	R19077	FERRULE	3
78	1	*R13820	O'RING	3
79	1	*R13821	BU RING	3
85	1	R19085	RAM ROTATION KEY	3
86	1	R19086	WASHER, WIPER BACK UP	3
87	1	R28502	HEAD	3
88	1	R13020	SPRING	3
91	2	R18091	LOCK WASHER FOR 5 MM SHCS	3
SEAL KIT INCLUDES PARTS MARKED *				

Complete disassembly is not recommended. Return the unit to an authorized dealer for total disassembly and/or repair.

All maintenance or disassembly should take place on a flat, clean work surface covered with towels or wipers so as to have a clean space for the disassembled parts.

Inspect each part during disassembly for wear, scratches, and cuts. Discard the worn or damaged parts and replace with new factory authorized parts.

O-rings are sensitive to sharp edges. Inspect closely for cuts or damage. A small cut will cause a leak. When assembling or disassembling O-rings, use hydraulic fluid as a lubricant to help disassembly or installation.



DWG #4
REL-430 HEAD
PARTS DRAWING

REL-430 HEAD PARTS LIST

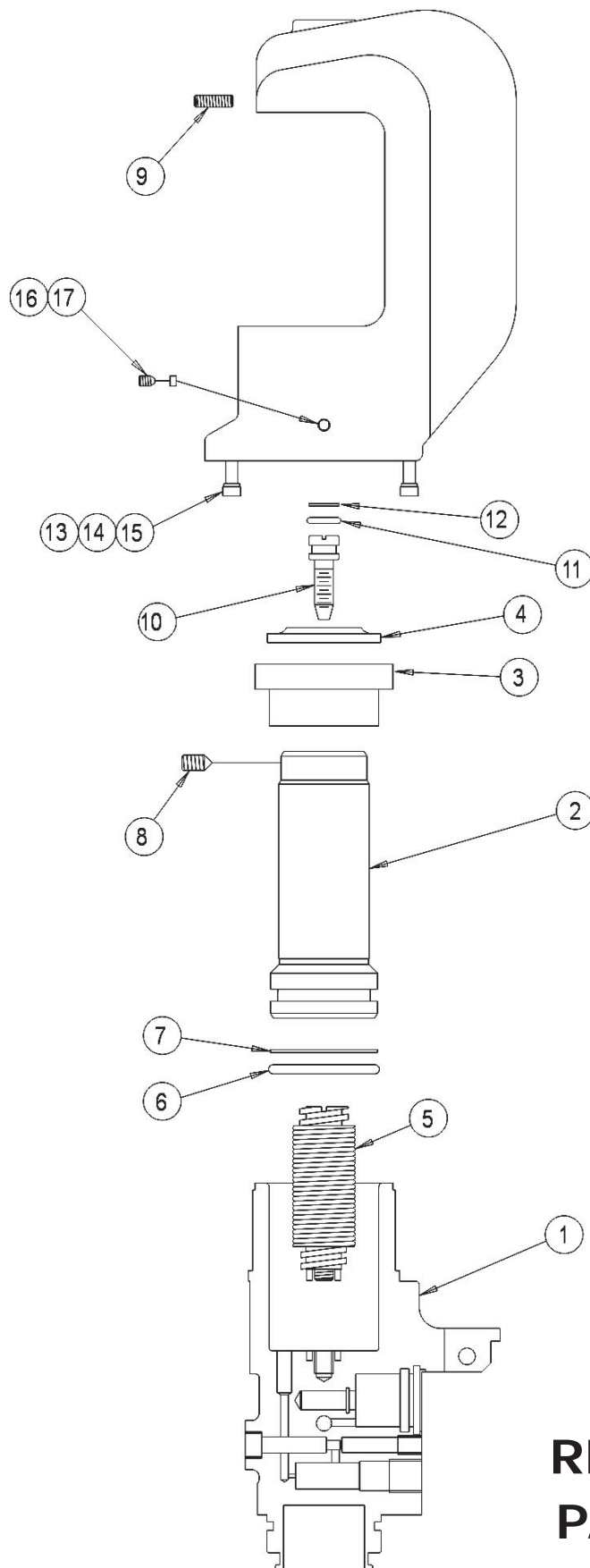
ITEM	QTY	PART NO	DESCRIPTION	DRAWING #
2	1	R19002	RAM	4
3	1	R19013	DIE BUTTON	4
4	1	R18004	DIE PIN	4
5	1	R18005	SPRING PIN, 3/32 X 1/2	4
6	1	R18007	CENTER POST	4
44	1	*R19044	WIPER	4
45	1	R18045	PIN, 3/32 X 1/4, FOR RAM	4
53	1	R19053	PIN, 2.4 X 24MM	4
69	1	R1220-20D	KNOB, 1220-20 D	4
70	1	R1220-3	SCREW W/THRU HOLE, 1220-3	4
71	1	R1220-4	SPRING, 1220-4	4
72	1	R1220-5	DIE RETAINING PIN	4
73	1	R1220-16	DRIVE PIN, 1220-16	4
74	1	R1220-7	5 X 10MM SHCS, 1220-15	4
76	2	R19076	5 X 15MM SHCS	4
78	1	*R13820	O'RING	4
79	1	*R13821	BU RING	4
85	1	R1220-15	RAM ROTATION KEY	4
87	1	REL-430-01	HEAD	4
88	1	R12817	SPRING	4
91	2	R18091	LOCK WASHER FOR 5 MM SHCS	4
SEAL KIT INCLUDES PARTS MARKED *				

Complete disassembly is not recommended. Return the unit to an authorized dealer for total disassembly and/or repair.

All maintenance or disassembly should take place on a flat, clean work surface covered with towels or wipers so as to have a clean space for the disassembled parts.

Inspect each part during disassembly for wear, scratches, and cuts. Discard the worn or damaged parts and replace with new factory authorized parts.

O-rings are sensitive to sharp edges. Inspect closely for cuts or damage. A small cut will cause a leak. When assembling or disassembling O-rings, use hydraulic fluid as a lubricant to help disassembly or installation.



**REL-510K DWG #5
PARTS DRAWING**

REL-510K PARTS LIST

ITEM	QTY	PART NO	DESCRIPTION	DRAWING #
1	1	28001	510 BODY	5
2	1	28002	RAM	5
3	1	28003	COLLAR	5
4	1	28004	*WIPER, SER-40	5
5	1	28005K	RETURN SPRING ASSY	5
6	1	13820	*O-RING	5
7	1	13821	*B/U RING	5
8	2	28021	CONE POINT SOCKET SET SCREW, 1/4-20 X 3/8	5
9	1	28016	SOCKET SET SCREW, 6 X 16 MM, CONE POINT	5
10	1	28010	BOLT, SPRING SEAL	5
11	1	28011	*O-RING, SEAL BOLT, 012UR70	5
12	1	28012	*B/U RING, SEAL BOLT, 012STBU	5
13	2	28022	SCREW, 5 X 20 MM SHCS	5
14	2	18091	LOCKWASHER	5
15	2	28024	SPACER	5
16	1	28025	5 X 5 MM SOCKET SET SCREW	5
17	1	28026	PLASTIC INSERT	5
18	1	28300	SEAL KIT	5
SEAL KIT INCLUDES PARTS MARKED *				

Complete disassembly is not recommended. Return the unit to an authorized dealer for total disassembly and/or repair.

All maintenance or disassembly should take place on a flat, clean work surface covered with towels or wipers so as to have a clean space for the disassembled parts.

Inspect each part during disassembly for wear, scratches, and cuts. Discard the worn or damaged parts and replace with new factory authorized parts.

O-rings are sensitive to sharp edges. Inspect closely for cuts or damage. A small cut will cause a leak. When assembling or disassembling O-rings, use hydraulic fluid as a lubricant to help disassembly or installation.

IF YOU HAVE QUESTIONS REGARDING THE REPAIR AND MAINTENANCE OF THIS TOOL CONTACT RELIABLE EQUIPMENT AT 800-966-3530



WARNING

Failure to observe all warnings and instructions could result in property damage, severe personal injury, and/or death.

BEFORE USING THIS PRODUCT
READ THE SAFETY WARNINGS
and recommended practices described
in the manual. Failure by the operator to
read and fully understand the warnings
will leave this person unqualified to use
and operate the tool.

RELIABLE EQUIPMENT & SERVICE CO., INC.

92 Steamwhistle Drive • Ivyland, PA 18974 • USA

Phone: 215-357-3500 • Fax: 215-357-9193

MODEL: _____

MAX. PRESSURE: _____

SERIAL NO.: _____

YEAR: _____



CAUTION

Operation and safety methods may vary in accordance with the guidelines established by each utility. For your safety, ensure that you fully comply with all safe operation guidelines established by your respective power utility.

REL-SM

DANGER



The user should be properly trained in the correct procedures required for work on or around electrical lines.



**DANGER
RAM
CLOSES**

CAUTION

Do not operate without dies.

NOTE: Keep Label Set clean and legible. Replace decals when necessary. Part #RL19400

Maintenance Records

Date	Parts or Service Required

If you have any questions regarding the information found in this manual please contact RELIABLE EQUIPMENT at the address, phone or fax numbers shown below.



**RELIABLE EQUIPMENT
& SERVICE CO., INC.**

301 Ivyland Road • Warminster, PA 18974

Phone: 800-966-3530 • Fax: 215-357-9193

Visit us on the web at www.Reliable-Equip.com