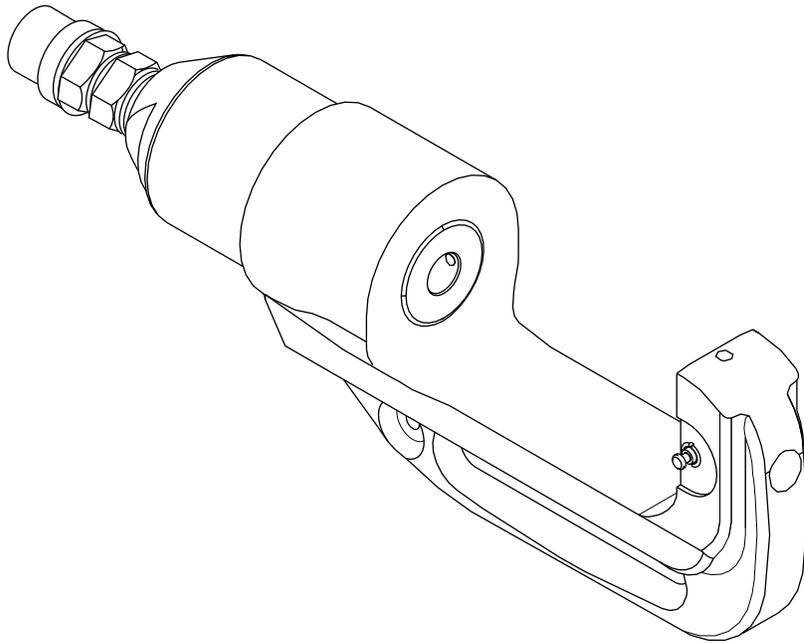


INSTRUCTION MANUAL

ILSCO



ILC-15H

Hydraulic Crimping Tool

15-ton, Single-acting, Die-type



Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

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Description

The ILC-15H Hydraulic Crimping Tool is a 15-ton, single-acting, die-type crimping tool intended to crimp splicing sleeves and termination lugs. Adapters are available to allow the tool to be used with IlSCO ILD dies and P-type 15-ton dies. Refer to the stuffer sheet included with the connector for specific information.

This crimping tool requires an external 700 bar (10,000 psi) hydraulic power source, such as the IlSCO 5ACR.

Safety

Safety is essential in the use and maintenance of IlSCO tools and equipment. This manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following IlSCO tool:

ILC-15H Hydraulic Crimping Tool

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

Warranty and Service

ILSCO warrants this tool to the original purchaser for a period of one year from the date of purchase, provided the tool is operated, maintained and used in accordance with ILSCO's written instructions. Ordinary wear and tear, damage from abuse, neglect or alterations are not covered by this warranty. This warranty is null and void if instructions and operating procedures are not followed. Contact ILSCO for all warranty and service issues at 800-776-9775.

KEEP THIS MANUAL

IMPORTANT SAFETY INFORMATION



SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

⚠ DANGER

Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

⚠ WARNING

Hazards which, if not avoided, **COULD** result in severe injury or death.

⚠ CAUTION

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



⚠ DANGER

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

Failure to observe this warning will result in severe injury or death.

⚠ DANGER

Do not use this crimping tool with any hydraulic hoses or other hydraulic components rated at less than 700 bar (10,000 psi).

Failure to observe this warning will result in severe injury or death.

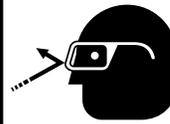


⚠ WARNING

Electric shock hazard:

This tool is not insulated. When using this unit near energized electrical lines, use only certified nonconductive hoses and proper personal protective equipment.

Failure to observe this warning can result in severe injury or death.



⚠ WARNING

Wear eye protection when operating or servicing this tool.

Failure to wear eye protection can result in serious eye injury from flying debris or hydraulic oil.



⚠ WARNING

Skin injection hazard:

Oil under pressure easily punctures skin causing serious injury, gangrene, or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use hands to check for leaks.
- Depressurize the hydraulic system before servicing.

IMPORTANT SAFETY INFORMATION

	⚠ WARNING
	Keep hands away from the crimping tool head when crimping. Failure to observe this warning can result in severe injury or death.

⚠ WARNING
Use proper die, connector, and wire combinations. Mismatched components can result in an incomplete crimp. Failure to complete a crimp can result in severe injury, death, or fire if a connection separates or if it has high electrical resistance.

⚠ WARNING
Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel. Failure to observe this warning can result in severe injury or death.

⚠ CAUTION
<ul style="list-style-type: none">• Do not operate crimping tool without dies in place. Damage to the ram or crimping tool head may result.• Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

IMPORTANT
Read the operating instructions and safety information supplied with the hydraulic power source.

Note: Keep all decals clean and legible, and replace when necessary.

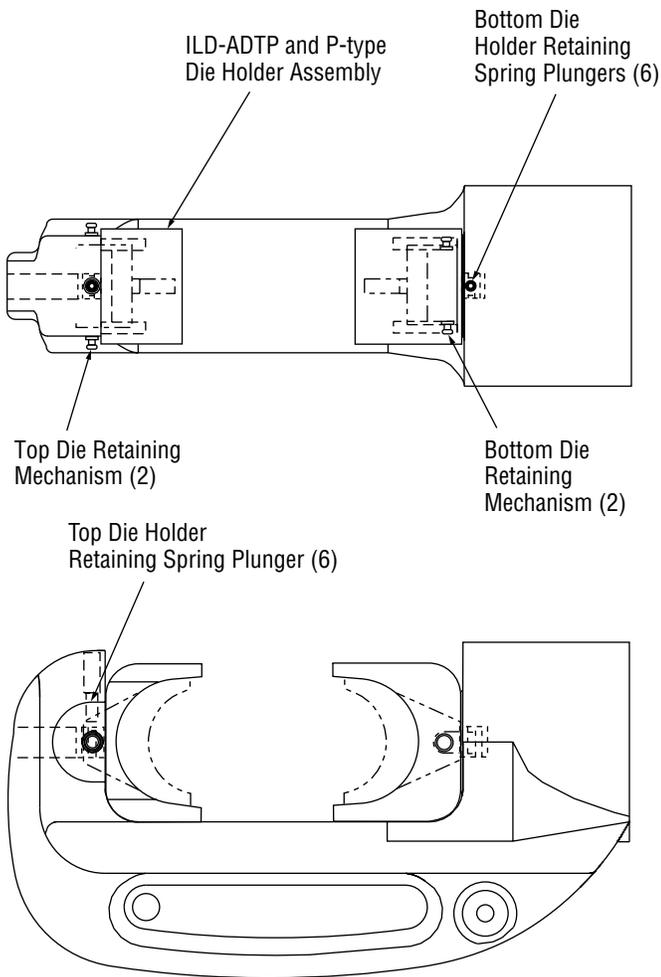
Specifications

Length	380 mm (14.96")
Width	76.2 mm (3.00")
Height	135.4 mm (5.33")
Mass/Weight	6.41 kg (14 lb, 2 oz)
Stroke (without dies)	58 mm (2.28")
Die Type	most 12-ton and 15-ton with adapters
Crimping Force	133 kN (15 tons)
Crimping Capacity	
With ILD-ADTP Die Holder Kit for P-type Dies	
Aluminum Fittings	1000 Kcmil
Copper Fittings	1000 Kcmil
With ILD-ADTU Die Holder Kit for IlSCO ILD Dies and 12-ton U-type Dies	
Copper Splices	500 Kcmil
Copper Terminals	750 Kcmil
Aluminum Splices	350 Kcmil
Aluminum Terminals	750 Kcmil
Power Source Required	700 bar (10,000 psi)

Adapter Kits

Procedure for Using P-type Dies with ILD-ADTP Die Holder Kit

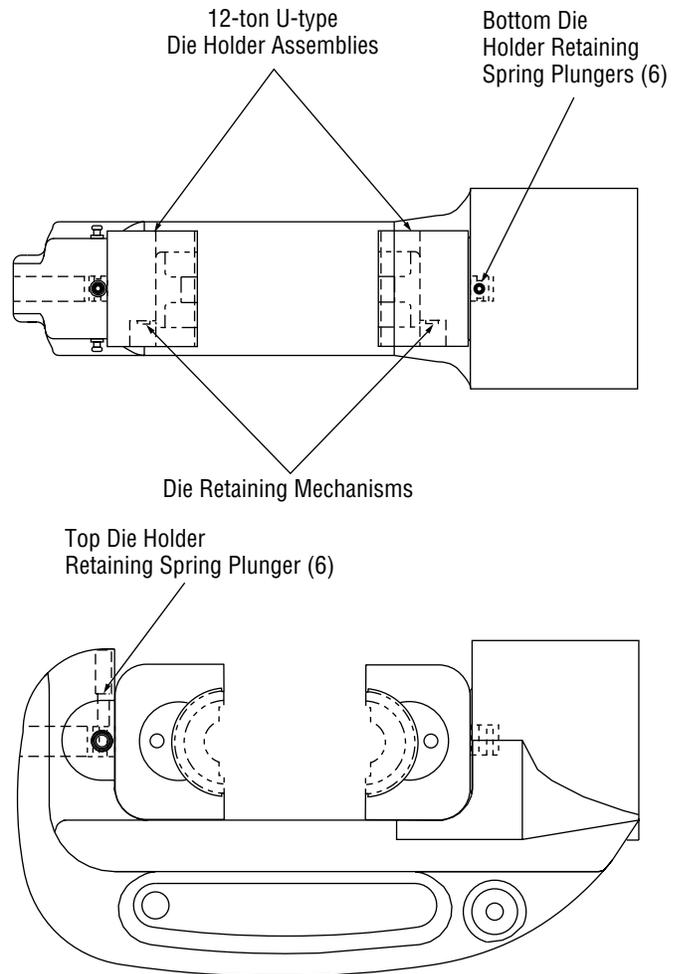
1. Install the upper ILD-ADTP die holder assembly in the hole in the top of the C-head. Snap in place with the top die holder retaining spring plunger (6).
2. Install the lower ILD-ADTP die holder assembly in the hole in the end of the piston. Snap in place with the bottom die holder retaining spring plungers (6).
3. Select the proper die set for the fitting to be crimped.
4. Slide the top die into place in the die holder while simultaneously squeezing both retainer buttons. Release the buttons and allow them to snap into place. Repeat the operation for the other die entry.



ILD-ADTP
(contains one upper die holder
and one lower die holder)

Procedure for Using 12-ton U-type Dies with ILD-ADTU Die Holder Kit

1. Install the upper ILD-ADTU die holder assembly in the hole in the top of the C-head. Snap in place with the top die holder retaining spring plunger (6).
2. Install the lower ILD-ADTU die holder assembly in the hole in the end of the piston. Snap in place with the bottom die holder retaining spring plungers (6).
3. Select the proper die set for the connector to be crimped.
4. Slide the die into place in the die holder while pressing the die retainer button. Release the die button while it snaps into place, locking the die into position. Repeat the operation for the other die entry.



ILD-ADTU
(contains two die holders)

Setup

⚠ DANGER

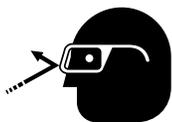
Do not use this crimping tool with any hydraulic hoses or other hydraulic components rated at less than 700 bar (10,000 psi).

Failure to observe this warning will result in severe injury or death.

⚠ CAUTION

Do not operate crimping tool without dies in place. Damage to the ram or crimping tool head may result.

⚠ WARNING



Wear eye protection when operating or servicing this tool.

Failure to wear eye protection can result in serious eye injury from flying debris or hydraulic oil.

IMPORTANT

Read the operating instructions and safety information supplied with the hydraulic power source.

⚠ WARNING



Skin injection hazard:

Oil under pressure easily punctures skin causing serious injury, gangrene, or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use hands to check for leaks.
- Depressurize the hydraulic system before servicing.

1. Select the die set that corresponds to the size and type of the IlSCO connector to be crimped.
2. Select the proper die holder set for the type of dies to be used. Install the die holders and/or dies according to the procedures in the “Adapter Kits” section of this manual.
 - IlSCO ILD or U-type Dies—ILD-ADTU Die Holder Kit
 - P-type Dies—ILD-ADTP Die Holder Kit
3. Install the proper size crimping dies in the crimping head. Be sure the die seat area is clear of debris.
4. Connect the hydraulic hose from the power source to the tool.
5. In cold weather, allow the power source to run (idle) for a few minutes to warm the hydraulic fluid. Actuating the tool intermittently will reduce the time required to warm the fluid to an efficient operating temperature.

⚠ WARNING

Use proper die, connector, and wire combinations. Mismatched components can result in an incomplete crimp. Failure to complete a crimp can result in severe injury, death, or fire if a connection separates or if it has high electrical resistance.

⚠ WARNING

Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.

Failure to observe this warning can result in severe injury or death.

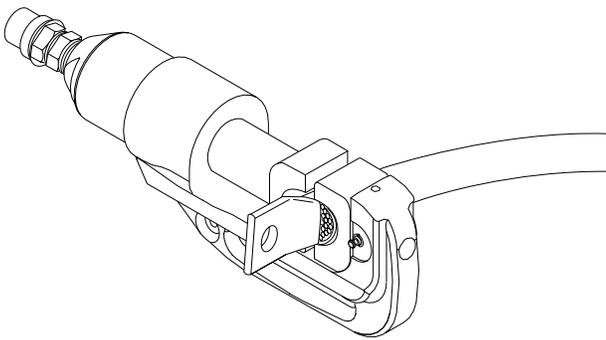
Operation

	⚠ WARNING
	<p>Electric shock hazard:</p> <p>This tool is not insulated. When using this unit near energized electrical lines, use only certified nonconductive hoses and proper personal protective equipment.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

	⚠ WARNING
	<p>Keep hands away from the crimping tool head when crimping.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

Note: Consult the IlSCO stuffer sheets for the proper crimping procedure and proper die(s), etc.

1. Prepare the cable by stripping off the appropriate amount of insulation.
2. Select an IlSCO connector that corresponds to the conductor and the application.
3. Insert the conductor into the connector. Position the connector as shown.

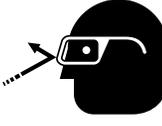


4. Activate the hydraulic power source until the ram has advanced and the crimp is completed.
Note: To ensure a complete crimp, verify that the power source has reached 700 bar (10,000 psi). Refer to the "Periodic Pressure Relief Valve Check" in this manual.
5. Stop the power source and allow the ram to retract.
6. Complete the number of crimps specified in the IlSCO stuffer sheet.

Maintenance

- Keep the tool clean. Use the tool with care to keep dirt and grit out of the hydraulic system. Contamination is the most common cause of failure for hydraulic tools.
- Store the tool in its original case with the ram fully retracted.
- Occasionally lubricate the die release button assemblies. A molybdenum disulfide grease is recommended.
- Inspect the hydraulic hoses periodically.
- Periodically verify that the power source reaches 700 bar (10,000 psi). Refer to the "Periodic Pressure Relief Valve Check" in this manual.

Periodic Pressure Relief Valve Check

	⚠ WARNING
	<p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection can result in serious eye injury from flying debris or hydraulic oil.</p>

	⚠ WARNING
	<p>Skin injection hazard:</p> <p>Oil under pressure easily punctures skin causing serious injury, gangrene, or death. If you are injured by escaping oil, seek medical attention immediately.</p> <ul style="list-style-type: none">• Do not use hands to check for leaks.• Depressurize the hydraulic system before servicing.

	⚠ WARNING
	<p>Keep hands away from the crimping tool head when crimping.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

⚠ WARNING
<p>Inspect tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

⚠ CAUTION
<ul style="list-style-type: none">• Do not operate crimping tool without dies in place. Damage to the ram or crimping tool head may result.• Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

Periodically verify that your hydraulic power source is supplying between 662 bar and 717 bar (9600 psi and 10,400 psi).

Use a test-quality ($\pm 2.5\%$ Full Scale) pressure gauge on the supply line from the hydraulic power source.

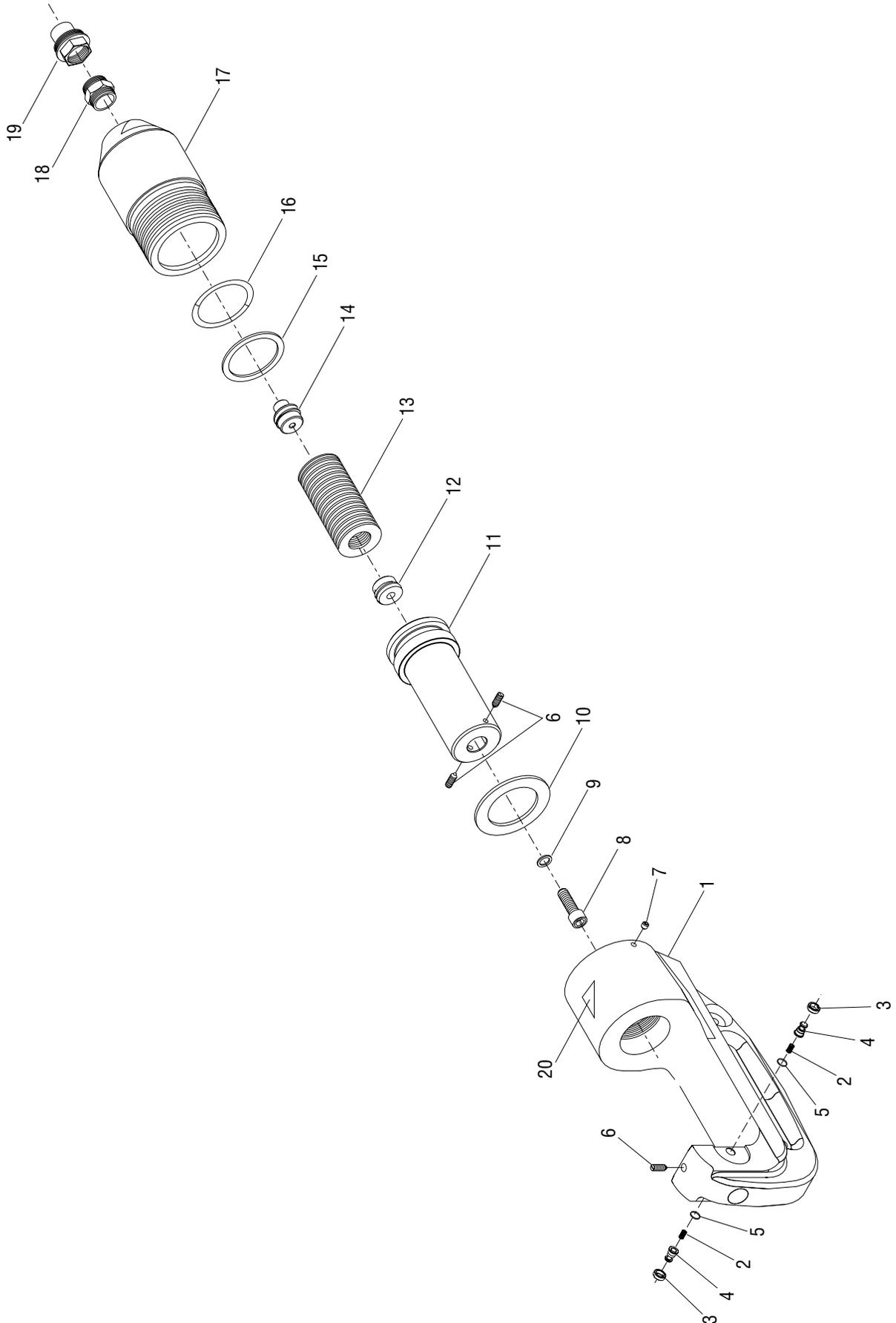
1. Refer to the instructions supplied with the pressure gauge.
2. Stop the flow of hydraulic oil from the power source.
3. Connect the pressure gauge to the supply line of the power source.
4. Install the set of test dies into the crimping tool.
5. Activate the power source until the ram has advanced and the power source reaches relief pressure. The pressure gauge should read between 662 bar and 717 bar (9600 psi and 10,400 psi).
6. Release the pressure by stopping flow from your power source. The ram will retract.

IMPORTANT
<p>Relief valve adjustments must be performed according to the instructions provided with the hydraulic power source.</p>

Assembly

1. Install the spring plunger (6) and two each of the disc (5), spring (2), die retaining button (4), and retaining nut (3) to the C-head (1).
2. Inspect the external surface of the ram and the inside surface of the cylinder for nicks, gouges, or other imperfections. Replace the ram or cylinder if necessary.
3. Slide the wiper (10) onto the ram (11) as far as they will go. Place the backup ring (15) and O-ring (16) on the ram.
4. Install two spring plungers (6) in the ram (11).
5. Assemble the extension spring (13) to the two spring retainers (12, 14).
6. Thread the spring retainer (14) into the base of the cylinder (17), and use a 5 mm Allen wrench to tighten the spring retainer.
7. Lubricate the O-ring (16), backup ring (15), and threads on the cylinder and ram.
8. Slide the ram assembly into the cylinder far enough for full O-ring and backup ring engagement.
9. Slip the cylinder/ram assembly into the base of the C-head and start threading them together. Continue to thread the cylinder into the C-head until the cylinder hits the C-head.
10. Lock the C-head in place with the set screw (7).
11. Install the nylon washer (9) and 8 mm screw (8) through the ram, and tighten securely.
12. Use pipe sealer and assemble the 3/8" NPT pipe (18) to the 3/8 coupler (19). Assemble to the cylinder.

Illustration



Parts List

Key	Part No.	Description	Qty
1	500 5345.0	Head, crimping	1
2	500 5433.3	Spring	2
3	500 5435.0	Retaining nut	2
4	500 5434.1	Die retaining button	2
5	500 5432.5	Disc	2
6	905 3962.1	Spring plunger	3
7	F021889	Screw, #10-32 x 3/16 set	1
8	905 5065.0	Screw, socket head cap M8 x 1.75 x 30 mm	1
9	501 3496.5	Washer, nylon	1
10	500 5431.7	Wiper, leather	1
11	500 5347.7	Ram, 15-ton	1
12	500 5334.5	Retainer, spring	1
13	500 5429.5	Spring, extension	1
14	500 5338.8	Retainer, spring	1
15	905 0889.0	Ring, backup	1
16	905 0888.2	O-ring	1
17	500 5427.9	Cylinder, 15-ton	1
18	F011604	Nipple, pipe, 3/8 NPT hex	1
19	F022061	Coupler, hydraulic, Parker #3010-3	1
	F021406	Cap, plastic	1
	500 1468.4	Carrying case, metal	1
Decals			
20	500 6214.0	Decal, warning	1
	500 5469.4	Lid liner, warning	1
	500 1476.5	Decal, case	1
	500 1472.2	Decal, tool identification	1



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