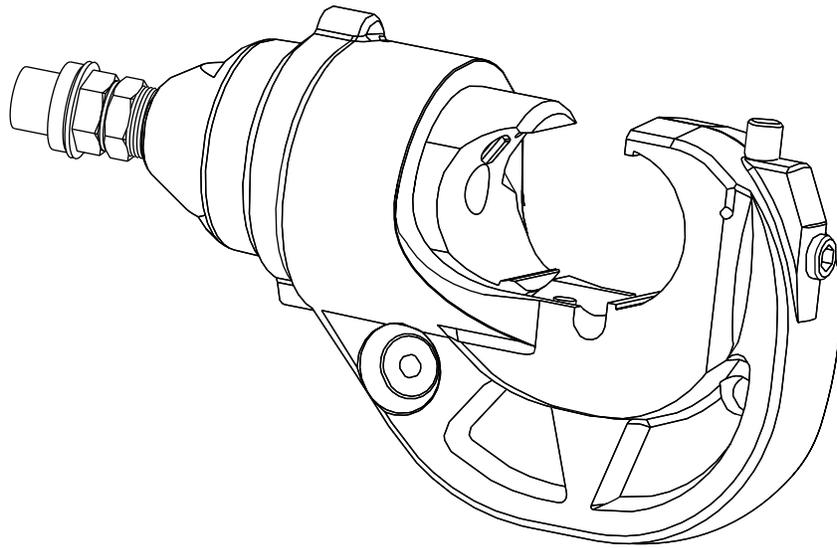


INSTRUCTION MANUAL

ILSCO



ILC-12H-N

Hydraulic Crimping Tool

12-ton, Single-acting, Die-type



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

Table of Contents

Description	2
Safety	2
Purpose of this Manual	2
Warranty and Service	2
Important Safety Information	3-4
Identification	5
Specifications	5
Setup	6
Operation	7
Maintenance	7
Periodic Pressure Relief Valve Check	8
Assembly	9
Illustration	10
Parts List	11

Description

The ILC-12H-N Hydraulic Crimping Tool is a 12-ton, single-acting, die-type crimping tool intended to crimp splicing sleeves and termination lugs using industry standard dies. The single-acting ram requires hydraulic pressure to advance and uses an internal spring to return.

This 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-12H-N 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.

Loctite and 242 are registered trademarks of Loctite Corporation.

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.

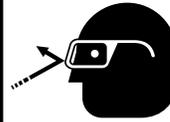


⚠ WARNING

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.

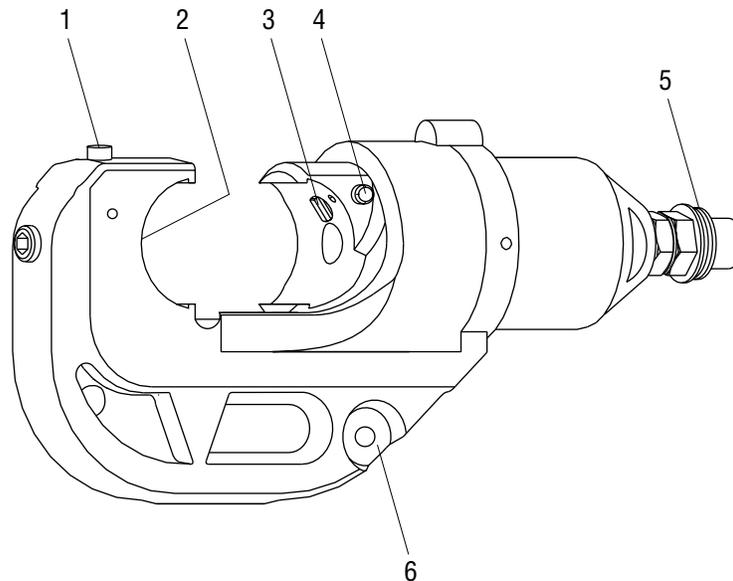
⚠ WARNING
Inspect tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel. Failure to observe this warning can result in severe injury or death.

⚠ 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.

Identification



ILC-12H-N

- | | |
|---------------------------|---|
| 1. Die Release Button | 4. Die Release Button |
| 2. Head Die Retaining Pin | 5. Hydraulic Coupler (3/8 threaded) |
| 3. Ram Die Retaining Pin | 6. Hot Stick Adapter
(thread size 5/16–18 UNC) |

Specifications

Length	302 mm (11.88")
Width	74.2 mm (2.92")
Height	127 mm (5")
Mass/Weight	4.4 kg (9.7 lb)
Stroke (with dies)	42 mm (1.65")
Die Type	Standard U-type
Crimping Force	106 kN (12 tons)
Crimping Capacity	750 Kcmil copper and aluminum lugs, taps, and splices
Power Source Required	700 bar (10,000 psi)

Setup

⚠ DANGER

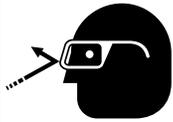
Do not use this crimping tool with any hydraulic hoses or other hydraulic components rated at less than 700 bar (10,000 psi).

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.

⚠ WARNING

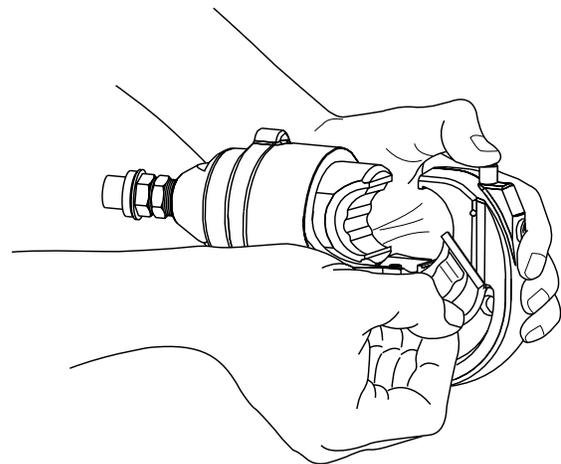
Use proper die, connector, and wire combinations. Mismatched components can result in an incomplete crimp. Failure to complete a crimp can result in severe injury, death, or fire if a connection separates or if it has high electrical resistance.

⚠ WARNING

Inspect tool 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.

1. Select the die set that corresponds to the size and type of the IlSCO connector to be crimped.
2. Press the release button on the C-head and slide one of the die halves into the jaw. Release the button and slide the die half until the retainer snaps and locks the die into place.
3. Press the die release button on the ram body (located in the cutout) and slide the other die half in. Release the button and slide the die until the retainer snaps and locks into place.



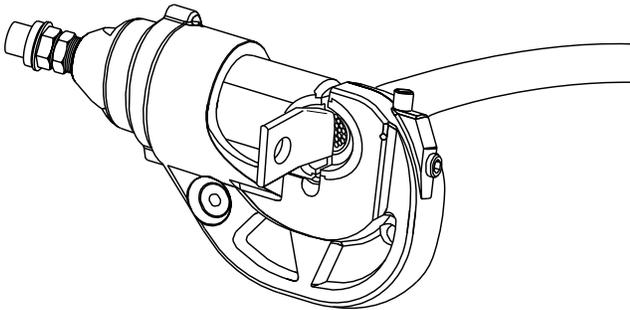
4. Connect the hydraulic hose from the power source to the tool.
5. In cold weather, allow the power source to run (idle) for a few minutes to warm the hydraulic fluid. Actuating the tool intermittently will reduce the time required to warm the fluid to an efficient operating temperature.

Operation

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

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

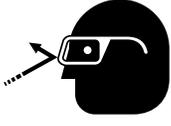


4. Activate the hydraulic power source until the ram has advanced and the crimp is completed.
Note: To ensure a complete crimp, verify that the power source has reached 700 bar (10,000 psi). Refer to the "Periodic Pressure Relief Valve Check" in this manual.
5. Stop the power source and allow the ram 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 pressure gauge on the supply line from the hydraulic power source.

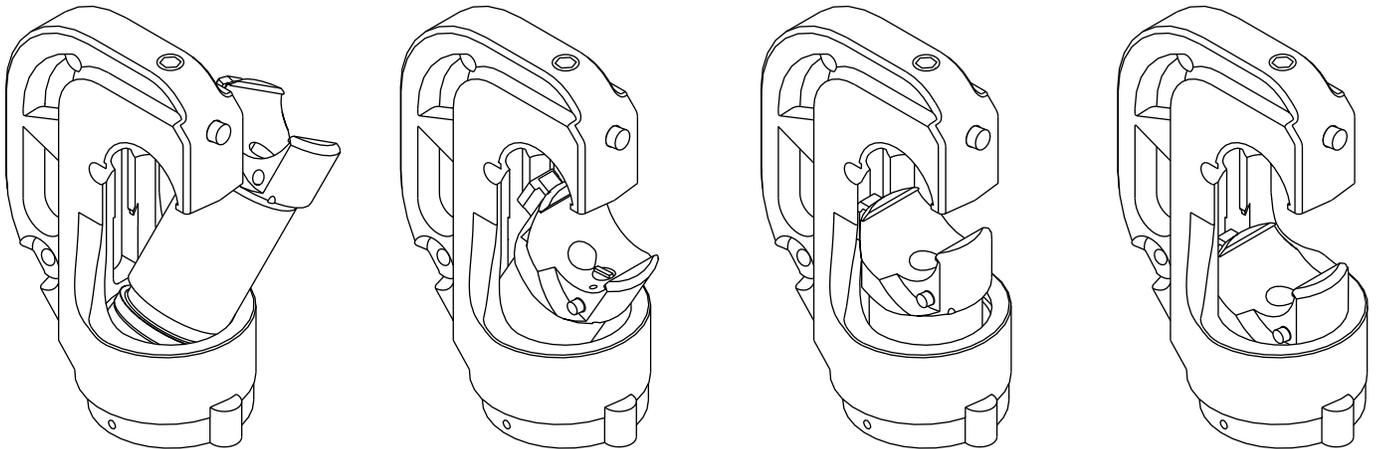
1. Refer to the instructions supplied with the pressure gauge.
2. Stop the flow of hydraulic oil from the power source.
3. Connect the pressure gauge to the supply line of the power source.
4. Install the set of test dies into the crimping tool.
5. Activate the power source until the ram has advanced 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 the power source. The ram will retract.

If crimping pressures are low, the hydraulic power source relief valve may need adjustment.

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

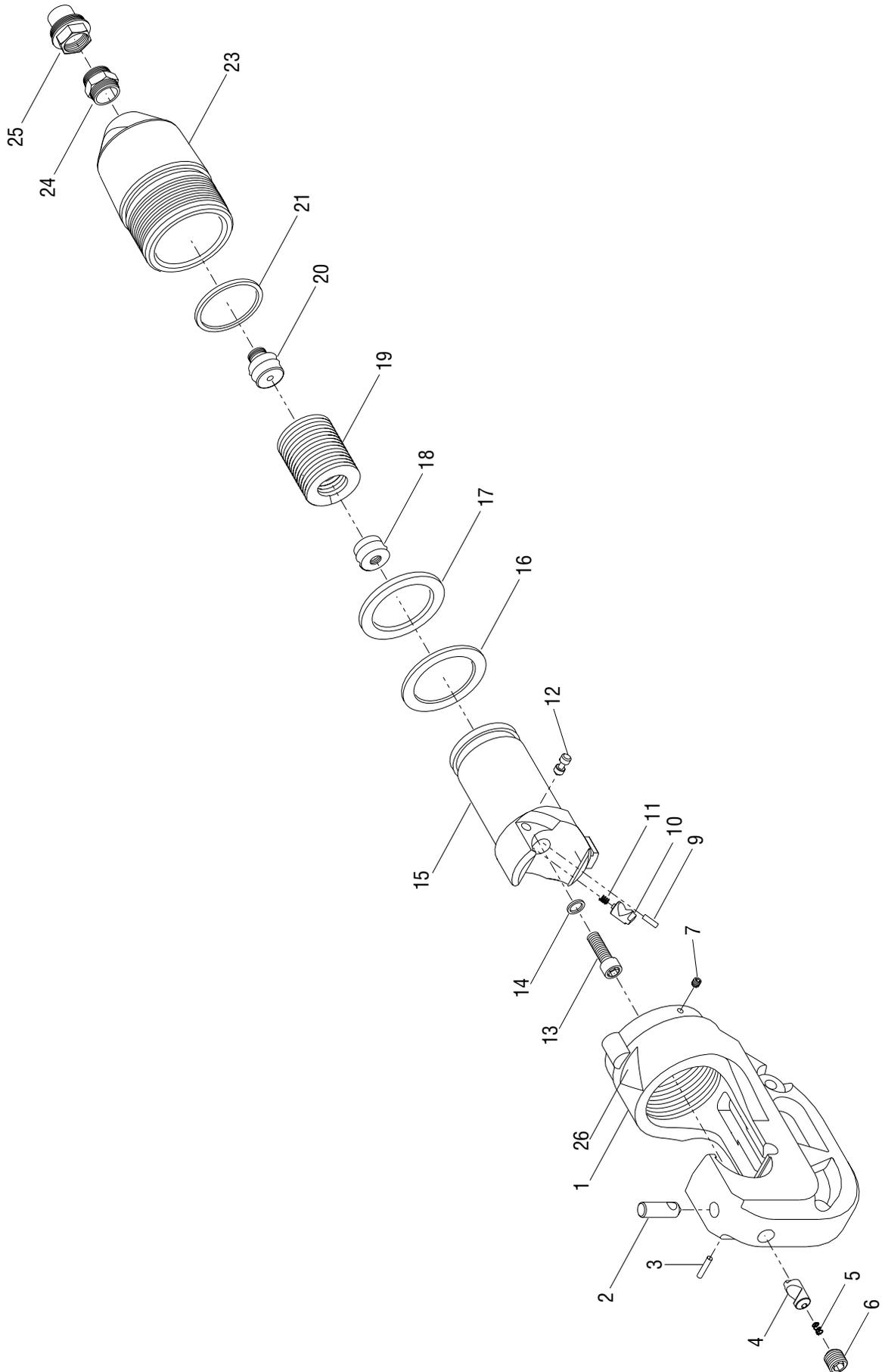
Assembly

1. Lubricate the die retainer (4) and die release button (2) with a molybdenum disulfide grease. Assemble them into the C-head and install the drive pin (3). Add two drops of Loctite® 242® Threadlocker to the screw (6). Install the spring (5) from the top of the C-head and retain with the screw (6). Adjust the screw (6) so that the die retainer (4) is flush with the head when the die release button (2) is pressed.
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. Assemble the spring (11), die retaining pin (10), and die release button (12) to the ram (15). Retain with the roll pin (9).
4. Tilt and slide the ram (15) through the opening in the C-head (1). Align the T-shaped protrusion on the ram with the T-shaped groove in the C-head and assemble the ram to the head as shown in the illustration below.
5. Slide the washer (16) and wiper (17) onto the ram (15) as far as they will go. Place the U-cup seal (21) on the ram.
6. Assemble the extension spring (19) to the two spring retainers (18, 20).
7. Thread the spring retainer (20) into the base of the cylinder (23). Use a 5 mm Allen wrench to tighten the spring retainer.
8. Lubricate the U-cup seal (21) and threads on the cylinder and C-head.
9. Slide the ram assembly down the C-head and assemble into the cylinder (23) far enough for full O-ring and backup ring engagement.
10. Slip the cylinder into the base of the C-head and start threading them together. Continue to thread the cylinder into the C-head until the cylinder contacts the C-head.
11. Lock the C-head in place with the set screw (7).
12. Install the nylon washer (14) and 8 mm screw (13) through the ram and tighten securely.
13. Use pipe sealer and assemble the 3/8" NPT pipe (24) to the 3/8 coupler (25). Assemble to the cylinder.



Step 4—Installing the Ram

Illustration



Parts List

Key	Part No.	Description	Qty
1	500 5329.9	Head, crimping	1
2	500 5317.5	Button, release	1
3	905 5063.3	Pin, groove 3 mm x 16 mm	1
4	500 5319.1	Pin, die retaining	1
5	500 3821.4	Spring, compression	1
6	905 5060.9	Screw, set M12 x 1.75 x 12 mm	1
7	905 5061.7	Screw, set M5 x .8 x 5 mm	1
9	905 5064.1	Pin, roll 3 mm x 10 mm	1
10	500 5316.7	Pin, die retaining	1
11	500 3821.4	Spring, compression	1
12	500 5318.3	Shaft, release	1
13	905 5065.0	Screw, socket head cap M8 x 1.75 x 30 mm	1
14	501 3496.5	Washer, nylon	1
15	500 5332.9	Ram, 42 mm	1
16	500 5263.2	Washer, steel	1
17	500 5301.9	Wiper, leather	1
18	500 5334.5	Retainer, spring	1
19	500 5336.1	Spring, extension	1
20	500 5338.8	Retainer, spring	1
21	905 5206.7	Seal, U-cup	1
23	500 5339.6	Cylinder, 42 mm	1
24	F011604	Nipple, pipe, 3/8 NPT hex	1
25	F022061	Coupler, hydraulic, Parker #3010-3	1
	F021406	Cap, plastic	1
	500 1491.9	Carrying case, metal	1
Decals			
26	500 6214.0	Decal, warning	1
	500 5469.4	Decal, lid liner, warning	1
	500 1476.5	Decal, case	1
	500 1494.3	Decal, tool identification	1

ILSCO[®]

**U.S. TECHNICAL SUPPORT
1-800-776-9775**

IlSCO Corporation • 4730 Madison Road, Cincinnati, Ohio 45227-1426
Phone (800) 776-9775, (513) 533-6200 • Fax (513) 871-4084
E-mail: sales@ilsco.com • Web site: <http://www.ilsco.com>

Printed in the USA