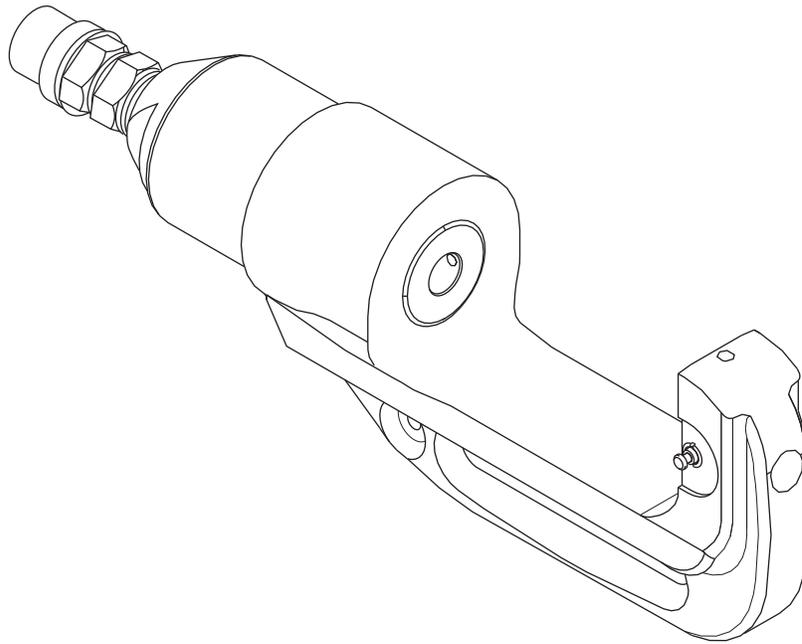


INSTRUCTION MANUAL



RK1550 **15-ton, Single-acting,** **Die-type Crimping Tool**

Serial Codes GAE



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

Register this product at www.greenlee.com



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Description

The Greenlee RK1550 15-ton, single-acting, die-type crimping tool is intended to crimp splicing sleeves and termination lugs using Kearney PH14 dies (not included). Adapters are also available to allow it to be used with Thomas & Betts 15-ton dies, Burndy 15-ton dies, Kearney 12-ton dies, and industry 12-ton U-style dies.

This crimping tool requires an external 700 bar (10,000 psi) hydraulic power source, such as Greenlee 975, 976-22, 980 and 980-22. It may also be powered using a hydraulic intensifier capable of developing 700 bar (10,000 psi), such as the Greenlee Utility Dynapress.

Optional accessories include the following hoses with one male and one female coupler:

- 90558509 3 m (10') Conductive Hydraulic Hose
- 90558517 3 m (10') Non-Conductive Hydraulic Hose
- 90558522 7.6 m (25') Non-Conductive Hydraulic Hose

Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This instruction 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 Greenlee tool:

RK1550 15-ton, Single-acting, Die-type Crimping Tool – Serial Code GAE

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at www.greenlee.com.

All specifications are nominal and may change as design improvements occur. Greenlee Tools, Inc. shall not be liable for damages resulting from misapplication or misuse of its products. Loctite is a registered trademark of the 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.



IMPORTANT SAFETY INFORMATION

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

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

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

	⚠ WARNING
	<p>Pinch points: Keep hands away from closing dies.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

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

⚠ WARNING
<p>Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool could break and strike nearby personnel with sufficient force to cause 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.

IMPORTANT
<p>Follow the operating instructions and safety information supplied with the hydraulic power source.</p>

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



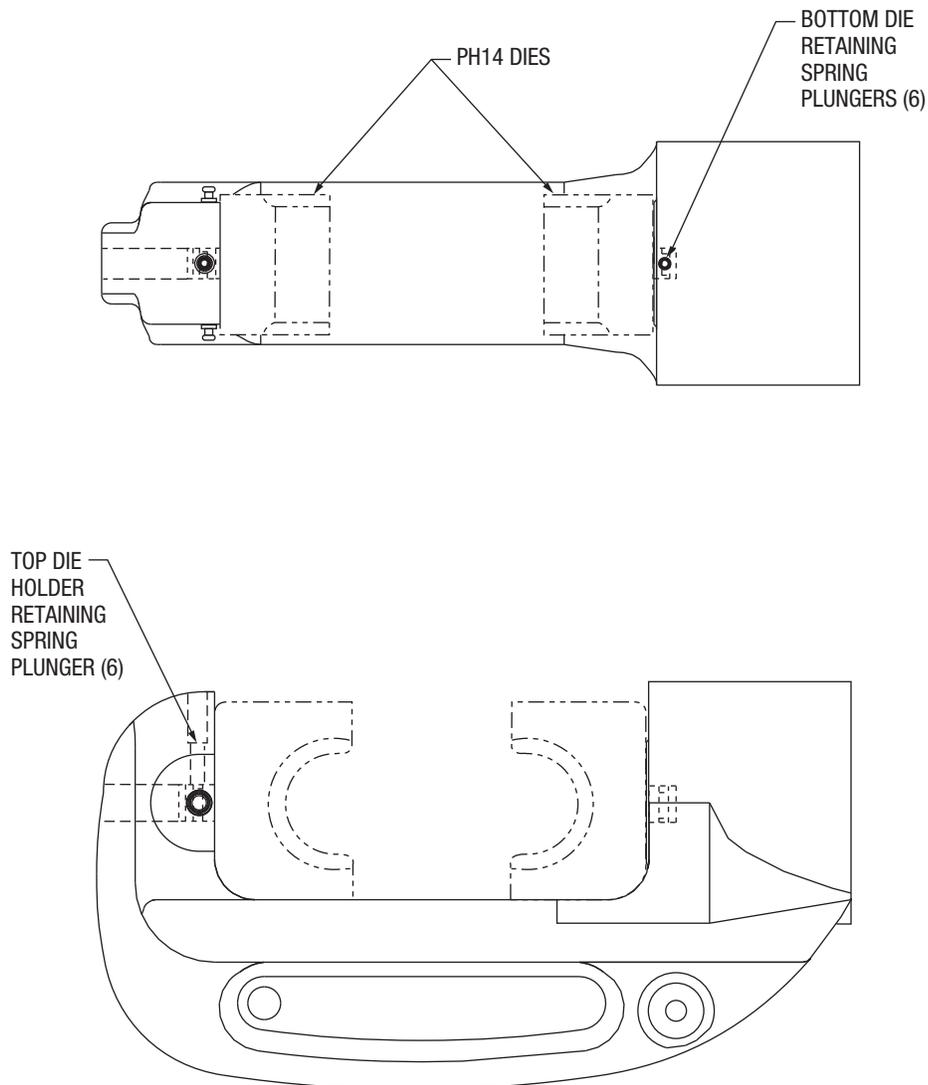
Adapter Kits

Procedure for Using Kearney PH14 Dies

1. No die holder assemblies are needed. Dies fit directly into tool.
2. Select proper die set for fitting to be crimped.

Note: Do not use non-butting dies (crimps controlled by tonnage) in this tool, as damage could occur to connectors and/or conductors.

3. Install upper die in hole in top of "C" head. Snap in place with top die retaining plunger (6).
4. Install lower die in hole in end of piston. Snap in place with bottom die retaining plungers (6).





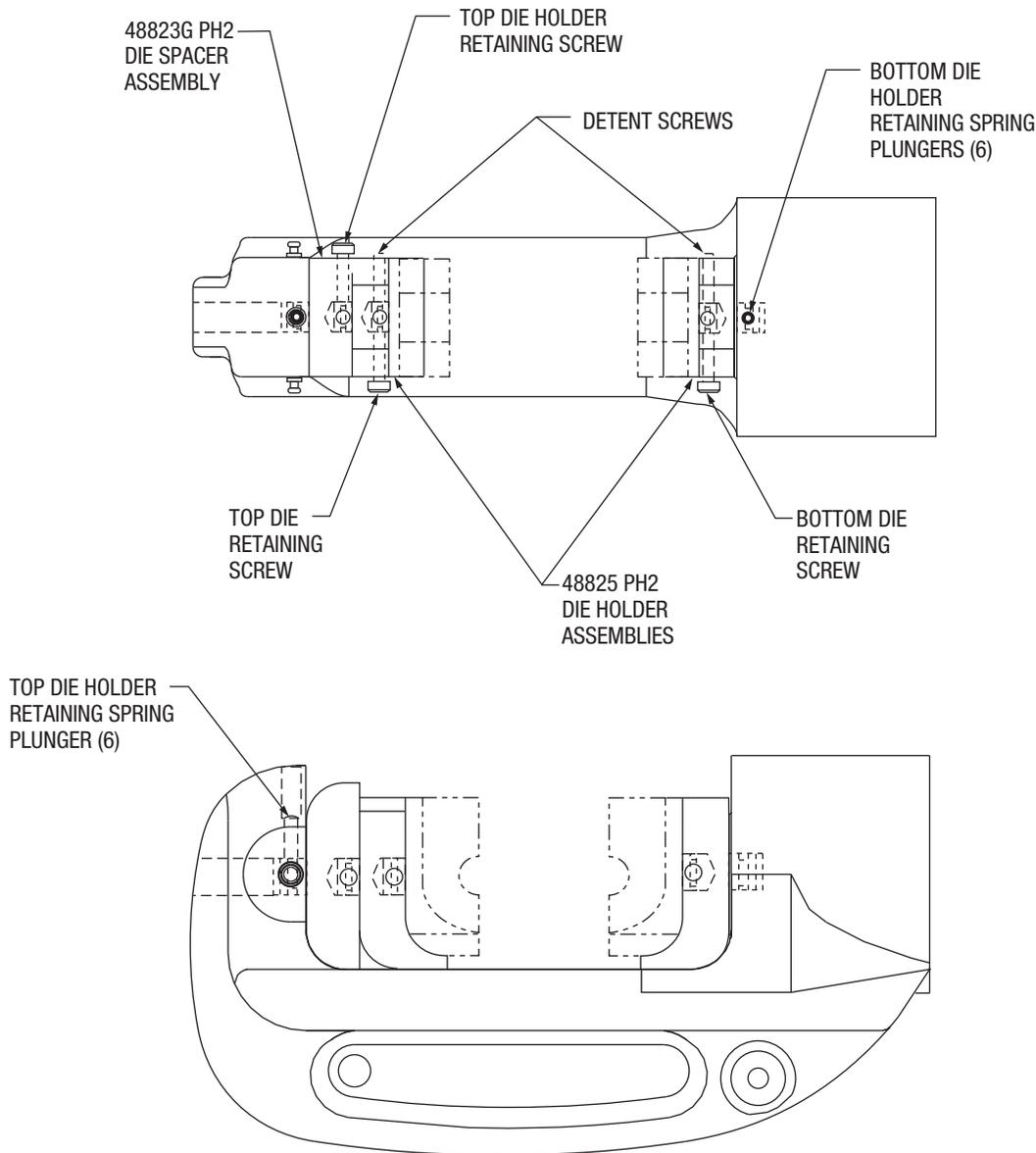
Adapter Kits (cont'd)

Procedure for Using Kearney PH2 Dies

48824 Die Holder Kit

1. Install 48823G PH2 die spacer assembly into hole in top of "C" head. Snap in place with retaining spring plunger (6).
2. Install upper 48825 die holder assembly into hole in die spacer assembly. Lock in place with die spacer retaining screw.
3. Install lower 48825 die holder assembly in hole in end of piston. Snap in place with bottom die holder retaining spring plungers (6).

4. Select proper die set for fitting to be crimped.
Note: Do not use non-butting dies (crimps controlled by tonnage) in this tool, as damage could occur to connectors and/or conductors.
5. Slide die into place in top die holder tight against shoulder. Detent screw will snap into groove of die. Lock in place with top die retaining cap screw. Repeat operation for other die entry.



**PH2 Die Holder Kit 48824 contains:
(1) 48823G and (2) 48825 Die Holders**

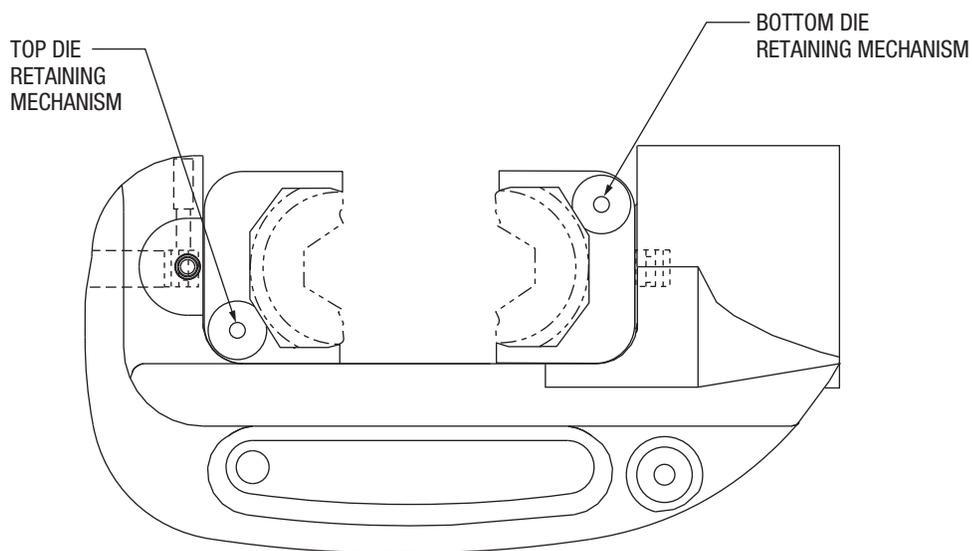
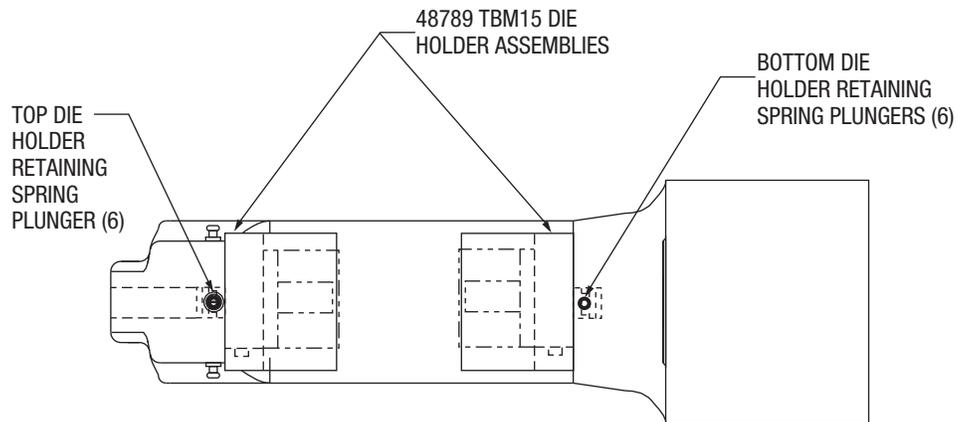


Adapter Kits (cont'd)

Procedure for Using Thomas & Betts TBM15 Dies

48788 Die Holder Kit

1. Install the upper 48789 die holder assembly in hole in top of "C" head. Snap in place with top die holder retaining spring plunger (6).
2. Install lower 48789 die holder assembly in hole in end of piston. Snap in place with bottom die holder retaining spring plungers (6).
3. Select proper die set for fitting to be crimped.
4. Slide top die into place in die holder while depressing die retainer button. Release die button while it snaps into place, locking die into position. Repeat operation for other die entry.



**48788 Die Holder Kit contains:
(2) 48789 Die Holders**



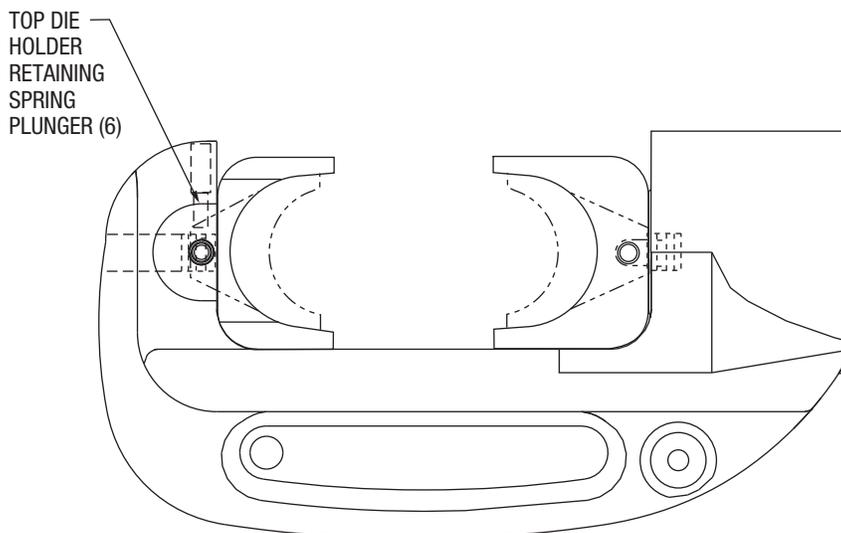
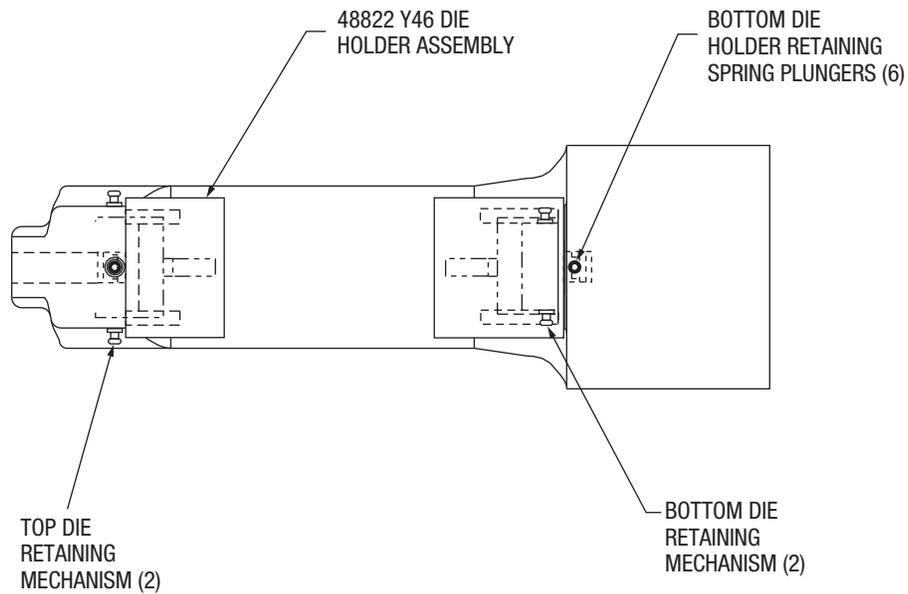
Adapter Kits (cont'd)

Procedure for Using Burndy Y46 Dies

48820 Die Holder Kit

1. Install the upper 48822 die holder assembly in hole in top of "C" head. Snap in place with top die holder retaining spring plunger (6).
2. Install lower 48821 die holder assembly in hole in end of piston. Snap in place with bottom die holder retaining spring plungers (6).

3. Select proper die set for fitting to be crimped.
4. Slide top die into place in die holder while simultaneously squeezing both retainer buttons. Release buttons and allow them to snap into place. Repeat operation for other die entry.



**48820 Die Holder Kit contains (1) each:
48822 Upper Die Holder and 48821 Lower Die Holder**

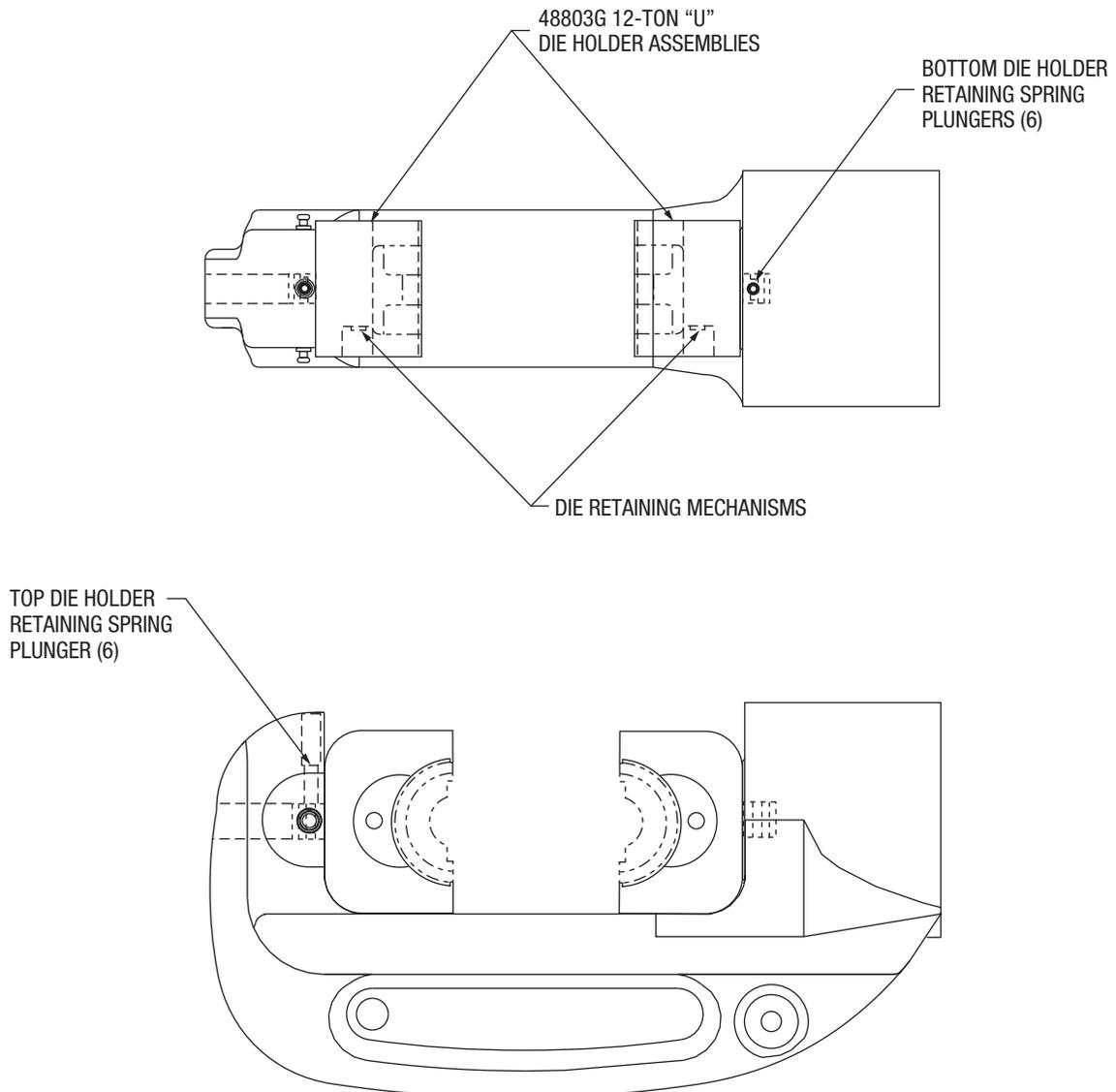


Adapter Kits (cont'd)

Procedure for Using 12-Ton “U” Dies

48802 Die Holder Kit

1. Install the upper 48803G die holder assembly in hole in top of “C” head. Snap in place with top die holder retaining spring plunger (6).
2. Install lower 48803G die holder assembly in hole in end of piston. Snap in place with bottom die holder retaining spring plungers (6).
3. Select proper die set for connector to be crimped.
4. Slide die into place in die holder while depressing die retainer button. Release die button while it snaps into place, locking die into position. Repeat operation for other die entry.



**12-Ton “U” Die Holder Kit 48802 contains:
(2) 48803G Die Holders**



Specifications

Weight6.41 kg (14 lb 2 oz)
 Length380 mm (14.96")
 Width76.2 mm (3.00")
 Height135.4 mm (5.33")
 Stroke (without dies).....58 mm (2.28")
 Die Type.....most 12-ton and 15-ton w/adapters
 Crimp Force..... 13.6 metric tons (15 tons)
 Power Source Required 700 bar (10,000 psi)

Crimp Capacity

- *With PH14 Dies (no Adapter Kit needed):
1027 kcmil 48/7 ACSR
- *With 48824 Die Holder Kit for PH2 Dies:
477 26/27 ACSR tension,
terminals through 1033 kcmil
- With 48788 Die Holder Kit for TBM 15 Dies:
1000 kcmil copper and aluminum fittings
- With 48820 Die Holder Kit for Y46 Dies:
1250 kcmil aluminum and
1500 kcmil copper fittings
- With 48802 Die Holder Kit for 12-ton "U" Dies:
500 kcmil copper splices,
750 kcmil copper terminals,
350 kcmil aluminum splices,
750 kcmil aluminum terminals

* Do not use non-butting dies (crimps controlled by tonnage) in this tool, as damage could occur to connectors and/or conductors.

Setup

⚠ DANGER
<p>Do not use this crimping tool with any hydraulic hoses or other hydraulic components rated at less than 700 bar (10,000 psi).</p> <p>Failure to observe this warning will result in severe injury or death.</p>

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

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

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

⚠ WARNING
<p>Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool could break and strike nearby personnel with sufficient force to cause severe injury or death.</p>



Setup (cont'd)

⚠ CAUTION

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

IMPORTANT

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

1. Select the die set that corresponds to the size, type, and manufacturer of connector to be crimped.
2. Select proper die holders set for type of dies to be used. Install the die holders and/or dies according to procedures on pages 5-9.
 - Kearney PH14 dies – no holders required
 - Kearney PH2 dies – 48824 Die Holder Kit
 - 12-ton “U” dies – 48802 Die Holder Kit
 - T&B TBM 15 dies – 48788 Die Holder Kit
 - Burndy Y46 type “P” dies – 48820 Die Holder Kit
3. Install proper size crimping dies in crimping head. Be sure 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.

Operation

⚠ WARNING



Electrical shock hazard:

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

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

⚠ WARNING



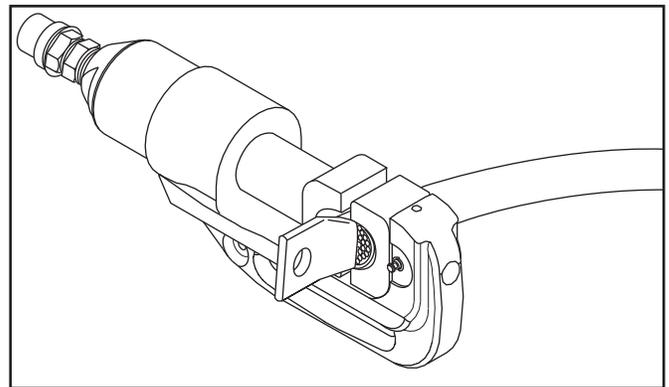
Pinch points:

Keep hands away from closing dies.

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

Note: When using KC12-type dies, complete the number of crimps listed on the “Connector Selection” chart in this manual. For other dies, complete the number of crimps specified by the manufacturer.

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 assure a complete crimp, verify that the power source has reached 700 bar (10,000 psi). Refer to “Periodic Relief Valve Check” in this manual.

5. Stop the power source and allow the ram to retract.



Die Selection

Refer to “Connector Selection” for brand names and model numbers of appropriate lugs as well as crimping instructions. Crimps made with this tool and KC12-type or KA12-type dies are cUL and UL classified when used with the appropriate conductor and connectors listed below.

Dies for Copper Connectors

Catalog Number	UPC Number	Cable Size	Color Code	No. of Crimps
KC12-8	10996	8 AWG	Red	1
KC12-6	10997	6 AWG	Blue	1
KC12-4	10998	4 AWG	Gray	1
KC12-2	10999	2 AWG	Brown	1
KC12-1	11003	1 AWG	Green	1
KC12-1/0	11004	1/0 AWG	Pink	1
KC12-2/0	11007	2/0 AWG	Black	1
KC12-3/0	11010	3/0 AWG	Orange	1
KC12-4/0	11011	4/0 AWG	Purple	1
KC12-250	11012	250 kcmil	Yellow	1
KC12-300	11013	300 kcmil	White	2
KC12-350	11014	350 kcmil	Red	2
KC12-400	11015	400 kcmil	Blue	2
KC12-500	11016	500 kcmil	Brown	2
KC12-600	11018	600 kcmil	Green	2
KC12-750	11020	750 kcmil	Black	2

Dies for Aluminum Connectors

Catalog Number	UPC Number	Cable Size	Color Code	No. of Crimps
KA12-8	22084	8 AWG	Blue	1
KA12-6	22085	6 AWG	Gray	1
KA12-4	22086	4 AWG	Green	1
KA12-2	22087	2 AWG	Pink	1
KA12-1	22088	1 AWG	Gold	1
KA12-1/0	22089	1/0 AWG	Tan	1
KA12-2/0	22090	2/0 AWG	Olive	2
KA12-3/0	22121	3/0 AWG	Ruby	2
KA12-4/0	22122	4/0 AWG	White	2
KA12-250	22123	250 kcmil	Red	2
KA12-300	22124	300 kcmil	Blue	2
KA12-350	22125	350 kcmil	Brown	2
KA12-400	22126	400 kcmil	Green	3
KA12-500	22127	500 kcmil	Pink	3
KA12-600	22128	600 kcmil	Black	3
KA12-750	22129	750 kcmil	Yellow	3

Connector Selection

Tool Range: 8 AWG to 750 kcmil

When used with KC12-type dies, this tool is cUL and UL classified for use with the following connector brands:

CONNECTOR TYPE	BARREL TYPE	ANDERSON	BLACKBURN®	BURNDY	ILSCO	PANDUIT	T&B	PENN-UNION	NUMBER OF CRIMPS*
Copper Splices	Short	VHSS	CSP	YS-L	CT	SCSS SCS	54504 to 54523-TB	BCU	8 AWG to 250 kcmil: 1 crimp 300 to 750 kcmil: 2 crimps
	Long	VHS	CU	YS	CTL	SCL SCH	54804 to 54823	BBCU	
Copper Lugs	Short	VHCS	CTL-2/CTL	YA-2LN/ YA-L/YA-2L; YA/YA-L-TC/ YA-L-2TC	CSW CRA/CRB CRC	LCAS LCA LCD LCAN	54104 to 54123-TB; 54204 to 54223	BLU	
	Long	VHCL	CTL-L/LCN	YA/YAZ YA-2N/YA-2TC YAZ-2N/YAZ-2TC	CLN, CLW CRA-L/CRB-L CRA-2/CRB-2L CRC-2L	LCB LCC	54930BE to 54923BE; 54850BE to 54880BE	BBLU	

When used with KA12-type dies, this tool is cUL and UL classified for use with the following connector brands:

CONNECTOR TYPE	ANDERSON	BLACKBURN®	BURNDY	ILSCO	PANDUIT	T&B	PENN-UNION	NUMBER OF CRIMPS*
Dual-rated Aluminum Splices	VACS	ASP	YS-A	AS ASN	SA	60501 to 60578	PIK	8 to 1/0 AWG: 1 crimp 2/0 AWG to 350 kcmil: 2 crimps
Dual-rated Aluminum Lugs	VACL	ATL	YA-A YA-ATN	ACL/ACN 2ACL/2ACN ALNS/ALNN/ALND	LAA LAB	60101 to 60176; 60230 to 60278	BLUA	400 to 750 kcmil: 3 crimps



* Use the number of crimps listed in this column instead of the number provided with the connector.

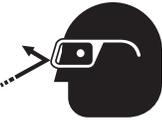


Maintenance

- 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 “Periodic Relief Valve Check” in this manual.

Periodic Relief Valve Check

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

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

	⚠ WARNING
	<p>Pinch points:</p> <p>Keep hands away from closing dies.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

⚠ WARNING
<p>Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool could break and strike nearby personnel with sufficient force to cause 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 9600 and 10,400 psi (662 and 717 bar).

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 9600 and 10,400 psi (662 and 717 bar).
6. Release the pressure by stopping flow from your power source. The ram will retract.



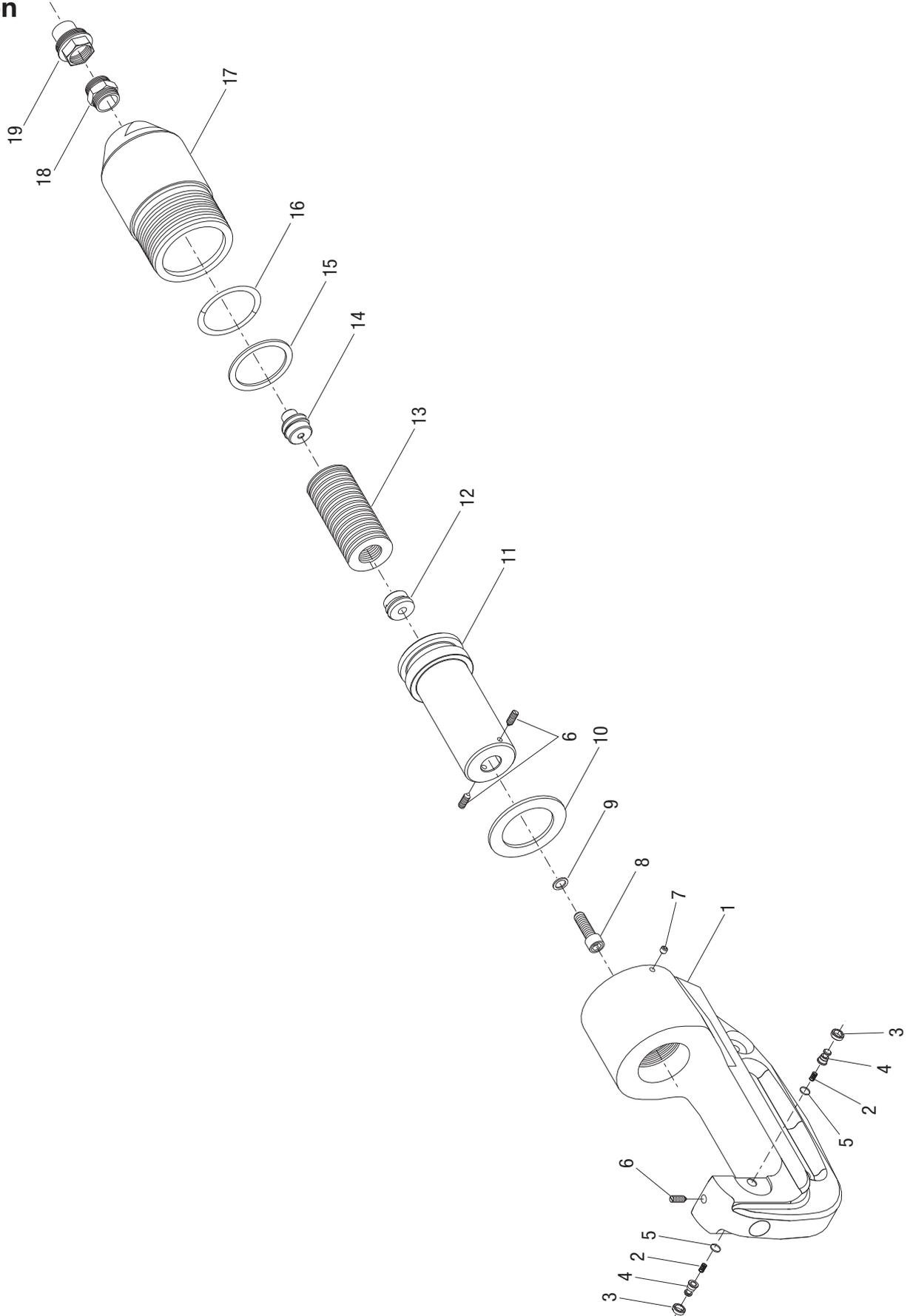
Assembly (refer to the Illustration)

1. Install Spring Plunger (6) and 2 each - 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 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 5mm 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. The C-head is locked in place with Set Screw (7).
11. Install Nylon Washer (9) and 8mm 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.



GREENLEE® RK1550 15-ton, Single-acting, Die-type Crimping Tool

Illustration





GREENLEE® RK1550 15-ton, Single-acting, Die-type Crimping Tool

Parts List

Key	Part No.	Description	Qty
1	50053450	Head, crimping.....	1
2	50054333	Spring.....	2
3	50054350	Retaining nut.....	2
4	50054341	Die retaining button.....	2
5	50054325	Disc.....	2
6	90539621	Spring plunger.....	3
7	50440454	Screw, #10-32 x 3/16 set.....	1
8	90550650	Screw, socket head cap M8 x 1.75 x 30mm.....	1
9	50134965	Washer, nylon.....	1
10	50054317	Wiper, leather.....	1
11	50053477	Ram, 15 ton.....	1
12	50053345	Retainer, spring.....	1
13	50054295	Spring, extension.....	1
14	50053388	Retainer, spring.....	1
15	90508890	Ring, backup.....	1
16	90508882	O-ring.....	1
17	50054279	Cylinder, 15 ton.....	1
18	50413642	Nipple, pipe, 3/8 NPT hex.....	1
19	50419411	Coupler, hydraulic, Parker #3010-3.....	1
	50418341	Cap, plastic	
	50058150	Carrying case, metal	
	50054694	Lid liner, warning	
	50054759	Decal, identification	
	50063073	Decal, identification - tool	
	50062140	Decal, warning	
	50112171	Decal, connector compatibility	



GREENLEE®