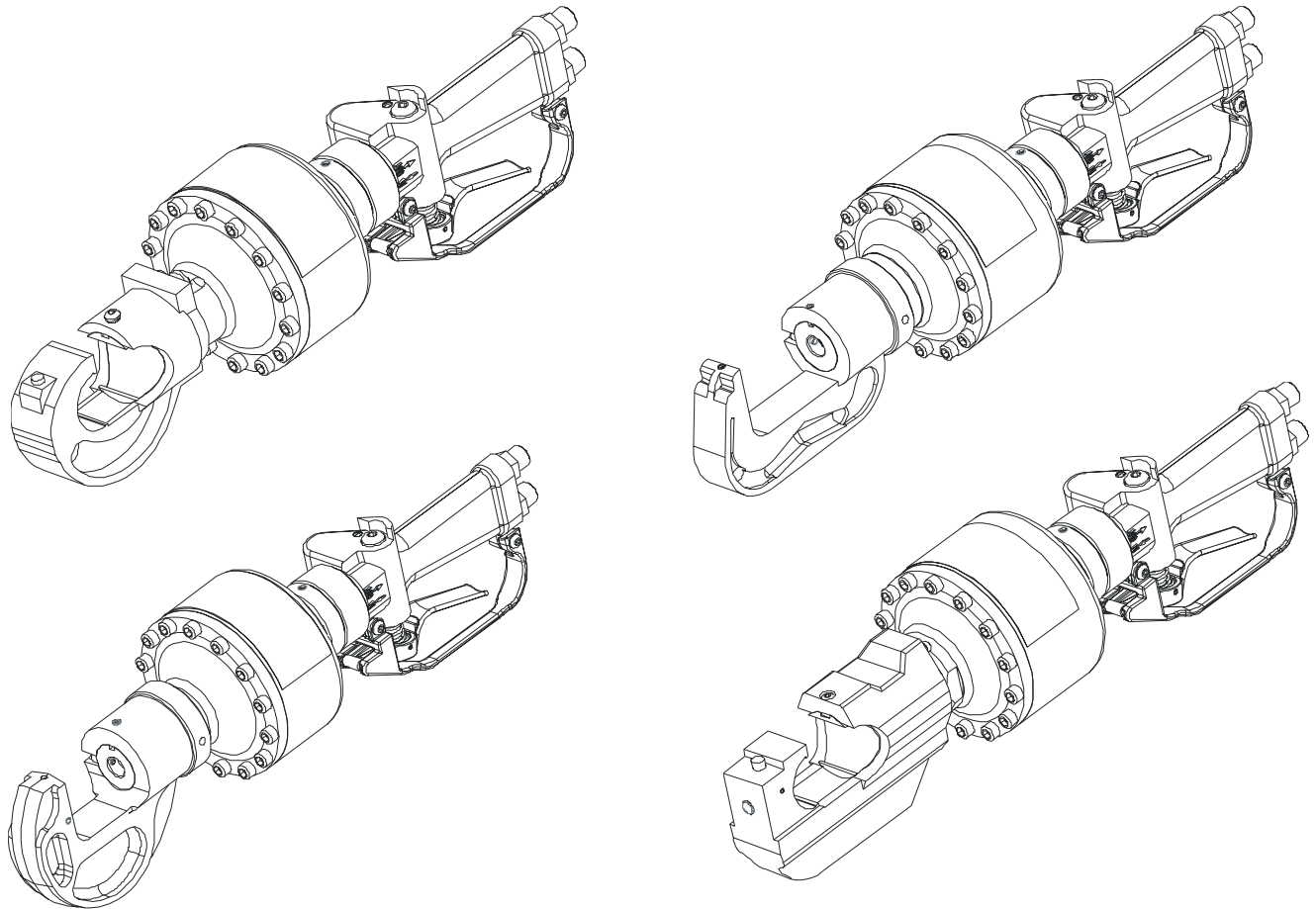


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# CT10

## 1650 psi

### Hydraulic Crimping Tools



## Safety and Operation Manual

**STANLEY**®

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## **SAFETY FIRST**

**It is the responsibility of the operator and service technician to read rules and instructions for safe and proper operation and maintenance**

**A cautious worker using common sense is the greatest safety device**

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## 1. INTRODUCTION

This manual contains instructions for the safe and proper operation and maintenance of the Stanley CT10 Hydraulic Crimping Tool. To prevent personal injury or damage to the equipment, it is important to know the correct operating procedures and all the safety requirements before initial startup.

### WARNING

**Improper operation or maintenance of this tool can cause severe personal injury, death, or equipment damage.**

Read the safety guidelines and instructions in this manual before operating or performing any maintenance tasks on the tool.

Except for routine maintenance, hydraulic tool repair and servicing should be performed by an authorized and certified Stanley distributor.



**Read sections 1 through 5 of this manual before using the tool for the first time.**

The CT10 Hydraulic Crimping Tool has been designed and manufactured with high-quality materials and workmanship. It will provide efficient and reliable service when used as directed.

Continuing product development may result in changes that are not reflected in this manual. If you have any questions regarding the operation or maintenance of the equipment, contact your Stanley distributor for the most current information.

For the nearest authorized and certified distributor, call Stanley Hydraulic Tools, (503) 659-5660, and ask for a Customer Service representative.

## Compatibility

Stanley CT crimpers can be powered from hydraulic circuits already installed on line trucks or from dedicated power units. The tool requires no intensifier or booster, saving space in the bucket.

The CT10 is available as a standard or universal pressure tool. It has a continuous 360° swivel to allow the user to crimp connectors and conductors from any angle. The tool can be easily adjusted for open-center or closed-center compatibility.

The CT10 can be used with the tooling listed in Table 1–1.

Table 1–1. Tooling compatibility for Stanley, Burndy, and Kearney heads.

<b>Stanley Head</b> - 1½-in. C-frame opening permits crimping up to 750 mcm aluminum or copper - compatible with the following tooling:						
<b>Alcoa</b>	<b>Anderson</b>	<b>Burndy</b>	<b>Greenlee</b>	<b>Huskie</b>	<b>Teledyne</b>	<b>Thomas &amp; Betts</b>
12A	HC-12	Y35	1985	EP410	TPU-12 BH	12 ton
12AC	HC-12H	Y39		EP410H		
12HA		Y750 BH		EP410HT		
12HAC				EP430		
				EP510H		
				EP510T		
				PDY-1216		
				PDY-1220		
<b>Burndy Y-35 Head</b> - compatible with the following tooling:						
<b>Alcoa</b>	<b>Anderson</b>	<b>Burndy</b>	<b>Greenlee</b>	<b>Huskie</b>	<b>Teledyne</b>	<b>Thomas &amp; Betts</b>
12A	HC-12	Y35	1985	EP410	TPU-12 BH	12 ton
12AC	HC-12H	Y39		EP410H		
12HA				EP410HT		
12HAC				EP410T		
				EP430		
				EP510		
				EP510H		
				PDY-1216		
				PDY-1220		
<b>Kearney PH-2/PH-3 Head</b> - accepts standard Kearney dies - available with Kearney WH-3 head with 1½-in. opening - compatible with the following tooling:						
<b>Kearney</b>				<b>Huskie</b>		
PH2, PH3				EP510K		
WH2, WH3				EP510HK		

## Specifications

The weights, dimensions, and operating specifications listed in Table 1–2 are subject to change without notice. Where specifications are critical to your application, contact your authorized Stanley distributor.

Table 1–2. CT10 specifications.

Item	English Units	Metric Units
System type	HTMA Type I or II, OC or CC	
Hydraulic power input*		
Flow range	3–9 gpm	11–34 lpm
Optimum flow	8 gpm	30 lpm
Pressure (minimum)	1650 psi	114 bar
Crimping force	12 tons @1650 psi	10,886 kg @ 114 bar
Wire-size capacity	See tooling manufacturer's specifications	
Porting size	3/8 NPT	
Weight	_____ lb	_____ kg
Dimensions		
Length	_____ in.	_____ cm
Width	_____ in.	_____ cm

\*Refer to Section 3, Table 3–1, for detailed hydraulic system requirements.

## Replacement Parts

Always replace hoses, couplings, and other parts with replacement parts recommended by Stanley Hydraulic Tools. Refer to the parts list at the end of this manual for part numbers.

## Warranty

Stanley Hydraulic Tools (hereinafter called "Stanley"), subject to the exceptions contained below, warrants new hydraulic tools for a period of one year from the date of sale to the first retail purchaser, or for a period of 2 years from the shipping date from Stanley, whichever period expires first, to be free of defects in material and/or workmanship at the time of delivery, and will, at its option, repair or replace any tool or part of a tool, or new part, which is found upon examination by a Stanley authorized service outlet or by Stanley's factory in Milwaukie, Oregon to be DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP.

### EXCEPTIONS FROM WARRANTY

**NEW PARTS:** New parts which are obtained individually are warranted, subject to the exceptions herein, to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage. Seals and diaphragms are warranted to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage or 2 years after the date of delivery, whichever period expires first. Warranty for new parts is limited to replacement of defective parts only. Labor is not covered.

**FREIGHT COSTS:** Freight costs to return parts to Stanley, if requested by Stanley for the purpose of evaluating a warranty claim for warranty credit, are covered under this policy if the claimed part or parts are approved for warranty credit. Freight costs for any part or parts which are not approved for warranty credit will be the responsibility of the individual.

**SEALS & DIAPHRAGMS:** Seals and diaphragms installed in new tools are warranted to be free of defects in material and/or workmanship for a period of 6 months after the date of first usage, or for a period of 2 years from the shipping date from Stanley, whichever period expires first.

**CUTTING ACCESSORIES:** Cutting accessories such as breaker tool bits are warranted to be free of defects in material and or workmanship at the time of delivery only.

**ITEMS PRODUCED BY OTHER MANUFACTURERS:** Components which are not manufactured by Stanley and are warranted by their respective manufacturers.

- a. Costs incurred to remove a Stanley manufactured component in order to service an item manufactured by other manufacturers.

**ALTERATIONS & MODIFICATIONS:** Alterations or modifications to any tool or part. All obligations under this warranty shall be terminated if the new tool or part is altered or modified in any way.

**NORMAL WEAR:** any failure or performance deficiency attributable to normal wear and tear such as tool bushings, retaining pins, wear plates, bumpers, retaining rings and plugs, rubber bushings, recoil springs, etc.

**INCIDENTAL/CONSEQUENTIAL DAMAGES:** To the fullest extent permitted by applicable law, in no event will STANLEY be liable for any incidental, consequential or special damages and/or expenses.

**FREIGHT DAMAGE:** Damage caused by improper storage or freight handling.

**LOSS TIME:** Loss of operating time to the user while the tool(s) is out of service.

**IMPROPER OPERATION:** Any failure or performance deficiency attributable to a failure to follow the guidelines and/or procedures as outlined in the tool's operation and maintenance manual.

**MAINTENANCE:** Any failure or performance deficiency attributable to not maintaining the tool(s) in good operating condition as outlined in the Operation and Maintenance Manual.

**HYDRAULIC PRESSURE & FLOW, HEAT, TYPE OF FLUID:** Any failure or performance deficiency attributable to excess hydraulic pressure, excess hydraulic back-pressure, excess hydraulic flow, excessive heat, or incorrect hydraulic fluid.

**REPAIRS OR ALTERATIONS:** Any failure or performance deficiency attributable to repairs by anyone which in Stanley's sole judgement caused or contributed to the failure or deficiency.

**MIS-APPLICATION:** Any failure or performance deficiency attributable to mis-application. "Mis-application" is defined as usage of products for which they were not originally intended or usage of products in such a manner which exposes them to abuse or accident, without first obtaining the written consent of Stanley. PERMISSION TO APPLY ANY PRODUCT FOR WHICH IT WAS NOT ORIGINALLY INTENDED CAN ONLY BE OBTAINED FROM STANLEY ENGINEERING.

**WARRANTY REGISTRATION:** STANLEY ASSUMES NO LIABILITY FOR WARRANTY CLAIMS SUBMITTED FOR WHICH NO TOOL REGISTRATION IS ON RECORD. In the event a warranty claim is submitted and no tool registration is on record, no warranty credit will be issued without first receiving documentation which proves the sale of the tool or the tools' first date of usage. The term "DOCUMENTATION" as used in this paragraph is defined as a bill of sale, or letter of intent from the first retail customer. A WARRANTY REGISTRATION FORM THAT IS NOT ALSO ON RECORD WITH STANLEY WILL NOT BE ACCEPTED AS "DOCUMENTATION".

### NO ADDITIONAL WARRANTIES OR REPRESENTATIONS

This limited warranty and the obligation of Stanley thereunder is in lieu of all other warranties, expressed or implied including merchantability or fitness for a particular purpose except for that provided herein. There is no other warranty. This warranty gives the purchaser specific legal rights and other rights may be available which might vary depending upon applicable law.



## 2 SAFETY

This section includes the following safety topics:

- hazard alert definitions
- general safety
- safety labels and tags


Operators and maintenance personnel **MUST** comply with the safety guidelines given in this manual and printed on the labels and tags attached to the equipment and hoses.


These safety rules are for your safety. Review them carefully before operating the tool or performing any maintenance or repairs.


Supervising personnel may specify additional rules for your work area to comply with your company policies and local safety regulations. Enter any added precautions in the space provided on the last page of this section.

### Hazard Alerts

The following terms are used in this manual and on the labels and tags on the tool.

 **DANGER** Indicates the presence of a hazard that *will* cause severe personal injury, death, or substantial property damage if the warning is ignored.

 **WARNING** Indicates the presence of a hazard that *can* cause severe personal injury, death, or substantial property damage if the warning is ignored.

 **CAUTION** Indicates the presence of a hazard that will or can cause minor personal injury or property damage if the warning is ignored.

**CAUTION** Indicates the presence of a hazard that can or will cause property damage if the warning is ignored.

**IMPORTANT** Calls attention to operation or maintenance information that is important for the safety, efficiency, and useful life of the equipment, but is not hazard-related.



## General Safety

The Stanley CT10 Crimping Tool will provide safe, dependable service if operated in accordance with the instructions given in this manual.

- Before operating the tool, read and understand the manual and any decals, labels, or tags attached to the tool and hoses. Failure to do so can cause serious personal injury or damage to the equipment.
- Make sure all critical tool markings, such as labels and warning decals, are securely in place and legible. Replace any that are damaged or missing.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always replace hoses, couplings, and other parts with replacement parts recommended by Stanley Hydraulic Tools. Refer to the parts list at the end of this manual for part numbers.
- To avoid personal injury or equipment damage, all tool maintenance, repair, and service must be performed by properly trained personnel.



## Personal Safety

- Always wear safety equipment such as goggles, head protection, and safety shoes when operating the tool.
- Never wear loose clothing or unrestrained long hair that can get entangled in the working parts of the tool.



## Equipment Safety

- Do not operate the tool if it is damaged, improperly adjusted, or incompletely assembled.
- Always operate the tool within its rated capacity.
- Do not use the tool for applications for which it was not designed.



## Work Area Safety

- Do not allow bystanders in the work area. Flying or falling debris can cause serious injury.
- Be aware of any prohibited or dangerous work areas and conditions, such as steep slopes or other unsafe terrain.

- Do not overreach. Maintain secure footing and balance at all times.
- When working near electrical conductors, always assume they are all energized and that insulation, clothing, and hoses can conduct electricity. Use only hoses labeled and certified as nonconductive.



### Hydraulic Hose Safety

Be alert and cautious around any pressurized hydraulic system. High-pressure oil can be very dangerous. Know your equipment and operate it properly.

Section 3, Hydraulic System Requirements, includes specific hydraulic-system safety issues. Read and understand them before using the tool.

## Safety Label and Tag

The safety label and tag shown below are attached to the crimping tool at the factory. Read and understand each one before operating the equipment. It is better to read the actual tags than the figures shown in this section.

If the information on a label or tag is hard to read because of wear or damage, replace it immediately. A new label or tag may be obtained from your authorized Stanley distributor.

<p><b>STANLEY</b> Stanley Hydraulic Tools 3810 SE Naef Road Milwaukee, OR 97267</p> <p>Model No. <b>CT10</b> 11-34 lpm/8-9 gpm 138 bar/2000 psi</p>	<p> <b>WARNING</b></p>	
<p><b>OC/CC</b></p> <p>For use on open center and closed center hydraulic systems. Use open center tool on open center systems. Use closed center tool on closed center systems. Set tool for proper system before use.</p>		<p>Read owners manual and make sure that you have been properly trained in the correct procedures required for work On or around electric lines. Failure to use hydraulic hose labeled and certified as non-conductive when using hydraulic tools on or near electric lines may result in death or serious injury.</p>
<p><b>CAUTION</b></p> <p>DO NOT OPERATE WITHOUT DIES</p>		<p>Do not exceed specified flow or pressure. Correctly connect hoses to tool "IN" and "OUT." Improper handling, use or maintenance can result in a leak or burst. Contact at a leak or burst can cause oil injection to the body. Failure to observe the precautions can result in serious personal injury.</p>
		<p>Stay clear of dies and tool heads. Failure to observe the precautions can result in serious personal injury.</p>

## Hydraulic Safety Tag

The hydraulic safety tag (Figure 2–6) is attached to the crimping tool at the factory. Read and understand the safety instructions on the tag. If you remove the tag for any reason, retain it and attach it to the tool when not in use.

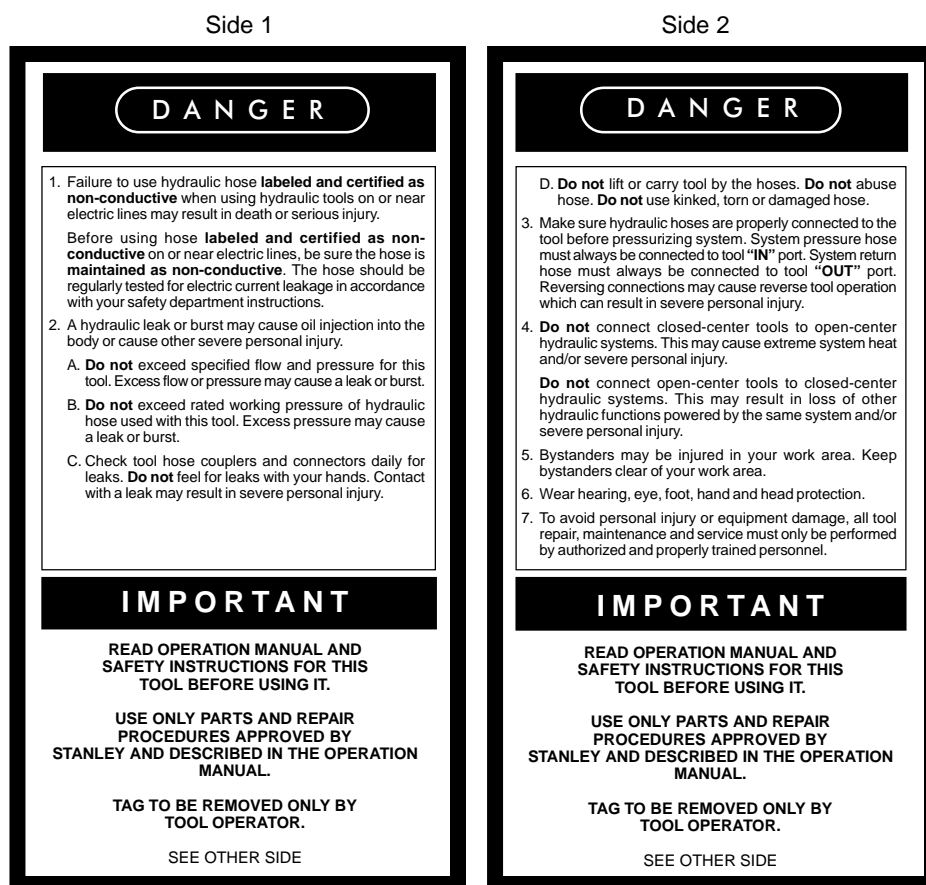


Figure 2–6. Hydraulic safety tag.

## Local Safety Regulations

Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

[illegible]

## 3. HYDRAULIC SYSTEM REQUIREMENTS

This section includes the following hydraulic system topics:

- hydraulic safety
- system requirements
- hose requirements
- installation requirements

The hydraulic system has special safety, installation, and operational requirements. Compliance with the information in this section is required for the safe operation of the tool.

### Hydraulic Safety

In addition to the safety guidelines listed in Section 2, safe use of hydraulic components includes compliance with the following practices.

- The rated working pressure of the hoses must be equal to (or greater than) the relief valve setting on the hydraulic system.
- Connect the hydraulic power source to the tool just before the equipment is used. Be sure to disconnect it when the task is complete or stopped for an extended period of time.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the equipment can cause serious injury.
- The return hose must be connected to the OUT or T port on the crimping tool. The supply hose must be connected to the IN or P port. Reversing connections or direction of flow can cause severe personal injury.
- Make sure critical hose markings, such as hazard tags or rating labels, are in place and legible. Replace any damaged or missing tags and labels.
- When using hydraulic tools near electrical lines (including buried lines), use hydraulic hoses that are labeled and certified as nonconductive. Failure to do so can result in serious personal injury or death.
- Make sure you have been properly trained in correct procedures required for work on or around electrical lines.
- Check fastener tightness often and before each use.

**IMPORTANT**—Do not exceed the rated limits or use the crimping tool for applications beyond its design capacity.

## System Requirements

The hydraulic system requirements listed in Table 3–1 are critical for the proper operation of the CT10 crimping tool.

Table 3–1. Hydraulic system requirements.

Hydraulic System Requirement	English Units	Metric Units
Flow rate	3–9 gpm	11–34 lpm
Tool operating pressure	1650 psi	114 bar
System relief valve setting	2000 psi	140 bar
Maximum back pressure (at tool end of operating hose)	250 psi	17 bar
Measured at a maximum fluid viscosity of: (at minimum operating temperature)	400 SSU*	82 cs**
Temperature Sufficient heat rejection capacity to limit maximum fluid temperature to (at maximum expected ambient temperature)	140 °F	60 °C
Minimum cooling capacity at a temperature difference of between ambient and fluid temperature	5 hp 40 °F	3.73 kW 22 °C
Note: do not operate the tool at oil temperatures above 140°F (60°C). Operation at higher temperatures can cause operator discomfort at the tool.		
Filter Minimum full-flow filtration	25 µm***	
Sized for flow of at least (for cold-temperature startup and maximum dirt-holding capacity)	30 gpm	114 lpm
Hydraulic fluid Petroleum based (premium grade, anti-wear, nonconductive)		
Viscosity (at minimum and maximum operating temps)	100–400 SSU	20–82 cs
Note: when choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.		

\*SSU = Saybolt Seconds Universal

\*\*cs = centistokes

\*\*\*µm = micron

## Hose Requirements



The hydraulic hoses must have a minimum working-pressure rating of 2500 psi (175 bar). All hoses must have an inner surface that is resistant to hydraulic fluid and an outer surface resistant to abrasion.

The recommended hose size depends on the length of hose required for your application, as shown in Table 3–2.

Table 3–2. Recommended hose size (inside diameter).

Length	Hose Size (ID)	
	English	Metric
Up to 50 ft (15 m)	0.500 in.	12 mm
Up to 100 ft (30 m)	0.625 in.	16 mm

Hydraulic hose types authorized for use with Stanley hydraulic tools are as follows:

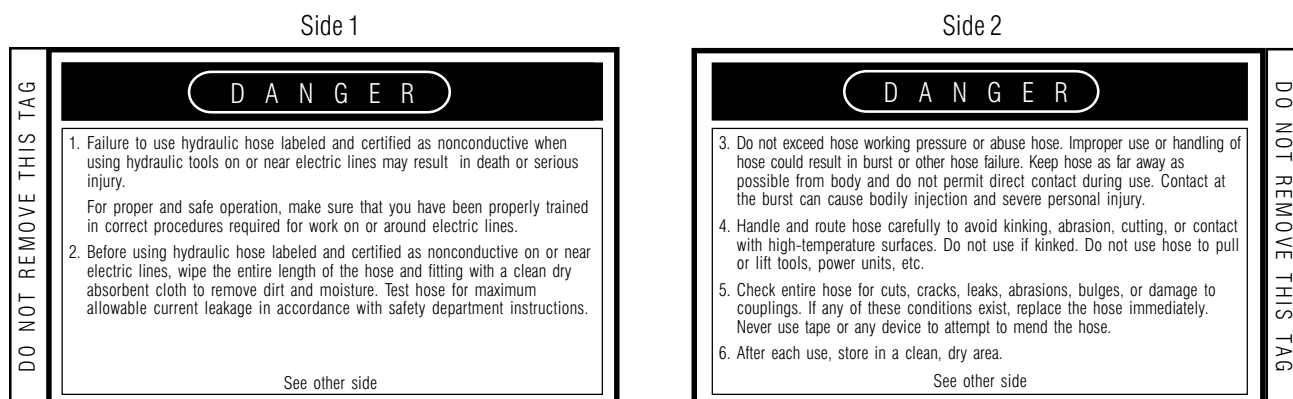
- Labeled and Certified Nonconductive—the only hose authorized for use near electrical conductors.
- Fabric Braided—**not** certified or labeled nonconductive; **must never be used** near electrical conductors.
- Wire Braided—conductive and **must never be used** near electrical conductors.

To help ensure your safety, a DANGER tag is attached to every hose purchased from Stanley Hydraulic Tools. *Do not remove these tags.*

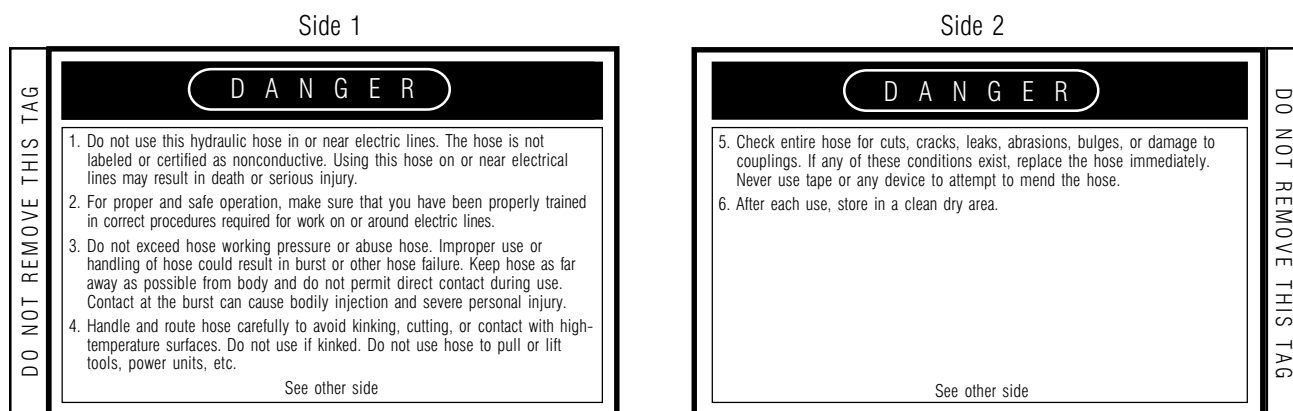
Read and understand the safety information on the tags attached to your hoses. If the information on a tag is hard to read because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley distributor.



**Certified Nonconductive Hose.** The following tag is attached to all certified nonconductive hoses. The tag is shown smaller than the actual size.



**Fabric Braided and Wire-Braided Hose.** The following tag is attached to all conductive hose, or hose not certified or labeled nonconductive. The tag is shown smaller than the actual size.



## Installation Requirements

Proper installation of the hydraulic hoses is extremely important for safe, reliable operation of the tool. Refer to Section 4, Setup and Test, for detailed instructions. Make sure the hoses are securely attached to the tool before turning on the hydraulic power.

- Quick-disconnect couplings must conform to NFPA T3.20.15/HTMA specifications.
- Keep the hydraulic fluid clean at all times. Contaminated fluid causes rapid wear and early failure of internal parts.
- Always replace hoses, couplings, and other parts with replacement parts recommended by Stanley Hydraulic Tools.

## 4. SETUP AND TEST

This section includes the following topics:

- open-center/closed-center (OC/CC) adjustment
- die installation
- hydraulic hose connection
- die load verification

The CT10 Hydraulic Crimping Tool requires minimum setup. When the instructions for installing the dies and hydraulic hoses are carefully followed, the tool will provide years of efficient and reliable service.

- Never operate the tool without dies. Operating without dies can deform the crimping head (retainer die yoke or C-frame). If this happens, the dies cannot be installed and the crimping head must be replaced.
- Never install the dies while the hydraulic hoses are connected to the tool.
- Verify the crimping force before operating the tool.

### OC/CC Adjustment

#### WARNING

**Adjusting the tool with the hydraulic hoses connected can cause severe personal injury or equipment damage.**

To prevent accidental startup while changing the OC/CC configuration, always disconnect the hoses before adjusting the tool.

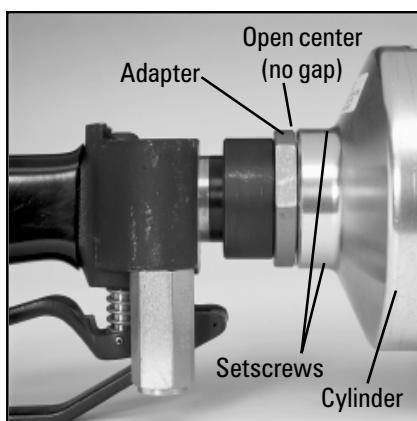


Figure 4-1. OC/CC adjustment.

The CT10 Hydraulic Crimping Tool can be configured for either open-center or closed-center operation. The current setting is easily determined by looking at the gap between the adapter and the cylinder:

- open center—no gap (Figure 4-1)
- closed center—approximately 1/4-inch (6.4-mm) gap

To change the current setting:

1. Remove the hydraulic hose coupling from the return port on the tool, if one is installed. When making the change from CC to OC, hydraulic fluid may be trapped in the tool, preventing complete movement of the adapter. Remove the return coupling to allow the hydraulic fluid to escape.
2. Loosen the 2 setscrews on the cylinder.

3. Turn the adapter until it stops:
  - counter clockwise (CCW) to change to closed center (creates gap)
  - clockwise (CW) to change to open center (closes gap)
4. Tighten the 2 setscrews.

## Die Installation

One die is installed in the crimping head (retainer die yoke or C-frame) and the other die is installed onto the ram or die piston assembly, depending on the model. See Figure 4-2 to identify the style of crimping head you have. Refer to the parts illustrations in this manual for more detailed reference.

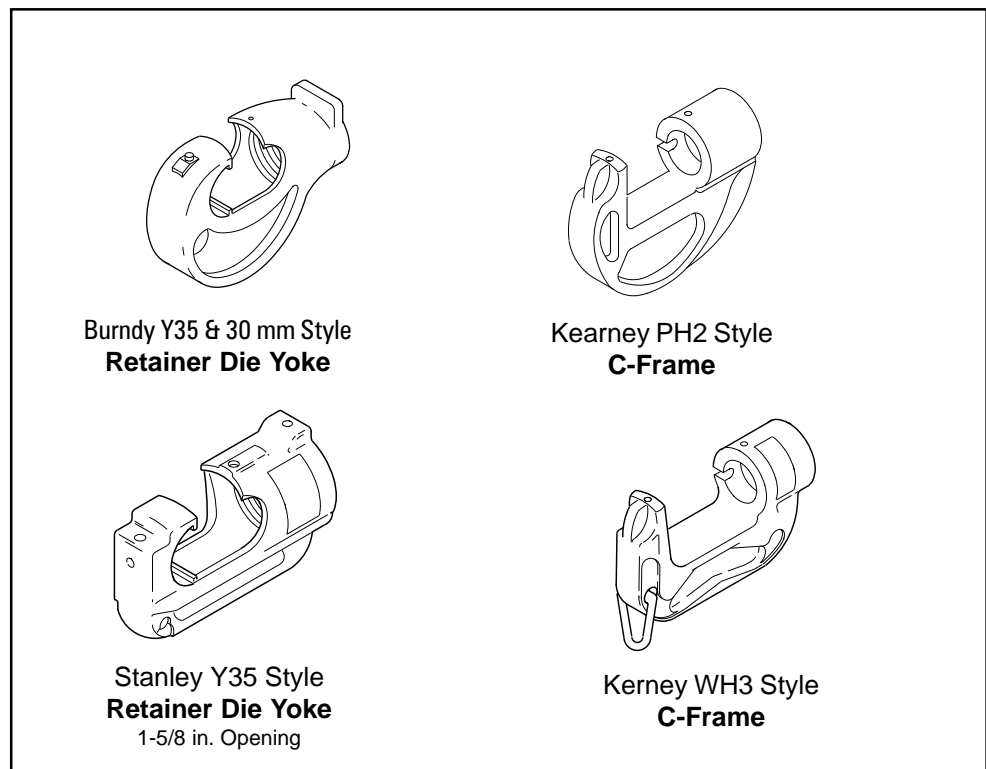


Figure 4-2. Crimping Heads

To install dies, follow the instructions below for your model of crimping head.

### **WARNING**

**Installing dies in the tool with the hydraulic hoses connected can cause severe personal injury or equipment damage.**

To prevent accidental startup when your hands are in the crimping area, always disconnect the hoses before installing dies.

1. If the hydraulic hoses are connected:
  - Turn the hydraulic system control valve **OFF**.
  - Disconnect first the hydraulic input (supply) hose, then the output (return) hose.
2. Clean the surfaces of the die holder to remove any dirt or grease.
3. Select the dies for the task:
  - If the die load *has not* been verified, select blank dies.
  - If the die load *has* been verified, select a set of dies to match the sleeve or connector to be crimped.

**4a. To install dies on Stanley or Burndy Crimping Heads - Y35 style:**

- Install the die to the Retainer Die Yoke :
  - press the die release pin at the top of the retainer die yoke
  - insert and center the die
  - release the button to lock the die in place
- Install the die to the Die Piston Assembly or Ram:
  - press the die release pin at the side of the die piston assembly or ram
  - insert and center the die
  - release the pin to lock the die in place

**4b. To install dies on Stanley or Kearney Crimping Heads - PH2 style:**

- Install the die to the C-Frame:
  - loosen the capscrew at the side of the C-frame
  - press the stub on the die into the socket
  - tighten the capscrew to retain the die
- Install the die to the push rod:
  - loosen the capscrew at the side of the push rod
  - press the stub on the die into the push rod socket
  - tighten the capscrew to retain the die

**4c. To install dies on Kearney Crimping Head -WH3 style:**

- Install the die to the C-Frame:
  - loosen the capscrew at the side of the C-frame
  - press the stub on the die into the socket
  - tighten the capscrew to retain the die
- Install the die to the push rod:
  - loosen the capscrew at the side of the push rod
  - press the stub on the die into the push rod socket
  - tighten the capscrew to retain the die

## Hydraulic Hose Connection

Proper installation of the hydraulic hoses is extremely important for safe, reliable operation of the tool. Make sure the hoses are securely attached to the tool before turning on the hydraulic power.

Note: If possible, connect the free ends of the hoses together when not in use. The pressure increase in uncoupled hoses left in the sun may make them difficult to connect.



### CAUTION

**Connecting hydraulic hoses to the tool while the hydraulic power source is ON can cause personal injury or damage to the equipment.**

Make sure the hydraulic power source is OFF before connecting or disconnecting the hydraulic hoses.

1. Make sure the hydraulic system control valve is in the **OFF** position when coupling or uncoupling the hoses. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
2. Before installing the hoses, wipe the fittings and the entire length of the hoses with a clean, dry lint-free cloth to remove any dirt or moisture. Dirty connections can contaminate the hydraulic fluid, causing rapid wear and early failure of internal parts.



### WARNING

**Reversing the direction of hydraulic flow to the tool can cause severe personal injury or damage to the equipment.**

Make sure the input and output hoses are connected to the correct port on the tool.

3. Check the flow indicators (arrows) stamped on the couplers to ensure oil flows in the proper direction. The female coupler on the tool is the inlet coupler.
4. It is a good practice to connect the output (return) hose first and disconnect it last to minimize or avoid trapped pressure within the tool.
  - Connect the output hose to the **OUT** or **T** port on the tool.
  - Connect the input hose to the **IN** or **P** port.
5. Be sure all hose connections are tight.

## Die Load Verification

With blank (test) dies installed, use a die load tester to verify the crimping force in the tool:

- before operating a new crimping tool
- before placing the tool in service after storage or repair
- periodically during normal use



### WARNING

**The crimping force between the dies in the tool head can cause severe personal injury.**

Keep hands away from the die area when operating the tool!

1. Make sure blank (test) dies are installed in the die holder. If not, follow the Die Installation instructions at the beginning of this section.
2. Connect the tool to an appropriate hydraulic power source. Follow the Hydraulic Hose Connection safety guidelines and instructions in this section. If possible, use the hydraulic power source you plan to use for crimping.
3. Place the die load tester between the blank (test) dies.
4. Actuate the tool and read the value shown on the load tester indicator. The force should be 10–12 tons (9072–10,886 kg), depending on the pressure from the hydraulic power source.
5. If the indicated value is low and the system pressure relief valve setting is greater than 1650 psi (114 bar), adjust the relief valve on the CT to get the correct die load.
  - If the indicated value is high, adjust the relief valve on the CT to get the correct die load.
6. When the value is within the acceptable range, turn the hydraulic system control valve OFF and disconnect the hoses from the tool.
7. Follow the Die Installation instructions at the beginning of this section to remove the blank dies and install the proper crimping dies.

If you performed the load test on a hydraulic system other than the one that will be used during operation of the tool, verify that the system intended to power the tool produces the pressure noted in the test.

## Tool Relief Valve Adjustment

The relief valve on a universal pressure CT can be adjusted to increase or decrease the tool's crimping force. Standard CTs do not have a relief valve.

The crimping tool's relief valve is located below the trigger guard. The relief valve on the hydraulic system is totally separate and has a different function.

1. Perform steps 1–5 in Section 4, Die Load Verification.
2. If the load tester indication is within the acceptable range, the tool's relief valve is set correctly. If it is not, adjust the valve as follows:
  - Turn the hydraulic system control valve OFF.
  - Remove the plug from the end of the relief valve, below the trigger guard.
  - Using a hex wrench, turn the adjusting screw
    - clockwise (CW) to increase pressure
    - counterclockwise (CCW) to decrease pressure
  - Replace the plug in the relief valve and retest. Repeat the adjustment, if necessary.

## 5. OPERATION

This section includes the following topics:

- pre-operation checkout
- cold weather operation
- tool operation
- storage

The CT10 Hydraulic Crimping Tool has a continuous 360° swivel to allow the user to crimp connectors and conductors from any angle.

### Pre-operation Checkout

Careful inspection of the tool and hydraulic system before startup is important for safe, reliable operation of the tool.

### Daily Maintenance

The following items should be checked daily at the start and the end of each work shift.

1. Make sure the proper dies are securely in place. Operating the tool without dies can deform the crimping heads. Refer to Section 4, Die Installation, for instructions.
2. If the hoses are not connected, follow the instructions in Section 4, Hydraulic Hose Connection. Wipe all hose couplers with a clean, lint-free cloth before making connections. Dirty couplers can contaminate the hydraulic lines and prevent a good seal at the connection.
3. Check all fasteners for tightness.
4. Check the equipment for oil leaks. If leaks are observed, do not use the tool; have the equipment serviced before use.
5. Check the tool and hydraulic system for proper operation and performance.
6. If the equipment does not appear to operate properly, have it serviced before use.
7. Periodically verify the crimping force in the tool. Refer to Section 4, Die Load Verification.



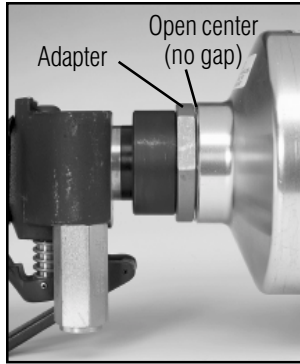


Figure 5-1. OC/CC setting.

### OC/CC Setting

Check the open-center/closed-center (OC/CC) setting on the tool. The current setting is easily determined by looking at the gap between the adapter and the cylinder (Figure 5-1):

- open center—no gap
- closed center—approximately 1/4-inch (6.4-mm) gap

If the setting is not correct for your hydraulic system, follow the instructions in Section 4, OC/CC Adjustment, to make the change.

### Die Check

Make sure the dies installed in the tool match the sleeve or connector to be crimped. If not, follow the instructions in Section 4, Die Installation.

### Hydraulic Power Source Check

Using a calibrated flowmeter and pressure gauge, check the hydraulic power source at the tool's input port. Make sure the system maintains an operating flow in the range of 3–9 gpm (11–34 lpm) within a pressure range of 1650 - 2000 psi (114 - 140 bar).

The hydraulic fluid temperature should be at least 80°F (27°C) for this test.

## Cold Weather Operation

**IMPORTANT**—Use an oil with the recommended specifications listed in Table 3–1. Using oil that is too viscous (thick) can damage the hydraulic system or tool.

Before using the tool in cold weather, preheat the hydraulic fluid with the system set at a low speed. The oil should be at or above 50°F (10°C) with a viscosity of 400 SSU (82 cs) before operating the tool.

## Tool Operation

### **WARNING**

**Improper operation of this tool can cause severe personal injury, death, or equipment damage.**

Read the safety guidelines and instructions in this manual before operating the tool.

Observe all safety precautions when operating the tool. Read Section 2, Safety, and Section 3, Hydraulic System Requirements, before operating the tool for the first time.

## Conductor Preparation

1. If the conductor is insulated, remove the insulation from the end of the conductor:
  - Use an insulation stripping tool. If a stripping tool is not available, carefully shave the insulation from the cable.
  - Be sure not to nick or cut the strands of the conductor.
2. Remove any oxide or foreign matter from the exposed conductor. A bright, shiny surface is required for a good connection. *Do not wire-brush tin-plated copper conductors or tinned connectors.*

## Startup

1. Move the hydraulic system control valve to the ON position.

### **WARNING**

**The crimping force between the dies in the tool head can cause severe personal injury.**

Keep hands away from the die area when operating the tool!

2. Remove any trapped air from the tool by squeezing the trigger 4 or 5 times to advance and retract the piston nearly a full stroke.
3. Position the tool to make the crimp.

IMPORTANT—Failure to center the connector between the dies will damage the dies and/or die holders.

4. Hook the stationary (retainer die yoke or C-frame) die on the connector being crimped to ensure the connector is centered between the dies.
5. Squeeze the trigger to advance the piston and crimp the connector.
6. Release the trigger to retract the piston.
7. Slide the tool into position for the next crimp. Some sleeves and connectors have special crimping requirements. Refer to the fitting manufacturer's requirements.
8. Remove the tool by lifting it free of the connector.

### Shutdown

1. Move the hydraulic system control valve to the OFF position.
2. Disconnect the hydraulic hoses from the tool—first the input (supply) hose, then the output (return) hose.
3. Insert plugs in the hose ends, couplers or tool ports, as applicable.
4. Wipe the tool thoroughly with a clean dry cloth.
5. Clean any foreign matter or joint compound from the die holder surfaces.

### Storage

Replace any damaged or missing safety labels and tags before storing the tool. Otherwise, the tool might be improperly used by someone who is not familiar with the safety requirements.

Store the tool in a clean, dry, secure place.

# 6. TROUBLESHOOTING

This section describes how to find and resolve problems users may experience. If a situation occurs that is not covered, call your Stanley distributor for assistance. They will help you get your equipment back on line as quickly as possible.

 **WARNING**

**The crimping force in the die area of the tool can cause severe personal injury.**

Keep hands away from the dies and die holders when operating the tool.



Some troubleshooting tasks require work or inspection in the die area of the tool. Disconnect the hydraulic hoses from the tool before placing your hands in the hazardous area around the dies. *Turning the hydraulic control valve to OFF is not sufficient.*

## Troubleshooting Guide

If symptoms of poor performance develop, use Table 6–1 as a guide to help determine the cause of the problem.

Table 6–1. Potential tool problems, causes, and corrective action.

Problem	Cause	Corrective Action
Tool does not operate	Hydraulic hoses not connected properly	Make sure the hoses are connected and the couplers are tight
	Hydraulic control valve OFF	Turn the hydraulic system control valve ON
	Hydraulic system not functioning	Check hydraulic power unit for correct flow and pressure*
	Couplers or hoses blocked	Remove obstruction
	Valve(s) in the tool's piston failed	Contact your authorized Stanley distributor
Tool operates in reverse <ul style="list-style-type: none"><li>piston advances when power applied</li><li>piston retracts when trigger is squeezed</li></ul>	Hoses connected to wrong ports on tool	Connect input (supply) line to IN port Connect output (return) line to OUT port

\* Refer to Section 5, Hydraulic Power Source Check

*continued*

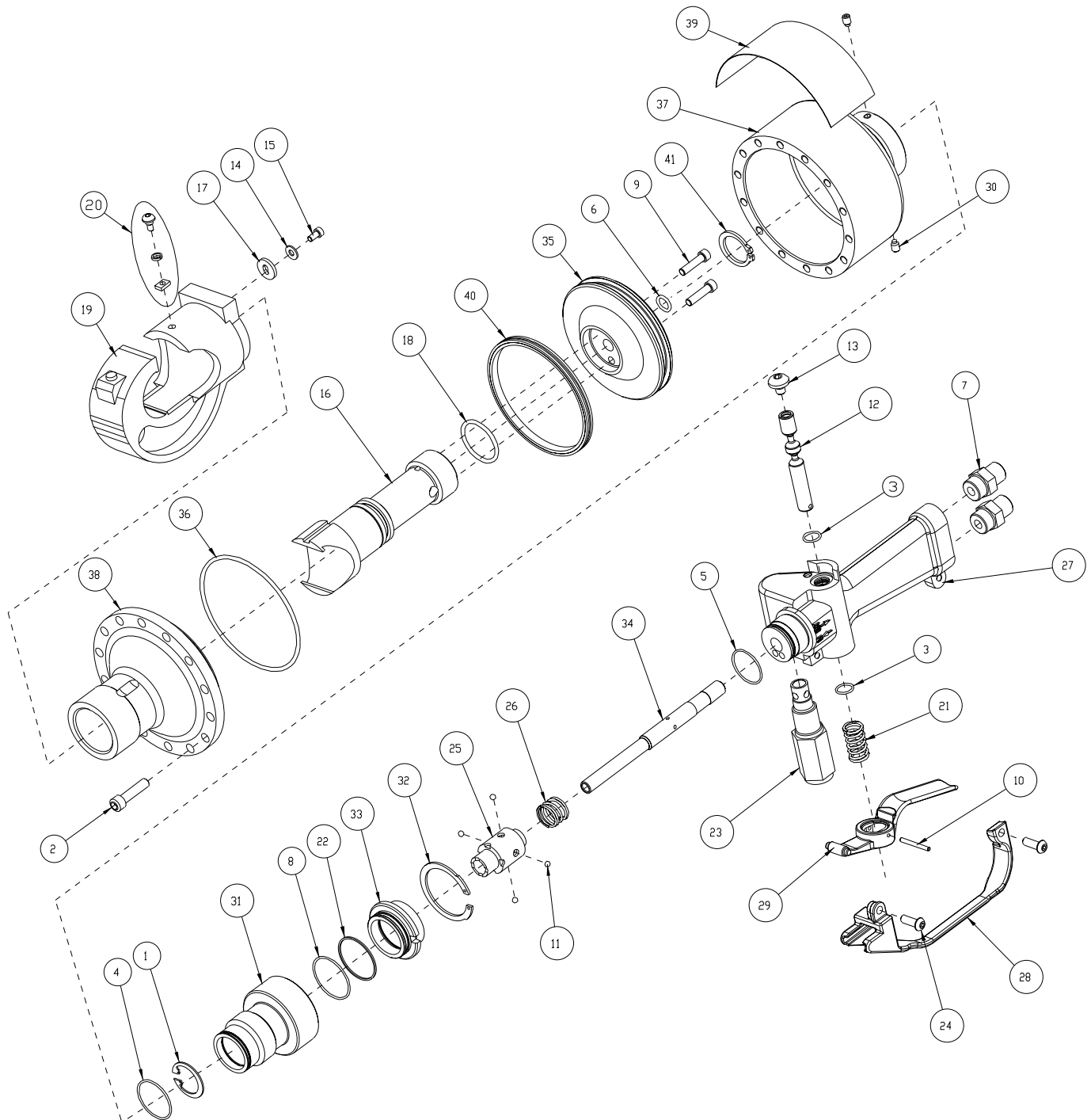
Table 6–1 (continued).

Tool under-crimps; die load less than 10 ton (9072 kg)	Hydraulic system pressure too low	Check hydraulic power source for correct flow and pressure*
	Universal CT: tool relief valve set too low	Increase relief valve pressure
	Dirt or obstruction between dies	Remove obstruction; clean die area
	Piston seal worn or damaged	Contact your authorized Stanley distributor
	Improper die set for wire and connector	Install proper die set
Tool over-crimps; die load more than 12 ton (10,886 kg)	Hydraulic system pressure too high	Check hydraulic power source for correct flow and pressure*
	Universal CT: tool relief valve set too high	Decrease relief valve pressure
Trigger difficult to operate	Hoses connected to wrong ports on tool	Connect input (supply) line to IN port Connect output (return) line to OUT port
	Excessive back pressure	If back pressure is greater than 250 psi (17 bar), clear the return line obstruction or restriction
	Trigger guard bent and binding on spool in bore	Repair or replace trigger assembly

\* Refer to Section 5, Hydraulic Power Source Check

## CT10016N PARTS LIST

ITEM	P/N	QTY	DESCRIPTION		
1	00118	1	Retaining Ring		
2	00144	14	SHCS		
3	07626	2	O-Ring		
4	09330	1	O-Ring		
5	00294	1	O-Ring		
6	00360	1	O-Ring		
7	00936	2	Adapter		
8	01259	1	O-Ring		
9	01521	2	SHCS		
10	01534	1	Roll Pin		
11	01608	4	Steel Ball		
12	01809	1	Valve Spool		
13	01812	1	Valve Spool Screw		
14	03014	1	Washer		
15	03870	1	SHCS		
16	06324	1	Die Piston Assy.		
17	06326	1	Washer		
18	06332	1	O-Ring		
19	06333	1	Retainer Die Yoke		
20	07438	1	Key & Capscrew Kit		
21	16556	1	Spring		
22	18050	1	Back-Up Ring		
23	21424	1	Relief Valve		
24	22147	2	Capscrew		
25	38622	1	Valve Sleeve		
26	39925	1	Compression Spring		
27	39939	1	Valve Handle		
28	51182	1	Trigger Guard		
29	51183	1	Trigger		
30	52534	2	Setscrew		
31	58439	1	Adapter		
32	58440	1	Retaining Ring		
33	58441	1	Sleeve		
34	58442	1	Oil Tube		
35	58480	1	Piston		
36	58485	1	O-Ring		
37	58493	1	Cylinder		
38	58494	1	Cylinder Head		
39	58499	1	Sticker		
40	58583	1	T-Seal		
41	58594	1	Retaining Ring		
				Seal Kit	
				58551	CT10016N



CT10016N

## CT10056DN PARTS LIST

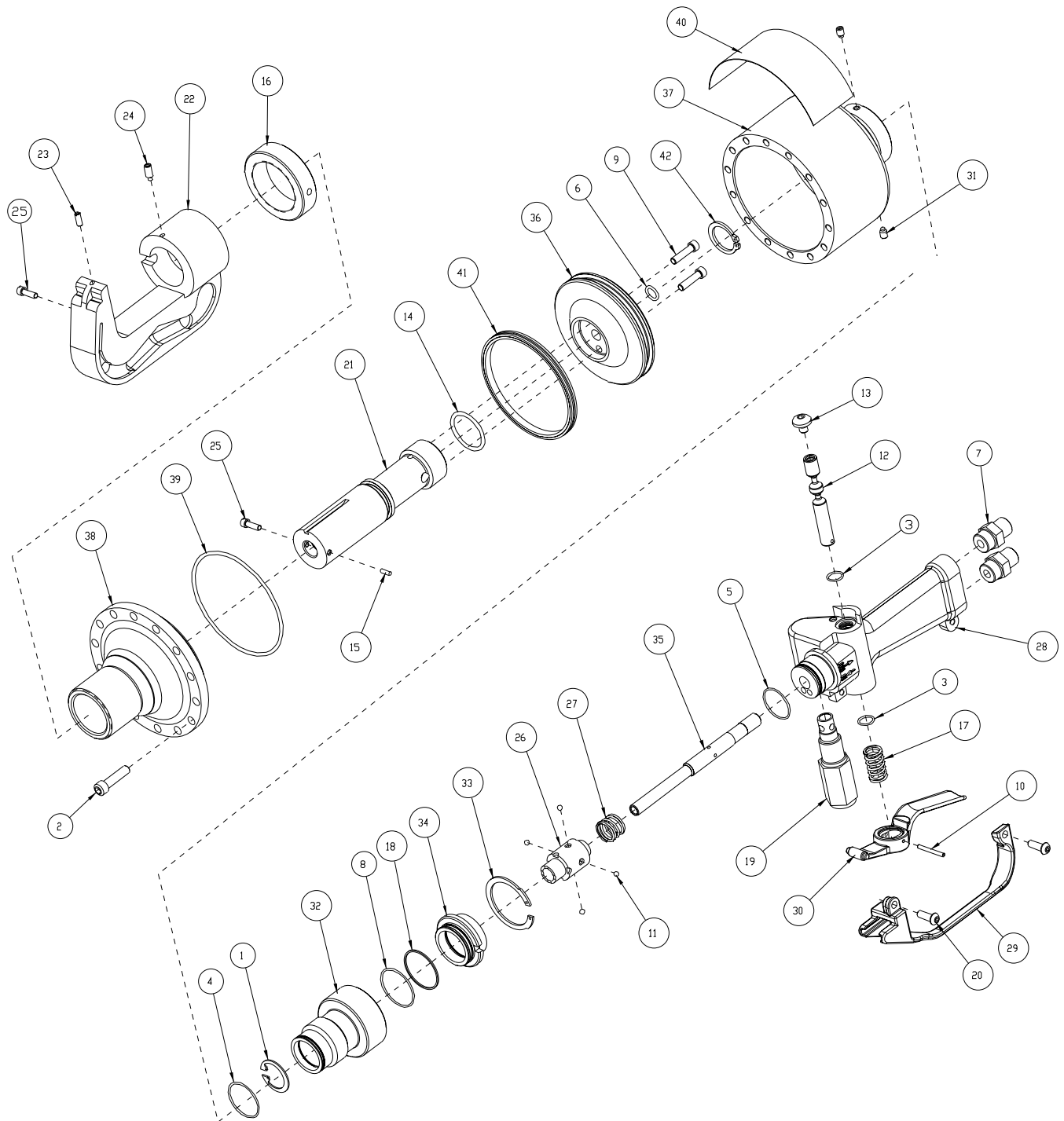
ITEM	P/N	QTY	DESCRIPTION
1	00118	1	Retaining Ring
2	00144	14	SHCS
3	07626	2	O-Ring
4	09330	1	O-Ring
5	00294	1	O-Ring
6	00360	1	O-Ring
7	00936	2	Adapter
8	01259	1	O-Ring
9	01521	2	SHCS
10	01534	1	Roll Pin
11	01608	4	Steel Ball
12	01809	1	Valve Spool
13	01812	1	Valve Spool Screw
14	06332	1	O-Ring
15	08337	1	Ball Detent
16	09906	1	Jam Nut
17	16556	1	Spring
18	18050	1	Back-Up Ring
19	21424	1	Relief Valve
20	22147	2	Capscrew
21	24446	1	Push Rod
22	25513	1	C-Frame
23	25833	1	Ball Plunger
24	25834	1	Setscrew
25	25837	2	Slotted Capscrew
26	38622	1	Valve Sleeve
27	39925	1	Compression Spring
28	39393	1	Valve Handle
29	51182	1	Trigger Guard
30	51183	1	Trigger
31	52534	2	Setscrew
32	58439	1	Adapter
33	58440	1	Retaining Ring
34	58441	1	Sleeve
35	58442	1	Oil Tube
36	58480	1	Piston
37	58481	1	Cylinder
38	58482	1	Cylinder Head
39	58485	1	O-Ring
40	58499	1	Sticker
41	58583	1	T-Seal
42	58594	1	Retaining Ring

Seal Kit

58551

CT056DN

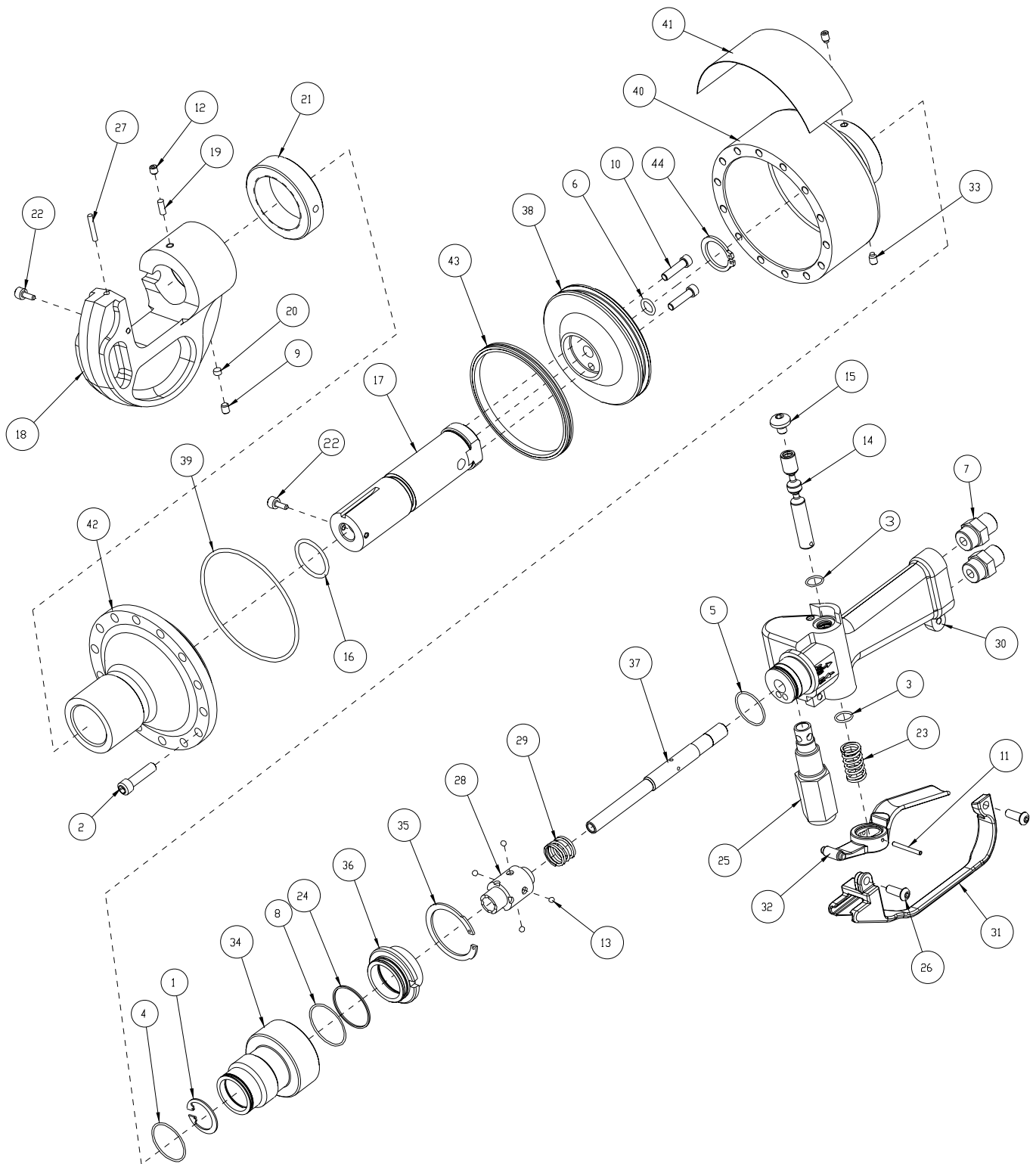




CT10056DN

## CT10056N PARTS LIST

ITEM	P/N	QTY	DESCRIPTION	
1	00118	1	Retaining Ring	
2	00144	14	SHCS	
3	07626	2	O-Ring	
4	09330	1	O-Ring	
5	00294	1	O-Ring	
6	00360	1	O-Ring	
7	00936	2	Adapter	
8	01259	1	O-Ring	
9	01397	1	Set screw	
10	01521	2	SHCS	
11	01534	1	Roll Pin	
12	01607	1	Set screw	
13	01608	4	Steel Ball	
14	01809	1	Valve Spool	
15	01812	1	Valve Spool Screw	
16	04795	1	O-Ring	
17	08330	1	Push Rod	
18	08334	1	C-Frame	
19	08335	1	Pin - Kearney	
20	08336	1	Plug - Kearney	
21	09906	1	Jam Nut	
22	12430	2	Capscrew	
23	16556	1	Spring	
24	18050	1	Back-Up Ring	
25	21424	1	Relief Valve	
26	22147	2	Capscrew	
27	34143	1	Spring Plunger	
28	38622	1	Valve Sleeve	
29	39925	1	Compression Spring	
30	39939	1	Valve Handle	
31	51182	1	Trigger Guard	
32	51183	1	Trigger	
33	52534	2	Set screw	
34	58439	1	Adapter	
35	58440	1	Retaining Ring	
36	58441	1	Sleeve	
37	58442	1	Oil Tube	
38	48480	1	Piston	
39	58485	1	O-Ring	
40	58493	1	Cylinder	
41	58499	1	Sticker	
42	58513	1	Cylinder Head	
43	58583	1	T-Seal	
44	58594	1	Retaining Ring	
				Seal Kit
				58551 CT10056N

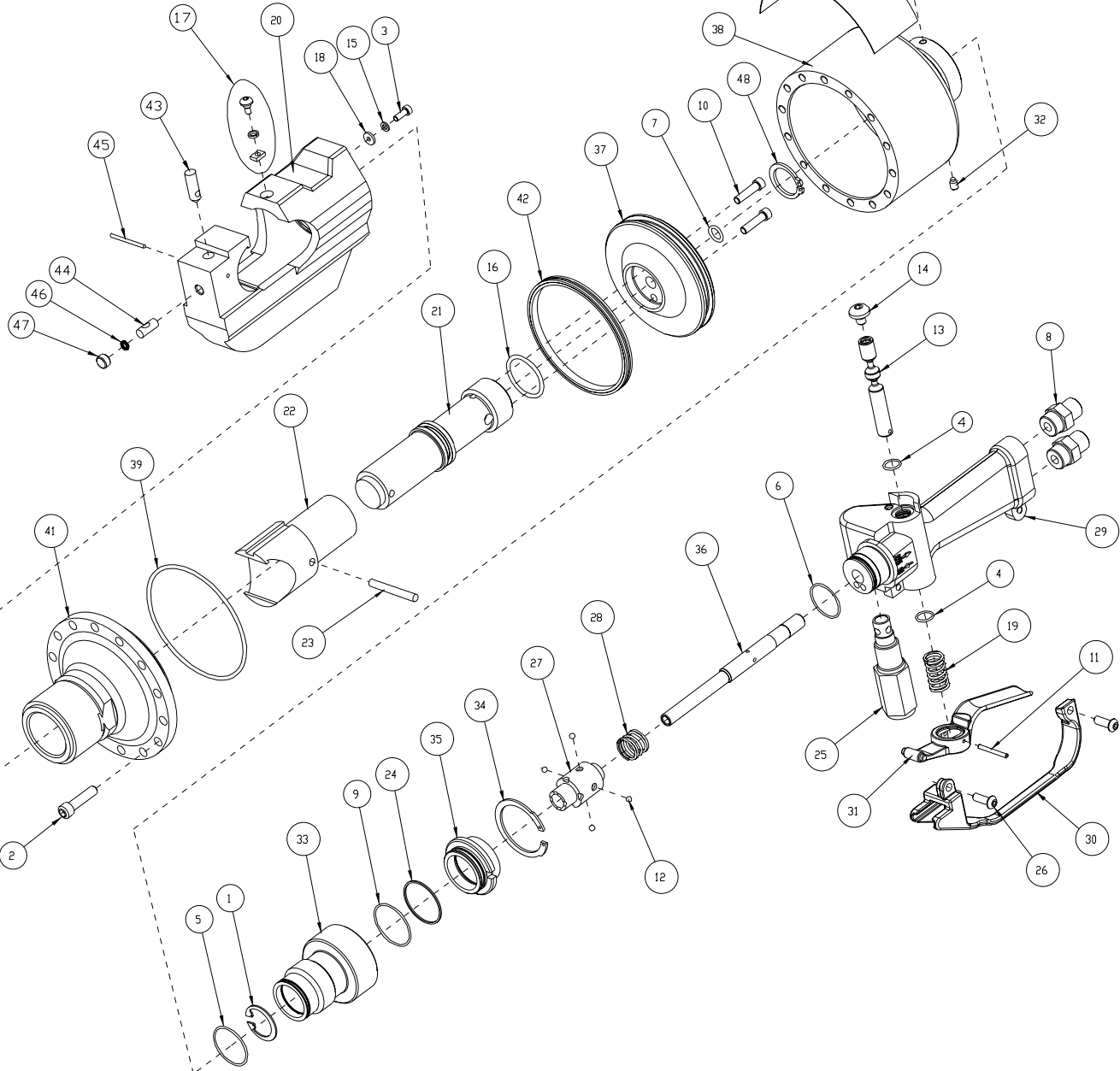


CT10056N

## CT10066AN PARTS LIST

ITEM	P/N	QTY	DESCRIPTION
1	00118	1	Retaining Ring
2	00144	14	HSHCS
3	00154	1	HSHCS
4	07626	2	O-Ring
5	09330	1	O-Ring
6	00294	1	O-Ring
7	00360	1	O-Ring
8	00936	2	Adapter
9	01259	1	O-Ring
10	01521	2	HSHCS
11	01534	1	Roll Pin
12	01608	4	Steel Ball
13	01809	1	Valve Spool
14	01812	1	Valve Spool Screw
15	04420	1	Lockwasher
16	06332	1	O-Ring
17	07438	1	Key & Capscrew Kit
18	10123	1	Stopper
19	16556	1	Spring
20	17589	1	Retainer Die Yoke Assy.
21	17678	1	Push Rod
22	17680	1	Modified Ram Assy.
23	17681	1	Spring Pin
24	18050	1	Back-Up Ring
25	21424	1	Relief Valve
26	22147	2	Capscrew
27	38622	1	Valve Sleeve
28	39925	1	Compression Spring
29	39939	1	Valve Handle
30	51182	1	Trigger Guard
31	51183	1	Trigger
32	52534	2	Setscrew
33	58439	1	Adapter
34	58440	1	Retaining Ring
35	58441	1	Sleeve
36	58442	1	Oil Tube

ITEM	P/N	QTY	DESCRIPTION
37	58480	1	Piston
38	58481	1	Cylinder
39	58485	1	O-Ring
40	48499	1	Sticker
41	58515	1	Cylinder Head
42	58583	1	T-Seal
43	19504	1	Die Retainer Button
44	19505	1	Die Retainer Pin
45	19509	1	Grooved Pin Type B
46	19510	1	Compression Coil Spring
47	19511	1	Setscrew
48	58594	1	Retaining Ring
<b>SEAL KIT</b>			
58551	CT10066AN		



CT10066AN

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- Mounted Compactors
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- Trash pumps
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- Welders

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Stanley Hydraulic Tools  
Milwaukie, OR 97267

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**HydraulicTools**

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