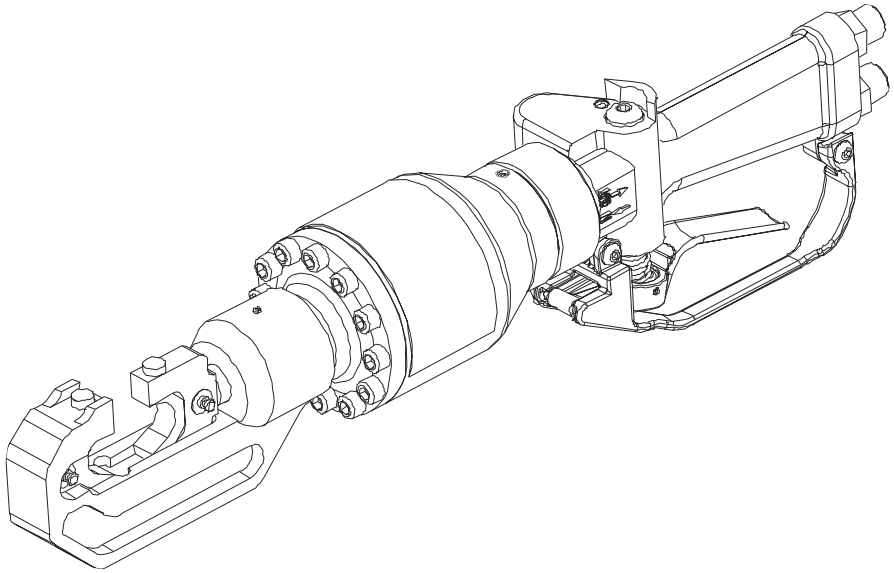
CT04

1650 psi
Hydraulic Crimping Tool



Safety and Operation Manual

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1. INTRODUCTION

This manual contains instructions for the safe and proper operation and maintenance of the Stanley CT04 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 CT04 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 tool can be easily adjusted for open-center or closed-center compatibility.

The CT04 can be used with the tooling listed in Table 1–1.

Table 1–1. CT04 tooling compatibility.

Anderson	Burndy	Huskie	Kearney
"O" nest "D" nest	"W" dies	CN58 CN58H CN-258 REC-58 ("W" dies) FND-0 ND-0 ND-BG	"O" dies

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. CT04 specifications.

Item	English Units	Metric Units
System type	HTMA Type I or II, OC or CC	
Hydraulic power input* Flow range Optimum flow Pressure (minimum)	 3–9 gpm 8 gpm 1650 psi	 11–34 lpm 30 lpm 114 bar
Crimping Force	4.4 tons @ 1650 psi	4000 kg @ 114 bar
Wire-size capacity	No. 6–4/0 conductor	
Porting size	3/8 NPT	
Weight	____ lb	____ kg
Dimensions Length Width	 ____ in. ____ in.	 ____ cm ____ 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 matter 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 CT04 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

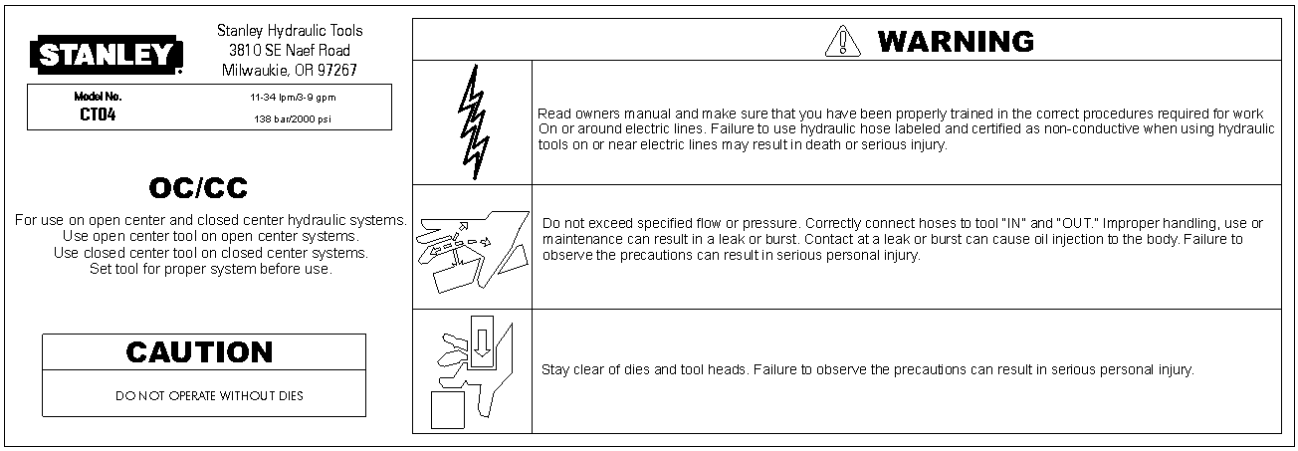
Be alert and cautious around any pressurized hydraulic system. High-pressure oil can be very dangerous. Know your equipment and operate it properly.

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.

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.



Hydraulic Safety Tag

The hydraulic safety tag (Figure 2–5) 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 2–5. Hydraulic safety tag.

Side 1

DANGER

1. 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.

   Before using hose **labeled and certified as non-conductive** on or near electric lines, be sure the hose is **maintained as non-conductive**. The hose should be regularly tested for electric current leakage in accordance with your safety department instructions.
2. A hydraulic leak or burst may cause oil injection into the body or cause other severe personal injury.
   - A. **Do not** exceed specified flow and pressure for this tool. Excess flow or pressure may cause a leak or burst.
   - B. **Do not** exceed rated working pressure of hydraulic hose used with this tool. Excess pressure may cause a leak or burst.
   - C. Check tool hose couplers and connectors daily for leaks. **Do not** feel for leaks with your hands. Contact with a leak may result in severe personal injury.

IMPORTANT

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

SEE OTHER SIDE

Side 2

DANGER

- D. **Do not** lift or carry tool by the hoses. **Do not** abuse hose. **Do not** use kinked, torn or damaged hose.

3. Make sure hydraulic hoses are properly connected to the tool before pressurizing system. System pressure hose must always be connected to tool **"IN"** port. System return hose must always be connected to tool **"OUT"** port. Reversing connections may cause reverse tool operation which can result in severe personal injury.
4. **Do not** connect closed-center tools to open-center hydraulic systems. This may cause extreme system heat and/or severe personal injury.

   Do not connect open-center tools to closed-center hydraulic systems. This may result in loss of other hydraulic functions powered by the same system and/or severe personal injury.
5. Bystanders may be injured in your work area. Keep bystanders clear of your work area.
6. Wear hearing, eye, foot, hand and head protection.
7. To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

IMPORTANT

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

SEE OTHER SIDE

Local Safety Regulations

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

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, 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 CT04 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	5 hp	3.73 kW
at a temperature difference of between ambient and fluid temperature	40 °F	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. It is better to read the actual tags than the figures shown in this section.

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.

Side 1

DO NOT REMOVE THIS TAG

D A N G E R

1. Failure to use hydraulic hose labeled and certified as nonconductive when using hydraulic tools on or near electric lines may result in death or serious injury.

   For proper and safe operation, make sure that you have been properly trained in correct procedures required for work on or around electric lines.
2. Before using hydraulic hose labeled and certified as nonconductive on or near electric lines, wipe the entire length of the hose and fitting with a clean dry absorbent cloth to remove dirt and moisture. Test hose for maximum allowable current leakage in accordance with safety department instructions.

See other side

Side 2

D A N G E R

3. Do not exceed hose working pressure or abuse hose. Improper use or handling of hose could result in burst or other hose failure. Keep hose as far away as possible from body and do not permit direct contact during use. Contact at the burst can cause bodily injection and severe personal injury.
4. Handle and route hose carefully to avoid kinking, abrasion, cutting, or contact with high-temperature surfaces. Do not use if kinked. Do not use hose to pull or lift tools, power units, etc.
5. Check entire hose for cuts, cracks, leaks, abrasions, bulges, or damage to couplings. If any of these conditions exist, replace the hose immediately. Never use tape or any device to attempt to mend the hose.
6. After each use, store in a clean, dry area.

See other side

DO NOT REMOVE THIS TAG

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.

Side 1

DO NOT REMOVE THIS TAG

D A N G E R

1. Do not use this hydraulic hose in or near electric lines. The hose is not labeled or certified as nonconductive. Using this hose on or near electrical lines may result in death or serious injury.
2. For proper and safe operation, make sure that you have been properly trained in correct procedures required for work on or around electric lines.
3. Do not exceed hose working pressure or abuse hose. Improper use or handling of hose could result in burst or other hose failure. Keep hose as far away as possible from body and do not permit direct contact during use. Contact at the burst can cause bodily injection and severe personal injury.
4. Handle and route hose carefully to avoid kinking, cutting, or contact with high-temperature surfaces. Do not use if kinked. Do not use hose to pull or lift tools, power units, etc.

See other side

Side 2

D A N G E R

5. Check entire hose for cuts, cracks, leaks, abrasions, bulges, or damage to couplings. If any of these conditions exist, replace the hose immediately. Never use tape or any device to attempt to mend the hose.
6. After each use, store in a clean dry area.

See other side

DO NOT REMOVE THIS TAG

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 CT04 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 die holders. If this happens, the dies cannot be installed and the retainer die yoke or C-frame 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.

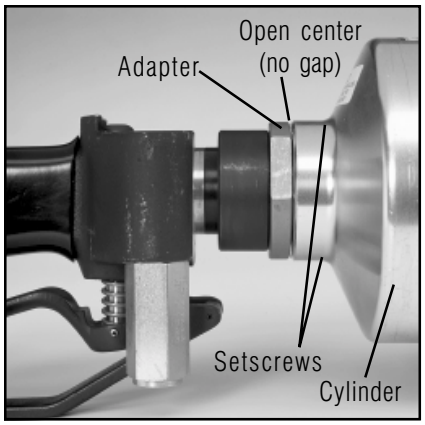


Figure 4–1. OC/CC adjustment.

The CT04 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 ¼-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

Each crimping head has two die holders: one stationary and one moved by hydraulic flow when the trigger is squeezed.

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 the hydraulic hoses—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.
4. Install the dies:
   - For Kearney O dies
     - loosen the 2 die retainer screws (identified as the top screw and bottom screw, respectively, in the Parts List), one on top of the C-head and the other on top of the piston die holder (Figure 4–2)
     - insert and center the dies
     - tighten the die retainer screws to lock the dies in place

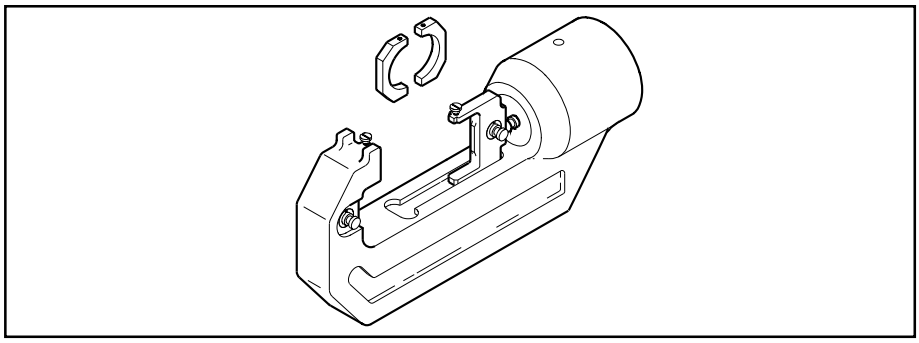


Figure 4–2. Stanley SE4 C-head configuration.

- Burndy W dies
  - squeeze the release buttons on the side of the C-head
  - insert and center the die
  - release the buttons to hold the die in place
  - repeat for the second die using the release buttons on the piston die holder

Hose Connection

Proper connection 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.

⚠ WARNING

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. If hose couplers are used, 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 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 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 dies.
4. Actuate the tool and read the value shown on the load tester indicator. The force should be 4.4–5 tons (4000–4540 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 in the field 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 CT04 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 die holders. 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.

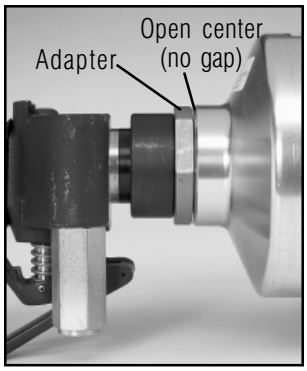


Figure 5–1. OC/CC setting.

7. Periodically verify the crimping force in the tool. Refer to Section 4, Die Load Verification.

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 ¼-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 psi (114 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 (C-head) 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. Wipe the tool thoroughly with a clean dry cloth.
4. 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 you 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 • piston advances when power applied • piston retracts when trigger is squeezed	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 4.4 tons (4000 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 5 tons (4540 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

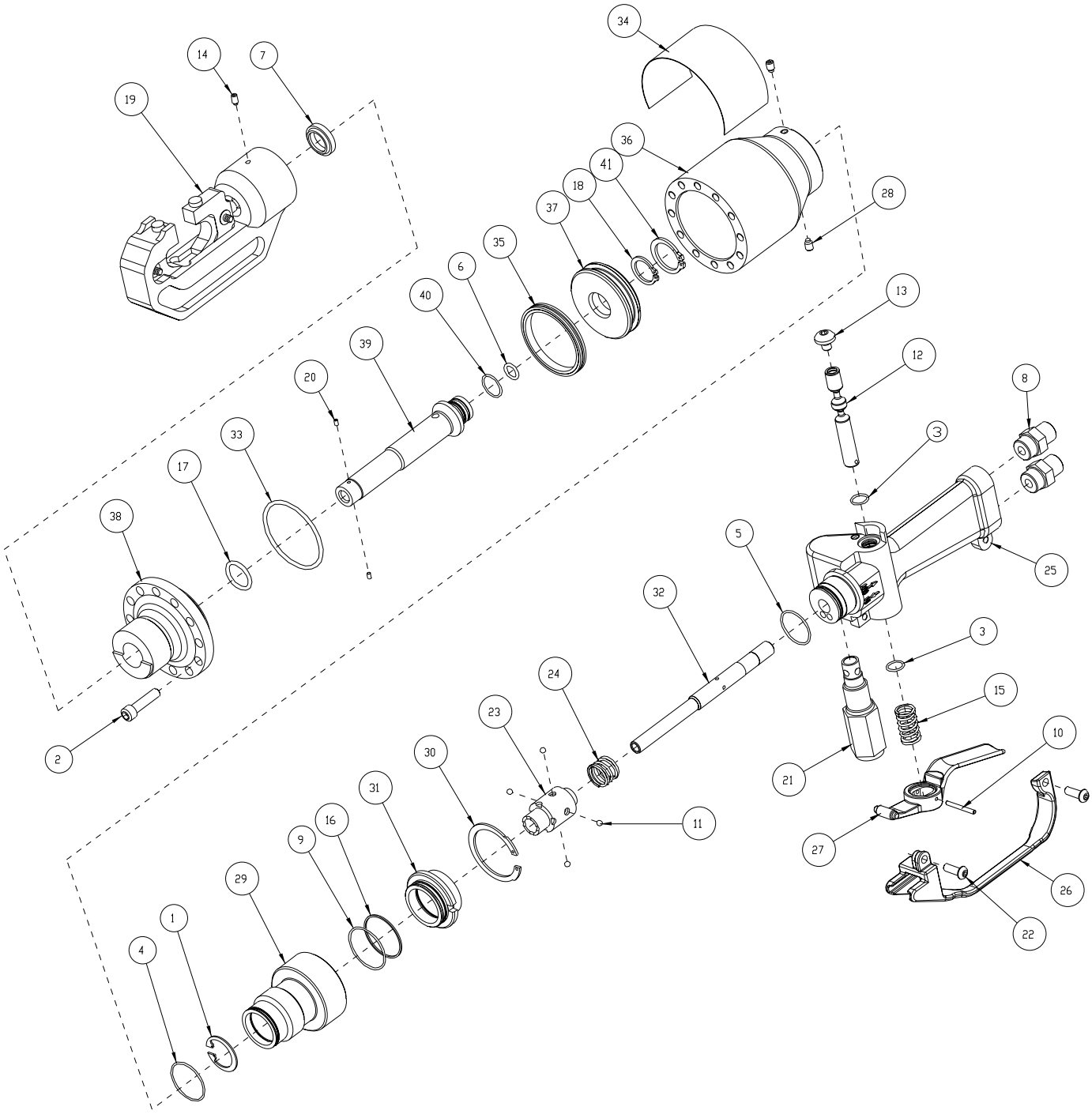
CT04016N Parts List

ITEM	P/N	QTY	DESCRIPTION
1	00118	1	Retaining Ring
2	00144	12	HSHCS
3	07626	2	O-Ring
4	09330	1	O-Ring
5	00294	1	O-Ring
6	00360	1	O-Ring
7	00831	1	Rod Wiper
8	00936	2	Adapter
9	01259	1	O-Ring
10	01534	1	Roll Pin
11	01608	4	Steel Ball
12	01809	1	Valve Spool
13	01812	1	Valve Spool Screw
14	07736	1	Set Screw
15	16556	1	Spring
16	18050	1	Back-Up Ring
17	20428	1	O-Ring
18	20430	1	Retaining Ring External
19	20747	1	C Frame - Brock
20	21255	2	Setscrew
21	21424	1	Relief Valve
22	22147	2	Capscrew
23	38622	1	Valve Sleeve
24	39925	1	Compression Spring
25	39939	1	Valve Handle
26	51182	1	Trigger Guard
27	51183	1	Trigger
28	52534	2	Setscrew
29	58439	1	Adapter
30	58440	1	Retaining Ring
31	58441	1	Sleeve
32	58442	1	Oil Tube
33	58483	1	O-Ring
34	58501	1	Sticker
35	58533	1	T-Seal
36	58534	1	Cylinder
37	58535	1	Piston

ITEM	P/N	QTY	DESCRIPTION
38	58536	1	Cylinder Head
39	58538	1	Push Rod
40	350850	1	O-Ring
41	58594	1	Retainer Ring

Seal Kit

58549 CT04016N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- Mounted Breakers
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