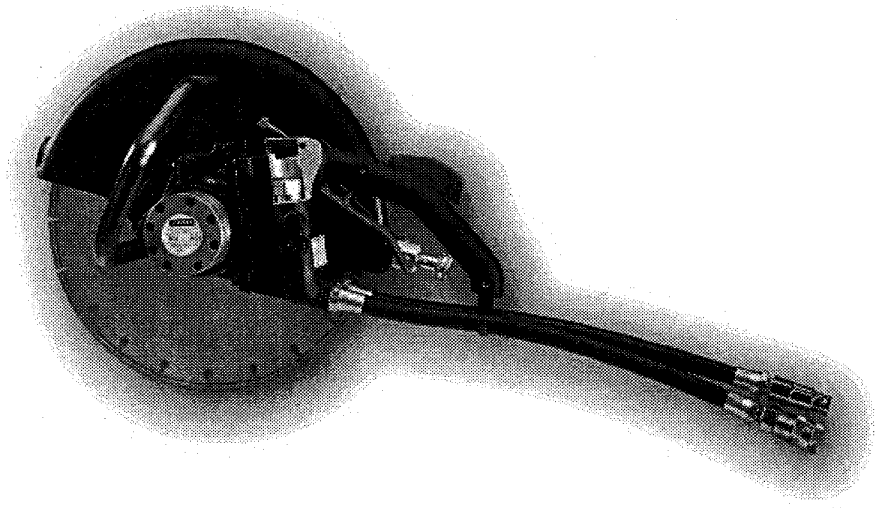
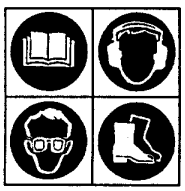
CO25

Hydraulic Cutoff Saw



Safety, Operation, and Maintenance
Service Manual



CE

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P/N 34956 04/98 VER 1

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

Printed in U.S.A, April 1998

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CONTENTS

7. SERVICE

1. INTRODUCTION

This manual contains instructions for the safe and proper operation and maintenance of the Stanley CO25 Hydraulic Cutoff Saw. 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 CO25 Hydraulic Cutoff Saw 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.

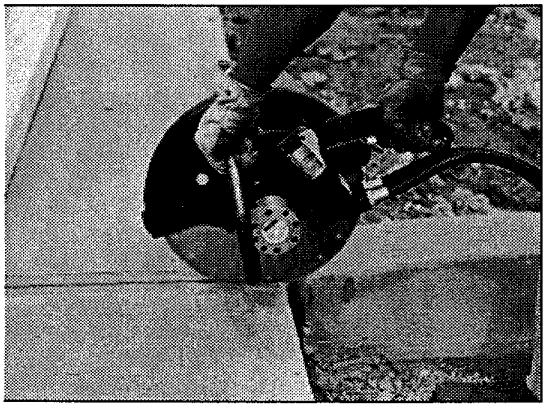


Figure 1–1. Stanley's CO25 Hydraulic Cutoff Saw.

Features

The CO25 Cutoff Saw can cut many materials, including concrete, masonry, pipe, structural steel, and guardrail. This lightweight, powerful tool includes the following features:

- Open-center hydraulic circuit.
- Interlocking safety trigger for maximum safety.
- Internal blade brake to retard the spindle rotation when the trigger is released. This reduces the wheel

coast time to one to five seconds, depending on the type of wheel used.

- Speed control is provided by Stanley's tamper-proof flow control mechanism to reduce the risk of excessive cutting-wheel rotation speed.
- Cast-aluminum handle can be held in many positions to provide a safe, ergonomic grip at a variety of tool angles.
- Adjustable cast-aluminum wheel guard is designed to provide safety protection for the operator and still allow cutting near obstructions. *Never remove or override this critical safety feature.*
- Optional handle extension kit is available for jobs that require cutting from an upright position.
- Optional Stanley saw cart provides a stable platform for accurate dimensional slab cutting.

Specifications

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

Table 1–1. C025 tool specifications.

Item	English Units	Metric Units
Hydraulic power input*		
Flow range	7–9 gpm	26–34 lpm
Optimum flow	8 gpm	30 lpm
Pressure	1500–2000 psi	105–140 bar
Motor	STANLEY® HYREVZ™ Gear	
Porting size	8 SAE O-ring	
Connector	3/8-in. male pipe hose end	
Weight	22 lb	10 kg
Dimensions		
Length (without hoses)	21 in.	53.3 cm
Width	11 in.	28 cm
Noise level	L_{WA} 116.8	
Vibration level	less than 2.5 m/s^2	

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

The cutoff wheels used on the CO25 cutoff saw must meet the requirements of ANSI B7.5 and ISO 525, 603. Wheel specifications are listed in Table 1–2.

Table 1–2. CO25 cutoff wheel specifications.

Item	English Units	Metric Units
Dimensions*		
Diameter (maximum)	14 in.	350 mm
Thickness	5/32 in.	4 mm
Arbor hole	1 in.	25.4 mm
Rated speed (minimum)	5300 rpm	

*Tool can be used with wheels marked "high speed reinforced" that meet the requirements of ANSI B7.5/ISO 525, 603, and wet or dry diamond blades.

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 decals, labels, and tags

Operators and maintenance personnel **MUST** comply with the safety guidelines given in this manual and printed on the decals, 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.

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.

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 CO25 Hydraulic Cutoff Saw 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 in its use or under the supervision of an instructor.
- Do not start cutting until you have a clear work area and secure footing. Keep the cutting wheel off all surfaces when starting the saw.
- 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

- Keep all parts of your body away from a rotating cutoff wheel.
- Always hold the tool with both hands when the unit is running. Use a firm grip.
- Never carry the tool or put it down while the wheel is rotating. Make sure it is completely stopped before you move your position or set the tool down.
- Always wear safety equipment such as goggles, ear and 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.
- Do not operate the tool with the wheel guard removed.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause severe injury.

- Keep the handles dry, clean, and free of oil at all times.
- Operate the tool in well-ventilated areas only.
- Never operate the tool when you are tired.
- Do not operate the tool at an oil temperature above 140°F (60°C). Operation at higher temperatures can cause operator discomfort.

Tool Safety

- Do not operate the tool if it is damaged, improperly adjusted, or incompletely assembled.
- Do not operate the tool if the wheel does not stop when the throttle trigger is released.
- Inspect the wheel guard and collars for damage after any wheel breakage on the tool.
- Always use full throttle when cutting.
- Never cock, jam, or wedge the wheel during the cut. Do not use the side of the wheel as a cutting surface.
- Make sure the tool is designed for the wheel direction suitable for the job. Do not reverse the direction of the wheel rotation by changing the direction of oil flow.
- Always operate the tool within its rated capacity. Never exceed the maximum operating speed marked on the wheel.
- Do not use the tool for applications for which it was not designed.

Cutting Wheel Safety

- Always inspect the cutoff wheels for possible damage before operating the tool. Do not use a wheel that is cracked or otherwise damaged.
- Never transport or store the tool with the cutoff wheel mounted on the saw.
- If the cutoff saw is dropped with a cutting wheel installed, thoroughly examine the cutting wheel before use.
- Make sure the cutting wheel is correctly mounted and tightened before use.
- Operate the cutoff saw at no load for 30 seconds in a safe position. If considerable vibration or other defects are detected, stop operation of the tool immediately and determine the cause. Do not use the tool until the defect is corrected.

Cutting Wheel Safety (continued)

- Only use cutting wheels that comply with ANSI B7.5/ISO 525, 603 (see Section 1, Table 1–2 for cutting wheel specifications).
- Check that the maximum operating speed of the cutting wheel is equal to or greater than the rated shaft speed of the cutoff saw. Wheels must be rated at 5300 revolutions per minute (rpm) minimum.

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.
- Do not operate the tool near flammable materials.
- Know the location of buried or covered services before starting work.
- When working near transmission lines, 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.

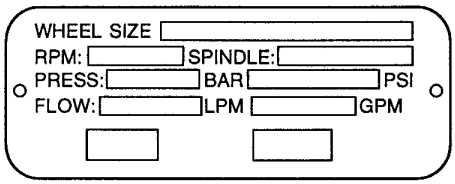
Safety Decals, Labels, and Tags

The safety decals, labels, and tags shown below are attached to the tool at the factory. Read and understand each one before operating the equipment.

Eye Protection Caution Label

The eye protection caution label (Figure 2–1) is affixed to the wheel guard on the tool. It reminds the user to wear safety goggles and provides important wheel safety and speed information.

If the label is missing, damaged or otherwise hard to read, replace it with P/N 05868.



Information Plaque (CE tools only)

The information plaque (Figure 2–2) is affixed to the wheel guard on the tool. It describes the wheel and hydraulic requirements. *Never exceed the specified pressure or flow rate.*

Composite Hazard Decal (CE tools only)

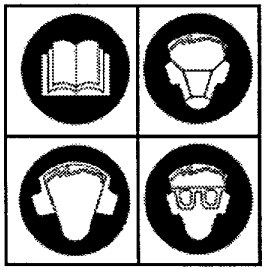


Figure 2-3. Composite Hazard Decal

The composite hazard decal is affixed to the wheel guard. The decal includes the symbols for reading the manual before use, and hearing, eye, and breathing protection (Figure 2–3). These requirements must be followed to avoid personal injury.

If the hazard decal is missing, damaged, or otherwise hard to read, replace it with P/N 28409.

CE Decal (CE tools only)

CE

Figure 2–4. CE decal.

The CE decal (Figure 2–4) is affixed to the wheel guard. It indicates that the tool complies with all CE requirements.

If the decal is missing, damaged, or otherwise hard to read, replace it with P/N 28322.

Circuit Type D Decal (CE tools only)

Figure 2–5. Circuit type D decal.

The circuit type decal (Figure 2–5) is affixed to the valve handle. It signifies that the tool is designed for a EHTMA category D hydraulic circuit.

If the decal is missing, damaged, or otherwise hard to read, replace it with P/N 11207.

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

Hydraulic Safety Tag

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

If the tag is missing, damaged or otherwise hard to read, replace it with P/N 15875.

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.

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 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 cutoff saw 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 CO25 cutoff saw.

Table 3–1. Hydraulic system requirements.

Hydraulic System Requirement	English Units	Metric Units
Flow rate	7–9 gpm	26–34 lpm
Optimum flow	8 gpm	30 lpm
Tool operating pressure	1500–2000 psi	105–140 bar
System relief valve setting	2100–2250 psi	145–155 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 be considered conductive and **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

DANGER

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

DANGER

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

DANGER

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

DANGER

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, 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

This section includes the following topics:

- cutoff wheel replacement
- hydraulic hose connection

The CO25 Hydraulic Cutoff Saw requires minimum setup for handheld operation. When the installation and operation instructions are carefully followed, the tool will provide years of efficient and reliable service.

Cutoff Wheel Replacement

⚠ WARNING

Replacing the cutoff wheel with the hydraulic hoses connected can result in severe personal injury or equipment damage.

To prevent accidental startup while installing or replacing the wheel, disconnect the hydraulic power before beginning the task.

1. If the hydraulic hoses are connected to the tool:
   - Turn the hydraulic system control valve **OFF**.
   - Disconnect first the hydraulic input (supply) hose, then the output (return) hose.
2. Remove the old cutoff wheel, if any:
   - Loosen and remove the wheel nut using a wrench while gripping the cutoff wheel.
   - Remove the outside collar and blotter. (Some blotters are integral with the wheel).
   - Remove the old wheel.
   - Remove the inside blotter. (Some blotters are integral with the wheel).
3. Clean the surfaces of the tool to remove any dirt or grease.

IMPORTANT—Never use a cracked or damaged cutoff wheel. Do not use a bushing in the cutoff wheel mounting hole.

4. Check the cutoff wheel:
   - Make sure the correct wheel is selected for the job. The wheel must conform to the specifications listed in Section 1, Table 1–2.

- Make sure the wheel is free of dirt and other foreign particles—especially the surfaces that contact the blotters and flanges.
- Check the wheel for damage. Hang organic-bond wheels vertically by the arbor hole and rap lightly with a screwdriver handle or similar tool.
  - A thin organic-bond wheel produces a low drumming tone if it is in good condition.
  - If the wheel produces a dead or flat sound, it may be cracked.
- Check diamond wheels to make sure all segments are intact.
- Make sure there is a clearance between the wheel mounting hole and the thrust collar.
  - The clearance is required to prevent the installation and/or thrust-collar expansion from exerting excessive pressure on the wheel.
  - The wheel must fit freely under all cutting conditions.

5. Install the cutoff wheel. Make sure the blotters or labels remain on the cutoff wheel.
6. Reinstall the outside collar and jam nut. Tighten the jam nut with a box type wrench while gripping the cutoff wheel. Only tighten sufficiently to prevent slippage of the wheel between the collars.

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.

⚠ 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 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.


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

5. OPERATION

This section includes the following topics:

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

Pre-operation Checkout

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

Daily Inspection

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

⚠ WARNING

Maintaining or repairing the tool with the hydraulic hoses connected can result in severe personal injury or equipment damage.

To prevent accidental startup while maintaining or servicing the tool, disconnect the hydraulic power before beginning the task.

Make sure the hydraulic system control valve is in the OFF position and the hoses are disconnected before inspecting the cutoff saw.

1. Inspect the cutoff wheel and guard:
   - Make sure the correct cutoff wheel is installed for the job. If not, follow the instructions in Section 4, Cutoff Wheel Replacement. Refer to Section 1, Table 1–2, for the cutoff wheel requirements.
   - Inspect the wheel for chips, cracks, or other damage. For maximum tool performance, replace the wheel if it is worn or defective.
   - Inspect the wheel guard for cracks or other structural damage.
2. Inspect the handlebar:
   - Make sure the handlebar is securely fastened to the cutoff saw.
   - Clean any oil from the handlebar to ensure a firm grip.

3. Inspect the trigger and safety catch:
   - Make sure the trigger operates smoothly and is free to travel between the ON and OFF positions.
   - Make sure the trigger is set to disengage the cutoff saw when released.
   - Check that the safety catch on the handle assembly is operating properly. It should prevent engagement of the trigger unless the catch is pressed down fully in the handle slot.
4. Make sure all operating controls and indicators are easily accessible.
5. Check all fasteners for tightness.
6. Check the equipment for oil leaks. If leaks are observed, do not use the tool; have the equipment serviced before use.

IMPORTANT—Check the speed of the motor output shaft after every 100 hours of operation. Follow the instructions in Section 7, Periodic Maintenance.

Hydraulic Power Source Check

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7–9 gpm (26–34 lpm) at 2000 psi (140 bar).
2. Make certain the hydraulic power source is equipped with a relief valve set to open at 2100–2250 psi (145–155 bar) minimum.

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 power unit operating 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.

Startup

1. Move the hydraulic system control valve to the ON position.
2. At the beginning of each shift, or after a new wheel is installed, run the cutoff saw at operating speed for at least one minute before starting work.

   Handheld configuration:

   - Press the safety catch into the handle, then slowly squeeze the trigger.
   - Run the saw at least one minute.
   - Release the trigger and safety catch.

   Mounted configuration (saw cart):

   - Make sure the lower edge of the cutoff wheel is at least 1 inch above the work surface.
   - Slowly squeeze the hand control lever.
   - Run the saw at least one minute, then release the control lever.

If excessive vibration or any other defect is detected, stop the tool immediately and determine the cause. Do not use the tool until the problem is corrected.

General Procedure

Handheld configuration:

1. Whenever possible, clamp or hold down the work and support it securely on both sides of the cut.
2. Press the safety catch into the handle, then slowly squeeze the trigger.
3. Start the cut with the wheel rotating. Start the work gently with consistent pressure. Do not bump the saw into the workpiece.

4. Feed the wheel through the material as fast as possible without slowing the wheel rotation speed.

   Cutting through the material too slowly causes heat expansion and can result in wheel "pinching" in the material. This is one of the most common causes or wheel breakage.

Mounted configuration (saw cart):

⚠ WARNING

If the cutoff saw is mounted on a saw cart with the trigger clamped in the ON position, using a cylinder-type valve to turn the saw ON and OFF can cause motor damage or wheel spinoff.

Never use a cylinder-type valve to turn the saw ON and OFF. Always use a motor-type valve.

When the cutoff saw is mounted on a saw cart, always use a motor-type hydraulic system control valve to turn the saw ON and OFF. All ports must be connected to the tank (hydraulic system reservoir) when the control valve is in neutral. Alternatively, use a direct line from the tool outlet to the tank.

IMPORTANT—Keep all four wheels of the cart on the cutting surface at all times. Do not tip the front of the cart up during operation or while the blade is in motion.

1. Align the cut line indicator on the line to be cut.
2. Lower the blade to approximately ½ –1 inch above the cutting surface. Set the depth gauge to ensure accurate cutting depth.
3. Make sure the water hose and its connections are secure and there is a steady flow of coolant water.
4. Slowly squeeze the hand control lever.
5. Slowly and safely lower the rotating blade into the cutting surface to the desired depth:
   - Increase the depth by turning the depth-control crank counterclockwise (CCW).
   - Periodically look at the depth gauge and pointer to check the actual depth of the cutting blade.
6. Move slowly and safely forward along the cutting line until the desired cut is complete. The safe forward rate depends on your blade type.
7. Release the hand control lever.

8. To raise the blade from of the cutting surface:
   - *Wait until the blade comes to a complete stop in the work material.*
   - Turn the depth-control crank clockwise (CW) until the blade clears the surface.

Wet Cutting

1. Make sure the cutting wheel is suitable for wet cutting.
2. When shutting down a wet-cutting operation:
   - Stop the tool.
   - Shut off the water.
   - Restart the tool and allow the wheel to spin off the excess water.

Broken Cutoff Wheels

Cutoff wheels designed for use with portable saws are extremely tough. When used as directed, they are difficult to break during normal use.

If a wheel breaks while operating the cutoff saw, investigate the cause of the failure and correct the problem as soon as possible. If you cannot determine the cause of failure, contact the wheel manufacturer.

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. Place dust 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 from the cutoff wheel surfaces.

Care and Storage

Remove the cutoff wheel from the tool after use. Do not store or transport the saw with the wheel installed. Clean and inspect the wheel and tool before storing.

Cutoff Wheels

All abrasive cutoff wheels are breakable. Exercise care in handling and storage to prevent damage.

1. Clean used wheels to remove any dirt, debris, or grease. Dry thoroughly.
2. Inspect the wheel for chips, cracks, or other damage. For maximum tool performance, replace the wheel if it is worn or defective.
3. Store cutoff wheels on a flat surface of steel or similar rigid material.
4. If wheels are supplied with blotters attached, insert suitable separators between each wheel and the supporting surface to preserve flatness.
5. Do not store wheels where they will be exposed to high humidity, water or other liquids, excessive heat, or freezing temperatures.
6. Avoid temperatures low enough to cause condensation on the wheels if they are moved from storage to an area of higher temperature.
7. Wheels carried on emergency vehicles should be:
   - removed after use, and
   - discarded or stored carefully (steps 1 and 2).

Tool

1. Clean the tool to remove any dirt, debris, or grease. Dry with compressed air or clean dry cloths.
2. 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.
3. Store the tool in a clean, dry 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 Customer Service representative for assistance.

⚠ WARNING

Inspecting the tool or installing parts with the hydraulic hoses connected can result in severe personal injury or equipment damage.

To prevent accidental statup, disconnect the hydraulic power before beginning any inspection or installation task.

⚠ Some troubleshooting tasks require work or inspection in the cutoff wheel area of the tool. Disconnect the hydraulic hoses from the tool before beginning any troubleshooting tasks. *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. Many of these fault modes require that a trained Stanley Service technician correct the problem. Except for routine maintenance, hydraulic tool repair and servicing should be performed by an authorized Stanley distributor.

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

Problem	Cause	Corrective Action
Tool does not operate	Hydraulic control valve OFF	Turn the hydraulic system control valve ON
	Hydraulic hoses not connected properly	Make sure the hoses are connected and the couplers are tight
	Hydraulic system not functioning	Check hydraulic power unit for correct flow and pressure*
	Couplers or hoses blocked	Remove obstruction
	Mechanical failure	Disassemble tool and inspect for damage
Tool operates in reverse**	Hoses connected to wrong ports on tool	Connect input (supply) line to **IN** port Connect output (return) line to **OUT** port

continued

*Refer to Section 5, Hydraulic Power Source Check

**Motor shafts with right-hand threads should rotate CCW.
Motor shafts with left-hand threads should rotate CW.

Table 6–1 (continued).

Oil leakage between motor housing and ON/OFF valve block or motor	Oil tube O-ring failure	Replace O-ring
	Motor face seal failure	Replace seal
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), correct the return line obstruction or restriction
Saw cuts too slowly	Wrong cutoff wheel for work material	Use correct wheel
	Insufficient oil flow	Adjust oil flow to 7–9 gpm (26–34 lpm)
	Relief valve setting too low	Adjust relief valve to 2100–2250 psi (145–155 bar)

*Refer to Section 5, Hydraulic Power Source Check
Flow rate: 7–9 gpm (26–34 lpm)
Operating pressure: 1500–2000 psi (105–140 bar)

7. SERVICE

This section includes the following topics:

- general service requirements
- periodic maintenance
- disassembly
- assembly
- parts list

The tool must be serviced only by a trained, authorized technician.

⚠ WARNING

Improper operation or servicing 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 repair or maintenance tasks on the tool.

Before servicing or repairing the tool, read and understand the manual and any labels or tags attached to the tool and hoses. Failure to do so can cause serious personal injury, death, or damage to the equipment.

IMPORTANT—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 section for part numbers.

General Service Requirements

Do not disassemble the tool unless an internal problem has been identified—the tool may not be the cause of the malfunction. Use the problem isolation procedure in Section 6, Troubleshooting, as a guide. Disassemble the tool only to the extent necessary to replace a defective part.

Do not put the tool back in service until the source of the problem has been identified and repaired. If not corrected, the original problem may cause excessive wear or tool failure.

When servicing the tool, keep your work surface clean. Do not allow dirt or grit to contaminate internal parts of the tool.

Tools, Parts, and Materials

- basic tools such as screwdrivers and hammer
- combination and hex wrenches
- punches for driving out roll pins
- repair kit (includes seal kit, see Parts List)
- bearing puller kit (P/N 05064)
- bearing pusher (P/N 11918)
- clean grease or O-ring lubricant
- degreasing solvent
- clean, dry lint-free cloths

Hydraulic System Connections

⚠ WARNING

Maintaining or repairing the tool with the hydraulic hoses connected can result in severe personal injury or equipment damage.

To prevent accidental startup while maintaining or servicing the tool, disconnect the hydraulic power before beginning the task.

If the hydraulic hoses are connected to the tool:

- Turn the hydraulic system control valve **OFF**.
- Disconnect first the hydraulic input (supply) hose, then the output (return) hose.
- Insert plugs in each hose to prevent contamination of the hydraulic circuit and interior of the valve handle assembly.

Cleaning

Clean any dirt, debris, or grease from the tool before removing any parts. Keep the work surface clean to avoid contaminating the interior of the tool.

⚠ WARNING

Improper use of cleaning solvents can cause severe personal injury, death, or fire hazard.

Use cleaning solvents only in well-ventialted areas. Avoid prolonged inhalation of vapor and prolonged or repeated contact with the skin.

Keep away from heat or open flame.

Before reassembly, remove and discard any exposed O-rings. Do not install any parts in the tool until they have been cleaned.

1. Clean all parts with cleaning solvent. Make sure the area is well ventilated.
2. Blow the parts dry with compressed air or wipe with clean, lint-free cloths.

Periodic Maintenance

For maximum performance and reliability of the tool, periodically check the following components.

Thrust Collar and Inside/Outside Collar Inspection

Periodically inspect the thrust collar for damage when you remove the cutoff wheel (refer to Section 4, Cutoff Wheel Replacement).

1. Remove the key and thrust collar from the motor shaft.
   - Check the thrust collar for burrs. Remove burrs as required.
   - Check the threads on the clamping setscrew.
2. Inspect the collar bores and flanges:
   - Check for burrs. Remove burrs as required.
   - Check that the bearing surfaces are flat and run true when mounted on the motor shaft and thrust collar.

Drive-Shaft Speed Check

Check the speed of the motor output shaft at least every 100 hours of operation. The test should be performed only by a trained, experienced technician.

- Maintain a record of the speed checks.
- The maximum rated speed of the CO25 Hydraulic Cutoff Saw is 4500 rpm.
- The rated speed of the cutting wheel must be equal to, or greater than, that of the tool to ensure the integrity of the wheel at maximum tool speed.
- Use the hydraulic power supply normally used with the cutoff saw when conducting this test.
- Excessive speed may be caused by excessive hydraulic fluid flow to the tool.

Bearing Check

Periodically inspect the bearings and associated parts for proper operation. A worn or damaged bearing can cause motor damage.

Accessory Installation

Handle Extension Installation

An optional handle extension can be installed on the CO25 cutoff saw between the motor mount and the valve handle assembly.

1. Remove the wheel guard:
   - Loosen and remove the wheel nut using a box-end wrench while gripping the cutoff wheel.
   - Remove the outside collar, wheel, and inside collar.
   - Remove the beveled retaining ring and swingover nut assembly securing the wheel guard. Remove the guard.
2. Remove 4 hex-socket capscrews securing the valve handle assembly to the motor housing. Separate the two assemblies.
3. Carefully remove 2 short oil tubes from the motor housing or valve handle. If you plan to remove the extension at a later date and restore the cutoff saw to its original configuration:
   - Take care not to damage the sealing surfaces of the tubes.
   - Clean, wrap, mark, and store the oil tubes in a safe place.
4. Install the extension on the motor housing:
   - Align the holes in the extension with those in the motor housing.
   - Install and tighten 4 hex-socket capscrews from the motor housing side of the joint.
5. Install the 2 long oil tubes in the extension:
   - Lubricate and install an O-ring on each end of the 2 long oil tubes included in the extension kit.
   - Carefully insert the tubes in the large holes in the extension until they bottom out inside the motor.
6. Install the valve handle assembly on the extension:
   - Align the oil tubes protruding from the extension with the holes in the valve handle assembly.
   - Carefully slide the valve handle assembly onto the oil tubes until the handle mates with the extension.
   - Install and tighten 4 hex-socket capscrews from the extension side of the joint.

7. Remove the tubular handlebar from the cutoff saw:
   - Loosen and remove the hex-socket capscrews from the top and bottom of the handlebar next to the wheel guard.
   - Slide the handlebar horizontally off the end of the motor assembly.
8. Install the new assist handle:
   - Use 2 capscrews and the handlebar retainers removed from the original handle.
   - Fasten the vertical strut of the assist handle to the extension using the hardware included in the extension kit. On models using a ¼-inch fastener, install the spacer between the strut and the extension.
9. Remove the handle strut assembly from the cutoff saw as desired.

Saw Cart Installation and Removal

The CO25 cutoff saw can be installed on a Stanley saw cart to provide a stable platform for slab cutting. The saw can be easily removed again for handheld operation. After the original installation, attaching or removing the saw from the cart requires only a few steps.

Installation. The steps identified with an asterisk (*) are required only for the initial installation on a new cart.

*1. Install the handlebar assembly:
   - Insert the handlebar assembly in the tube at the top of the cart. Insert with the control lever on the left side as you stand behind the cart.
   - Center the assembly.
   - Secure with the 3/8-inch handlebar set bolt and locking nut.
   - Install the foam grip on the left end of the handlebar using soapy water. The right grip is installed at the factory.

*2. Connect the control cable to the control lever:
   - Insert the cable head into the lever housing and turn to lock in place.
   - Align the cable in the slotted conduit retainer on the control lever assembly and tighten the thumb nut.

3. Remove the tubular handlebar from the cutoff saw:
   - Loosen and remove the hex-socket capscrews from the top and bottom of the handlebar next to the wheel guard.
   - Slide the handle horizontally off the end of the motor assembly.

Note: Included with the saw cart is a tubular handle. This handle replaces the existing tubular handle on the saw so that the operator may easily switch from cart use to hand use.

4. Install the cutoff saw on the saw cart.
   - Position the saw on the cart with the round motor body inserted into the cart housing. The cutting blade must be perpendicular to the floor and the guard positioned parallel to the cart frame.
   - Install and tighten the cutting-head collar bolt and nut through the clamp on the cart.
   - Install the hairpin cotter on the saw and the middle bracket on the cart to secure the saw's valve handle assembly to the cart.
5. Adjust the cable jacket travel. Adjust the cable stop setscrew on the bottom of the cable until the slack is taken out of the cable.
6. Connect the water-supply hose to the wheel guard.

Removal. The tool can easily be converted back to its original handheld configuration.

1. Remove the water hose assembly, as required.
2. Release the saw from the cart by removing the hairpin cotter and cutting-head collar nut and bolt.

Disassembly

Remove only the parts required for access to the problem area. Table 7–1 indicates the level of disassembly required for access to parts that must be inspected, repaired, or replaced.

The topics in this section are presented in the same order as in the table. When the fault has been corrected, skip to the corresponding section in Assembly to complete the service task. Refer the parts diagram at the end of this section for the location of parts.

Table 7–1. Level of disassembly required for access to parts.

To Access Defective Part	Remove Collars/Wheel	Remove Wheel Guard	Remove Thrust Collar	Remove Valve Handle	Remove Oil Tubes	Disassemble Motor
Flow control						
Cutoff wheel	✓					
Wheel guard	✓					
Safety catch						
Trigger	✓	✓				
ON/OFF valve	✓	✓				
Thrust collar	✓					
Oil tube seals				✓	✓	
Motor	✓	✓	Optional			
Bearings	✓	✓	✓	✓	✓	✓
Gears	✓	✓	✓	✓	✓	✓

Flow Control Replacement

The tamper-proof flow control valve in the handle is preset at the factory and is not field serviceable. If the drive-shaft speed exceeds the 4500 rpm maximum limit, replace the flow control. Refer to the Periodic Maintenance procedure earlier in this section for the drive-shaft speed test.

Cutoff Wheel Removal

To remove the cutoff wheel:

1. Loosen and remove the wheel nut using a wrench while gripping the cutoff wheel (Figure 7–1).
2. Remove the outside collar and blotter.
3. Remove the wheel.
4. Remove the inside blotter and collar.

Note: Periodically inspect the thrust collar, too, before replacing the wheel.

Wheel Guard Removal

Prerequisite: remove the cutoff wheel and collars.

1. Remove the beveled retaining ring from the motor pilot diameter inside the wheel guard using snap ring pliers.
2. Unscrew and remove the swingover nut and washer securing the wheel guard (Figure 7–20).
3. Remove the guard.

Safety Catch Removal

The safety catch can be removed without disturbing the rest of the tool.

1. Drive the roll pin out of the valve handle assembly using a 3/16-in. (4 mm) punch.
2. Remove the safety catch and spring.

Trigger Removal

Prerequisite: remove the cutoff wheel and wheel guard to provide access to the roll pin in the valve handle. Remove the safety catch.

1. Drive the roll pin out of the valve handle assembly using a ¼-in. (6 mm) punch.
2. Remove the trigger and spacer.

ON/OFF Valve Removal

Prerequisite: remove the cutoff wheel, wheel guard, and trigger.

1. Unscrew and remove the valve cap from the top of the valve handle assembly.
2. Lift out the valve spool.
3. Unscrew and remove the plug from the bottom of the valve handle assembly. Carefully remove the spring and poppet (blade brake) from the spool bore if they do not come out with the plug.

Thrust Collar Removal

Prerequisite: remove the cutoff wheel.

1. Loosen the setscrew securing the thrust collar to the motor shaft, using a hex wrench.
2. Remove the key and thrust collar from the motor shaft.

Oil Tube Removal

The valve handle assembly must be removed from the motor housing to access the oil tubes.

Prerequisite: none.

1. Remove 4 hex-socket capscrews securing the valve handle assembly to the motor housing. Carefully separate the two assemblies by pulling straight apart. The oil tubes may be damaged if you twist or pull at an angle.
2. Carefully remove the 2 oil tubes from the motor housing. Make sure you do not damage the sealing surfaces on the tubes or motor housing.

Motor Removal

Prerequisite: remove the wheel, thrust collar, valve handle, and oil tubes.

IMPORTANT—Do not remove the bearing housing from the motor housing unless the oil tubes are removed.

1. Remove 2 flat-head machine screws securing the bearing housing to the motor housing.
2. Remove the motor from the motor housing.

Motor Disassembly

Prerequisite: remove the motor from the motor housing.

1. Remove the tubular handlebar from the cutoff saw:
   - Loosen and remove the hex-socket capscrews from the top and bottom of the handlebar next to the wheel guard.
   - Slide the handle horizontally off the end of the motor assembly.
   - Remove the handlebar retainers from the ends of the handle.
2. Remove 8 capscrews securing the gear housing to the bearing housing.
3. Carefully separate the gear and bearing housings:
   - Use a flat-blade screwdriver in the groove in the split between the housings to pry the parts apart. *Pry only in the groove, not on the mating surfaces.* Be sure not to scratch the mating surfaces.
   - Separate the parts in a straight line to prevent damaging any internal components.
4. Remove the 2 gears, needle roller, and idler shaft.
5. Remove the large face seal O-ring. Be careful not to damage the groove or surrounding surface.
6. Remove the motor shaft from the bearing housing:
   - Be careful to protect the surfaces on the bearing housing from damage while doing the rest of this step.
   - Remove the large retaining ring securing the bearing (on the wheel guard side of the motor housing).
   - Tap lightly on the small end of the motor shaft (gear side) with a soft-faced hammer to remove the shaft and bearing from the bearing

housing. Be careful not to strike the shaft from an angle or otherwise bend it.

IMPORTANT—Do not remove the bearing from the motor shaft unless it must be replaced. It may be damaged during removal.

7. To remove a damaged bearing from the motor shaft:
   - Support the bearing's outer race with an appropriate tube or pipe.
   - Press the threaded end of the motor shaft out of the bearing. Be careful not to bend the shaft.
   - Discard the bearing.
8. Remove the seals from the motor-shaft bore in the bearing housing using method a or b.

   Method a:
   - Remove the retaining ring at the bottom of the bore.
   - Use the appropriate O-ring service tool to carefully pry the seal gland out of the bore. *Do not damage the seal surfaces.* Note the seal orientation.
   - Remove the O-ring from the outside of the seal gland.
   - Remove the quad ring from inside the seal gland.

   Method b:
   - Insert a rubber-tipped air nozzle in the gear side of the bore.
   - Partially install the small end of the motor shaft through the shaft seal.
   - Plug the seal vent holes on the face of the bearing housing and apply air pressure to force the seal gland out and onto the shaft.

Prepare Parts for Assembly

Before the tool can be reassembled, all parts must be cleaned, inspected, and repaired or replaced as needed. Remove and discard all seals and O-rings.

Cleaning

WARNING

Improper use of cleaning solvents can cause severe personal injury, death, or fire hazard.

Use cleaning solvents only in well-ventialted areas. Avoid prolonged inhalation of vapor and prolonged or repeated contact with the skin.

Keep away from heat or open flame.

1. Clean all parts with degreasing solvent. Make sure the area is well ventilated.
2. Blow the parts dry with compressed air to thoroughly clean oil passage ways, or wipe with clean, lint-free cloths.

Inspection

Inspect all parts for wear or damage; replace as needed. Parts with special inspection requirements are listed below.

IMPORTANT—The tool parts are carefully machined at the factory to critical tolerances. Do not attempt to refurbish the parts.

To determine the extent of wear or damage to any part, compare the surface to the examples in the Stanley Refurbishing Guide (P/N 28431). The kit includes a surface-finish comparator and instructions for refurbishing parts.

Bearing Housing. Inspect the inner surface and bores of the front bearing housing:

- The bore for the seal gland should be smooth to prevent oil leakage. If it is nicked or scratched, replace the bearing housing.
- The surface near the gears should show two interconnecting polished circles without a step and should not be rough or grooved. Replace the

housing if it is damaged or the motor appears to slow down excessively or be low on power.

- Shake the bearing housing. The two seal check balls should rattle. If they do not, the check valves are probably plugged with contaminants and the bearing housing should be replaced.

Gear Housing. Inspect the inner surface and bores:

- The chamber bores and bottoms around the shaft bushings should appear smooth and polished. If they are rough or grooved, replace the gear housing.
- The flat surface around the chamber and bolt holes should be flat and free of nicks or burrs that could cause misalignment or leaks. If they are not smooth, replace the gear housing.

Bushings. Inspect the bushings for wear or discoloration:

- The inside of the bushing should be gray with some bronze showing through. If a significant amount of yellow-bronze shows, replace the bushing.

  To remove a bushing from the bearing or gear housing, use the collet included in Stanley's bearing puller kit, P/N 05064.

- Inspect the motor shaft for corresponding wear. Replace as required.

Gears. Check the gears for wear or damage:

- Both gears should have square tooth ends, straight tips without nicks, and a smooth, even polish on the teeth and end faces. Replace both gears if either one is worn or damaged.
- Check for cracks between the drive gear keyway and gear tooth root. Replace the gear if one or more cracks are present.

Shafts. The surface of the motor shaft where the bearing and seal are mounted must be smooth.

- Grooves, roughness or a reduced diameter indicate fluid contamination or damaged bushings. Abrasive particles can become imbedded in the bushings and grind into the hardened shaft.
- If this abnormal shaft wear occurs (in excess of normal polishing) both the shaft and associated bushings must be replaced.
- Check the hydraulic system filter and hydraulic fluid for contamination. Operating conditions may required changing from a 25-micron filter to an oversize 10-micron filter.

Assembly

Always replace any seals or O-rings that are disturbed during disassembly of a part. When installing the new seals, lubricate them and make sure they seat all the way around the groove in the part. All the required seals are in the seal kit.

Refer to the parts diagram at the end of this section for the location of the parts

Motor Assembly

1. Install 2 bushings in the bearing housing and 2 in the gear housing using Stanley's bearing pusher, P/N 11918. The bushing split line must face the center of the gear housing.
2. Install the seal gland in the motor-shaft bore in the bearing housing:
   - Lubricate and install the quad ring in the inside groove in the seal gland.
   - Lubricate and install a new O-ring on the outside of the seal gland.
   - Carefully insert the narrow end of the seal gland in the bearing housing (in the wheel guard end of the motor-shaft bore).
   - Install the retaining ring to hold the seal gland in place.
3. Install a new bearing on the motor shaft if the old bearing was removed during disassembly:
   - Support the new bearing's inner race.
   - Press the threaded end of the motor shaft through the center of the bearing until it bottoms out on the shaft's flange.
4. Install the motor shaft and bearing in the bearing housing:
   - Place the bearing housing on a smooth clean arbor press surface (protected from damage), with the large bearing bore facing up. Position the piece so that a clearance hole exists for the insertion of the motor shaft.
   - Apply heavy grease to the motor shaft and bushing, and fill the keyway on the shaft.
   - Insert the motor shaft through the seal gland in the motor shaft bore.
   - Use a sleeve or socket with a diameter equal to the bearing OD (or shaft pusher P/N 00850) to press the bearing assembly into place. *Press only on the bearing outer race.*
   - Install the bearing retaining ring to secure the motor shaft assembly in place.
5. Install the drive gear on the motor shaft:
   - Install the needle roller in the keyway in the motor shaft. Use a small amount of grease to keep it in place.

- Slide the drive gear onto the shaft over the needle roller.

6. Install the idler shaft and gear:
   - Insert the idler shaft in the second bore in the bearing housing.
   - Slide the idler onto the idler shaft.

7. Apply grease to the face seal O-ring groove. Install the O-ring in the groove.

8. Install the gear housing on the bearing housing:

   IMPORTANT—*Do not force the housings together.* If they do not go together easily, they are not properly aligned or one or more parts are not correctly installed.
   - Make sure the 2 alignment dowel pins are in the opposite holes in the face of the bearing housing.
   - Carefully align the dowel and bolt holes in the bearing and gear housings. The hole pattern is designed so the housings can be joined only one way.
   - Slowly slide the gear housing over the gears until it contacts the bearing housing.

9. Turn the motor shaft manually to check for free rotation. If it does not turn easily, separate the housings and find the cause of the binding.

10. Install 8 capscrews. Tighten finger tight.

11. Recheck the shaft rotation. When the shaft rotates easily, tighten the capscrews.

12. Install the motor in the motor housing:
    - Make sure the oil tubes are removed from the motor housing.
    - Insert the motor into the motor housing.
    - Secure with 2 flat-head machine screws.

13. When new parts are installed, it may be necessary to "break-in" the motor. After the saw has been reassembled without the guard, the motor may be broken in as follows:

- Connect the cutoff saw to a hydraulic power supply. Start the saw and check for smooth operation.

WARNING

Failure to maintain a firm grip on the wrench during break-in can cause serious injury.
Hold the wrench securely. The break-in procedure requires enough force to overcome about 12 ft-lb of torque.

- If break-in is required, rotate the shaft with a wrench, with and against pressure until the motor starts and runs freely. The ON/OFF valve must be held in the ON position.

Thrust Collar Installation

1. Insert the key into the groove on the motor shaft. Use a small amount of grease to hold it in place.
2. Push the thrust collar onto the motor shaft, aligning the keyway with the key in the shaft.
3. Tighten the setscrew using a hex wrench.

Oil Tube and Valve Handle Assembly

If the oil tubes and/or valve handle assembly were removed:

1. Lubricate and install a new O-ring on each end of the 2 oil tubes.
2. Carefully insert the oil tubes in the motor housing until they bottom out in the motor. Do not damage the sealing surfaces on the tubes or motor housing.
3. Install the valve handle assembly on the motor housing
   - Align the holes in the valve handle assembly with those in the motor housing.
   - Carefully slide the valve handle assembly over the oil tubes until it meets the motor housing.
   - Secure in place with 4 hex-socket capscrews.

ON/OFF Valve Installation

If the valve in the valve handle assembly was removed:

1. Lubricate and install new O-rings on the plug and valve cap.
2. Thread the valve cap assembly into the top of the valve handle assembly.
3. Insert the poppet and spring in the bottom of the valve spool. Insert the valve spool through the bottom of the valve handle. Secure in place with the threaded plug.

Trigger Installation

If the trigger was removed from the valve handle:

1. Place the trigger and spacer between the upper set of holes in the valve handle.
2. Drive a ¼-in. (6 mm) roll pin through the holes using a punch and hammer.

Safety Catch Installation

If the safety catch was removed from the valve handle:

1. Place the torsion spring on the boss of the safety catch with the spring tab on top of, and facing, the back of the catch.
2. Place the safety catch in the valve handle and align the holes using a 3/16-in. (4 mm) punch.
3. Drive a 3/16-in. (4.8 mm) roll pin through the holes using a punch and hammer.
4. Push down on the spring tab until it snaps in place under the safety catch.

Wheel Guard

If the wheel guard was removed:

1. Install a washer on the guard-clamp carriage bolt and align the bolt with the corresponding hole in the motor housing.
2. Slide the center hole in the guard onto the motor pilot diameter and secure with the beveled retaining ring. Make sure the beveled edge of the retaining ring is facing outward.
3. Place the remaining washer and the swingover nut on the carriage bolt and tighten only until secure.

Cutoff Wheel

Refer to Section 4, Cutoff Wheel Replacement, for wheel specifications and installation instructions.

Motor Handlebar

Install the tubular handlebar on the cutoff saw (the optional saw cart handle does not require reassembly):

1. Align the holes and push the handlebar retainers into the ends of the handle.
2. Place the handle on the motor assembly.
3. Insert a capscrew through the top handlebar, retainer, and neoprene washer into the mount point. Repeat at the bottom. Tighten the capscrews.

Test

Before putting the cutoff saw back into service, test the tool for proper operation and performance.

IMPORTANT—Always replace hoses, couplings, and other parts with replacement parts recommended by Stanley Hydraulic Tools.

ITEM	P/N	QTY	DESCRIPTION
1	01714	1	Jam Nut, CCW
	03012	1	Jame Nut, CW
2	31028	1	Outer Collar
3	04876	1	Inside Collar
4	00720	1	Set Screw
5	04673	1	Thrust Collar
6	03013	1	Retaining Ring
7	00563	1	Roll Pin
8	05152	1	Stanley Sticker (USA Models Only)
9	05868	1	Caution Sticker (USA Models Only)
10	01420	1	Helicoil
11	02035	1	Handle Strut
12	03005	2	Capscrew
13	02688	8	Capscrew
14	02649	2	Handle Bar Retainer
15	00175	4	O-ring •
16	02912	2	Oil Tube
17	17681	1	Roll Pin
18	32026	1	Valve Spool (CCW Models Only)
	31138	1	Valve Spool (CW Models Only)
19	01604	2	O-ring •
20	02931	1	Valve Cap
21	00112	1	Quad Ring •
22	01219	1	Pipe Plug
23	31854	1	Flow Control
24	00165	1	Capscrew
25	02920	1	Spacer
26	22707	1	Trigger
27	22704	1	Safety Catch
28	22701	1	Spring
29	28552	1	Valve Handle Assy (Incld Item 22)
30	07226	2	Hose Assy (Incld Item 34)
31	03009	1	Roll Pin
32	02911	1	Hose Clip
33	03786	1	Caution Sticker (USA Models Only)
	11207	1	Circuit D Sticker (CE Models Only)
34	01605	2	O-ring • (Incld with Item 30)
35	31186	1	Poppet
36	02916	1	Spring
37	——	-	NO ITEM
38	31137	1	Plug
39	02654	1	Handle Bar
40	02950	1	Motor Housing
41	03049	1	Swing Over Nut
42	03048	1	Lever
43	01594	2	Washer
44	03047	1	Roll Pin
45	05071	2	Capscrew
46	32445	1	Guard Clamp
47	03025	1	Bolt
48	32436	1	Wheel Guard
	33084	1	Motor Assy, CCW (Incld Items 49-57, 59-66)
	33083	1	Motor Assy, CW (Incld Items 49-57, 59-66)
49	32047	1	Motor Shaft (CCW Models Only)
	32872	1	Motor Shaft (CW Models Only)
50	00170	1	Retaining Ring
51	30333	1	Seal Gland
52	350771	1	O-ring •
53	00214	1	Quad Ring •

ITEM	P/N	QTY	DESCRIPTION
54	00120	8	Capscrew
55	31849	1	Gear Hsg Assy
56	06316	4	Bushing
57	06881	1	Needle Roller
58	00772	1	Key
59	00148	1	Bearing
60	00166	1	Retaining Ring
61	30591	1	Bearing Hsg Assy
62	00713	2	Dowel Pin
63	350771	1	O-ring
64	06854	1	Idler Shaft
65	06853	1	Driver Gear
66	06855	1	Idler Gear
67	33206	1	Name Tag
68	28322	1	CE Sticker (CE Models Only)
69	28409	1	Composite Sticker (CE Models Only)
70	28811	1	Info Plaque (CE Models Only)
71	05153	1	Stanley Sticker (CE Models Only)

P/N 34175 HANDLE EXTENSION KIT (OPTIONAL)

ITEM	P/N	QTY	DESCRIPTION
1	370151	2	Capscrew
2	01459	2	Lock Washer
3	10888	4	Capscrew
4	00175	4	O-ring
5	31945	2	Oil Tube
6	34172	1	Extension
7	34116	1	Handle

SEAL KIT P/N 31845

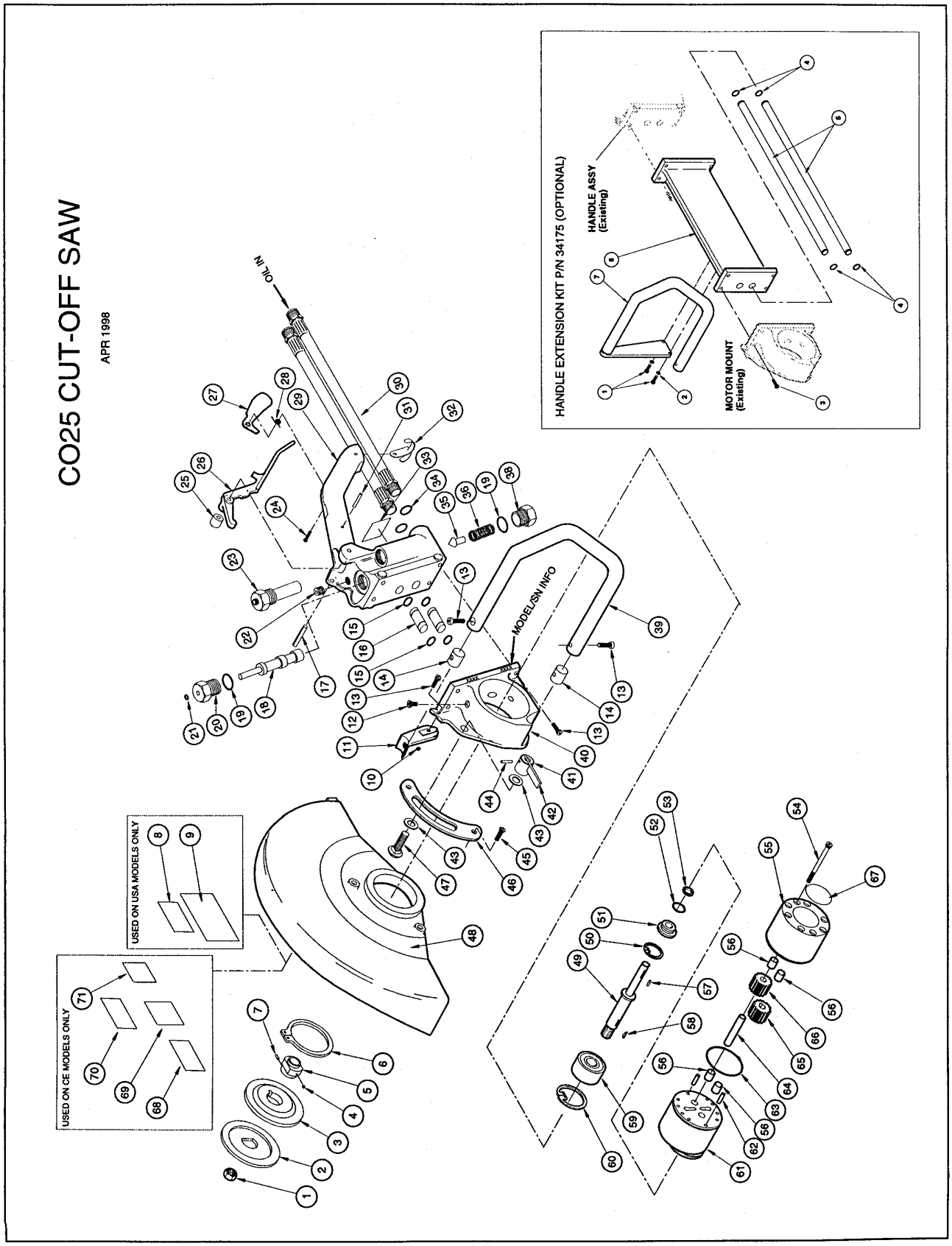
• Indicates Part Included in Seal Kit

Model Designations

CO25141	CCW ROTATION, USA MODEL
CO25541	CW ROTATION, USA MODEL
CO2514101	CCW ROTATION, CE MODEL
CO2554101	CW ROTATION, CE MODEL

Accessories

Description	Part No.
Water Attachment	33228
Handle Extension Kit	32015
Saw Cart	33281
Cut-Off Wheels	
14" Metal cutting abrasive	02691
14" Masony cutting abrasive	02692


CO25 CUT-OFF SAW
APR 1998
OIL IN
MODEL/SN INFO
HANDLE EXTENSION KIT P/N 34175 (OPTIONAL)
HANDLE ASSY (Existing)
MOTOR MOUNT (Existing)
USED ON USA MODELS ONLY
USED ON CE MODELS ONLY

INDEX

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Stanley Hydraulic Tools manufactures quality hydraulic equipment used worldwide by utilities, municipalities, contractors, rental companies, railroads, underwater contractors, and tree trimmers. Our line of over 120 hydraulic tools include:

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