STANLEY®

CS11
HYDRAULIC CHAIN SAW

USER MANUAL
Safety, Operation and Maintenance

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New Britain, CT 06053
U.S.A.
66379 3/2017 Ver. 13

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IMPORTANT

To fill out a Product Warranty Validation form, and for information on your warranty, visit Stanleyhydraulics.com and select the Company tab, Warranty.
(NOTE: The warranty Validation record must be submitted to validate the warranty).

SERVICING: This manual contains safety, operation, and routine maintenance instructions. Servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

⚠ WARNING

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.

SAFETY SYMBOLS

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER — This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION — This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE — This signal word indicates a situation which, if not avoided, will result in damage to the equipment.

IMPORTANT — This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

LOCAL SAFETY REGULATIONS

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

STANLEY

SAFETY PRECAUTIONS

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

The model CS11 Hydraulic Chain Saw will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hose before operation. Failure to do so could result in personal injury or equipment damage.

- The operator must start in a work area without bystanders. Flying debris can cause serious injury.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor. Establish a training program for all operators to ensure safe operation.
- Always wear safety equipment such as goggles, ear and head protection, and safety shoes at all times when operating the tool. Use gloves and aprons when necessary.
- The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Do not inspect, clean or replace any part(s) if the hydraulic power source is connected. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Always connect hoses to the tool hose couplers before energizing the hydraulic power source. Be sure all hose connections are tight and are in good condition.
- Do not operate the tool at oil temperatures above 140 °F/60 °C. Operation at higher temperatures can cause higher than normal temperatures at the tool which can result in operator discomfort.
- Do not operate a damaged, improperly adjusted, or incompletely assembled chain saw. Be sure that the chain stops moving when the control trigger is released.
- Never wear loose clothing that can get entangled in the working parts of the tool.
- Keep all parts of your body away from the chain saw and maintain proper footing and balance at all times.
- Do not rely exclusively upon the safety devices built into the saw. As a chain saw user, several steps must be taken to keep your cutting jobs free from accidents or injury.
- With basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Keep a good firm grip on the saw with both hands, the right hand on the rear handle and the left hand on the front handle when operating the saw. Use a firm grip with thumbs and fingers encircling the chain saw handles. A firm grip will help reduce kickback and maintain control of the saw. Do not let go.
- Make sure the area in which you are cutting is free of obstructions. Never allow the nose of the guide bar to contact the log, branch or any obstruction that can be accidently hit while operating the saw.
- **Warning:** Use of this tool on certain materials during demolition could generate dust potentially containing a variety of hazardous substances such as asbestos, silica or lead. Inhalation of dust containing these or other hazardous substances could result in serious injury, cancer or death. Protect yourself and those around you. Research and understand the materials you are cutting. Follow correct safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them, including, if appropriate arranging for the safe disposal of the materials by a qualified person.
-

SAFETY PRECAUTIONS

- Never start the tool while it is lying on the ground.
- Cut at rated operating speeds (gpm).
- Do not overreach or cut above shoulder height.
- Follow the manufacturer's sharpening and maintenance instructions for the saw chain.
- Only use replacement bars and chains specified by Stanley Hydraulic Tools. Chains must meet the requirements of ANSI B175.1 for low kickback performance.
- Always be well rested and mentally alert before operating the chain saw.
- Do not allow other persons to be near the chain saw when starting or cutting with the chain saw. Keep bystanders and animals out of the work area.
- Do not starting cutting until you have a clear work area, secure footing and a planned escape path from a falling tree.
- Carry the saw with the unit de-energized and the bar and chain to the rear of your body.
- Use extreme caution when cutting small size brush and saplings. Twigs may catch the saw chain and be whipped toward the operator or pull the operator off balance.
- When cutting a limb that is under tension, be alert for spring-back so that you will not be struck when the tension on the limb is released.
- Keep the handles dry, clean and free of oil.
- Do not operate a chain saw while in a tree unless you have been specially trained to do so.
- When using tools near energized transmission lines, be sure to use only hoses labeled and certified non-conductive.
- Turn off the power unit or move the hydraulic control valve to neutral before setting the saw down.
- Use a guide bar scabbard when transporting the saw.
- Know the location of buried or covered electrical services before starting work.
- The spiked bumper (bucking cleat) must be installed for felling operations.

ELECTRICAL HAZARDS

The following guidelines must be followed to prevent accidental contact with overhead electrical conductors and/or communication wires and cables. (ref. ANSI Z133.1-2000)

WORKING IN PROXIMITY TO ELECTRICAL HAZARDS

An inspection shall be made by a qualified arborist to determine whether an electrical hazard exists before climbing, or otherwise entering, or performing work in or on a tree.

Only qualified line-clearance arborists or qualified line-clearance arborist trainees shall be assigned to work where an electrical hazard exists. Qualified line-clearance arborist trainees shall be under the direct supervision of qualified line-clearance arborist.

A second qualified line-clearance arborists or line-clearance arborist trainees shall be within vision or voice communication during line-clearing operations aloft when line-clearance arborists or line-clearance arborist trainees must approach closer than 10 feet (3.05 meters) to any energized electrical conductor in excess of 750 volts (primary conductor) or when:

1. Branches or limbs being removed cannot first be cut (with a pole pruner/pole saw) to sufficiently clear electrical conductors, so as to avoid contact.
2. Roping is required to remove branches or limbs from such electrical conductors. This does not apply to individuals working on behalf of, or employed by, electrical system owners/operators engaged in line-clearing operations incidental to their normal occupation.

Qualified line-clearance arborists and line-clearance arborist trainees shall maintain minimum approach distances from energized electrical conductors in accordance with Table 1.

All other arborists shall maintain a minimum approach distance from energized electrical conductors in accordance with Table 2.

Branches hanging on an energized electrical conductor shall be removed using non-conductive equipment.

Table 1 – Minimum approach distances from energized conductors for qualified line-clearance arborists and qualified line- clearance arborist trainees.

Nominal Voltage (kV phase-to-phase)	Includes 1910.269 elevation factor, sea level to 5000 ft[1]		Includes 1910.269 elevation factor, 5001 – 10,000 ft[1]		Includes 1910.269 elevation factor, 10,000 – 14,000 ft[1]	
	ft-in	m	ft-in	m	ft-in	m
0.05 to 1.0	Avoid contact		Avoid contact		Avoid contact	
1.1 to 15.0	2–04	0.71	2–08	0.81	2–10	0.86
15.1 to 36.0	2-09	0.84	3–02	0.97	3–05	1.04
36.1 to 46.0	3–00	0.92	3–05	1.04	3–09	1.14
46.1 to 72.5	3–09	1.14	4–03	1.30	4–07	1.40
72.6 to 121.0	4–06	1.37	5–02	1.58	5–07	1.70
138.0 to 145.0	5–02	1.58	5–11	1.80	6–05	1.96
161.0 to 169.0	6-00	1.83	6–10	2.08	7–05	2.26
230.0 to 242.0	7–11	2.41	9–00	2.75	9–09	2.97
345.0 to 362.0	13–02	4.02	15–00	4.58	16–03	4.96
500.0 to 550.0	19–00	5.80	21–09	6.63	23–06	7.17
765.0 to 800.0	27–04	8.34	31–03	9.53	33–10	10.32
1. Exceeds phase-to-ground; elevation factor per 29 CFR 1910.269.						

Table 2 – Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and qualified line- clearance arborist trainees.

Nominal Voltage kV phase-to-phase[1]	Distance ft-in	Distance m
0.0 – 1.0	10–00	3.05
1.1 – 15.0	10–00	3.05
15.1 – 36.0	10–00	3.05
36.1 – 50.0	10–00	3.05
50.1 – 72.5	10–09	3.28
72.6 – 121.0	12–04	3.76
138.0 – 145.0	13–02	4.00
161.0 – 169.0	14–00	4.24
230.0 – 242.0	16–05	4.97
345.0 – 362.0	20–05	6.17
500.0 – 550.0	26–08	8.05
785.0 – 800.0	35–00	10.55
1. Exceeds phase-to-ground.		

The tie-in position should be above the work area and located in such a way that a slip would swing the arborist away from any energized electrical conductors or other identified hazard.

While climbing, the arborist should climb on the side of the tree that is away from energized electrical conductors as required in Tables 1 and 2.

Footwear, including lineman's overshoes, having electrical-resistant soles, shall not be considered as providing any measure of safety from electrical hazards.

Rubber gloves, with or without leather or other protective covering, shall not be considered as providing any measure of safety from electrical hazards.

Ladders, platforms and aerial devices, including insulated aerial devices, shall be subject to minimum approach distances in Table 1 and 2.

Aerial devices and attached equipment (such as chippers) contacting energized electrical conductors shall be considered energized. Contact shall be avoided, except where emergency rescue procedures are being carried out. Emergency rescue should be performed in accordance with 4.3.

STORM WORK AND EMERGENCY CONDITIONS-LINE CLEARANCE

Line clearance shall not be performed during adverse weather conditions such as thunderstorms, high winds and snow and ice storms.

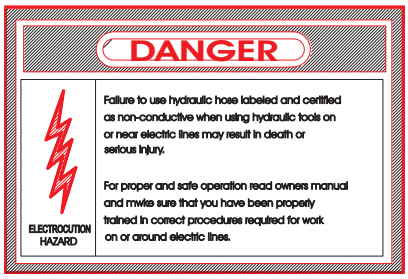
Qualified line-clearance arborists and qualified line-clearance arborists trainees performing line clearance in the aftermath of a storm or under similar conditions shall be trained in the special hazards associated with this type of work.

Line-clearance operations shall be suspended when storm work or emergency conditions develop involving energized electrical conductors. Electrical system owners/operators shall be notified immediately.

TOOL STICKERS AND TAGS

03790

GPM Decal



12412

Electrical Warning Decal

74751

Name Tag

04746

Auto Oiler Decal

13907

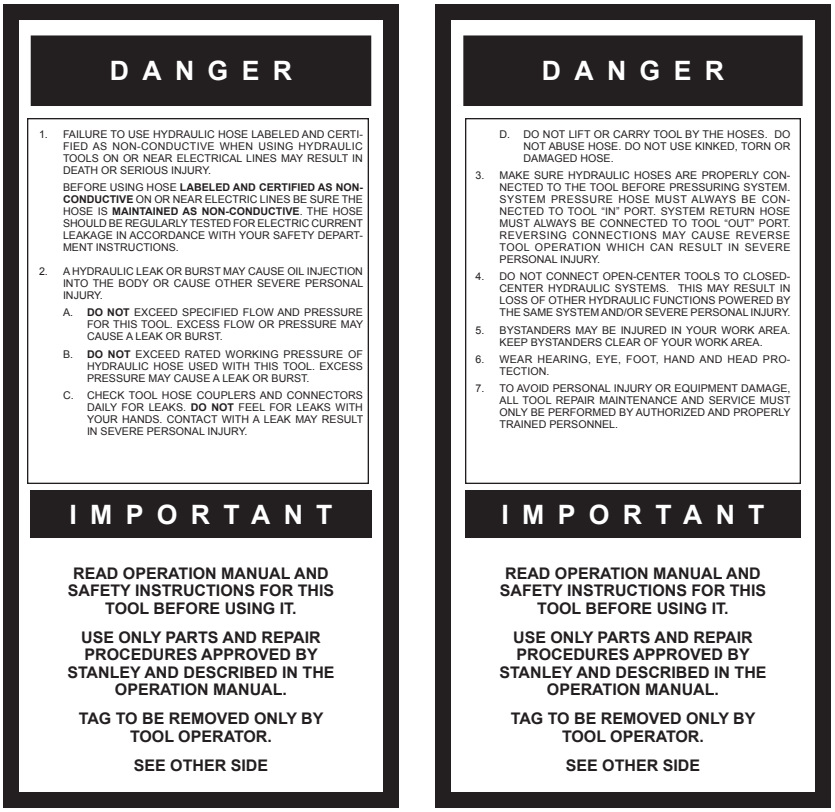
Kickback Warning Decal

NOTE

THE INFORMATION LISTED ON THE STICKERS SHOWN, MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (P/N 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.



SAFETY TAG P/N 15875 (shown smaller then actual size)

HOSE TYPES

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

Certified non-conductive — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.*

Wire-braided (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is **conductive** and must never be used near electrical conductors.*

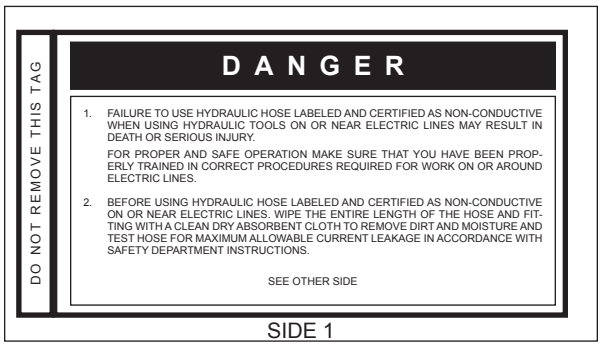
Fabric-braided (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical conductors.*

HOSE SAFETY TAGS

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

THE TAG SHOWN BELOW IS ATTACHED TO "CERTIFIED NON-CONDUCTIVE" HOSE

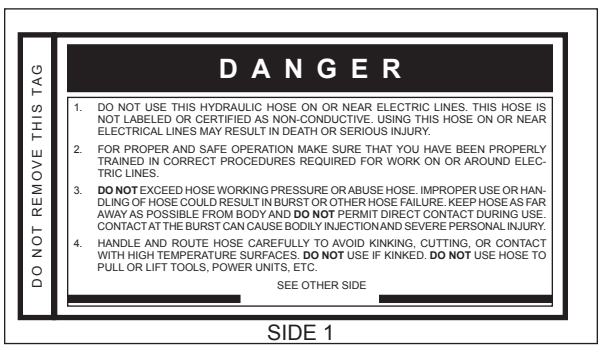


SIDE 1

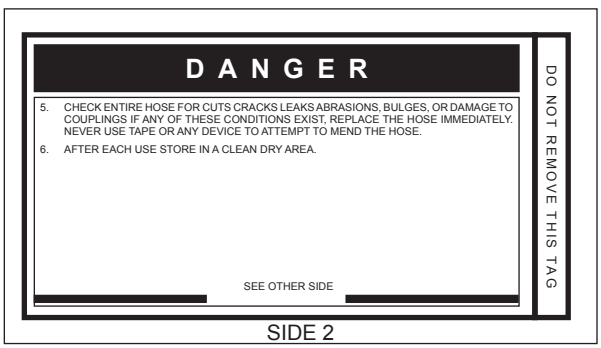
SIDE 2

(Shown smaller than actual size)

THE TAG SHOWN BELOW IS ATTACHED TO "CONDUCTIVE" HOSE.



SIDE 1



SIDE 2

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Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications.

All hydraulic hose must have at least a rated minimum working pressure equal to the maximum hydraulic system relief valve setting.

All hydraulic hose must meet or exceed specifications as set forth by SAE J517.

Oil Flow		Hose Lengths		Inside Diameter		USE	Min. Working Pressure	
GPM	LPM	FEET	METERS	INCH	MM	(Press/Return)	PSI	BAR
Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks								
4-9	15-34	up to 10	up to 3	3/8	10	Both	2250	155
Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS								
4-6	15-23	up to 25	up to 7.5	3/8	10	Both	2500	175
4-6	15-23	26-100	7.5-30	1/2	13	Both	2500	175
5-10.5	19-40	up to 50	up to 15	1/2	13	Both	2500	175
5-10.5	19-40	51-100	15-30	5/8	16	Both	2500	175
5-10.5	19-40	100-300	30-90	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	up to 50	up to 15	5/8	16	Both	2500	175
10-13	38-49	51-100	15-30	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	100-200	30-60	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175
13-16	49-60	up to 25	up to 8	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
13-16	49-60	26-100	8-30	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175

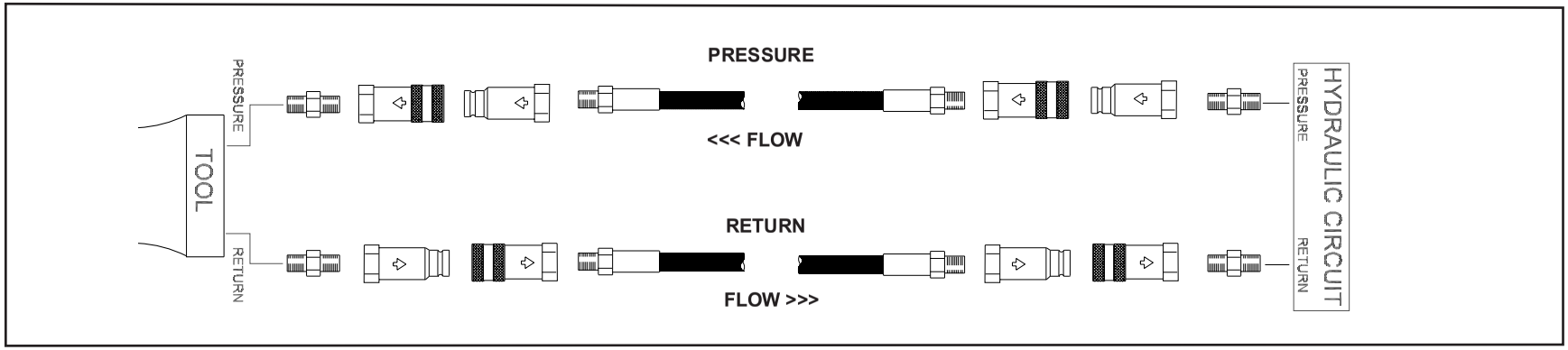

Figure 1. Typical Hose Connections

HTMA / EHTMA REQUIREMENTS

HTMA HYDRAULIC SYSTEM REQUIREMENTS	TOOL TYPE TYPE I	TYPE II	TYPE RR	TYPE III
Flow Range	4-6 gpm (15-23 lpm)	7-9 gpm (26-34 lpm)	9-10.5 gpm (34-40 lpm)	11-13 gpm (42-49 lpm)
Nominal Operating Pressure (at the power supply outlet)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)
System relief valve setting (at the power supply outlet)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2200-2300 psi (152-159 bar)	2100-2250 psi (145-155 bar)
Maximum back pressure (at tool end of the return hose)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)
Measured at a max. fluid viscosity of: (at min. operating temperature)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)
Temperature: Sufficient heat rejection capacity to limit max. fluid temperature to: (at max. expected ambient temperature)	140° F (60° C)	140° F (60° C)	140° F (60° C)	140° F (60° C)
Min. cooling capacity at a temperature difference of between ambient and fluid temps	3 hp (2.24 kW) 40° F (22° C)	5 hp (3.73 kW) 40° F (22° C)	6 hp (5.22 kW) 40° F (22° C)	7 hp (4.47 kW) 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 Min. full-flow filtration Sized for flow of at least: (For cold temp. startup and max. dirt-holding capacity)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)
Hydraulic fluid Petroleum based (premium grade, anti-wear, non-conductive) Viscosity (at min. and max. operating temps)	100-400 ssu*	100-400 ssu* (20-82 centistokes)	100-400 ssu*	100-400 ssu*

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

EHTMA HYDRAULIC SYSTEM REQUIREMENTS	CLASSIFICATION B (15Lpm at 138bar EHTMA CATEGORY)	C (20Lpm at 138bar EHTMA CATEGORY)	D (30Lpm at 138bar EHTMA CATEGORY)	E (40Lpm at 138bar EHTMA CATEGORY)	F (50Lpm at 138bar EHTMA CATEGORY)
Flow Range	3.5-4.3 gpm (13.5-16.5 lpm)	4.7-5.8 gpm (18-22 lpm)	7.1-8.7 gpm (27-33 lpm)	9.5-11.6 gpm (36-44 lpm)	11.8-14.5 gpm (45-55 lpm)
Nominal Operating Pressure (at the power supply outlet)	1870 psi (129 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)
System relief valve setting (at the power supply outlet)	2495 psi (172 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)

NOTE: These are general hydraulic system requirements. See tool specification page for tool specific requirements.

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PREOPERATION PROCEDURES

HYDRAULIC SYSTEM REQUIREMENTS

The hydraulic system should provide a flow of 10-14 gpm/38-53 lpm at an operating pressure of 1500-2000 psi/105-140 bar. Recommended relief valve settings are 2100-2250 psi/145-155 bar.

The system should have no more than 250 psi/17 bar backpressure measured at the tool end of the operating hoses. The system conditions for measurement are at maximum fluid viscosity of 400 ssu/82 centistokes (minimum operating temperatures).

The hydraulic system should have sufficient heat rejection capacity to limit the maximum oil temperature to 140° F/60° C at the maximum expected ambient temperature. The recommended minimum cooling capacity is 7 hp/5.22 kW at a 40 °F/22 °C difference between ambient temperature and oil temperature.

The hydraulic system should have a minimum of 25 micron filtration. It is recommended that filter elements be sized for a flow of at least 30 gpm/114 lpm for cold temperature startup and maximum dirt holding capacity.

The hydraulic fluid used should have a viscosity between 100 and 400 ssu/20 and 82 centistokes at the maximum and minimum expected operating temperatures. Petroleum based hydraulic fluids with antiwear properties and a viscosity index over 140 ssu/28 centistokes will meet the recommended requirements over a wide range of operating temperatures.

The recommended hose size is .625-inch/16 mm I.D. up to 50 ft/15 m long and .750-inch/20 mm I.D. minimum up to 100 ft/30 m long.

CHECK POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 10-14 gpm/38-53 lpm at 1500-2000 psi/105-140 bar.
2. Make certain that the hydraulic power source is equipped with a relief valve set to open at 2100-2250 psi/145-155 bar.

CONNECT HOSES

1. Wipe all hose couplers with a clean lint-free cloth before making connections.
2. Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. It is good practice to connect return hoses first and disconnect them last to minimize or avoid trapped pressure within the tool.
3. Observe the arrow on the couplers to ensure that the flow is in the proper direction. The female coupler on the tool hose is the inlet (pressure) coupler.
4. Move the hydraulic circuit control valve to the “ON” position to operate the tool.

NOTE:

If uncoupled hoses are left in the sun, pressure increase inside the hose may make them difficult to connect. Whenever possible, connect the free ends of the hoses together.

OPERATING PROCEDURES

The following are general wood cutting procedures and techniques. Differences in the terrain, vegetation, and type of wood will make this information more or less valid for particular areas. For advice on specific woodcutting problems or techniques for your area, consult your local Stanley representative or your county agent. They can often provide information that will make your work safer and more productive.

CUTTING TIPS

1. Check the lean of the tree. Tie a weight to a piece of string about 2 feet long. Hang the weight in your line of sight. The string is a good vertical line to help you judge the lean of the tree. The tree should fall the way it is leaning. Trees that are straight (leaning no more than 5 degrees) generally can be felled in any direction.
2. Avoid felling across another tree, log, rocks, gully or ridge. Do not fell straight uphill or downhill. Fell the tree diagonally to the hill. Consider the wind direction and velocity. Do not attempt cutting in strong winds.
3. Check the weight distribution. A tree is heavier on the side with the most limbs. It will try to fall on its heavy side. Trim a few limbs to “balance” the tree.
4. Clear the work area. You need a clean area all around the tree for good footing. Get everything out of the area where the tree will fall. Do not cut trees near structures. Because of the danger of electrocution, use extreme care when cutting trees near power lines.
5. Before starting the cut, prepare your escape path. Make sure the escape path is clear of brush and branches. The escape path should be at an angle away from the direction of fall.

6. The saw chain should cut with very little pressure applied to the handle. If you have to force the saw to cut or if the cut is not straight, cease cutting immediately to prevent further saw chain and bar damage. See the Maintenance and Adjustments section of this manual for chain replacement or adjustment procedures.
7. Underwater models require daily preventive maintenance. See the Maintenance and Adjustments section of this manual for these maintenance procedures.

FELLING (CUTTING DOWN A TREE) (FIGURE 2)

Observe all safety precautions. The spiked bumber (bucking cleat) must be installed for this operation.

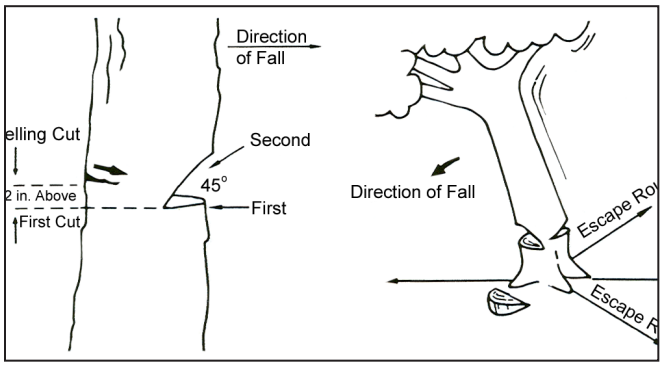

Figure 2. Felling a Tree

NOTCHING OR UNDERCUTTING

1. The notching or undercutting cut is made on the side you want the tree to fall. Place the saw so the hand guard is close to the tree trunk and the bucking cleat is dug in.
2. Start the cut horizontally. Pivot the nose of the bar in last. Cut to about one-quarter of the tree's diameter.
3. Watch out for falling limbs.
4. Make a diagonal cut down to meet the horizontal cut and remove the wood from the notch.

FELLING OR BACK CUT

5. The felling or back cut is made on the side opposite and at least 2 inches above the horizontal undercut (the felling cut is made higher as the size of the tree increases). Place the saw so the hand guard is close to the tree trunk and the bucking cleat is dug in.
6. Start the cut horizontally. Pivot the bar in until the cut is being made parallel to the notch cut. Cut until the saw is about 1 or 2 inches from the notch. Do not cut through the notch.

NOTE:

The uncut wood between the felling and notch cuts is called the hinge. The hinge controls the fall of the tree and should be of uniform thickness.

7. As the saw nears the back cut, watch the treetop and the cut for signs of movement. Be alert as soon as the tree starts to move, turn off the saw, pull it from the tree and move away quickly on your escape route.
8. For trees larger than bar length, make two felling cuts. Cut in as far as the bar will go, move to the other side and start the second cut in the same manner as the first while pivoting the saw to complete the felling cut.

BUCKING

Bucking is the sawing of a log or fallen tree into smaller pieces.

1. Observe all safety precautions.
2. Use both hands. Grip the saw firmly.
3. Stand uphill. A log that is cut loose may roll downhill.
4. Keep the chain out of the dirt. Dirt will dull the chain. A dull chain is unsafe.
5. Stand to the left of the saw.

CROSSCUTTING

NOTE:

Before starting to cut through a log try to imagine what is going to happen. Look out for stresses in the log and cut through the log in such a manner that the guide bar will not get pinched.

LOGS WITH PRESSURE ON TOP (FIGURE 3)

1. Observe all safety precautions.
2. Begin with an upper cut, down from the top. Do not cut too deeply. A cut of about 1/3 of the log diameter is enough.
3. Finish with a bottom cut. They should meet.

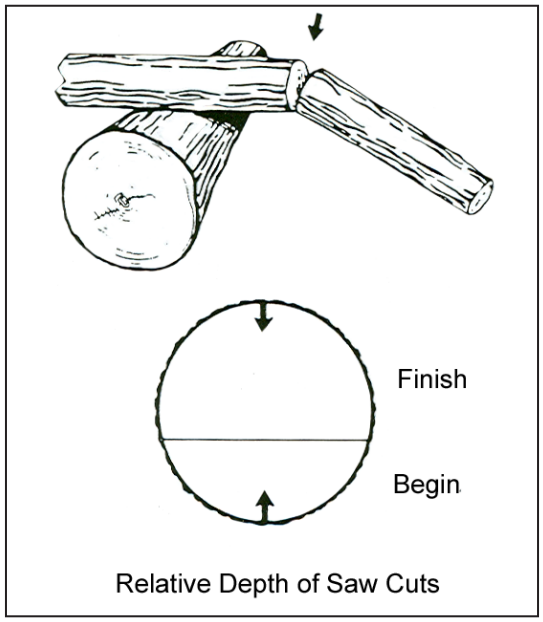

Figure 3. Crosscutting Logs with Pressure on Top

THICK LOGS LARGER THAN BAR LENGTH WITH PRESSURE ON TOP (FIGURE 4)

1. Observe all safety precautions.
2. Begin by cutting on the opposite side of the log.
3. Pull the saw towards you and cut from the top.
4. Cut from the bottom. Make a boring cut if the log is close to the ground.
5. Finish with a bottom cut.

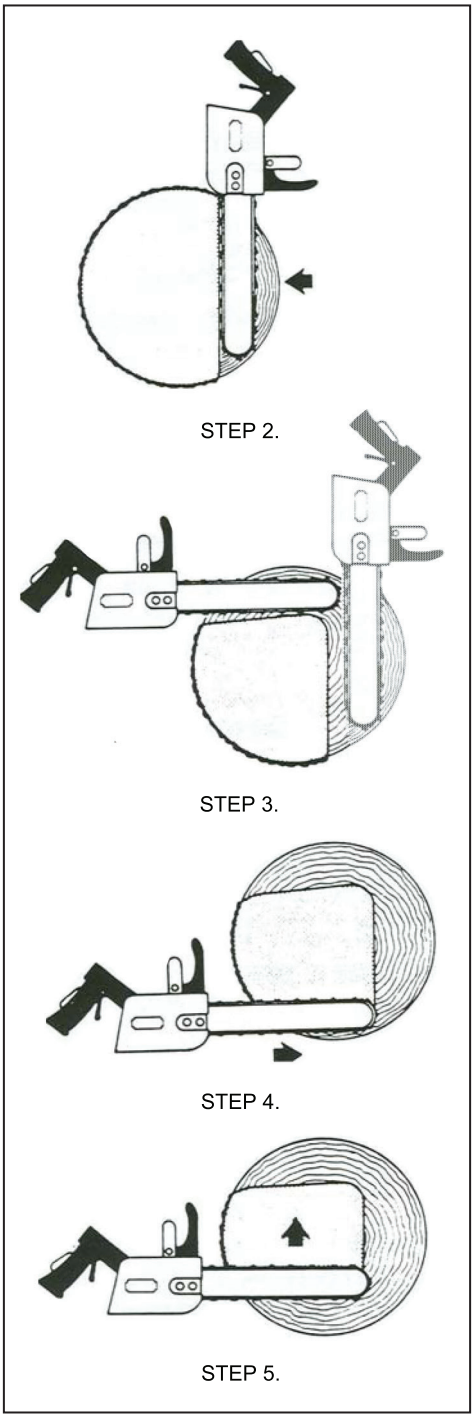

Figure 4. Crosscutting Logs Larger than Bar Length With Pressure on Top

LOGS/LIMBS WITH PRESSURE ON BOTTOM (FIGURE 5)

1. Observe all safety precautions.
2. Begin with a bottom cut. The depth of the cut should be about 1/3 of the log diameter.
3. Finish with an upper cut, down from the top. The saw cuts should meet.

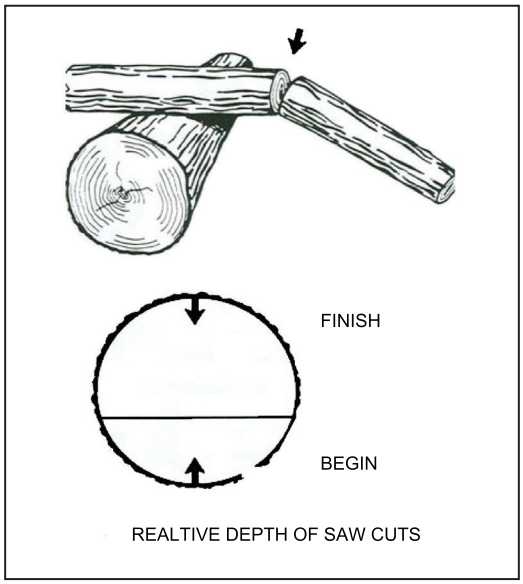

Figure 5. Crosscutting Logs/Limbs with Pressure on Bottom

THICK LOGS LARGER THAN BAR LENGTH WITH PRESSURE ON THE BOTTOM (FIGURE 6)

1. Observe all safety precautions.
2. Begin by cutting on the opposite side of the log.
3. Pull the saw towards you and cut from the top.
4. Cut from the bottom. Make a boring cut if the log is close to the ground.
5. Finish with a top cut.

PRUNING AND DEBRANCHING

1. Observe all safety precautions.
2. Use both hands. Keep a firm grip.
3. Be alert for kickback. Do not allow the tip of the bar to touch anything while the chain is in motion.
4. Do not cut overhead. Keep the saw below chest level. The chain is too close to your face in this position.

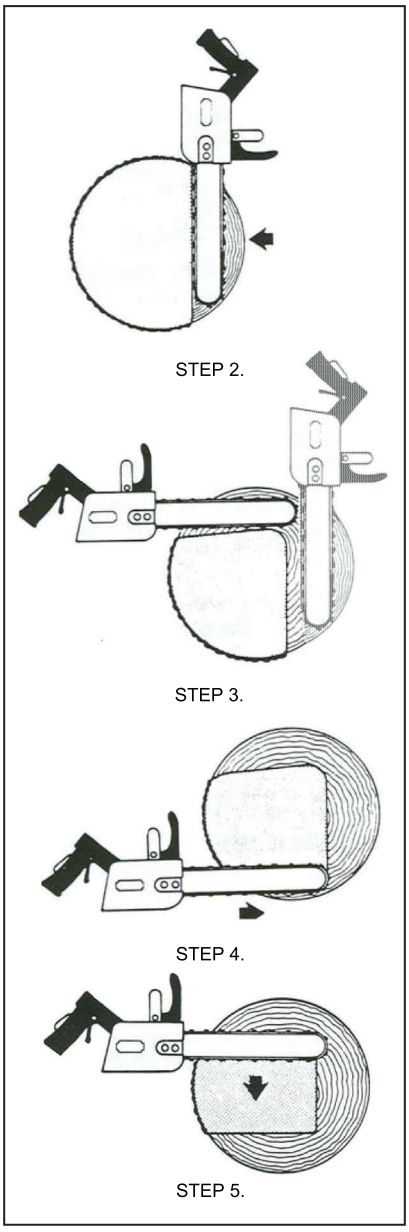

Figure 6. Crosscutting Logs Larger than Bar Length with Pressure on Bottom

COLD WEATHER OPERATION

If the saw is to used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended oils, oil should be at or above 50 °F/10 °C (400 ssu/ 82 centistokes) before use.

Damage to the hydraulic system or saw can result from use with fluid that is too viscous or thick.

Cutting frozen wood causes the cutters to wear, crack and break at the back rivet hole unless proper precautions are taken. To extend chain life when cutting in cold weather:

1. Be sure the oiler is working.
2. Keep the chain tensioned and check often.
3. Keep the cutters properly sharpened. Touch up at least every hour. Never force a dull chain to cut.
4. Clean out the bar groove and keep the oil hole open. Turn the bar over to equalize wear on the rails.
5. Always install a new sprocket with a new chain.

TOOL PROTECTION & CARE

NOTICE

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the “OFF” position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the “IN” port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow and pressure. See Specifications page in this manual for correct flow rate and pressure rating. Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.

TROUBLESHOOTING

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem. When diagnosing faults in operation of the saw, always make sure the hydraulic power source is supplying the correct hydraulic flow and pressure to the saw as listed in the table. Use a flow meter know to be accurate. Check the flow with the hydraulic fluid temperature at least 80 °F/27 °C.

PROBLEM	CAUSE	REMEDY
Cuts slow.	Insufficient fluid flow or low relief valve setting.	Adjust fluid flow to proper gpm. For optimum performance adjust relief valve to 2250 psi/155 psi.
	Chain dull.	Sharpen per instructions or replace.
	Backpressure too high.	Should not exceed 250 psi/17 bar at 14 gpm/53 lpm measured at the end of the tool operating hoses.
Bar turns color.	Insufficient oiler flow.	Use manual oiler during heavy cuts.
		Adjust oiler per service instructions.
Tool does not run.	Power unit not functioning.	Check power unit for proper flow and pressure (10 gpm/38 lpm at 1500 psi/104 bar minimum).
	Coupler or hoses blocked.	Remove obstruction.
	Mechanical failure.	Disassemble tool and inspect for damage.
Tool runs backwards.	Pressure and return reversed.	Connect for proper flow direction. Motor shaft rotates clockwise.
On/Off trigger is hard to press.	Pressure and return reversed.	Correct for proper flow direction.
	Backpressure too high.	Should not exceed 250 psi/17 bar at 14 gpm/53 lpm measured at the end of the tool operating hoses.
Oil leakage around drive sprocket.	Motor shaft seal failure.	Replace as required. Make sure that oil present is not the result of excess oiler flow.
Oil leakage between rear gear housing and valve handle assembly.	Motor face seal failure.	Replace as required.
Chain continues to move after valve is shut off.	Chain is too loose.	Tighten chain.
	Input flow too high.	Decrease flow.

UNDERWATER TOOLS DEPTH GUIDELINE

UNDERWATER MODEL CS113N0001 ONLY

⚠ CAUTION

DO NOT USE HYDRAULIC TOOLS UNDERWATER THAT ARE NOT DESIGNATED AS AN "UNDERWATER" MODEL, OR THIS WILL RESULT IN DAMAGE TO THE TOOL.

For underwater hydraulic tools the applications are broken down into four quadrants depending on type of tool and method of operation.

The types of tools are percussive and rotational, each with different characteristics allowing for different depth operation. With percussive tools, the nitrogen accumulator PSI must counter the increase in ambient pressure found at lower depths. Since there is a maximum PSI for percussive tools they are limited to certain depths. Rotational tools do not have accumulators and thus capable of deeper depths.

The methods are broken into diver operated or remote operated vehicle (ROV). ROV's can reach lower depths and with an on-board hydraulic power source that is depth compensated, can operate hydraulic tools at depths of thousands of feet. ROV operation is still limited to the tool, for example a percussive tool has the same depth limitation whether ROV or diver operated.

Operation Overview

	Percussive	Rotational
Diver	Tools: Breakers, Hammer Drills and Chipping Hammers Max Depth: 500' - limitations due to accumulator PSI max (increase 40 PSI for every 100')	Tools: Grinders, Saws, Chain Saws Max Depth: 1000' - Reference hose sizing guide below
ROV	Tools: Breakers, Hammer Drills and Chipping Hammers Max Depth: 500' - limitations due to accumulator PSI max (increase 40 PSI for every 100')	Tools: Grinders, Saws, Chain Saws Max Depth: 1000' - Reference hose sizing guide below

Recommended Hose Diameters

Depth (ft)	8 GPM	12 GPM
100	5/8"	5/8"
300	3/4"	1"
600	1"	1"
1000	1"	1-1/4"

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SPECIFICATIONS

Capacity	24, 32, 36, 42 inches/61, 81, 91, 106 cm Cut Lengths
Weight	14 lbs/6.3 kg
Length	17 inches/43 cm
Width	9 inches/23 cm
Pressure	1500–2000 psi/105–140 bar
Flow Range	10–14 gpm/38–53 lpm
Optimum Flow	14 gpm/53 lpm
Porting	8 SAE O-ring
Connect Size and Type	1/2 inch Male Pipe Hose End
Hose Whips	Yes
Motor	Hyrevz™
Kickback Reduction Features	Front Hand Guard, Low Inertia Motor/Drive System

ACCESSORIES

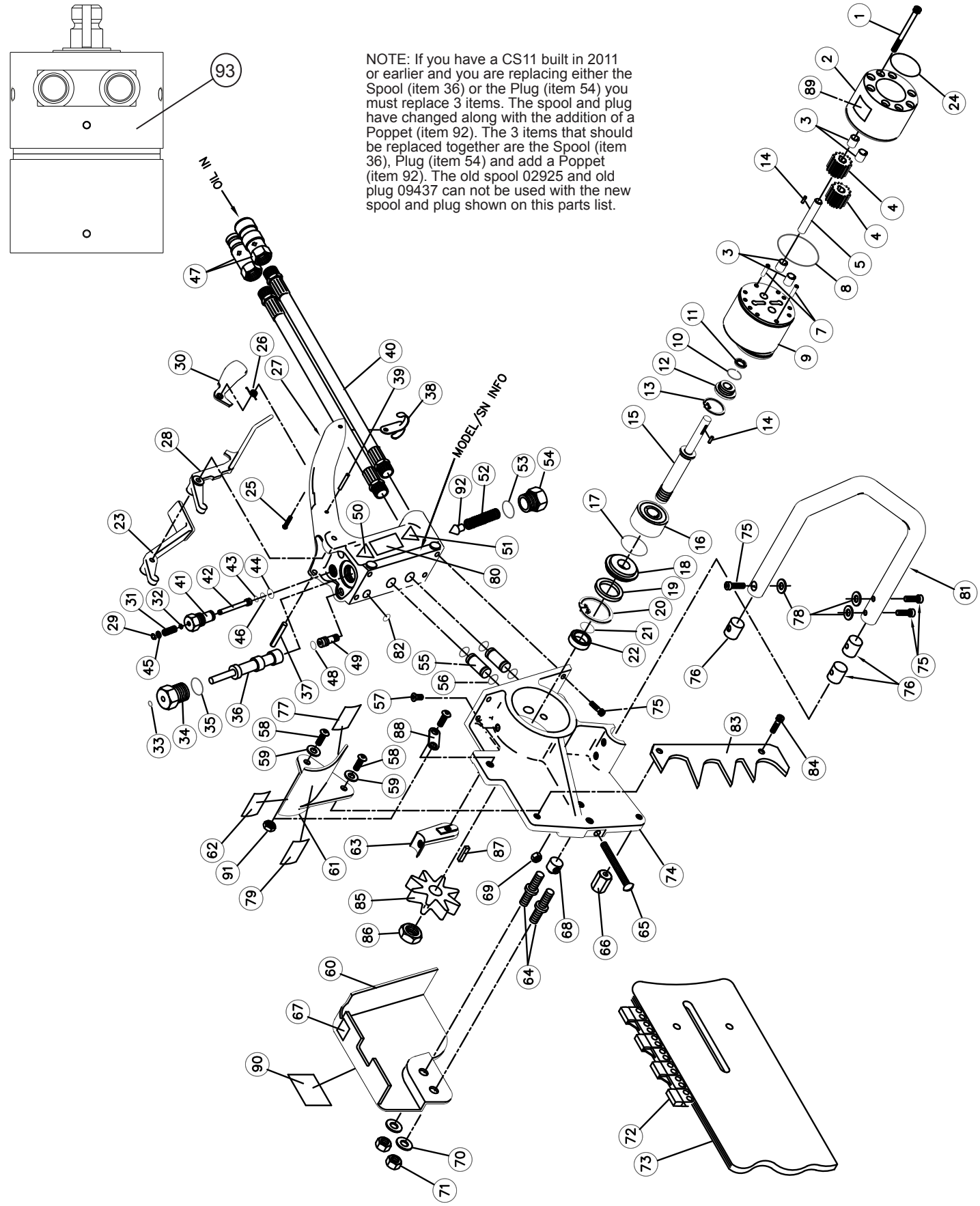
24-inch Saw Chain	72951
24-inch Cut Sprocket Nose Bar	72947
32-inch Saw Chain	72952
32-inch Cut Sprocket Nose Bar	72948
36-inch Saw Chain	72953
36-inch Cut Sprocket Nose Bar	72949
42-inch Saw Chain	72954
42-inch Cut Sprocket Nose Bar	72950
Stud Kit To Convert old CS11's To New Bar (Includes 2-Stud's, 2 Nuts, 2 Washers & Inst Sheet)	72960

This new bar change started end of May 2012

SERVICE TOOLS

Motor Seal Kit, 3 Pc (for P/N 03272 Motor)	03327
Repair Kit	03328
O-Ring Tool Kit	04337
Bearing Installation Tool	05044
Motor Seal Kit, 2 Pc (for P/N 21444 Motor)	10569
Repair Kit	10570
Motor Seal Kit, 2 Pc (for P/N 21443 Motor)	10571
Repair Kit	10572

CS11 PARTS ILLUSTRATION



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CS11 PARTS LIST

ITEM NO.	P/N	QTY	DESCRIPTION
1	00612	8	CAPSCREW
2	31849	1	REAR GEAR HOUSING
3	06316	4	BUSHING
4	06853	2	DRIVE GEAR
5	73309	1	IDLER SHAFT
7	00713	2	DOWEL PIN
8	00178	1	O-RING *
9	21436	1	FRONT BEARING HOUSING ASSY INCLUDES ITEMS 3 AND EXPANDER PLUG
10	00171	1	O-RING *
11	00669	1	QUAD RING *
12	19884	1	SEAL GLAND
13	00170	1	RETAINER RING
14	06881	2	NEEDLE ROLLER
15	07359	1	MOTOR SHAFT
16	00148	1	BEARING •
17	02905	1	O-RING *
18	03104	1	KEEPER, SEAL & BEARING
19	03110	1	TEFLON SEAL *
20	00633	1	RETAINER RING
21	01211	1	O-RING *
22	03280	1	SPACER, SEAL RACE
23	02924	1	MANUAL OIL TRIGGER
24	74751	1	NAME TAG
25	00094	1	SCREW
26	02915	1	TORSION SPRING
27	02945	1	VALVE HANDLE ASSY
28	02941	1	TRIGGER
29	03007	1	RETAINER RING
30	02943	1	SAFETY CATCH
31	02914	1	SPRING
32	00026	1	O-RING *
33	00717	1	O-RING *
34	02931	1	VALVE CAP
35	01604	1	O-RING *
36	31138	1	VALVE SPOOL (BEFORE ORDERING THIS PART SEE NOTE PAGE 21 ILLUSTRATION)
37	03279	1	ROLL PIN
38	02911	1	HOSE CLIP
39	03278	1	ROLL PIN
40	06830	2	HOSE WHIP
41	02932	1	MANUAL OIL PLUG
42	02922	1	MANUAL OIL PLUNGER
43	05632	1	O-RING *
44	01411	1	O-RING *
45	04139	1	WASHER
46	01362	1	O-RING *
47	03974	1	COUPLER SET 1/2" NPT
48	01362	1	O-RING *
49	02921	1	AUTO OILER ADJUSTMENT PLUG
50			
51			

ITEM NO.	P/N	QTY	DESCRIPTION
52	02916	1	SPRING
53	01604	1	O-RING *
54	31137	1	PLUG (BEFORE ORDERING THIS PART SEE NOTE PAGE 21 ILLUSTRATION)
55	02912	2	OIL TUBE
56	00175	4	O-RING *
57	03006	2	CAPSCREW
58	02764	1	CAPSCREW
59	12175	2	WASHER
60	02933	1	CHAIN GUARD
61	07473	1	HAND GUARD
62			
63	20461	1	HANDLE STRUT
64	72955	2	STUD
65	02765	1	SCREW •
66	12174	1	CHAIN STOP
67	04746	1	AUTO OILER DECAL
68	03275	1	BAR ADJUSTMENT NUT •
69	17134	1	NUT •
70	72957	2	PLAIN WASHER
71	72956	2	NUT •
72	72951		SAW CHAIN, 24 INCH SAW BAR
	72952	1	SAW CHAIN, 32 INCH SAW BAR
	72953		SAW CHAIN, 36 INCH SAW BAR
	72954		SAW CHAIN, 42 INCH SAW BAR
73	72947		SAW BAR, 24 INCH SPROCKET NOSE
	72948	1	SAW BAR, 32 INCH SPROCKET NOSE
	72949		SAW BAR, 36 INCH SPROCKET NOSE
	72950		SAW BAR, 42 INCH SPROCKET NOSE
74	02947	1	CHAIN SAW ADAPTOR ASSY
75	02764	10	CAPSCREW
76	02649	3	HANDLE BAR RETAINER
77	12412	1	WARNING DECAL ELECTRICAL
78	02643	3	NEOPRENE WASHER
79	13907	1	WARNING DECAL, KICKBACK
80	03790	1	GPM DECAL
81	02936	1	HANDLE BAR
82	00018	1	O-RING *
83	02913	1	BUCKET CLEAT
84	02449	1	CAPSCREW
85	02938	1	DRIVE SPROCKET •
86	03273	1	NUT
87	03023	1	KEY •
88	12248	1	LINK PLATE
91	09277	1	HEX NUT
92	31186	1	POPPET (CONE)
93	21444	1	MOTOR ASSEMBLY CS11

SEAL KIT (CS11).....10569 •
REPAIR KIT (Includes Seal Kit 10569).....10570
(* Denotes Part in Seal Kit) (• Denotes Part in Repair Kit)

STANLEY®

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