

# STANLEY®

## CH18 HYDRAULIC CHIPPING HAMMER



### USER MANUAL Safety, Operation and Maintenance



© 2014 Stanley Black & Decker, Inc.  
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## IMPORTANT

To fill out a product warranty validation form, and for information on your warranty, visit [www.stanleyinfrastructure.com](http://www.stanleyinfrastructure.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. Stanley Infrastructure recommends that 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 certified dealer, call Stanley Infrastructure at (503) 659-5660 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.



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



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



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



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



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



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.

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# 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 CH18 Hydraulic Chipping Hammer 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 hoses before operation. Failure to do so could result in personal injury or equipment damage.



- Operator must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, ear, head protection, and safety shoes at all times when operating the tool.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Be sure all hose connections are tight.
- The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling the tool. Wipe all couplers clean before connecting. Use only lint-free cloths. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Do not operate the tool at oil temperatures above 140 °F/60 °C. Operation at higher oil temperatures can cause operator discomfort and may damage the tool.
- Do not operate a damaged, improperly adjusted, or incompletely assembled tool.
- Do not weld, cut with an acetylene torch, or hardface the tool bit.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Stanley Hydraulic Tools.
- Check fastener tightness often and before each use daily.
- Never operate the tool if you cannot be sure that underground utilities are not present.
- Do not wear loose fitting clothing when operating the tool.
- **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.

# TOOL STICKERS & TAGS

|                                                                                    |                                           |
|------------------------------------------------------------------------------------|-------------------------------------------|
| <b>STANLEY</b> Stanley Hydraulic Tools<br>3810 SE Naef Road<br>Milwaukie, OR 97267 |                                           |
| MODEL NO.<br>CH18                                                                  | 7-9 GPM / 26-34 LPM<br>2000 PSI / 140 BAR |

28852 NAME TAG

## CAUTION

**7-9 GPM / 26-34 LPM  
DO NOT EXCEED 2000 PSI / 140 BAR**

DO NOT EXCEED SPECIFIED FLOW OR PRESSURE  
USE CLOSED-CENTER TOOL ON CLOSED-CENTER  
SYSTEM. USE OPEN-CENTER TOOL ON OPEN-CENTER  
SYSTEM. CORRECTLY CONNECT HOSES TO TOOL "IN"  
AND "OUT" PORTS. IMPROPER HANDLING, USE OR OTHER  
MAINTENANCE OF TOOL COULD RESULT IN A LEAK, BURST  
OR OTHER TOOL FAILURE. CONTACT AT A LEAK OR BURST  
CAN CAUSE OIL INJECTION INTO THE BODY. FAILURE TO  
OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS  
PERSONAL INJURY.

03786 GPM STICKER



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.

**DANGER**

1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.  
BEFORE USING HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRICAL 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

**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 PRESSURING 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 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

SAFETY TAG P/N 15875 (Shown smaller than 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.*

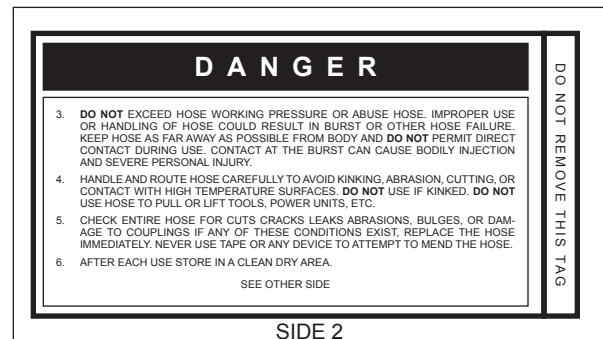
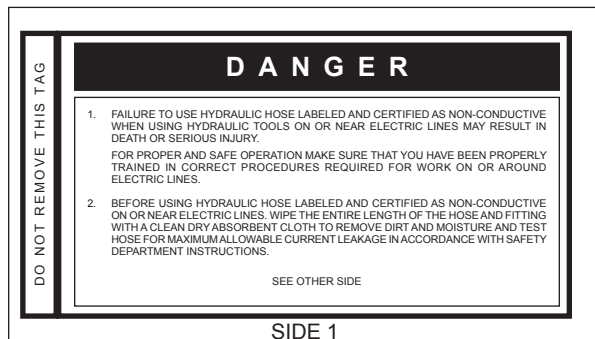
**Fabric-braided** (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical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

## HOSE SAFETY TAGS

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

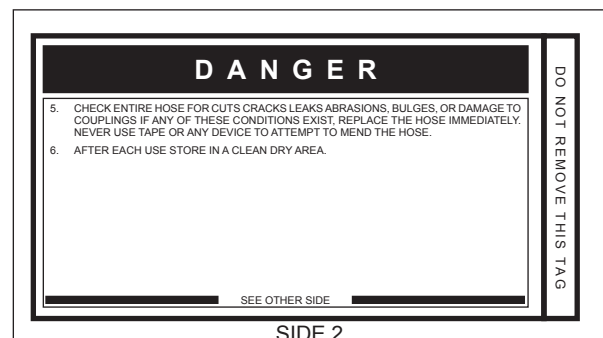
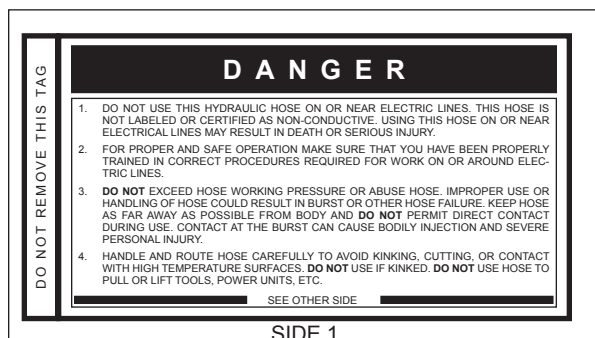
If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your STANLEY Distributor.

### THE TAG SHOWN BELOW IS ATTACHED TO “CERTIFIED NON-CONDUCTIVE” HOSE



(Shown smaller than actual size)

### THE TAG SHOWN BELOW IS ATTACHED TO “CONDUCTIVE” HOSE.



(Shown smaller than actual size)

# HOSE RECOMMENDATIONS

## 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<br>(Press/Return) | Min. Working Pressure |     |
|--------------------------------------------------------------------------------------------|-------|--------------|-----------|-----------------|----|-----------------------|-----------------------|-----|
|                                                                                            |       |              |           |                 |    |                       |                       |     |
| GPM                                                                                        | LPM   | FEET         | METERS    | INCH            | MM |                       | PSI                   | BAR |
| <b>Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks</b>             |       |              |           |                 |    |                       |                       |     |
| 4-9                                                                                        | 15-34 | up to 10     | up to 3   | 3/8             | 10 | Both                  | 2250                  | 155 |
| <b>Conductive Hose - Wire Braid or Fiber Braid - DO NOT USE NEAR ELECTRICAL CONDUCTORS</b> |       |              |           |                 |    |                       |                       |     |
| 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 |
| 10-13                                                                                      | 38-49 | up to 50     | up to 15  | 3/4             | 19 | Return                | 2500                  | 175 |
| 10-13                                                                                      | 38-49 | 51-100       | 15-30     | 5/8             | 16 | Both                  | 2500                  | 175 |
| 10-13                                                                                      | 38-49 | 100-200      | 30-60     | 5/8             | 16 | Pressure              | 2500                  | 175 |
| 13-16                                                                                      | 49-60 | up to 25     | up to 8   | 3/4             | 19 | Return                | 2500                  | 175 |
| 13-16                                                                                      | 49-60 | 26-100       | 8-30      | 3/4             | 19 | Pressure              | 2500                  | 175 |

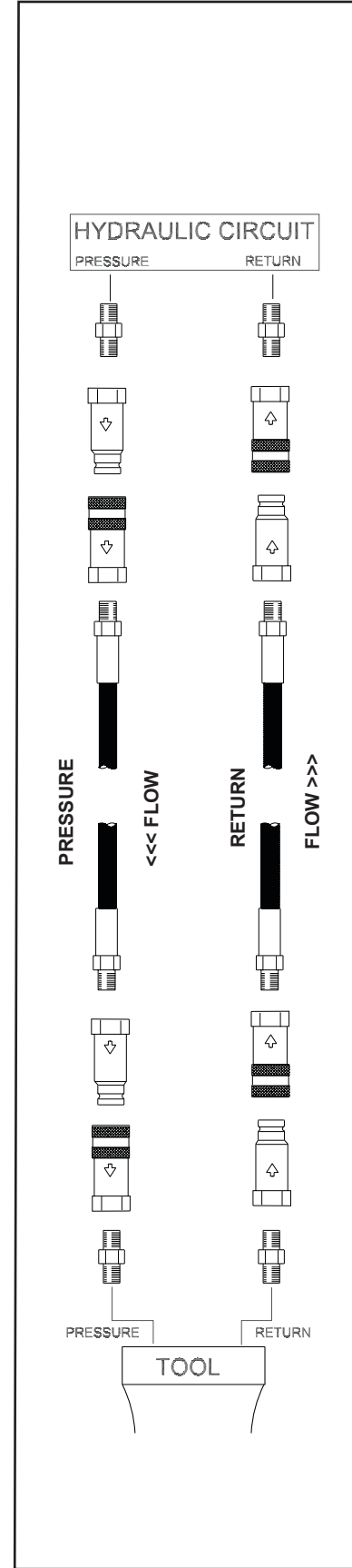


Figure 1. Typical Hose Connections

# HTMA / EHTMA REQUIREMENTS

## HTMA / EHTMA REQUIREMENTS

### TOOL TYPE

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

### CLASSIFICATION

| EHTMA<br>HYDRAULIC SYSTEM<br>REQUIREMENTS                   |                                |                            |                            |                             |                              |
|-------------------------------------------------------------|--------------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|
| Flow range                                                  | 3.5-4.3 GPM<br>(13.5-16.5 LPM) | 4.7-5.8 GPM<br>(18-22 LPM) | 7.1-8.7 GPM<br>(27-33 LPM) | 9.5-11.6 GPM<br>(36-44 LPM) | 11.8-14.5 GPM<br>(45-55 LPM) |
| Nominal operating pressure<br>(At the power supply outlet)  | 1870 psi<br>(129 bar)          | 1500 psi<br>(103 bar)      | 1500 psi<br>(103 bar)      | 1500 psi<br>(103 bar)       | 1500 psi<br>(103 bar)        |
| System relief valve setting<br>(At the power supply outlet) | 2495 psi<br>(172 bar)          | 2000 psi<br>(138 bar)      | 2000 psi<br>(138 bar)      | 2000 psi<br>(138 bar)       | 2000 psi<br>(138 bar)        |

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

# OPERATION

## PREPARATION PROCEDURES

The tool, as shipped, has no special unpacking or assembly requirements prior to usage. Inspection to assure the tool was not damaged in shipping and does not contain packing debris, is all that is required.

### CHECK HYDRAULIC POWER SOURCE

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 1500–2000 psi/105–140 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.
3. Check that the hydraulic circuit matches the tool for open-center (OC) operation.

### CHECK TOOL

1. Ensure all tool accessories are correctly installed. Failure to properly install tool accessories can result in damage to the tool or personal injury.
2. There should be no signs of leaks.
3. The tool should be clean, with all fittings and fasteners tight.

### CHECK TRIGGER MECHANISM

1. Check that the trigger operates smoothly and is free to travel between the “ON” and “OFF” positions.

## INSTALL TOOL BIT

The tool accepts standard 0.580 in hex x 2-1/2 inch long hex shank tool bits.

### TO INSTALL A HEX SHANK TOOL BIT

1. Push in the retainer, insert the hex shank tool bit and move the retainer back into locked position. Note the orientation of the particular tool bit that is being installed.

## 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 hose couplers on the tool. Connect the return hose first and disconnect it last to minimize trapped pressure within the tool.
3. Observe flow indicators stamped on hose couplers to be sure that oil will flow in the proper direction. The female coupler is the inlet coupler.

**Note:** The pressure increase in uncoupled hoses left in the sun may result in making them difficult to connect. When possible, connect the free ends of operating hoses together.

## OPERATING PROCEDURES

1. Observe all safety precautions.
2. Move the hydraulic circuit control valve to the “ON” position.
3. Place the tool bit firmly on the surface you are to work on.
4. Squeeze the trigger to start the tool. Adequate down pressure is very important.

### IMPORTANT

Do not use the CH18 underwater, unless designated for underwater use.

## COLD WEATHER OPERATION

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

## STORAGE

1. Disconnect the tool from the hydraulic power source.
2. Remove the tool bit and spray the tool bit retainer area with WD-40™, inside and out.
3. Wipe clean and store in a clean, dry place.

## UNDERWATER MODEL PREVENTATIVE MAINTENANCE

After each use, the movable portions of the tool that were exposed to water should be flushed with a water displacing oil, such as WD-40™. Remove any remaining water and debris as follows:

1. Turn the tool upside down (without the tool bit) and spray oil throughout the inside of the retainer nose including the retainer cap and any moving parts, also spray any of the exposed piston area to displace any remaining water.
2. Spray oil into the On/Off valve trigger slot area.
3. Dip or spray the entire tool.
4. Cycle the tool hydraulically several times before storing away.

# 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 grinder, always check that the hydraulic power source is supplying the correct hydraulic flow and pressure to the grinder, as listed in the table. Use a flow meter known to be accurate. Check the flow with the hydraulic oil temperature at least 80 °F/27 °C.

| PROBLEM                        | CAUSE                                             | SOLUTION                                                                                    |
|--------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------|
| Tool does not run.             | Power unit not functioning.                       | Check power unit for proper flow and pressure 7–9 GPM/26–34 LPM, 1500–2000 psi/105–140 bar. |
|                                | Couplers or hoses blocked.                        | Remove restriction.                                                                         |
|                                | Pressure and return line hoses reversed at ports. | Be sure hoses are connected to their proper ports.                                          |
|                                | Mechanical failure of piston or internal parts.   | Have inspected and repaired by an authorized dealer.                                        |
| Tool does not hit effectively. | Power unit not functioning.                       | Check power unit for proper flow and pressure 7–9 GPM/26–34 LPM, 1500–2000 psi/105–140 bar. |
|                                | Couplers or hoses blocked.                        | Remove restriction.                                                                         |
|                                | Fluid too hot (above 140 °F/60 °C).               | Provide cooler to maintain proper fluid temperature.                                        |
|                                | Incorrect tool bit.                               | Ensure tool bit meets specifications.                                                       |
| Tool operates slow.            | Low oil flow from power unit.                     | Check power source for proper flow.                                                         |
|                                | High back-pressure.                               | Check hydraulic system for excessive back-pressure and correct as required.                 |

## TOOL PROTECTION & CARE

### NOTICE

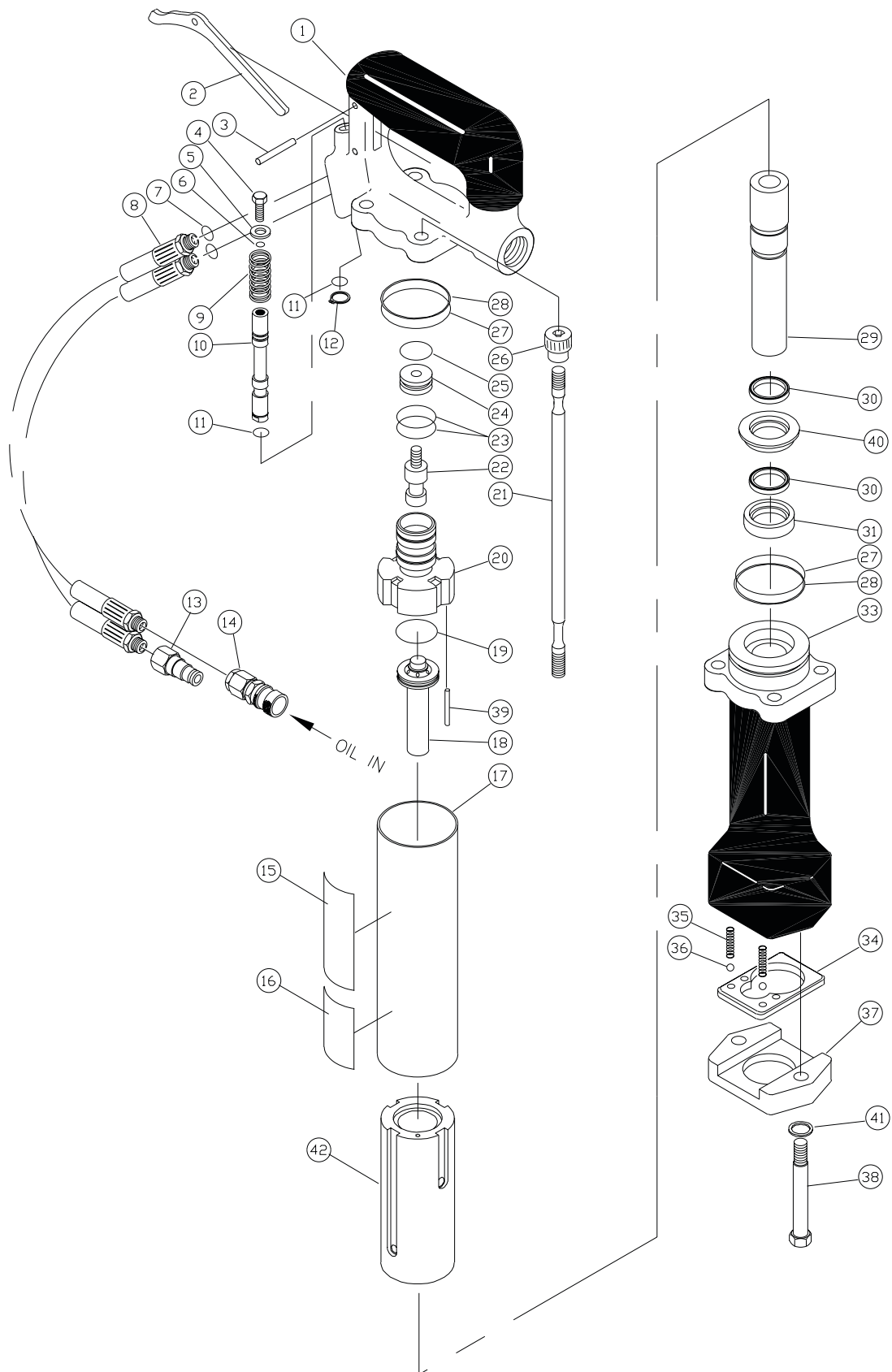
In addition to the safety precautions found in this manual, observe the following for equipment protection and care.

- Ensure 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. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow. Rapid failure of the internal seals may result. See “SPECIFICATIONS” on page 13 for correct flow rate and model number.
- 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.

## SPECIFICATIONS

|                      |                                 |
|----------------------|---------------------------------|
| Weight .....         | 24 lbs / 10.9 kg                |
| Pressure Range.....  | 1500-2000 psi / 105-140 bar     |
| Flow Range .....     | 7-9 GPM / 26-34 LPM             |
| Optimum Flow .....   | 8 GPM / 30 LPM                  |
| Porting .....        | 3/8 in. Male Pipe Hose End      |
| Length.....          | 20 in. / 51 cm                  |
| System Type.....     | Open Center                     |
| Accessory Shank..... | 0.580 in. Hex × 2-1/2 in. Shank |

# CH18 PARTS ILLUSTRATION



# CH18 PARTS LIST

| ITEM NO. | PART NO. | QTY | DESCRIPTION                                                                                                    |
|----------|----------|-----|----------------------------------------------------------------------------------------------------------------|
| 1        | 02890    | 1   | HANDLE BODY ASSY (INCL ITEMS 11, 27, 28)                                                                       |
| 2        | 02853    | 1   | TRIGGER                                                                                                        |
| 3        | 24316    | 1   | DOWEL PIN                                                                                                      |
| 4        | 02959    | 1   | SPOOL SCREW                                                                                                    |
| 5        | 24348    | 1   | WASHER                                                                                                         |
| 6        | 02901    | 1   | O-RING                                                                                                         |
| 7        | 03252    | 2   | O-RING                                                                                                         |
| 8        | 01412    | 2   | HOSE ASSY                                                                                                      |
| 9        | 02846    | 1   | SPRING                                                                                                         |
| 10       | 02881    | 1   | ON/OFF SPOOL – OPEN CENTER                                                                                     |
| 11       | 03252    | 2   | O-RING                                                                                                         |
| 12       | 00752    | 1   | RETAINING RING                                                                                                 |
| 13       | 03973    | 1   | MALE COUPLER BODY                                                                                              |
| 14       | 03972    | 1   | FEMALE COUPLER BODY                                                                                            |
| 15       | 28852    | 1   | NAME TAG                                                                                                       |
| 16       | 03786    | 1   | GPM STICKER                                                                                                    |
| 17       | 71475    | 1   | OUTER TUBE (IF PURCHASING OUTER TUBE YOU MUST ORDER P/N-71475 WHICH INCLUDES OUTER TUBE & ITEM 42 FLOW SLEEVE) |
| 18       | 03958    | 1   | OIL TUBE                                                                                                       |
| 19       | 01259    | 1   | O-RING                                                                                                         |
| 20       | 03253    | 1   | VALVE BODY                                                                                                     |
| 21       | 02848    | 4   | BOLT ASSY (INCL ITEM 26)                                                                                       |
| 22       | 02880    | 1   | REVERSING SPOOL                                                                                                |
| 23       | 00211    | 2   | O-RING                                                                                                         |
| 24       | 03254    | 1   | VALVE GLAND                                                                                                    |
| 25       | 01772    | 1   | O-RING                                                                                                         |
| 26       | 02454    | 4   | ALLEN NUT (FURNISHED WITH ITEM 21)                                                                             |
| 27       | 02177    | 2   | O-RING                                                                                                         |
| 28       | 02865    | 2   | BACK-UP RING                                                                                                   |
| 29       | 03959    | 1   | PISTON                                                                                                         |
| 30       | 02907    | 2   | ROD SEAL                                                                                                       |
| 31       | 04175    | 1   | INSERT                                                                                                         |
| 32       | —        | —   | NO ITEM                                                                                                        |
| 33       | 04015    | 1   | RETAINER NOSE (LAND MODEL) INCLUDES ITEMS 30, 31, 33 THRU 38, 40 AND 41.                                       |

| ITEM NO. | PART NO. | QTY | DESCRIPTION                                                              |
|----------|----------|-----|--------------------------------------------------------------------------|
|          | 04014    | 1   | RETAINER NOSE (UNDERWATER) INCLUDES ITEMS 30, 31, 33 THRU 38, 40 AND 41. |
| 34       | 04012    | 1   | RETAINER                                                                 |
| 35       | 03190    | 2   | SPRING                                                                   |
| 36       | 02436    | 2   | BALL                                                                     |
| 37       | 04010    | 1   | RETAINER CAP                                                             |
| 38       | 02665    | 2   | CAPSCREW                                                                 |
| 39       | 02843    | 1   | PIN                                                                      |
| 40       | 07049    | 1   | INSERT                                                                   |
| 41       | 03031    | 2   | LOCKWASHER                                                               |
| 42       | 71475    | 1   | FLOW SLEEVE ASSY, (NOTE: THIS ITEM INCLUDES ITEM 17 OUTER TUBE)          |

| SEAL KIT PART NUMBER 03331 CH18-DR19 LAND |     |              |
|-------------------------------------------|-----|--------------|
| PART NO.                                  | QTY | DESCRIPTION  |
| 02901                                     | 1   | O-RING       |
| 03252                                     | 2   | O-RING       |
| 02865                                     | 2   | BACK-UP RING |
| 02177                                     | 2   | O-RING       |
| 03127                                     | 1   | ROD WIPER    |
| 02302                                     | 1   | ROD SEAL     |
| 01259                                     | 1   | O-RING       |
| 01772                                     | 1   | O-RING       |
| 00211                                     | 2   | O-RING       |
| 02907                                     | 2   | ROD SEAL     |

| SEAL KIT PART NUMBER 03843 U/W |     |              |
|--------------------------------|-----|--------------|
| PART NO.                       | QTY | DESCRIPTION  |
| 03351                          | 1   | O-RING       |
| 03364                          | 1   | O-RING       |
| 02901                          | 1   | O-RING       |
| 03252                          | 2   | O-RING       |
| 02865                          | 2   | BACK-UP RING |
| 02177                          | 2   | O-RING       |
| 03127                          | 1   | ROD WIPER    |
| 02302                          | 1   | ROD SEAL     |
| 01259                          | 1   | O-RING       |
| 01772                          | 1   | O-RING       |
| 00211                          | 2   | O-RING       |
| 02907                          | 2   | ROD SEAL     |

# UNDERWATER TOOLS DEPTH GUIDELINE

## UNDERWATER MODELS 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 are 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<br><br>Max Depth: 500' - limitations due to accumulator PSI max (increase 40 PSI for every 100') | Tools: Grinders, Saws, Chain Saws<br><br>Max Depth: 1000' - Reference hose sizing guide below |
| ROV   | Tools: Breakers, Hammer Drills and Chipping Hammers<br><br>Max Depth: 500' - limitations due to accumulator PSI max (increase 40 PSI for every 100') | Tools: Grinders, Saws, Chain Saws<br><br>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" |









# **STANLEY®**

STANLEY Infrastructure  
6430 SE Lake Road  
Portland, Oregon 97222 USA  
(503) 659-5660 / Fax (503) 652-1780  
[www.stanleyinfrastructure.com](http://www.stanleyinfrastructure.com)