STANLEY®

DR19
HYDRAULIC
DIGGER

USER MANUAL
Safety, Operation and Maintenance

© 2014 STANLEY Black & Decker, Inc.
New Britain, CT 06053
U.S.A.
62213 12/2017 Ver. 7

TABLE OF CONTENTS

SAFETY SYMBOLS 4
TOOL STICKERS & TAGS 6
HOSE TYPES 7
HOSE RECOMMENDATIONS 8
HTMA / EHTMA REQUIREMENTS 9
OPERATION 10
TOOL PROTECTION & CARE 11
TROUBLESHOOTING 12
SPECIFICATIONS 13
DR19 PARTS ILLUSTRATION 14
DR19 PARTS LIST 15

IMPORTANT

To fill out a product warranty validation form, and for information on your warranty, visit 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.

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

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

CAUTION — This safety alert and signal word indicates 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.

SAFETY PRECAUTIONS

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

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

Supervising personnel may specify additional precautions for your work area to comply with company policies and local safety regulations. Enter added precautions in the space provided in this manual.

The DR19 Hydraulic Digger will provide safe, dependable service if operated in accordance with the instructions given in this manual. Read and understand the manual 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.

- 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 of the tool.
- Do not operate the tool unless thoroughly trained or under the supervision of the instructor.
- Always wear personal protection equipment (PPE) such as goggles, safety shoes, head, eye, breathing, and ear protection when operating the tool. Use gloves and aprons when necessary.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the equipment can cause serious injury.
- Supply hoses must have a minimum working pressure rating of 2500 psi/175 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 fluid temperatures above 140 °F/60 °C. Operation at high temperatures can cause operator discomfort.
- Keep the hydraulic fluid clean at all times. Contaminated fluid causes rapid wear and early failure of internal parts.
- Do not operate the tool if it is damaged, improperly adjusted or incompletely assembled.
- Do not weld, cut with an acetylene torch or hard-face the tool bit.
- To avoid personal injury or equipment damage, all tool maintenance, repair, and service must be performed by properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Check fastener tightness before each use daily.
- Never operate the tool if you cannot be sure that underground utilities are not present.
- Never wear loose clothing or unrestrained long hair that can get entangled in the working parts of the tool.
- Keep your work area clean and clear of tripping hazards. Oily surfaces and hoses lying around can be hazardous.
- Be alert and cautious around any pressurized hydraulic system. High-pressure oil can be very dangerous. Know your equipment and operate it properly.
- Ensure adequate lighting for the area where the tool is being used.
- Use proper lifting techniques when handling the tool. Do not overreach. Maintain secure footing and balance at all times.
- 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.
- Always replace hoses, couplings, and other parts with replacement parts recommended by STANLEY. Refer to the parts list at the end of this manual for part numbers.
- **Warning:** Use of this tool on certain materials 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

28853
Name Tag

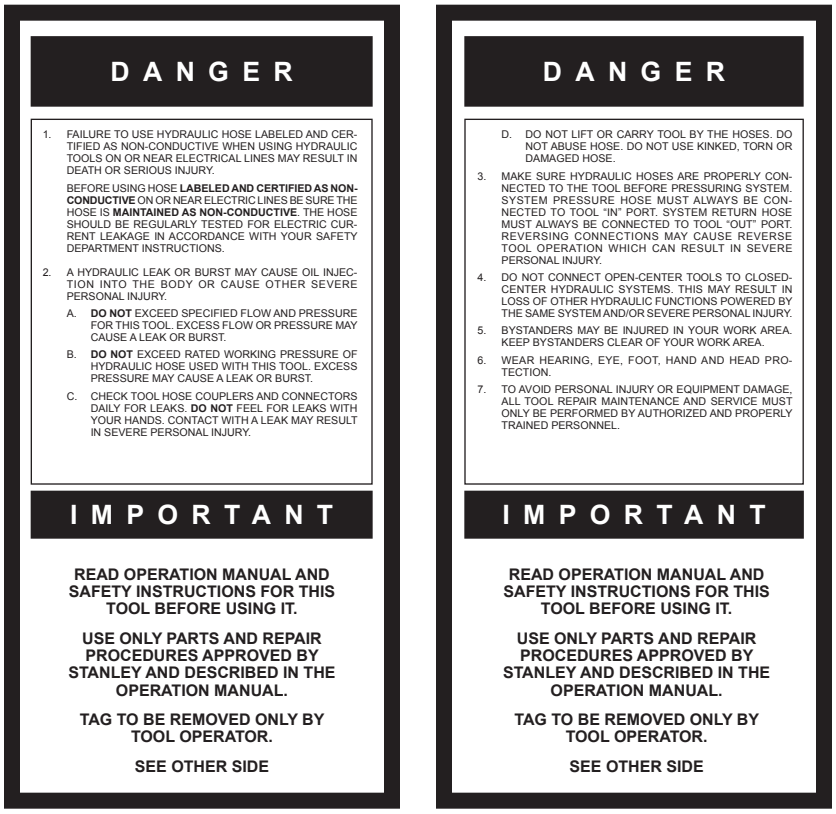
03786
GPM Sticker

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.*

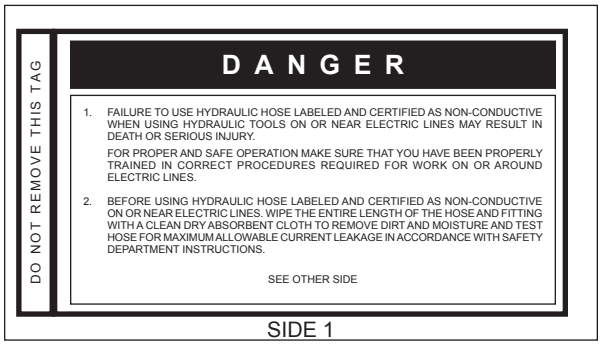
Fabric-braided (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical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

HOSE SAFETY TAGS

To help ensure your safety, the following DANGER tags are attached to all hose purchased from STANLEY. 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

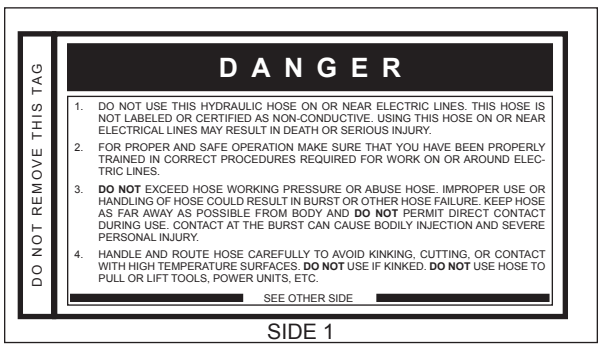


SIDE 1

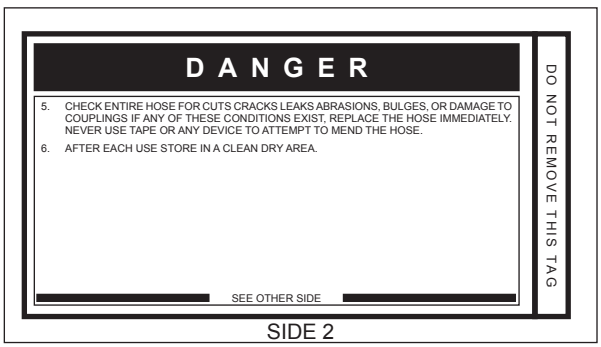
SIDE 2

(Shown smaller than actual size)

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



SIDE 1



SIDE 2

(Shown smaller than actual size)

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 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 (Press/Return)	Min. Working Pressure	
GPM	LPM	FEET	METERS	INCH	MM		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

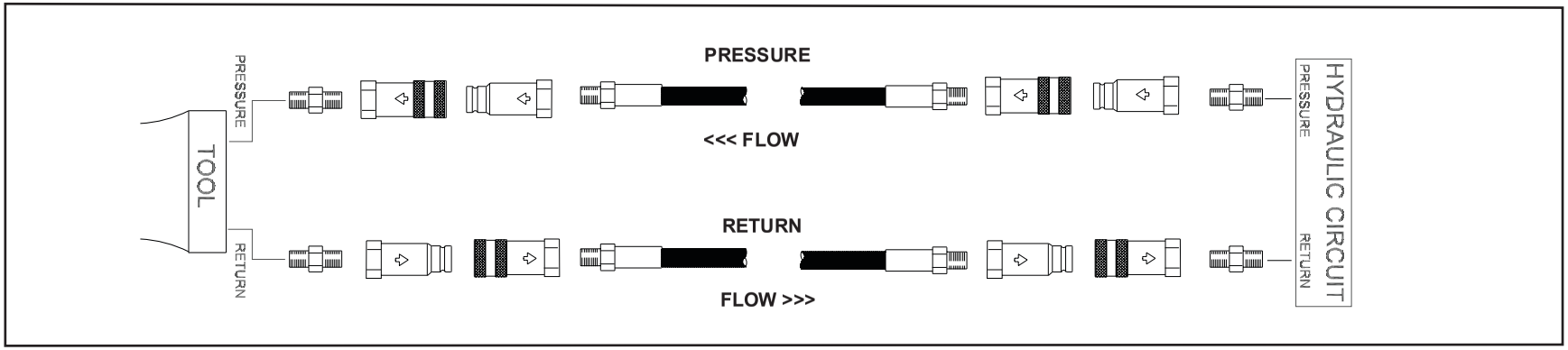
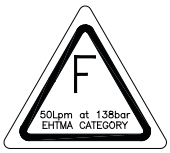


Figure 1. Typical Hose Connections

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 minimum 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 maximum fluid temperature to: (At maximum expected ambient temperature)	140° F (60° C)	140° F (60° C)	140° F (60° C)	140° F (60° C)
Minimum 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 minimum full-flow filtration	25 microns	25 microns	25 microns	25 microns
Sized for flow of at least: (For cold temp startup and maximum dirt-holding capacity)	30 GPM (114 LPM)	30 GPM (114 LPM)	30 GPM (114 LPM)	30 GPM (114 LPM)
Hydraulic fluid, petroleum based (premium grade, anti-wear, non-conductive) Viscosity (at minimum and maximum operating temps)	100-400 ssu (20-82 centistokes)	100-400 ssu (20-82 centistokes)	100-400 ssu (20-82 centistokes)	100-400 ssu (20-82 centistokes)
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:				
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.

OPERATION

PREPARATION PROCEDURES

PREPARATION FOR INITIAL USE

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 flow meter 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. Make sure all tool accessories are correctly installed. Failure to install tool accessories properly 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 7/8 × 3-1/4 inch 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. It is a good practice to connect the return hose first and disconnect it last to minimize or avoid 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.

NOTICE

Not 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.

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 couples 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 (see "SPECIFICATIONS" on page 13). Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags, legible.
- Do not force a small tool to do the job of a large breaker.
- Keep tool bit sharp for maximum tool performance. Make sure that tool bits are not chipped or rounded on the striking end.
- Never operate a tool without a tool bit or without holding it against the work surface. This puts excessive strain on the breaker foot.
- 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

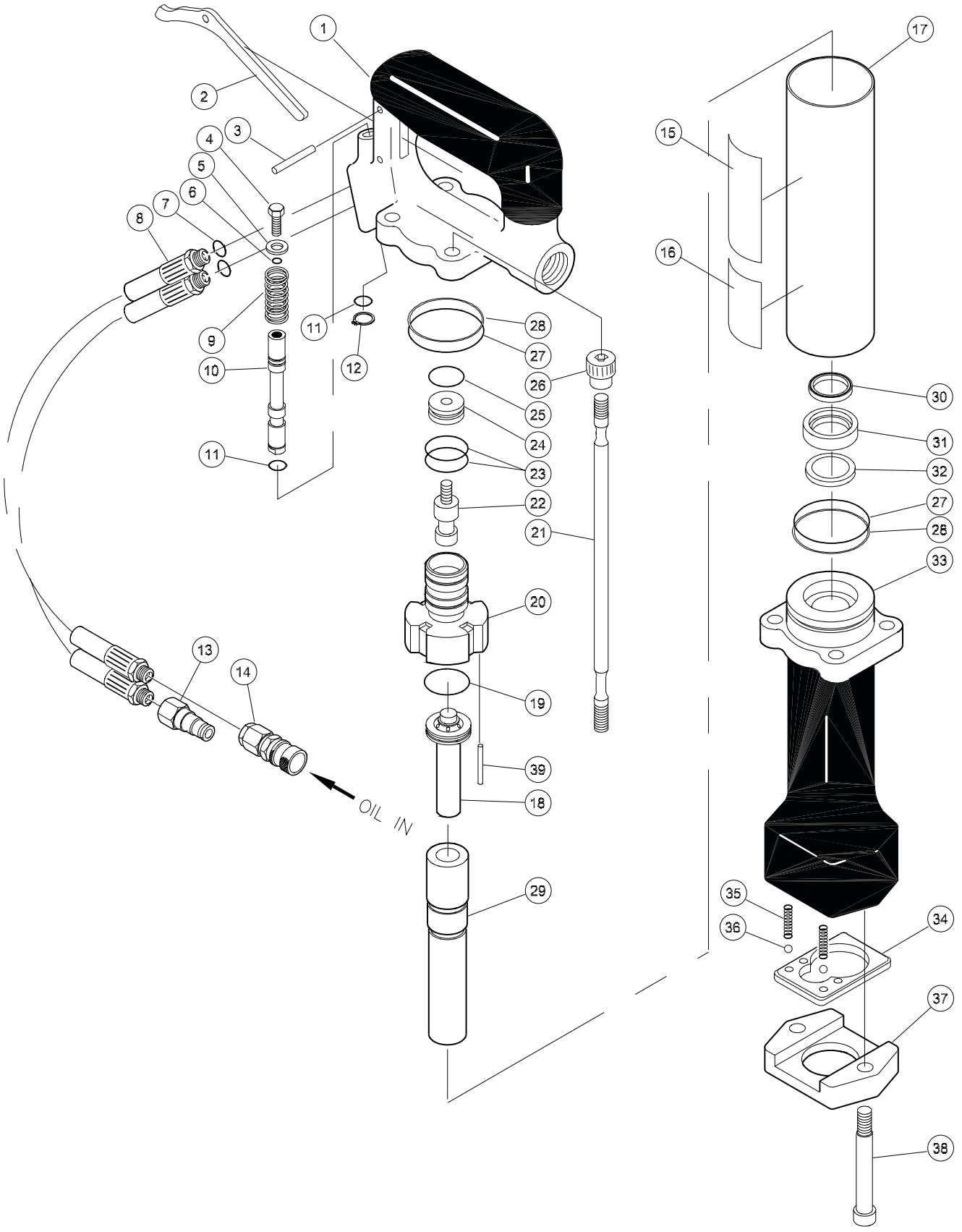
If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem. When diagnosing faults in operation of the tool, always check that the hydraulic power source is supplying the correct hydraulic flow and pressure to the tool as listed in the following table. Use a flow meter known to be accurate. Check the flow with the hydraulic fluid 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 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 hose 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.

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" male pipe hose end
Length	20 inches/51 cm
System Type	Open Center
Accessory Shank	7/8" hex × 3-1/4”

DR19 PARTS ILLUSTRATION



STANLEY

DR19 PARTS LIST

ITEM	PART NO.	QTY	DESCRIPTION
1	02890	1	HANDLE BODY ASSEMBLY
2	02853	1	TRIGGER
3	24316	1	DOWEL PIN 3/16 × 1-1/2
4	02959	1	SPOOL SCREW
5	24348	1	WASHER
6	02901	1	O-RING .239 × .367 × .064
7	03252	2	O-RING 7/16 × 9/16 × 1/16
8	01412	2	HOSE ASSEMBLY
9	02846	1	SPRING
10	02881	1	ON/OFF SPOOL, OPEN CENTER
11	03252	2	O-RING
12	00752	1	RETAINING RING 7/16 EXT
13	03973	1	MALE COUPLER BODY
14	03972	1	FEMALE COUPLER BODY
15	28853	1	NAME TAG
16	03786	1	GPM STICKER
17	71475	1	FLOW SLEEVE ASSEMBLY
18	03958	1	OIL TUBE
19	01259	1	O-RING 1-1/2 × 1-5/8 × 1/16
20	03253	1	VALVE BODY
21	02848	4	BOLT ASSEMBLY
22	02880	1	REVERSING SPOOL
23	00211	2	O-RING 1 × 1-1/8 × 1/16
24	03254	1	VALVE GLAND
25	01772	1	O-RING 3/4 × 7/8 × 1/16
26	02454	4	ALLEN NUT (INCL WITH ITEM 21)
27	02177	1	O-RING 2-1/16 × 2-1/4 × 3/32
28	02865	1	BACK-UP RING
29	03959	1	PISTON
30	02907	1	ROD SEAL 1-1/4 × 1-1/2 × 5/16 × 3/16
31	04175	1	INSERT
32	03127	1	WIPER RING
33	03537	1	RETAINING NOSE ASSEMBLY
34	03536	1	RETAINER
35	03190	2	SPRING
36	02436	2	BALL
37	03552	1	RETAINER CAP
38	03553	2	CAPSCREW 3/8 × 24 × 2-1/2
39	02843	1	PIN

SEAL KIT PART NUMBER 03843		
02901	O-RING	1
03252	O-RING	2
02865	BACK-UP RING	2
02177	O-RING	2
03127	ROD WIPER	1
02302	ROD SEAL	1
01259	O-RING	1
01772	O-RING	1
00211	O-RING	2
02907	ROD SEAL	1

REPAIR KIT PART NUMBER 03943		
00752	RETAINING RING	1
02848	BOLT ASSEMBLY	2
02843	PIN	1
03536	RETAINER	1
03190	SPRING	2
02436	BALL	2
03331	SEAL KIT	1

STANLEY®

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