STANLEY

HD45

HYDRAULIC HAMMER DRILL

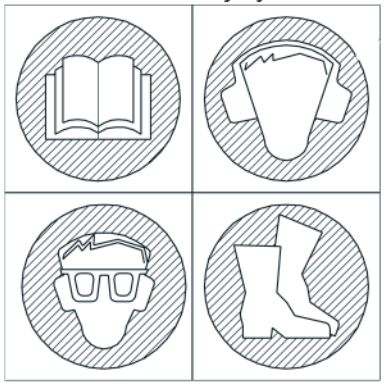
⚠ WARNING

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

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

⚠ WARNING

To avoid serious injury or death



SAFETY, OPERATION AND MAINTENANCE SERVICE MANUAL

CE

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SERVICING THE STANLEY HYDRAULIC HAMMER DRILL. 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.

CERTIFICATE OF CONFORMITY
ÜBEREINSTIMMUNGS-ZERTIFIKAT
CERTIFICAT DE CONFORMITE CEE
CERTIFICADO DE CONFORMIDAD
CERTIFICATO DI CONFORMITA

STANLEY®

Hydraulic Tools

I, the undersigned:
Ich, der Unterzeichnende:
Je soussigné:
El abajo firmante:
lo sottoscritto:

Burrows, James

Surname and First names/Familiennname und Vornamen/Nom et prénom/Nombre y apellido/Cognome e nome

hereby certify that the construction plant or equipment specified hereunder:
bestätige hiermit, daß das im folgenden genannten Werk oder Gerät:
certifies par ceci que l' usine ou l' équipement de construction indiqué cidessous:
por el presente certifico que la fabrica o el equipo especificado a continuacion:
certifico che l'impianto o l'attrezzatura sotto specificata:

1. Category: Hammer Drill, Hydraulic
   Kategorie:
   Catégorie:
   Categoria:
   Categoria:
2. Make/Ausführung/Marque/Marca/Marca Stanley
3. Type/Typ/Type/Tipo/Tipo: HD4511001, HD4531001
4. Serial number of equipment:
   Seriennummer des Geräts:
   Numéro de série de l'équipement:
   Numero de serie del equipo:
   Matricola dell´attrezzatura:

   All

5. Year of manufacture/Baujahr/année de fabrication/Año de fabricacion/Anno di fabbricazione 2005

Has been manufactured in conformity with - EEC Type examination as shown.
Wurde hergestellt in Übereinstimmung mit - EEC Typ-Prüfung nach.
Est fabriqué conformément - au(x) type(s) examiné(s) comme indiqué dans le tableau ci-après.
Ha sido fabricado de acuerdo con - tipo examen EEC como dice.
E' stata costruita in conformitá con - le norme CEE come illustrato.

	Examen CEE de type			
Directive Richtlinie Directives particulières Directriz Direttiva	No. Nr Numéro No n.	Date Datum Date Fecha Data	Approved body Prüfung durch Organisme agréé Aprobado Collaudato	Date of expiry Ablaufdatum Date d´expiration Fecha de caducidad Data di scadenza
EN EN ISO EN EN ISO Machinery directive	292 8662-3 792-5 3744 98/37/EC	 1992 1994 1994 1998	Self Self Self Self Self	NA NA NA NA NA

6. Special Provisions: None
   Spezielle Bestimmungen:
   Dispositions particulières:
   Provisiones especiales:
   Disposizioni speciali:

Done at/Ort/Fait à/Dado en/Fatto a Stanley Hydraulic Tools, Milwaukie, Oregon USA Date/Datum/le/Fecha/Data 6/28/05

Signature/Unterschrift/Signature/Firma/Firma _____

Position/Position/Fonction/Puesto/Posizione Engineering Manager

8/1/05

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, may result in minor or moderate 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 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 on page 5.

The model HD45 Hydraulic Hammer Drill 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 hammer drill.

• Never wear loose clothing that can get entangled in the working parts of the tool.

• Keep all parts of your body away from the drill and maintain proper footing and balance at all times.

• When working near electrical conductors, always assume that all conductors are energized and that insulation, clothing and hoses can conduct electricity. Stay a safe distance away from electrical conductors.

• If the hydraulic power supply has been interrupted, place the hammer drill in the OFF position before restarting the hydraulic power supply.

• To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

• Never rest the tool on your foot.

• Never allow your face to come close to the tool.

• Never start the tool while it is lying on the ground.

TOOL STICKERS & TAGS

STANLEY

Stanley Hydraulic tools
Division of the Stanley Works
3810 SE Naef Road
Milwaukie, OR 97267

05152
Stanley Decal
28376
Stanley Decal (CE Models)

HD45 HAMMER DRILL

WEIGHT: 22 KG/48 LB
FLOW: 34 LPM/9 GPM
PRESSURE: 140 BAR/2000 PSI

29689
Name Tag

WARNING
To avoid serious injury or death

28409
Composite Decal (CE Models)

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
HD45 GPM Decal

CE

28322
CE Decal (CE Models Only)

Lwa
114

66297
Sound Power Decal

D
30 LPM @ 138 B AR
EHTMA CATEGORY

11207
Circuit Type D 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.

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 ELECTRIC LINES BE SURE THE HOSE IS **MAINTAINED AS NON-CONDUCTIVE**. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.

2. A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.

   A **DO NOT** EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.

   B **DO NOT** EXCEED RATED WORKING PRESSURE OF HYDRAU LIC 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 then actual size)

HYDRAULIC HOSE REQUIREMENTS

HOSE TYPES

Hydraulic hose types authorized for use with Stanley Hydraulic Tools are as follows:

❶ Certified non-conductive

❷ Wire-braided (conductive)

❸ Fabric-braided (not certified or labeled non-conductive)

Hose ❶ listed above is the only hose authorized for use near electrical conductors.

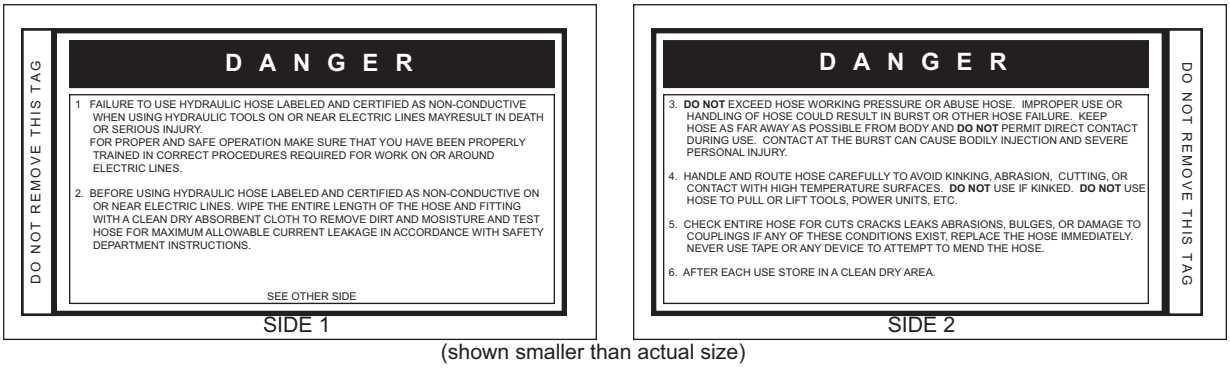
Hoses ❷ and ❸ listed above are **conductive** and **must never** be used near electrical conductors.

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.

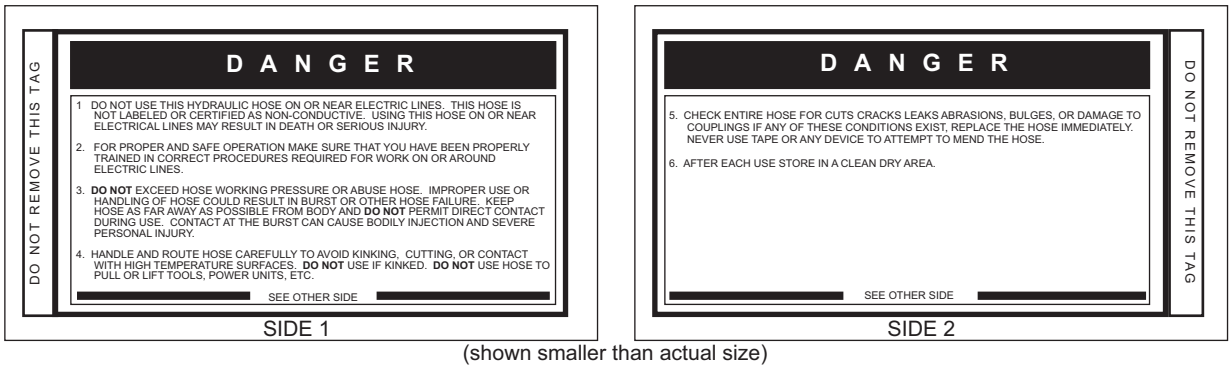
If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

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



(shown smaller than actual size)

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



(shown smaller than actual size)

HOSE PRESSURE RATING

The rated working pressure of the hydraulic hose **must be equal to or higher than** the relief valve setting on the hydraulic system.

HTMA REQUIREMENTS

HYDRAULIC SYSTEM REQUIREMENTS	TOOL CATEGORY  TYPE 1	 TYPE II	TYPE III	TYPE RR
FLOW RATE	4-6 gpm (15-23 lpm)	7-9 gpm (26-34 lpm)	11-13 gpm (42-49 lpm)	9-10.5 gpm (34-40 lpm)
TOOL OPERATING PRESSURE (at the power supply outlet)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)
SYSTEM RELIEF VALVE SETTING (at the power supply outlet)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2200-2300 psi (152-159 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)	7 hp (4.47 kW) 40° F (22° C)	6 hp (5.22 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

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

OPERATION

PREOPERATION PROCEDURES

CHECK POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7-9 gpm/26-34lpm 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 2250 psi/155 bar.

CHECK THE TOOL

1. Make certain all tool accessories are correctly installed. Failure to install tool accessones 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 and dry with all fittings and fasteners tight.

BIT INSTALLATION

The hammer drill is designed for use with 1-inch to 2-inch diameter bits manufactured for Model 736 Skil Hex Hammer Drills.

1. Pull the latch at the foot of the tool so that the drill can be inserted into the drive hex.

⚠ WARNING

Do not allow your fingers to come between the latch and drill steel when closing the latch.

2. Push the latch back into the “latched” (vertical) position to lock the bit in place.

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. Connect the return hose first and disconnect it last to eliminate or reduce trapped pressure for easier quick-connect fitting attachment.

Note:
If uncoupled hoses are left in the sun, pressure increase within the hoses can make them difficult to connect. Whenever possible, connect the free ends of hoses together.

3. Observe the flow indicators stamped on the hose couplers to ensure that the flow is in the proper direction. The female coupler on the tool’s “IN” port is the inlet coupler. See illustration in back of this manual for tool port identification.

4. Squeeze the drill trigger momentarily. If the drill does not operate, the hoses might be reversed. Verify correct connection of the hoses before continuing.

DRILL OPERATION

1. Observe all safety precautions.

2. Install the appropriate drill bit for the job.

Note:
The rotation of the drillbit is reversible. Drillbit speed is variable in each direction. This is accomplished by rotating the lever on the lower section of the tool. The tool is in neutral when the lever is in the vertical “up” position. The lever can be rotated 90° to the “horiontal” position in each direction. (The direction that the bit rotates.) The distance that the lever is rotated determines the speed of the bit. The horizontal position in either direction is the maximum speed setting.

3. Select the speed of the bit best suited for the material being drilled. Most drilling is best accomplished with the lever halfway between fully “On” (horizontal) and the vertical “up” position. Refer to the above note. The drill is not suitable for drilling steel or wood.

4. Squeeze the trigger to start the drill. Adequate down pressure is very important.

Note:
If the trigger is partially depressed, the piston will cycle at a low rate and permit easier starting of the drill bit into the work surface.

5. Periodically pull the drill out of the hole while the bit is still rotating. This will clear the hole and allow more efficient penetration.

6. If the bit binds in the hole, reverse direction of the bit rotation to assist in “backing out” the drill.

7. Keep the drill bit centered in the hole.

COLD WEATHER OPERATION

If the drill 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.

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

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 WD40. Remove any remaining water and debris as follows:

1.Turn the tool upside down (without the tool bit) and spray oil through the drive hex and side holes in the motor assembly to displace any remaining water in the lower piston cavity.

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.

CHARGING THE ACCUMULATOR

ACCUMULATOR TESTING PROCEDURE

To check or charge the accumulator the following equipment is required:

31254 Charge Kit: which includes the following.
• Accumulator Tester (Part Number 02835).
• Charging Assembly (Part Number 15304).
(p/n 15304 includes a liquid filled gauge with snub valve, hose and fittings.)

• NITROGEN bottle with an 1000 psi/70 bar minimum charge. (Not included in 31254 Charge Kit.)

1. Remove the valve cap assembly from the hammer drill.

2. Holding the chuck end of Accumulator Tester (Part Number 02835) turn the gauge fully counterclockwise to ensure that the stem inside the chuck is completely retracted.

3. Thread the tester onto the accumulator charging valve. Do not advance the gauge-end into the chuck-end. Turn as a unit. Seat the chuck on the accumulator charging valve and hand tighten only.

4. Advance the valve stem of the tester by turning the gauge-end clockwise until a pressure is read on the gauge (charge pressure should be 500-700 psi/34-48 bar).

5. If pressure is OK unscrew the gauge-end from the chuck to retract the stem, then unscrew the entire tester assembly from the accumulator charging valve. If pressure is low, charge the accumulator as described in the following procedure.

6. Install the protective valve cap assembly.

ACCUMULATOR CHARGING

1. Perform steps 1 through 4 of the accumulator testing procedure above.

2. Connect the chuck of the charging assembly to the charging valve on the accumulator tester or, if preferred, remove the tester from the charging valve and connect the charging assembly chuck directly to the charging valve.

3. Adjust the regulator to the charging pressure of 600 psi/42 bar.

NOTE:
It may be necessary to set the gauge at 650-700 psi/45-48 bar to overcome any pressure drop through the charging system.

4. Open the valve on the charging assembly hose.

IMPORTANT

If the underwater model is to be used at depths greater than 300 ft/91 m, increase the accumulator charge 40 psi/3 bar for each 100 ft/30 m of depth to offset water pressure.

5. When the accumulator is fully charged close the valve on the charging assembly hose and remove the charging assembly chuck from the accumulator tester or tool charging valve.

6. If the accumulator tester has been used, be sure to turn the gauge-end fully counterclockwise before removing the tester from the charging valve of the tool.

7. Replace the valve cap assembly.

GENERAL SERVICE NOTES

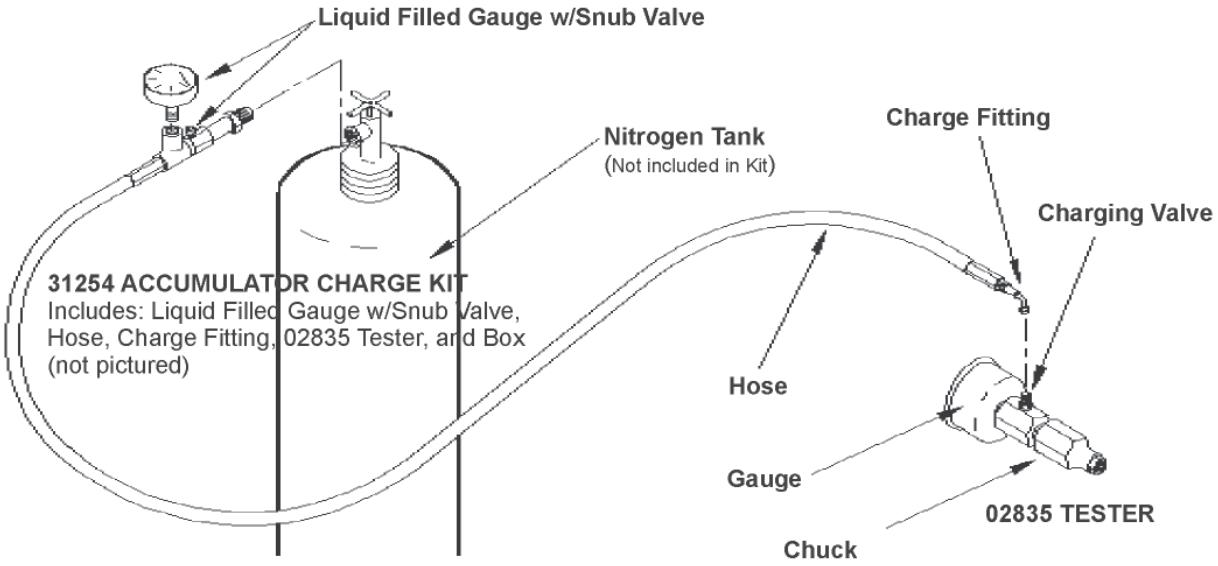
1. If the hammer drill is repainted after servicing, be sure to mask off the vent in the valve cap assembly. Do not allow paint to enter the IN and OUT ports or the bore of the motor assembly.

2. If the handle grips need to be replaced.

a. Remove the old grips and clean the handle.

b. Wash the new grips and the handle clean and dry, simply push or drive the grips on. DO NOT lubricate the parts. The grips will not be secure on the handle if any grease or oil is used.

CHARGING THE ACCUMULATOR



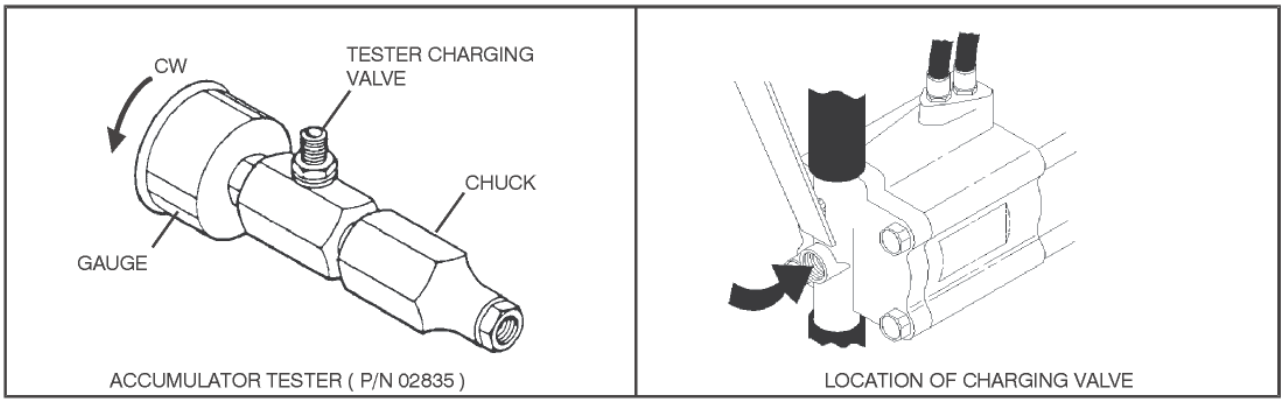


Figure 2

TOOL EQUIPMENT & CARE

NOTICE

In addition to the Safety Precautions on page 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 (see Specifications) page in this manual for correct flow rate and model number. 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.
- Never operate a hammer drill without a drill bit or without holding it against the work surface. To do so, places excessive strain on the hammer drill.
- Keep drill bits sharp for maximum tool performance. Make sure the drill bits are not chipped or rounded on the striking end.

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

PROBLEM	CAUSE	SOLUTION
Drill does not run.	Power unit not functioning	Check power unit for proper flow and pressure (7-9 gpm/26-34 lpm, 1500-2000 psi/104-140 bar).
	Couplers or hoses blocked.	Remove restriction.
	Flow direction reversed. Pressure and return lined hoses reversed at ports.	Be sure hoses are connected to their proper ports..
	Mechanical failure of piston or automatic valve.	Disassemble drill and inspect for damaged parts.
Drill does not drill effectively.	Power unit not functioning.	Check power unit for proper flow and pressure (7-9 gpm/26-34 lpm, 1500-2000 psi/104-140 bar).
	Couplers or hoses blocked.	Remove restriction.
	Low accumulator charge (pressure hose will pulse more than normal).	Recharge accumulator. Replace diaphragm if charge loss continues.
	Oil too hot (above 140° F/60° C).	Provide cooler to maintain proper oil temperature.
Drill operates slow.	Low flow supply from power unit.	Check power unit for proper flow (7-9 gpm/26-34 lpm).
	High backpressure.	Check hydraulic system for excessive backpressure (over 250 psi/17 bar).
	Couplers or hoses blocked.	Remove restriction.
	Orifice plug or internal passage blocked.	Remove restriction.
	Oil too hot (above 140° F/60° C) or too cold (below 60° F/16° C).	Check power unit for proper oil temperatures. Bypass cooler to warm oil up or provide cooler to maintain proper temperature.
	Relief valve set too low.	Adjust relief valve to 2100-2250 psi/145-155 bar.
Drill gets hot.	Hot oil going through tool.	Check power unit. Be sure flow rate is not too high causing part of the oil to go through the relief valve. Provide coooler to maintain proper oil temperature (140° F/60°C maximum).
		Check relief valve setting.
Oil leakage on drill bit.	Lower piston or drive hex seal failure.	Replace seals.
Oil leakage around trigger.	Valve spool seal failure.	Replace seals.
Low rotation torque.	Motor not completely broken in.	Continued operation or break in with motor break-in block will correct.
	Damage to motor clearences.	Repair as required.
	Mechanical binding during drilling.	Take care to guide drill straight.

SPECIFICATIONS

Operating Pressure ..... 1500-2000 psi / 105-140 bar
Flow Range ..... 7-9 gpm / 26-34 lpm
Optimum Flow ..... 8 gpm / 30 lpm
Capacity ..... 1- to 2-in. / 25-50 mm Dia. No. 736 Skil Carbide Tipped Drill Bit
Porting ..... 8 SAE O-Ring
Connect Size and Type ..... 3/8 in. Male Pipe Hose End
System ..... Open Center, HTMA Type II/ETMA Category D
Rotating Speed ..... 0-300 RPM (Forward or Reverse)
Hose Whips ..... Yes
Weight ..... 45 lb / 20.4 kg
Length ..... 14 in. / 35.6 cm
Motor ..... Integral

SOUND POWER AND VIBRATION DECLARATION	
Measured A-weighted sound power level, Lwa (ref. 1pW) in decibels	111 dBA
Uncertainty, Kwa, in decibels	3 dBA
Measured A-weighted sound pressure level, Lpa (ref. 20 µPa) at operator's position, in decibels	98 dBA
Uncertainty, Kpa, in decibels	3 dBA
Values determined according to noise test code given in ISO 15744, using the basic standard ISO3744 NOTE- The sum of a measured noise emision value and its associated uncertainty represents an upper boundry of the range of values which is likely to occur in measurements.	
Declared vibration emission value in accordance with EN 12096	
Measured vibration emmission value: a	25.6 m/sec²
Uncertainty: K	8.4 m/sec²
Values determined according to ISO 8662-3	

ACCESSORIES

Carbide Bit 1 in. x 24 in. Long (Drills 14-7/8 in. Deep) 02281
Carbide Bit 1-1/4 in. x 24 in. Long (Drills 14-7/8 in. Deep) 02282
Carbide Bit 2 in. x 24 in. Long (Drills 14-3/4 in. Deep) 02283
Carbide Bit 1 in. x 18 in. Long (Drills 8-7/8 in. Deep) 04668
Carbide Bit 1-1/4 in. x 36 in. Long (Drills 29 in. Deep) 04896

SERVICE TOOLS

Tamper Sleeve Tool 01120
Accumulator Tester 02835
Flow and Pressure Tester 04182
O-Ring Tool Kit 04337
Flow Sleeve Removal Tube 04910
Flow Sleeve Removal Tool 04919
Bearing Installation Tool 05044
Latch Removal Tool 05045
Bearing Installation Tool 05061
Latch Installation Tool 05062
Accumulator Cylinder Puller 05640
Seal Kit 05839
Latch Installation Tool 05879
Accumulator Charge Kit 06545

SERVICE

Good maintenance practice keeps the drill on the job and increases its service life.

The most important maintenance practice is to keep the hydraulic fluid clean at all times. Contaminated hydraulic fluid causes rapid wear and/or failure of internal parts.

Follow the procedure contained in the HYDRAULIC SYSTEM REQUIREMENTS section of the manual to ensure peak performance from the tool.

Never disassemble the tool unless proper troubleshooting procedures have isolated the problem to an internal part. Disassemble it only to the extent necessary to replace the defective part. KEEP CONTAMINANTS SUCH AS DIRT AND GRIT AWAY FROM INTERNAL PARTS AT ALL TIMES.

Always determine and correct the cause of the problem prior to assembly. Further wear and tool failure can result if the original cause is not corrected.

HAMMER DRILL DISASSEMBLY

PRIOR TO DISASSEMBLY

Clean exterior of tool.

Obtain Seal Kit (Part Number 05839). Replace all seals exposed during disassembly. Note orientation of seals before removing them. Install new seals in the same way.

DISASSEMBLY

1. Secure the drill in a bench vise with the “IN” and “OUT” ports up, clamping on the flow sleeve tube between the side rods. Soft vise jaws are recommended.

2. Remove the pigtail hose assemblies.

Note:
The drill is full of oil and will drip from the ports when the hoses are removed.

3. Remove the charge valve cap from the top of the handle.

⚠ WARNING

Discharge accumulator.

4. Remove the two capscrews (3/8 hex socket) and two side rods. Remove handle assembly to expose ON/OFF valve spool and accumulator diaphragm. Remove the motor assembly by tapping the top of the motor flange with a plastic or rubber hammer.

5. Remove the accumulator valve block by tapping on its underside with a plastic or rubber hammer. Tap on alternate sides to ensure that the valve block comes off straight without binding.

6. Remove piston from the flow sleeve assembly.

7. Remove the accumulator diaphragm and ON/OFF valve from accumulator valve block, taking care not to damage the valve stem. The valve, bushing and associated seals will come out as an assembly. Turn the valve block upside down to remove valve spring.

8. Clamp the accumulator valve body in a bench vise with the IN/OUT ports facing up.

IMPORTANT

Do not overtighten the vise and distort the block.

9. Remove the porting block with a 3/8-16 thread slide hammer or Tamper Sleeve Tool (part number 01120).

FLOW SLEEVE DISASSEMBLY

1. Remove the piston if not previously removed.

2. Place the flow sleeve assembly, automatic valve body down, on Flow Sleeve Removal Tool (part number 04919), which in turn is placed on Flow Sleeve Removal Tube (part number 04910).

3. With an arbor press and using an aluminum disc to protect the flow sleeve, push on the flow sleeve to remove the automatic valve body.

IMPORTANT

Use a rag in the bottom of the removal tube to protect the automatic valve body when it drops out.

4. The automatic valve, four 1/4 x 1-1/2 inch push pins from the flow sleeve and two 3/16 x 1-1/4 inch push pins from the automatic valve body will come out.

5. To remove the flow sleeve from the flow sleeve tube, remove the automatic valve body and associated parts from within the flow sleeve removal tube and continue pushing on the flow sleeve until it drops out.

IMPORTANT

Use a rag in the bottom of the removal tube to protect the automatic valve body when it drops out.

DRIVE MOTOR DISASSEMBLY

1. Place an aluminum plate in an arbor press.

2. Place the motor assembly (drive motor control block assembly, motor chamber, motor plate and associated parts) on the plate with the latch facing upward. Rotate the latch to the open position and use Latch Removal Tool (part number 05045) to press down on the spring backup to allow removal of the wire retaining ring.

3. Remove the latch, latch washers, springs and spring backup.

4. Place the motor assembly in a bench vise (do not overtighten), then remove the two 3/8-16 x 1-3/4 inch capscrews and two 1/2-13 x 4-1/2 inch capscrews.

5. Separate the three parts of the motor housing and remove the idler gear, drive gear and key, allowing the drive hex to be pushed out through the drive motor control block end of the drive motor chamber.

IMPORTANT

Do not pry between motor parts with screwdrivers or other tools since this may damage seal surfaces. Do not attempt to remove the drive hex before the drive gear and key have been removed.

6. To remove the motor control valve assembly, loosen the set screw in the lever and remove lever. Remove the retaining ring and reattach the lever to pull the valve assembly out.

PRIOR TO ASSEMBLY

Clean all parts with a degreasing solvent.

Obtain seal kit (Part Numbe 05839) so all seals exposed during disassembly can be replaced during assembly.

Ensure that all seals that were exposed have been replaced with new parts.

Apply clean grease or o-ring lubricant to all parts during reassembly.

Note:
For orientation of parts identified in the following procedures, see the parts list exploded view illustration at the back of this manual.

1. Check all parts for evidence of excessive wear, scoring, or obvious damage. Pay particular attention to seal and other running surfaces, looking for scratches or other signs of fluid contamination caused defects. Dirty or water contaminated fluid can cause scratches on running component surfaces.

2. Examine all exposed seals and o-rings for worn spots or damage caused by overheating or ingestion of contaminants. Although all exposed o-rings and seals must be replaced during assembly of the unit, this inspection should be performed to help identify related faulty components and the cause of an experienced or potential malfunction.

3. All components exhibiting excessive wear or deep scratches can usually be touch up using emery cloth. Thoroughly clean all parts before assembly.

4. Apply clean grease or o-ring lubricant to all close fitting parts and seals during assembly.

ASSEMBLY

DRIVE MOTOR REASSEMBLY

1. Support the four corners of the motor plate (making sure it is level) in an arbor press.

2. Press bearings in place using Bearing Installation Tools (part numbers 05044 and 05061) with the bearing split lines facing each other.

IMPORTANT

Make sure bearings are pushed in straight.

3. Place the motor plate on an aluminum plate latch end up in an arbor press.

4. Install latch parts with Latch Installation Tools (part numbers 05062 and 05879) in the following order:
   a. Latch (in the open position)
   b. Latch Washer
   c. Four Wave Springs
   e. Latch Washer
   f. Four Additonal Wave Springs
   g. Spring Backup
   h. Assembly Guide
   i. Wire Retaining Ring.

Place pusher over the guide and press with an arbor press until wire retaining ring snaps into place.

5. Install the bearings in the motor chamber in the same manner used for the motor plate (Step 3).

Note:
Separate support at four corners is not necessary.

6. To assemble motor components, start by sliding the drive hex through the motor chamber from the control valve side.

7. Place the key in the drive hex and slide the drive gear in place over the drive hex and key.

8. Install the idler gear in the bearing/counter bore of the motor chamber.

9. Place an o-ring in the irregular groove of the motor chamber and apply grease to retain it in place.

10. Install a white backup ring followed by a quad ring through the bearing and into the seal groove of the motor plate.

11. Slide the motor plate over the drive hex. Align the dowel pins and idler gear, then press together until the motor chamber and motor plate come together.

12. Secure the two sections together using the two 3/8-16 x 1-3/4 inch capscrews, tighten to 25 ft lbs/34 Nm.

13. Place the thrust washer over exposed end of the drive hex on the control valve side of the motor chamber (grey or brass side down). Install the thrust backup washer with its small diameter outward.

14. Place the gasket on the motor chamber with a light film of grease or oil for retention. Align with the dowel pin and o-ring counter bores. Install the two o-rings in the small counter bores of the motor chamber.

15. Install a white backup ring and a quad ring seal in the seal counter bore of the motor control block.

16. Push the motor control block over the drive hex. Align the roll pins and push squarely using an arbor press until mated with the motor chamber. Install two 1/2-13 x 4-1/2 inch capscrews and tighten to 60 ft lbs/81 Nm.

17. Replace the control valve in its bore followed by the tapered washer (large diameter or taper facing up) and retaining ring. Make sure the retaining ring is properly seated in its groove (tapping on the ring with a small punch may be required). When replacing the lever, make sure the setscrew enters the hole in the valve stem.

18. Install the small piston cup seal in the motor control valve block with the lips down. Install the seal washer and larger cup seal with the lips facing outward.

FLOW SLEEVE AND ACCUMULATOR REASSEMBLY

1. Using an arbor press and an aluminum disc or Accumulator cylinder Puller (part number 05640) to protect the flow sleeve, push the flow sleeve (with the eight holes on its end facing up) into the flow sleeve tube (o-ring groove up) until it is flush with the tube. Be sure to lubricate the entire bore of the flow sleeve tube prior to assembly.

2. Install the four 1/4 x x1-1/2 inch push pins (tapered end up) in the flow sleeve.

3. Install the two 3/16 x 1-1/4 inch push pin (tapered end up) in the automatic valve body. Install the automatic valve (small diameter first) into the automatic valve body.

Note:
The push pins must be installed so that the flat, ground faces bear on the flange of the automatic valve.

4. Align the roll pin and place the automatic valve body (with the side holes up) on top of the flow sleeve. Allow the automatic valve to drop and pilot into the bore of the flow sleeve.

5. Using an aluminum disc or Accumulator Cylinder Puller (part number 05640) to protect the parts, push the automatic valve body into the flow sleeve tube until the shoulder of the automatic valve body stops on top of the flow sleeve tube.

6. Install the piston (small end first) into the flow sleeve assembly from the automatic valve body end.

7. Install the porting block into the end of the automatic valve body with proper roll pin alignment.

8. Place the flow sleeve assembly in a bench vise, being careful not to overtighten or distort the tube and install the accumulator valve block. Rotate the flow sleeve so that the motor roll pin alignment hole will locate the motor control valve lever under the handle on the valve lever side.

9. Slide the motor assembly over the piston. Align the roll pin in the motor control block with the corresponding hole in the flow sleeve (the hole opposite the notch in the end of the flow sleeve). Tap on the end of the motor assembly until it fully engages with the flow sleeve tube.

10. Install the spring, valve spool and bushing (with its wiper ring facing outward) in the bore of the accumulator valve block. The bushing should project from the accumulator valve block approximately 0.200 inch/5 mm.

11. Apply a light coating of WD40™ lubricant to the accumulator diaphragm and install in the accumulator bore.

12. Install the handle assembly.

13. Install the two side rods and two 1/2-13 x 5-1/2 inch capscrews.

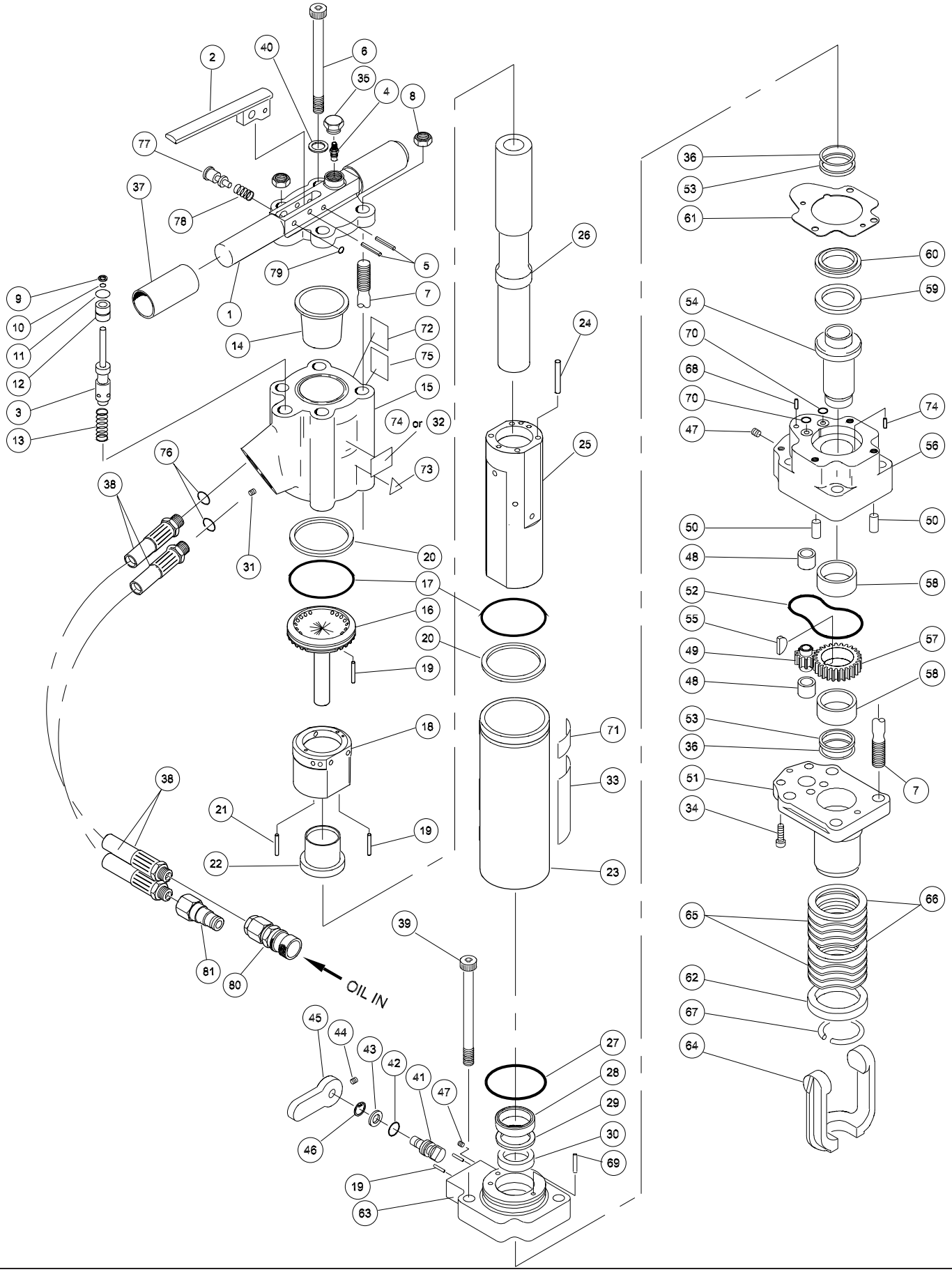
14. Tighten alternate side rods in 15 ft lbs/20 Nm increments to 100 ft lbs/135 Nm. Tighten alternate capscrews in 15 ft lbs/20 Nm increments to 75 ft lbs/100 Nm.

15. Charge the accumulator with nitrogen to 600 psi/41 bar. It may be necessary to charge 50-75 psi/3-5 bar high to overcome the pressure drop through the charging valve. Refer to the Charging instructions given in this manual.

16. Install the charge valve cap.

17. Install the pigtail hose assemblies.

HD45 PARTS ILLUSTRATION



HD45 PARTS LIST

Item No.	Part No.	Qty	Description
1	04369	1	Handle
2	04371	1	Trigger
3	04077	1	Valve Spool, OC
	04593	1	Valve Spool, CC
4	01650	1	Charging Valve
5	00844	2	Spirol Pin, 1/4 x 1/2
6	04372	2	Capscrew
7	04932	2	Side Rod
8	04374	2	Lock Nut
9	04056	1	Rod Wiper
10	01362	1	O-Ring
11	00293	1	O-Ring
12	04057	1	Bushing
13	04058	1	Spring
14	07479	1	Accumulator Diaphragm
15	05988	1	Accumulator, Valve Block Assy.
16	04378	1	Porting Block
17	04379	2	O-Ring
18	04380	1	Automatic Valve Body
19	02900	4	Roll Pin, 1/8 x 1/2
20	04381	2	Back-Up Ring
21	04571	2	Push Pin
22	04382	1	Automatic Valve
23	04383	1	Flow Sleeve Tube
24	04605	4	Push Pin
25	04384	1	Flow Sleeve
26	04954	1	Piston
27	02022	1	O-Ring
28	04386	1	Cup Seal
29	04780	1	Washer
30	04934	1	Cup Seal
31	05243	1	Orifice Plug
32	03786	1	GPM Decal
33	28376	1	Stanley Decal
34	00682	2	Capscrew
35	07493	1	Charge Valve Cap
36	11197	2	Back-Up Ring
37	02494	2	Handle Grip
38	01652	2	Hose Assy.
39	04936	2	Capscrew
40	25534	2	Washer
41	04937	1	Motor Control Valve
42	01211	1	O-Ring
43	04938	1	Washer

Item No.	Part No.	Qty	Description
44	01607	1	Set Screw
45	04939	1	Lever
46	04940	1	Retaining Ring
47	00783	3	Pipe Plug
48	03826	2	Bearing
49	04033	1	Idler Gear
50	00713	2	Dowel Pin
51	04942	1	Motor Plate
52	01257	1	O-Ring
53	11196	2	Quad Ring
54	04944	1	Drive Hex (Land Model)
	06678	1	Drive Hex (U/W Model)
55	04787	1	Key
56	05976	1	Motor Chamber
57	05975	1	Drive Gear
58	04947	2	Bearing
59	04948	1	Thrust Washer
60	04949	1	Thrust Back-Up Washer
61	04950	1	Gasket
62	04759	1	Spring Back-Up
63	04951	1	Drive Motor Control Block (Land Model)
	05680	1	Drive Motor Control Block (U/W Model)
64	16445	1	Latch
65	07063	8	Wave Spring
66	04756	2	Latch Washer
67	04761	1	Retaining Ring
68	01749	2	Roll Pin
69	00114	1	Roll Pin
70	00018	2	O-Ring
71	29689	1	Name Tag (CE Only)
72	66297	1	Sound Power Decal (CE Only)
73	11207	1	Circuit Type D Decal (CE Only)
74	28322	1	CE Decal (CE Only)
75	28409	1	Composite Decal (CE Only)
76	01605	2	O-Ring
77	07594	1	Trigger Lock
78	07593	1	Spring
79	00224	1	Retainer Ring
80	24058	1	Coupler, Female
81	24059	1	Couper, Male
	05839	**1**	**SEAL KIT**

WARRANTY

Stanley Hydraulic Tools (hereinafter called “Stanley”), subject to the exceptions contained below, warrants new hydraulic tools for a period of one year from the date of sale to the first retail purchaser, or for a period of 2 years from the shipping date from Stanley, whichever period expires first, to be free of defects in material and/or workmanship at the time of delivery, and will, at its option, repair or replace any tool or part of a tool, or new part, which is found upon examination by a Stanley authorized service outlet or by Stanley’s factory in Milwaukie, Oregon to be DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP.

EXCEPTIONS FROM WARRANTY

NEW PARTS: New parts which are obtained individually are warranted, subject to the exceptions herein, to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage. Seals and diaphragms are warranted to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage or 2 years after the date of delivery, whichever period expires first. Warranty for new parts is limited to replacement of defective parts only. Labor is not covered.

FREIGHT COSTS: Freight costs to return parts to Stanley, if requested by Stanley for the purpose of evaluating a warranty claim for warranty credit, are covered under this policy if the claimed part or parts are approved for warranty credit. Freight costs for any part or parts which are not approved for warranty credit will be the responsibility of the individual.

SEALS & DIAPHRAGMS: Seals and diaphragms installed in new tools are warranted to be free of defects in material and/or workmanship for a period of 6 months after the date of first usage, or for a period of 2 years from the shipping date from Stanley, whichever period expires first.

CUTTING ACCESSORIES: Cutting accessories such as breaker tool bits are warranted to be free of defects in material and or workmanship at the time of delivery only.

ITEMS PRODUCED BY OTHER MANUFACTURERS: Components which are not manufactured by Stanley and are warranted by their respective manufacturers.

a. Costs incurred to remove a Stanley manufactured component in order to service an item manufactured by other manufacturers.

ALTERATIONS & MODIFICATIONS: Alterations or modifications to any tool or part. All obligations under this warranty shall be terminated if the new tool or part is altered or modified in any way.

NORMAL WEAR: any failure or performance deficiency attributable to normal wear and tear such as tool bushings, retaining pins, wear plates, bumpers, retaining rings and plugs, rubber bushings, recoil springs, etc.

INCIDENTAL/CONSEQUENTIAL DAMAGES: To the fullest extent permitted by applicable law, in no event will STANLEY be liable for any incidental, consequential or special damages and/or expenses.

FREIGHT DAMAGE: Damage caused by improper storage or freight handling.

LOSS TIME: Loss of operating time to the user while the tool(s) is out of service.

IMPROPER OPERATION: Any failure or performance deficiency attributable to a failure to follow the guidelines and/or procedures as outlined in the tool’s operation and maintenance manual.

MAINTENANCE: Any failure or performance deficiency attributable to not maintaining the tool(s) in good operating condition as outlined in the Operation and Maintenance Manual.

HYDRAULIC PRESSURE & FLOW, HEAT, TYPE OF FLUID: Any failure or performance deficiency attributable to excess hydraulic pressure, excess hydraulic back-pressure, excess hydraulic flow, excessive heat, or incorrect hydraulic fluid.

REPAIRS OR ALTERATIONS: Any failure or performance deficiency attributable to repairs by anyone which in Stanley’s sole judgement caused or contributed to the failure or deficiency.

MIS-APPLICATION: Any failure or performance deficiency attributable to mis-application. “Mis-application” is defined as usage of products for which they were not originally intended or usage of products in such a matter which exposes them to abuse or accident, without first obtaining the written consent of Stanley. PERMISSION TO APPLY ANY PRODUCT FOR WHICH IT WAS NOT ORIGINALLY INTENDED CAN ONLY BE OBTAINED FROM STANLEY ENGINEERING.

WARRANTY REGISTRATION: STANLEY ASSUMES NO LIABILITY FOR WARRANTY CLAIMS SUBMITTED FOR WHICH NO TOOL REGISTRATION IS ON RECORD. In the event a warranty claim is submitted and no tool registration is on record, no warranty credit will be issued without first receiving documentation which proves the sale of the tool or the tools’ first date of usage. The term “DOCUMENTATION” as used in this paragraph is defined as a bill of sale, or letter of intent from the first retail customer. A WARRANTY REGISTRATION FORM THAT IS NOT ALSO ON RECORD WITH STANLEY WILL NOT BE ACCEPTED AS “DOCUMENTATION”.

NO ADDITIONAL WARRANTIES OR REPRESENTATIONS

This limited warranty and the obligation of Stanley thereunder is in lieu of all other warranties, expressed or implied including merchantability or fitness for a particular purpose except for that provided herein. There is no other warranty. This warranty gives the purchaser specific legal rights and other rights may be available which might vary depending upon applicable law.

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