GR29
HYDRAULIC GRINDER

Safety, Operation and Maintenance Manual

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helps you do things right

10579 U.S.A. 9/91

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 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 4.

GENERAL SAFETY PRECAUTIONS

The GR29 Grinder provides safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand the safety precautions given in this manual and any stickers and tags attached to the tool and hose before operation. Failure to do so can result in personal injury or equipment damage.

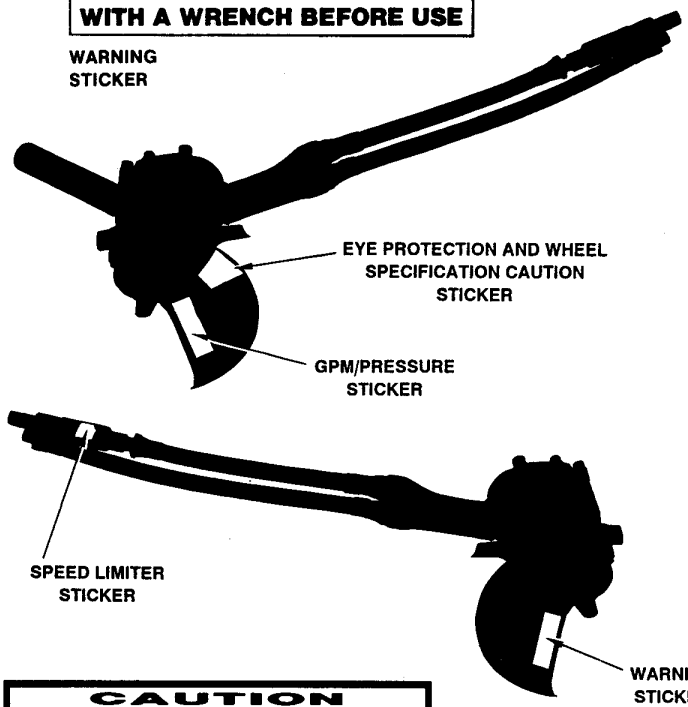
- Do not tighten or loosen the wheel nut by impact. Hold the shaft with a second wrench on the flats behind the wheel and tighten securely.
- Operators must start in a work area without bystanders. The operator must also be familiar with all prohibited work areas.
- Do not operate the tool if it is damaged, improperly adjusted or not completely and correctly assembled.
- Do not overreach. Maintain proper footing and balance at all times.
- 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. Make sure all hose connections are tight.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the tool unless thoroughly trained or under supervision of an instructor.
- When working near electrical conductors, always assume that all conductors are energized and that insulation, clothing and hoses can conduct electricity. Use hose labeled and certified as non-conductive when using the tool on or near electric lines.
- Do not operate the tool at fluid 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.
- Always hold the tool with both hands when the unit is running. Use a firm grip.
- Keep all parts of your body away from the rotating wheel.
- Keep the wheel off all surfaces when starting the grinder.
- Always carry the tool with the wheel stopped.
- Make sure the wheel has stopped before setting down the tool.

- Keep the handles clean and free of fluid at all times.
- All services must be performed by experienced service personnel only.
- Always inspect wheels for possible damage before installation.
- Never transport or store the tool with the wheel mounted on the grinder.
- Never cock, jam or wedge the wheel during operation.
- Never cause sparks in the vicinity of flammable materials.
- Do not operate the tool with the wheel guard removed.
- Do not start grinding until you have a clear work area and secure footing.,
- Do not allow other persons near the tool when starting or cutting.
- Never operate the tool when you are tired or fatigued.
- Do not use a wheel that is cracked or otherwise damaged.
- Always use wheels that conform to the specifications given in the OPERATION section of this manual.
- Always wear safety equipment such as eye and ear protection at all times when operating the tool.
- Do not reverse wheel rotation direction by changing fluid flow direction.
- Do not operate the grinder unless the speed limiter is installed in the hose assembly at the "IN" port of the tool.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

TOOL STICKERS AND TAGS

WARNING
GRINDING WHEEL AND JAM NUT MUST BE TIGHTENED WITH A WRENCH BEFORE USE

WARNING STICKER



The stickers and tags attached to the grinder prior to shipment from the factory are shown below. The pressures and flow rates specified must never be exceeded. All stickers and tags must be read and understood prior to operation of the tool.

The information listed on stickers and tags must be legible at all times. Always replace those that have become worn or damaged. They are available from your Stanley distributor.

CAUTION
PROTECT YOUR EYES
WEAR SAFETY GOGGLES

DO NOT USE DAMAGED WHEELS USE FULL THROTTLE ONLY WHILE GRINDING.
USE ONLY REINFORCED RESINOID WHEELS RATED FOR 6500 RPM MINIMUM. 9 INCH DIA. BY ¼ INCH THICK MAXIMUM. INSPECT WHEEL GUARD FOR SIGNS OF DAMAGE AFTER ANY WHEEL FAILURE.

EYE PROTECTION AND WHEEL SPECIFICATION CAUTION STICKER

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 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/PRESSURE STICKER

SPEED LIMITER
THIS SAFETY DEVICE LIMITS MAXIMUM TOOL SPEED
DO NOT REMOVE

The safety tag at the right is attached to the grinder 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 grinder 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 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 15875

DANGER

   D. **DO NOT** LIFT OR CARRY TOOL BY THE HOSES. **DO NOT** ABUSE HOSE. **DO NOT** USE KINKED, TORN OR DAMAGED HOSE.
3. MAKE SURE HYDRAULIC HOSES ARE PROPERLY CONNECTED TO THE TOOL BEFORE PRESSURIZING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL "IN" PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE TOOL OPERATION WHICH CAN RESULT IN SEVERE PERSONAL INJURY.
4. **DO NOT** CONNECT CLOSED-CENTER TOOLS TO OPEN-CENTER HYDRAULIC SYSTEMS. THIS MAY CAUSE EXTREME SYSTEM HEAT AND/OR SEVERE PERSONAL INJURY.

   DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
5. BYSTANDERS MAY BE INJURED IN YOUR WORK AREA. KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
6. WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
7. TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR, MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.

IMPORTANT

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

SEE OTHER SIDE 15874

SAFETY SYMBOLS

Safety symbols 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.

DANGER

This safety symbol may appear on the tool. It is used to alert the operator of an action that could place him/her or others in a life-threatening situation.

⚠ WARNING

This safety symbol appears in these instructions to identify an action that could cause bodily injury to the operator or other personnel.

IMPORTANT

This safety symbol appears in these instructions to identify an action or condition that could result in damage to the tool or other 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.

EQUIPMENT PROTECTION AND CARE

IMPORTANT

In addition to the Safety Precautions on pages 1 thru 4 of this manual, observe the following for equipment protection and care.

- Tool repair should be performed by experienced personnel only.
- 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 can 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.
- Always use a closed-center (CC) grinder on closed-center circuits and open-center (OC) grinders on open-center circuits.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the port farthest from the trigger. The circuit RETURN hose (with female quick disconnect) is connected to the port closest to the trigger.
- **Do not** reverse circuit flow.
- 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/175 bar.
- Always use hoses that have a fluid resistant inner surface and an abrasive resistant outer surface. Hoses that conform to SAE100R1A or SAE100R2 are recommended for most tool applications. Whenever near electrical conductors, use **clean** hose labeled and certified non-conductive.
- Do not exceed 9 gpm/34 lpm flow rate. Rapid failure of the grinding wheels and the tools internal seals might result.
- Replace the grinding wheel if worn for maximum tool performance. Make sure the wheel is not chipped or damaged.
- Only use wheels that meet the requirements of ANSI B7.5. Wheels should be no larger than 9-inches/23 cm in diameter, 5/32-inch/4 mm thick with a 5/8-inch/16 mm arbor hole. Rated speed must be 5000 rpm minimum.

HYDRAULIC HOSE REQUIREMENTS

HOSE TYPES

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

1. Labeled and certified non-conductive
2. Wire braided (conductive)
3. Fabric braided (not certified or labeled non-conductive)

Hose 1 listed above is the only hose authorized for use near electrical conductors.

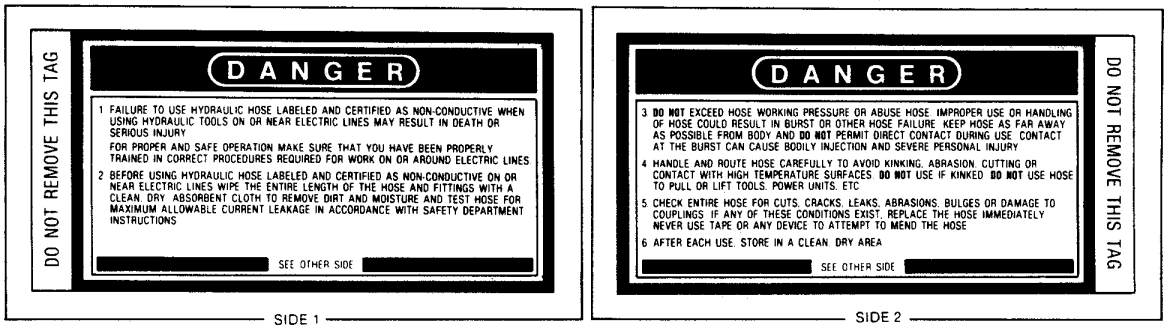
Hoses 2 and 3 listed above are **conductive** and **must never** be used near electrical conductors.

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

If the information on any tag is illegible because of wear or damage, replace it immediately. A new tag can be obtained at no charge from your Stanley distributor.

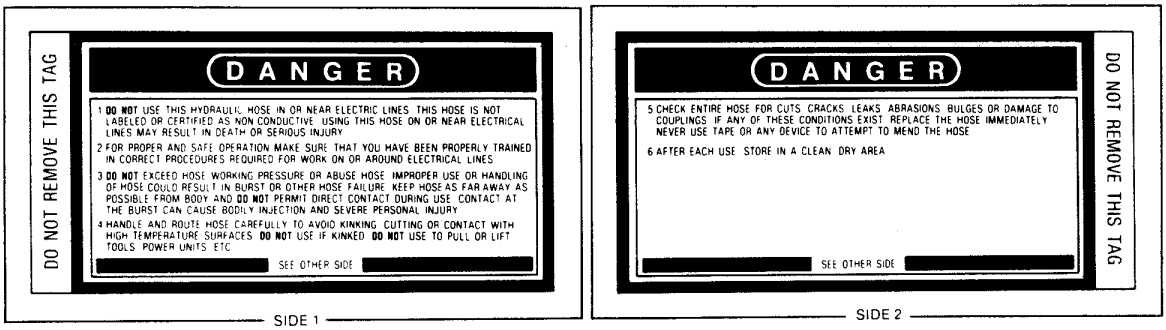
1 CERTIFIED NON-CONDUCTIVE HOSE

This tag is attached to all certified and labeled **non-conductive** hose.



2 AND 3 WIRE- AND FABRIC-BRAIDED (NOT CERTIFIED OR LABELED NON-CONDUCTIVE) HOSE

This tag is attached to all **conductive** hose.



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 used to power the grinder.

HYDRAULIC SYSTEM REQUIREMENTS

- The hydraulic system should provide a flow of 7-9 gpm/26-34 lpm at an operating pressure of 1000-2000 psi/70-140 bar. Recommended relief valve setting is 2100-2250 psi/145-155 bar.
- The system should not have more than 250 psi/17 bar backpressure measured at the tool end of the operating hoses. The system conditions for measurement are at maximum fluid viscosity of 400 ssu/82 centistokes (minimum operating temperatures).
- The hydraulic system should have sufficient heat rejection capacity to limit the maximum-fluid temperature to 140°F/60°C at the maximum expected ambient temperature. The recommended minimum cooling capacity is 5 hp/3.73 kW at a 40°F/14°C difference between ambient temperature and fluid temperature.
- The hydraulic system should have a minimum of 25 micron full-flow filtration. It is recommended that filter elements be sized for a flow of at least 20-30 gpm/75-114 lpm for cold temperature startup and maximum dirt holding capacity.
- The hydraulic fluid used should have a viscosity between 100 and 400 ssu/20 82 centistokes at the maximum and minimum expected operating temperatures. Petroleum base hydraulic fluids with anti-wear and non-conductive properties and viscosity indexes over 140 meet the recommended requirements over a wide range of operating temperatures.
- The recommended hose size is .500 inch/12 mm I.D. to 50 ft/15 m long and .625 inch/16 mm I.D. minimum up to 100 ft/30 m long.
- The grinder return hose must connect directly to the circuit return line and go straight through the fluid filter, thermal valve, and fluid cooler to the reservoir. To prevent trapped or reversed pressure, fluid should not be returned through a blocking or reversing valve.
- Do not use emulsifying hydraulic fluids and keep the recommended fluids drained of settled moisture. Water in the fluid can cause pump cavitation and reduces or negates personnel safety gained through the use of non-conductive hoses.

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/26-34 lpm at 1000-2000 psi/70-140 bar.

2. Make certain that the hydraulic power source is equipped with a relief valve set to open at 2100 psi/145 bar, minimum.

3. Check that the hydraulic circuit matches the tool for open-center (OC) or closed-center (CC) 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.

2. Check that the trigger is set to disengage the grinder when released.

CHECK AND ADJUST WHEEL GUARD

1. Inspect the wheel guard for cracks and other structural damage.

2. If necessary, adjust the position of the wheel guard by loosening the two capscrews on the guard clamp. Make sure the capscrews are tightened securely after adjustment.

INSTALLING AND REMOVING GRINDING WHEEL

1. Remove and set aside the jam nut from the output shaft.

2. Position the grinding wheel over the shaft.

3. Screw the jam nut down onto the output shaft. Tighten the nut securely by using two open-end wrenches; one wrench on the flats of the output shaft, the other wrench on the jam nut. Tighten the jam nut to 200 ft lb/271 Nm torque.

4. Remove the grinding wheel by removing the jam nut as in step 3.

IMPORTANT

Never over-tighten the grinding wheel jam nut by impacting either wrench with a mallet or hammer. Sufficient torque is attained by hand-tightening the nut with two open-end wrenches.

USE OF DEPRESSED-CENTER WHEEL ADAPTER

The Depressed-Center Wheel Adapter (Part Number 05194) must be used with wheels having a cupped or depressed center.

CONNECT HOSES

1. Wipe all hose couplers with a clean lint-free cloth before making connections.

2. Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. It is good practice to connect the return hose first and disconnect it last to minimize or eliminate trapped pressure within the grinder.

3. Observe the flow indicators on the hose couplers to ensure the flow is in the proper direction. The female coupler on the tool is the inlet (pressure) coupler.

4. Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the port

farthest from the trigger. The circuit RETURN hose (with female quick disconnect) is connected to the port closest to the trigger.

5. Move the hydraulic circuit control valve to the "ON" position.

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

Note: If coupled 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.

TOOL OPERATION

For best results, use only Stanley approved accessories. They have been designed and selected to get the most from the tool.

Review the SAFETY PRECAUTIONS given at the front of this manual before operating the tool.

Remember to grip the tool with both hands at all times during startup and operation and be sure you have full balance before starting grinder rotation. Always keep your body away from the "plane of rotation" of the grinding wheel.

Always start the grinder with the wheel away from the work surface. Start hydraulic flow at one gpm and slowly increase flow to a level that produces desired efficiency, but allows the operator to maintain full balance and control.

⚠ WARNING

Starting the hydraulic grinder on the work with full hydraulic flow can push the operator off balance, creating a condition that can cause severe personal injury.

COLD WEATHER OPERATION

If the grinder 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 grinder can result from use with fluid that is to viscous or too thick.

SERVICE INSTRUCTIONS

Good maintenance practice keeps the grinder 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 procedures contained in the HYDRAULIC SYSTEM REQUIREMENTS section of this 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 the tool 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.

PRIOR TO DISASSEMBLY

- Clean the exterior of the tool.
- Obtain waterproof EP-1 grease or equal.
- Obtain Seal Kit (Part Number 10592) so all seals exposed during disassembly can be replaced during assembly. Note the orientation of seals before removal. Install new seals in the same position as the original seals.

  Note: For orientation of the parts identified in the following procedures, refer to the parts location diagram at the back of this manual.

DISASSEMBLY

REMOVAL OF NOSE HOUSING, BEARING AND THRUST SUPPORT

1. Remove the wheel guard by loosening the two capscrews on the wheel guard clamp.

2. Remove three 10-24 x 1-1/4-inch /31.75 mm capscrews (with lockwashers), jam nut and two 10-24 x 1-1/2-inch hex socket head capscrews securing the nose housing to the main body assembly.

3. Carefully separate the nose housing from the main body assembly. DO NOT pry or use excessive force when removing the nose bearing.

4. Remove the nose housing internal seal.

5. Remove the retaining ring securing the bearing and thrust support to the output shaft.

DISASSEMBLY OF MOTOR SECTION

The motor section consists of an idler gear assembly, idler shaft assembly, main shaft, motor cap assembly, output shaft, o-ring and bushing.

1. Remove the four 5/6-18 x 1-1/2-inch/38 mm hex socket capscrews (with lockwashers) and the two 3/8-16 x 1-1/2-inch/38 mm hex socket head capscrews (with lockwashers) securing the motor cap assembly to the main body assembly. Carefully remove the motor cap assembly.

2. Remove and discard the o-ring from the motor cap assembly.

3. Remove the idler gear assembly and idler shaft assembly.

4. Carefully separate the main shaft from the output shaft. Be careful not to lose the key.

5. Inspect the motor parts as described in this section prior to assembly. Replace any defective parts.

MOTOR SECTION CLEANING AND INSPECTION

Cleaning

Clean all parts with a degreasing solvent. Blow dry with compressed air and wipe clean. Use only lint-free cloths.

Inspection of the Main Body Assembly, Bushing and Shafts

The inside of the main body assembly bushing should be gray in color. If a significant amount of yellow-bronze shows, bushing replacement is required. Inspect the output shaft, main shaft and idler shaft assembly for corresponding wear and replace as required.

Inspection of Gear Chamber (Motor Cap Assembly)

The gear chamber bores and end faces around the bores should be polished, not rough or grooved. The flat surfaces around the chamber and bolt holes should be flat and free of nicks and burrs that could cause misalignment or leaks.

Inspection of Gears

The main shaft and idler gears should have flat, straight tips without nicks. They should have smooth even polish on the teeth and end faces. Replace the gears if cracks are present.

Inspection of Main Body Assembly

The gear running surfaces should show two interconnecting polished circles without a step or roughness.

IMPORTANT

If abnormal wear occurs in excess of normal polishing, the main shaft and main body assembly bushing must be replaced. The hydraulic system should be thoroughly flushed and the filter replaced before further operation of the grinder.

Inspection of Output Shaft

The output shaft diameter at the bushing location must be smooth. Grooves, roughness or a reduced diameter indicates fluid contamination and damaged main body assembly bushing.

DISASSEMBLY OF MAIN BODY

1. Remove the two 5/16-18 x 1/2-inch/13 mm hex socket flat head capscrews and stop washers from the ends of the porting spool.

2. Carefully slide the porting spool out of the main body assembly just far enough to remove one of the o-rings. Carefully push the porting spool out of the opposite side of the main body assembly.

3. Remove the o-ring from the other end of the porting spool.

4. Remove the spring, ON/OFF valve spool and needle roller.

5. Remove the o-ring from the ON/OFF valve spool.

6. Remove the o-ring from the front of the ON/OFF valve spool cartridge in the main body assembly.

Note: The ON/OFF valve spool cartridge remains in the main body assembly. It is not removable in the field. If the cartridge is damaged, return the main body assembly to your local Stanley dealer.

Note: There is a visible difference between the ON/OFF valve spool used for o.c. or c.c. grinders. DO NOT confuse them when assembling the grinder. An o.c. spool has outer ring widths of less than 0.6-inches/14 mm while c.c. spools have outer ring widths of over 1-inch/25.4 mm.

7. Remove the internal retaining ring to release the seal back-up washer, back-up ring and o-ring.

8. Inspect all main body assembly parts and replace as required.

PRIOR TO ASSEMBLY

- Clean all parts with a degreasing solvent.
- Apply clean grease or o-ring lubricant to all parts during assembly.
- Obtain seal kit (Part Number 10592) so all seals exposed during disassembly can be replaced during assembly.

Note: For orientation of parts identified in the following procedures, see the parts location diagram at the back of this manual.

ASSEMBLY PROCEDURES

ASSEMBLY OF MAIN BODY

1. Replace the o-ring and needle roller at the front of the ON/OFF valve spool.

2. Lubricate and install the o-ring in the small hole at the front of the main body. Carefully insert the spool (with o-ring and needle roller) into the main body.

3. Insert the spring into the rear of the ON/OFF valve spool.

4. See figure 1. The porting spool must have the horizontal groove toward the idler shaft assembly when assembled (with the narrower part of the relief above and the wider part below). While holding the porting spool in this position, install a lubricated o-ring in the **right groove** (holding the main body assembly oriented as shown in figure 1).

Note: The long end of the spool will be toward the right when assembled.

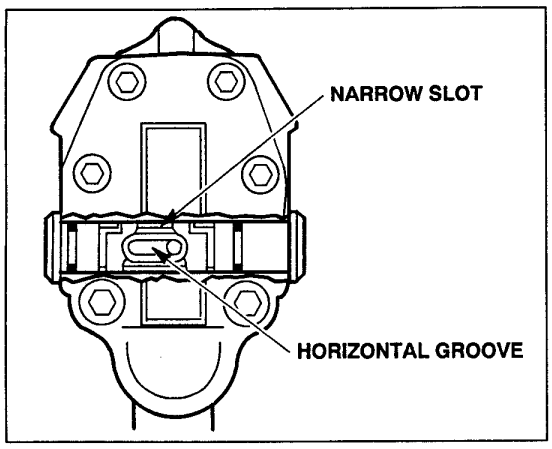


Figure 1. Porting Spool Orientation

5. Slide the porting spool (the end with no o-ring) into the main body assembly from the right side. Slide the spool only far enough so the o-ring on the opposite end of the spool can be installed.

6. Lubricate and install the second o-ring and center the porting spool.

7. Turn the porting spool so the small horizontal groove is facing straight back (towards the motor cap assembly end).

8. Apply Loctite® primer to the porting spool threads and to the two 5/16-18 x 1/2-inch/13 mm hex socket flat head capscrews. Allow Loctite® primer to dry.

9. Apply Loctite® 242 and install one of the two stopwashers and a 5/16-18 x 1/2-inch/13 mm hex socket flat head capscrew into either end of the porting spool. Make sure the capscrew is hand tight.

10. Pull the porting spool back against the stopwasher.

11. Apply Loctite® 242 and install the remaining stopwasher and 5/16-18 x 1/2-inch/13 mm capscrew into the opposite end of the porting spool.

12. Tighten both capscrews to 16 ft lb/21.7 Nm torque.

ASSEMBLY OF MOTOR SECTION

1. Turn the porting spool so the horizontal groove is facing straight back toward the motor cap end, then install the idler shaft. This keys the porting spool to keep it from rotating.

2. Install the small end of the idler shaft into the hole and slot in the porting spool.

3. Install the main shaft and idler gear into the motor cap.

4. Lubricate and install the o-ring in the groove of the motor cap. The o-ring stays in the groove better if it is limbered-up by slightly stretching and with the groove filled with grease.

5. Slide the main shaft into the main body, followed by the idler gear and motor cap.

Note: Do not force, wobble or use impact when assembling parts. Ensure the motor cap is flat against the main body assembly and that the main shaft can be turned.

6. Lubricate and hand install the four 5/16 x 1-1/2 inch/38 mm and two 3/8-16 x 1-1/2 inch/38 mm socket head capscrews and lockwashers securing the motor cap assembly to the main body.

7. Tighten the four 5/16 screws to 18 ft lb/24 Nm, lubricated.

8. Lubricate and install the o-ring and back-up ring on the front of the main shaft. Install the back-up washer and retaining ring in the main body.

9. Check that the gears move freely. Turn the main shaft. If the tool is damaged or assembled incorrectly, rough movement of the shaft and gears will be noticed. If this happens, disassemble and inspect.

ASSEMBLY OF NOSE HOUSING, BEARING AND THRUST SUPPORT

1. Thoroughly lubricate the output shaft.

2. Install the thrust support and bearing onto the output shaft. Secure them to the output shaft using the retaining ring.

3. Lubricate and install the seal inside the nose housing.

4. Place the key on the main shaft, then carefully place the nose housing against the main body assembly, engaging the output shaft with the main shaft and key.

5. Secure the nose housing to the main body assembly using three 10-24 x 1-1/4-inch/32 mm hex socket head capscrews (with lockwashers) and two 10-24 x 1-1/2-inch/38 mm capscrews.

6. With a wrench on the output shaft flats, install the jam nut and tighten to 200 ft lb/271 Nm torque.

7. Install the wheel guard. Securely tighten the two capscrews to the wheel guard clamp.

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 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	REMEDY
Low performance	Incorrect hydraulic flow.	Check that power source is producing 7-9 gpm/26-34 lpm at 100-2000 psi/70-140 bar.
	Defective quick disconnects.	Check quick disconnect.
Fluid leak at motor cap assembly face.	Capscrews loose.	Tighten to recommended torque value.
	Face o-ring worn or missing.	Replace as required.
	Motor cap assembly/main body assembly damaged.	Replace as required.
Fluid leaks at porting spool.	Damaged o-rings.	Replace as required. Refer to assembly instructions to prevent cutting the o-rings.
	Wrong hydraulic fluid. Circuit too hot.	See HYDRAULIC SYSTEM REQUIREMENTS for correct fluid/circuit specifications.
	Hydraulic pressure and return reversed.	Correct hose connections.
Fluid gets hot, power unit working hard.	Open-center tool on a closed-center circuit and vice versa.	Use tool to match circuit.
	Too much fluid going through tool.	Adjust flow for 9 gpm/34 lpm maximum.
	Circuit is generating high heat with flow controls, open relief valve, etc.	Use pump and rpm for producing needed flow only. Eliminate circuit heating cause.
	Circuit has contaminants that have caused pump and valve wear and high heat generation.	Replace worn pump and valves; install a large clean filter and keep circuit fluid clean.

PROBLEM	CAUSE	REMEDY
Tool doesn't run.	Power unit not functioning.	Check power unit for output of 7-9 gpm/26-34 lpm at 1000-2000 psi/70-140 bar.
	Coupler or hoses blocked.	Remove obstruction.
	Mechanical failure.	Disassemble tool and inspect for damage.
Tool runs backwards.	Pressure and return hoses reversed.	Correct for proper flow direction. Grinding wheel should rotate counterclockwise when viewed from shaft end.
	Flow direction reversed.	
Grinding wheel comes to abrupt stop after release of trigger.	Porting spool incorrectly assembled.	Refer to SERVICE INSTRUCTIONS.
	Mechanical failure.	Disassemble tool and inspect for damage.

SPECIFICATIONS

Capacity ..... 9 in./23 cm Wheel on 5/8 in. -11 THD Arbor
Weight (With Wheel Guard) ..... 10 lbs/4.5 kg
Length ..... 7-3/4 in./19.7 cm
Width (With Wheel Guard) ..... 10 in. /25.4 cm
Pressure ..... 1000-2500 psi/70-175 bar
Flow Range ..... 7-9 gpm/26-34 lpm
Optimum Flow ..... 5800 rpm at 8 gpm/30 lpm
Porting ..... #8 SAE o-ring
Connect Size and Type ..... 3/8 in. NPT Adapters
Hose Whips ..... Yes, with speed limiter
Motor ..... Integral

ACCESSORIES

PART NUMBER	TOOL DESCRIPTION
02587	Grinding Wheel for Metal 9 in. Diameter x 5/8 in. -11 THD Arbor
02588	Grinding Wheel for Masonry 9 in. Diameter x 5/8 in. -11 THD Arbor
02816	Wire Brush 6 in. Diameter
03691	Grinding Wheel 7 in. Diameter x 5/8 in. -11 THD Arbor
05194	Depressed -- Center Wheel Adapter

WARRANTY

Hand held tools and their parts are warranted against defects in materials and workmanship for a period of 12 months from the date of purchase. Exceptions are cutting parts, steels, and other parts not manufactured by Stanley (such as impact mechanisms, alternators, regulators, and hoses), and parts subject to normal wear and tear (such as o-rings, saw blades, and other parts that become worn through normal use of the tool).

The Warranty Registration Card packed with the tool must be filled out and returned to Stanley upon receipt of the tool.

Stanley reserves the right to replace or repair only those parts which under our examination prove to have been defective at the time of purchase.

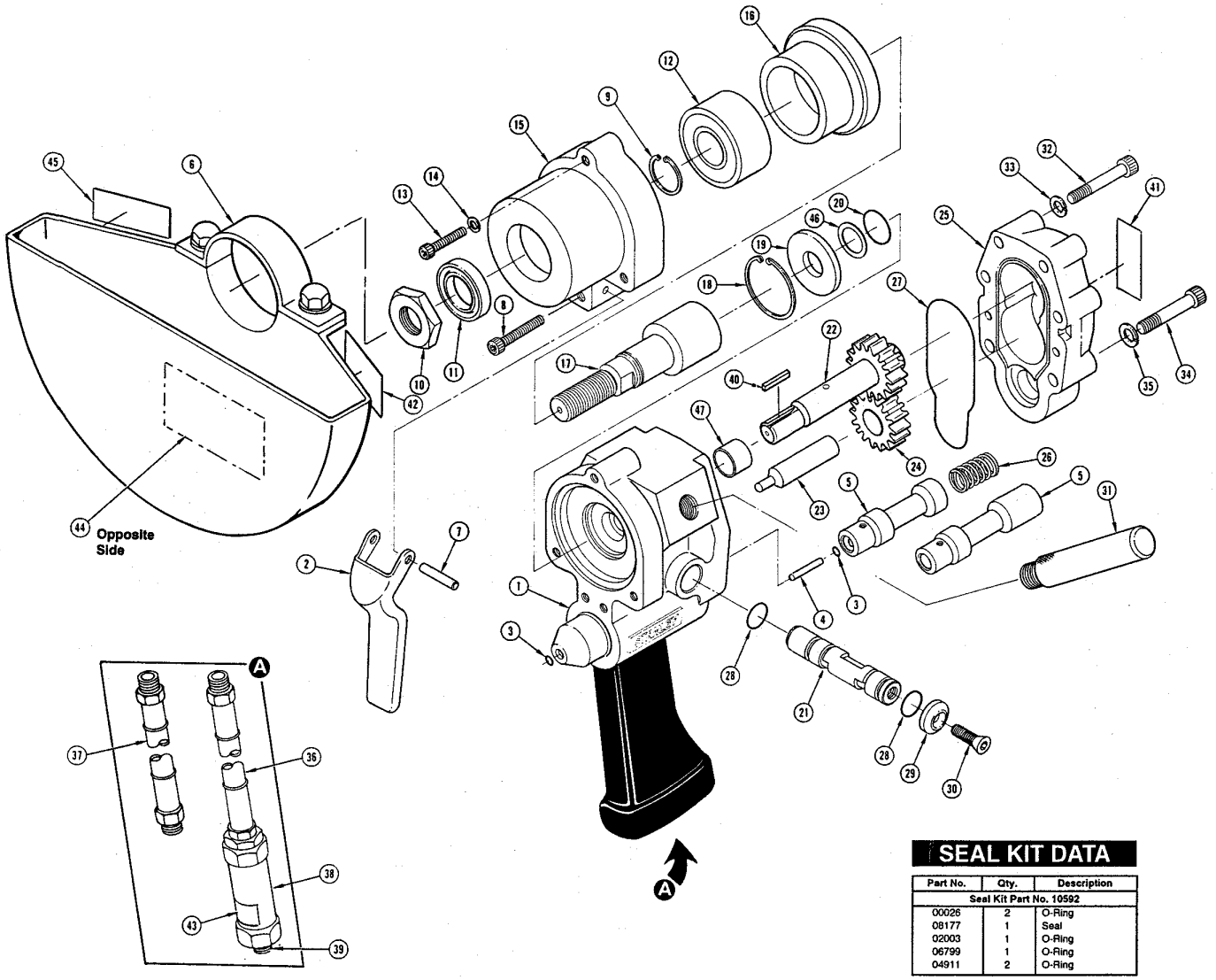
Shipping charges are prepaid by the customer unless otherwise authorized by Stanley.

The warranty is void if maximum flow and pressure ratings are exceeded.

There is no other warranty expressed or implied.

SERVICE AND REPAIR NOTES

SERVICE AND REPAIR NOTES



PARTS LIST

Item No.	Part No.	Qty.	Description
1	08318	1	Main Body Assembly
2	06981	1	Trigger
3	00026	2	O-Ring, 3/16 x 5/16 x 1/16 ⊙
4	06634	1	Needle Roller
5	08167	1	Valve Spool - o.c.
	08168	1	Valve Spool - c.c.
6	08322	1	Wheel Guard
7	07970	1	Spirol Pin, 3/16 x 1-3/8
8	00111	2	Capscrew, 10-24 x 1-1/2 Hex Soc. Head
9	08176	1	Retaining Ring
10	08319	1	Jam Nut
11	08177	1	Seal ⊙
12	08175	1	Bearing
13	00753	3	Capscrew, 10-24 x 1-1/4 Hex Soc Head
14	00032	3	Lockwasher #10
15	08320	1	Nose Housing
16	08321	1	Thrust Support
17	08323	1	Output Shaft
18	08635	1	Retaining Ring
19	16248	1	Seal Back-Up Washer
20	02003	1	O-Ring ⊙
21	14286	1	Porting Spool Assembly
22	08325	1	Main Shaft
23	09601	1	Idler Shaft Assembly
24	07021	1	Idler Gear Assembly
25	07023	1	Motor Cap Assembly
26	06617	1	Spring
27	06799	1	O-Ring, 2-3/4 x 2-7/8 x 1/16 ⊙
28	04911	2	O-Ring, 1/2 x 5/8 x 1/16 ⊙
29	07227	2	Stop Washer
30	03475	2	Capscrew, 5/16-18 x 1/2 Hex Soc Flat Head
31	08130	1	Cross Handle
32	06638	4	Capscrew, 5/16-18 x 1-1/2 Hex Soc Head
33	03031	4	Lockwasher, 5/16
34	01458	2	Capscrew, 3/8-16 x 1-1/2 Hex Soc Head
35	01459	2	Lockwasher, 3/8
36	05638	1	Hose Assembly - 13"
37	07226	1	Hose Assembly - 18"
38	04722	1	Flow Control 9 GPM
39	03044	1	Hex Nipple
40	08326	1	Key
41	08687	1	Name Tag
42	03786	1	GPM Sticker
43	06693	1	Flow Control Label
44	08688	1	Grinding Wheel Safety Label
45	10396	1	Warning Sticker
46	08928	1	Back-Up Ring
47	04040	1	Bushing

Note: Use Part Number and Part Name when ordering.
⊙ Denotes Part in Seal Kit

SEAL KIT DATA

Part No.	Qty.	Description
Seal Kit Part No. 10592		
00026	2	O-Ring
08177	1	Seal
02003	1	O-Ring
06799	1	O-Ring
04911	2	O-Ring

STANLEY®

helps you do things right

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