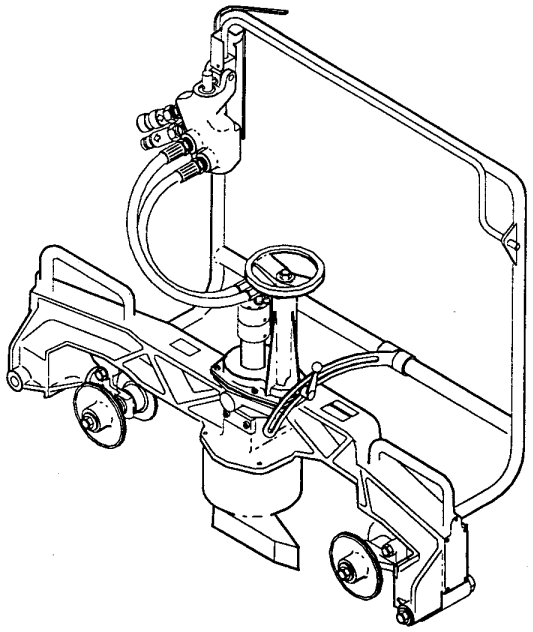
PG10

HYDRAULIC PROFILE GRINDER



Safety, Operation and Maintenance Manual

Focused on performance™

STANLEY® Hydraulic Tools

28073 U.S.A. 12/94

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.

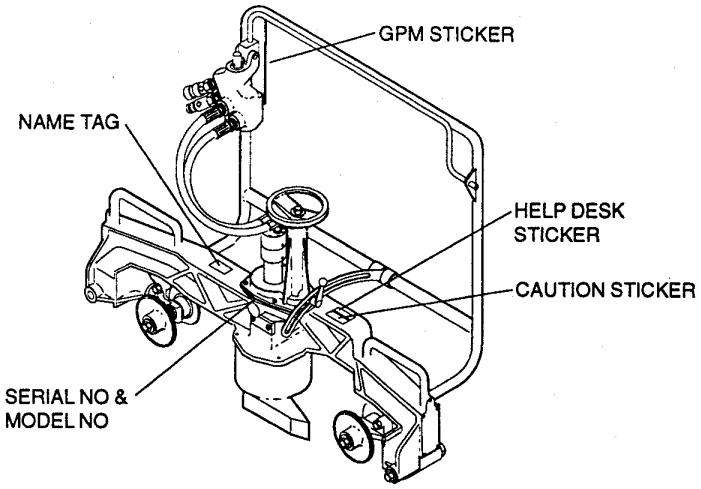
Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided on page 4.

GENERAL SAFETY PRECAUTIONS

The PG10 Hydraulic Profile Grinder 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 grinder and hose before operation. Failure to do so could result in personal injury or equipment damage.

- 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.
- The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Maintain proper footing and balance at all times.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engage ment 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.
- 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 the tool with the wheel guard removed.
- Do not operate a damaged, improperly adjusted, or incompletely assembled grinder.
- Never wear loose clothing that can get entangled in the working parts of the tool.
- Keep all parts of your body away from the rotating wheel.
- Keep the wheel off all surfaces when starting the grinder.
- Do not use a wheel that is cracked or otherwise damaged. Always inspect wheels for possible dam- age before installation or use.
- Always use wheels that conform to the specifications given in the OPERATION section of this manual.
- Do not reverse wheel rotation direction by changing fluid flow direction.
- Do not move the tool until the wheel has stopped rotating.
- 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



CAUTION

7-10 GPM/26-38 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 P/N 03787
(shown actual size)

STANLEY RAILROAD HELP DESK

1-800-549-0517
FOR CUSTOMER SERVICE OR TECHNICAL QUESTIONS

RAILROAD HELP DESK STICKER
P/N 25610 (shown actual size)

The information listed on the stickers shown must be legible at all times. Replace the stickers if they become worn or damaged. A replacement is available from your local Stanley distributor.

CAUTION

PROTECT YOUR EYES
WEAR SAFETY GOGGLES

1. DO NOT USE DAMAGED WHEELS.
2. USE ONLY WHEELS THAT MEET REQUIREMENTS OF ANSI B7.1.
3. WHEELS SHOULD BE NO LARGER THAN 6" X 3" X 5/8-11, RATED FOR AT LEAST 6000 RPM MAXIMUM OPERATING SPEED.
4. INSPECT GUARD AND MOUNTING FLANGE FOR DAMAGE AFTER ANY WHEEL BREAKAGE ON THE MACHINE.
5. MAXIMUM SPINDLE SPEED IS 6000 RPM.

CAUTION STICKER P/N 25357
(shown approximate actual size)

The safety tag (p/n 15875) at 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 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

15875

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.

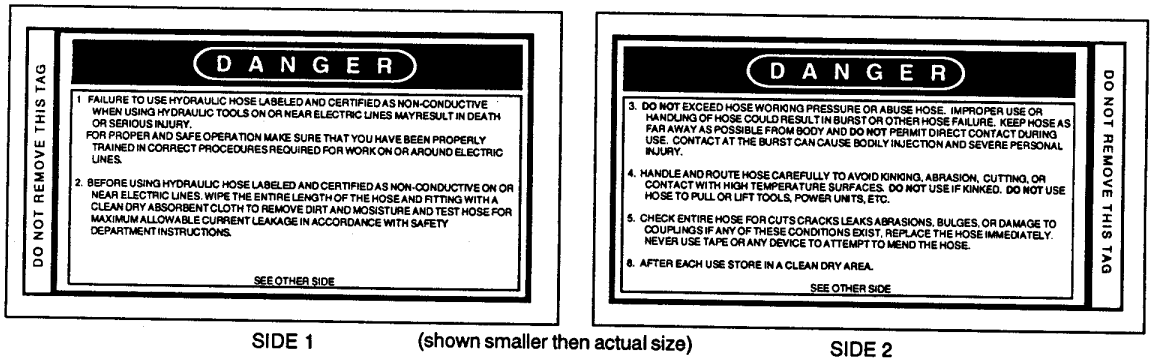
Hoses ❷ and ❸ listed above are **conductive** and **must never** be used near electrical conductors.

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 at no charge from your Stanley Distributor.

❶ CERTIFIED NON-CONDUCTIVE HOSE

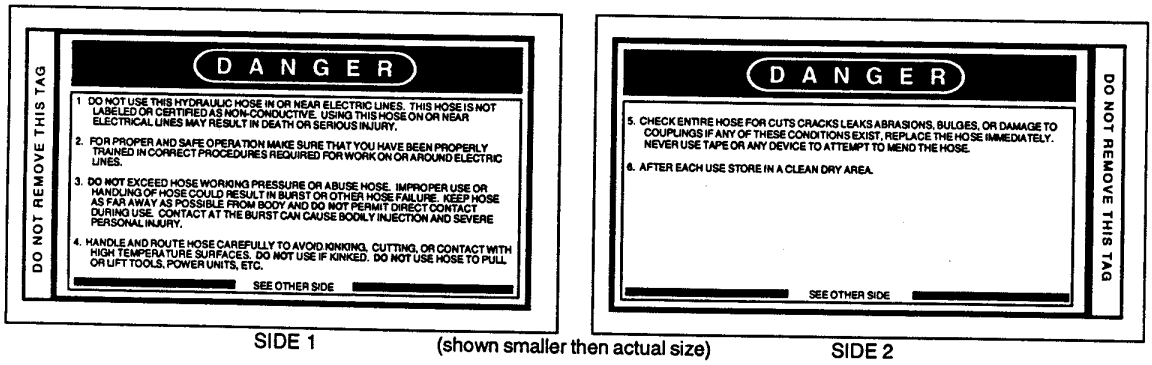
This tag is attached to all certified **non-conductive** hose.



SIDE 1 (shown smaller then actual size) SIDE 2

❷ AND ❸ WIRE-BRAIDED AND FABRIC-BRAIDED (NOT CERTIFIED OR LABELED NON-CONDUCTIVE) HOSE

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



SIDE 1 (shown smaller then actual size) SIDE 2

HOSE PRESSURE RATING

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

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.

HYDRAULIC REQUIREMENTS

IMPORTANT

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

- Always store an idle grinder in a clean dry space, safe from damage or pilferage.

- Do not exceed the rated limits or use the grinder for applications beyond its design capacity.

- Always keep critical tool markings, such as lables and warning stickers legible.

- 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.

- Permit only experienced personnel to perform tool repair.

- Be sure to wipe all couplers clean before connecting. Use only lint-free cloths.

- The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling the grinder. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.

- Check fastener tightness often and before each use daily.

HYDRAULIC SYSTEM REQUIREMENTS

- The hydraulic system should provide a flow of 7-10 gpm/26-38 lpm at an operating pressure of 1500-2000 psi/105-140 bar. Recommended relief valve setting is 2100-2250 psi/145-155 bar.

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

- The hydraulic system should have enough heat rejection capacity to limit the maximum oil temperature to 140°F/60°C at the maximum expected ambient temperature. The recommended minimum cooling capacity is 5 hp/3.73 kW at a 40° F/22°C difference between ambient temperature and oil temperature.

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

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

- The recommended hose size is .500 inch/12 mm I.D. up to 50 ft/15 m long and .625 inch/16 mm I.D. minimum up to 100 ft/30 m long.

PREOPERATION PROCEDURES

PREPARATION FOR INITIAL USE

The unit as shipped has no special unpacking or assembly requirements prior to usage. Inspection to assure the unit was not damaged in shipping and does not contain packing debris is all that is required. After installation of a grinding wheel the unit may be put to use.

CHECK HYDRAULIC POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7-10 gpm/26-38 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) 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.

CHECK GUARD WELDMENT

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

INSTALLING AND REMOVING GRINDING WHEEL

NOTE: Use 6 inch diameter up to 3 inch thick grinding wheels with a 5/8-11 threaded arbor hole. SEE CAUTIONS ON PAGE 2.

1. Unscrew the three nuts (69) which secure the guard weldment (71) to the frame and remove the guard weldment.

2. Install the grinding wheel until it comes in contact with the drive flange.

3. Using the wrench (89) provided, place it on the flats of the drive flange. Place a strap wrench on the grinding wheel and then tighten by gripping and turning the strap wrench while holding the wrench provided.

4. Replace the guard weldment.

IMPORTANT

Never over-tighten the grinding wheel by impacting the wrench with a mallet or hammer. Sufficient torque is attained by hand-tightening the wheel with a strap wrench while securing the drive flange with the wrench provided.

ADJUST WHEEL FLANGES TO FIT RAIL

The wheel flanges may be adjusted to fit the width of the rail by removing one or more of the washers (50).

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 grinder. It is a good practice to connect the return hose first and disconnect it last to minimize or avoid trapped pressure within the grinder motor.

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. Always start the grinder with the grinding wheel away from the work surface by turning the handwheel counter clockwise to raise the wheel.

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

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

5. Start the grinder and move the grinding wheel to the work surface by turning the handwheel clockwise.

6. Grind a small amount of material at a time adjusting the grinding wheel as necessary by turning the handwheel.

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.

GRINDER DISASSEMBLY

HANDLE WELDMENT REMOVAL

1. Remove the hoses attached to the Hyrevz motor.

2. Remove the adjustable handle (41) which secures the handle weldment adjustment bracket to the housing.

3. Remove the nuts (36) located on the right hand and left hand arm which hold the handle weldment to the arms.

4. Remove the handle weldment (79), valve block (99), and related parts as an assembly.

HYREVZ MOTOR REMOVAL

1. Remove the hoses attached to the motor.

2. Remove two capscrews (22) which retain the motor to the ram (23) and lift the motor off.

3. Lift off the splined coupling (21) and set aside.

4. For servicing the Hyrevz motor, see 'HYREVZ MOTOR REMOVAL, DISASSEMBLY, INSPECTION, CLEANING, REASSEMBLY, AND REPLACEMENT' located later in this manual.

RAM, SPINDLE, & HOUSING ASSEMBLIES REMOVAL

1. Perform steps 1 through 3 for Hyrevz Motor Removal.

2. Loosen the set screw (34) holding the drive flange (33) to the spindle (29) and slide the drive flange and key (30) off the spindle.

3. Remove two capscrews (67) which hold the key (68) in place and remove the key.

4. Remove six capscrews (22) which hold the housing to the frame.

5. Lay the entire profile grinder on its side and then slide the housing and handwheel assembly, ram and feed gear assembly, and spindle and drive flange assembly away from the frame all at the same time. Be carefull not to let the ram (33) fall away from the housing (40).

6. Remove the ram and spindle assembly from the housing.

7. Remove the feed gear (59) from the ram by turning it counter clockwise until it comes loose from the ram.

8. Pry out the oil seal (32) located in the drive flange end of the ram.

9. Remove the retaining ring (31) from the drive flange end of the ram.

10. Press the spindle out of the ram end opposite the motor end using an arbor press.

11. Remove the retaining rings (25) on the spindle located on top and bottom of the inner ring. Apply heat to the inner ring (26) to break down the Loctite™ used during installation of the ring. Remove the inner ring using a press and pull tool or bearing separator tool.

12. Remove the retaining ring on the spindle located on top of the bearing (27) and remove the bearing (28) using an arbor press.

13. Remove the needle roller bearing in the ram by pressing the bearing out of the ram toward the motor end using an arbor press.

REMOVING THE SHAFT FROM THE HOUSING

1. Perform steps 1 through 6 of the Ram and Spindle Removal.

2. Remove the nut (103) which holds the handwheel (36) to the shaft (46) and remove the handwheel and key (31).

3. Push the shaft out of the housing away from the handwheel end.

4. Using a punch, drive the roll pin (48) out of the shaft and pinion gear (47) and remove the pinion gear from the shaft.

5. Pry the wiper (37) out of the top of the housing.

6. Drive the roll pin (39) through the bushing until it drops out in the central bore.

7. Remove the bushing using a bearing removal tool.

BUSHING (57) & WIPER (70) REMOVAL

Perform steps 1 through 4 of the Handle Weldment Removal.

Perform steps 1 through 6 of the Ram, Spindle, and Housing Assembly Removal.

Remove the bushing (57) from the frame using a bearing removal tool.

Pry out the wiper (70) from the underside of the frame.

WHEEL FLANGE AND BEARING REMOVAL

1. Remove the nut (35) and washer (50) from the capscrew (49) which hold the wheel flanges (65 & 51) to the right hand arm (66) and remove the large wheel flange (65) and 15 washers (50). Pull the capscrew out of the arm to remove the smaller wheel flange (51). Repeat these steps for disassembly of the left hand arm (54).

2. The bearings (52) found in the wheel flanges may be removed by first removing the retaining ring (53) on the inside of the wheel and then pressing the bearing out using an arbor press. Press on the bearing surface from the outside of the wheel and push the bearing out toward the inside of the wheel.

LEFT & RIGHT ARM REMOVAL

1. Remove the snap ring (62) which holds the right hand arm (66) in place on the frame and remove the right hand arm. Repeat this step for removal of the left hand arm.

2. Remove the flange bushings (64) with a bearing removal tool.

ROLLER REMOVAL

1. Beginning with either roller (76), remove the nut (72) and washer (73) from the shaft bolt (77) which holds the roller in place. Remove the bolt, roller, and washer (102). Repeat this step for the other roller.

2. The bearings (74) may be removed from the rollers using a bearing puller. Be careful not to damage the retaining rings (75) found on the inside of the roller and against each bearing.

VALVE BODY REMOVAL AND DISASSEMBLY

1. Disconnect the hoses attached to the Hyrevz motor.

2. Drive the roll pin (98) which holds the trigger assembly (80) to the valve body (99) out of the valve body .

3. Remove the trigger assembly from the handle weldment by sliding it out of the bracket and set it aside.

4. Unscrew two capscrews (22) holding the valve body to the handle weldment (79) while holding onto the valve body to prevent it from falling.

5. Remove the trigger spool (78) by first removing the retaining ring (90) holding the spring washers and spring in place and then lifting the spool out of the valve body from the trigger end.

NOTE: The flow control in the valve body is not a field serviceable item. It is pre-calibrated in the valve body during manufacturing.

PRIOR TO ASSEMBLY

1. Clean all parts with a degreasing solvent.

2. Ensure that all seals exposed during disassembly are replaced with new parts.

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

4. Obtain the seal kit shown in the exploded view so that all seals exposed during disassembly can be replaced.

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

GRINDER REASSEMBLY

INSTALLING THE SHAFT

1. Install a new bushing into the top of the housing using a arbor press. Make sure the roll pin hole in the bushing is aligned with the hole in the housing.

2. Install the roll pin through the housing and into

the bushing. Seal the hole with silicone RTV sealant.

3. Install the wiper into the housing.

4. Install the pinion gear to the shaft and secure it in place with the roll pin.

5. Apply grease to the shaft and install the shaft and pinion gear assembly into the housing by inserting it into the bottom side of the housing.

6. Install the key and handwheel to the top of the shaft and secure in place with the nut.

INSTALLING THE RAM AND SPINDLE ASSEMBLIES

1. Lubricate and install a new needle roller bearing (24) into the ram by inserting the needle roller bearing into the motor end of the ram and pressing it down with an arbor press and insertion tool (the top of the bearing is to be 3.750 inches from the top of the ram).

2. Slide a new bearing onto the spindle from the spline end. Slide the bearing down to the larger diameter of the spindle and secure in place with the retaining ring.

3. Install a retaining ring into the second groove down from the spline end on the spindle.

4. Apply 609 Loctite to the inside diameter of the inner ring and install onto the spindle until it stops at the retaining ring. Secure the inner ring in place by installing another retaining ring on the spindle on top of the inner ring.

5. Install the spindle with bearings into the bottom (opposite end from the motor) of the ram and secure in place with a retaining ring.

6. Lubricate and install the oil seal into the ram, lips facing toward the spline end of the spindle.

7. Lubricate and install the square ring (44) onto the top (motor end) of the ram so that it rests between the motor adapter flange and feed gear threads of the ram. Lubricate and install the wiper (43) onto the top of the ram in the same manner as the square ring, lips facing down.

8. Apply grease to the gear teeth and threads of the feed gear and then thread the feed gear onto the ram until the top surface of the feed gear is flush with the step in the ram just above the threads on the ram.

9. Lay the housing on its side and install the ram and spindle assembly into the bottom of the housing so that just a small portion of the top of the ram protudes through the top side of the housing.

10. Install the backup washer (42) into the step in the housing. The square ring and wiper should be below the backup washer. SEE FIGURE 1.

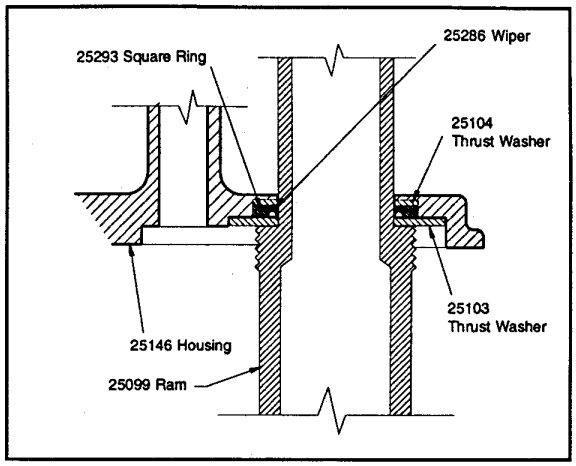


Figure 1.
Relationship of Seals & Thrust Washers to Housing

11. Move the square ring and the wiper up until they both rest on the backup washer (42). The wiper should be inside of the inside diameter of the square ring.

12. Install the thrust washer (45) so that it is flush with the bottom of the square ring and wiper, and is in the step in the housing as shown in figure 1. Move the ram up toward the thrust washer until the feed gear meshes with the pinion gear and the top of the feed gear is butted up next to the thrust washer. Hold the completed ram and housing assembly in place.

NOTE: It is necessary to maintain the position of the ram in the housing during the next steps to prevent the seals and washers from becoming dislodged. This can be done by building a fixture out of PVC pipe that has a 2 inch inside diameter. SEE FIGURE 2.

The PVC fixture shown in figure 2 can be constructed from any PVC or ABS type pipe having a 2 inch (51 mm) inside diameter. The length is 2-7/8 inches (73 mm). Cut approximately 1/4 to 1/3 of the wall away as shown.

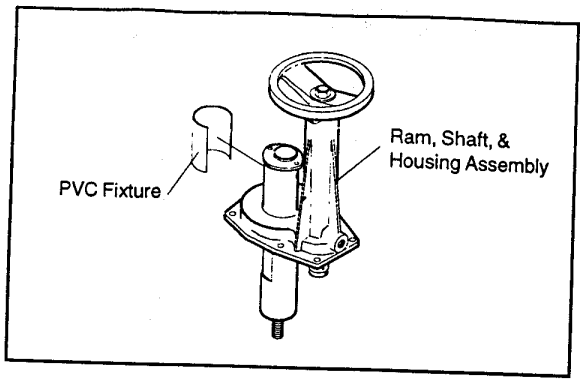


Figure 2.
PVC or ABS Fixture for Holding Ram in Place

13. Install a new bushing (57) for the pinion gear into the frame.

14. Apply grease to the ram outside diameter, frame inside diameter and gear teeth and gear outside diameters. Make sure the dowel pins (58) are in place on the housing. Apply a bead of silicone RTV sealant to the surface of the frame which the housing mates to. Install the housing to the frame and fasten in place with 6 capscrews.

15. Turn the ram until the flat is facing the key slot, apply a light film of silicon RTV sealant to the key, then install the key (68) and fasten with two capscrews.

16. Install the wiper (70), lips facing down into the bottom of the frame.

17. Install the key (68) onto the spindle followied by the drive flange. Apply 242 Loctite™ to the set screw on the drive flange and secure the drive flange in place by tightening the set screw.

18. Apply grease to the coupling inside diameter and install the splined coupling (21) onto the spindle.

19. Install the Hyrevz motor onto the splined coupling and secure to the ram with two cap-screws.

20. Install the hose assemblies to the motor and valve body. Pay attention to the correct port (IN and OUT) connections as shown in the exploded view.

ARM & WHEEL FLANGE INSTALLATION

1. Beginning with the right hand arm, install new flange bushings into the frame where the arm mounts.

2. Install the arm and secure with a washer and retaining ring.

3. Repeat steps one and two for the left hand arm.

4. Install new bearings into the wheel flanges using an arbor press. Secure each bearing with a retaining ring. Note orientation of inside diameter, bearing shoulder (faces outside of flanged wheel).

5. Beginning on the side of the profile grinder opposite the key (68), place a capscrew (49) and a washer (50) through the smaller of one of the two wheel flange sizes (wheel hub facing away from the head of the capscrew) and then push the capscrew through the hole (farthest from the frame) in the right hand arm.

6. Install washers as needed to accomodate the width of the rail and then install one of the larger flange wheels and fasten with a washer and nut.

7. Repeat steps 4 through 6 to install the left hand arm and flange wheels.

ROLLER INSTALLATION

1. Install retaining rings into the roller and install new bearings into each end of the roller.

2. Install the roller with bearings onto the shaft bolt (77), install washer (102) and then push the shaft bolt through the hole at the far end of the frame. Fasten with a washer and nut.

3. Repeat steps 1 and 2 for the other roller.

VALVE BODY ASSEMBLY

1. Lubricate and install an o-ring (84) into the top and bottom of the trigger spool bore of the valve body.

2. Into the top of the trigger spool bore of the valve body, lubricate and install a washer (83).

3. Lubricate the trigger spool (78) and slide it into the bore at the top of the valve body being careful not to damage the o-rings. Install the wiper (82) (lips facing out).

4. Install a spring washer (91) followed by a spring (92) and spring washer at the bottom end of the trigger spool. Secure with a retaining ring (90).

HANDLE WELDMENT INSTALLATION

1. Position the handle weldment so that each threaded end of the weldment is inserted into a hole in each arm (the hole closest to the frame and located at the top of the arm).

2. Fasten each end of the weldment to each arm

with a nut.

3. Attach the trigger assembly to the valve body, place the bar of the trigger assembly through the bracket hole on the handle weldment, and then fasten the valve body to the handle weldment with two capscrews.

4. Position the lever weldment (105) over the trigger assembly and install the spring (106), spacer (107) and roll pin (104).

HYREVZ™ MOTOR REMOVAL, DISASSEMBLY, INSPECTION, CLEANING, REASSEMBLY, AND REPLACEMENT

Obtain seal kit, part number 25942 to replace all seals expsoed during disassembly. Note orientation of seals before removing them. Install new seals in the same way.

REMOVAL

1. Perform steps 1 through 3 of the HYREVZ MOTOR REMOVAL located earlier in this manual.

2. Place the motor in a vise (with soft jaws or V-blocks) with the motor shaft facing down.

3. Remove 8 capscrews (11).

4. Using a flat-blade screwdriver or similar tool, gently pry the gear housing (13) away from the front bearing housing (16). Lift the gear housing straight up. **Do Not** tilt the housing or pry on the flat surface inside of the surrounding groove. For prying, only use the groove provided at the split between the parts to prevent scratches on the inner mating surfaces.

5. Remove the two drive gears (4 & 15), needle roller key (19), and the idler shaft (3).

6. Remove the large face seal o-ring (5) while being careful not to damage the o-ring groove or surrounding surface.

7. Remove the front bearing housing from the vise. While protecting the mating surface from damage, remove the retaining ring (10) from around the bearing. Hold the housing and tap lightly on the small diameter end of the motor shaft to remove it and the bearing from the front of the housing.

8. To remove the bearing (9) from the shaft, remove the retaining ring (20) on the shaft next to the bearing. Press on the gear end of the motor shaft while supporting the outer race of the bearing. Discard the old bearing.

9.. Remove the retaining ring (18) at the bottom of the ball bearing bore to service the shaft seal. Remove the seal liner (7) using the appropriate o-ring service tools to pry it out of its bore. Take care to avoid damaging the seal surfaces. Note seal orientation. Remove the o-ring (17) from the outside of the seal liner. Remove the quad ring from the inside of the seal liner.

10. Remove the four bushings (14) from the bearing and gear housings using p/n 11930 collet from p/n 05064 bearing puller kit.

INSPECTION AND CLEANING

Inspect and clean all parts as follows:

Cleaning

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

Gear Chamber

The chamber bores and bottoms around the shaft bushings should be polished and not rough or grooved. If the bushing bores are yellow-bronze, replace them and investigate the cause of wear.

The flat surfaces around the chamber and bolt holes should be flat and free of nicks or burrs that could cause misalignment or leaks.

Bushings

The inside of the bushings should be gray with some bronze showing through. If significant yellow-bronze shows, replace the bushings. Inspect motor shaft for corresponding wear and replace as required.

Gears

The drive and idler gears should have straight tips without nicks; square tooth ends and a smooth even polish on the teeth and end faces. Check for cracks between the drive gear keyway and gear tooth root. Replace the gear if cracks are present.

Bearing Housing

The surface near the gears should show two interconnecting polished circles without a step. The bottom of the o-ring groove should be smooth as should the rest of the flat surface.

The bore for the shaft seal (inside of the seal liner) should be smooth or oil leakage may occur. The bore in which the seal liner fits should also be smooth.

Shake the bearing housing and the two seal check balls (not shown) should rattle. Unless there are leaks at the Allen type plugs which retain the check balls (not shown), or the check balls have jammed because of fluid contaminants, it is not necessary to remove the plugs or check balls. If these are removed, be sure the check seats (the bottom of the holes into which the balls are placed around the small oil holes) are smooth. If not, the seat can usually be fixed by cleaning and then placing the ball in the hole and tapping on the ball with an aluminum or bronze rod.

Reassemble ball and plug with the inner end of the plug **just starting** to show in the hole as viewed through the oil slot on the gear face of the housing. You can also use a wire through this hole to feel when the plug is deep enough.

Note: Use sealant/adhesive such as Loctite PST on plug to seal threads.

Shafts

The shaft diameter at the bearing and seal locations must be smooth. Grooves, roughness or a reduced diameter indicate fluid contamination or damaged bushings. Grit particles may have been imbedded in the bushings grinding into the hardened shaft. If abnormal shaft wear as above occurs (more than normal polishing), replace both the shaft and associated bushings.

Also check the hydraulic system for excess contamination in the fluid and for filter condition. Operating conditions may require changing from a 25-micron filter to an oversized 10-micron filter.

REASSEMBLY

• Be sure to replace all exposed seals with new parts.

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

1. Carefully install the quad ring into the goove on the inside of the seal liner. Carefully install the o-ring onto the smaller outside diameter of the seal liner and install the seal liner into the bore of the bearing housing. Replace the retaining ring.

2. To replace the bearing on the motor shaft, support the bearing inner race and press the motor shaft through the bearing inner race. Install the retaining ring next to the bearing on the shaft.

3. Install the two bushings using a p/n 11918 bearing pusher.

4. Place the bearing housing on a smooth clean arbor press surface (protected from damage) with the large bearing bore facing up. Position the piece so a clearance hole exists for the insertion of the motor shaft.

5. Apply grease to the motor shaft and keyway; then insert it through the shaft seal. Using a sleeve/socket with a diameter equal to the bearing O.D., press the bearing assembly into place. Press only on the outer race. Install the bearing retaining ring.

6. Install the needle roller in the keyway of the motor shaft. Use grease to keep the roller in place. Slide the drive gear over the roller and shaft. Install the idler shaft and gear.

7. Apply grease to the face seal o-ring groove; then install the o-ring.

8. Note the screw hole pattern on both housings. They will only assemble one way. With all parts aligned, carefully slide the gear housing assembly over the gears until it contacts the bearing housing assembly. **Do not force parts together.**

9. Turn the motor shaft manually to check for free rotation. Install the eight capscrews and then recheck rotation.

10. Connect the motor to a hydraulic power source and check for smooth running.

Note: Make sure the hydraulic power source is running at the lowest gpm/lpm rate it can while still producing full pressure.

⚠ WARNING

During this break-in procedure, maintain grip on wrench while hydraulic power is applied to motor. Loosing grip may result in injury.

11. Motors will sometimes be tight and require "break-in". Accomplish this by turning the shaft (with the spline coupling installed) with a wrench while applying hydraulic pressure. Turn the shaft both with and against the hydraulic pressure until the motor starts and runs freely.

REPLACEMENT

1. Follow the instructions under item 19, page 11.

TROUBLESHOOTING

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem.

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

Grinder does not run.	Hydraulic power source not functioning.	Check power source for proper flow and pressure (7-10 gpm/26-38 lpm, 1500-2000 psi/105-140 bar.
	Couplers or hoses blocked.	Locate and remove restriction.
	Hydraulic motor failure.	Inspect and repair.
	Hydraulic lines not connected.	Connect lines.
Grinder operates too slow.	Hydraulic motor speed too slow.	Check power unit for proper flow (7-10 gpm/26-38 lpm).
	High backpressure.	Check hydraulic system for excessive backpressure (over 250psi/17 bar).
	Couplers or hoses blocked.	Locate and remove restriction.
	Oil too hot (above 140°F/60°C) or too cold (below 60°F/16°C).	Check hydraulic power source for proper oil temperature. Bypass cooler to warm oil or provide cooler to maintain proper temperature.
	Relief valve set too low.	Adjust relief valve to 2100-2250 psi/145-155 bar.
	Hydraulic motor worn.	Inspect and repair or replace.
	Flow control malfunctioning.	Have flow control serviced at authorized Stanley service center.
Grinder operates too fast.	Flow control malfunctioning.	Have flow control and valve body serviced at authorized Stanley service center.

SPECIFICATIONS

Wheel Capacity	6 in. dia. x 3 in. thk x 5/8-11 threaded arbor
Pressure Range	1000-2000 psi/70-140 bar
Flow Range	7-10 gpm/26-38 lpm
Porting	-8 SAE O-ring
Couplers	HTMA Flush Face Type Male & Female
Connect Size and Type	3/8 in. Male Pipe Adapter
Hose Whips	No
Weight (with couplers)	118 lb/53.52 kg
Overall Length	44 inches/111.76 cm
Overall Width	20 inches/50.8 cm
Overall Height	30.5 inches/77.4 cm
RPM	6000 Max
Hyrevz™ Motor	24251

WARRANTY

Hand held tools and their parts carry a limited warranty 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).

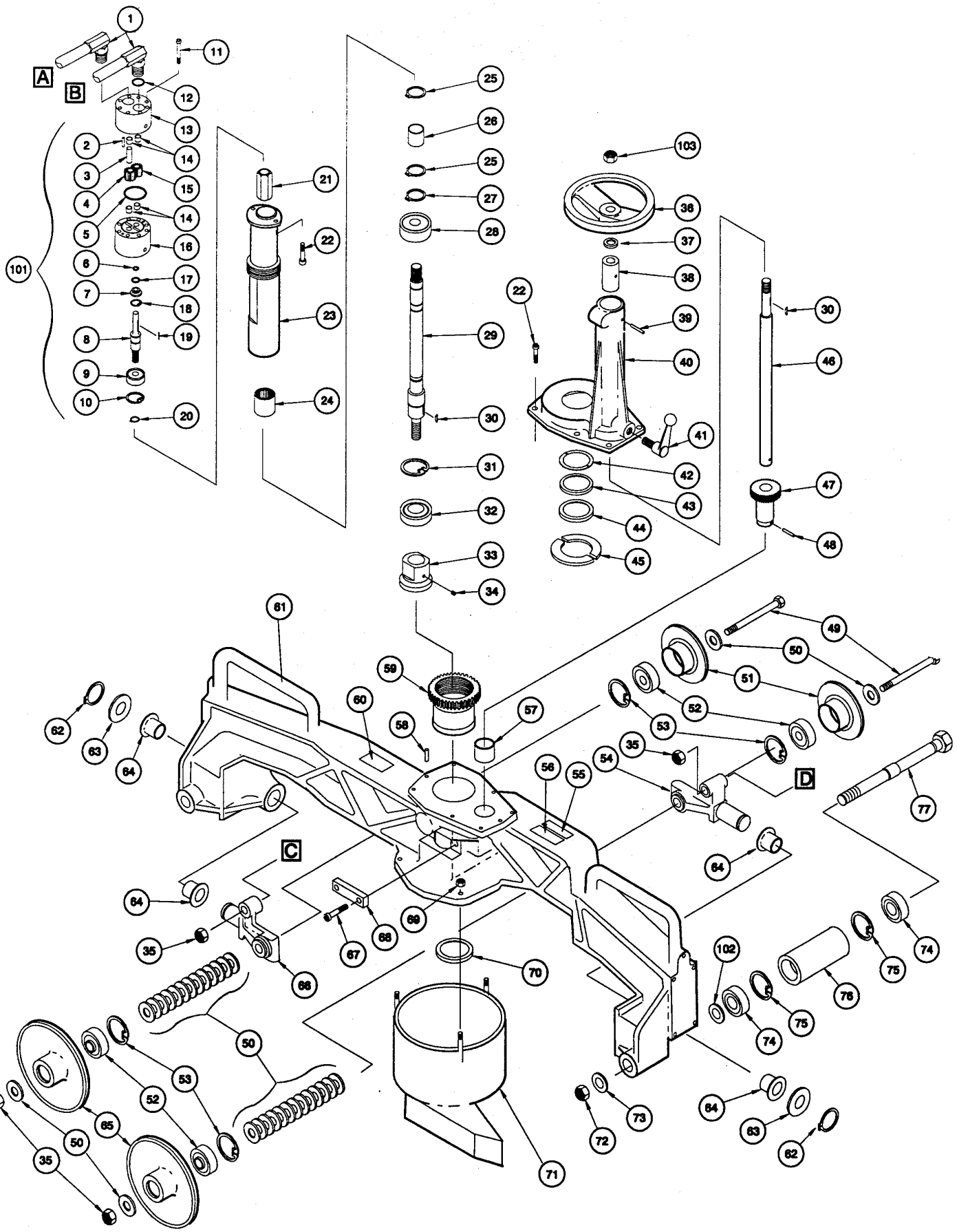
The Warranty Registration Card packed with the tool must be filled out and returned to Stanley upon receipt of the tool.

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.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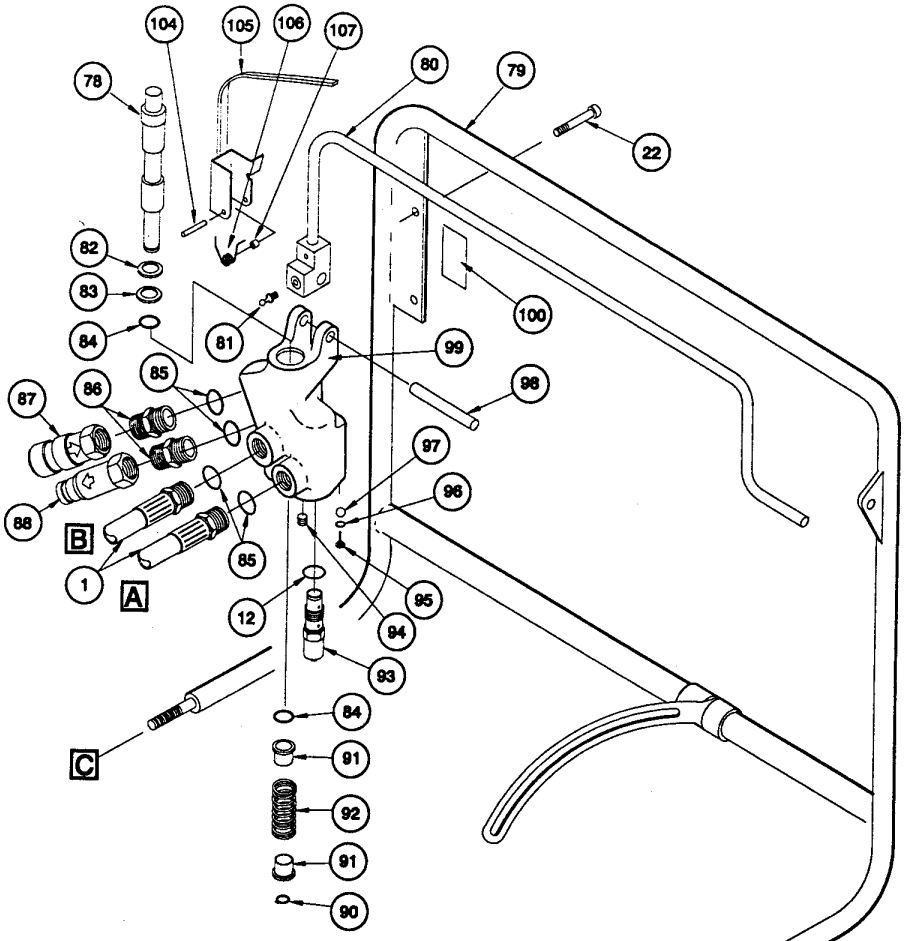

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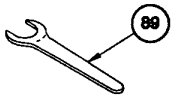

PG10 SEAL KIT DATA

Seal Kit Part No. 25942

Item No	Part No	Qty	Description
17	00171	1	O-ring
5	00178	1	O-ring
6	00669	1	Quad Ring
96	01411	1	O-ring
12	01604	3	O-ring
85	01605	4	O-ring
84	08017	2	O-ring
70	25277	1	Wiper
32	25280	1	Oil Seal
43	25286	1	Wiper - type H
37	25287	1	Wiper
44	25293	1	Square Ring
82	25305	1	Wiper

PG10 PARTS LIST

Item No	Part No	Qty	Description
1	25294	2	Hose Assy
2	00713	2	Dowel Pin
3	06854	1	Idler Shaft
4	25717	1	Idler Gear
5	00178	1	O-ring, 2-1/8 x 2-1/4 x 1/16 70D •
6	00669	1	Quad Ring •
7	19884	1	Seal Gland
8	25166	1	Motor shaft
9	00148	1	Bearing
10	00166	1	Retaining Ring
11	00120	8	Capscrew
12	01604	3	O-ring (incl with item 1) •
13	06880	1	Gear Housing
-	06846	1	Gear Housing Assy (incl items 2 & 14)
14	06316	4	Bushing
15	25718	1	Drive Gear
16	19898	1	Front Bearing Housing
-	19905	1	Front Brg Hsg Assy (incl items 14)
17	00171	1	O-ring 11/16 x 13/16 x 1/16 70D •
18	00170	1	Retaining Ring
19	06881	1	Needle Roller
20	00708	1	Retaining Ring
21	25158	1	Splined Coupling

PG10 PARTS LIST continued

Item No	Part No	Qty	Description
22	02688	10	Capscrew
23	25099	1	Ram
24	25291	1	Needle Roller Bearing
25	25289	2	Retaining Ring
26	25290	1	Inner Ring
27	25281	1	Retaining Ring
28	25279	1	Bearing
29	27941	1	Spindle
30	00772	2	Woodruf Key
31	25278	1	Retaining Ring
32	25280	1	Oil Seal, 1.250 x 2.047 x .299 •
33	25419	1	Drive Flange
34	01607	1	Set Screw
35	04374	4	Nut
36	26809	1	Handwheel
37	25287	1	Wiper •
38	27748	1	Bushing
39	02900	1	Roll Pin
40	27749	1	Housing
41	25285	1	Adjustable Handle
42	25104	1	Backup Washer
43	25286	1	Wiper Type H •
44	25293	1	Square Ring •
45	25103	1	Thrust Washer
46	26810	1	Shaft
47	25083	1	Pinion Gear
48	25283	1	Roll Pin
49	25304	2	Capscrew
50	20876	30	Washer
51	25045	2	Flange
52	25303	4	Bearing
53	25302	4	Retaining Ring
54	25111	1	Arm L.H.
55	25610	1	Help Desk Sticker
56	25357	1	Caution Sticker
57	25284	1	Bushing
58	00272	2	Dowel Pin
59	25082	1	Feed Gear
60	02754	1	Name Tag
61	25076	1	Frame
62	25297	2	Retaining Ring
63	25296	2	Thrust Washer
64	25295	4	Flanged Bushing
65	25046	2	Flange
66	25126	1	Arm R.H
67	10888	2	Capscrew
68	25167	1	Key
69	04353	3	Stop Nut
70	25277	1	Wiper •
71	25060	1	Guard Weldment
72	04984	2	Stop Nut
73	25300	2	Washer
74	25299	4	Bearing
75	25298	4	Retaining Ring
76	25047	2	Roller
77	25048	2	Shaft Bolt
78	25036	1	On-Off Spool (o.c.)
79	25161	1	Handle Weldment
80	28453	1	Trigger Assy
81	18037	1	Ball Joint Stud
82	25305	1	Wiper •
83	25256	1	Washer •
84	08017	2	O-ring 7/8 x 1-1/16 x 3/32 -118 •
85	01605	4	O-ring .644 x .818 x .087 -908 (incl with items 1 & 86) •
86	00936	2	Adapter
87	24058	1	Female Coupling
88	24059	1	Male Coupling
89	25842	1	Wrench (shipped loose)
90	17904	1	Retaining Ring
91	18008	2	Spring Washer
92	24819	1	Spring
93	-----	1	Flow Control (NOT SERVICEABLE)
94	00955	1	Pipe Plug
95	24289	1	Plug
96	01411	1	O-ring, .488 x .624 x .078 -906 •
97	20145	1	Steel Ball
98	25292	1	Roll Pin
99	25005	1	Valve Block
100	03787	1	GPM Sticker
101	25251	1	Motor Assy (incl 2 thru 11, & 13 thru 20)
102	25052	2	Washer
103	02179	1	Nut
104	18601	1	Roll Pin
105	27366	1	Lever Weldment
106	27599	1	Spring (modified)
107	27370	1	Spacer

• Denotes part in seal kit

NOTE: Use Part Number and Part Name when ordering.

SERVICE AND REPAIR NOTES

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