







GR29 Underwater Hydraulic Grinder

18149 Service Manual 1/2019 Ver. 16

DECLARATION OF CONFORMITY ÜBEREINSTIMMUNGS-ERKLÄRUNG DECLARATION DE CONFORMITE CEE DECLARACION DE CONFORMIDAD DICHIARAZIONE DI CONFORMITA		STANLEY. Infrastructure 																											
I, the undersigned: Ich, der Unterzeichnende: Je soussigné: El abajo firmante: Io sottoscritto:	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> Nuerenberg, David </div> <small>Surname and First names/Familiennamen und Vornamen/Nom et prénom/Nombre y apellido/Cognome e nome</small>																												
hereby declare that the equipment specified hereunder: bestätige hiermit, daß erklaren Produkt genannten Werk oder Gerät: déclare que l'équipement visé ci-dessous: Por la presente declaro que el equipo se especifica a continuación: Dichiaro che le apparecchiature specificate di seguito:																													
1. Category: Kategorie: Catégorie: Categoría: Categoria:	Grinder, Hydraulic																												
2. Make/Marke/Marque/Marca/Marca	STANLEY																												
3. Type/Typ/Type/Tipo/Tipo:	GR2930101																												
4. Serial number of equipment: Seriennummer des Geräts: Numéro de série de l'équipement: Numero de serie del equipo: Matricola dell'attrezzatura:	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> All </div>																												
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6. Representative in the Union: Vertreter in der Union/Représentant dans l'Union/Representante en la Union/Rappresentante presso l'Unione	Patrick Vervier, Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France.																												
Done at/Ort/Fait à/Dado en/Fatto a STANLEY Infrastructure, Milwaukie, Oregon USA Date/Datum/le/Fecha/Data 4-25-2018																													
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Safety Precautions

	The Safety Alert Symbol alerts you to potential personal injury hazards. Obey all safety messages that follow to avoid possible injury or death.
	Indicates an imminently hazardous situation which will result in death or serious injury.
	Indicates a potentially hazardous situation which could result in death or serious injury.
	Indicates a potentially hazardous situation which could result in property damage.

Always observe safety symbols. They are included for your safety and for the protection of the tool.



WARNING: Read all safety warnings and instructions. Failure to follow warnings and instructions may result in tool damage and/or serious injury.

WARNING: To reduce the risk of injury, read the instruction manual.

General

- Do not discard safety instructions. Give to the operator.
- This tool will provide dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hoses before operation. Failure to do so could result in personal injury or equipment damage.
- Inspect the tool before each use and ensure all decals are legible. Contact STANLEY if replacements are needed.
- Establish a training program for all operators to ensure safe operation. Do not operate the tool unless thoroughly trained or under the supervision of an instructor. Keep out of the reach of children.
- Operators and maintenance personnel shall be able to physically handle the bulk, weight and power of the tool.
- Avoid unsuitable postures as these positions do not allow for counteracting of normal or unexpected movement of the tool, such as a sudden break of the tool bit. Change postures during extended tasks to help avoid discomfort or fatigue.
- Do not operate a damaged, improperly adjusted, modified or incompletely assembled tool.
- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- Do not grind on vessels containing combustible substances.
- Never cause sparks in the vicinity of flammable materials.
- Provide adequate ventilation in closed areas when operating a gas or diesel hydraulic power source.
- Do not inspect, carry, clean, change accessories or perform maintenance on the tool while the power source is connected.
- Accidental engagement of the tool can cause serious injury.
- Ensure the grinding wheel is stopped when setting down the tool. Never transport or store the tool with a grinding wheel installed.
- Ensure that the abrasive wheel is properly clamped before each use. Follow all instructions.
- Ensure work piece is securely fixed. Be aware that failure of the work piece or accessories may generate high velocity projectiles.
- Stay alert, watch what you are doing and use common sense when operating a hydraulic tool. Do not operate this tool if you are tired or under the influence of drugs or alcohol. A moment of inattention while operating hydraulic tools may result in serious injury.
- Assess risks to others around you before operating the tool.
- Use and maintain the tool as stated in this manual. Misuse of the tool can cause serious injury. Do not modify the tool in any way.
- Keep all body parts away from rotating components of the tool. Avoid direct contact with the tool as it may become hot.
- Do not start the tool if the grinding wheel is touching a surface.
- Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations.
- Never operate the tool if you cannot be sure that underground utilities are not present, such as electrical cables, gas pipes, etc. These can cause a hazard if damaged with the tool.

- The tool is not insulated against coming into contact with electric power. Use hose certified as non-conductive.
- Do not overreach. Maintain proper footing and balance at all times when using the tool. Do not start grinding until the work area is clear and you have secure footing.
- Do not reverse tool rotation direction by changing hydraulic fluid flow direction.
- Slips, trips and falls are major causes of workplace injury. Be observant of hoses or oily surfaces lying about the work area, as they can be a tripping hazard.
- Operator must start in a work area without bystanders and must assess the risk to bystanders.
- Always work in an area with adequate lighting.
- Operators must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Only use clean hydraulic fluid and lubricants that have been recommended by STANLEY.
- Ensure tools are working properly and safely by performing preventative maintenance (PM) procedures.
- Repair and service of this tool must only be performed by an authorized and certified dealer.
- Use only replacement parts recommended by STANLEY.
- Do not force the tool to do the work of a larger tool. Use the correct tool for your application. Any use of this tool, outside those stated in this manual, are forbidden.
- Use only hoses and hose couplings that are rated for a minimum working pressure of 2500 PSI (172 BAR).
- Keep tool handles dry, clean and free from oil and grease. This will enable better control of the tool.
- In spite of the application of relevant safety regulations and the implementation of safety devices, certain residual risks cannot be avoided. These risks are: repetitive strain injury due to improper posture while using the tool and the risk of pinching fingers when pulling the tool trigger.

Dust and Fumes

- **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead-based paints,
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
- Protect yourself and those around you. Research and understand the materials you are grinding. Follow correct safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them, including, if appropriate arranging for the safe disposal of the materials by a qualified person.
- Working with certain materials may create emissions of dust and fumes, causing a potentially explosive environment. Take precautions.
 - When dust or fumes are created, control them at the point of emission. Direct tool exhaust to minimize disturbance of dust.
 - Operate and maintain the tool as recommended in this manual to minimize dust or fume emissions.
 - Use respiratory protection in accordance with employers instruction or as required by occupational health and safety regulations.
 - Avoid prolonged contact with dust. Allowing dust to get into your mouth, eyes or lay on the skin may promote absorption of harmful chemicals.
 - Select and replace accessories as recommended in order to prevent an unnecessary increase in dust or fumes.

PPE

- Always wear safety equipment such as impact resistant goggles, ear protection, head protection, breathing protection and safety shoes at all times when operating the tool.
- Hands may be exposed to hazards, impacts, cuts, abrasions and heat.

Wear gloves.

- Grinding sparks can ignite clothing and cause severe burns. Ensure sparks do not land on clothing. Wear fire-retardant clothing and have a bucket of water nearby.
- Wear a hardhat if performing overhead work.
- Use PPE that conforms to standards ANSI Z87.1 (Eye and Face Protection), ANSI Z89.1 (Head Protection), ANSI Z41.1 (Foot Protection) and ANSI S12.6 (S3.19) (Hearing Protection).
- Do not wear loose fitting clothing, jewelry or gloves with cut or frayed fingers when operating the tool. Entanglement, choking, scalping and laceration can occur if loose clothing, personal jewelry, neck wear, hair or gloves are not kept away from the rotating tool and its accessories.



M003
Wear Ear
Protection



M004
Wear Eye
Protection



M016
Wear a Mask

Sound

- Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations. Appropriate controls to reduce the risk can include actions such as damping materials to prevent work pieces from "ringing".
- Use and maintain as recommended in the manual to prevent an unnecessary increase in noise levels.

Vibration

- When using a rotary tool to perform work related activities, the

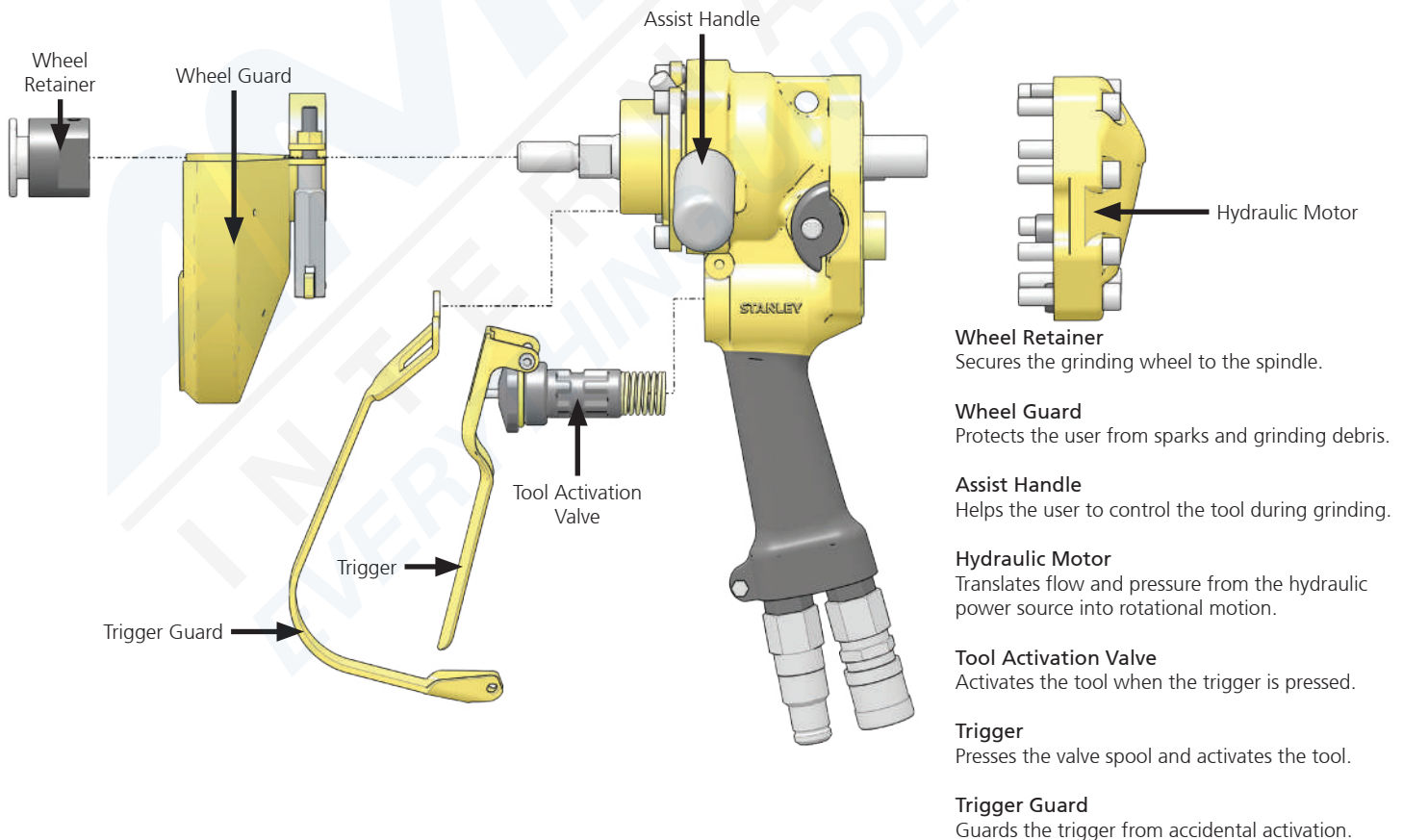
operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.

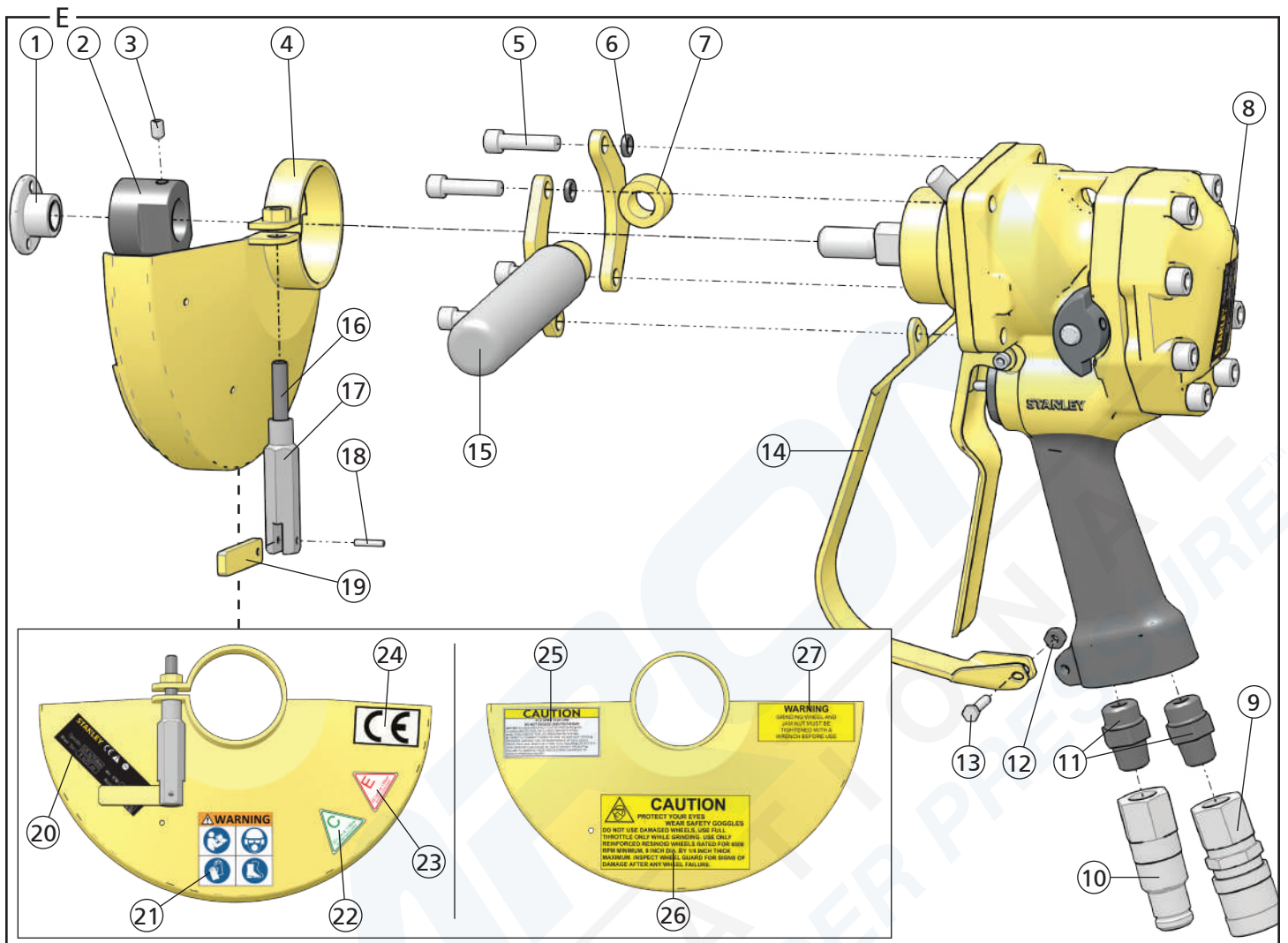
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the tool. Tell your employer and consult a physician.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry.
- Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Use and maintain as recommended in the manual to prevent an unnecessary increase in vibration.
- Do not allow the abrasive product to chatter on the work piece as this is likely to cause a substantial increase in vibration.
- Check the vibration level after each service. If higher than normal, contact your STANLEY dealer.

Hydraulic

- **Warning:** Hydraulic fluid under pressure could cause skin injection injury. If you are injured by hydraulic fluid, get medical attention immediately.
- Do not let hydraulic oil get on the skin. Hydraulic oil is hot. Wear Personal Protection Equipment (PPE) at all times.
- Do not exceed the maximum relief valve setting stated on the tool.
- Inspect and clean couplers before use, daily. Replace damaged couplers immediately.
- Hydraulic circuit control valve must be OFF before coupling or uncoupling tools. Failure to do so may damage the couplers and cause overheating of the hydraulic system.
- Ensure the couplers are properly connected and are tight.
- Do not operate the tool at fluid temperatures above 140°F (60°C). Higher temperatures can cause operator discomfort and damage to the tool.
- Do not exceed the rated flow and pressure as stated on the tool. Rapid failure of the internal seals may result.

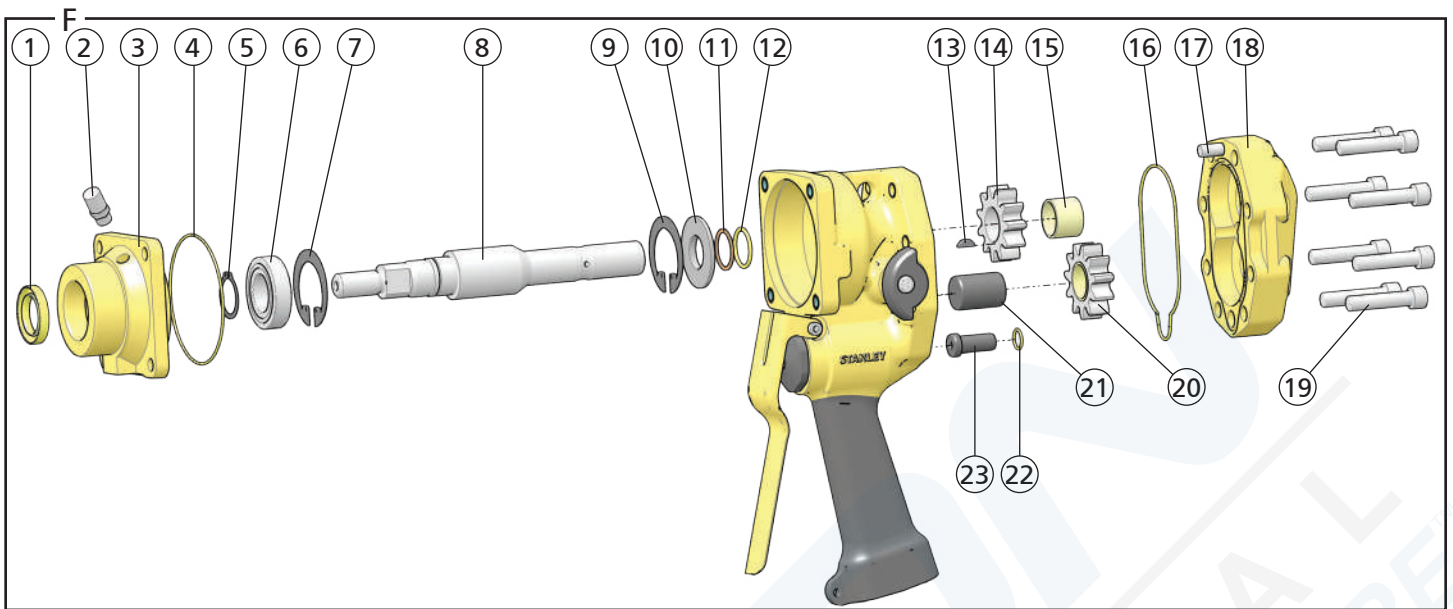
Tool Anatomy



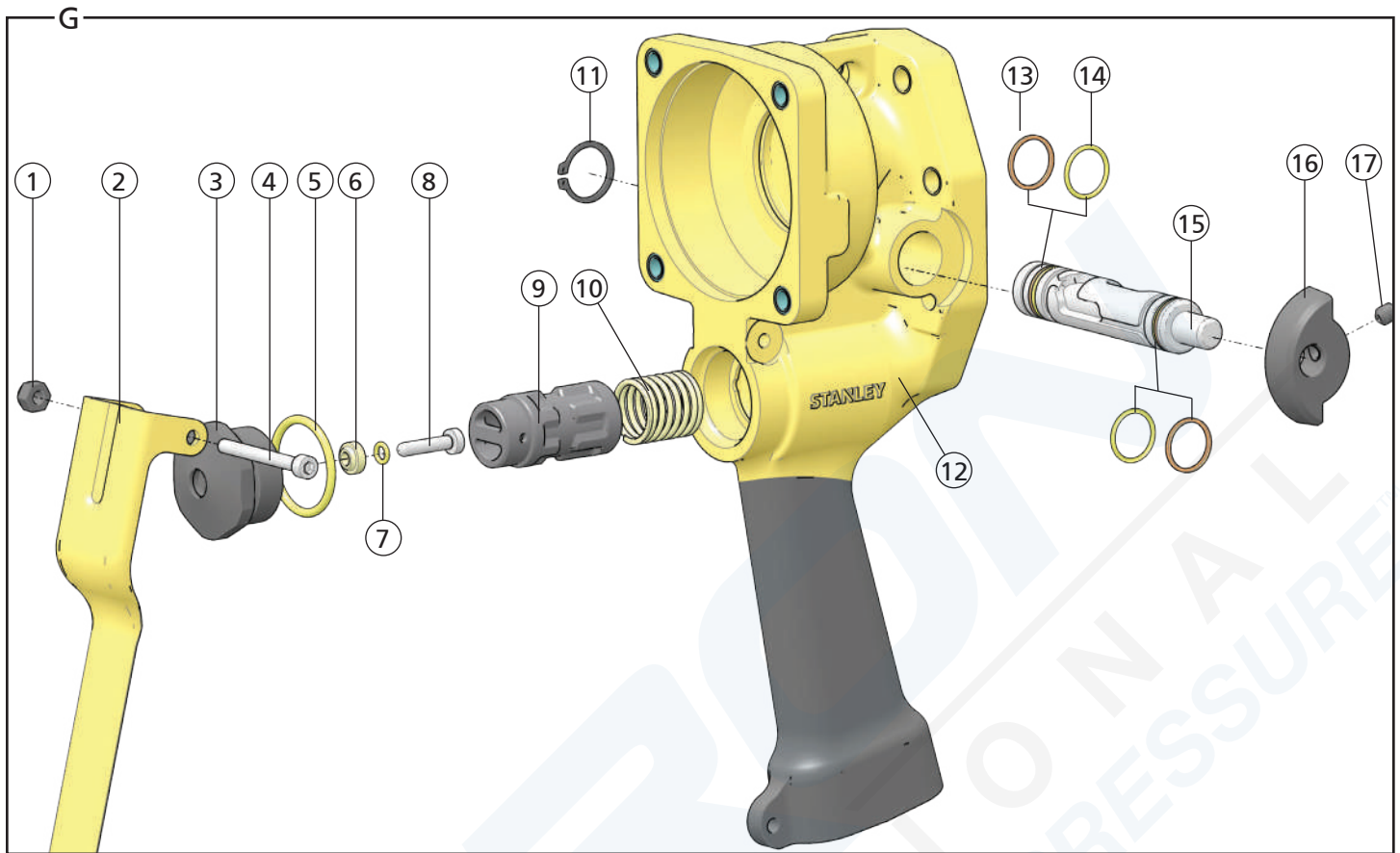


GR29 Parts Illustration - Detail E		
ITEM	P/N	DESCRIPTION
1	16495	Hub Nut - Model GR2930101
	13779	Jam Nut - Model GR29310
2	28913	Drive Flange - Model GR2930101
3	00599	Set Screw - Model GR2930101
4	11937	Wheel Guard - Model GR2930101
	08322	Wheel Guard - Model GR29310
5	00230	Cap Screw
6	00231	Washer
7	13796	Assist Handle Bracket
8	73684	Tool Name Tag
9	03972	Female Coupler
10	03973	Male Coupler
11	00936	Adapter
12	07724	Nylock Nut
13	12470	Cap Screw

GR29 Parts Illustration - Detail E		
ITEM	P/N	DESCRIPTION
14	12285	Trigger Guard
15	08130	Assist Handle
16	12786	Stud - Model GR2930101
17	12290	Clamp Screw - Model GR2930101
18	00285	Roll Pin - Model GR2930101
19	12291	Thumb Plate - Model GR2930101
20	74818	Tool Information Tag - Model GR2930101
21	28409	Composite Safety Decal - Model GR2930101
22	11206	Circuit Type "C" Decal - Model GR2930101
23	12535	Circuit Type "E" Decal - Model GR2930101
24	28322	CE Decal - Model GR2930101
25	03788	GPM Decal
26	08688	Grinding Wheel Safety Decal
27	10396	Warning Decal
28	16969	Seal Kit (Not Shown) - * In Seal Kit



GR29 Motor Parts Illustration - Detail F		
ITEM	P/N	DESCRIPTION
1	13812	Rotary Shaft Seal*
2	01220	Grease Fitting
3	13790	Bearing Carrier
4	00149	O-ring*
5	00672	Retaining Ring
6	13813	Bearing
7	00166	Retaining Ring
8	13791	Spindle
9	00166	Retaining Ring
10	07987	Back-up Washer
11	09396	Back-up Ring*
12	08017	O-ring*
13	13828	Woodruff Key
14	13783	Drive Gear
15	08014	Bushing
16	08023	O-ring*
17	372055	Dowel Pin
18	13789	Motor Cap Assembly (Includes 08014 & 372055)
19	01870	Cap Screw
20	07989	Idler Gear Assembly (Includes bushing)
21	07991	Idler Shaft
22	03252	O-ring
23	13782	Insert
24	16969	Seal Kit (Not Shown) - * In Seal Kit



GR29 Trigger & Reversing Spool Parts Illustration - Detail G		
ITEM	P/N	DESCRIPTION
1	07724	Nylock Nut
2	12283	Trigger
3	22063	Spool Cap
4	00786	Cap Screw
5	06533	O-ring*
6	22064	Rod Wiper*
7	00026	O-ring*
8	23678	Headed Push Pin
9	73041	Valve Spool
10	07988	Spring
11	09275	Retaining Ring
12	73311	Main Housing Assembly
13	08015	Back-up Ring*
14	01211	O-ring*
15	08002	Reversing Spool
16	17061	Valve Keeper
17	00580	Set Screw
18	16969	Seal Kit (Not Shown) - * In Seal Kit

Specifications		
Pressure	1000-2000 PSI (70-140 BAR)	
Flow	4-12 GPM (15-45 LPM)	
Hydraulic Circuit Type	Open Center	
Max RPM	3200 RPM @ 12 GPM (45 LPM)	
Max. Pressure	2500 PSI (172 BAR)	
Max. Relief Pressure	2150 PSI (148 BAR)	
Recommended Back Pressure	250 PSI (17 BAR) - Can be used with higher back pressures with reduced seal life.	
Couplers	3/8 Inch NPT Flush Face	
Port Size	-8 SAE O-ring	
Max. Wheel Capacity	9 Inches (23 cm) x 0.25 Inches thick	
Wheel RPM	Rated to a minimum of 6500 RPM	
Spindle	5/8 Inches (15.5 mm), 11 thread	
Tool Weight	15 Lbs (6.8 Kg)	
Tool Size	14 Inches x 12 Inches x 9 Inches	
Max. Hydraulic Oil Temperature	140°F (60°C)	
HTMA/EHTMA Category	Type I & III, Category C & E	
Underwater Tool Max. Depth	1000 Feet	
Recommended Hose Diameters for Underwater Applications		
Depth	8 GPM (30 LPM)	12 GPM (45 LPM)
100 Feet (31 Meters)	5/8 Inches (16 mm)	5/8 Inches (16 mm)
300 Feet (91 Meters)	3/4 Inches (19 mm)	1 Inch (25.4 mm)
600 Feet (183 Meters)	1 Inch (25.4 mm)	1 Inch (25.4 mm)
1000 Feet (305 Meters)	1 Inch (25.4 mm)	1 1/4 Inches (32 mm)

Sound & Vibration Declaration	
Measured A-Weighted sound power level	104.8 dBA
Measured A-Weighted Sound Pressure	96.8 dBA
Uncertainty	0.05 dBA
Values determined according to noise test code given in ISO 15744, 11203 and 3744. Test conducted by independent notified body to comply with 2000/14/EC:2005.	
Declared vibration emission value in accordance with EN12096.	
Measured Vibration Emission Value: Trigger Handle	2.13 m/sec ²
Measured Vibration Emission Value: Assist Handle	1.07 m/sec ²
Uncertainty	0.7 m/sec ²

GR29 Accessories	
Description	Part Number
Depressed Center Wheel Adapter	05194
Grinding Wheel - 7 Inch Ø x 5/8 Inch, 11 THD	03691
Grinding Wheel for Metal - 9 Inch Ø x 5/8 Inch, 11 THD	02587
Grinding Wheel for Masonry - 9 Inch Ø x 5/8 Inch, 11 THD	02588

Service Guidelines

- Always wear Personal Protection Equipment (PPE) when performing maintenance on the tool.
- Disassemble the tool in a clean area, away from dirt and grit.
- Replace all seals that are exposed during disassembly.
- Inspect all exposed seals for signs of damage or wear. This is a sign of contaminated hydraulic oil or oil that is too hot during operation. Check the hydraulic system for contamination, if signs exist.
- Use degreasing solvent to clean all removed parts.
- Inspect all removed parts for damage.
- Apply clean grease or O-ring lubricant to all parts prior to reassembly.
- Always determine and correct the cause of a problem before reassembly. Further wear and tool failure can result if the root cause has not been corrected.
- O-rings and seals should be removed with proper O-ring tools. This will prevent damage to seal groove surfaces.

Service Tools	
GR29 Seal Kit	16969

Troubleshooting

Before servicing the tool:

- Check the hydraulic power source and ensure it is providing the correct pressure and flow to the tool. See “Specifications” on page 7.
- Check hydraulic hoses and couplers for restrictions or blockages. Also ensure the hoses are connected to the proper ports on the tool.
- Check the hydraulic fluid temperature and ensure it is not too hot (140°F / 60°C) or too cold (50°F / 10°C).
- Ensure the hydraulic power source relief valve is set to open at the maximum relief pressure. See “Specifications” on page 7.

Problem	Possible Cause	Solution
Tool doesn't run or runs poorly.	Hydraulic power source is not running properly.	Ensure the power source is delivering proper flow and pressure. See “Specifications” on page 7. Proper flow and pressure maintain proper tool speed. Check regularly.
	Defective/blocked hoses or quick disconnects.	Remove hydraulic power from the tool. Check the hoses and couplers. Replace if necessary.
	Mechanical failure.	Disassemble tool and inspect parts for damage.
Tool runs backwards.	Hydraulic hoses incorrectly connected to the tool.	Ensure the return and pressure hoses are properly attached to the tool. See GR29 User Manual for proper use instructions.
Wheel abruptly stops after trigger is released.	Mechanical failure.	Disassemble tool and inspect parts for damage.
Hydraulic oil leaking at motor cap.	Loose Fasteners.	Torque motor cap fasteners to 22-25 Ft. Lbs. (30 - 34 Nm).
	Motor cap damaged or O-rings are worn.	Remove and inspect the hydraulic motor. See “Remove the Hydraulic Motor” on page 9. Replace the seals.
Hydraulic oil leaking at the reversing spool.	Damaged O-rings.	Replace damaged seals and investigate for possible hydraulic fluid contamination.
	Hydraulic hoses incorrectly connected to the tool.	Ensure the return and pressure hoses are properly attached to the tool. See GR29 User Manual for proper use instructions.

Tool Disassembly

Prior to Disassembly

1. Disconnect the tool from the hydraulic power supply.

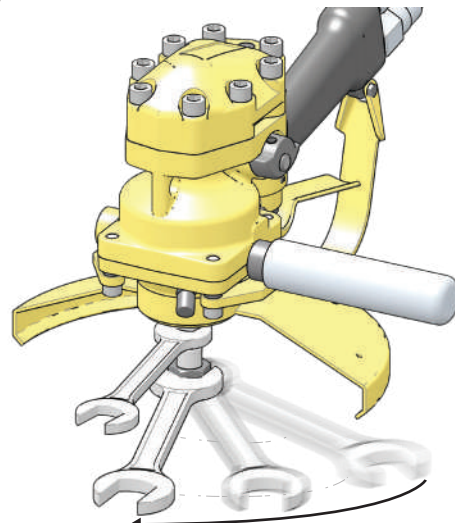
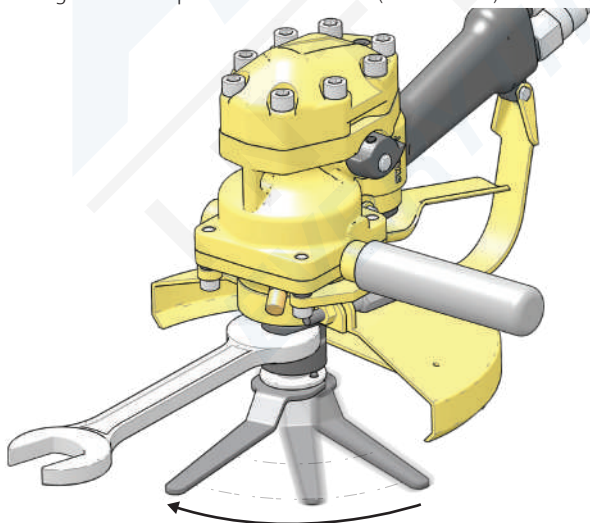
⚠WARNING

Do not perform maintenance on the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury. Disconnect the hydraulic power source before servicing.

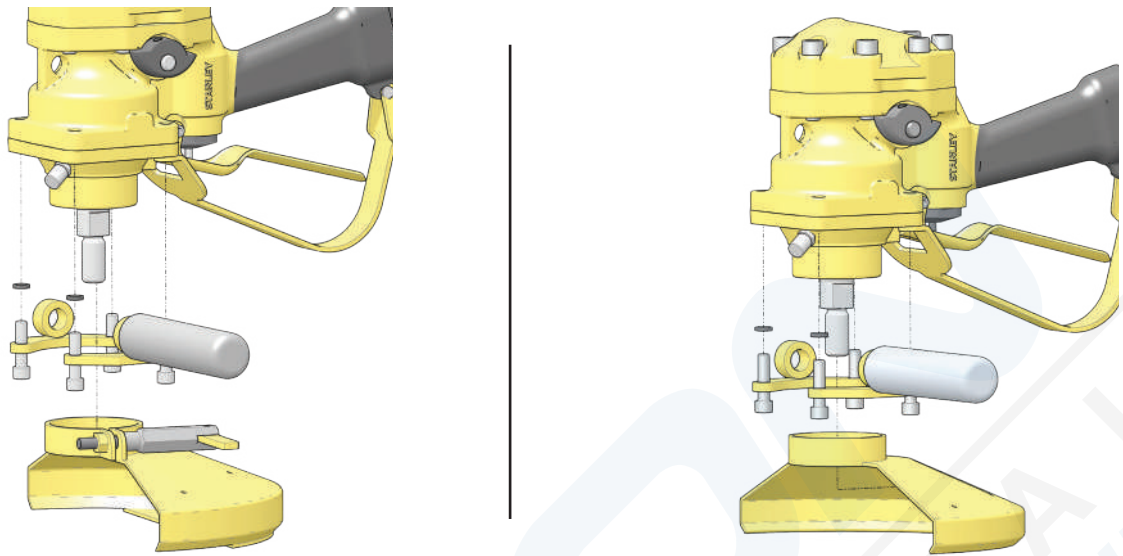
2. Drain the hydraulic oil from the tool, making sure to collect the oil for recycling (See “Tool Disposal” on page 12).
3. Clean the outside of the tool.

Remove Wheel Retainer, Assist Handle & Wheel Guard

1. Using the wheel spanner and a wrench (GR2930101) -OR- two wrenches (GR29310), remove the wheel retainer.



2. Remove the wheel guard.
3. Remove the assist handle and assist handle brackets.



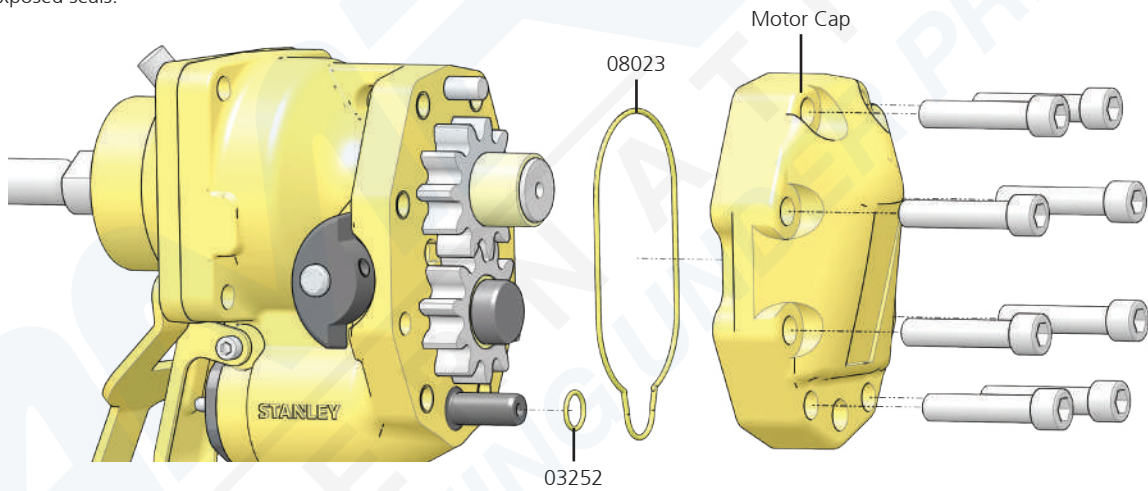
Remove the Hydraulic Motor

1. Remove 8 cap screws from the motor cap.
- Note: Torque to 22-25 Ft. Lbs. (30 - 34 Nm) during re-installation.

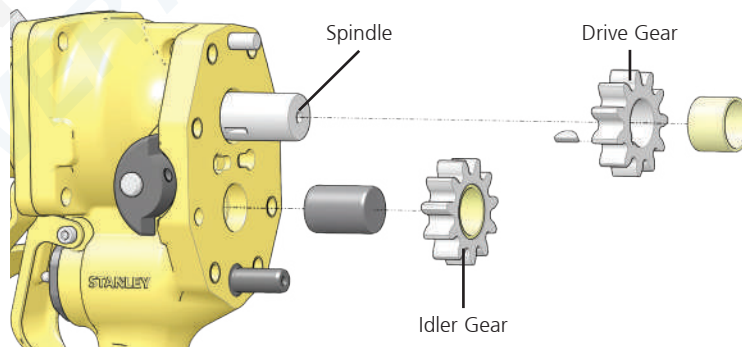
2. Remove the motor cap

Note: Do not pry or use excessive force when removing the motor cap. If needed, tap the motor cap lightly with a rubber mallet.

3. Inspect the motor cap. The gear chamber should be polished, not rough or grooved. The flat surface around the bolt holes should be flat and free of nicks and burrs.
4. Replace exposed seals.



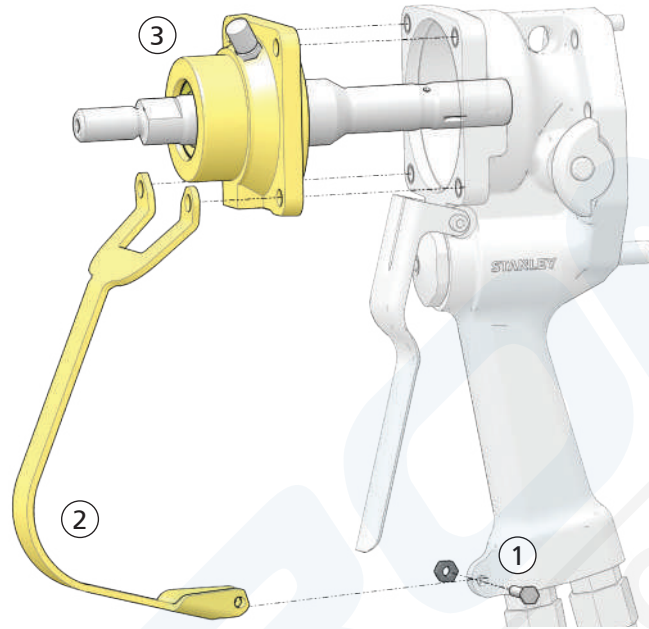
5. Remove the idler gear, bushing and shaft.
6. Slide the drive gear and bushing off of the spindle.
7. Inspect the idler and drive gear. The tips of the gear should be straight and flat, without nicks or cracks. They should have an even polish on the teeth and end faces.
8. Remove the woodruff key from the drive gear.



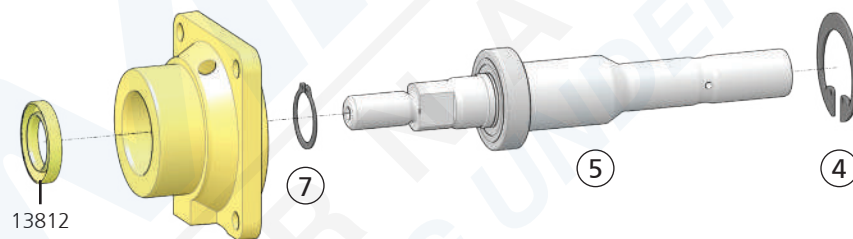
Remove the Bearing Carrier and Spindle

1. Remove the hardware holding the trigger guard to the main housing.
2. Remove the trigger guard.
3. Remove the bearing carrier.

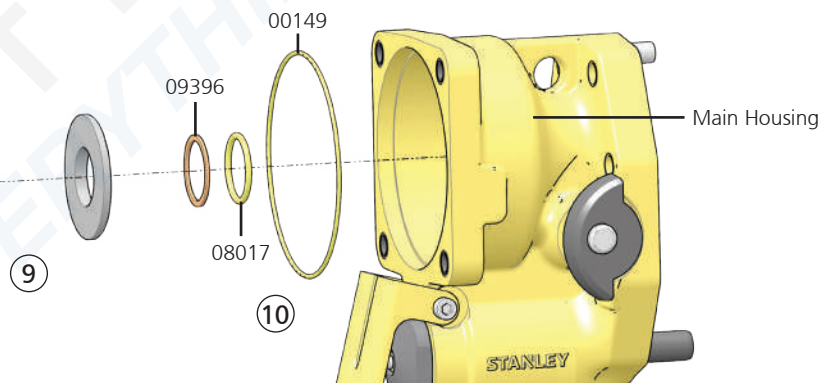
Note: The spindle, bearing and two retaining rings will come out with the bearing carrier. Ensure you remove the woodruff key from the hydraulic motor before removing the spindle. See "Remove the Hydraulic Motor" on page 9.



4. From the rear of the bearing carrier, remove the large retaining ring.
5. Pull back on the spindle. The bearing and small retaining ring will come out of the bearing carrier.
6. Inspect the spindle for damage. The spindle should be smooth. Grooves, roughness or a reduced diameter indicate contaminated hydraulic fluid.
7. Remove the small retaining ring to remove the bearing from the spindle.
8. Replace the shaft seal during reassembly.



9. Remove the retaining ring and backup washer from the main housing.
 10. Using O-ring tools, remove the backup ring, small O-ring and large O-ring, as shown.
- Note: Replace the exposed seals during reassembly.



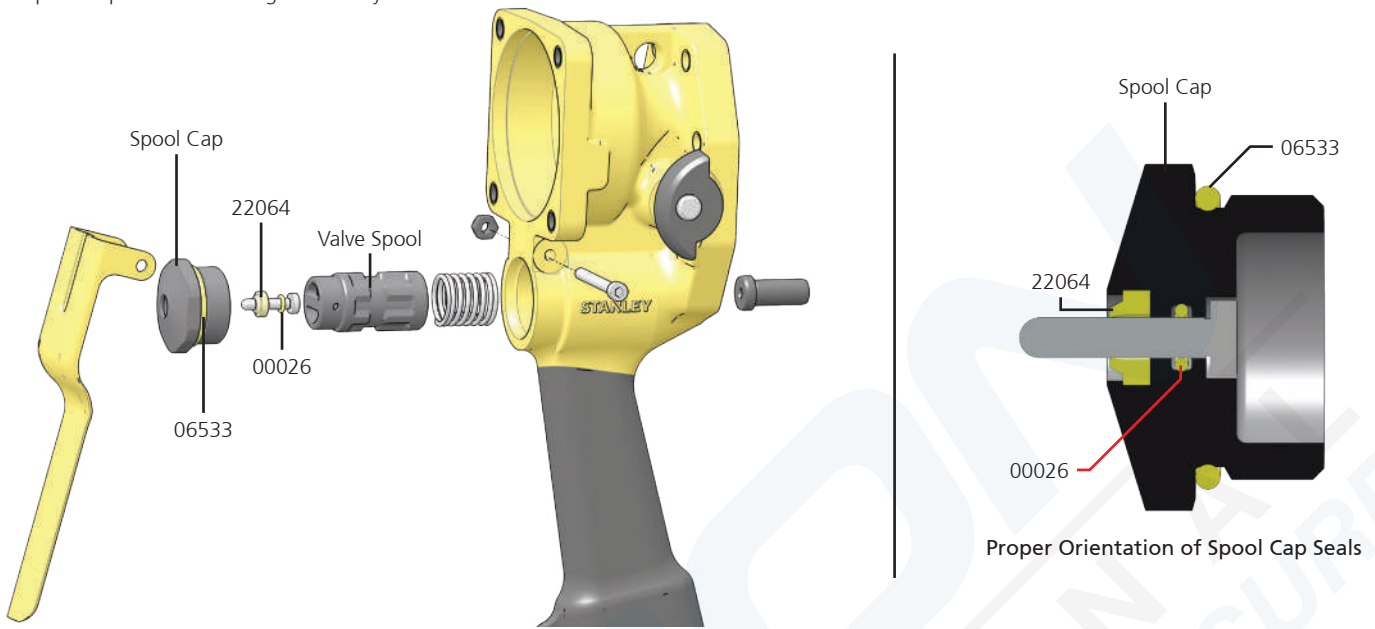
Remove Trigger and Tool Activation Valve

1. Remove the cap screw and nut holding the trigger in place.
2. Remove the trigger.

3. Remove the spool cap, headed push pin, valve spool and spring.

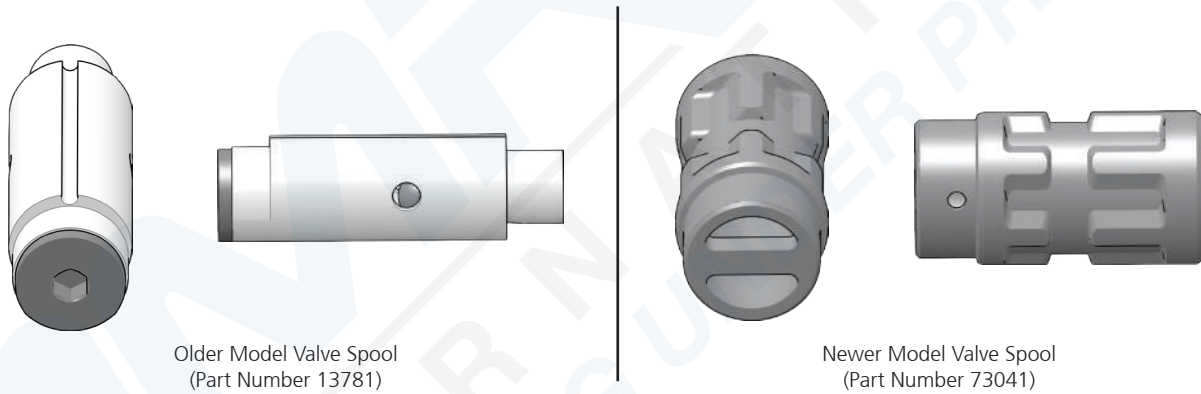
Note: During reassembly, ensure that seals 22064 and 00026 are in their proper position inside the spool cap, as shown in the seal orientation graphic below.

4. Replace exposed seals during reassembly.



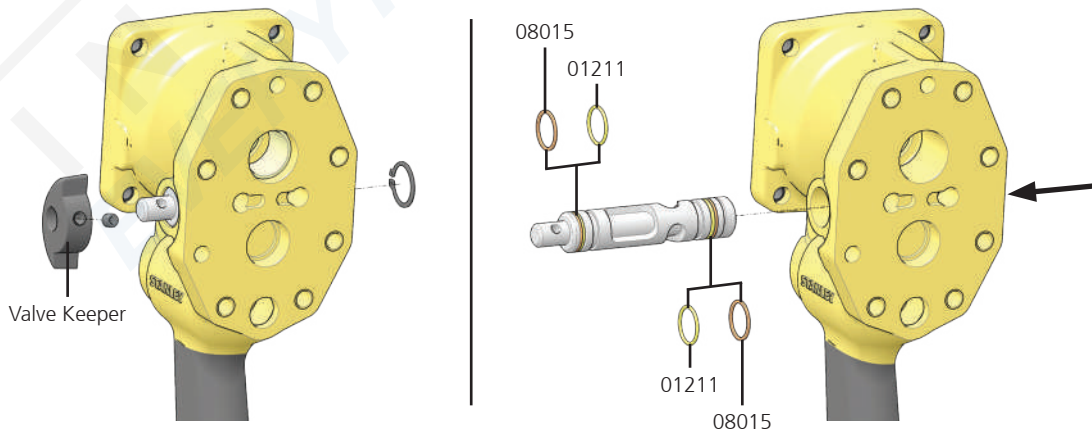
A Note About Older Model Valve Spools

GR29's with a serial number of 020516107 or earlier use an older version valve spool. The newer model valve spools are not backwards compatible. You must order an older style valve spool if replacement is necessary.



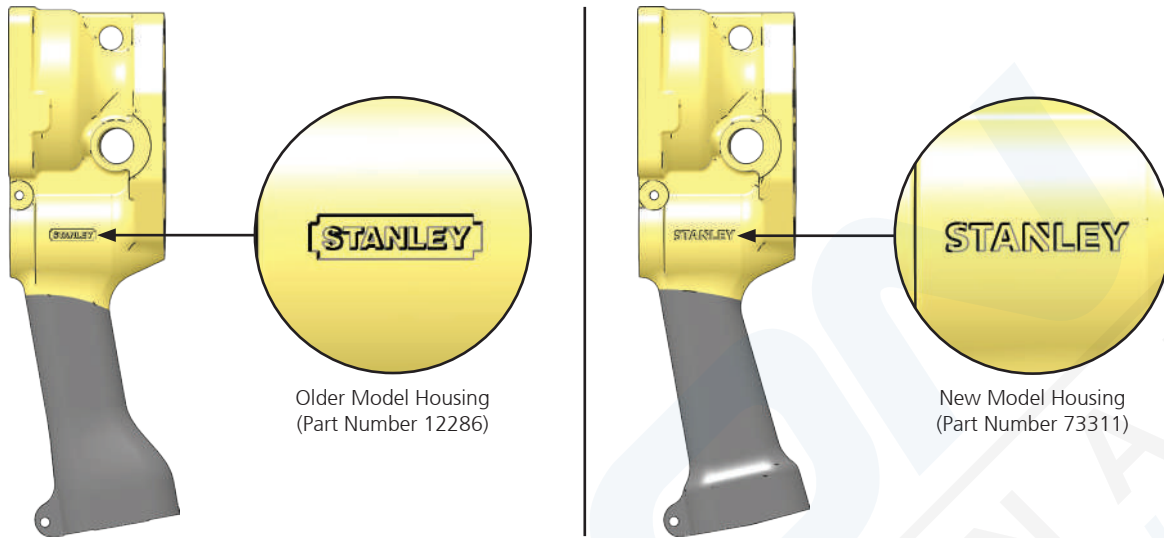
Remove Reversing Spool

1. Remove the set screw from the valve keeper, then remove the valve keeper from the valve spool.
2. Remove the retaining ring from the opposite side of the valve spool.
3. Push the valve spool out of the tool from the retaining ring side.
4. Replace exposed seals during reassembly.



A Note About Older Main Housing Assemblies

GR29's with a serial number of 020516107 or earlier use an older version main housing. The older model housing (Part Number 12286) can only use the older style valve spool (Part Number 13781). The new model housing (Part Number 73311) can only use the new style valve spool (Part Number 73041).



Tool Maintenance

After Each Service

After servicing the tool, Use a contact tachometer and check the spindle speed (without grinding wheel attached) to ensure it is no higher than the maximum speed marked on the tool information tag.

Preventative Maintenance

After Each Underwater Use

1. Remove hydraulic power from the tool.
2. Using a water displacing oil, spray into the trigger.
3. Spray or dip the entire tool.

Daily Maintenance

1. Remove hydraulic power from the tool.
2. Check all hydraulic connections and hoses for damage. Replace damaged parts before operating the tool.
3. Inspect the wheel guard and associated parts. Ensure they are in good condition and are properly mounted. Replace if damaged.
4. Inspect the tool spindle, flanges, threads and the grinding wheel clamping device. Ensure they are in place, are in good condition and are correctly mounted.
5. Inspect tool to ensure all decals are legible. Contact STANLEY if replacements are needed.
6. Check the tightness of all fasteners. Tighten if necessary.
7. Using a calibrated flow and pressure gauge, check the output of the hydraulic power source. Ensure it matches the flow and pressure in "Specifications" on page 7.

Yearly Maintenance

Apply grease to the bearing carrier once per year.

1. Remove hydraulic power from the tool.
2. Hold the tool so that the bearing carrier is facing up.
3. Using waterproof EP-1 grease, grease the tool through the grease fitting.
4. Apply grease until air bubbles and water no longer leak through the seal in the bearing carrier.

Tool Disposal

Hydraulic Oil

Hydraulic oil can contaminate the air, ground and water if not properly recycled. Recycle hydraulic oil in accordance with all State, Federal and local laws, at your local oil recycling facility.

Hydraulic Hoses

Hang hydraulic hoses to drain. Collect the oil for recycling. Contact your local municipal recycling authorities for an approved hydraulic hose recycling site.

Tool Body

Drain hydraulic oil from the tool, making sure to collect the oil for recycling. Disassemble the tool and dispose of all non-metal parts. Recycle the metal components. Contact your local municipal recycling authorities for recycling instructions.

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