

WS10 Hydraulic Weld Shear

28860 User Manual 2/2022 Ver. 20

DECLARATION OF CONFORMITY
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STANLEY®
 Infrastructure



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

Nuerenberg, David

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

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:

- Category: **Weld Shear, Hydraulic**
 Kategorie:
 Catégorie:
 Categoria:
 Categoria:
- Make/Marke/Marque/Marca/Marca **STANLEY**
- Type/Typ/Type/Tipo/Tipo: **WS1032101A, WS1022001A**
- Serial number of equipment:
 Seriennummer des Geräts:
 Numéro de série de l'équipement:
 Numero de serie del equipo:
 Matricola dell'attrezzatura: **All**

Has been manufactured in conformity with
Wurde hergestellt in Übereinstimmung mit
Est fabriqué conformément
Ha sido fabricado de acuerdo con
E' stata costruita in conformità con

Directive/Standards Richtlinie/Standards Directives/Normes Directriz/Los Normas Direttiva/Norme	No. Nr Numéro No n.	Approved body Prüfung durch Organisme agréé Aprobado Collaudato
Machinery Directive EN ISO	2006/42/EC 3744	Self Self

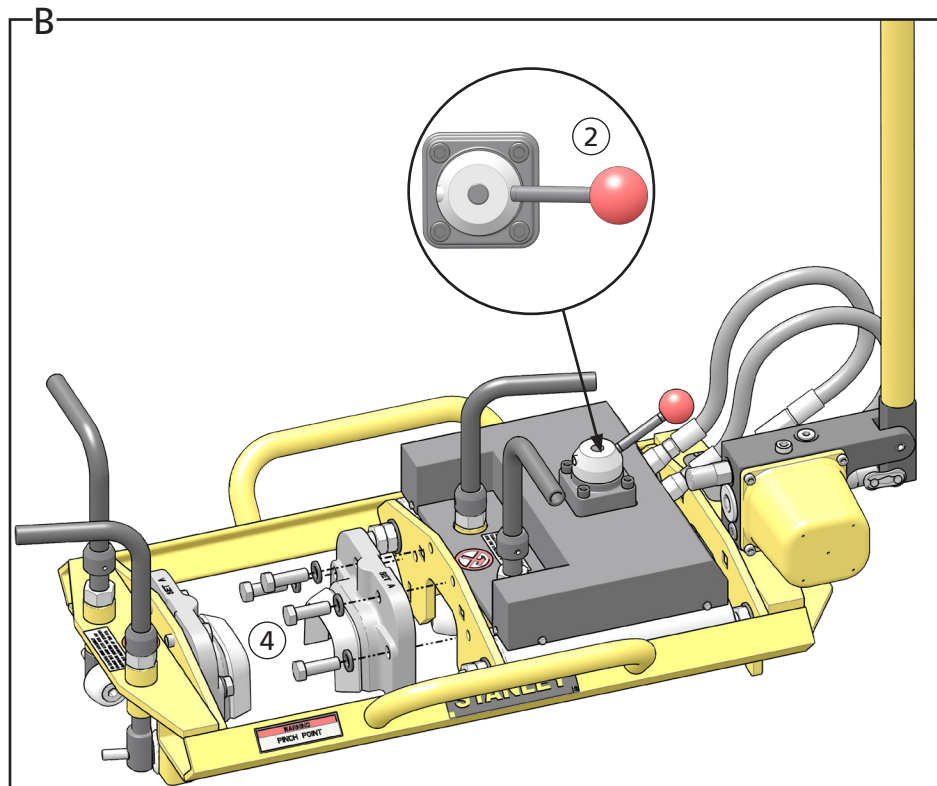
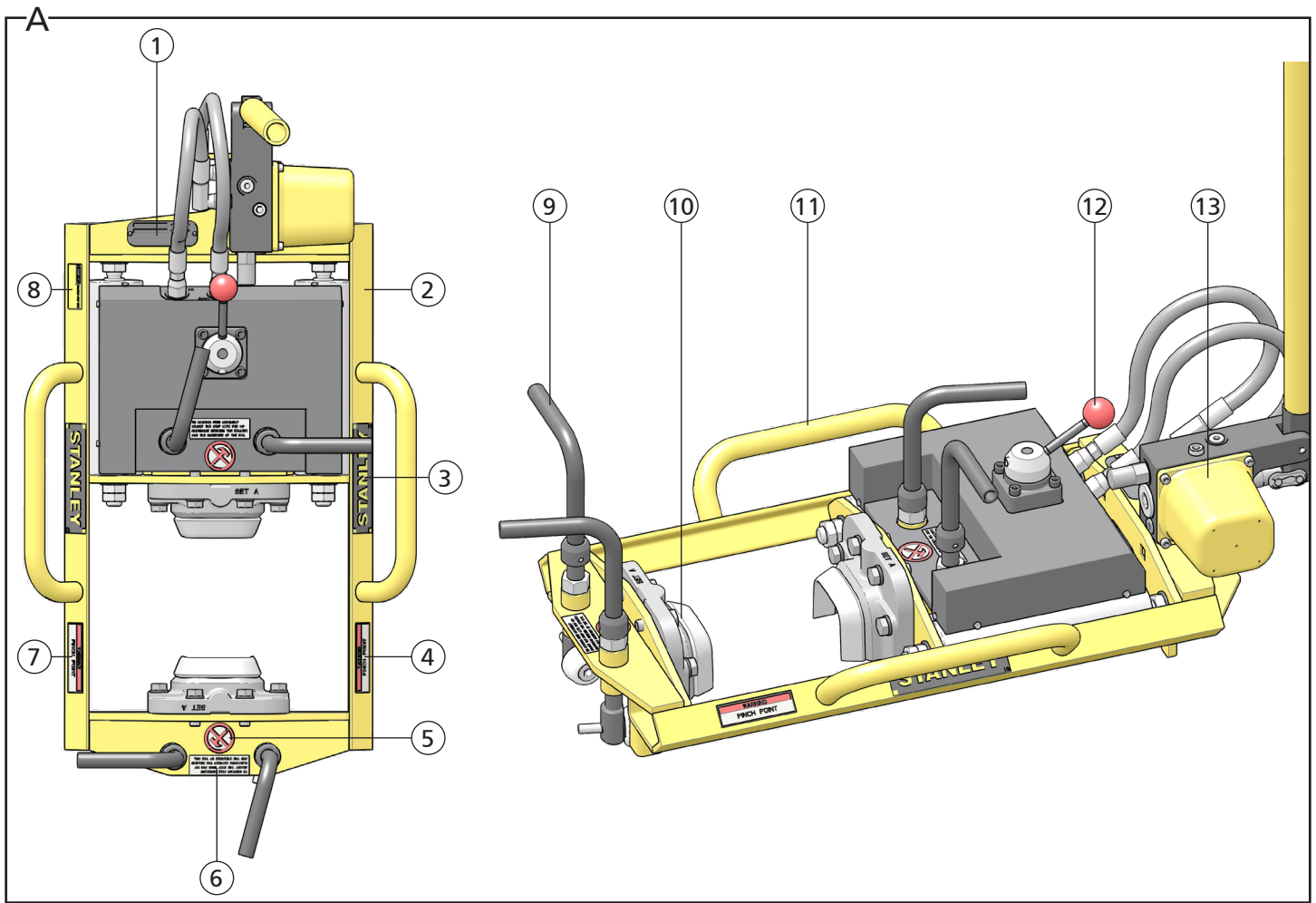
- Special Provisions: **None**
 Spezielle Bestimmungen:
 Dispositions particulières:
 Provisiones especiales:
 Disposizioni speciali:
- Representative in the Union: **Patrick Vervier, Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France.**
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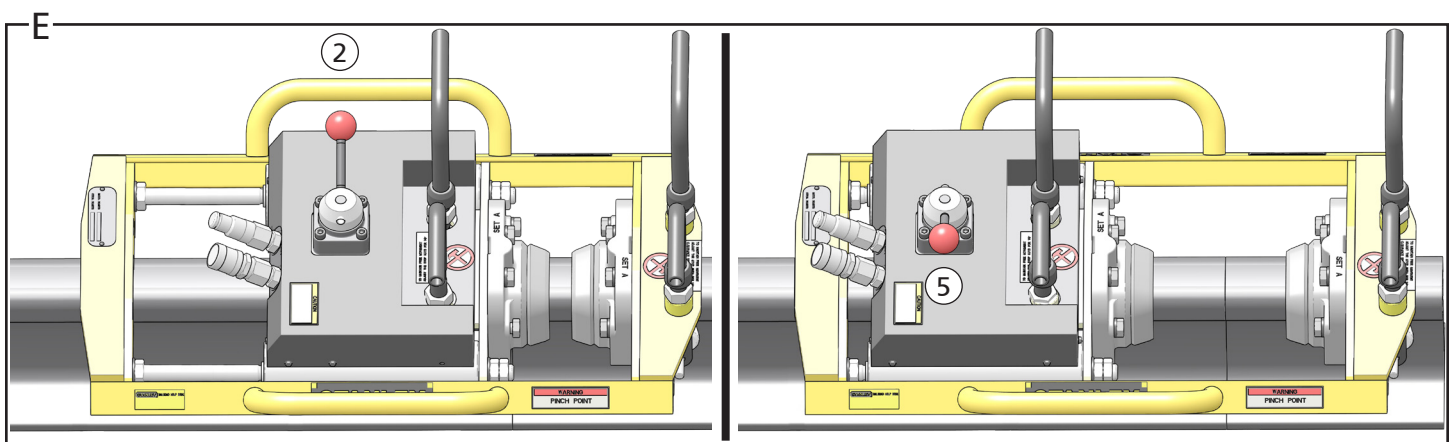
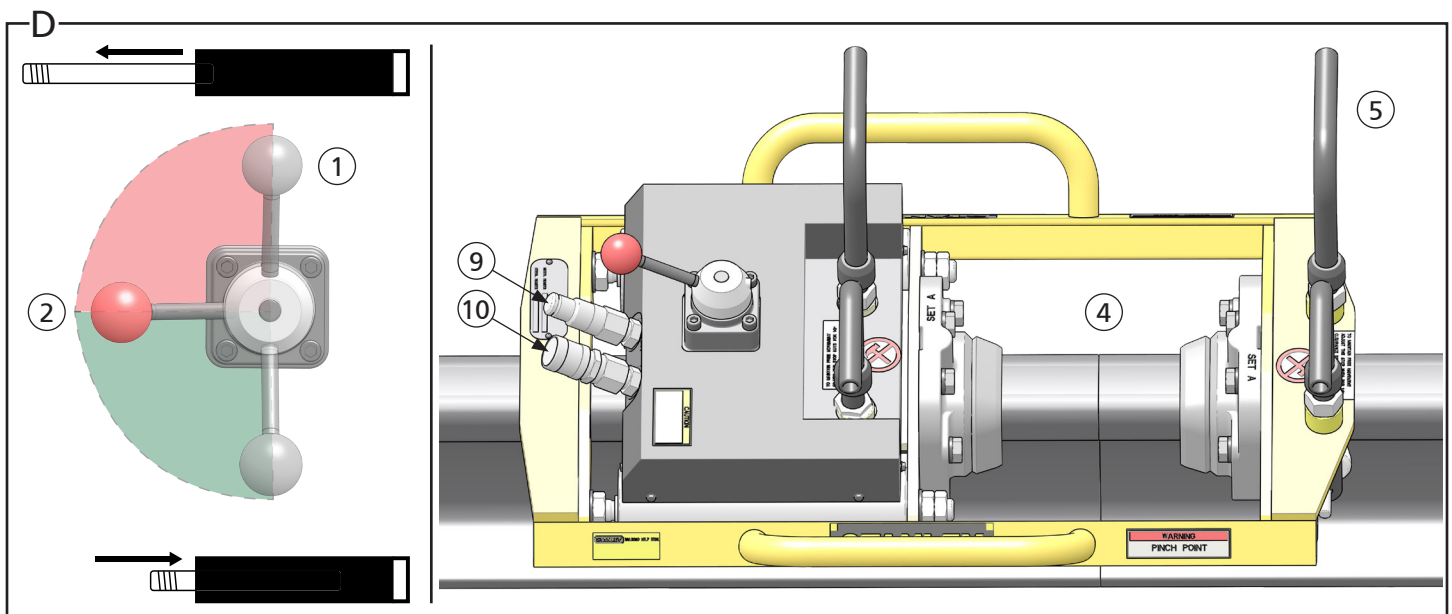
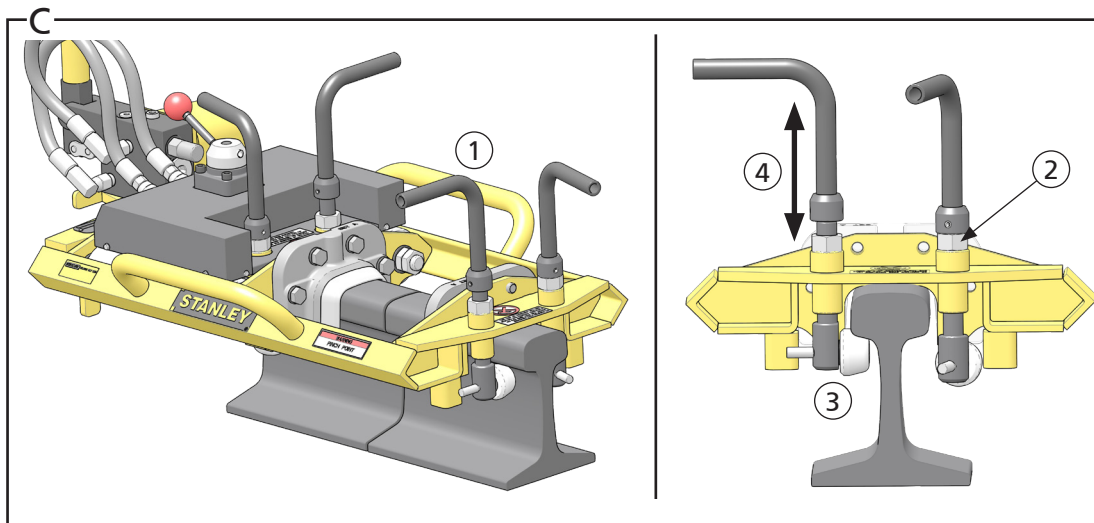
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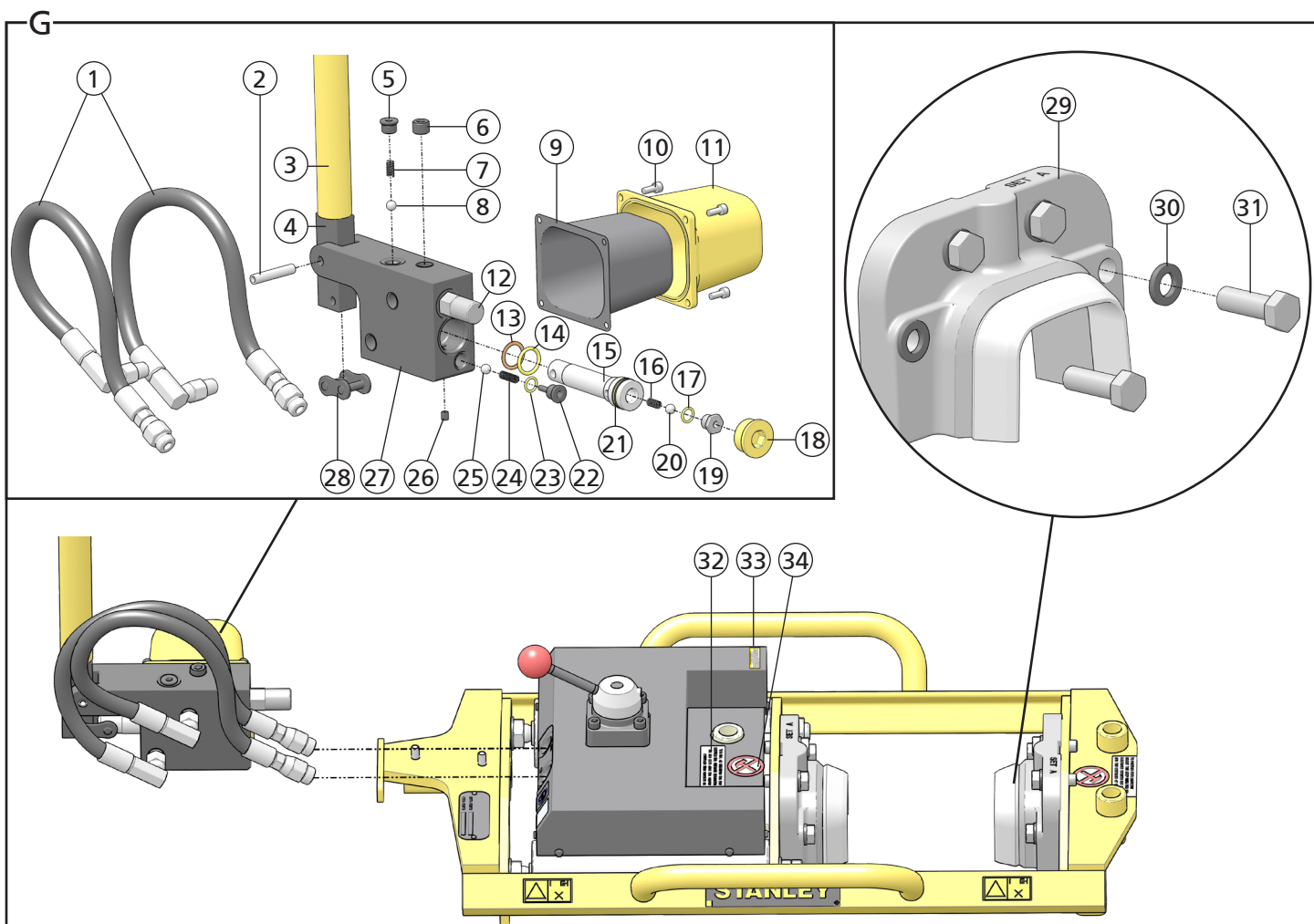
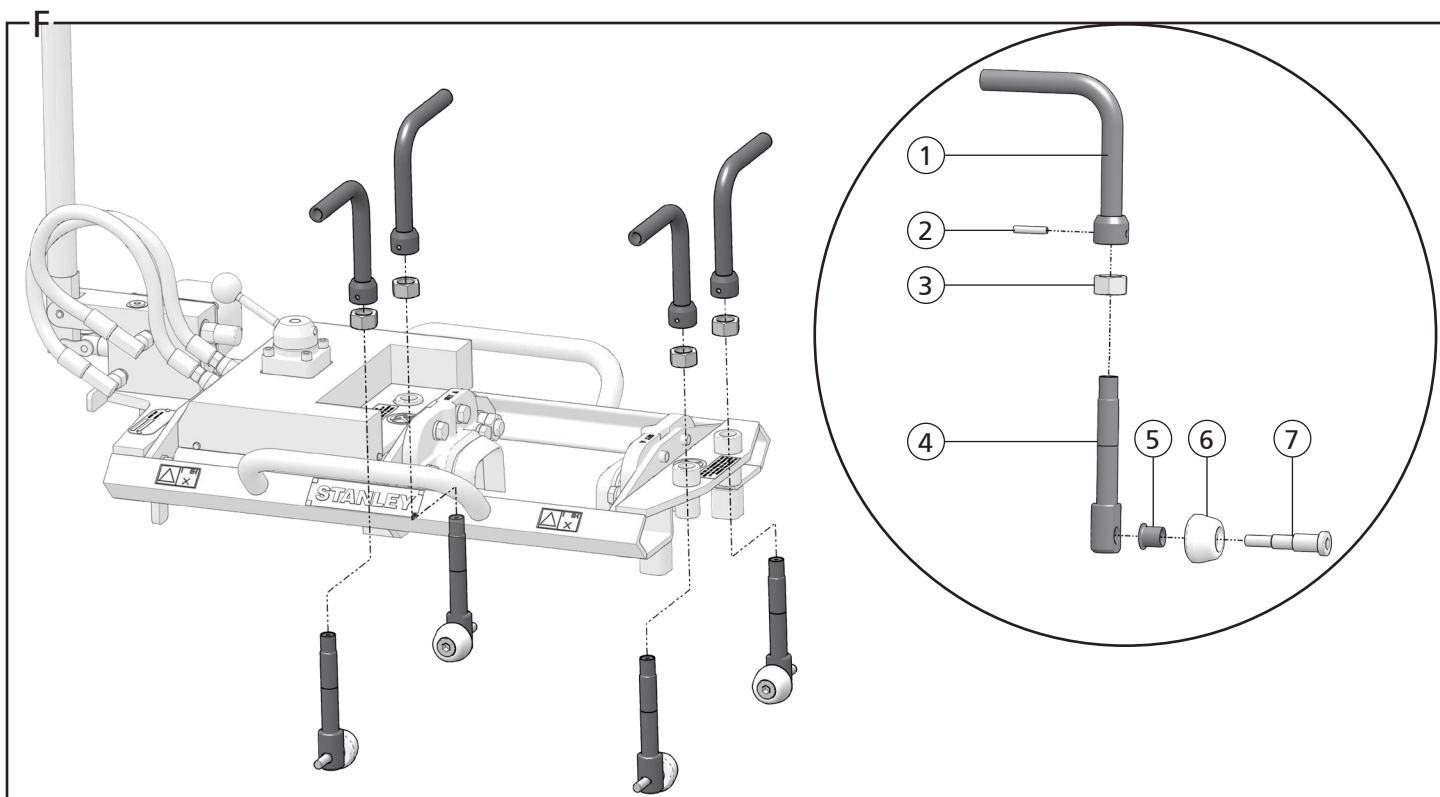
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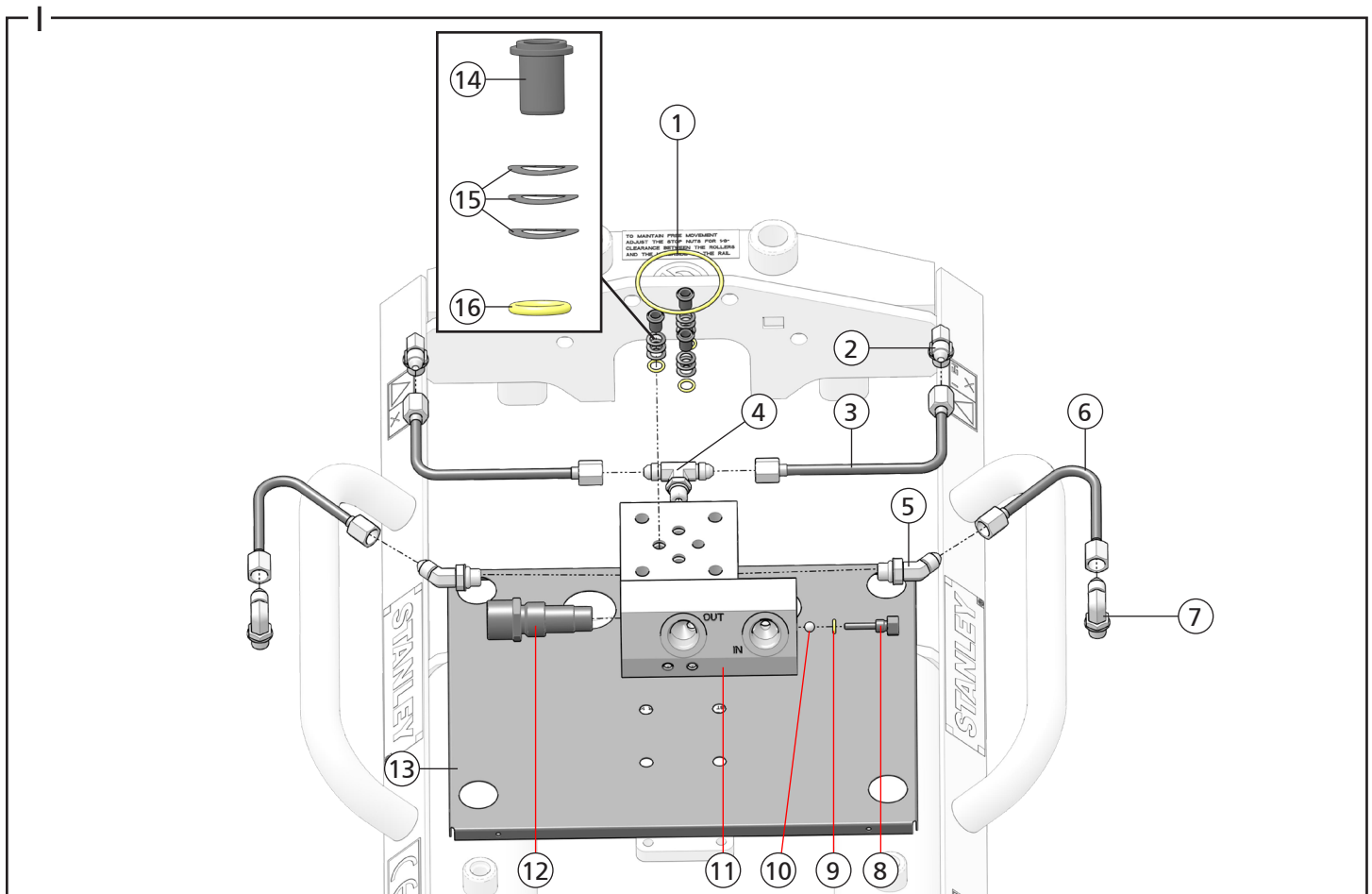
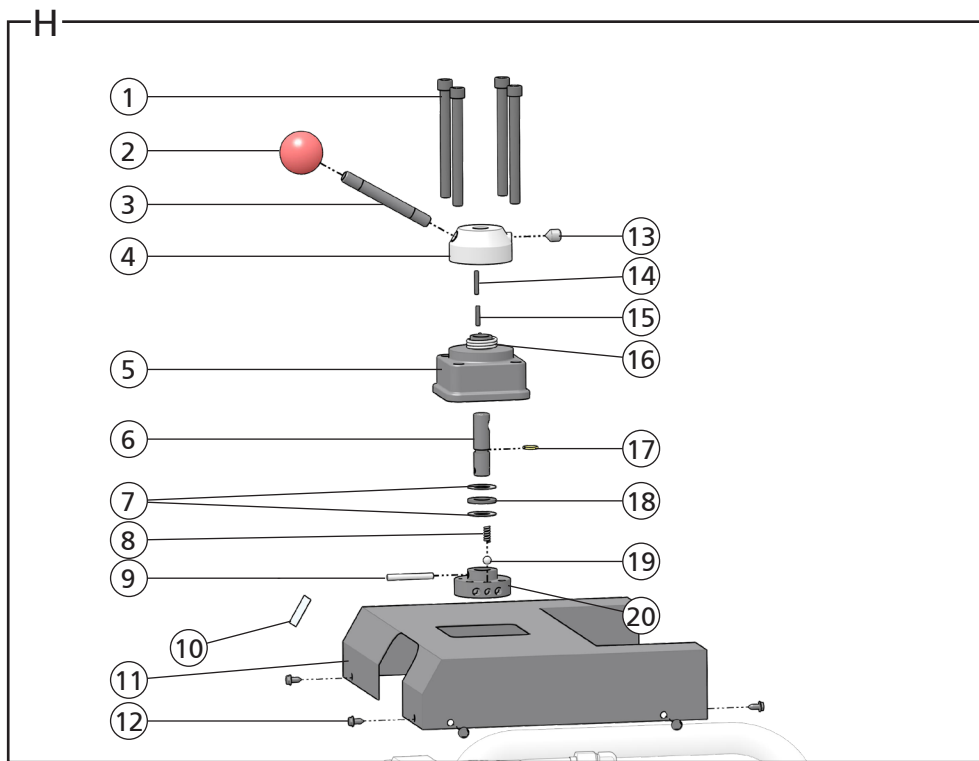
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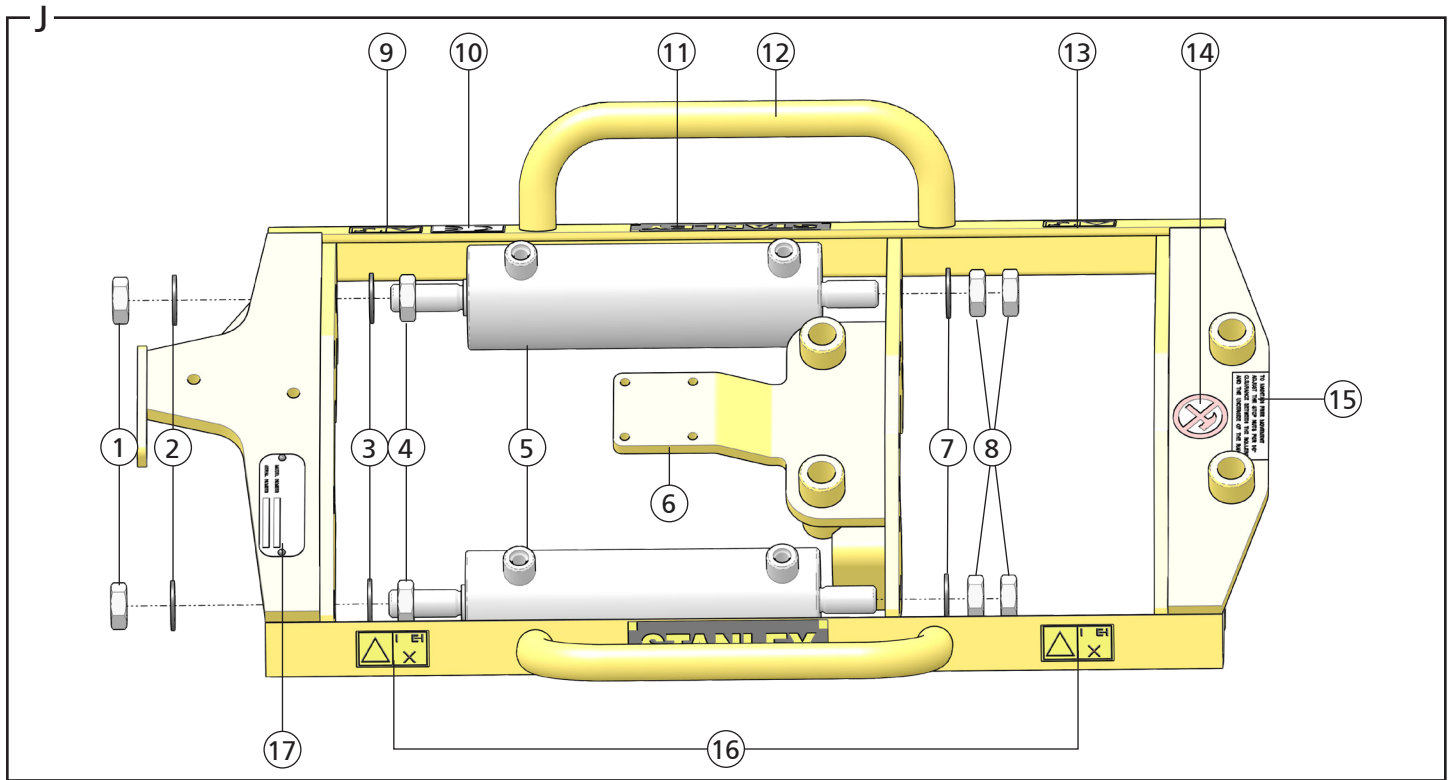
David Nuerenberg
 North America Quality Manager











WS10 Handle Parts Illustration - Detail F		
ITEM	P/N	DESCRIPTION
1	67107	Handle
2	07492	Roll Pin
3	26196	Nut
4	67094	Roller Pivot
5	26247	Bearing
6	69809	Roller
7	68316	Shoulder Screw
8	73394	Hold Down Kit Assembly

WS10 Pump & Blade Parts Illustration - Detail G		
ITEM	P/N	DESCRIPTION
1	71978	Hose - Models WS1022001A, WS102200A, WS10220AA
2	25292	Roll Pin - Models WS1022001A, WS102200A, WS10220AA
3	26023	Handle - Models WS1022001A, WS102200A, WS10220AA
4	25901	Lever - Models WS1022001A, WS102200A, WS10220AA
5	08104	Hex Plug - Models WS1022001A, WS102200A, WS10220AA
6	01212	Plug - Models WS1022001A, WS102200A, WS10220AA
7	26073	Spring - Models WS1022001A, WS102200A, WS10220AA
8	12100	Steel Ball - Models WS1022001A, WS102200A, WS10220AA
9	52831	Bladder - Models WS1022001A, WS102200A, WS10220AA
10	56521	Screw - Models WS1022001A, WS102200A, WS10220AA (Loctite 263, torque to 24 in. lbs.)
11	52832	Reservoir - Models WS1022001A, WS102200A, WS10220AA
12	05043	Relief Valve - Models WS1022001A, WS102200A, WS10220AA
13	26074	Backup Ring* - Models WS1022001A, WS102200A, WS10220AA
14	23002	O-ring* - Models WS1022001A, WS102200A, WS10220AA
15	25915	Plunger - Models WS1022001A, WS102200A, WS10220AA
16	26073	Spring - Models WS1022001A, WS102200A, WS10220AA
17	01411	O-ring* - Models WS1022001A, WS102200A, WS10220AA
18	04858	Hex Plug - Models WS1022001A, WS102200A, WS10220AA
19	25916	Plug - Models WS1022001A, WS102200A, WS10220AA
20	12100	Steel Ball - Models WS1022001A, WS102200A, WS10220AA
21	26069	Piston Seal* - Models WS1022001A, WS102200A, WS10220AA
22	24289	Plug - Models WS1022001A, WS102200A, WS10220AA

WS10 Pump & Blade Parts Illustration - Detail G		
ITEM	P/N	DESCRIPTION
23	01411	O-ring* - Models WS1022001A, WS102200A, WS10220AA
24	26071	Spring - Models WS1022001A, WS102200A, WS10220AA
25	12100	Steel Ball - Models WS1022001A, WS102200A, WS10220AA
26	28911	Expander Plug - Models WS1022001A, WS102200A, WS10220AA
27	70745	Pump Block - Models WS1022001A, WS102200A, WS10220AA
28	26005	Master Link - Models WS1022001A, WS102200A, WS10220AA
29	27948	Blade Set A - Models WS102200A, WS10321A, WS10321AB, WS10321AS
	27989	Blade Set B - Model WS10220AA
30	03061	Washer
31	02504	Cap Screw
32	35295	Roller Adjustment Decal
33	29188	GPM Decal
34	35294	"Do Not Hammer" Decal
35	00936	Adapter - Models WS1032101A, WS10321A, WS10321AB, WS10321AS (not shown)
36	03972	Female Coupler - Models WS1032101A, WS10321A, WS10321AS (not shown)
37	03973	Male Coupler - Models WS1032101A, WS10321A, WS10321AS (not shown)
38	73166	Seal Kit (not shown) - *In seal kit

WS10 Directional Valve Parts Illustration - Detail H		
ITEM	P/N	DESCRIPTION
1	01758	Cap Screw
2	02633	Ball Knob
3	24291	Rod
4	69904	Valve Cap
5	24313	Housing
6	24233	Shaft
7	20761	Bearing Race
8	24876	Spring
9	07890	Roll Pin
10	88349	Composite Safety Decal - Models WS1022001A, WS1032101A
11	68307	Top Cover
12	67305	Screw
13	24300	Set Screw
14	00757	Roll Pin - Models WS10321A, WS1032101A, WS10321AB, WS10321AS
15	00285	Roll Pin - Models WS10321A, WS1032101A, WS10321AB, WS10321AS
16	24297	Spring - Models WS10321A, WS1032101A, WS10321AB, WS10321AS
17	17924	O-ring*
18	20762	Bearing





WS10 Directional Valve Parts Illustration - Detail H		
ITEM	P/N	DESCRIPTION
19	20145	Steel Ball
20	24877	Rotor

WS10 Hydraulic Parts Illustration - Detail I		
ITEM	P/N	DESCRIPTION
1	02177	O-ring*
2	67116	Elbow Fitting
3	68309	Hose
4	67117	Tee Fitting
5	67996	45° Elbow Fitting
6	68311	Hose
7	67116	Elbow Fitting
8	25912	Plug
9	02901	O-ring*
10	20145	Steel Ball
11	69810	Valve Block
12	71979	Port Plug - Models WS1022001A, WS102200A, WS10220AA
	67124	Cartridge Valve - Models WS1032101A, WS10321A, WS10321AB
	72759	Cartridge Valve - Model WS10321AS
13	68306	Bottom Cover
14	24231	Grommet
15	24305	Spring Washer
16	01362	O-ring*
17	73166	Seal Kit (not shown) - *In seal kit

WS10 Frame Parts Illustration - Detail J		
ITEM	P/N	DESCRIPTION
1	25995	Nut
2	21318	Washer
3	21318	Washer
4	25995	Nut
5	68291	Cylinder
6	68297	Slide Weldment
7	21318	Washer
8	25995	Nut
9	31064	Crushing Hazard Decal - Models WS1022001A, WS1032101A
	17572	Pinch Point Warning Decal - Models WS102200A, WS10220AA, WS10321A, WS10321AB, WS10321AS
10	28322	CE Decal - Models WS1022001A, WS1032101A
11	14090	STANLEY Logo Decal
12	70792	Frame - Models WS1022001A, WS102200A, WS10220AA
	68296	Frame - Models WS1032101A, WS10321A, WS10321AB, WS10321AS

WS10 Frame Parts Illustration - Detail J		
ITEM	P/N	DESCRIPTION
13	31064	Crushing Hazard Decal - Models WS1022001A, WS1032101A
	25610	Railroad Help Desk Decal - Models WS102200A, WS10220AA, WS10321A, WS10321AB, WS10321AS
14	35294	"Do Not Hammer" Decal
15	35295	Roller Adjustment Decal
16	31064	Crushing Hazard Decal - Models WS1022001A, WS1032101A
	17572	Pinch Point Warning Decal - Models WS102200A, WS10220AA, WS10321A, WS10321AB, WS10321AS
17	372037	Serial Number Plate
18	73166	Seal Kit (not shown) - *In seal kit

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 the 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 blade. Change postures during extended tasks to help avoid discomfort or fatigue.
- Never use the tool unless the inserted blade is retained with a proper retainer.
- Do not operate a damaged, improperly adjusted, modified or incompletely assembled 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.
- 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.
- 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.
- Use only accessories, consumables and spare parts recommended by STANLEY.
- 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.
- During operation, do not contact mechanisms, accessories or hardware as they can become very hot or sharp; use your Personal Protection Equipment (PPE).
- Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations.
- 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.
- Slips, trips and falls are major causes of workplace injury. Be observant of hoses or oil surfaces lying about the work area, as they can be a tripping hazard.

- Operators must start in a work area without bystanders and must assess the risks to bystanders.
- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Operators must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Only use clean hydraulic fluid, filling equipment 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.
- Do not force the tool to do the work of a larger tool. Use the correct tool for your application.
- Use only hoses and hose couplings that are rated for a minimum working pressure of 2500 PSI (172 BAR).
- 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 incorrect posture and eye injury and cutting or severing of body parts due to not following proper use procedures.

Dust and Fumes

- 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.
- 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.

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.
- 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 or jewelry when operating the tool.



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.
- Use and maintain as recommended in the manual to prevent an unnecessary increase in noise levels.

Vibration

- 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.
- Check for vibration level before each service. If you feel a higher than normal vibration, contact your STANLEY dealer for repair.

Hydraulic

- **Warning:** Hydraulic fluid under pressure could cause skin injection injury. Do not check for leaks with your hands. 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.
- If exposed to hydraulic fluid, wash hands immediately.
- 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.

What is the WS10 Hydraulic Weld Shear?

The WS10 hydraulic weld shear is ideal for shearing thermite welds from railroad rail. WS10 allows welds to be sheared before dismantling the weld mold. WS10 can be powered by an external hydraulic power supply capable of supplying 4-10 GPM @ 2000 PSI or by a hand powered pump, depending on model.

Specifications	
Pressure	2000 PSI (140 BAR)
Flow	4-10 GPM (15-38 LPM)
Hydraulic Circuit Type	Open Center
Max. Pressure	2000 PSI (140 BAR)
Max. Relief Pressure	2200-2300 PSI (151-158 BAR)
Recommended Back Pressure	250 PSI (17 BAR) or less
Couplers	HTMA Flush Face
Port Size	-8 SAE O-ring
Tool Weight	90 Lbs. (Models WS1032101A, WS10321A, WS10321AB, WS10321AS)
	102 Lbs. (Models WS1022001A, WS102200A, WS10220AA)
Tool Length	28.125 inches (Models WS1032101A, WS10321A, WS10321AB, WS10321AS)
	34.5 inches (Models WS1022001A, WS102200A, WS10220AA)
Tool Width	19.5 inches
Max. Hydraulic Oil Temp.	140°F (60°C)
HTMA/EHTMA Category	Type I & II, Category C & D

Sound Declaration	
Measured A-Weighted sound power	74.88 dBA
Measured A-Weighted Sound Pressure	66.9 dBA
Values determined according to noise test code given in EN ISO 13744.	

Parts of a WS10 - Detail A

1	Serial Number Plate
2	Crushing Hazard Decal
3	STANLEY Logo Decal
4	Crushing Hazard Decal
5	"Do Not Hammer" Decal
6	Roller Adjustment Decal
7	Crushing Hazard Decal
8	Crushing Hazard Decal
9	Roller Adjustment Handle
10	Blade
11	Carrying Handle
12	Direction Control
13	Hand Pump - Models WS1022001A, WS102200A, WS10220AA
	Hydraulic Fittings - Models WS1032101A, WS10321A, WS10321AB, WS10321AS

Tool Setup - Detail B

⚠WARNING

Do not install or change tool accessories while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury. Disconnect the hydraulic power source and put the direction control in neutral before installing or changing accessories.

1. If using an externally powered model, power down and disconnect the external hydraulic power source.
2. Place the direction control in the neutral position.

Install Blades

3. Inspect each blade for damage. Do not use blades that are cracked, chipped or damaged in anyway.
4. Remove the cap screws and washers from the tool frame.
5. Place the blade into position on the frame, then replace the cap screws and washers.

Adjust the Rollers - Detail C

1. Using the carry handles, place the tool on the rail, over the location that will be welded.
2. Loosen the height adjustment nut on one of the roller handles.
3. Pivot the roller under the rail head.
4. Position the roller so that it is within 1/8 inch from the underside of the rail head, as shown.
5. Tighten the height adjustment nut to maintain proper height.
6. Remove WS10 from the rail.

Tool Operation - Detail D

⚠WARNING

The thermite weld process creates extremely hot parts (mold, crucible, rail, etc.). Follow the weld product manufacturers instructions and keep away until all parts have cooled. Always wear Personal Protection Equipment (PPE).

Note: WS10 is used after the weld has been poured.

1. Ensure WS10 blades are fully retracted.
2. Set the directional control to the neutral position.
3. As soon as permitted by the mold manufacturer's instructions, remove the iron side sheets of the mold.

Note: The bottom plate does not need to be removed.

4. With a helper, use the carry handles to place WS10 over the mold so that the mold is between the blades.

Note: WS10 requires two people to lift, one person on each carry handle.

5. Pivot the rollers under the rail head by turning the four handles.

Connect to a Hydraulic Power Source (Models WS1032101A, WS10321A, WS10321AB, WS10321AS)

6. 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 9. Hydraulic fluid must be 50°F or above. Preheat if necessary.
7. Ensure that the hydraulic power source is equipped with a relief valve set to open at the maximum relief pressure. See "Specifications" on page 9.
8. Wipe hose couplers with a clean, lint free cloth.
9. Connect the return hose to the male coupler.
10. Connect the pressure hose to the female coupler.
11. Ensure couplers are undamaged, properly connected and are tight.

Using the Tool - Detail E

⚠ WARNING

Keep all body parts away from the cylinders and blades during operation. Beware of long hair or loose clothing that can become drawn into moving components. Do not wear loose fitting clothing or jewelry when operating the tool.

1. Wait until cutting is permitted by the weld product manufacturers instructions.
2. Set the directional control to the forward position.
3. If using a hand pump model, pump the handle to move the blades forward.

Note: If you encounter a breakdown or the tool stops for any reason, set the directional control to the neutral position and power down the hydraulic power source.

4. Cut to the end of the blade cylinder stroke and hold for 1-2 seconds.
5. Set the directional control to the retract position.
6. If using a hand pump model, pump the handle and fully retract the blades.
7. Pivot the rollers away from the rail and remove WS10 from the rail using the carry handles.
8. Note: The tool and blades will be hot after use. Ensure the tool has time to cool before removing it from the rail. Wear Personal Protection Equipment (PPE) at all times.

Tool Maintenance

⚠ 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 and put the direction control in neutral before servicing.

Daily Maintenance

1. Remove hydraulic power from the tool and check all hydraulic connections and hoses for damage. Replace damaged parts before operating the tool.
2. Inspect the blades and associated parts. Replace when they have become worn, cracked or distorted.
3. Fully extend the blades and measure the gap between the blades. If the gap is not within 1/32 - 1/16 inch, contact a STANLEY dealer for service. Do not use the tool.
4. Inspect tool to ensure all stickers are legible. Contact STANLEY if replacements are needed.
5. Check the flow and pressure of the hydraulic power source using a calibrated flow meter. Proper flow and pressure maintain proper tool speed. If tool speed increases or decreases, stop using the tool and ensure proper flow and pressure.

Tool Storage & Transport

Storage

Plug open hydraulic ports. Clean the tool and store in a clean, dry space that is safe from damage.

Transport

Never transport tool with the hydraulic power supply connected. Secure the tool to the transport vehicle. Lift only as high as necessary to load. NEVER lift or transport over people. Ensure tool is secured and will not move during transport. An unsecured tool could cause personal injury or damage to the tool.

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. Discharge the accumulator, disassemble the tool and dispose of all non-metal parts. Recycle the metal components. Contact your local municipal recycling authorities for recycling instructions.

Accessories

Description	Part Number
Shear Blade Set A (105-155 lbs/yd)*	27948
Shear Blade Set B (60-130 lbs/yd)*	27989
*Note: Rail type and size determines the correct blade.	
Seal Kit	73166
(Models WS1022001A, WS102200A, WS10321A, WS1032101A)	
Seal Kit	28586
(Models WS10100, WS10200, WS10301, WS1030101, WS1020001)	
Weld Shear Hold Down Kit	73394
Pump Handle	26023

Troubleshooting

Problem	Possible Cause	Solution
Tool does not operate	Hydraulic power source is not functioning properly.	Ensure the power source delivers proper flow and pressure. See "Specifications" on page 10. Proper flow and pressure maintain proper tool speed. Check regularly.
	Hydraulic hoses are couplers are blocked	Turn off and disconnect the tool from hydraulic power source. Ensure no blockage exists.
	Cylinder seal failure	Contact your STANLEY dealer for service.

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