# STANLEY

# **WS10 HYDRAULIC WELD SHEAR**



**USER MANUAL** Safety, Operation and Maintenance









# **DECLARATION OF CONFORMITY**

DECLARATION OF CONFORMITY
ÜBEREINSTIMMUNGS-ERKLARUNG
DECLARATION DE CONFORMITE CEE
DECLARACION DE CONFORMIDAD
DICHIARAZIONE DI CONFORMITA



 $\epsilon$ 

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

Weisbeck, Andy

Surname and First names/Familiennname 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:

1.	Category:	Weld Shear, Hydraulid

Kategorie: Catégorie: Categoria: Categoria:

Make/Marke/Marque/Marca/Marca Stanley

3. 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:

AII

Has been manufactured in conformity with Wurde hergestellt in Übereinstimmung mit Est fabriqué conformément Ha sido fabricado de acuerdo con E' stata costruita in conformitá 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	2006/42/EC:2006	Self
EN ISO	12100:2010	Self

 Special Provisions: None Spezielle Bestimmungen: Dispositions particulières: Provisiones especiales:

Disposizioni speciali:

6. Representative in the Union: Patrick Vervier, Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France. Vertreter in der Union/Représentant dans l'union/Representante en la Union/Rappresentante presso l'Unione

	Done at/Ort/Fait à/Dado en/Fatto a	Stanley Hydraulic Tool	s, Milwaukie, Oregon USA	Date/Datum/le/Fecha/Data	1-10-1
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Signature/Unterschrift/Signature/Firma/Firma

Position/Position/Fonction/Cargo/Posizione <u>Director of Product Development</u>

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# **IMPORTANT**

To fill out a Product Warranty Validation form, and for information on your warranty, visit Stanleyhydraulics.com and select the Company tab, Warranty.

(NOTE: The warranty Validation record must be submitted to validate the warranty).

**SERVICING:** This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

# **▲ WARNING**

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

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

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.



# **SAFETY SYMBOLS**

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, <u>will</u> result in <u>death or serious injury</u>.

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, <u>could</u> result in <u>death or serious injury</u>.

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, <u>could</u> result in <u>death or serious injury</u>.

This signal word indicates a potentially hazardous situation which, if not avoided, <u>may</u> result in <u>property damage</u>.

This signal word indicates a situation which, if not avoided, <u>will</u> result in <u>damage</u> to the equipment.

This signal word indicates a situation which, if not avoided, <u>may</u> result in <u>damage to the equipment</u>.

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

# LOCAL SAFETY REGULATIONS

PORTA

Enter any local safety regulations here. nance personnel.	Keep these instructions in an area accessible to the operator and mainte-

# **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 in this manual.

The model WS10 Hydraulic Weld Shear 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 pressure washer and hose before operation. Failure to do so could result in personal injury or equipment damage.

The operator must start in a work area without bystanders. Flying debris can cause serious injury.







- Do not operate the tool unless thoroughly trained or under the supervision of an instructor. Establish a training program for all operators to ensure safe operation.
- Always wear safety equipment such as goggles, ear and head protection, and safety shoes at all times when operating the tool.
- The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Do not inspect, clean or replace the sher baldes while the hydraulic power source is connected. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.

- Always connect hoses to the tool hose couplers before energizing the hydraulic power source. Be sure all hose connections are tight and are in good condition.
- Do not operate the tool at oil temperatures above 140°F/60°C. Operation at higher temperatures can cause higher than normal temperatures at the tool which can result in operator discomfort.
- Never wear loose clothing that can get entangled in the working parts of the tool.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- The hydraulic circuit control valve must be in the OFF position when coupling or uncoupling the tool. Wipe all couplers clean before connecting. Failure to do so may result in damage to the quick couplers and cause overheating. Use only lint-free cloths.
- Never transport or carry the tool with the unit energized.
- Keep all parts of your body away from the cylinders and shear blades. Long hair or loose clothing can become drawn into moving components.
- Do not use a shear blade that is cracked, chipped or otherwise damaged. Always inspect shear blades for possible damage before installation or use.
- Do not operate a damaged, improperly adjusted or incompletely assembled tool.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Eye injury and cutting or severing of body parts is possible if proper procedures are not followed.

# **TOOL STICKERS & TAGS**



11207

Circuit Type D Sticker



11206

Circuit Type C Sticker



28322

CE Sticker



31064

Crushing Hazard Warning Sticker



31049

Eye Protection Sticker



35294

No Hammer Sticker



FOR CUSTOMER SERVICE OR **TECHNICAL QUESTIONS** 

25610

Railroad Help Desk Sticker



372037

Serial Number Plate



28788

Manual Sticker

# CAUTION 4-10 GPM / 15-38 LPM\ DO NOT EXCEED 2000 PSI / 140 BAR

DO NOT EXCEED 2000 PSIT 740 PM
DO NOT EXCEED SPECIFIED FLOW OR PRESSURE
USE CLOSED-CENTER TOOL ON CLOSED-CENTER
SYSTEM, USE OPEN-CENTER TOOL ON CLOSED-CENTER
SYSTEM, USE OPEN-CENTER TOOL ON OPEN-CENTER
SYSTEM, USE OPEN-CENTER TOOL ON PEN-CENTER
SYSTEM CORRECTIVE CONNECT HOSES TO TOOL THE
BANKENANCE OF TOOL COULD RESULT IN A LEAK GIVES
ROTHER TOOL FAILURE: CONTRICT AT A LEAK GIVES
TO A CAUSE OIL INJECTION INTO THE BODY FAILURE TO
BSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS
PERSONAL INJURY.



Pinch Point Warning Sticker

TO MAINTAIN FREE MOVEMENT, ADJUST THE STOP NUTS FOR 1/8" CLEARANCE BETWEEN THE ROLLERS AND THE UNDERSIDE OF THE RAIL

### 35295

Roller Adjustment Sticker

# 29188

GPM/Pressure Caution Sticker

# NOTE:

THE INFORMATION LISTED ON THE STICKERS SHOWN, MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (P/N 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.

# DANGER

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 NO CONDUCTIVE** ON OR NEAR ELECTRIC LINES BE SURE TH COMBUCTIVE ON OR NEAR ELECTRICLINES SE SURETHE HOSE IS MAINTAINED AS NON-CONDUCTIVE. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.

- A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.
- DO NOT EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST. DO NOT EXCEED RATED WORKING PRESSURE OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.
- CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. **DO NOT** FEEL FOR LEAKS WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.

# IMPORTANT

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

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

TAG TO BE REMOVED ONLY BY TOOL OPERATOR

SEE OTHER SIDE

### DANGER

- D. DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.

  MAKE SURE HYDRAULD HOSES ARE PROPERLY CONMECTED 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. SYSTEM METURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE PERSONAL INJURY.
- DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
- BYSTANDERS MAY BE INJURED IN YOUR WORK AREA.
  KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
- WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
- TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.

# IMPORTANT

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

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

TAG TO BE REMOVED ONLY BY **TOOL OPERATOR** 

SEE OTHER SIDE

SAFETY TAG P/N 15875 (Shown smaller then actual size)

# **TOOL HOSE INFORMATION**

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

**Certified non-conductive** — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.

**Wire-braided** (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is conductive and must never be used near electrical conductors*.

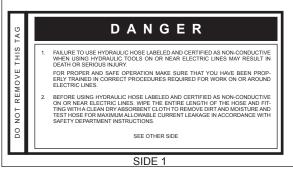
**Fabric-braided** (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is not certified non-conductive* and must never be used near electrical conductors.

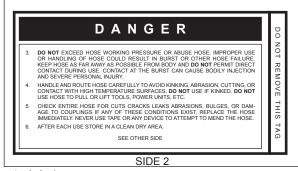
# **HOSE SAFETY TAGS**

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

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

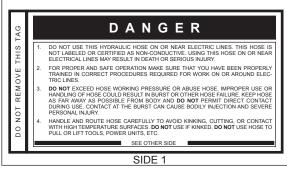
### THE TAG SHOWN BELOW IS ATTACHED TO "CERTIFIED NON-CONDUCTIVE" HOSE





(Shown smaller than actual size)

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





(Shown smaller than actual size)



# **HOSE RECOMMENDATIONS**

# Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications. All hydraulic hose must have at least a rated

All hydraulic hose must have at least a rated minimum working pressure equal to the maximum hydraulic system relief valve setting.

All hydraulic hose must meet or exceed specifications as set forth by SAE J517.

Oil	Oil Flow	Hose L	Hose Lengths	Inside Diameter	iameter	USE	Min. Workir	Min. Working Pressure
GPM	LPM	FEET	METERS	INCH	MM	(Press/Return)	PSI	BAR
		Certified No	Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks	Hose - Fiber	Braid - for	Utility Bucket	Trucks	
4-9	15-34	up to 10	up to 3	3/8	10	Both	2250	155
	Conducti	Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS	<b>Braid or Fiber</b>	Braid -DO	<b>JOT USE NE</b>	AR ELECTRIC	AL CONDUCT	ORS
4-6	15-23	up to 25	up to 7.5	3/8	10	Both	2500	175
4-6	15-23	26-100	7.5-30	1/2	13	Both	2500	175
5-10.5	19-40	up to 50	up to 15	1/2	13	Both	2500	175
5-10.5	19-40	51-100	15-30	2/8	16	Both	2500	175
7 7	6	000	C	2/8	16	Pressure	2500	175
c.01-c	9-8-	006-001	08-00	3/4	19	Return	2500	175
10-13	38-49	up to 50	up to 15	2/8	16	Both	2500	175
7	00	700	700	2/8	16	Pressure	2500	175
<u>2</u>	90-49	01-10	00-6	3/4	19	Return	2500	175
7	20 40	000	00 00	3/4	19	Pressure	2500	175
2	00-49	002-001	00-00	-	25.4	Return	2500	175
7	40.00	10 of	0 - 7	8/9	16	Pressure	2500	175
<u>5</u>	49-64 00-84-00	cz 01 dn	o 01 dn	3/4	19	Return	2500	175
7 7 7	00	26.400	0	3/4	19	Pressure	2500	175
5	9-6-60	20-100	00-0	_	25.4	Return	2500	175

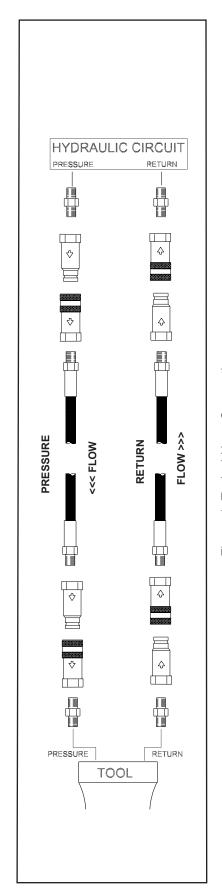


Figure 1. Typical Hose Connections

# **HTMA / EHTMA REQUIREMENTS**

# HTMA / EHTMA REQUIREMENTS

TYPE I  4-6 gpm (15-23 lpm) 1500 psi (103 bar)  2100-2250 psi (145-155 bar)  250 psi (17 bar)  400 ssu*	7-9 gpm (26-34 lpm) 1500 psi (103 bar) 2100-2250 psi (145-155 bar) 250 psi (17 bar)	9-10.5 gpm (34-40 lpm) 1500 psi (103 bar) 2200-2300 psi (152-159 bar)	11-13 gpm (42-49 lpm) 1500 psi (103 bar) 2100-2250 psi (145-155 bar)
(15-23 lpm) 1500 psi (103 bar) 2100-2250 psi (145-155 bar) 250 psi (17 bar) 400 ssu*	(26-34 lpm) 1500 psi (103 bar) 2100-2250 psi (145-155 bar) 250 psi	(34-40 lpm) 1500 psi (103 bar) 2200-2300 psi (152-159 bar)	(42-49 lpm) 1500 psi (103 bar) 2100-2250 psi
(103 bar)  2100-2250 psi (145-155 bar)  250 psi (17 bar)  400 ssu*	(103 bar) 2100-2250 psi (145-155 bar) 250 psi	(103 bar) 2200-2300 psi (152-159 bar)	(103 bar) 2100-2250 psi
(145-155 bar)  250 psi (17 bar)  400 ssu*	(145-155 bar) 250 psi	(152-159 bar)	•
(17 bar) 400 ssu*	•	250:	
		250 psi (17 bar)	250 psi (17 bar)
(82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)
140° F (60° C)	140° F (60° C)	140° F (60° C)	140° F (60° C)
3 hp (2.24 kW) 40° F (22° C) ° C). Operation at	5 hp (3.73 kW) 40° F (22° C) t higher temperatur	6 hp (5.22 kW) 40° F (22° C) res can cause ope	7 hp (4.47 kW) 40° F (22° C) rator
25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)
100-400 ssu* (2	100-400 ssu* 20-82 centistokes)	100-400 ssu*	100-400 ssu*
	40° F (22° C) ° C). Operation at 25 microns 30 gpm (114 lpm)	40° F 40° F (22° C) (22° C) ° C). Operation at higher temperature  25 microns 25 microns 30 gpm 30 gpm (114 lpm) (114 lpm)	40° F 40° F 40° F (22° C) (22° C) (22° C) ° C). Operation at higher temperatures can cause operations 25 microns 25 microns 30 gpm 30 gpm 30 gpm (114 lpm) (114 lpm) (114 lpm)  100-400 ssu* 100-400 ssu* 100-400 ssu*

.....

When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.

\*SSU = Saybolt Seconds Universal

### **CLASSIFICATION EHTMA** HYDRAULIC SYSTEM REQUIREMENTS 9.5-11.6 gpm Flow Range 4.7-5.8 gpm 7.1-8.7 gpm 11.8-14.5 gpm 3.5-4.3 gpm (45-55 lpm) (13.5-16.5 lpm) (18-22 lpm) (27-33 lpm) (36-44 lpm) Nominal Operating Pressure 1870 psi 1500 psi 1500 psi 1500 psi 1500 psi (at the power supply outlet) (129 bar) (103 bar) (103 bar) (103 bar) (103 bar) System relief valve setting 2495 psi 2000 psi 2000 psi 2000 psi 2000 psi (at the power supply outlet) (172 bar) (138 bar) (138 bar) (138 bar) (138 bar)

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



# **OPERATION**

# PREPARATION FOR INITIAL USE

On hand pump units, replace the plastic shipping plug on top of the pump assembly with the breather vent. No other special unpacking or assembly requirements are required on either unit prior to usage.

Each unit should be inspected to assure the unit was not damaged in shipping and does not contain packing debris.

# CHECK HYDRAULIC POWER SOURCE (POWER UNIT MODEL ONLY)

- Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 4-10 gpm/15-38 lpm Do Not exceed 140 bar/2000 psi.
- Make certain the hydraulic power source is equipped with a relief valve set to open at 2200-2300 psi/151-158 bar.
- 3. Make certain that the power source return pressure does not exceed 250 psi/17 bar.
- 4. Check that the hydraulic circuit matches the tool for open-center (OC) operation.

# CHECK TOOL

- 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 CONTROL MECHANISM

# **Hand Pump Models**

On hand pump models, check that the directional control valve operates freely from the neutral position to the forward position and then back to the neutral position and then to the rearward position. In each position work the lever to assure movement of the cylinders is free of binding and that the hydraulics are performing as intended.

# **Power Unit Models**

On power unit models, check that the directional control valve operates freely from the neutral position to the forward position and then through the neutral and rearward positions.

# **CONNECT HOSES** (Power Unit Model Only)

- 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 weld shear. It is a good practice to connect the return hose first and disconnect it last to minimize or avoid trapped pressure within the cylinders.
- 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

# POWER UNIT AND HAND PUMP MODELS CHECKING OPERATION AND PERFORMANCE

- 1. Observe all safety precautions.
- Remove any debris and burrs from the rail joint that will interfere with the weld shear cutters.
- 3. Place the weld shear on the rail over the location to be welded.
- 4. Adjust the height of the four roller pivots. The pivots must, once pivoted, be placed under the rail head with a minimum of clearance to avoid any forcing during the forward movement of the cutters. This adjustment is done with the 4 hex nuts.
- On the power unit model, move the hydraulic circuit control valve to the "ON" position.
- 6. On the Weld Shear, move the directional control valve lever to the forward position so that the shear blade advances. (On hand pump versions, the shear blade will not advance or retract without pumping the lever) Check that the shear blade advances without binding. With the cylinders fully extended, there should be a gap of 1/32-1/16 inch between the two shear blades. If this gap is not correct, do not use the weld shear and have it serviced by an authorized and certified dealer. If the gap is correct, retract the shear blade to its most rearward position by moving the control lever to the rearward position. The shear blades should now be as far apart as the tool will permit.
- 7. Remove the weld shear from the rail.



# **OPERATION**

# **CUTTING PROCEDURE**

- 1. Proceed with the preparations for welding and put the molds and accessories in their place.
- 2. Pour the weld.
- As soon as permitted by the mold manufacturer's instructions, remove the two side iron sheets of the mold. The bottom plate does not need to be removed.
- 4. Remove any excess sand from the railhead to prevent damage to the cutters.
- Place the weld shear on the rail so that it straddles the mold.
- 6. Pivot the four roller pivots under the rail head by turning the handle assemblies.
- 7. Start cutting at the correct time based on the mold manufacturer's instructions by moving the directional control valve lever forward (hand pump models require pumping of the lever).
- 8. Cut to the end of the stroke and hold for approximately 1 to 2 seconds.
- 9. Move the valve handle to the rearward position for opening the cutters (hand pump models require pumping of the lever) and retract the shear blade to its most rearward position.
- Pivot the four roller pivots away from the rail and remove the weld shear from the rail as soon as possible.
- 11. Quickly remove any excess weld material from the cutters to prevent overheating.

# **COLD WEATHER OPERATION**

If a power unit model weld shear is to be used during cold weather, preheat the system hydraulic fluid at low engine speed.

Power unit models should use normally recommended fluids with fluid temperature at or above 50° F/10° C (400 ssu/82 centistokes) before use.

Hand pump models may be warmed by placing them in a heated compartment.

# **EQUIPMENT PROTECTION & CARE**

# NOTICE

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couples and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the "IN" port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.

- Do not exceed the rated flow (see Specifications) in this manual for correct flow rate and model number. Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.

# **TROUBLESHOOTING**

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

When diagnosing problems with operation of the weld shear, always check that the hydraulic power source is supplying the correct hydraulic flow and pressure to the tool as listed in the specifications. Use a flow meter known to be accurate. Check the flow with the hydraulic oil temperature at least 80  $^{\circ}$  F / 27 $^{\circ}$  C.

SYMPTOM	CAUSE	SOLUTION
	HYDRAULIC POWER SOURCE NOT FUNCTIONING.	POWER UNIT MODELS, CHECK POWER SOURCE FOR PROPER FLOW AND PRESSURE (3-10 GPM/11-38 LPM AT 2000 PSI/140 BAR).
	POWER UNIT MODELS, COUPLERS OR HOSES BLOCKED	LOCATE AND REMOVE RESTRICTION.
WELD SHEAR DOES NOT OPERATE.	POWER UNIT MODELS, HYDRAULIC LINES NOT CONNECTED.	CONNECT LINES.
	HAND PUMP MODELS, HYDRAULIC PUMP FAILURE.	LOCATE AND REMOVE RESTRICTION.
	CYLINDER SEAL FAILURE.	HAVE INSPECTED AND REPAIRED AT AN AUTHORIZED STANLEY SERVICE CENTER.

# **SPECIFICATIONS**

# **WS10 LIGHTWEIGHT MODELS**

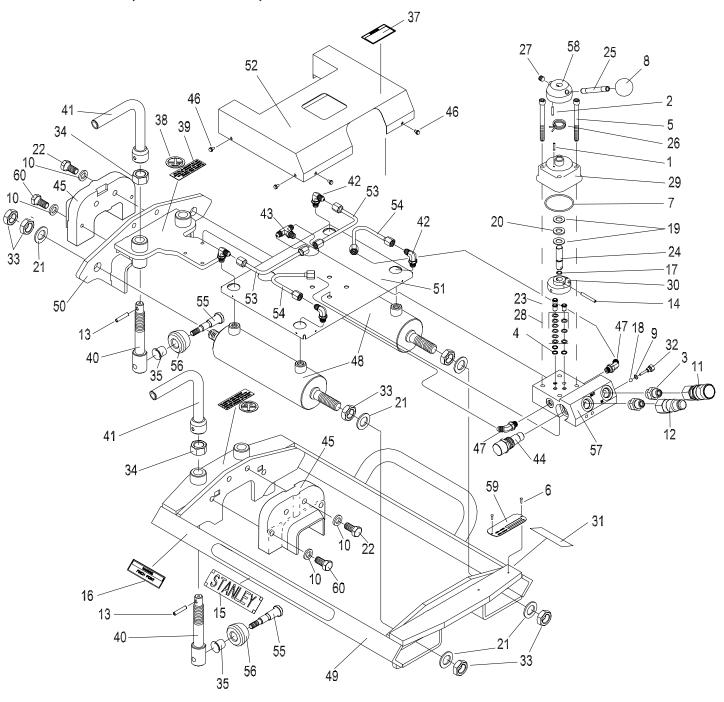
Capacity	20,000 lb / 89,000 N
Pressure Range	2000 psi / 140 bar
Maximum Back Pressure	
Flow Range	3-10 gpm / 11-38 lpm
Porting (power unit model)	8 SAE O-ring
Couplers (power unit model only)	HTMA Flush Face Type Male & Female
Hose Whips	
Weight (hand pump model)	102 lb / 46.2
(power unit model)	90 lb / 41 kg
Overall Length (hand pump model)	34.5 inches / 87.6 cm
(power unit model)	28 inches / 71 cm
Overall Width (hand pump & power unit models)	19.5 inches / 49.5 cm
Overall Height (hand pump model without pump handle)	12 inches / 30.4 cm
(power unit model)	14 inches / 35.5 cm
Maximum Fluid Temperature	140° F/60° C
Sound Pressure Level	Less Than 70 dBA @ 1 meter
Vibration Level	Less Than 2.5m/sec2
Blade Opening	6 in/15.2 cm

# **ACCESSORIES**

Description	Part No.
Shear Blade Set A (105-155 lb / yd (47-70 kg / m Rail)*	
* Rail Type & Size Determines The Correct Blade Size Seal kit (For Models WS1022001A, WS102200A, WS10321A, WS1032101A	
Weld Shear Hold Down Kit	73394

# **PARTS ILLUSTRATION**

# WS10321A, WS1032101A, WS10321AB & WS10321AS



# **PARTS LIST**

# WS10321A, WS1032101A, WS10321AB & WS10321AS

ITEM	PART NO.	QTY	DESCRIPTION
1	00285	1	Roll Pin 1/8" OD
2	00757	1	Roll Pin 1/8" OD
3	00936	2	Adapter
4	01362	3	O-Ring
5	01758	4	Cap Screw 5/16-18
6	02004	2	# 4 x 3/8 Drive Screw
7	02177	1	O-Ring
8	02633	1	Ball Knob
9	02901	1	O-Ring
10	03061	8	LockWasher 1/2" ID
11	03972	1	Coupler, Female (Set 03971)
12	03973	1	Coupler, Male (Set 03971)
13	07492	4	Roll Pin 1/4" OD
14	07432	1	Roll Pin 3/16" OD
15	14090	2	Stanley Logo
16	17572	2	Pinch Point Warning Sticker
17	17924	1	O-Ring
18	20145	1	Steel Ball
19		2	
	20761	1	Bearing Race
20	20762		Bearing
21	21318	6	Washer 3/4" ID
22	22374	4	Cap Screw 1/2-13 UNC x 1-1/4
23	24231	3	Grommet
24	24233	1	Shaft
25	24291	1	Rod
26	24297	1	Torsion Spring
27	24300	1	Setscrew
28	24305	9	Spring Washer
29	24313	1	Housing
30	24877	1	Rotor Assy
31	25610	1	Railroad Help Desk Sticker
32	25912	1	Plug
33	25995	8	Hex Jam Nut 3/4-16UNF
34	26196	4	Hex Nut 3/4-10UNC
35	26247	4	Bearing 10FDU12
36	28911	2	Not Pictured, part of valve block assy
37	29188	1	GPM Sticker
38	35294	2	"NO" Hammer Sticker
39	35295	2	Roller Adjustment Sticker
40	67094	4	Roller Pivot
41	67107	4	Handle Assembly
42	67116	4	Elbow
43	67117	1	Tee
44	67124	1	Flow Control Valve
	72759	1	Flow Control Valve WS10321AS ONLY

45 2 Shear Blade Set "A, or B" (See Accessories page or this page)  46 67305 8 Sheet Metal Screw  47 67996 2 45 Degree Elbow  48 68291 2 Cylinder  49 68296 1 Frame Weldment  50 68297 1 Slide Weldment  51 68306 1 Bottom Cover  52 68307 1 Top Cover  53 68309 2 Tube Assembly, Long  54 68311 2 45 Tube Assembly  55 68316 4 Shoulder Screw  56 69809 4 Roller  57 69810 1 Valve Block  58 69904 1 Valve Cap  59 372037 1 Serial Number Plate	ITEM	PART NO.	QTY	DESCRIPTION				
46       67305       8       Sheet Metal Screw         47       67996       2       45 Degree Elbow         48       68291       2       Cylinder         49       68296       1       Frame Weldment         50       68297       1       Slide Weldment         51       68306       1       Bottom Cover         52       68307       1       Top Cover         53       68309       2       Tube Assembly, Long         54       68311       2       45 Tube Assembly         55       68316       4       Shoulder Screw         56       69809       4       Roller         57       69810       1       Valve Block         58       69904       1       Valve Cap         59       372037       1       Serial Number Plate	45		2	Shear Blade Set "A, or B" (See Accesso-				
47 67996 2 45 Degree Elbow  48 68291 2 Cylinder  49 68296 1 Frame Weldment  50 68297 1 Slide Weldment  51 68306 1 Bottom Cover  52 68307 1 Top Cover  53 68309 2 Tube Assembly, Long  54 68311 2 45 Tube Assembly  55 68316 4 Shoulder Screw  56 69809 4 Roller  57 69810 1 Valve Block  58 69904 1 Valve Cap  59 372037 1 Serial Number Plate				ries page or this page)				
48 68291 2 Cylinder  49 68296 1 Frame Weldment  50 68297 1 Slide Weldment  51 68306 1 Bottom Cover  52 68307 1 Top Cover  53 68309 2 Tube Assembly, Long  54 68311 2 45 Tube Assembly  55 68316 4 Shoulder Screw  56 69809 4 Roller  57 69810 1 Valve Block  58 69904 1 Valve Cap  59 372037 1 Serial Number Plate	46	67305	8	Sheet Metal Screw				
49 68296 1 Frame Weldment 50 68297 1 Slide Weldment 51 68306 1 Bottom Cover 52 68307 1 Top Cover 53 68309 2 Tube Assembly, Long 54 68311 2 45 Tube Assembly 55 68316 4 Shoulder Screw 56 69809 4 Roller 57 69810 1 Valve Block 58 69904 1 Valve Cap 59 372037 1 Serial Number Plate	47	67996	2	45 Degree Elbow				
50       68297       1       Slide Weldment         51       68306       1       Bottom Cover         52       68307       1       Top Cover         53       68309       2       Tube Assembly, Long         54       68311       2       45 Tube Assembly         55       68316       4       Shoulder Screw         56       69809       4       Roller         57       69810       1       Valve Block         58       69904       1       Valve Cap         59       372037       1       Serial Number Plate	48	48 68291 2 Cylinder						
51       68306       1       Bottom Cover         52       68307       1       Top Cover         53       68309       2       Tube Assembly, Long         54       68311       2       45 Tube Assembly         55       68316       4       Shoulder Screw         56       69809       4       Roller         57       69810       1       Valve Block         58       69904       1       Valve Cap         59       372037       1       Serial Number Plate	49	68296	1	Frame Weldment				
52     68307     1     Top Cover       53     68309     2     Tube Assembly, Long       54     68311     2     45 Tube Assembly       55     68316     4     Shoulder Screw       56     69809     4     Roller       57     69810     1     Valve Block       58     69904     1     Valve Cap       59     372037     1     Serial Number Plate	50	68297	1	Slide Weldment				
53 68309 2 Tube Assembly, Long 54 68311 2 45 Tube Assembly 55 68316 4 Shoulder Screw 56 69809 4 Roller 57 69810 1 Valve Block 58 69904 1 Valve Cap 59 372037 1 Serial Number Plate	51	68306	1	Bottom Cover				
54       68311       2       45 Tube Assembly         55       68316       4       Shoulder Screw         56       69809       4       Roller         57       69810       1       Valve Block         58       69904       1       Valve Cap         59       372037       1       Serial Number Plate	52	68307	1	Top Cover				
55 68316 4 Shoulder Screw 56 69809 4 Roller 57 69810 1 Valve Block 58 69904 1 Valve Cap 59 372037 1 Serial Number Plate	53	68309	2	Tube Assembly, Long				
56       69809       4       Roller         57       69810       1       Valve Block         58       69904       1       Valve Cap         59       372037       1       Serial Number Plate	54	68311	2	45 Tube Assembly				
57 69810 1 Valve Block 58 69904 1 Valve Cap 59 372037 1 Serial Number Plate	55	68316	4	Shoulder Screw				
58 69904 1 Valve Cap 59 372037 1 Serial Number Plate	56	69809	4	Roller				
59 372037 1 Serial Number Plate	57	69810	1	Valve Block				
	58	69904	1	Valve Cap				
60 02504 4 Can Screw 1/2-13 x 1-1/2	59	372037	1	Serial Number Plate				
00   02304   4   Cap 301eW 1/2-13 x 1-1/2	60	02504	4	Cap Screw 1/2-13 x 1-1/2				

SEAL KIT P/N-73166

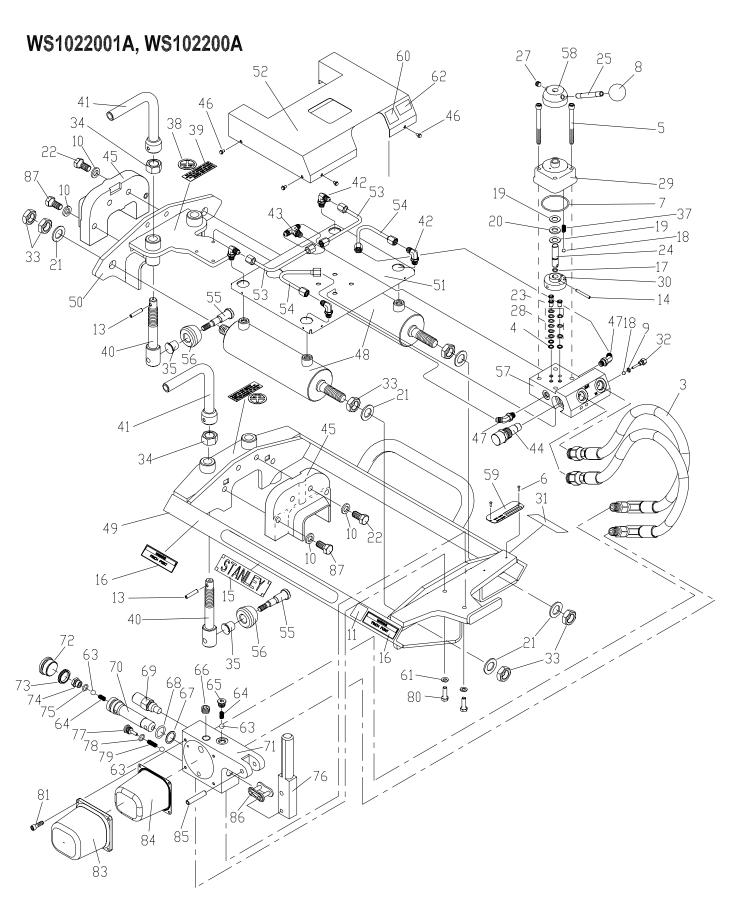
# **SHEAR BLADES**

Shear Blade Set A (105-155 lb / yd (47-70 kg / m Rail)\* P/N-27948

Shear Blade Set B (60-130 lb / yd (41-60 kg / m) Rail)\* P/N-27989

\* Rail Type & Size Determins The Correct Blade Size

# **PARTS ILLUSTRATION**



ITEM	PART NO.	QTY	DESCRIPTION			
3	71978	2	DESCRIPTION			
4	01362	3	Hose Assy			
5	01362	4	O-Ring			
-		2	Cap Screw 5/16-18 # 4 x 3/8 Drive Screw			
6	02004					
7	02177	1	O-Ring			
8	02633	1	Ball Knob			
9	02901	1	O-Ring			
10	03061	8	LockWasher 1/2" ID			
11	28322		CE Sticker			
13	07492	4	Roll Pin 1/4" OD			
14	07890	1	Roll Pin 3/16" OD			
15	14090	2	Stanley Logo			
16	31064	4	Crushing Hazard Sticker (CE)			
17	17924	1	O-Ring			
18	20145	2	Steel Ball			
19	20761	2	Bearing Race			
20	20762	1	Bearing			
21	21318	6	Washer 3/4" ID			
22	22374	4	Cap Screw 1/2-13 UNC x 1-1/4			
23	24231	3	Grommet			
24	24233	1	Shaft			
25	24291	1	Rod			
27	24300	1	Setscrew			
28	24305	9	Spring Washer			
29	24313	1	Housing			
30	24877	1	Rotor Assy			
31	25610	1	Railroad Help Desk Sticker			
32	25912	1	Plug			
33	25995	8	Hex Jam Nut 3/4-16UNF			
34	26196	4	Hex Nut 3/4-10UNC			
35	26247	4	Bearing 10FDU12			
36	28911	2	Not Pictured, part of valve block assy			
37	24876	1	Spring			
38	35294	2	"NO" Hammer Sticker			
39	35295	2	Roller Adjustment Sticker			
40	67094	4	Roller Pivot			
41	67107	4	Handle Assembly			
42	67116	4	Elbow			
43	67117	1	Tee			
44	71979	1	Port Plug			
45		1	Shear Blade Set "A, or B" (See Accesso-			
			ries page or this page)			
46	67305	8	Sheet Metal Screw			
47	67996	2	45 Degree Elbow			
48	68291	2	Cylinder			

For Weld Shear Hold Down Kit See Page 14.

ITEM	PART NO.	QTY	DESCRIPTION			
49	70792	1	DESCRIPTION  Frame Woldmont			
50	68297	1	Frame Weldment Slide Weldment			
51	68306	1				
52	68307	1	Bottom Cover			
53	68309	2	Top Cover			
54	68311	2	Tube Assembly, Long			
55	68316	4	45 Tube Assembly Shoulder Screw			
56	69809	4	Roller			
57	69810	1	Valve Block			
58	69904	1	Valve Cap			
		1	Serial Number Plate			
59	372037	1				
60	31049		Eye Protection Sticker (CE)			
61	00283 28788	2	Washer			
62			Manual Sticker (CE)			
63	12100	3	Steel Ball			
64	26073	2	Spring Hollow Hex Plug			
65	08104	1	Hollow Hex Plug Pipe Plug			
66	01212	1	Back-up Ring			
67	26074	1	O-Ring			
68	23002	1	Relief Valve			
69	05043	1				
70	25915	1	Plunger			
71	70745	1	Pump Block			
72	04858	1	Hollow Hex Plug			
73	26069	1	Piston Seal			
74	25916	1	Plug			
75	01411	1	O-Ring			
76	25901	1	Lever			
77	24289	1	Plug			
78	01411	1	O-Ring			
79	26071	1	Spring			
80	370508	2	Capscrew			
81	56521	4	Capscrew			
83	52832	1	Reservoir			
84	52831	1	Bladder			
85	25292	1	Roll Pin			
86	26005	1	Master Link			
87	02504	4	Cap Screw 1/2-13 UNC x 1-1/2			

# SEAL KIT P/N-73166

# **SHEAR BLADES**

Shear Blade Set A (105-155 lb / yd (47-70 kg / m Rail)\* P/N-27948 Shear Blade Set B (60-130 lb / yd (41-60 kg / m) Rail)\* P/N-27989

\* Rail Type & Size Determins The Correct Blade Size



# **STANLEY**®

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