

STANLEY

RAILWAY TOOLS

**Selection,
Innovation,
Performance**

Your One-Stop Shop
for Hydraulic Tools
and Attachments

STANLEY

SPL 31

STANLEY
Infrastructure

INDUSTRIAL TOOLS & ATTACHMENTS

 **PALADIN** **STANLEY** **LABOUNTY**  **PENGO**



GREAT BRAND, GREAT TOOLS

STANLEY has a proud tradition of being a global leader in the development of a wide range of innovative hydraulic products used in a variety of industries and applications throughout the world. As a proud member of STANLEY Black & Decker, a 175 year old company committed to the manufacture and distribution of quality tools for the professional, industrial, and consumer, we at STANLEY Infrastructure are dedicated to providing our customers with innovative customer-driven product designs, world class quality, unmatched product support, and superior value.

GLOBAL REPRESENTATION

STANLEY Infrastructure produces an extensive line of products for use in construction, demolition, scrap processing, recycling, utilities, municipalities, railroads, industry, landscaping, underwater, construction, and specialty trades. STANLEY Infrastructure Tools has sales offices and distributors throughout North America, Central America, South America, Europe, Asia, Australia, and the Middle East.

OUR MISSION

STANLEY is committed to providing innovative solutions for infrastructure based applications. We are for those who make the world move.

CATALOG INDEX

Spike Puller (SPL) 1

Tie Tamper (TT) & Spike Driver (SD) 2

Impact Wrenches (IW) 3

Rail Saw (RS) & Track Jack (TJ) 4

Rail Drill (RD) 5

Welding Shear (WS)..... 6

Frog Grinder (FG) & Profile Grinder (PG)..... 7

Grinders (HGL & GR) 8

Brazing 9-10

Digger & Trachorse 11

Post Pullers (PP) & Post Driver (PD) 12

Earth Auger (EA)..... 13

Hand Held Breaker (BR) 14

Power Units (HP) 15

Drills (DL07) & Impact Drivers (ID07) 16

Chainsaws (CS)..... 17

Trash Pumps (TP)..... 18

Padlocks 19

Hydraulic System Requirements 20-24

34% LIGHTER* AND BEST-IN-CLASS ERGONOMICS

STANLEY’S SPL31 Spike Driver offers a patented automatic pull cycle to reduce kickback and improve ease of use. Its 34%* weight reduction directly reduces the physical demand / fatigue of the operator. The reduction also gives the operator improved control and ease of use. The SPL31 side carry handle offers portability and ergonomics when carrying the puller 100-200 ft. down the track. The SPL’s side placement of the hose whips protects the couplers and whips from possible abuse and damage while still plumbing straight into the tool. 34% weight reduction, increased handle durability, best-in-class ergonomics and overall improved value.

*COMPARED TO THE STANLEY SP48

PERFORMANCE BENEFITS

Automatic Cycle

SPL31 offers a patented Automatic Pull Cycle to reduce kickback and improve ease of use for the user.

Weight Reduction

34%** weight reduction directly reduces the physical demand/fatigue of the user. The reduction also gives the user improved control and ease of use.

**Compared to the Stanley SP48

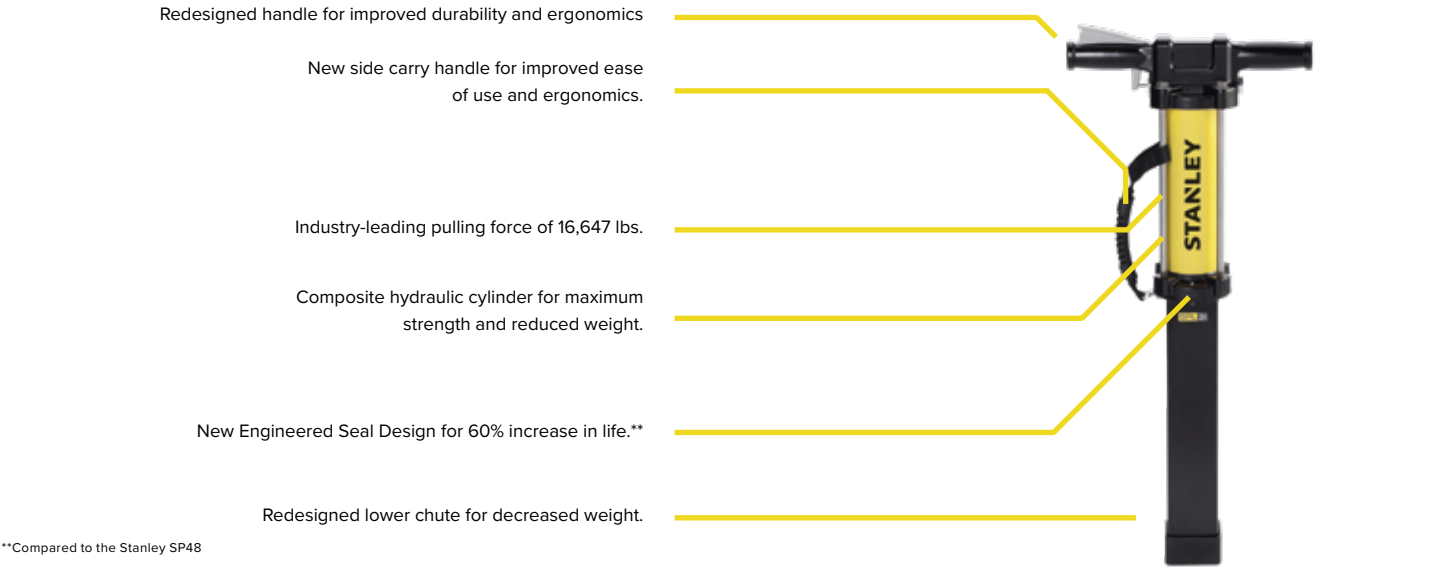
Carry Handle

The new SPL31 side carry handle offers portability, ease of use and ergonomics when carrying the puller 100-200 ft down the track.

Side Whips

The new SPL31 side carry handle offers portability, ease of use and ergonomics when carrying the puller 100-200 ft down the track.

FEATURES



**Compared to the Stanley SP48

Model	Description	Handle Width	Pulling Force	Flow Rate	Pressure	Weight	Included Equipment
SPL31A	SPIKE PULLER, LIGHTWEIGHT, AUTOMATIC CYCLE	16.25IN / 41.29 CM	16,647 LBS / 7,550 KG	5-10 GPM / 18-38 LPM	2,000 - 2500 PSI / 137-172 BAR	33 LBS*	HOSE WHIPS AND COUPLERS
SPL31A-S	SPIKE PULLER, LIGHTWEIGHT, 2-STAGE CYCLE, TRIGGER LOCK	16.25IN / 41.29 CM	16,647 LBS / 7,550 KG	5-10 GPM / 18-38 LPM	2,000 - 2,500 PSI / 137-172 BAR	33 LBS*	HOSE WHIPS AND COUPLERS

*31-pound tool weight is wet without whips and couplers

Accessories

Part No.	Description
82791	GRIP JAW (QTY. 2 REQUIRED)
34876	“W” GRIP JAW CASTING (HAIR PIN - QTY. 2 REQUIRED)

STANLEY® Infrastructure

TIE TAMPER Model TT46

The TT46 Tie Tamper’s spring-dampened anti-vibration handle isolates the tool’s vibration which reduces operator fatigue and increases productivity.

The feathering On/Off valve allows the operator to control the output energy of the tool, providing more control and ease of handling.

The TT46 Model has a spring-loaded bit keeper allows the bit to be backed out even when driven deeply into the ballast.



Model	Description	Weight	Length	Hyd. Pressure	Flow Rate	Max Back Pressure	Blows Per Minute	Shank Size
TT46133	ANTI VIBRATION HANDLE TIE TAMPER, HEAVY DUTY (5 GPM), CE	54 LBS / 24 KG	54 IN / 98 CM	2,000 PSI / 140 BAR	5 GPM / 19 LPM	200 PSI / 14 BAR	1,500	7/8 X 2 - 9/16 IN
TT46233	ANTI VIBRATION HANDLE TIE TAMPER, HEAVY DUTY (10 GPM)	56 LBS / 25 KG	56 IN / 101 CM	2,000 PSI / 140 BAR	10 GPM / 38 LPM	200 PSI / 14 BAR	1,500	7/8 X 2 - 9/16 IN

Accessories

Part No.	Description	Part No.	Description
59033	TIE TAMPER STEEL - 4" W/"V" CUT 21" OAL - ROUND - FITS TT46133 AND TT46233	44937	TIE TAMPER STEEL - 4" W/"V" CUT 21" OAL - HEX - FITS TT46133 AND TT46233
59034	TIE TAMPER STEEL - 4" W/"V" CUT 18" OAL - ROUND- FITS TT46133 AND TT46233	44979	TIE TAMPER STEEL - 4" W/"V" CUT 18" OAL - HEX - FITS TT46133 AND TT46233
		69397	FROST CHISEL - 2" X 24" - FITS TT46133 AND TT46233
		31254	ACCUMULATOR CHARGING KIT

Spike Driver Model SD67

STANLEY’S SD67 Spike Driver provides a strong level of performance for the toughest applications. The anti-vibration handle and the two length options, helping to reduce operator fatigue.

FEATURES

- Two length options are available which allow operator to stand in a fully-upright position for better comfort.
- 1300 Blow-Per-Minute design makes quick work of any spike being driven, even in the hardest ties.
- Feathering On/Off Valve allows the operator to control the output energy of the tool, providing more control and ease of handling.
- Diaphragm-Type Accumulator design provides for ease of maintenance and extended service life of the tool.

Model	Description	Handle Width	Cup Width	Flow Range	Pressure	Weight	Included Equipment
SD67101	ANTI-VIBRATION HANDLE, SHORT 28.75 IN. / 73 CM	18 IN / 45.8 CM	2.9 IN / 7.4 CM	10 GPM / 38 LPM	2,000 PSI / 140 BAR	70 LBS / 31.8 KG	HOSE WHIPS, FLUSH-FACE COUPLERS
SD67141	ANTI-VIBRATION HANDLE, LONG 32.25 IN. / 82 CM	18 IN / 45.8 CM	2.9 IN / 7.4 CM	10 GPM / 38 LPM	2,000 PSI / 140 BAR	70 LBS / 31.8 KG	HOSE WHIPS, FLUSH-FACE COUPLERS

Accessories

Part No.	Description
31254	ACCUMULATOR CHARGING KIT



IMPACT WRENCHModel IW12

STANLEY'S hydraulic impact wrenches are world renowned for their adjustable impact intensity settings allowing for a wide range of uses. The rugged design incorporates an integral motor and heavy-duty mechanism for the rigors of track maintenance use. The power-to-weight ratio of these products are un-matched by any impact wrench on the market in their class.

- FEATURES
- Adjustable impact intensity.
 - Swing-hammer design.
 - Larger feathering trigger.
 - Standard reversing valve.
 - Handle coating transmits less heat.

IMPACT WRENCHModel IW16

- FEATURES
- Adjustable impact intensity.
 - Swing-hammer mechanism.
 - Large “D” handle and feathering On/Off valve.
 - Standard reversing valve.
 - Available Extended Handle Mechanism.

Model	Description	Weight	Length	Hyd. Pressure	Flow Rate	Torque
IW12140S	¾ IN SQUARE DRIVE (STANDARD)	18 LBS / 8 KG	9.5 IN / 24 CM	1,000-2,000 PSI / 70-140 BAR	5-10 GPM / 19-38 LPM	250-1,200 FT LBS / 340-1,632 NM
IW16150S	1 IN SQUARE DRIVE (CE)	26 LBS / 11.8 KG	14.5 IN / 36.8 CM	1,000-2,000 PSI / 70-140 BAR	10 GPM / 38 LPM (OPTIMAL)	500-2,500 FT LBS / 680-3,400 NM

Accessories

Part No.	Included Equipment
33276	SOCKET RETAINER PIN
33277	SOCKET RETAINER RING
31201	ADAPTER - 1 IN. TO ¾ IN. DRIVE
31203	10 IN. EXTENSION - 1 IN. DRIVE
72768	UPRIGHT HANDLE ASSY. KIT
33230	SOCKET SET INCLUDES 6 SOCKETS: P/N 25211 - 1 IN. SQUARE DRIVE 8-POINT DEEP X 2- ³ / ₁₆ IN. P/N 25216 - 1 IN. SQUARE DRIVE 8-POINT DEEP X 1- ⁵ / ₈ IN. P/N 25217 - 1 IN. SQUARE DRIVE 8-POINT DEEP X 1- ¹³ / ₁₆ IN. P/N 25218 - 1 IN. SQUARE DRIVE 8-POINT DEEP X 1- ¹¹ / ₁₆ IN. P/N 26456 - 1 IN. SQUARE DRIVE # 70 TORX P/N 27710 - 1 IN. SQUARE DRIVE 4-POINT X 1 IN.



RAIL SAWModel RS25

STANLEY'S RS25 Rail Saw with its bell-crank style clamp design provides positive, rigid locking to all types of rail for quick and accurate setup. The ergonomical long saw arm is standard with the RS25 and allows the operator full use of the tool in a standing position. The indexable swivel on the clamp arm and saw, allows cutting on both sides of the rail, eliminating the need to disconnect from and reconnect to the saw clamp.



Model	Description	Weight (with clamp)	Weight (without clamp)	Length without wheel	Flow Rate	Max Pressure	Spindle Speed:
RS25103	16 IN	56 LBS / 25 KG	33 LBS / 15 KG	36 IN / 92 CM	10 GPM / 38 LPM	2,000 PSI / 140 BAR	4,000 RPM

Accessories

Part Number	Description
22439	ADD DESCRIPTION
29745	ADD DESCRIPTION
34367	UNIVERSAL BELL CRANK KIT
66138	REPLACEMENT RAIL SAW CLAMP ASSEMBLY*

*Pairing Required to Saw

TRACK JACKModel TJ12

The STANLEY TJ12 is one of the best track jacks available with an untouchable power to weight ratio. Built to last, the TJ12 has a 200% increased tool life compared to leading competitors. With a new carry handle, the track jack has improved ergonomics and is much easier to carry from job to job.

- FEATURES
- Narrow bridge model available.
 - One piece forged base.
 - Low pump handle effort.



Part No.	Weight	Length	Width	Lifting Capacity	Description	Amount of Travel per Pump	Stroke	Lifting Capacity
TJ12111S	43 LBS / 19.5 KG	11 IN / 27.9 CM		10 TONS / 9,072 KG	TRACK JACK, INTEGRAL PUMP, HYDRAULIC JACK	.16 IN / .4 CM	8.8 IN / 22.3 CM	10 TONS / 9,072 KG
TJ12112S	43 LBS / 19.5 KG	11 IN / 27.9 CM		10 TONS / 9,072 KG	TRACK JACK, INTEGRAL PUMP, HYDRAULIC JACK, NARROW BASE	.16 IN / .4 CM	8.8 IN / 22.3 CM	10 TONS / 9,072 KG

RAIL DRILL Model RD12

The lightweight and rugged STANLEY RD12 has extensive features that provide speed, reliability, and the lowest cost per hole drilled of any comparable rail drill on the market. With exclusive carbide tipped bits the RD12 easily drills both hardened and standard rail with the same tool. With an automatic bit feed, the elimination of clutches and gears, and an over center clamp, rail workers can get to working faster.

FEATURES

- Lightweight aluminum construction.
- Preset integrated water flow control.
- Over-center clamp design.
- Tool rack for extra bits.
- Automatic water/coolant control valve.



NOTE: RAIL DRILLS DO NOT OPERATE WITHOUT BITS.

Model	Description	Weight	Length	Water Capacity	Flow Rate	Max Pressure	Feed Rate per Revolution
RD12101	RAIL DRILL WITH WATER TANK, CE	58.5 LBS / 26.5 KG	28 IN / 71.1 CM	2 GALLONS / 7.6 LITERS	10 GPM / 38 LPM	2,000 PSI / 140 BAR	.013 IN / .03 MM

INCLUDED EQUIPMENT: Couplers and Torx Driver - Does not included bits, indexable carbide tips, templates or hose whips - please order those separately

RD12101K	RAIL DRILL WITH WATER TANK, CE - KIT	58.5 LBS / 26.5 KG	28 IN / 71.1 CM	2 GALLONS / 7.6 LITERS	10 GPM / 38 LPM	2,000 PSI / 140 BAR	.013 IN / .03 MM
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INCLUDED EQUIPMENT: Couplers and Torx Driver - 22625 Guide Assembly 115-140 lb. 3-1/2in x 6 in. 6in., 29461 Drill bit 1-5/16in., 29467 Drill Bit 1-1/4in., 29468 Drill Bit 1-3/16in., 29468 Drill Bi 1-1/8in., 32510 Drill Bit 1-1/2in. Trepanning, 31969 Ten Piece carbide Insert Kit, 31984 Single Sided Rail template set - 90A, 31985 Single Sided Rail Template Set - 115/119 RE, 31986 Single Sided Rail template Set 131/132/136 RE, 31987 Single Sided Rail Template Set 133 RE

Accessories

Part No.	Description
29461	DRILL BIT 1-5/16 IN
29465	DRILL BIT 1-3/8 IN
32511	DRILL BIT 1-7/16 IN TREPANNING
32510	DRILL BIT 1-1/2 IN TREPANNING
33331	DRILL BIT 1-9/16 IN TREPANNING
67267	DRILL BIT 1-5/8 IN
31624	DRILL BIT 32 MM
29472	DRILL BIT 33 MM
31647	DRILL BIT 36 MM
31969	TEN PIECE CARBIDE INSERT KIT
TEMPLATES	CONTACT YOUR LOCAL REP.

Part No.	Description
29471	DRILL BIT 1 IN
29470	DRILL BIT 1-1/16 IN
29469	DRILL BIT 1-1/8 IN
29468	DRILL BIT 1-3/16 IN
29467	DRILL BIT 1-1/4 IN

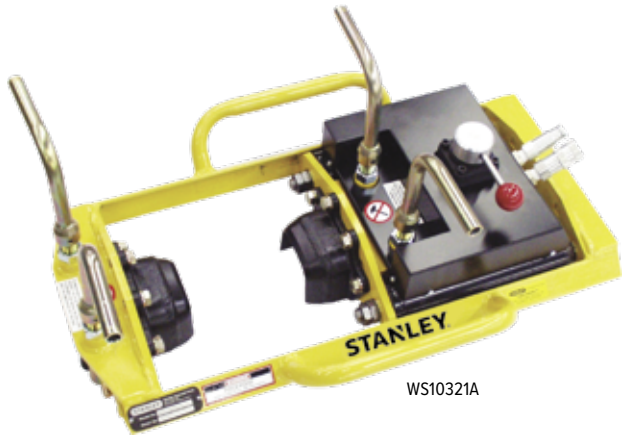
WELD SHEAR Model WS10

STANLEY'S powerful yet light-weight Weld Shear is the ideal tool for shearing thermite welds with a shearing force of over 20,000 lbs (89,000 Nm).The WS10's efficient design allows welds to be sheared prior to dismantling the weld mold, decreasing the time to set up and increasing productivity.

The in-line pump handle eliminates rocking of the shear on the rail during shearing operation.

FEATURES

- In-line handle.
- Controls placed away from shear for operator safety.
- 4 self-locking hold downs.
- Replaceable rollers.
- Includes blade set A, 27948



WS10321A

Part No.	Weight	Width	Height	Description	Hydraulic Pressure	Flow Range	Shear force
WS10321A	90 LBS / 41 KG	19.5 IN / 49.5 CM	12 IN / 30.4 CM	LIGHTWEIGHT WELD SHEAR	1,000-2,000 PSI / 70-140 BAR	3-10 GPM / 12-38 LPM	20,000 LBS / 89,000 NM
WS10321AB	90 LBS / 41 KG	19.5 IN / 49.5 CM	12 IN / 30.4 CM	LIGHTWEIGHT WELD SHEAR WITH AERO QUIP COUPLERS	1,000-2,000 PSI / 70-140 BAR	3-10 GPM / 12-38 LPM	20,000 LBS / 89,000 NM

Accessories

Item No.	Description
27948	BLADE SET A (105 - 155 LB / YD [47 - 70 KG / M] RAIL*)
27989	BLADE SET B (60 - 130 LB / YD [41 - 60 KG / M] RAIL*)
73394	WELD SHEAR HOLD DOWN

CRIBBING BUCKET

FEATURES

- Specialty design for railroad requirements.
- Custom thumb design available to match bucket for compatibility.
- Available as pin-on or Quick Hitch attachment.

Catalog No.	Width	Height
08020E	8 IN / 20.3 CM	37.75 IN / 95.9 CM
08021E	8 IN / 20.3 CM	35.3125 IN / 89.6 CM
08022E	8 IN / 20.3 CM	30.625 IN / 77.7 CM



PROFILE GRINDER Model PG10

- FEATURES**
- Upright handle for ergonomic operation.
 - Adjustable flange wheels ensure grinding accuracy.
 - Interlocking, full length, bail type safety trigger.
 - Removable wheel guard for easy access to the grinding wheel.
 - Built-in speed control.



Model	Description	Wheel Capacity	Arbor Size	Flow Rate	Hydraulic Pressure:	Spindle Speed	Weight	Included Equipment
PG10110	PROFILE GRINDER - LIGHTWEIGHT OC 6"	6 IN / 15 CM	5/8 IN - 11	10 GPM / 38 LPM	2,000 PSI / 140 BAR	4,000 RPM	118 LBS / 53.5 KG	COUPLERS, SHAFT WRENCH

Accessories

Part No.	Description
28597	6" CUP GRINDING STONE
25060	SPARK GUARD

FROG GRINDER Model FG10

- FEATURES**
- Upright handle for ergonomic operation.
 - 3-position pivot at both ends allows for 3 separate grinding operations.
 - Interlocking, full length, bail type safety trigger.
 - Sealed height adjustment mechanism for infinite angle adjustment.
 - Removable wheel guard for easy access to the grinding wheel.
 - Built-in speed control.
 - Extension for Grinding Frog Points.
 - Spark Guard.



Model	Description	Wheel Capacity	Arbor Size	Optimum Flow	Hydraulic Pressure	Spindle Speed	Weight	Included Equipment
FG10110	FROG GRINDER	6 IN / 15 CM	5/8 IN - 11	10 GPM / 38 LPM	2,000 PSI / 140 BAR	4,000 RPM	85 LBS / 41 KG	COUPLERS, EXTENSION ARM, SPARK GUARD
PG05110	LW PROFILE GRINDER	44 (112)	10.5 IN. (27 CM)	10 GPM / 38 LPM	2,000 (140)	4,000	85 (41 KG)	PROFILE GRINDER WITH SHAFT WRENCH. NOT INCLUDED – GRINDING STONE

Accessories

Part No.	Description
28597	6" CUP GRINDING STONE
69772	SPARK GUARD

HAND HELD GRINDERS Model HGL61, HGL80, HGL81, GR60



HGL80



HGL81



HGL61



GR60

- FEATURES: HGL80, HGL81 and HGL61**
- 12% weight reduction over the HG80 providing the industry's lightest hydraulic hand held grinders.
 - High performance hydraulic motors providing industry leading grinding speed and power.
 - Redesigned handle eliminates the hydraulic oil from the handle, improves tool balance and user comfort.
 - New long and short rear handle options improve user ergonomics.
 - New adjustable front handle for improved control and ergonomics.
 - New trigger interlock improves tool durability and ease of use.
 - Durable grip coating on front and rear handles provides a solid grip in the toughest conditions.
 - New oversized shaft interlock for ease of use during wheel changes.
 - A built-in flow control valve prevents the chance of excessive spindle speed and also protects the motor, resulting in increased tool life.

Model	Description	Motor Rotation	Weight	Length	Width	RPM	Pressure Range	Flow Rate
GR60121S	6 IN. GRINDER W/ COUNT-ER-CLOCKWISE ROTATION	COUNTER CLOCKWISE	20 LBS	18 IN	10.5 IN	4,000	2000 PSI	10 GPM
HGL61	STANDARD BULL NOSE GRINDER	COUNTER CLOCKWISE	9.6 LBS	19 IN	10 IN	5,500	2,000-2,500 PSI	10 GPM
HGL61-N	BULL NOSE GRINDER WITH AERO QUIP COUPLERS	COUNTER CLOCKWISE	9.6 LBS	19 IN	10 IN	5,500	2,000-2,500 PSI	10 GPM
HGL80	1" X 8" GRINDER	CLOCKWISE	13.6 LBS	23.35 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL80-N	1" X 8" GRINDER WITH AERO QUIP COUPLERS	CLOCKWISE	13.6 LBS	23.35 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL80-L	1" X 8" GRINDER	COUNTER CLOCKWISE	13.6 LBS	23.25 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL80-LN	1" X 8" GRINDER WITH AERO QUIP COUPLERS	COUNTER CLOCKWISE	13.6 LBS	23.35 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL81	1" X 8" GRINDER	CLOCKWISE	13.6 LBS	19 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL81-N	1" X 8" GRINDER WITH AERO QUIP COUPLERS	CLOCKWISE	13.6 LBS	19 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL81-L	1" X 8" GRINDER	COUNTER CLOCKWISE	13.6 LBS	19 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM
HGL81-LN	1" X 8" GRINDER WITH AERO QUIP COUPLERS	COUNTER CLOCKWISE	13.6 LBS	19 IN	12 IN	5,500	2,000-2,500 PSI	10 GPM

Accessories

Model	Part Number	Description
HGL61	30872	BULL NOSE GRINDER STONE
HGL80	28598	1" X 8" HORIZONTAL GRINDING STONE
GR60	28597	6" CUP GRINDING STONE

BRAZE UNITS

STANLEY®
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PIN BRAZING
ACCESSORIES

ECONNECT The New Generation of Pin Brazing Units

- Lightweight - 21.6 lbs - 60% Lighter.
- 20% lower energy consumption.
- Green - lead free battery.
- Battery with nano technology.
- Fully charged in 2 - 3 hours.
- Increased efficiency per charge.
- High capacity - 50 brazings per charge - 25% increase.
- Prepared for SafeBond® 1.
- Built in heater.



EPX10K36110

SKU	Description	Quantity
DCG426M2	20V MAX VAR SP DIE GRINDER KIT	1
72970	ECONNECT UNIT	1
72971	S-15 AUTOMATIC BRAZING GUN	1
72972	CHARGER 36V/110V ECONNECT	1
72973	CARRYING STRAP	1
72974	CARRYING CASE	1
73358	CARBIDE BURR SF-5	1

EPX10KP36110

SKU	Description	Quantity
DCG426M2	20V MAX VAR SP DIE GRINDER KIT	1
35832	CERAMIC RING 8MM	100
35835	BRAZING PIN 8MM	100
39242	3/16 BOND CRIMPABLE SLEEVE	100
72970	ECONNECT UNIT	1
72971	S-15 AUTOMATIC BRAZING GUN	1
72972	CHARGER 36V/110V ECONNECT	1
72973	CARRYING STRAP	1
72974	CARRYING CASE	1
73157	ECONNECT USER MANUAL	1
73358	CARBIDE BURR SF-5	1

EP30 Medium Duty Pin Brazing Unit

- Low Transition Resistance - Only 5 microhms / brazed joint (0.000005 ohm).
- High Mechanical Strength - Binding strength 71,000 psi, shear strength 35,550 psi, maximum load 5,000 N.
- Low Brazing Temperature - Braze material melts at 1227 degrees F / 650 degrees C.
- Very Quick Method - A braze takes about 2 seconds, a bond with 2 brazings plus grinding takes less than 2 minutes.
- Easy to use.
- Works in all weather conditions.











EP30200

EP30K110

SKU	Description	Quantity
BG10100	PIN BRAZING GUN	1
EP30200	MEDIUM DUTY ELEC. PIN BRAZING	1
DCG426M2	20V MAX VAR SP DIE GRINDER KIT	1
35866	BATTERY CHARGER	1
40409	BATTERY 16AMP 12V	3
72776	NON-SPILLABLE BATTERY LABEL	1
73358	CARBIDE BURR SF-5	1

EP30K12110

SKU	Description	Quantity
BG10100	PIN BRAZING GUN	1
EP30200	MEDIUM DUTY ELEC. PIN BRAZING	1
DCG426M2	20V MAX VAR SP DIE GRINDER KIT	1
35818	EXTENSION CABLE FOR S4 PISTOL	1
35819	EXTENSION CABLE FOR EARTH 5M	1
35866	BATTERY CHARGER	1
40409	BATTERY 16AMP 12V	3
47320	INVERTER, 800 WATT 1600 PEAK	1
72776	NON-SPILLABLE BATTERY LABEL	1
72974	CARRYING CASE	1
73358	CARBIDE BURR SF-5	1

Part Number	Description	
35808		CARBIDE BURR
35835		BRAZING PIN, 8 MM
39705 - 16 IN LONG 39244 - 7-7/8 IN LONG 35844 - 5-3/4 IN LONG		CONTACT HEAD BOND - WITH 7 MM OR .276 IN DIAMETER
41226 - 46 IN LONG 41225 - 34 IN LONG		SWITCH BOND
40366		EXTENSION BOND - 12 IN LONG
39242 - 4-1/4 IN LONG 41635 - 24 IN LONG		WEB TYPE TRACK CONNECTION WITH 7 MM OR .276 IN DIAMETER (CRIMPABLE SLEEVE IS 3/16 IN IN DIAMETER)
40366		SIGNAL EXTENSION BOND - 6-3/4 IN LONG
35832 - 8 MM 35834 - 12 MM		CERAMIC RING FOR USE WITH EACH BRAZING PIN

Part Number	Description	
35830		RING HOLDER 8 & 9.5 MM RINGS
35826		PIN HOLDER 8 & 9.5 MM
BG10100		PIN BRAZING GUN (INCLUDES CABLE)
67122		WIRE CLIP (SECURES SIGNAL WIRE TO RAIL)
35857		COPPER PLATE WITH M8 X 18 BRASS THREADED STUD
DCG426M2		CORDLESS DIE GRINDER, BATTERY AND CHARGER
CONTACT STANLEY HYDRAULIC TOOLS FOR COMPLETE LIST OF ACCESSORIES		

TRACHORSEModel MHP3

The TracHorse is an all-terrain, self-propelled mobile hydraulic tool and equipment carrier that allows transportation of tools and equipment in most job site environments. Simple operating controls allow for maneuvering in a wide range of applications. The auxiliary hydraulic tool circuit is designed for continuous-duty applications and features the standard high-efficiency cooling found on all STANLEY hydraulic power units.

FEATURES

- Self-Propelled - Mobile hydraulic tool and equipment carrier that transports tools and equipment in most job-site environments.
- Simple Operating Controls - Allows for a wide range of applications.
- Two Speed Track Drive.
- Work Lights.
- Opening Tailgate.
- Auxiliary Hydraulic Tool Circuit - Is designed for continuous-duty applications and features the standard high-efficiency cooling found on all Stanley hydraulic power units.
- Climbs 60% grade.
- Carries 1,000 lbs / 454 kg.

Model	Description
MHP32242100	TWIN CIRCUIT, HONDA ENGINE



Accessories

Part No.	Description
68358	LIFTING SLING
71044	LIFTING SLING BOX

POST PULLERModel PP10

The PP10 is designed to remove flanged type sign posts and irregularly shaped posts up to 8 in / 20 cm wide. It features an 8 in / 203 cm stroke and pulling force of 9800 lbs / 4450 kg. The PP10 uses two methods to solve post pulling problems. For flanged posts, the PP10 uses gripper jaws to grasp the flange. For many other posts, a chain is used. Pins on the end of the chain may be inserted into holes in perforated posts to keep the chain from sliding. A control valve is located on the tool. The PP10 is furnished with gripper jaws, chain with pins, and flush face quick disconnect couplers.



Model.	Weight	Length	Width	Flow Rate	Working Pressure	Full Relief Setting	Capacity
PP10100	70 LBS / 32 KG	13 IN / 32 CM	14 IN / 35 CM	5-10 GPM / 19-38 LPM	1,000-2,000 PSI / 70-140 BAR	2,250 PSI / 155 BAR	8 IN / 20 CM POST

POST DRIVERModel PD45

The PD45 features dual guiding handles, a lifting eye and remote or integral On/Off Valve. Models with integral triggers run the full length of the handles and are spring loaded to the OFF position. A model is available to drive DOT required breakaway posts to within 4 inches / 100 mm above ground level. All PD45 models are furnished with flush faced quick disconnect couplers.



Model	Weight	Length	Width	Flow Rate	Working Pressure	Full Relief Setting	Capacity	Misc.
PD45131	65 LBS / 29 KG	30 IN / 76 CM	10 IN / 25 CM	10 GPM / 38 LPM	1,000-2,000 PSI / 70-140 BAR	2,250 PSI / 155 BAR	U-CHANNEL, DELINEATOR, SQUARE & ROUND POST	IN-LINE VALVE
PD45132	67 LBS / 30 KG	30 IN / 76 CM	10 IN / 25 CM	10 GPM / 38 LPM	1,000-2,000 PSI / 70-140 BAR	2,250 PSI / 155 BAR	U-CHANNEL, DELINEATOR, SQUARE & ROUND POST	VALVE IN HANDLE
PD45132G	67 LBS / 30 KG	30 IN / 76 CM	10 IN / 25 CM	10 GPM / 38 LPM	1,000-2,000 PSI / 70-140 BAR	2,250 PSI / 155 BAR	U-CHANNEL, DELINEATOR, SQUARE & ROUND POST	VALVE IN HANDLE EXTENDED ANVIL
PD45151	65 LBS / 29 KG	30 IN / 76 CM	10 IN / 25 CM	10 GPM / 38 LPM	1,000-2,000 PSI / 70-140 BAR	2,250 PSI / 155 BAR	U-CHANNEL, DELINEATOR, SQUARE & ROUND POST	NO VALVE, HOSES, OR COUPLERS

Accessories

Part No.	Description
15184	ADAPTER - 1-3⁄4 IN SQUARE POST
15185	ADAPTER - 2 IN ROUND POST
15186	ADAPTER - 2-1⁄4 IN SQ. POST

Part No.	Description
15187	ADAPTER - 2 IN SQ. POST
67784	ADAPTER - 1-3⁄4 IN ROUND POST

LIGHT & MEDIUM DUTY BREAKER Model BR45

Nothing equals the impact force of hydraulic-powered breakers. With the best power-to-weight ratio, higher blow energy, and a lower noise level than pneumatic breakers, our hydraulic percussion tools are simply the best choice. Internal components are continually bathed in hydraulic oil, providing long-lasting performance with minimal maintenance requirements. And because the hydraulic system is totally enclosed, there's no tool exhaust or oil atomization often found with gas-powered or pneumatic alternatives.

SPECIFICATIONS

Application: Light concrete or asphalt breaking or scoring, small rock breaking, rod driving, tamping.

Width at Handles: 17.5 in. / 44 cm

Connection: 3/8 in. flush face quick disconnect couplers

FEATURES

- Versatile - lightweight and powerful hand-held tool presents countless MOW solutions.
- Ease of use - maintained with the anti-vibration handles to absorb the impact energy from the tool during operation.
- Control valve features a feathering on/off for precise control of the output energy.
- Designed for light to medium duty applications.
- Water-resistant provides more flexibility in all weather conditions.
- Bit locking system retains the tool bit from loosening or detaching from the tool during operation.
- Leg guard provides greater control and comfort.
- Cold weather operation hydraulics will not freeze in cold conditions.
- No exhaust - hydraulic percussion tools are a closed circuit system, improving the work condition and comfort.



Model	Description	Weight	Length	Hyd. Pressure	Flow Rate	Full Relief Setting	Bit Size
BR45158	ANTI-VIBRATION PERCUSSION TOOL KIT, 28 IN. OVERALL LENGTH WITHOUT BIT	55 LBS / 25 KG	28 IN / 71 CM WITHOUT BIT	1,500-2,000 PSI / 105-140 BAR	10 GPM / 38 LPM	2,250 PSI / 155 BAR	1" HEX x 4-1/4" SHANK

Accessories

Part Number	Description
29431	TAMPING BIT, 5 IN
38709	SPIKE DRIVER BIT
208001	DEAD HEAD SPIKE DRIVER, 5 IN
07702	MOIL POINT
07704	CHISEL
31254	ACCUMULATOR CHARGING KIT



TAMPING BIT



SPIKE DRIVER



DEAD HEAD SPIKE DRIVER

POWER UNITS

The Hydraulic power to operate STANLEY'S line of hydraulic railroad tools compact design is ideal for all your on-site hydraulic power needs. The ultra efficient hydraulic tool circuit cooling provides comfortable tool operation even in the most demanding environments.

- FEATURES**
- Compact and lightweight.
 - In-tank hydraulic filtration.
 - Pressurized engine oil lubrication.



HP210

Model	Part No.	Weight	Length	Width	Height	Engine	Output Flow	Pressure	Misc.
HP210	HP210B	330 lbs / 150 kg	35 in. / 90 cm	23 in. / 59 cm	29 in. / 74 cm	Briggs	Single Circuit (1ea) 5gpm/20lpm or Dual Circuit (2ea) 5gpm/20lpm or Single Circuit (1ea) 10gpm/40lpm	2000 psi / 140 bar	Includes Wheels and Lift Handles
	HP210BK	330 lbs / 150 kg	35 in. / 90 cm	23 in. / 59 cm	29 in. / 74 cm	Briggs	Single Circuit (1ea) 5gpm/20lpm or Dual Circuit (2ea) 5gpm/20lpm or Single Circuit (1ea) 10gpm/40lpm	2000 psi / 140 bar	Skid Mount

POWER UNITS Model HP28

The HP28 (TWIN8) twin circuit hydraulic power unit offers a revolutionary design capable of operating two tools at 8 gpm simultaneously. For the first time running two hydraulic tools at full 8 gpm capacity is a reality, increasing productivity and versatility like never before. Experience how the HP28 will change the way hydraulic tools are used.



Part No.	Weight	Length	Description	Capacity	Pressure	Engine	Connection
HP28B02	360 LB / 163 KG	37.5 IN / 95.3 CM	HEAVY-DUTY CONTINUOUS USE HYDRAULIC POWER SUPPLY FOR UP TO 2 TOOLS BOTH TYPE 1 AND TYPE 2	2 EACH 5 OR 8 GPM / 2 EACH 20 OR 30 LPM	2,000 PSI / 140 BAR	BRIGGS & STRATTON 27 HP	3/8 IN FLUSH FACE QUICK DISCONNECT COUPLERS

Accessories

Part No.	Description
31848	50 FT HOSE ASSEMBLY
31972	25 FT HOSE ASSEMBLY
04182	FLOW AND PRESSURE TESTER
58633	25FT BONDED HOSE ASSEMBLY (INCLUDES COUPLERS)
58634	50FT BONDED HOSE ASSEMBLY (INCLUDES COUPLERS)

DRILL Model DL07

The DL07 Drill is ideal for drilling holes in wood, metal and masonry. It features instant reverse for high reliability and efficiency in all types of drilling applications.

- FEATURES**
- Hyrevz™ gear-type motor.
 - Oversized feathering trigger.
 - Increased operator comfort.
 - Dual position Assist Handle.
 - Built-in reverse flow check valve.
 - Handle coating transmits less heat.



IMPACT DRILL Model ID07

The ID07 Impact Drill/Wrench delivers impact torque of up to 500 ft lbs (675 Nm). It is capable of breaking loose some of the toughest bolts and nuts. The ID07 can drive wood augers into the hardest salt-cured or creosote-treated ties without reaction torque to the operator.



Model	Description	Weight	Length	Capacity	Flow Rate	Max Pressure
DL07552S	OC/CC DUAL SPOOL, 1/2 IN. CHUCK	6 LBS / 2.7 KG	9 IN / 23 CM	1/2 IN CHUCK / 12 MM	5-10 GPM / 19-38 LPM	2,000 PSI / 140 BAR
DL07572S	DUAL SPOOL, 5/8 IN. CHUCK	6 LBS / 2.7 KG	9 IN / 23 CM	1/2 IN CHUCK / 12 MM	5-10 GPM / 19-38 LPM	2,000 PSI / 140 BAR
ID07810S	7/16 IN QUICK CHANGE CHUCK	7 LBS / 3.3 KG	8.5 IN / 21.6 CM	7/16 IN / 11 MM HEX	5-10 GPM / 19-38 LPM	2,000 PSI / 140 BAR

Accessories (DL07)

Part No.	Description
AUGERS WITH 7/16 IN SHANK	
27850	9/16 IN DIA., 8 IN TWIST, 12 IN OAL
27851	11/16 IN DIA., 8 IN TWIST, 12 IN OAL
27852	13/16 IN DIA., 8 IN TWIST, 12 IN OAL
27855	3/4 IN DIA., 12 IN TWIST, 16 IN OAL
27856	11/16 IN DIA., 12 IN TWIST, 16 IN OAL
27857	13/16 IN DIA., 12 IN TWIST, 16 IN OAL
27858	15/16 IN DIA., 12 IN TWIST, 16 IN OAL
27859	1-1/16 IN DIA., 12 IN TWIST, 22 IN OAL

Accessories (ID07)

Part No.	Description
05117	ADAPTER, 7/16 IN MALE HEX X 1/2 IN MALE SQUARE
07192	ADAPTER, 1/2 IN FEMALE SQUARE X 5/8 IN HEX QC
33155	LINEMAN'S SOCKET, 13/16 IN AND 15/16 IN
33156	LINEMAN'S SOCKET, 1 IN AND 1-1/8 IN
73636	ASSIST HANDLE

CHAIN SAW

Model CS06

The CS06 Chain Saw offers the highest power-to-weight ratio of any chain saw on the market today. All models feature interlocking triggers, hand guards, low kick-back bars and chains.

Because hydraulic power doesn't require a flywheel to smooth power pulses, there is no chain coasting when the trigger is released. The CS06 pistol-grip chain saw is ideal for timber tie/sleepers.

- FEATURES
- Low kick-back.
 - Wide variety of bar lengths.
 - Operate from open or closed-center circuits.
 - Highest power-to-weight ratio.
 - Operates on both Type I and II hydraulic circuits.
 - Underwater models available.
 - No chain coasting.



Model	Description	Weight	Length	Capacity	Flow Rate	Max Pressure	Optimum Flow
CS06630S	OC/CC, 20 IN / 51 CM	6.25 LBS / 2.8 KG (W/O BAR)	14 IN / 36 CM	12, 15, 20 IN / 30, 38, 51 CM	5-10 GPM / 19-38 LPM	1,000-2,000 PSI / 70-140 BAR	8 GPM / 30 LPM

Accessories

Part No.	Description
07642	SAW CHAIN, 20 IN / 51 CM BAR (325 IN PITCH)
07639	SAW BAR 20 IN
07629	RIM SPROCKET, 7-TOOTH

CHAIN SAW

Model CS28

- FEATURES
- Used for trimming and pruning large tree branches.
 - Ideal for use by right-of-way crews, arborists, utilities, parks departments, grounds keepers, and forest trail maintenance crews.
 - Fiberglass pole handle.
 - Hyrevz™ motor.
 - Dual spool for operation on Open Center or Closed Center systems.
 - Automatic chain oiling.



Model	Description	Weight	Length	Cut Capacity	Flow Range
CS28812	POLE CHAIN SAW, OC/CC	8.4 LBS / 3.8 KG	75 IN / 191 CM	12 IN / 30 CM	7-9 GPM / 26-34 LPM

Accessories

Part No.	Description
05144	CHAIN/BAR GUARD
07616	SPROCKET SPLINE ADAPTER
07629	RIM SPROCKET, .325P X 7 TOOTH
12363	FILE GUIDE

Part No.	Description
08347	13 IN SAW BAR
08348	SAW CHAIN FOR 13 IN BAR
11464	SCRENCH
33289	CHAIN SAW FILE
11294	FLAT FILE

PADLOCK MODELS 83-3 / 83-2 / 83-1

FEATURES

- Strong Powdered Metal Steel Body – Built up around cylinder for added protection against attack. Electroless nickel plated inside and out.
- Case hardened or stainless steel shackles offer maximum pull resistance.
- Pick resistant rotating disc cylinder is top loaded for protection against attack.
- Factory controlled high strength keys and blanks prevent unauthorized key duplication. For extra security, key is retained when lock is open.



Model	Shackle Diameter	Shackle Material	Body Width	Body Thickness	Body Height	Total Height	Shackle Clear		Wt. Lbs.
							Vertical	Horizontal	
80	9/16	CASE POWDERED STEEL BODY	2-3/4	1-13/32	2	4-7/16	1-7/8	1-1/4	1
81-1	9/16	CASE HARDENED STEEL	2-3/4	1-13/32	2	4-7/16	1-7/8	1-1/4	1
83-1	3/8	CASE HARDENED STEEL	1-7/8	1-1/8	1-7/8	3-3/8	1-1/8	13/16	.88
83-2	3/8	CASE HARDENED STEEL	1-7/8	1-1/8	1-7/8	4-1/4	2	13/16	.97
83-3	3/8	CASE HARDENED STEEL	1-7/8	1-1/8	1-7/8	5-1/4	3	13/16	.99
83-4	3/8	STAINLESS STEEL	1-7/8	1-1/8	1-7/8	3-3/8	1-1/8	13/16	.88
83-5	3/8	STAINLESS STEEL	1-7/8	1-1/8	1-7/8	4-1/4	2	13/16	.97
83-6	3/8	STAINLESS STEEL	1-7/8	1-1/8	1-7/8	5-1/4	3	13/16	1.0

MODEL 81 (5) DISC PADLOCKS AVAILABLE KEYED ALIKE (KA) OR KEYED DIFFERENT (KD).
MODEL 83 (6) DISC PADLOCKS AVAILABLE KEYED ALIKE (KA) OR KEYED DIFFERENT (KD).
NOTE: ALL DIMENSIONS IN INCHES.



Hydraulic systems come in many forms—from those found in the simple hydraulic jack to the more sophisticated systems found in earth moving equipment. The system required to operate most hydraulic tools found in this catalog would require 8 gpm / 30 lpm and be capable of providing system pressure up to 2000 psi / 140 bar.. This system is referred to as a Type II, as classified by the Hydraulic Tool Manufacturers Association (HTMA). But there are also 3 other classifications. They are discussed below.

Hydraulic Tool Manufacturers’ Association (HTMA) Requirements

Hydraulic tools fall into 4 classifications, Type I, Type II, Type III, and Type RR as set by HTMA. The system requirements for powering these tools are as follows:

Type I	5	gpm ±10% / 19 lpm
Type II	8	gpm ±10% / 30 lpm
Type III	12	gpm ±10% / 45 lpm
Type RR	10	gpm ±10% / 38 lpm

OPERATING PRESSURE:

Hydraulic systems should be capable of providing the appropriate operating pressure and flow for the system types noted above when measured across the tool connections. Deviation from the nominal flow rates should be no more than plus or minus 10% at a operating pressure of 2000 psi / 138 bar. This is the pressure that the tools will normally operate at which is not to be confused with the relief pressure.

RELIEF PRESSURE:

Hydraulic systems should be capable of limiting the maximum pressure by using either a pressure compensating pump or a relief valve with a non-pressure compensating pump. The system pressure limiting component shall begin to control the maximum pressure at no less than 2150 psi. This is commonly known as the “cracking pressure”. The system pressure limiting component shall limit the maximum pressure to 2250 psi for a Type I, Type II, or Type III tool. The system pressure limiting component shall limit the maximum pressure to 2500 psi for a Type RR tool.

Return Pressure:

The hydraulic systems should generate no more than 250 psi / 17 bar return pressure (back pressure) at the tool when operating at maximum flow for the tool type. System conditions for this pressure are at maximum

hydraulic fluid viscosity of 400 SUS (SSU) at minimum operating temperature.

Cooling:

The hydraulic systems should have sufficient heat rejection capacity to limit maximum oil temperature to 140°F/60°C at the maximum expected ambient temperature. Recommended minimum cooling capacities to dissipate tool-generated heat are:

Type I	3 Horsepower / 2.24 kW
Type II	5 Horsepower / 3.73 kW
Type III	7 Horsepower / 5.22 kW
Type RR	6 Horsepower / 5.22 kW

When determining cooling capacity, the intended duty cycle and the system generated heat must both be considered.

Filtration:

Systems should have 25 micron nominal filtration for the hydraulic fluid. Recommended filter element size is at least three times system rated flow to prevent filter bypass under low temperature start-up.

Fluid:

Hydraulic systems should use hydraulic fluid that has a viscosity of 130-225 SSU / 27-42 cst at 100° F / 38° C. Hydraulic fluids of petroleum base with antiwear properties and high viscosity indexes over 140 will meet recommended hydraulic fluid requirements over a wide range of operating temperatures. They should be demulsifying type to allow water to settle out of the fluid.

The Basic Principle of Hydraulics
for Tool Operation

The basic principle of hydraulics used for tool operation can be compared with a typical household water system.

The typical rotary car-wash brush tool, that is operated from water through a garden hose, is in actuality a hydraulic tool. Water rushing through the garden hose drives a small motor in the car-wash tool which, in turn, rotates the brush. However, it is not just the rushing water that is driving the motor. There is also pressure associated with the rushing water—about 60 pounds per square inch (psi). Without the pressure, the tool would have no power. Without pressure, any force applied to the tool, such as pushing down on the tool, would stall the tool. Water rushing through the hose (or the flow of water) is measured in gallons per minute (gpm) and results in the speed of the tool (in the case of the car-wash tool, the speed of the brush). Pressure associated with the water provides power to the tool.

The same principle applies in one of our tools. In a breaker, for example, the flow results in the speed of the tool and the resistance to that flow creates a demand for pressure. If the system has the capacity to deliver the pressure, power is transmitted to the tool to do work.

Hydraulic tools actually use less flow (gpm) than that produced through a garden hose. The pressure, however, is considerably higher. Hydraulic tools require pressures up to 2000 psi but only need 5 to 10 gpm to operate effectively. Of course, a typical HTMA hydraulic system returns fluid to a reservoir for re-use as opposed to the household water system that spills fluid to waste.

Open-Center and Closed-Center
Systems

There are two basic types of hydraulic systems — Open-Center and Closed-Center.

Open-Center is Constant Flow —
Variable Pressure

When a tool valve is in the OFF position, hydraulic oil flows through the ON/OFF valve ports of the tool and back to the reservoir. The system is constantly flowing oil through the tool valve ports and back to the reservoir at no pressure. When the tool valve is ON, oil circulates through the tool causing the tool to operate, and then returns to the reservoir. Pressure is created when resistance to flow is sensed by the system. This occurs when the tool is put to work. Pressure will increase as the tool needs it up to the relief setting in the hydraulic system.

Closed-Center is Constant Pressure —
Variable Flow

When a tool valve is in the OFF position, hydraulic oil flow stops at the ON/OFF valve port of the tool. The system will build and hold pressure without returning oil to the reservoir. When the tool valve is ON, oil circulates through the tool causing the tool to operate, and then returns to the reservoir. Pressure tends to be constant in the system. Pressure will

increase as the tool needs it up to the settings in the hydraulic system. And if pressures higher than the system setting are demanded by the work, flow will decrease.

Fluid Temperature

The following information will serve to assist those installing hydraulics in mobile applications for handheld tools. While many hydraulic circuits can run upwards to 200°F, temperatures over 110°F / 43°C are uncomfortable to human touch. Our desire is to hold oil temperature to a maximum of 140°F / 43°C.

In almost any hydraulic tool circuit, oil cooling methods will be required except for very short periods of operation or in underwater and extreme cold environments. If you are involved in the design of a hydraulic tool circuit, use the following as guidelines.

Basic Dont's for Cool Oil Control

- DON'T — Rely on a large reservoir to control oil heating. Large reservoirs, even with good air circulation, do not adequately dissipate heat.
- DON'T — Set relief pressure too low (open-center circuits) for percussion type tools (breakers, hammer drills, etc.). Pressure peaks may run up to 350 PSI over gauge pressure, popping the relief and causing heat as well as low tool performance.
- DON'T — Pump more oil than the tool should use and avoid flow controls if possible. Instead, size the pump for desired flow volume. Gear type flow dividers can be used to reduce flow more efficiently than valves, reducing heat.
- DON'T — Use heavy oils such as 30W or 10W30 engine oils. These will cause resistance in lines and add to backpressure and heat.
- DON'T — Run return oil through control valves or other circuit components, except coolers and return line filters.

DO THE FOLLOWING TO REDUCE HEAT
GENERATION

- Operate pumps at moderate speed — gear pumps usually generate less heat and are less prone to cavitation at speeds of 1,000-2,000 RPM.
- Use generous line sizes — Especially on pump suction and return from tool to tank.
- Use oils in 130-225 SSU at 100° F / 38° C range with high viscosity index. (see hydraulic fluid recommendations at the end of this section)

PROVIDE GOD COOLING FOR HYDRAULIC OIL

- Use an air-to-oil cooler of maximum size for space available. Use a shrouded, high capacity fan. Many vehicles do not cool well when parked with engine at low speed. Do NOT use a “thermal” viscous-drive fan because these fans do not draw air unless the engine is hot.

Flow Controls

- General Notes — To reduce or control flow rate through Stanley Tools, flow control valves are sometimes necessary. All possible effort should be made to avoid use of flow control valves where appropriate pump volume can be used because:
 - Excess oil volume and subsequent pressure drop generates heat.
 - When percussion type tools that generate pressure pulses are used, flow controls may oscillate and cause flow changes which reduce tool performance and add increased heating.
- Flow Control of Open-Center Circuits — Always use a priority type pressure-compensated flow control. This will prevent relief popping and reduce heat build-up. The excess flow should be routed in an unrestricted manner to the reservoir.
- Flow Control of Closed-Center Circuits — Use a two-port, pressure-compensated flow control. Some of these are very compact, in the range of 1-1/4” diameter by 5” long, and can be attached to the tool pressure pigtail. Do not use priority type controls on closed-center circuits, as this will cause the pump to operate at full volume — further heating the oil.

Quick Disconnects

- Only use quick disconnects matching hose diameters. i.e. 1/2 inch port quick disconnect for 1/2 inch inside diameter hose.
- Use as few quick disconnects as possible and avoid using adapter fittings with quick disconnects. Fittings and quick disconnects, while necessary, create flow restriction which causes heat and reduced tool performance.
- Always use HTMA recommended quick disconnects that are flush-faced and dripless.

Hose Types

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.

Tool To Circuit Hose Recommendations

Oil Flow		Each Hose Length		Inside Diameter		USE	Wire Braid Hose Spec	Working Pressure		Fiber Braid Hose Spec	Operating Pressure	
GPM	LPM	FEET	METERS	INCH	MM			PSI	BAR		PSI	BAR
5-8	19-30	up to 50	up to 15	1/2	13	Both	SAE 100R17-8	3000	230	SAE 100R7-8	2000	140
5-8	19-30	51-100	15-30	5/8	16	Both	SAE 100R17-10	3000	230	SAE 100R8-10	2750	190
5-8	19-30	100-300	30-90	5/8	16	Pressure	SAE 100R2-10	2750	190	SAE 100R8-10	2750	190
				3/4	19	Return	SAE 100R1-12	1250	86	SAE 100R7-12	1250	86

NOTE: SAE 100R16 may be used in place of SAE 100R2

HTMA Type I Tool Circuit Specifications

- Acceptable flow rate is 4 - 6GPM at 2000 PSI when measured at the tool hose ends.
- Back pressure not to exceed 250 PSI on the return side of the system when measured at the tool hose end.
- Tool circuit system pressure limiting component shall begin to control pressure no less than 2100 PSI and shall limit maximum pressure to no more than 2250 PSI.
- The system shall have sufficient heat rejection capacity to limit the maximum oil temperature to 140° F at the maximum expected ambient temperature. Cooling should be sized for 40° for maximum ambient air temperature.
- System filtration should be 25 micron or better.
- Oil viscosity should be 100 - 400 SSU across the entire operating temperature of 50° - 140° F.

(Reference HTMA - Recommended Standards for Hydraulic Operation for further details.)

HTMA Type II Tool Circuit Specifications

- Acceptable flow rate is 7 - 9 GPM at 2000 PSI when measured at the tool hose ends.
- Back pressure not to exceed 250 PSI on the return side of the system when measured at the tool hose end.
- Tool circuit system pressure limiting component shall begin to control pressure no less than 2100 PSI and shall limit maximum pressure to no more than 2250 PSI.
- The system shall have sufficient heat rejection capacity to limit the maximum oil temperature to 140° F at the maximum expected ambient temperature. Cooling should be sized for 40° for maximum ambient air temperature.
- System filtration should be 25 micron or better.
- Oil viscosity should be 100 - 400 SSU across the entire operating temperature of 50° - 140° F.

(Reference HTMA - Recommended Standards for Hydraulic Operation for further details.)

Fluids for Mobile Hydraulic Tool Circuits

The specification listed here will provide good all season operation if your circuit is of proper design and normal maintenance is performed. (Periodic filter change, draining of condensate, etc.)

Item	U.S.A.	Metric
Viscosity (Fluid Thickness)	50° F 450 SSU Max.	10° C 95 Centistokes Max.
Viscosity (Fluid Thickness)	100° F 130-225 SSU	38° C 27-42 Centistokes
Viscosity (Fluid Thickness)	140° F 85 SSE Min.	60° C 16.5 Centistokes Min.
Pour Point (Min.for cold startup)	-10° F	23° C
Viscosity Index	(ASTM D2220)	140 Minimum
Demulsibility	(ASTM D1401)	30 Minutes Max.
Flash Point	(ASTM D92)	340° F Min.
Rust Inhibition	(ASTM D665 A&B)	Pass
Oxidation	(ASTM D943)	1000 Hours Min.
Pump Wear Test	(ASTM D2882)	60 mg Max.
Biodegradability	CEC-L-33-A94	>60%

Recommended Fluids

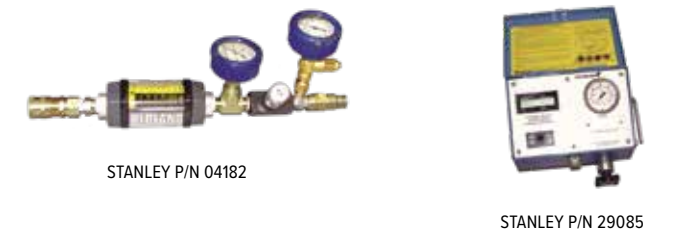
The fluids listed here work well over a wide temperature range at start-up, allow moisture to settle out, and resist biological growth likely in cool-operating hydraulic circuits. These fluids are recommended by Stanley Hydraulic Tools for use in our tools. Other fluids that meet or exceed the specifications of these fluids may also be used. Biodegradable fluids listed are compatible with all tool seals and hoses.

Brand	Biodegradable	Description
CITGO	No	Hydurance All Temp
AMS Oil	No	HVH 32
Exxon Mobil	No	Univis HVI26*
Exxon Mobil	No	DTE 10 Excel
Shell	No	S2 V 32
Chevron	No	Rando HDZ 32
Conoco Phillips	No	Unax AW-WR-32
Clarion (CITGO)	Yes	Green Bio 32
Exxon Mobil	Yes	EAL 224H
Chevron	Yes	Clarity AW32
RSC Bio Solutions	Yes	Envirologic 132
Shell	Yes	Naturelle HF-E-32

*Recommended for extreme cold weather operation.

Testing a Hydraulic System for Comparison to HTMA Recommendations

The objective of this test is to determine how your hydraulic system performance compares with HTMA (Hydraulic Tool Manufacturers Association) recommended hydraulic system performance. To perform these tests, you will need a flow and pressure tester such as our P/N 04182 or P/N 29085 shown below and two thermometers (the P/N 29085 has a built-in thermometer).



HTMA recommendations for a hydraulic system operating Type I hydraulic tools:

- 5 gpm ± 10% / .5 gpm at 2000 psi measured at the tool inlet.
- 200 psi or less return pressure at 5.5 gpm—pressure measured at the tool outlet.
- Limit system temperature to 140° F on the hottest expected day. Choosing 100° F as the hottest expected day's temperature, the hydraulic system must maintain a 40 degree temperature difference, air to oil. For example, if the ambient air temperature is 100° F, then the oil temperature should not exceed 140° F.
- To simulate tool-generated heat during operation, HTMA recommends using 3 hp, minimum. A reading of 1030 psi minimum at the flow and pressure tester will achieve the recommended 3 hp, minimum.

HTMA recommendations for a hydraulic system operating Type II hydraulic tools:

- 8 gpm ± 10% / .8 gpm at 2000 psi measured at the tool inlet.
- 200 psi or less return pressure at 8.8 gpm, pressure measured at the tool outlet.
- Limit system temperature to 140° F on the hottest expected day. Choosing 100° F as the hottest expected day's temperature, the hydraulic system must maintain a 40 degree temperature difference, air to oil. For example, if the ambient air temperature is 100° F, then the oil temperature should not exceed 140° F.
- To simulate tool-generated heat during operation, HTMA recommends using 5 hp, minimum. A reading of 1100 psi minimum at 8 gpm at the flow and pressure tester will achieve the recommended 5 hp, minimum.

Select an open site where the air is relatively calm. Place one thermometer in the oil reservoir to measure the temperature of the circulating oil (surface mounted tank thermometers do not adequately measure the temperature of the bulk system oil). Hang the other thermometer in still air to measure the ambient air temperature.

Connect the flow and pressure tester to the tool hoses. Fully open the load valve on the tester. Start up the system (with tool circuit control valve OFF) and warm the hydraulic fluid (if necessary) to a minimum of 50° F.

Low temperature and maximum viscosity back pressure test

Turn ON the tool circuit control valve. Record oil temperature, ambient air temperature, flow rate, and back pressure.

Air: _____ ° F

Oil: _____ ° F

Flow rate: _____ gpm

Back pressure: _____ psi

Hydraulic system's capacity to deliver flow against 2000 psi test

Close the load valve to where the pressure gage reads 2000 psi. Record flow rate, back pressure, and oil temperature.

Flow rate: _____ gpm

Back pressure: _____ psi

Oil: _____ ° F

System capacity to control temperature test

Raise the system temperature to 140° F by adjusting the pressure using the load valve on the flow and pressure tester. If it takes more than 1900 psi to get the system temperature to 140° F, adjust the pressure to stabilize the system temperature at some lower temperature, e.g. 120° F.

When the system temperature has remained constant for about 15 minutes, record the flow rate, pressure, back pressure, oil temperature, and air temperature.

Flow rate: _____ gpm

Pressure: _____ psi

Back pressure: _____ psi

Air: _____ ° F

Oil: _____ ° F

Calculate the tool load hp cooling capacity for an effective 40 degree temperature difference, air to oil using the following formula.

(Pressure – Back pressure) x gpm = _____ hp (horse power)
43 x (Oil temperature – Air Temperature)

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STANLEY
Infrastructure

6430 SE Lake Rd.
Portland, OR 97222
833.723.1843
www.STANLEYinfrastructure.com

