HOWMET AEROSPACE

Instruction Manual

EPS1 SERIES

Ebbert Power Source

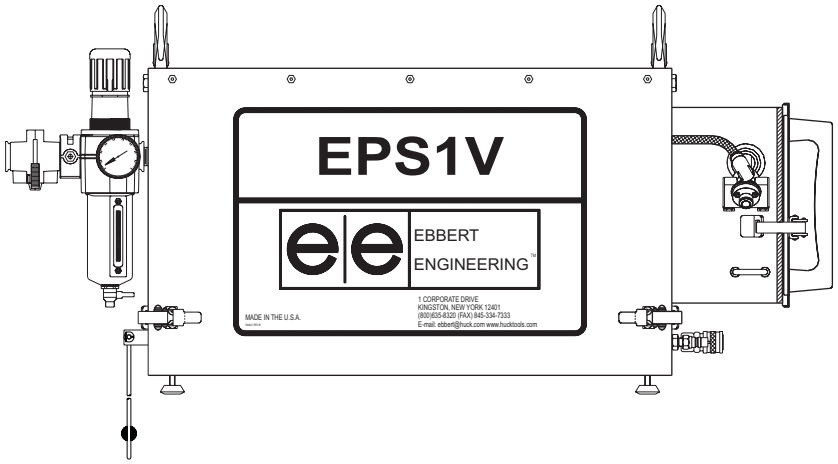


Table of Contents

Safety Instructions	3
Description	4
Specifications	4
Principle of Operation	5
Maintenance	6
Parts List	6
Components Drawing	7
Vacuum Unit Details	8-10
Air Routing for Fastener Size	10
Power Booster Components Drawing and Parts List	11
Power Booster Service	12
Air Bleeding the Power Unit	12
Connector Assembly 300292	13
Hose Assembly HA1X12	13
Troubleshooting	14
Kits and Accessories	14

HUCK

HUCK IS FOREVER.™

Makers of Huck®, Marson®, Recoil®
Brand Fasteners, Tools & Accessories

January 27, 2025
HK1031

Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

CE - Product complies with requirements set forth by the relevant European directives.

 - Read manual prior to using this equipment.

 - Eye protection is required while using this equipment.

 - Hearing protection is required while using this equipment.

Notes: are reminders of required procedures.
Bold, Italic type, and underline: emphasize a specific instruction.

WARNINGS: Must be understood to avoid severe personal injury.

CAUTIONS: Show conditions that will damage equipment or structure.

1. A 30-minute hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/ day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/ labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.
4. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.
5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 2003.
6. Disconnect primary power source before performing maintenance on Huck equipment or changing Nose Assembly.
7. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.
8. Mounting hardware should be checked at the beginning of each shift/day.
9. Make sure proper power source is used at all times.
10. Release tool trigger if power supply is interrupted.
11. Tools are not to be used in an explosive environment unless specifically designed to do so.
12. Never remove any safety guards or pintail deflectors.
13. Where applicable, ensure deflector or pintail collector is installed and operating prior to use.
14. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
15. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
16. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.
17. If there is a pinch point between trigger and work piece, use remote trigger. (Remote triggers are available for all tooling.)
18. Unsuitable postures may not allow counteracting of normal expected movement of tool.
19. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and in preventing an accident which may cause severe personal injury.
20. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
21. There is a risk of crushing if tool is cycled without Nose Assembly installed.
22. Tools with ejector rods should never be cycled with out nose assembly installed.
23. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet of correct positioning.
24. Tool is only to be used as stated in this manual. Any other use is prohibited.
25. There is a risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
26. Release the trigger in case of failure of air supply or hydraulic supply.
27. Use only fluids or lubricants recommended.
28. Disposal instruction: Disassemble and recycle steel, aluminum and plastic parts, and drain and dispose of hydraulic fluid in accordance with local lawful and safe practices.
29. If tool is fixed to a suspension device, ensure that the device is secure prior to operating the tool.

Description

This manual contains operating and service procedures for the Power Source models EPS1V and EPS1. Pay close attention to ALL recommended service procedures in this manual. Specific instructions for each tool are given under that tool model number heading. While they may appear to be similar, each tool contains parts that are not used on other models, and removal and replacement methods may vary.

Specifications EPS1

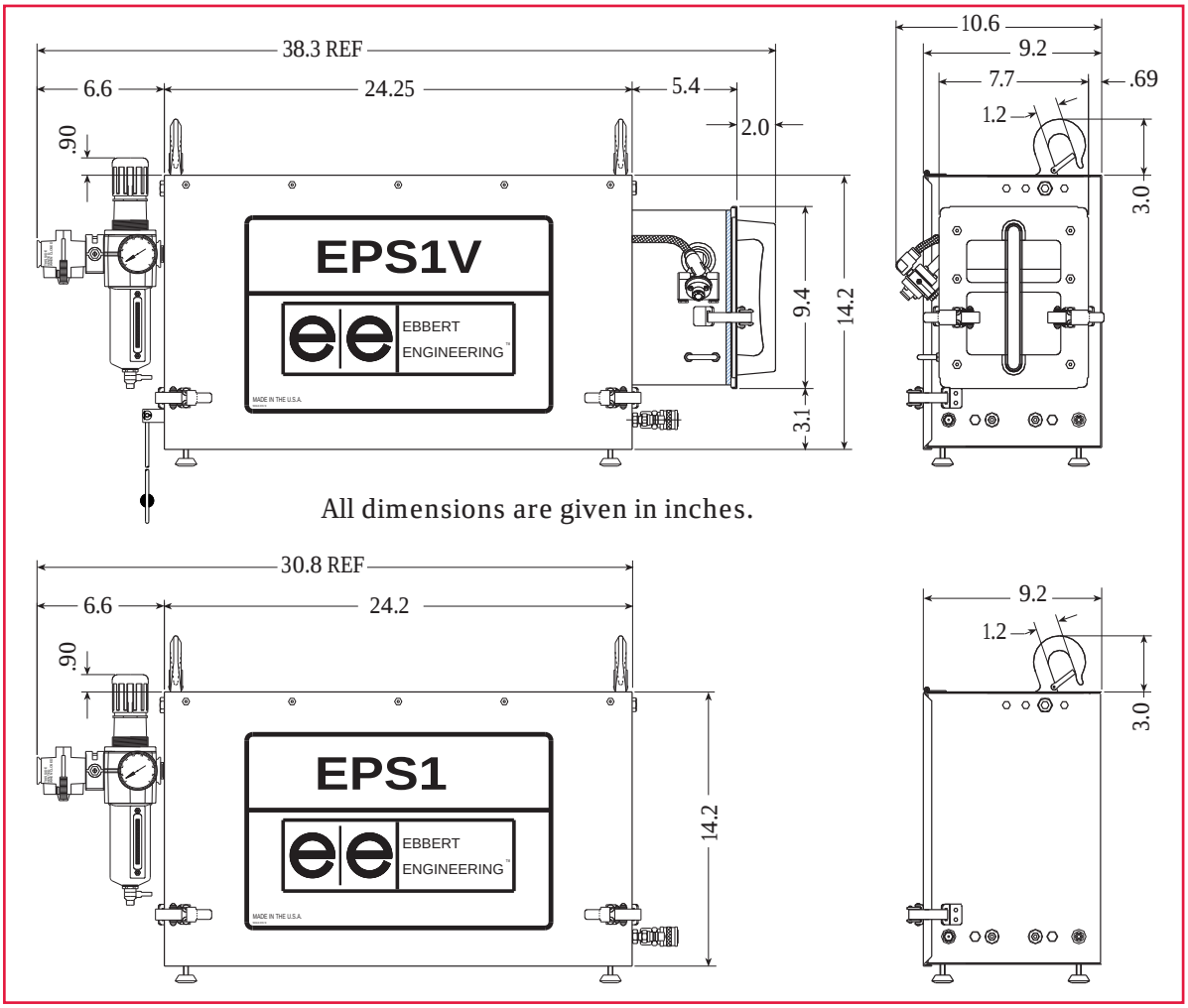
WEIGHT: 45 lbs (24.4 kg)
HYDRAULIC PRESSURE OUTPUT @ 90 PSI (6.20 BAR) - PULL STROKE: 4,000 PSI (275.80 BAR)
AIR CONSUMPTION: 0.5 CF (14.60 l/m) per rivet
PLANT AIR SUPPLY: 90 PSI (6.20 BAR) non-oiled
INCOMING AIR LINE DIMENSION: 1/2" (12.70 mm) I.D. min.
HYDRAULIC FLUID: HYDREX™/MC AW 68 (TM Trademark of Suncor Energy Inc.)

Specifications EPS1V

WEIGHT: 53.00 lbs (24.04 kg)
MANDREL COLLECTOR BOX CAPACITY:
- 1/4" Mandrels: 2,600
- 1/8" Mandrels: 6,000

HYDRAULIC PRESSURE OUTPUT @ 90 PSI (6.20 BAR) - PULL STROKE: 4,000 PSI (275.80 BAR)
AIR CONSUMPTION: 0.5 CF per rivet
PLANT AIR SUPPLY: 90 PSI (6.20 BAR) non-oiled
INCOMING AIR LINE DIMENSION: 1/2" (12.70 mm) I.D. min.
VACUUM GENERATOR AIR CONSUMPTION: 13 CFM @ 90 PSI (368.16 l/m @ 6.20 BAR)
HYDRAULIC FLUID: HYDREX™ AW 68 (TM Trademark of Suncor Energy Inc.)

Where the following trade names are used in this manual, note:
DEXRON *is a registered trademark of General Motors Corporation.*
GLYD Ring *is a registered trademark of Trelleborg Sealing Solutions Germany GmbH*
Loctite *is a registered trademark of Henkel Corporation, U.S.A.*
LUBRIPLATE *is a registered trademark of Fiske Brothers Refining Co.*
MERCON *is a registered trademark of Ford Motor Corp.*
MOLYKOTE *is a registered trademark of Dow Corning Corporation*
Never-Seez *is a registered trademark of Bostik, Inc.*
Quintolubric *is a registered trademark of Quaker Chemical Corp.*
Slic-tite *is a registered trademark of LA-CO Industries, Inc.*
Spirolox *is a registered trademark of Smalley Steel Ring Company*
Teflon *is a registered trademark of Chemours Company FC.*
Threadmate *is a registered trademark of Parker Intangibles LLC.*
TRUARC *is a trademark of TRUARC Co. LLC.*
Vibra-Tite *is a registered trademark of ND Industries, Inc. USA.*



Principle of Operation

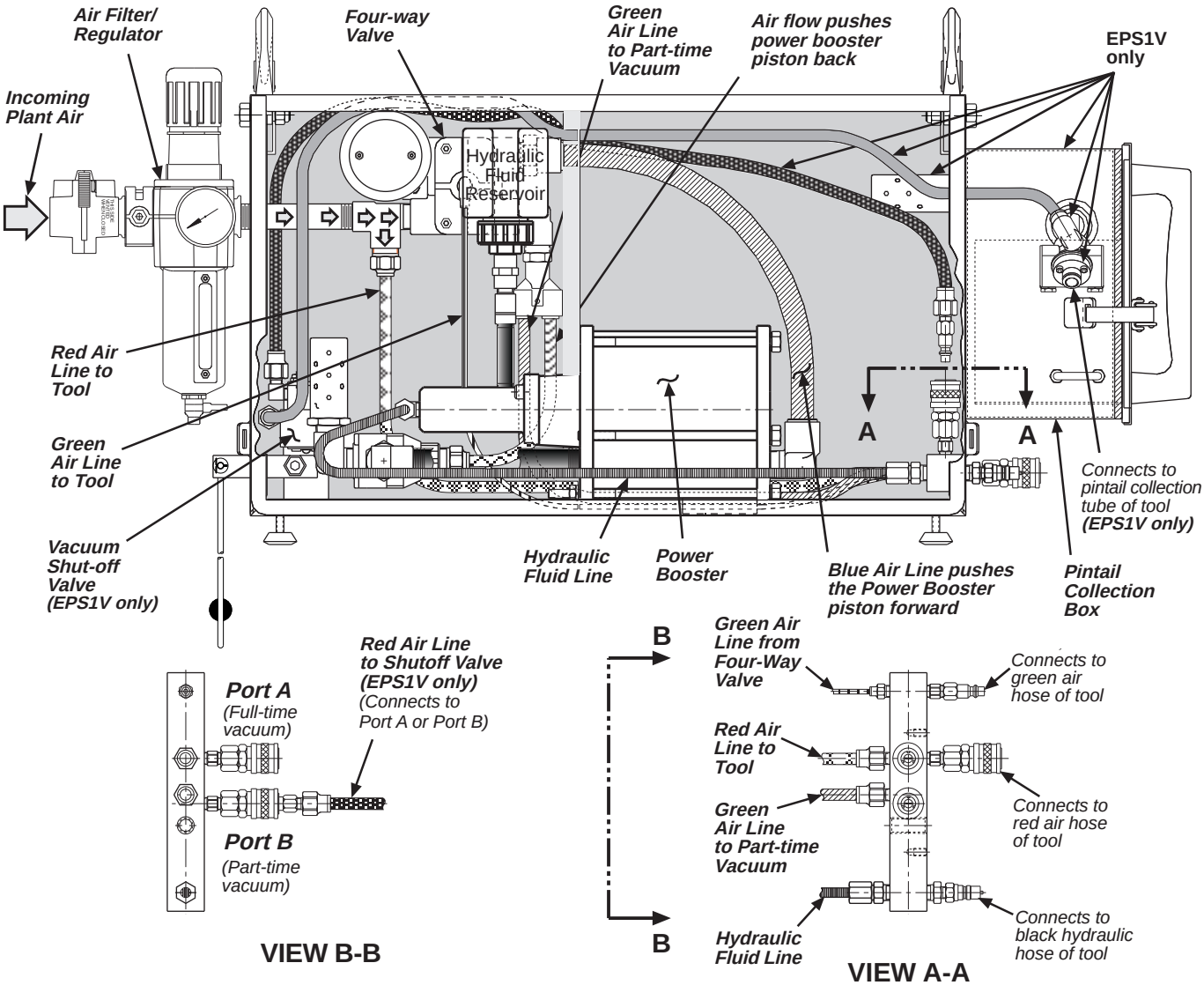
Incoming non-oiled plant air is regulated at 90 psi through the Air Filter/Regulator to the Four-way Valve on the Power Unit, and through the Red Air Line to the valve in the rivet tool handle.

When the tool trigger is pulled, a trigger/plunger unseats a valve ball and directs air from the tool handle back through the Green Air Line to the Four-way Valve. The Four-way Valve is shifted, directing air pressure through the Blue Air Line into the Power Booster. As the Power Booster air piston advances, hydraulic fluid is forced through the black Hydraulic Line into the tool, forcing the tool to retract. This delivers the force that is necessary to install the fastener and break the pintail.

NOTE: In the EPS1V, the pintail then travels through the pintail collection tube from the tool into the Pintail Collection Box.

When the trigger is released, the Four-way Valve shifts to its normal position, allowing the air pressure to return the Power Booster air piston to the full back position and the tool piston to the full forward position. The cycle is now completed.

Figure 1



Maintenance Procedures

See Figure 2.

Huck recommends conducting periodic inspections on the Air Filter/Regulator and the hydraulic fluid Reservoir. Check the Air Filter/Regulator bowl for liquid contaminants, and drain it when checking. This will aid in maintaining peak performance for the Vacuum Generator and the Four-way Valve.

Periodically check the sight bowl to ensure the fluid level in the hydraulic fluid Reservoir is at 1". Under normal operating conditions, the fluid level should remain constant. If the level decreases, check the hydraulic components for leaks.

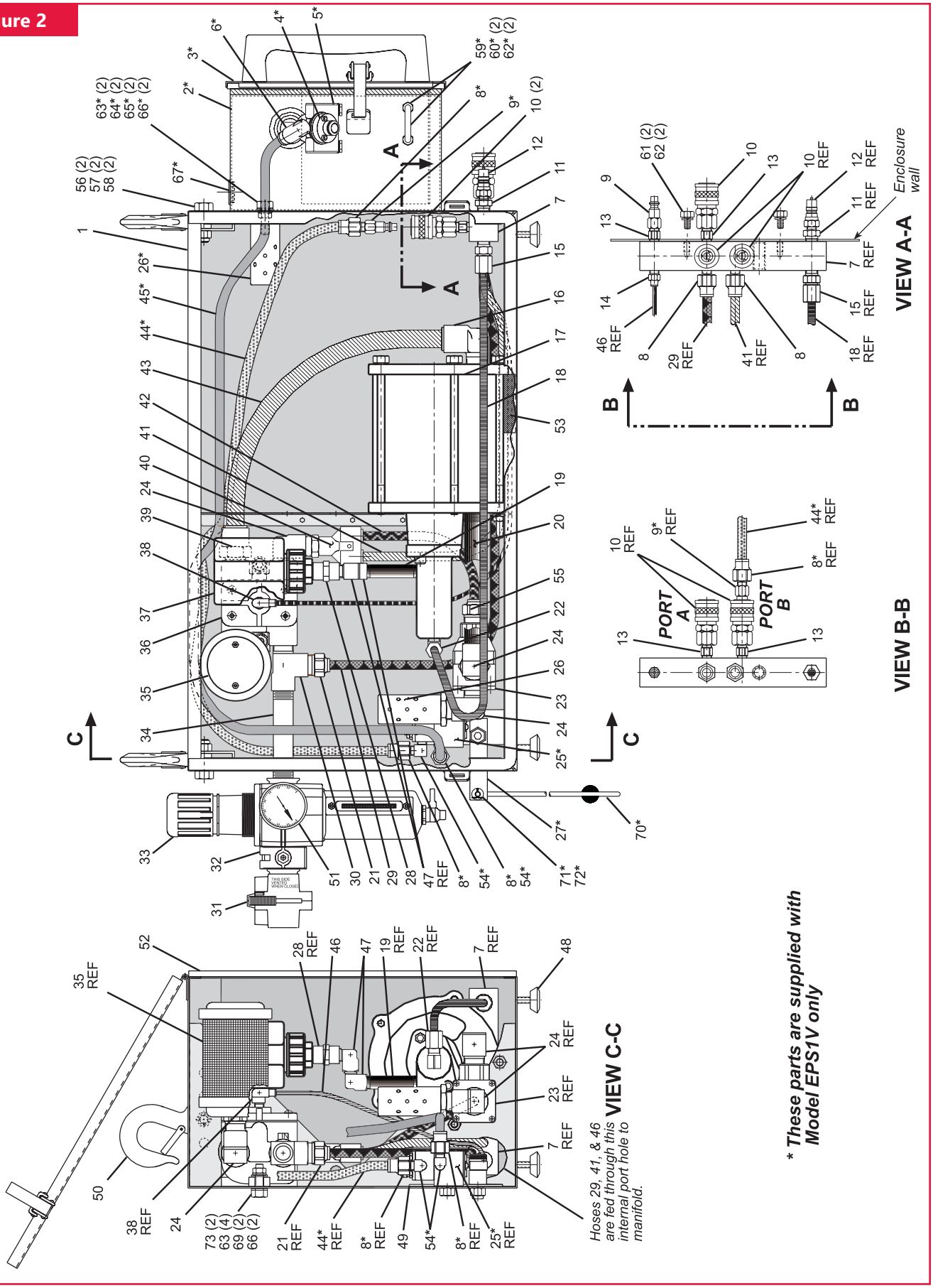
The power unit is shipped with HYDREX™ AW 68 Hydraulic Fluid. Before using an equivalent brand, check the MSDS for like specifications.

Parts List

Item	Part No.	Description	Qty. EPS1V	Qty. EPS1
1	300448	Power Unit Enclosure Assembly	1	1
2	300451	Vacuum Box Assembly	1	---
3	300450	Pintail Collector Box Assembly	1	---
4	300349	Vacuum Generator Assy	1	---
5	300298	Mounting Bracket Assy	1	---
6	507739	90° Elbow	1	---
7	300392	Manifold	1	1
8	507736	Connector, Male	5	2
9	507677	Quick Disconnect	2	1
10	507678	Quick Disconnect, Air, Female	3	3
11	505643	Pipe Nipple with Hex	1	1
12	507680	Quick Disconnect, Hydraulic, Female	1	1
13	502727	Pipe Nipple with Hex	4	4
14	507662	Small Straight Connector	1	1
15	507859	Connector, Male	1	1
16	300482	90° Elbow, Modified	1	1
17	300403	Power Booster Assembly	1	1
18	300489	Pressure Tube Assembly	1	1
19	504735	Brass Nipple	1	1
20	507741	Pipe Nipple	1	1
21	507735	Straight Connector, Male	1	1
22	507858	90° Elbow	1	1
23	507746	Exhaust Valve	1	1
24	507730	Street Elbow	4	4
25	300367	Vacuum Shutoff Valve Assembly	1	---
26	507743	Muffler	2	2
27	300087	Lever Assembly	1	1
28	503643	Coupling	1	1
29	507755	Hose, Red Ø3/8 x 24"	1	1
30	507733	Street Tee	1	1
31	507747	Shutoff Valve	1	1
32	507749	Quick Coupling	1	1
33	507750	Air Regulator	1	1
34	507740	Pipe Nipple	1	1
35	507744	Muffler	1	1
36	507748	Four-way Valve	1	1
37	507705	Reservoir	1	1
38	507738	90° Connector	1	1
39	507737	Modified Connector, Male	1	1
40	507742	Connector Union, Male	1	1
41	507857	Hose, Green Ø3/8 x 20"	1	1
42	507857	Hose, Green Ø3/8 x 9.5"	1	1
43	507756	Hose, Blue Ø3/4 x 19"	1	1
44	507755	Hose, Red Ø3/8 x 42"	1	---
45	507755	Hose, Red Ø3/8 x 48"	1	---
46	507675	Hose, Green Ø5/32 x 26"	1	1
47	506485	90° Street Elbow	2	2
48	507726	Leveling Glide	4	4
49	300381	Spacer Plate	1	1
50	507714	Hook & Latch Assembly	2	2
51	507752	Air Regulator Gauge	1	1
52	300464-1	Foam Cushion Gasket	1	1
53	300494	Rubber Pad	1	1
54	507728	Elbow, Male	2	---
55	300407	Modified Connector, Male	1	1
56	500221	Bolt	2	2
57	300154	Spacer	2	2
58	501059	Lock Nut	2	2
59	507697	U-Bolt	1	---
60	500215	Nut	4	---
61	500001	Bolt	2	2
62	500193	Lock Washer	4	2
63	500170	Flat Washer	10	8
64	500012	Bolt	2	---
65	500194	Lock Washer	2	---
66	500216	Hex Nut	6	4
67	503146	Hole Plug	1	---
68	500015	Bolt	2	2
69	500182	Lock Washer	4	4
70	300377	Hook & Rod Assembly	1	---
71	500168	Washer	1	---
72	501311	Cotter Pin	1	---
73	500015	Bolt	2	2

Components Drawing

Figure 2



Maintaining Peak Vacuum Performance

1. Check the vacuum at least once per month, or whenever pintail collection becomes a problem.
2. To check the vacuum, release the tool's Vacuum Ejector Tube from the Vacuum Generator Assembly and insert Vacuum Test Gauge Assembly (P/N **300457**). (Figure 3)
3. The minimum dial indication should read 15 inches @ 90 PSI (*38.10 cm @ 6.20 BAR*).

Figure 3

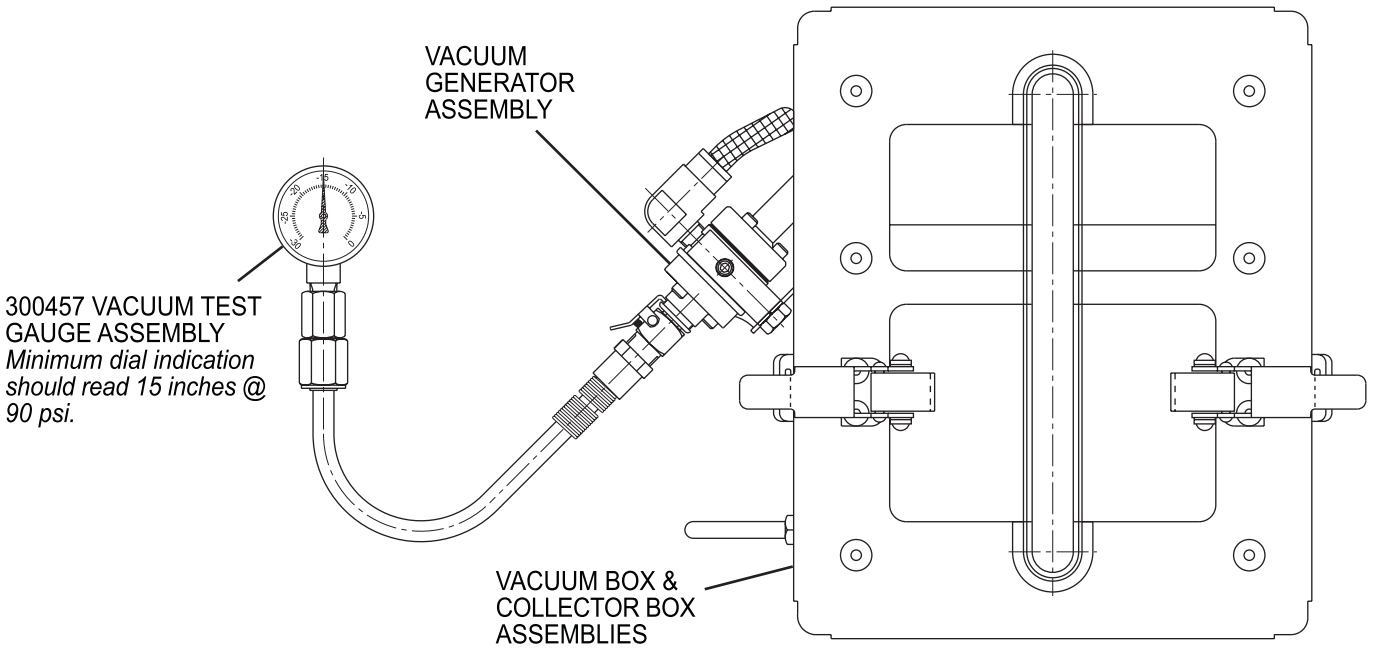
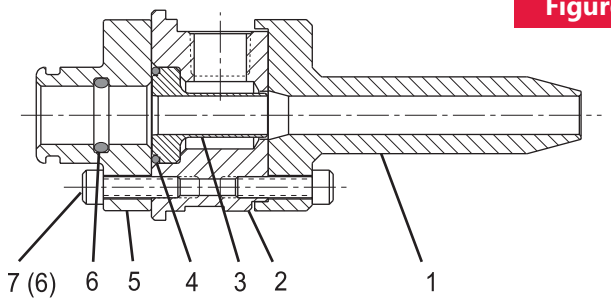


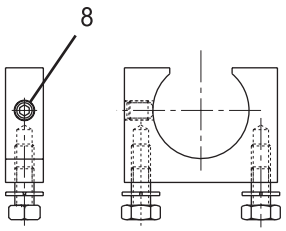
Figure 4



300349 Vacuum Generator Assembly

Item	Part No.	Description	Qty.
1	300294	Nozzle	1
2	300295	Venturi Housing	1
3	300090	Venturi	1
4	500780	O-ring	1

Figure 5



300298 Mounting Bracket Assembly

Item	Part No.	Description	Qty.
5	300341	End Cap	1
6	500778	O-ring	1
7	500049	Screw	6
8	501796	Set Screw	1

Procedure

EXAMPLE: *The gauge indication is 13 inches (33.02 cm).*

1. Verify that the incoming pressure is set to the recommended 90 PSI (*6.20 BAR*).
2. Unlock one side of the pintail collector box and watch the indicator. If vacuum pressure increases, the collector box muffler is plugged and preventing adequate ventilation. Remove and clean the muffler.
3. More likely the Vacuum Generator requires internal cleaning. Figure 6A shows how the generator functions to produce vacuum at the inlet end of the stainless steel end cap. The solid black arrows represent incoming plant air pressure and how the air flow travels. Notice the point at which the air becomes compressed and must speed up as it moves over the small lip on the inner sleeve of the Venturi assembly. After the air pressure has moved past this area and is traveling faster, vacuum is created at the inlet of the end cap (see outline arrows).

Figures 6a & 6B

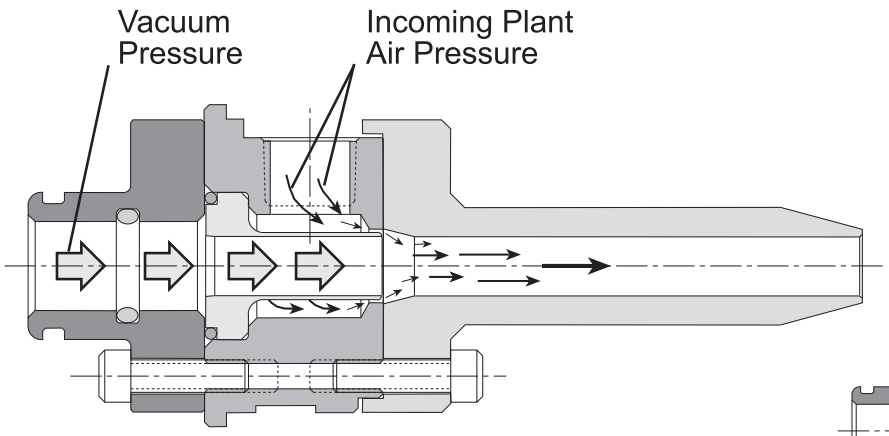


Fig. 6A
Vacuum Performance

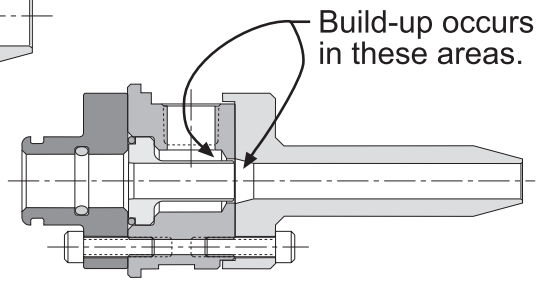


Fig. 6B
Contamination Build-up

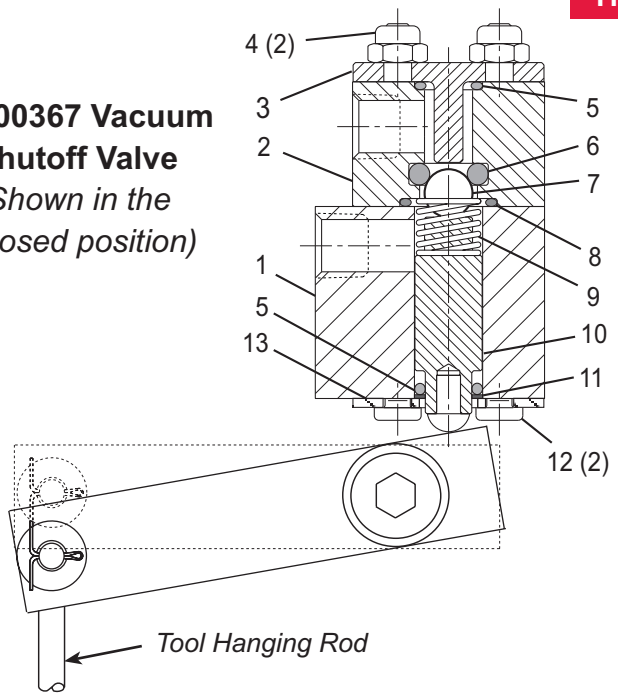
Automatic Shutoff Valve

The **EPS1V** is equipped with an Automatic Shutoff Valve. When the tool is hung on the rod, the lever moves up, pushing the Vacuum Shutoff Valve to the closed position. This stops air flow to the Vacuum Generator Assembly. When the tool is removed from the rod, the lever moves downward, opening the valve, and allowing pintail collection flow again.

Item	Part No.	Description	Qty.
1	300365	Plunger Housing	1
2	300366	Valve Body	1
3	300275	Valve Cover	1
4	501050	Locknut	2
5	500777	O-ring	2
6	507696	O-ring	1
7	502933	Steel Ball	1
8	500780	O-ring	1
9	507695	Spring	1
10	300364	Plunger	1
11	507721	Washer	1
12	507706	Screw	2
13	300243	Plunger Retainer	1

Figure 7

300367 Vacuum Shutoff Valve
(Shown in the closed position)



Air Routing for Fastener Size

See Figure 2.

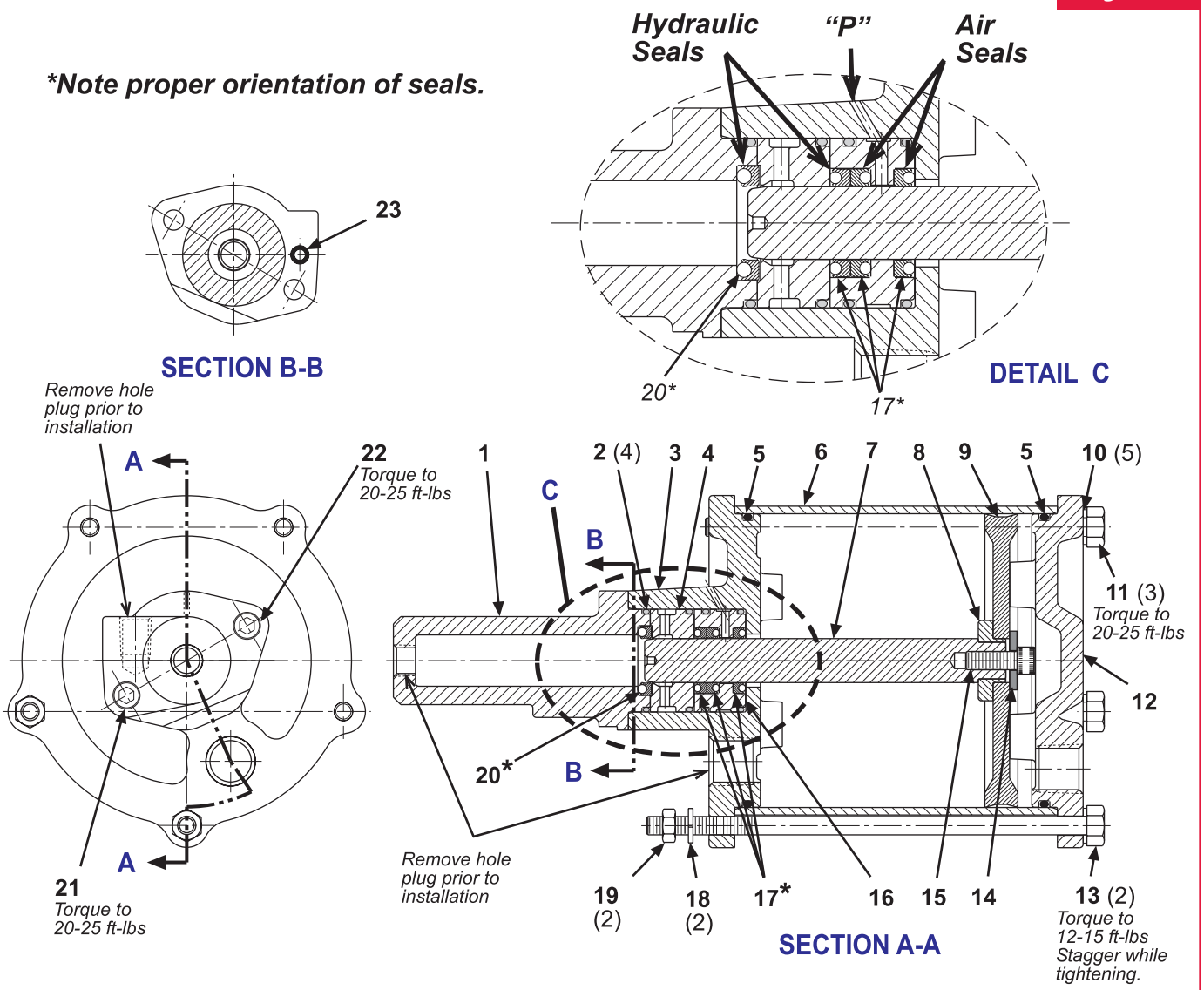
On the power unit, there are two air sources: **Port A** and **Port B**. These are provided for the air supply to the vacuum transducer.

- **Port A**: Use for rivets with diameters of **1/8"**, **5/32"**, and **3/16"**. This port provides uninterrupted air flow to the Vacuum Generator Assembly as the tool is cycled. It is important to use this routing to ensure constant vacuum is present to draw the smaller mandrels into the collector box.
- **Port B**: Use for rivets with **1/4"** diameter. This port will interrupt the air flow to the vacuum transducer while the rivet tool trigger is pressed. These larger diameter mandrels travel much faster and are not affected by this brief decrease in vacuum pressure. It also allows more air volume to be directed to the power booster to aid in setting rivets with high break loads.

If the power unit is moved to a location where a different size fastener is to be used, it is easy to re-route the air supply. Simply disconnect the air line from the port not being used (Port A or Port B), and connect it to the other port.

Power Booster Assembly 300403

Figure 8



Item	Part No.	Description	Qty.
1	300078	Hydraulic Cylinder	1
2	500826	O-ring	4
3	300320	Cylinder Base	1
4	300313	Piston Guide	1
5	504228	O-ring	2
6	300354	Air Cylinder	1
7	300301	Hydraulic Piston	1
8	300242	Piston Bushing	1
9	507715	Air Piston	1
10	502971	Washer	5
11	507710	Hex Bolt	3
12	300340	Cylinder Head	1

Item	Part No.	Description	Qty.
13	507708	Hex Bolt	2
14	300147	Washer	1
15	501289	Cap Screw	1
16	300310	Seal Housing	1
17	507693	Seal	3
18	500182	Split Lockwasher	2
19	500216	Hex Nut	2
20	507694	Seal	1
21	507703	Cap Screw	1
22	507702	Cap Screw	1
23	500774	O-ring	1

Power Booster Service

See Figures 2 & 8.

WARNING: Disconnect all power from Power Unit prior to disassembly.

The power booster is easy to troubleshoot. Attach the Hydraulic Pressure Gauge Assembly (P/N 300456) to the hydraulic nipple where the hydraulic line attaches to the power unit. Press and hold the rivet tool trigger, and monitor the gauge reading. At 90 PSI (6.20 BAR) air pressure, hydraulic pressure should stabilize at 4,000 PSI (275.80 BAR). If it doesn't, it indicates possible seal wear and rebuilding is required. The arrow "P" (Figure 8, Detail C) points to an escape port in the power unit cylinder base. If hydraulic fluid is leaking out of this port, one of the hydraulic seals is leaking fluid. Escaping air indicates a defective air seal.

Removing the Power Booster: Disconnect the blue air hose and the green air hose. Loosen, but do not remove, hydraulic fluid line (Figure 2, Item 18); this will prevent fluid spilling. Remove the two nuts and washers (Figure 8, Items 18 & 19) that attach the power booster assembly to the power unit enclosure, then place a rag under the hydraulic fitting and finish removing hydraulic line.

Disassembly: (Figure 8) Remove the five hex head bolts, and separate the end castings from the fiberglass air cylinder. Inspect the air piston and hydraulic piston for surface irregularities; also inspect the walls of the air cylinder. Remove the piston guide and seal housing by using the Seal Housing Remover (P/N 300455), and tapping out with a hammer until they can be pushed from the cylinder base.

Replacing Seals: When replacing seals, be sure they are positioned as shown in Figure 8. Wipe all seals with a lightweight seal lubricant.

ADDITIONAL NOTES

- When reassembling the air cylinder and end castings, torque all bolts to the specifications noted in Figure 8.
- After replacing the power booster on the power unit, attach the air supply to the power unit. This will ensure that the air piston is in the full back position for bleeding air from the system; see Air Bleeding the Power Unit for air bleeding instructions.

Air Bleeding the Power Unit

WARNING: Be sure to disconnect your power tool's air hose from the power unit when air bleeding or filling the unit with hydraulic fluid. This will prevent accidental actuation of the power circuit which could cause pressurization and damage to the Bleed Pump.

FILLING THE POWER UNIT WITH HYDRAULIC FLUID USING BLEED PUMP P/N 300509

Connect the hydraulic line attached to the bleed pump to the hydraulic connector on the power unit. Pump the bleed pump until air bubbles no longer appear in the reservoir. The reservoir should be filled half way.

NOTE: Do not run reservoir empty!

If service has been performed on the power unit, such as seal replacement, and the power booster has been removed and replaced, the following procedure must be performed:

Prior to filling the unit with hydraulic fluid, connect the air line to the power unit. This will return the air/hydraulic pistons to the full back position. The hydraulic piston must be in this full back position to allow the hydraulic fluid to pass into the reservoir.

NOTE: Whether gravity bleeding the hydraulic system of air entrapment or using the bleed pump to fill and bleed the system, the air/hydraulic pistons must be in the full back position.

AIR BLEEDING THE RIVET TOOL

See specific rivet tool manual.

AIR BLEEDING POWER UNIT AND RIVET TOOL TOGETHER

Disconnect the rivet tool air line from the power unit. With the rivet tool hydraulic line still attached to power unit, remove the Bleed Screw (P/N **507660**) from the rivet tool. Attach the combination Model 300497 Bleed Pump / 300498 Bleed Port Hose Adapter to the bleed port on the tool. Pump the hydraulic fluid until air bubbles are no longer seen in the reservoir on the power unit.

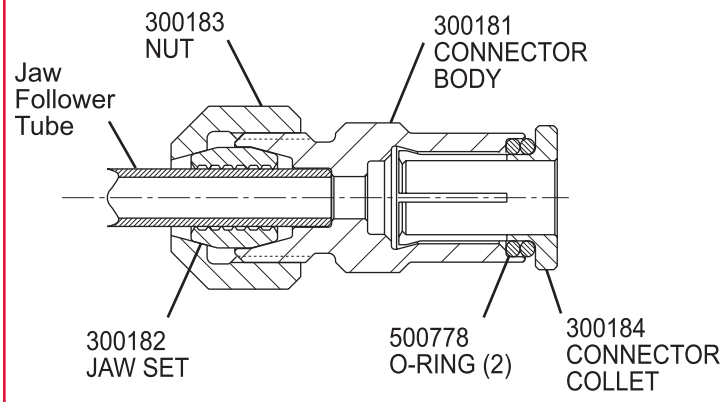
Connector Assembly 300292

See Figure 9.

The model **ERT1S** tool is used for 1/8" and 5/32" fasteners. The tubing (P/N **300239**) is connected to the Vacuum Connector Assembly (P/N **300292**), which is attached to the Jaw Follower.

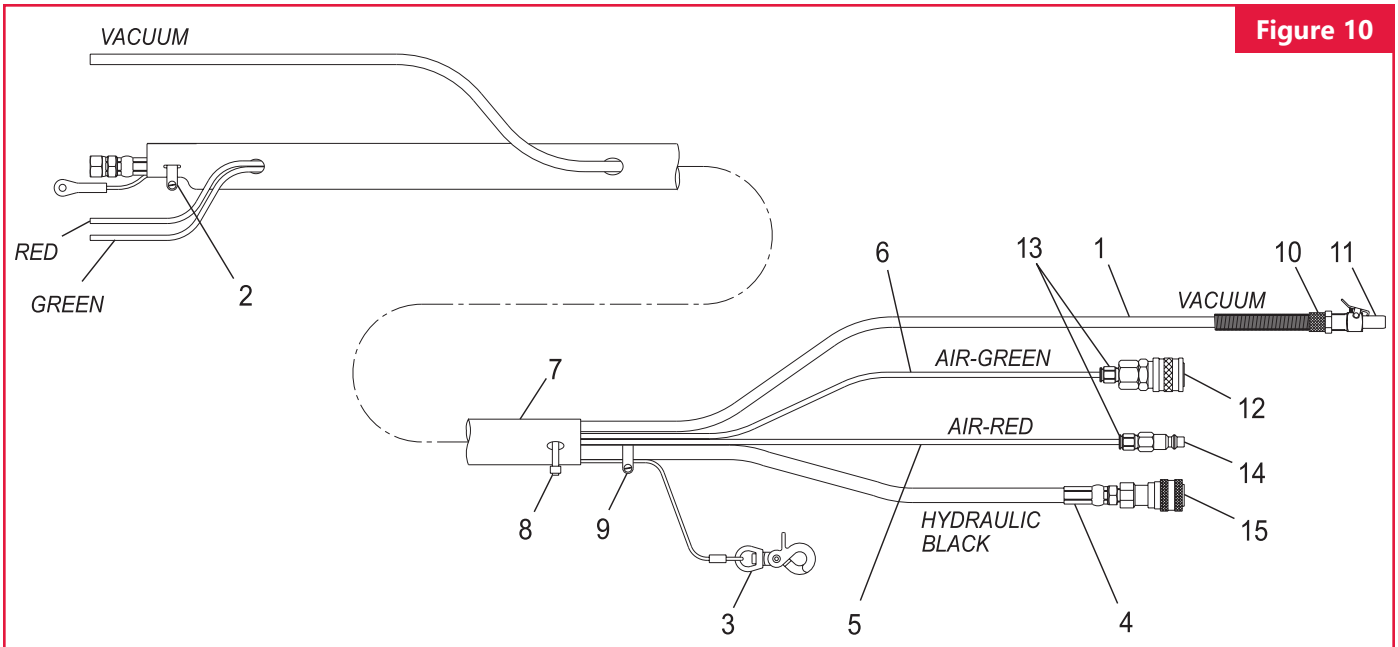
When setting larger fasteners using the tool models **ERT2S** and **ERT4S**, use: tubing (P/N **300238**) for 3/16" fasteners, and tubing (P/N **300237**) for 1/4" fasteners.

Figure 9



Hose Assembly HA1X12

Figure 10



Item	Part No.	Description	Qty.
1	**30023_***	Vacuum Tube	1
2	504701	Hose Clamp	2
3	300265	Cable Assembly	3
4	300263	Hydraulic Hose Assembly	4
5	507676	Tube, Red	1
6	507675	Tube, Green	1
7	300240	Hose Sleeve	1
8	505839	Cable Tie	1

Item	Part No.	Description	Qty.
9	507681	Hose Clamp	1
10	300235	Nut, Sleeve, & Spring Assy.	1
11	300262	Disconnect Insert	1
12	507678	Air Socket, Quick Disconnect	1
13	507662	Straight Connector	2
14	507677	Air Plug, Quick Disconnect	1
15	507679	Hydraulic Coupler, Q.D.	1

** Vacuum Tube (Item 1): The Part Number is based on the tool being used and the fastener size selected. See* **CONNECTOR ASSEMBLY** *explanation above.*

Troubleshooting

Always check the simplest possible cause (such as a loose or disconnected trigger line) of a malfunction first. Then proceed logically, eliminating other possible causes until the cause is discovered. Where possible, substitute known good parts for suspected defective parts. Use this troubleshooting information to aid in locating and correcting trouble.

1. ***Slow tool cycle.***
   a. Check air pressure and hydraulic pressure. Reference operational schematic at front of manual.
   b. Incoming air line must be 1/2" (*12.70 mm*) ID minimum.
2. ***Tool will not pull fastener.***
   a. Air may be in the hydraulic system, which would require bleeding (see **Air Bleeding The Power Unit**).

   NOTE: *Air entrapment is identifiable by sound. As the tool trigger is actuated, the normal "thud" produced by the Power Unit is replaced by a metallic "clack."*
3. ***Pintail travel slow.***
   a. See **Maintaining Peak Vacuum Performance** and **Air Routing for Fastener Size** sections of this manual.



WARNING: Do not actuate trigger until the bleed screw of the tool is in place.

Kits & Accessories

The hydraulic and vacuum test gauges are essential items for maintaining your rivet equipment at peak operating efficiency. All instruments are equipped with quick connects for on-line testing.

- **Vacuum Test Gauge (P/N 300457)**: Remove vacuum line from vacuum generator. Install vacuum gauge. Indication should be 15 inches (*38.10 cm*) minimum. If lower, vacuum generator assembly should be removed, cleaned, and reassembled using no lubricant.
- **Hydraulic Pressure Test Gauge (P/N 300456)**: Disconnect the Pull Stroke hydraulic line from the power unit and install the gauge. Press and hold the trigger to actuate the tool. The pressure gauge should indicate 3900–4000 PSI (*268.90–275.80 BAR*). This is an excellent method of isolating a tool or power unit problem.
- **Tube Cutter (P/N 300501)**: Provides clean, true end cuts for any flexible line on the rivet station.

  NOTE: *Chamfer the vacuum hose ID slightly after cutting.*
- **Seal Housing Removal Tool (P/N 300455)**: Contains graduations for easy seal housing removal from the cylinder base of the power booster. Using this tool saves time and greatly reduces damage to the cylinder base and the seal housing.
- **Cylinder Wrench (P/N 300452)**: Provides a convenient method of holding Rivet Tools for disassembly and repair when a vise is not available, such as on the plant floor where the rivet tools are being used. The wrench holds firmly on the cylinder of the rivet tool and has a cushioned handle/grip for comfort and safety.
- **Filler / Bleed Pump (P/N 300509)**: A valuable tool for maintaining Ebbert Power Units. With it, you can fill the hydraulic fluid reservoir and purge the power booster of air. This can be accomplished in much less time than manually filling the reservoir or gravity bleeding the system.
- **Rivet Tool Bleed Port Hose (P/N 300458)**: When used with the Bleed Pump (P/N **300497**), this tool makes bleeding or filling any of the Rivet Tools a simple procedure. Merely remove the Bleed Screw (P/N **507660**), attach the Bleed Port Hose, and pump until bubbles no longer appear in the Hydraulic Reservoir.



CAUTION: Do NOT trigger the tool while the hose is attached. Doing so could damage the Bleed Pump.

Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its ***useful lifetime***. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Battery Powered Installation Tools:

Huck International, Inc. warrants that its Battery Powered installation tools sold after September 1, 2018 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerig® hydraulic power sources manufactured after December 1, 2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK makes no warranty with respect to the tooling, part(s), or other items manufactured by third parties. HUCK expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability, or fitness for use of any tool, part(s), or other items thereof not manufactured by HUCK. HUCK shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, part(s), or other items or breach of warranty or for any claim for incidental or consequential damages.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the serial number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

Eastern
One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada
Contact your nearest Huck International location (see reverse).

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC's) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.

Howmet Inc. (NYSE: HWM) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power.

Through the ingenuity of our people and cutting-edge advanced manufacturing, we deliver these products at a quality and efficiency that ensures customer success and shareholder value.

Howmet Fastening Systems Tooling Support Locations

Industrial North America

Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: +1-800-278-4825
Fax: +1-845-334-7333
hfs.sales.kingston@Howmet.com

Industrial Distribution Group (IDG)
7101 Imperial Drive
Waco, TX 76714-8117
Tel: +1-800-826-2884
Fax: +1-800-573-2645
idgsales@Howmet.com

Waco Operations
PO Box 8117
8001 Imperial Drive
Waco, TX 76714-8117
Tel: +1-800-388-4825
Fax: +1-800-798-4825
huck.waco@Howmet.com

Industrial Global

Tokyo Operations (Japan & Korea)
1013 Hibiya U-1 Bldg.
Uchisaiwai-cho 1-1-7
Chiyoda-ku, Tokyo
100-0011 Japan
Tel: +81-3-3539-6594
Fax: +81-3-3539-6585

Melbourne Operations
1508 Centre Road
Clayton, Victoria
Australia 3168
Tel: +613-8545-3333
Fax: +613-8545-3390
hfsmel.sales@Howmet.com

Suzhou Operations
58 Yinsheng Road,
SIP Suzhou, Jiangsu
215126 China
Tel: +86-512-62863800-8888

Telford Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
Tel: +44-(0)-1952-290011
Fax: +44-(0)-1952-207701
THIsales@howmet.com

Aerospace North America

Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: +1-800-278-4825
Fax: +1-845-334-7333
afs.sales.kingston@Howmet.com

Simi Valley Operations
3990A Heritage Oak Court
Simi Valley, CA 93063
Tel: +1-805-527-3600
Fax: +1-805-527-0900
www.afs-simivalley.com
SMV.HFSSales@Howmet.com

Aerospace Global

Aichach Operations
Robert-Bosch Str. 4
Aichach 86551
Germany
Tel: +49-8251-8757-0
AICSalesDL@Howmet.com

Cergy Operations
15 Rue du Petit Albi
F-95800 Cergy Pontoise
France
Tel: +33-1-34-33-98-00
Fax: +33-1-34-33-97-77

Hong Kong Operations
88 Hing Fat Street, 27th Floor
Causeway Bay
Hong Kong, China
Tel: +852-2864-2012
HKSSalesDL@Howmet.com

ISO 9001-2015 CERTIFIED MANAGEMENT SYSTEM ISO 14001-2015

©2025 Howmet Aerospace, Inc.

Howmet Fastening Systems Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: 800-431-3091 Fax: 845-334-7333
www.hfsindustrial.com/us

Huck provides technical assistance in the use and application of Huck fasteners & tooling. **NOTICE:** This publication is only to be used for general guidance in properties of the products shown and/or the means for selecting such products, and is not intended to create any warranty, express, implied, or statutory; all warranties are contained only in Huck's written quotations, acknowledgments, and/or purchase orders. It is recommended the user secure specific, up-to-date data and information regarding each application and/or use of such products.