

**STANLEY.**  
Engineered Fastening



INSTRUCTION AND  
SERVICE MANUAL



AV™5 Installation Tool – 73425-02000  
Hydro-Electric Power Tool

**STANLEY.**  
Assembly Technologies

© 2019 Stanley Black & Decker, Inc.  
All rights reserved.

The information provided may not be reproduced and/or made public in any way and through any means (electronically or mechanically) without prior explicit and written permission from STANLEY Engineered Fastening. The information provided is based on the data known at the moment of the introduction of this product. STANLEY Engineered Fastening pursues a policy of continuous product improvement and therefore the products may be subject to change. The information provided is applicable to the product as delivered by STANLEY Engineered Fastening. Therefore, STANLEY Engineered Fastening cannot be held liable for any damage resulting from deviations from the original specifications of the product.

The information available has been composed with the utmost care. However, STANLEY Engineered Fastening will not accept any liability with respect to any faults in the information nor for the consequences thereof. STANLEY Engineered Fastening will not accept any liability for damage resulting from activities carried out by third parties. The working names, trade names, registered trademarks, etc. used by STANLEY Engineered Fastening should not be considered as being free, pursuant to the legislation with respect to the protection of trade marks.

# Contents

---

<b>1</b>	<b>SAFETY INSTRUCTIONS</b>	<b>3</b>
1.1	General Safety Rules	3
1.2	Projectile Hazards	3
1.3	Operating Hazards	4
1.4	Repetitive Motions Hazards	4
1.5	Accessory Hazards	4
1.6	Workplace Hazards	4
1.7	Noise Hazards	5
1.8	Vibration Hazards	5
1.9	Additional Safety Instructions for Pneumatic Power Tools	5
<b>2</b>	<b>SPECIFICATION</b>	<b>6</b>
2.1	Intent of Use	6
2.2	The Package Contains	6
2.3	Placing Tool Specification	7
2.4	Placing Tool Dimensions	7
2.5	Component List	8
<b>3</b>	<b>PUTTING INTO SERVICE</b>	<b>11</b>
3.1	Principle of Operation	11
3.2	Preparation for Use	12
<b>4</b>	<b>OPERATING INSTRUCTIONS</b>	<b>13</b>
4.1	To Install an Avbolt® Fastener	13
4.2	To Install an Avdelok® Fastener	13
4.3	To Install a NeoBolt® Fastener	14
<b>5</b>	<b>SERVICING THE TOOL</b>	<b>15</b>
5.1	Daily Servicing	15
5.2	Weekly Servicing	15
5.3	Annual Servicing / Every 250k Operations	15
5.4	Service Kit	15
5.5	Servicing Tools	16
5.6	Hydraulic Pump Oil	16
5.7	Dismantling Instructions	16
<b>6</b>	<b>SAFETY DATA</b>	<b>21</b>
6.1	Enerpac® HF Hydraulic Oil - Safety Data	21
6.2	MolyLithium Grease EP 3753 - Safety Data	21
6.3	Molykote® 111 Grease - Safety Data	21
<b>7</b>	<b>FAULT DIAGNOSIS</b>	<b>22</b>
<b>8</b>	<b>NOTES</b>	<b>24</b>
<b>9</b>	<b>DECLARATION OF CONFORMITY</b>	<b>25</b>
<b>10</b>	<b>PROTECT YOUR INVESTMENT!</b>	<b>26</b>

# 1 SAFETY INSTRUCTIONS

---

This service manual must be read with particular attention to the following safety rules, by any person installing or operating this tool.

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

**DANGER:** *Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.*

**WARNING:** *Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.*

**CAUTION:** *Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.*

**CAUTION:** *Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.*

Improper operation or maintenance of this product could result in serious injury and property damage. Read and understand all warnings and operating instructions before using this equipment. When using power tools, basic safety precautions must always be followed to reduce the risk of personal injury.

Save these Instructions.

## 1.1 GENERAL SAFETY RULES

- For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the tool. Failure to do so can result in serious bodily injury.
- Only qualified and trained operators must install, adjust or use the tool.
- DO NOT use outside the design intent of Placing STANLEY Engineered Fastening Blind Rivets.
- Use only parts, fasteners, and accessories recommended by the manufacturer.
- DO NOT modify the tool. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator. Any modification to the tool undertaken by the customer will be the customer's entire responsibility and void any applicable warranties.
- Do not discard the safety instructions; give them to the operator.
- Do not use the tool if it has been damaged.
- Prior to use, check for misalignment or binding of moving parts, breakage of parts, and any other condition that affects the tool's operation. If damaged, have the tool serviced before using. Remove any adjusting key or wrench before use.
- Tools shall be inspected periodically to verify that the ratings and markings required by this part of ISO 11148 are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.
- The tool must be maintained in a safe working condition at all times and examined at regular intervals for damage and function by trained personnel. Any dismantling procedure will be undertaken only by trained personnel. Do not dismantle this tool without prior reference to the maintenance instructions.

## 1.2 PROJECTILE HAZARDS

- Disconnect the hydraulic supply from the tool before performing any maintenance, attempting to adjust, fit or remove a nose assembly or accessories.
- Be aware that failure of the workpiece or accessories, or even of the inserted tool itself can generate high-velocity projectiles.
- Always wear impact-resistant eye protection during operation of the tool. The grade of protection required should be assessed for each use.
- The risks to others should also be assessed at this time.

- Ensure that the workpiece is securely fixed.
- Check that the means of protection from ejection of fastener and/or mandrel is in place and is operative.
- DO NOT use the tool without stem deflector installed, this must be fitted and in good condition. The deflector must be aimed away from the user and in a safe direction away from hazard.
- Warn against the possible forcible ejection of mandrels from the front of the tool.
- DO NOT operate a tool that is directed towards any person(s).

### **1.3 OPERATING HAZARDS**

- Use of the tool can expose the operator's hands to hazards, including crushing, impacts, cuts and abrasions and heat. Wear suitable gloves to protect hands.
- Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
- Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
- Keep tool handles dry, clean, and free from oil and grease.
- Maintain a balanced body position and secure footing when operating the tool.
- Use only lubricants recommended by the manufacturer.
- Do not fit flexible hoses rated at less than 700bar (10,000 PSI) working pressure.
- Contact with hydraulic fluid should be avoided. To minimise the possibility of rashes, care should be taken to wash thoroughly if contact occurs.
- Material Safety Data Sheets for all hydraulic oils and lubricants is available on request from your tool supplier.
- Avoid unsuitable postures as it is likely for these positions not to allow counteracting of normal or unexpected movement of the tool.
- If the tool is fixed to a suspension device, make sure that the fixation is secure.
- Beware of the risk of crushing or pinching if nose equipment is not fitted.
- DO NOT operate tool with the nose casing removed.
- Adequate clearance is required for the tool operator's hands before proceeding.
- When carrying the tool from place to place keep hands away from the trigger to avoid inadvertent activation.
- DO NOT abuse the tool by dropping or using it as a hammer.
- Care should be taken to ensure that spent mandrels do not create a hazard.
- Do not pull or move the hydraulic pump unit using the hoses. Always use the pump unit handle or roll cage.
- If accessory fitted the mandrel collector must be emptied when approximately half full.
- Keep area tidy, spent stems should be cleared from working area before continuing.

### **1.4 REPETITIVE MOTIONS HAZARDS**

- When using the tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
- While using the tool, the operator should adopt a comfortable posture whilst maintaining a secure footing and avoiding awkward or off-balance postures. The operator should change posture during extended tasks; this can help avoid discomfort and fatigue.
- If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

### **1.5 ACCESSORY HAZARDS**

- Disconnect the tool from the hydraulic supply before fitting or removing the nose assembly or accessory.
- Use only sizes and types of accessories and consumables that are recommended by the manufacturer of the tool; do not use other types or sizes of accessories or consumables.

### **1.6 WORKPLACE HAZARDS**

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the hydraulic hose.

- Proceed with care in unfamiliar surroundings. There can be hidden hazards, such as electricity or other utility lines.
- The tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electric power.
- Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.
- Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- Care should be taken to ensure that spent mandrels do not create a hazard.

### ***1.7 NOISE HAZARDS***

- Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore, risk assessment and the implementation of appropriate controls for these hazards are essential.
- Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpieces from “ringing”.
- Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
- Operate and maintain the tool as recommended in the instruction manual, to prevent an unnecessary increase in the noise level.

### ***1.8 VIBRATION HAZARDS***

- Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry.
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the tool, tell your employer and consult a physician.
- Where possible Support the weight of the tool in a stand, tensioner or balancer, because a lighter grip can then be used to support the tool.

### ***1.9 ADDITIONAL SAFETY INSTRUCTIONS FOR PNEUMATIC POWER TOOLS***

- The operating hydraulic supply must not exceed 550 bar (8,000 PSI).
- Hydraulic fluid under pressure can cause severe injury.
- Never leave operating tool unattended. Disconnect when tool is not in use, before changing accessories or when making repairs.
- Improper connections to hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
- Prior to use, all connections must be secure. Do not drop heavy objects on hoses. A sharp impact may cause internal damage and lead to premature hose failure.
- DO NOT lift the placing tool by the hose. Always use the placing tool handle.
- Use in a well ventilated area.
- Keep dirt and foreign matter out of the hydraulic system of the tool as this will cause the tool to malfunction.

**STANLEY Engineered Fastening recommends that only Avdel®/Enerpac® Hydraulic pump units be used to drive installation tools, as other makes of hydraulic power units may not operate at the safe designed working pressures.**

## 2 SPECIFICATION

### 2.1 INTENT OF USE

The AV™5 Installation tool is principally a piston and cylinder assembly. When coupled hydraulically and electrically to a compatible hydraulic power source and the relevant nose assembly is attached, it is then used to install fasteners including 3/8" Avdelok®, 3/8" NeoBolt®, 5/16" Avbolt® and Ø16mm Avseal® in industrial environments.

The placing tool and hydraulic pump unit may only be used in accordance with the operating instructions for placing Avdel® fasteners.

Refer to the table below for the list of applicable fasteners and associated nose equipment.

Refer to the datasheets listed in the table for the relevant nose assembly instructions.

FASTENER		NOSE ASSEMBLY			NOSE ASSEMBLY DATASHEET
TYPE	SIZE	PART NUMBER	DIM. 'A'	DIM. 'B'	PART NUMBER
AVBOLT®	1/4"	07220-07500	70 mm	19 mm	07900-00905
	5/16"	07220-07700	100 mm	27mm	07900-00905
AVDELOK®	5/16"	07220-05600	130 mm	27 mm	
	3/8"	07220-02000	100 mm	27 mm	
AVSEAL® II	16 mm	07220-06800	100 mm	27 mm	07900-00840
AVTAINER®	3/8" *	71230-15600	130 mm	23 mm	
MONOBOLT®	1/4" *	71230-15800	130 mm	27 mm	
	3/8"	07220-07200	110 mm	27 mm	
NEOBOLT®	5/16"	73200-05000	100 mm	27 mm	07900-01071
	3/8"	73200-05100	100 mm	27 mm	07900-01071

Notes:

Length dimensions rounded.

\* It is a requirement to fit adaptor part number 07267-00800 to fit this nose assembly.

Refer to illustration in section 2.4 for the identification of the nose assembly dimensions 'A' and 'B'.

The safety instructions must be followed at all times.

### 2.2 THE PACKAGE CONTAINS

- 1 x AV™5 Hydro-Electric power tool
- 1 x Printed Instruction manual – region dependent

The tool is fitted with a 0.6m hose set and control cable. Additional Hydraulic hose and cable extension lengths are available to order separately as required. Refer to the table below for the available hose assembly lengths and associated part numbers.

HYDRAULIC HOSE ASSEMBLY	
PART NUMBER	HOSE LENGTH
07008-00448	5 Metre
07008-00449	10 Metre
07008-00450	15 Metre

### 2.3 PLACING TOOL SPECIFICATION

SPECIFICATION		METRIC	IMPERIAL
Force:	Pull @ stated pull pressure	36.0 kN	8992.4 lbf
	Push Off @ stated return pressure	17.5 kN	3934.1 lbf
Pressure:	Pull	510 bar	7396.9 lbf/in <sup>2</sup>
	Return	200 bar	2900.7 lbf/in <sup>2</sup>
Stroke:	Minimum piston stroke	30.0 mm	1.18 in
Weight:	With nose equipment and hose	2.9 kg	6.4 lb
Hydraulic Oil:	Enerpac Hydraulic Oil - HF-95X	-	-
Additional Features:	Stem Ejection		Rear
	Seal Arrangement		Twin Lip & Wiper seals
	Hydraulic Bearing Rings		Yes – Front & Rear
	Protective Handle / Hose Gator		Yes
	Protective Hose Guard		Yes
	Hose / Cable Retention Clamps		Yes

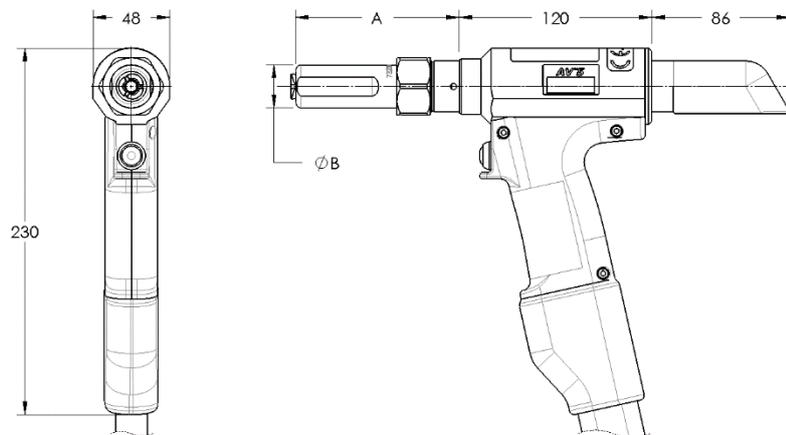
### NOISE VALUES DETERMINED ACCORDING TO NOISE TEST CODE ISO 15744 AND ISO 3744

A-weighted sound power level dB(A), $L_{WA}$	Uncertainty noise: $k_{WA} = 3.0$ dB(A)	86.9 dB(A)
A-weighted emission sound pressure level at the work station dB(A), $L_{pA}$	Uncertainty noise: $k_{pA} = 3.0$ dB(A)	75.9 dB(A)
C-weighted peak emission sound pressure level dB(C), $L_{pC,peak}$	Uncertainty noise: $k_{pC} = 3.0$ dB(C)	81.1 dB(C)

### VIBRATION VALUES DETERMINED ACCORDING TO VIBRATION TEST CODE ISO 20643 AND ISO 5349

Vibration emission level, $a_{hd}$ :	Uncertainty vibration: $k = 0.0$ m/s <sup>2</sup>	1.95 m/s <sup>2</sup>
Declared vibration emission values in accordance with EN 12096		

### 2.4 PLACING TOOL DIMENSIONS

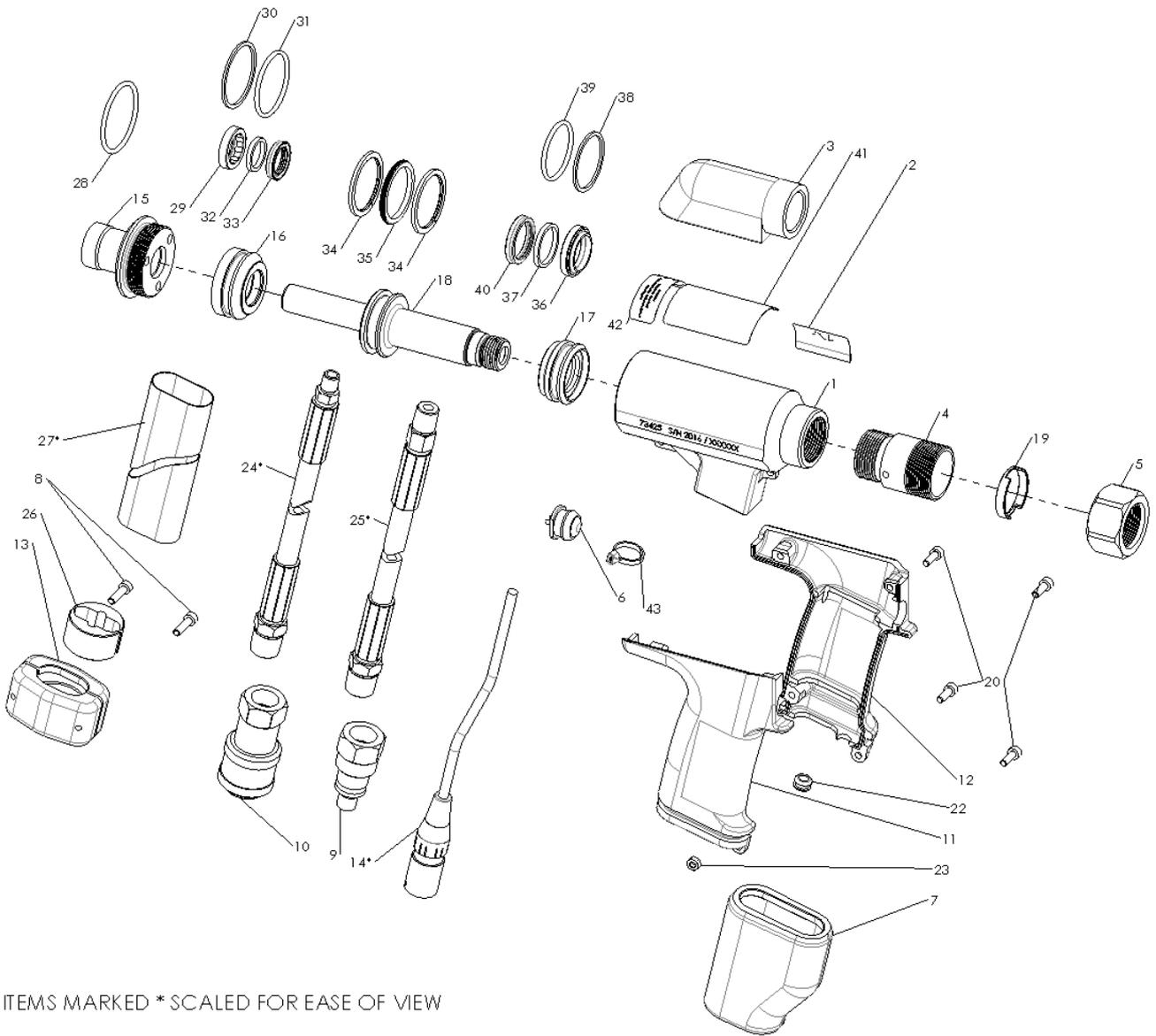


Dimensions in millimetres (mm) – Illustration shown with 3/8" NeoBolt® nose assembly fitted. Tool appearance will vary with different nose assemblies fitted.

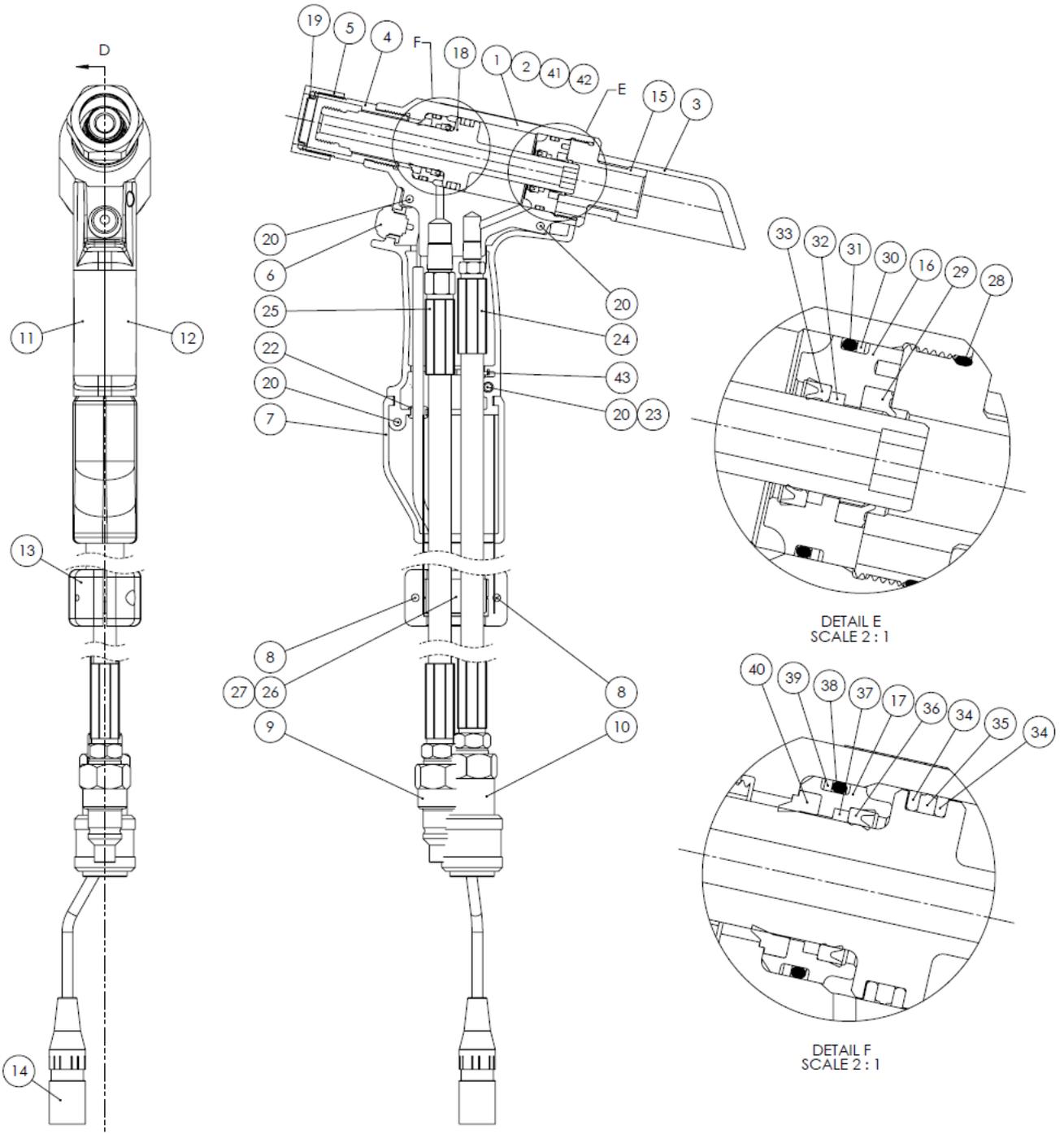
Refer to table in 2.1 for dimensions 'A' and 'B'

## 2.5 COMPONENT LIST

73425-02000 PARTS LIST			
ITEM No.	PART NUMBER	DESCRIPTION	QTY.
1	73425-02003	AV™5 Head	1
2	73425-02014	AV™5 Label	1
3	73200-02030	Deflector	1
4	73200-02041	Adaptor	1
5	73200-02042	Retaining Nut	1
6	73425-02013	Trigger Assembly	1
7	73430-02020	Handle Gator	1
8	07001-00686	M4 Socket Cap Screw	2
9	07005-10118	Quick Coupler - Male	1
10	07005-10120	Quick Coupler - Female	1
11	73425-02009	Handle Molding - Left	1
12	73425-02015	Handle Molding - Right	1
13	73430-02023	Hose Clamp	1
14	07007-02105	Control Cable	1
15	73425-02007	End Cap	1
16	73425-02006	Rear Seal Gland	1
17	73425-02005	Front Seal Gland	1
18	73425-02011	Head Piston	1
19	73200-02043	Adaptor Ring	1
20	07001-00688	M4 Socket Cap Screw	4
22	07007-02140	Rubber Grommet	1
23	07002-00134	M4 Nut	1
24	07005-10119	Hydraulic Hose - Return	1
25	07005-10117	Hydraulic Hose - Pull	1
26	73430-02024	Clamp Insert	1
27	07005-10121	Protective Sleeve	0.4m
28	07003-00308	O-Ring	1
29	07003-00442	Wiper Seal	1
30	07003-00527	Spiral Back-up Ring	1
31	07003-00526	O-Ring	1
32	73430-02010	Rear Bearing Ring	1
33	07003-00441	Rod Seal	1
34	07003-00521	Anti-Extrusion Ring	2
35	07003-00520	Piston Seal	1
36	07003-00523	Rod Seal	1
37	73200-03104	Bearing Ring	1
38	07003-00524	O-Ring	1
39	07003-00525	Spiral Back-up Ring	1
40	07003-00522	Wiper Seal	1
41	73430-02025	Safety Label	1
42	73425-02015	CE Label	1
43	07007-02032	Cable Tie	1



ITEMS MARKED \* SCALED FOR EASE OF VIEW



## 3 PUTTING INTO SERVICE

---

### 3.1 PRINCIPLE OF OPERATION

**IMPORTANT – Read both the safety rules in section 1 of this document and the pump unit instruction manual carefully before putting into service.**

When both hoses and control cable are connected to the Avdel® / Enerpac® hydraulic pump unit, the pull and return cycles of the tool are controlled by depressing and releasing the trigger located in the handle.

When the switch is depressed the solenoid valve, located in the hydraulic pump unit, is energised and directs the pressurised oil flow to the pull side of the piston in the placing tool. This also allows the oil in the return side of the placing tool to return to the reservoir.

During the pull cycles the piston/collet assembly moves towards the rear of the tool allowing the O-ring type cushion to push the follower and jaws forward. If a fastener pin has been inserted in the nose assembly, the jaw set will clamp onto the pintail and assembly will commence.

For Avbolt® and Avdelok® the cycle of installation will first clamp the joint to be fastened and then as the anvil continues to move forward the collar will be swaged into the locking grooves of the pin. At the end of the swaging cycle the anvil will come up against the joint and as movement continues the pintail will be broken off.

The trigger switch should be released immediately after pin break occurs. Releasing the trigger switch will cause the solenoid to de-energise and reverse the flow of pressurised oil.

If the trigger is not released, the placing tool piston will continue to move towards the rear of the tool until it reaches the end of its stroke. The pressure in the pull side will then increase until a preset 'High Pressure' value is achieved at the pump. At this point the solenoid valve will automatically de-energise and reverse the flow of pressurised oil to the return side of the placing tool.

In either case, pressurised oil will now flow into the return side of the placing tool, with the oil in the pull side returning to the reservoir.

The forward movement of the piston/collet assembly will eject the installed fastener from the anvil.

At the point of releasing the trigger or when the 'High Pressure' value is achieved, the solenoid valve will de-energise and activate a preset 'Return Timer'. This controls the time that the pump motor will continue run before switching to the idle mode. The timer can be manually set between 1 and 20 seconds to ensure that the placing tool piston always fully returns to the forward position (refer to pump manual 07900-01030, pages 10 and 13).

When the piston returns to the fully forward position, the pressure will increase to preset low pressure value - minimum 200 bar. The pump motor will continue to run until the Return Timer has expired. After this time period the motor will stop automatically and valve will switch to the idle position. The solenoid valve will then automatically cycle to release pressurised oil to the reservoir from both the pull and return side of the placing tool.

This keeps the installation tool in the forward position. No pressure will be present in the hydraulic system at this point.

The hydraulic pump unit will automatically start up on depression of the tool trigger switch.

### 3.2 PREPARATION FOR USE

**CAUTION** – Correct pull and return pressures are important for proper function of the installation tool. Personal injury or damage to equipment may occur without correct pressures. The pull and return pressures supplied by the hydraulic pump unit must not exceed those pressures listed in the placing tool specification.

**IMPORTANT** – Before putting placing tool and hydraulic hose set into service:

Ensure that the pump pressure relief valves have been set in accordance with the pump instructions and the maximum pressures specified for the placing tool and hoses.

Ensure that the hose kit is primed with hydraulic fluid in accordance with the procedure in the pump instruction manual 07900-01030.

- Ensure the mains power supply to the hydraulic pump unit is switched off.
- Connect the placing tool hydraulic hose quick couplers directly to the pump unit before connecting the electrical control cable. Hoses and control cable must be connected in this order and disconnected in reverse order.
- Switch on the mains supply to the hydraulic pump unit. Wait 5 seconds for the pump unit to complete the boot sequence, before pressing the trigger switch. When all set the LCD screen on the pump unit will display 'AVDEL'.
- During the boot sequence the pump control system identifies any trigger operation as a potential malfunction and prevents the motor from starting. The LCD screen will display 'BUTTON FAULT' in this instance. Reset by switching off the power supply for 10 seconds.
- Ensure that the placing tool is positioned below the pump reservoir tanks. Depress and release the placing tool trigger switch a few times to almost the full stroke of the tool to circulate hydraulic fluid and expel any air from the tool.
- Observe action of tool. Check for fluid leaks and ensure that in the idler mode the piston is in the fully forward position. The placing tool will now be primed.
- Switch off the mains power supply to the hydraulic pump unit and then disconnect the placing tool from the pump unit in reverse order to that described above.
- Now connect the placing tool to the primed hydraulic hose kit and electrical control cable. Then connect hydraulic hose kit quick couplers and the electrical control cable to the pump unit.
- Attach the nose assembly to the tool as per the instructions in the relevant nose assembly datasheet.
- Switch on the mains supply to the hydraulic pump unit as described above.
- Depress and release the placing tool trigger switch a few times to almost the full stroke of the tool to circulate hydraulic fluid.
- The placing tool is now ready for use

## 4 OPERATING INSTRUCTIONS

---

### 4.1 TO INSTALL AN AVBOLT® FASTENER

For further information regarding this fastener, refer to the nose assembly data sheet as listed in the table in section 2.1. The information below is for guide use.

- Check work and remove excessive gap. Gap is the space between components of the Joint.
- Put Avbolt® fastener into hole.
- Push nose assembly onto the pin until the nose assembly anvil stops against the collar. Tool and nose assembly must be held at right angles (90°) to the work.
- Depress tool trigger switch to start installation cycle.
- When the forward motion of the nose assembly anvil stops and the pintail breaks off, release the trigger. The tool will go into its return stroke and push off the installed fastener. At the end of the return stroke the jaws will partially release the expended pintail which can then be pushed through the jaws with the next installation and then ejected through the rear of the tool.
- Once the installed fastener has been ejected, the tool and nose assembly is ready for the next installation.

### 4.2 TO INSTALL AN AVDELOK® FASTENER

For further information regarding this fastener, refer to the nose assembly data sheet as listed in the table in section 2.1. The information below is for guide use.

- Check work and remove excessive gap. (Gap is the space between components of the Joint. Gap is excessive if not enough pintail sticks through the collar for the nose assembly jaws to grab onto).
- Put Avdelok® fastener into hole.
- Slide Avdelok® collar over the pin. (The bevelled end of the collar must be towards the nose assembly and tool.) Push nose assembly onto the pin until the nose assembly anvil stops against the collar. Tool and nose assembly must be held at right angles (90°) to the work.
- Depress tool trigger switch to start installation cycle.
- When the forward motion of the nose assembly anvil stops and the pintail breaks off, release the trigger. The tool will go into its return stroke and push off the installed fastener. At the end of the return stroke the jaws will partially release the expended pintail which can then be pushed through the jaws with the next installation and then ejected through the rear of the tool.
- Once the installed fastener been ejected, the tool and nose assembly is ready for the next installation.

**CAUTION – Do not attempt to break off a pintail without the installation of a collar as this will cause the unsecured portion of the Avdelok® or Avbolt® pintail to eject from the nose at a high speed and force.**

### **4.3 TO INSTALL A NEOBOLT® FASTENER**

For further information regarding this fastener, refer to the nose assembly data sheet as listed in the table in section 2.1. The information below is for guide use.

- Put NeoBolt® pin tail into hole and push fully through the joint layers.
- Fit NeoBolt® collar over the pin tail (the flanged end of the collar must be closest to the work piece) and rotate clockwise to engage the collar onto the pin fit-up thread by at least half a turn.
- Push the collet fully over the pin pulling tail until collet fully covers the pulling groove on the NeoBolt® pin and the pulling tail makes contact with the collet stop. The placing tool must be held perpendicular (90°) to the work piece surface.
- Depress and hold the tool trigger switch to start the installation cycle. The collet will grip the NeoBolt® pin tail and pull the anvil up against the collar.
- Continue to hold the trigger down until the collar is fully swaged and the forward motion of the anvil stops against the collar flange. The placing tool piston and collet will then automatically return to push the anvil off the installed collar and release the pintail from the collet.
- Release the trigger.
- Once the installed fastener has been ejected from the anvil, the placing tool, nose assembly and pump unit are ready for the next installation.

**CAUTION – Do not release the trigger until the placing tool pull cycle is complete and the pump unit and tool have switched automatically to the return cycle. Releasing the trigger before this point will result in an incorrectly placed and partially installed NeoBolt® fastener.**

## 5 SERVICING THE TOOL

---

**IMPORTANT** – Read safety instructions in Section 1 of this document. The employer is responsible for ensuring that tool maintenance instructions are given to the appropriate personnel. The operator should not be involved in maintenance or repair of the tool unless properly trained. The tool shall be examined before putting into daily service for damage and malfunction.

### 5.1 DAILY SERVICING

- Check placing tool, hoses and quick couplers for oil leaks.
- Worn or damaged hoses and couplings should be replaced.
- Check the stroke of tool meets the minimum specification.
- Check the stem deflector is fitted.
- Check the end cap is properly and tightly fitted to the AV™5 body
- Check the pump pull / advance pressure relief valve is functioning correctly.
- Check nose equipment is correct for the rivet to be placed and that it is fitted properly.
- Check for worn anvil indicated by score marks on the installed collar. This can also be confirmed by referring to the installed data in the fastener catalogue. Excessive wear can cause the anvil to rupture.

### 5.2 WEEKLY SERVICING

- Dismantle and clean the nose assembly especially the jaws/collet as described in the relevant nose assembly datasheet.
- Check for oil leaks in placing tool, hoses and quick couplers.

**CAUTION** – Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the materials used in these parts

### 5.3 ANNUAL SERVICING / EVERY 250K OPERATIONS

Annually or every 250,000 cycles (whichever is sooner) the tool should be completely dismantled and new components should be used where worn, damaged or as recommended. All O-rings, back-up rings and seals should be renewed and lubricated with MolyKote® 111 grease before assembling.

### 5.4 SERVICE KIT

For a complete service the following Service Kit is available:

SERVICE KIT: 73425-99990			
PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
07005-10118	Quick Coupler – Male	07900-01103	AV™5 Piston Guide Sleeve
07005-10120	Quick Couple – Female	07900-01104	AV™5 End Cap Assembly Tool
07900-00043	AV™5 Piston Bullet – Front	07992-00020	Grease – MolyLithium EP3753
07900-01101	AV™5 Piston Bullet – Rear	07900-00755	Grease – MolyKote 111
07900-01102	AV™5 Front Gland Guide Rod	07900-00756	Loctite 243 Thread Locker
		07002-00478	M4 X 20 Socket HD cap screw

## 5.5 SERVICING TOOLS

The following standard tools are required for the AV™5:

- Allen Key: 3.0 mm
- Small flat screwdriver
- Open End Flat Spanner: 7 / 12 / 14 / 18 / 24 / 45 mm A/F
- PTFE Tape: 10 mm
- Engineers Vice with Jaw Guards – 150 mm

## 5.6 HYDRAULIC PUMP OIL

PART NUMBER	HYDRAULIC OIL		
	07992-00081	07992-00082	07992-00083
Enerpac® Part Number	HF-95X	HF-95Y	HF-95T
Volume	1 Litre	5 Litres	20 Litres
Viscosity	32 mm <sup>2</sup> /s	32 mm <sup>2</sup> /s	32 mm <sup>2</sup> /s

## 5.7 DISMANTLING INSTRUCTIONS

**IMPORTANT** – Ensure the mains power supply to the hydraulic pump unit is switched off before removing the nose assembly or dismantling the placing tool.

### Before Dismantling:

- Uncouple the Quick Couplers **9** and **10** and the electrical Control Cable **14** between the placing tool and the Hydraulic Hose Assembly.
- Remove the nose assembly from the placing tool as per the instructions in the relevant nose assembly datasheet.

For a complete service of the tool, it is advised to proceed with dismantling the tool in the order shown on pages in section 5.7. After dismantling the tool, it is recommended to replace all seals.

### Head Piston Assembly:

- Remove the Deflector **3**, from the End Cap **15**.
- Clamp the tool handle in a vice with soft jaws so that the tool is pointing nose down. Insert the dowel pins on the \*End Cap Assembly Tool into the three holes in the End Cap **15**.
- Using a 45 mm A/F spanner, unscrew and remove the End Cap **15**, from the Body **1**.
- Using a small flat screwdriver, remove O-Ring **28** from the End Cap **15** and discard.
- Connect the spare \*Quick Coupler – Male to the Quick Coupler – Female **10** on the Hydraulic Hose - Return **24**. This will release any pressure from the return side of the Piston **18** and ease the removal of the Rear Seal Gland **16**. Note: Hydraulic oil will be expelled from the spare quick coupler - male

\* See service kit in section 5.4 for part numbers

- Insert three M4 screws into the Rear Seal Gland **16**, and use them to pull the part off the rear shaft of the Piston **18** and out of the Body **1**.
- Using a small flat screwdriver or similar tool, remove O-Ring **31** and Spiral Back-up Ring **30**, from the external groove on the Rear Seal Gland **16**, and discard. When removing the seals, take care not to damage the surface of the Rear Seal Gland with the screwdriver.
- Remove Rod Seal **29** and Wiper Seal **33**, from the internal grooves on the Rear Seal Gland **16**, and discard. When removing the seals, take care not to damage the surface of the Rear Seal Gland with the screwdriver.
- Remove Rear Bearing Ring **32** and check the part for wear or damage. Discard if necessary.
- Remove the placing tool from the vice and empty the hydraulic oil from the rear of the tool. Remove the spare \*Quick Coupler – Male from the Quick Coupler – Female **10** on Hydraulic Hose - Return **24**.
- Connect the spare \*Quick Coupler - Female to the Quick Coupler – Male **9** on the Hydraulic Hose - Pull **25**. This will release any pressure from the pull side of the Piston **18** and ease the removal of the Piston. Note: Hydraulic oil will be expelled from the spare quick coupler - female
- Screw the \*Piston Bullet - Front on to the front of the Piston **18**.
- Place the Body **1** nose up on a bench. Then using a soft mallet, tap the Piston **18** towards the rear of the Body and out the back end, taking care not to damage the bore within the Body.
- Note that when removing the Piston **18**, oil on the pull side of the Piston **18** will leak from the front and rear of the Body **1**.
- When removing the Piston **18**, the Front Seal Gland **17** may be retained on the Piston shaft. If this is the case, unscrew the \*Piston Bullet - Front and pull the Front Seal Gland off of the Piston.
- Using a small flat screwdriver remove Piston Seal **35** and the two Anti-Extrusion Rings **34**, from the external groove on the Piston **18**, and discard. When removing the seals, take care not to damage the surface of the Piston with the screwdriver.
- If the Front Seal Gland **17** is still retained in the Body **1**. Place the Body nose up on a bench and then push the Front Seal Gland from the front until it is free from the recess within Body. The Front Seal Gland can then be removed from the back end of the Body. Take care not to damage the bore within the Body when doing so.
- Using a small flat screwdriver remove O-Ring **38** and Spiral Back-up Ring **39**, from the external groove on the Front Seal Gland **17**, and discard. When removing the seals, take care not to damage the surface of the Front Seal Gland with the screwdriver.
- Remove Rod Seal **36** and Wiper Seal **40**, from the internal grooves on the Front Seal Gland **17**, and discard. When removing the seals, take care not to damage the surface of the Front Seal Gland with the screwdriver.
- Remove the Front Bearing Ring **37** and check the part for wear or damage. Discard if necessary.
- Remove the spare \*Quick Coupler - Female from the Quick Coupler - Male **9** on the Hydraulic Hose - Pull **25**.

---

\* See service kit in section **5.4** for part numbers

**Assemble in reverse order to dismantling noting the following points:**

- Clean all components before assembling.
- To aid assembly of seals apply a light coating of Molykote® 111 grease to all seals, seal grooves, back-up rings and the assembly tools.
- Slide O-Ring **38** over the Front Seal Gland **17** and into the external groove. Insert the Spiral Back-up Ring **39** in the same groove, in front of the installed O-Ring. Refer to the General Assembly and Parts List for the correct orientation of the O-Ring and Spiral Back-up Ring in section **2.5**.
- Press the Front Bearing Ring **36** into the internal recess within the Front Seal Gland **17** and then install Rod Seal **36** behind the Front Bearing Ring. Install the Wiper Seal **40** in the front recess of the Front Seal Gland. Refer to the General Assembly to ensure the correct orientation of the Rod Seal and Wiper Seal.
- Lubricate the surface and leading edge of the Body **1** bore into which the Front Seal Gland **17** is to be installed with Molykote® 111 grease.
- Lubricate the spigot on the \*Front Gland Guide Rod tool and then place the Front Seal Gland **17**, Rod Seal **36** end first, fully over spigot. Insert \*Front Gland Guide Rod into the rear of the Body **1** and then push the Front Seal Gland fully into the bore within the Body. Reasonable force is required to insert Front Seal Gland into the Body, so the use of a press or vice may be necessary. Remove the \*Front Gland Guide Rod while ensuring that the Front Seal Gland stays in place.
- Lubricate the seal groove and major external diameter of the Piston **18** with Molykote® 111 grease. Slide the Piston Seal **35** over the front of the major Piston diameter and into the seal groove. Install two Anti-Extrusion Rings **34** into the Piston seal groove, one either side of the Piston Seal.
- Screw the \*Piston Bullet - Front onto the front of the Piston **18**. Lubricate the \*Piston Bullet - Front, Piston shaft and Piston Seal **35** with Molykote® 111 grease.
- Screw the \*Piston Guide Sleeve fully into the rear of the Body **1**. Lubricate the bores in both the Body and the \*Piston Guide Sleeve with Molykote® 111 grease.
- Connect the spare \*Quick Coupler - Female to the Quick Coupler - Male **9** on the Hydraulic Hose - Pull **25**. This will allow air to be released from the pull side of the Piston **18** when inserting the Piston.
- Insert the assembled Piston **18** into the rear of the Body **1** and through the assembled Front Seal Gland **17**. Push the Piston into the fully forward position until it stops against the Front Seal Gland. Hydraulic oil will be expelled from the Hydraulic Hose - Pull **25**.
- Remove the spare \*Quick Coupler - Female from the Quick Coupler - Male **9** on the Hydraulic Hose - Pull **25**. Remove the \*Piston Guide Sleeve from the rear of the Body **1**.
- Slide O-Ring **31** over the Rear Seal Gland **16** and into the external groove. Insert the Spiral Back-up Ring **30** in the same groove, behind the installed O-Ring. Refer to the General Assembly and Parts List for the correct orientation of the O-Ring and Spiral Back-up Ring in section **2.5**.
- Press the Rear Bearing Ring **32** into the internal recess within the Rear Seal Gland **16** and then install Rod Seal **29** behind the Rear Bearing Ring. Install the Wiper Seal **33** in the rear recess of the Rear Seal Gland. Refer to the General Assembly to ensure the correct orientation of the Rod Seal and Wiper Seal.
- Clamp the tool handle in a vice with soft jaws so that the tool is pointing nose down.

---

\* See service kit in section **5.4** for part numbers

- Lubricate the surface and leading edge of the Body **1** bore into which the Rear Seal Gland **16** is to be installed with Molykote® 111 grease. Lubricate the rear Piston **18** shaft with Molykote® 111 grease.
- Insert the \*Piston Bullet - Rear into the rear Piston **18** shaft and Lubricate with Molykote® 111 grease.
- Fill the rear of the Body **1** with Enerpac® HF hydraulic oil. Oil level should be just above the rear inlet bore into the Body.
- Connect the spare \*Quick Coupler - Male to the Quick Coupler - Female **10** on the Hydraulic Hose – Return **24**. This will allow air to be released from the return side of the Piston **18** when inserting the Rear Seal Gland **16**. Note: Hydraulic oil may be expelled from the spare quick coupler - female
- Place the Rear Seal Gland **16** over the \*\*Piston Bullet - Rear. Then push the Rear Seal Gland over the Piston **18** shaft and into the rear of the Body **1**. Push the Rear Seal Gland into the Body until a few internal threads are exposed at the rear of the Body. Take care not to damage the O-Ring **31** and Spiral Back-up Ring **30** on the threads when inserting the Rear Seal Gland.
- Lubricate both the internal thread in the Body **1** and the external thread on End Cap **15** with MolyLithium Grease.
- Screw the End Cap **15** fully into the rear of the Body **1** using the \*End Cap Assembly Tool. In doing so, the Rear Seal Gland **16** will be pressed into position within the Body and a small amount of oil will be expelled from the Hydraulic Hose - Return **24**.
- Remove the spare \*Quick Coupler - Male from the Quick Coupler - Female **10** on the Hydraulic Hose - Return **24**.
- Push the Deflector **3**, onto the End Cap **15**.
- Prime the placing tool as described in Preparation for Use in section **3.2**.

#### Hose Assembly:

- Remove the two Screws **8** from the Hose Clamp **13** using a 3.0mm Allen Key. Remove the Hose Clamp and Clamp Insert **26** from the Protective Sleeve **27** and Hydraulic Hoses - Return **24** and Pull **25**.
- Using the small flat screwdriver prize the Handle Gator **7** from the handle mouldings **11** and **12**. Pull the Handle Gator over the Protective Sleeve **27**, Hydraulic Hoses-Return **24** and Pull **25** and remove.
- Using a 3.0mm Allen Key (and 7.0mm spanner on bottom nut) unscrew the four screws **20** holding handle mouldings **11** and **12** together and remove.
- The trigger **6** is soldered to control cable. Remove this assembly from the handles **11** and **12**. The cable gland **22** is part of this assembly.
- Cut the Cable Tie **43** and slide back the Protective Sleeve **27** to expose the fittings on the Hydraulic Hoses - Return **24** and Pull **25**. The Hydraulic Hoses can be removed from the Body **1** using 12mm and 14mm spanners.
- The Quick Couplers - Male **9** and Female **10** can be removed from the Hydraulic Hoses - Return **24** and Pull **25** using 18mm and 24mm spanners.

---

\* See service kit in section **5.4** for part numbers

**Assemble in reverse order to dismantling noting the following points:**

- Prior to assembly clean all threads on the Quick Couplers - Male **9** and Female **10** and the Hydraulic Hoses - Return **24** and Pull **25**. Then apply two to three layers of 10mm PTFE tape to the male threads on both of the Hydraulic Hoses.
- Once assembled, prime the tool as per the instructions in section **3.2**.

## 6 SAFETY DATA

---

### 6.1 ENERPAC® HF HYDRAULIC OIL - SAFETY DATA

Refer to safety data sheet on [www.enerpac.com](http://www.enerpac.com) for information

### 6.2 MOLYLITHIUM GREASE EP 3753 - SAFETY DATA

Grease can be ordered as a single item, the part number is shown in the Service Kit in section 5.4.

#### First Aid

SKIN:

As the grease is completely water resistant it is best removed with an approved emulsifying skin cleaner.

INGESTION:

Ensure the individual drinks 30ml Milk of Magnesia, preferably in a cup of milk.

EYES:

Irritant but not harmful. Irrigate with water and seek medical attention.

#### Fire

FLASH POINT:

Above 220°C.

Not classified as flammable.

Suitable extinguishing media: CO<sub>2</sub>, Halon or water spray if applied by an experienced operator.

#### Environment

Scrape up for incineration or disposal on approved site.

#### Handling

Use barrier cream or oil resistant gloves

#### Storage

Away from heat and oxidising agent.

### 6.3 MOLYKOTE® 111 GREASE - SAFETY DATA

Grease can be ordered as a single item, the part number is shown in the Service Kit in section 5.4.

#### First Aid

SKIN:

No first aid should be needed.

INGESTION:

No first aid should be needed.

EYES:

No first aid should be needed.

INHALATION:

No first aid should be needed.

#### Fire

FLASH POINT:

Above 101.1°C. (closed cup)

Explosive Properties: No

Suitable Extinguishing Media: Carbon Dioxide Foam, Dry Powder or fine water spray. Water can be used to cool fire exposed containers.

#### Environment

No adverse effects are predicted.

#### Handling

General ventilation is recommended. Avoid eye contact.

#### Storage

Do not store with oxidizing agents. Keep container closed and store away from water or moisture

## 7 FAULT DIAGNOSIS

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REFERENCE
Placing tool will not operate	Inoperative pump unit	Check pump power supply and refer to pump unit instruction manual	
	Faulty Quick Couplers <b>9</b> and <b>10</b>	Replace Quick Couplers	20
	Trigger Control Cable <b>14</b> not connected correctly	Check Control Cable is correctly connected at pump and placing tool	13
	Damaged Trigger Switch <b>6</b> or Control Cable <b>14</b>	Replace Trigger Switch and/or Control Cable	20
Trigger Switch <b>6</b> does not function	Pump in local mode	Refer to pump instruction manual	
	Trigger Switch <b>6</b> , Control Cable <b>14</b> or connector damaged	Replace Trigger Switch and/or Control Cable	20
Pump running but placing tool does not function	Hydraulic Hoses not connected	Check for correct connections at pump and placing tool	13
	Low oil level	Ensure placing tool is filled with oil and correctly primed Refer to pump instruction manual	13
	Placing tool external oil leak	Inspect placing tool – replace worn or damaged components	16 - 20
	Hose Assembly external oil leak	Inspect Hose Assembly – ensure hose connections are tight and/or replace damaged hose connectors	20
	Pump internal/external oil leak	Refer to pump instruction manual	
Placing tool operates erratically	Low or erratic hydraulic pressure supply	Refer to pump instruction manual	
	Worn or damaged hydraulic seals in placing tool	Inspect placing tool – replace worn or damaged seals	16 - 20
	Worn or damaged hydraulic sealing surfaces in placing tool	Inspect placing tool – replace worn or damaged components	16 - 20
	Pump internal/external oil leak	Refer to pump instruction manual	
Pump builds full pressure, but pintail does not break	Breakload greater than placing tool capacity at full pressure	Refer to placing tool specification	7
	Flow to placing tool blocked	Check Quick Couplers <b>9</b> and <b>10</b> for full engagement	13
	Pump pressure relief value set too low	Adjust pressure relief valve settings – refer to pump instruction manual	
	Pull grooves on fastener pintail stripped	See symptom on page 21	14
	Improper tool operation		14

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REFERENCE
Placing tool Piston <b>18</b> will not return	Return flow restricted or blocked	Check Quick Couplers <b>9</b> and <b>10</b> for full engagement and/or fault	13
	Hydraulic Hoses not connected	Check for correct connections at pump and placing tool	13
	Pump valve malfunction	Refer to pump instruction manual	
Placing tool does not eject the collar from the anvil	Pump Return Timer setting incorrect – set too low	Adjust Return Timer to recommended setting – refer to pump instruction manual	
	Pump return pressure relief valve set too low	Adjust return pressure relief valve to correct setting – refer to pump instruction manual	
	Low or erratic hydraulic pressure supply	Refer to pump instruction manual	
	Worn or damaged hydraulic seals in placing tool	Inspect placing tool – replace worn or damaged seals	16 - 20
	Worn or damaged hydraulic sealing surfaces in placing tool	Inspect placing tool – replace worn or damaged components	16 - 20
	Pump internal/external oil leak	Refer to pump instruction manual	
Pull grooves on fastener pintail stripped during installation	Operator not pushing nose completely onto fastener pintail before operating tool	Instruct operator in correct installation method	14
	Incorrect fastener length / grip length Worn or damaged jaw segments	Use correct fastener Check and replace jaw set – refer to nose equipment datasheet	14
	Debris in jaw segments and/or pintail grooves	Clean jaw segments – refer to nose equipment datasheet	
	Excessive sheet gap	Close gap between sheets	14
Avdelok® or Avbolt® collar not fully swaged	Improper tool operation		14
	Worn Anvil bore	Check and replace Anvil – refer to nose equipment datasheet	
Pintail fails to release from nose equipment	Incorrect assembly of nose equipment	Refer to nose equipment datasheet	
Placing tool and Hydraulic oil runs hot	Restriction in hydraulic line	Check hydraulic Quick Couplers <b>9</b> and <b>10</b> and replace if necessary	20
	High ambient temperature		
Hydraulic Quick Couplers <b>9</b> and <b>10</b> leak oil	Worn O-Ring in body of Quick Coupler Male <b>9</b>	Replace O-Ring and Back-up Ring in Quick Coupler <b>9</b>	20

## 8 NOTES

---

## 9 DECLARATION OF CONFORMITY

---

We, Avdel UK Limited, Stanley House, Works Road, Letchworth Garden City, Hertfordshire, SG6 1JY UNITED KINGDOM, declare under our sole responsibility that the product:

**Model: AV<sup>TM</sup>5 STRUCTURAL LD TOOL – 73425-02000  
HYDRO-ELECTRIC POWER TOOL**

**Serial No:**

to which this declaration relates is in conformity with the following standards:

ISO 12100:2010	EN ISO 28927-5:2009+A1:2015
EN ISO 11202:2010	EN ISO 3744:2010
EN ISO 4413:2010	EN ISO 11148-1:2011
BS EN ISO 11148-13:2018	EN ISO 20643:2008+A1:2012
EN ISO 4414:2010	

Technical documentation is compiled in accordance with Annex 1, section 1.7.4.1, in accordance with the following Directive:

**2006/42/EC The Machinery Directive**

UK Statutory Instruments 2008 No 1597 - The Supply of Machinery (Safety) Regulations refers.



**A. K. Seewraj**  
Technology Manager

Avdel UK Limited, Stanley House, Works Road, Letchworth Garden City, Hertfordshire,  
SG6 1JY UNITED KINGDOM

**Place of issue: Letchworth Garden City**

**Date of Issue: 04-05-2017**



This machinery is in conformity with  
Machinery Directive 2006/42/EC

# 10 PROTECT YOUR INVESTMENT!

---

## **Stanley Engineered Fastening BLIND RIVET TOOL WARRANTY**

STANLEY Engineered Fastening warrants that all power tools have been carefully manufactured and that they will be free from defect in material and workmanship under normal use and service for a period of one (1) year.

This warranty applies to the first time purchaser of the tool for original use only.

### **Exclusions:**

#### **Normal wear and tear.**

Periodic maintenance, repair and replacement parts due to normal wear and tear are excluded from coverage.

#### **Abuse & Misuse.**

Defect or damage that results from improper operation, storage, misuse or abuse, accident or neglect, such as physical damage are excluded from coverage.

#### **Unauthorized Service or Modification.**

Defects or damages resulting from service, testing adjustment, installation, maintenance, alteration or modification in any way by anyone other than STANLEY Engineered Fastening, or its authorized service centres, are excluded from coverage.

All other warranties, whether expressed or implied, including any warranties of merchantability or fitness for purpose are hereby excluded.

Should this tool fail to meet the warranty, promptly return the tool to our factory authorized service centre location nearest you. For a list of POP@Avdel® Authorized Service Centres in the US or Canada, contact us at our toll free number (877)364 2781.

Outside the US and Canada, visit our website [www.StanleyEngineeredFastening.com](http://www.StanleyEngineeredFastening.com) to find your nearest STANLEY Engineered Fastening location.

STANLEY Engineered Fastening will then replace, free of charge, any part or parts found by us to be defective due to faulty material or workmanship, and return the tool prepaid. This represents our sole obligation under this warranty.

In no event shall STANLEY Engineered Fastening be liable for any consequential or special damages arising out of the purchase or use of this tool.

### **Register Your Blind Rivet Tool online.**

To register your warranty online, visit us at <http://www.stanleyengineeredfastening.com/popavdel-powertools/warranty-card>

Thank you for choosing a STANLEY Engineered Fastening's POP@Avdel® Brand tool.

**STANLEY.**  
Engineered Fastening

**STANLEY Engineered Fastening**  
STANLEY House, Works Road  
Letchworth Garden City  
Hertfordshire, United Kingdom  
SG6 1JY  
Tel: +44 1582 900 000  
Fax: +44 1582 900 001



## Holding your world together®

Find your closest STANLEY Engineered Fastening location on  
[www.stanleyengineeredfastening.com/contact](http://www.stanleyengineeredfastening.com/contact)

For an authorized distributor nearby please check

[www.stanleyengineeredfastening.com/econtact/distributors](http://www.stanleyengineeredfastening.com/econtact/distributors)

Manual Number	Issue	C/N
07900-01025	A3	19/391

**STANLEY.**  
Engineered Fastening

Stanley Engineered Fastening — a division of Stanley Black & Decker — is the global leader in precision fastening and assembly solutions. Our industry-leading brands, Avdel®, Integra™, Nelson®, Optia™, POP®, STANLEY® Assembly Technologies, and Tucker®, elevate what our customers create. Backed by a team of passionate and responsive problem-solvers, we empower engineers who are changing the world.

STANLEY ENGINEERED FASTENING FAMILY OF BRANDS

AVDEL. INTEGRA. NELSON. OPTIA. POP. STANLEY Assembly Technologies. TUCKER