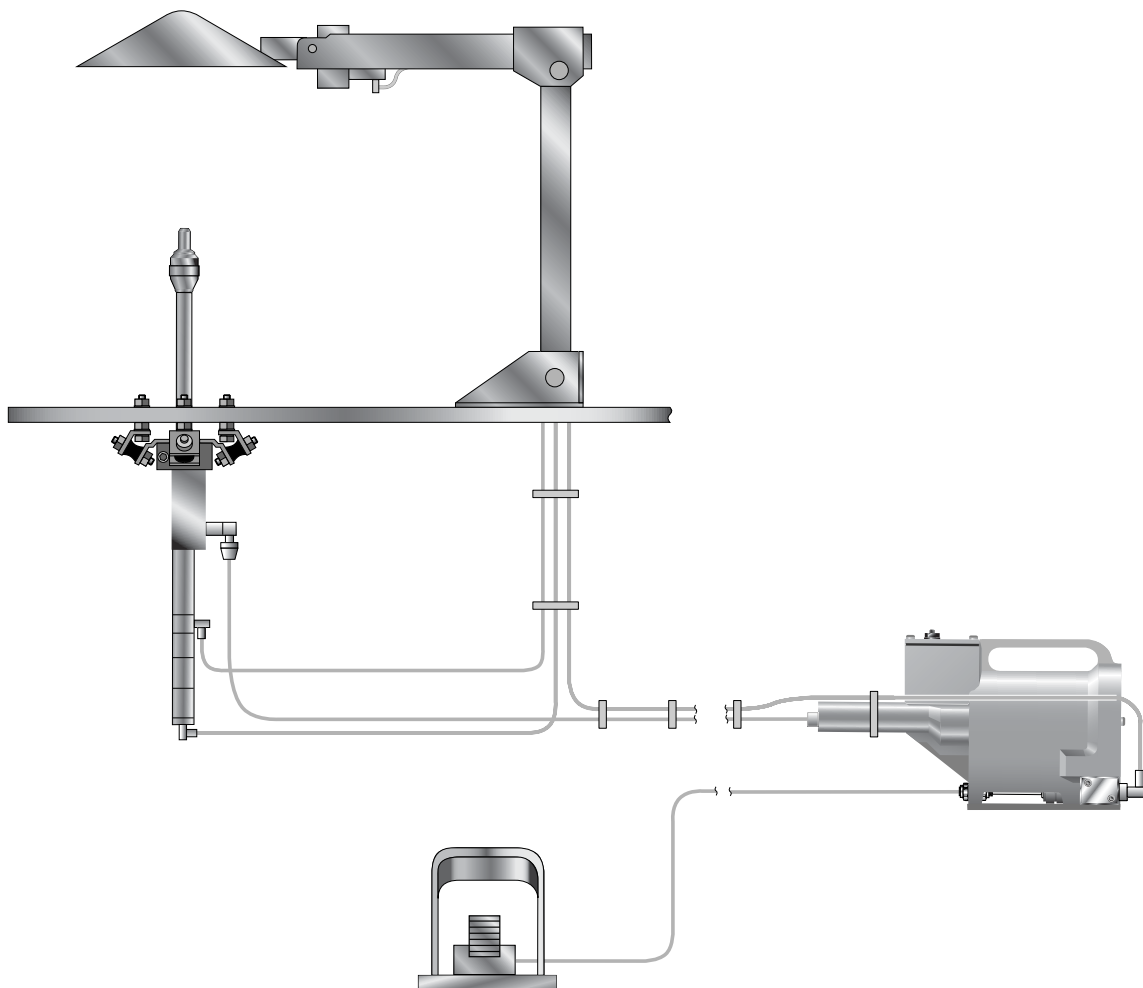




An Acument™ Global Technologies Company

# Instruction Manual



**Hydro-Pneumatic Power Tool**

**07475**



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## Warranty

**Avdel installation tools carry a 12 month warranty against defects caused by faulty materials or workmanship, the warranty period commencing from the date of delivery confirmed by invoice or delivery note.**

**The warranty applies to the user/purchaser when sold through an authorised outlet, and only when used for the intended purpose. The warranty is invalidated if the installation tool is not serviced, maintained and operated according to the instructions contained in the Instruction and Service Manuals.**

**In the event of a defect or failure, and at its sole discretion, Avdel undertakes only to repair or replace faulty components.**

# Safety Rules

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

- 1 Do not use outside the design intent.
- 2 Do not use equipment with this tool/machine other than that recommended and supplied by Avdel UK Limited.
- 3 Any modification undertaken by the customer to the tool/machine, nose assemblies, accessories or any equipment supplied by Avdel UK Limited or their representatives, shall be the customer's entire responsibility. Avdel UK Limited will be pleased to advise upon any proposed modification.
- 4 The tool/machine must be maintained in a safe working condition at all times and examined at regular intervals for damage and function by trained competent personnel. Any dismantling procedure shall be undertaken only by personnel trained in Avdel UK Limited procedures. Do not dismantle this tool/machine without prior reference to the maintenance instructions. Please contact Avdel UK Limited with your training requirements.
- 5 The tool/machine shall at all times be operated in accordance with relevant Health and Safety legislation. In the U.K. the "Health and Safety at Work etc. Act 1974" applies. Any question regarding the correct operation of the tool/machine and operator safety should be directed to Avdel UK Limited.
- 6 The precautions to be observed when using this tool/machine must be explained by the customer to all operators.
- 7 Always disconnect the airline from the tool/machine inlet before attempting to adjust, fit or remove a nose assembly.
- 8 Do not operate a tool/machine that is directed towards any person(s) or the operator.
- 9 Always adopt a firm footing or a stable position before operating the tool/machine.
- 10 Ensure that vent holes do not become blocked or covered and that hoses are always in good condition.
- 11 The operating pressure shall not exceed 5 bar (72.5 lbf/in<sup>2</sup>).
- 12 The combination of fastener, mandrel, hole size and sheet thickness shall be in accordance with Avdel UK Limited Specifications.
- 13 Do not operate the tool if it is not fitted with a complete nose assembly unless specifically instructed otherwise.
- 14 Bench mounted tools must not be used without a 'C Frame Guard' or 'Automatic Guard' with the shield in position above the tool barrel and they should not be operated if the guard is damaged in any way.
- 15 Do not contaminate the transparent shield with solvents or alkaline substances. These will reduce the strength of the shield.
- 16 When using the tool, the wearing of safety glasses is required both by the operator and others in the vicinity to protect against fastener ejection, should a fastener be placed 'in air'. We recommend wearing gloves if there are sharp edges or corners on the application.
- 17 Take care to avoid entanglement of loose clothes, ties, long hair, cleaning rags etc. in the moving parts of the tool which should be kept dry and clean for best possible grip.
- 18 Excessive contact with hydraulic oil should be avoided. To minimize the possibility of rashes, care should be taken to wash thoroughly.

## IMPORTANT

**While a small amount of wear and marking will naturally occur through normal and correct use of mandrels, they must be regularly examined for excessive wear and marking, with particular attention to the head diameter, the tail jaw gripping area of the shank or heavy pitting of the shank and any mandrel distortion. Mandrels which fail during use could forcibly exit the tool. It is the customer's responsibility to ensure that mandrels are replaced before any excessive levels of wear and always before the maximum recommended number of placings. Contact your Avdel representative who will let you know what that figure is by measuring the broach load of your application with a calibrated test tool. These tools can also be purchased under Part Number 07900-09080, supplied with all necessary information for testing in this manual.**

# Specifications

## SPECIFICATION FOR 07475 TYPE TOOL

<b>Air Pressure</b>	Minimum - Maximum	5 bar (72.5 lbf/in <sup>2</sup> )
<b>Free Air Volume Required</b>	@ 5 bar /72.5 lbf/in <sup>2</sup>	2.6 litres (0.09 ft <sup>3</sup> )
<b>Stroke</b>	Minimum	30.0 mm (1.18 in)
	With 3 buffer stops as standard	21.0 mm (0.83 in)
<b>Pull Force</b>	@ 5 bar /72.5 lbf/in <sup>2</sup>	3.0 kN (788 lbf)
<b>Cycle time</b>	Approximately	1 second
<b>Noise Level</b>	Less than	70 dB(A)

## SPECIFICATION FOR 07530-00200 INTENSIFIER

<b>Air Pressure</b>	Maximum	5 bar (72.5 lbf/in <sup>2</sup> )
<b>Intensification Ratio</b>		32:1

# Intent of Use

## TOOL CAPABILITY

The pneumatic 7475 type tool is designed to place Avdel® speed fasteners (except 1/16" Avlug®) making it ideal for batch flow-line assembly in a wide variety of applications throughout all industries.

Reference must be made to the nose equipment section of the manual when selecting compatible components for the type of fastener used in the application (see pages 18-22). Nose jaw dimensions are shown on page 15 and stated on pages 16 and 17.

FASTENER NAME	FASTENER SIZE											
	3/32"	1/8"	5/32"	3/16"	1/4"	2.5mm 2.8mm	3mm	3.5mm	4mm	6mm	M2.5 4-40 UNC	M3 6-32 UNC
CHOBERT®	●	●	●	●	●							
GROVIT®	●	●	●	●								
AVLUG®	●	●										
BRIV®	●	●	●	●						●		
RIVSCREW®						●	●	●	●			
AVTRONIC®						●						
AVSERT®											●	●

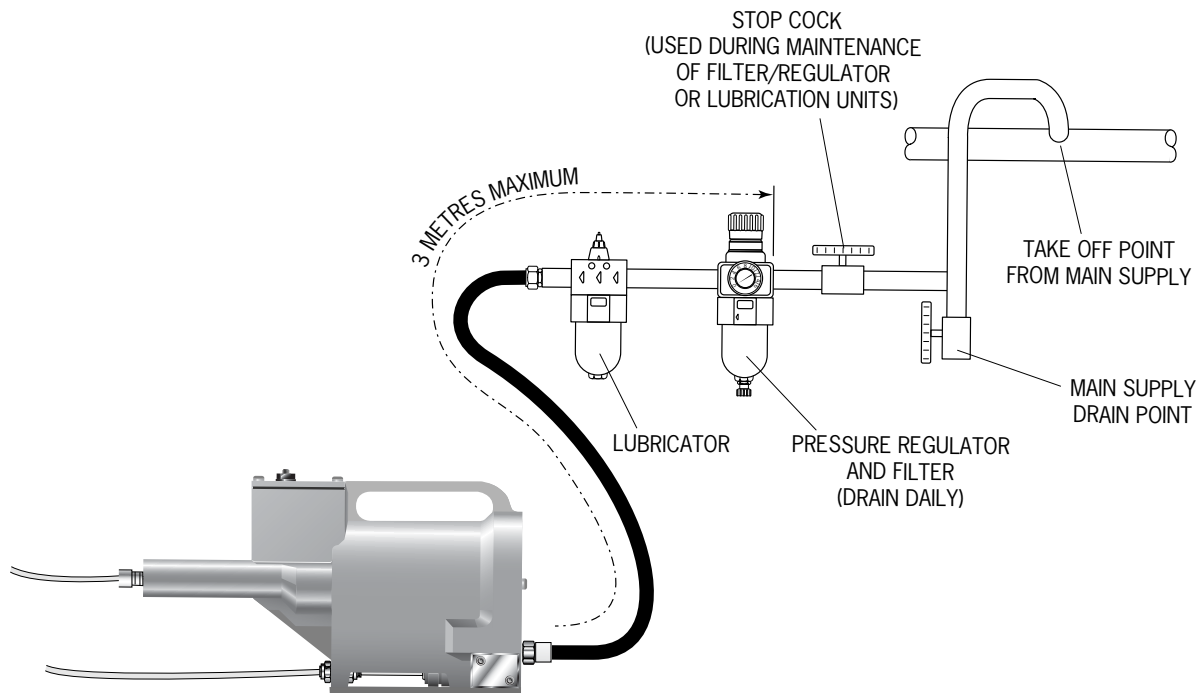
# Putting into Service

## AIR SUPPLY

All tools are operated with compressed air at an optimum pressure of 5 bar. We recommend the use of pressure regulators and automatic oiling/filtering systems on the main air supply. To ensure maximum tool life and minimum tool maintenance, these should be fitted within 3 metres of the air inlet point on the tool itself for the 7475 and 7667 module. See diagram below.

Air supply hoses should have a minimum working effective pressure rating of 150% of the maximum pressure in the system or 10 bar, whichever is the highest. Air hoses should be oil resistant, have an abrasive resistant exterior and should be armoured where operating conditions may result in hoses being damaged. All air hoses **MUST** have a minimum bore of 6.4 millimetres or 1/4 inch.

Read daily servicing details on page 23.

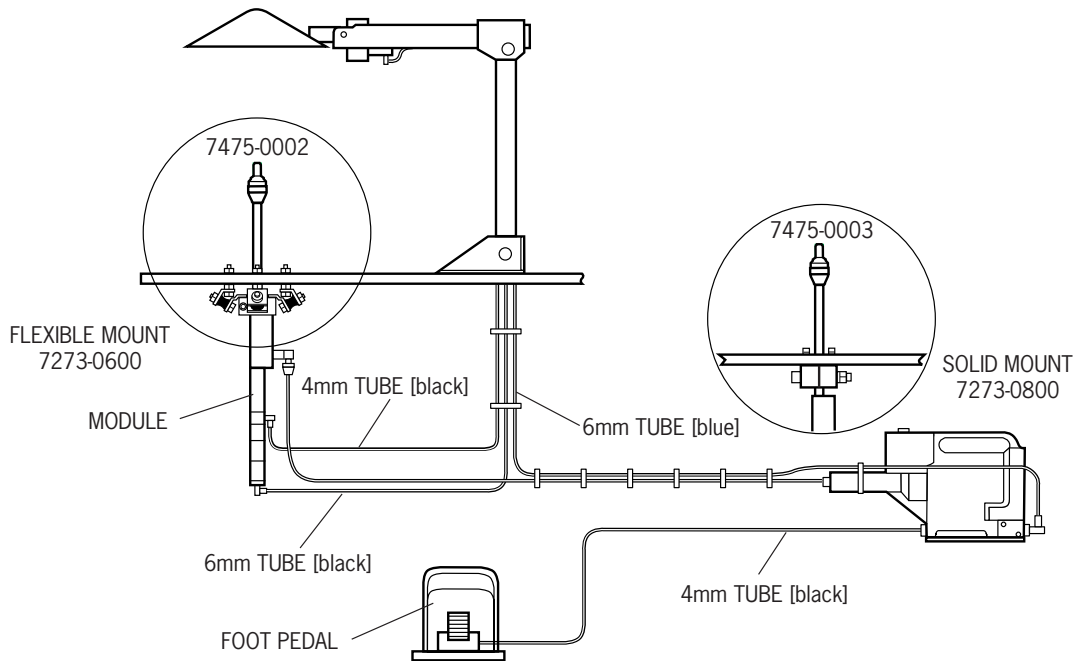


# Putting into Service

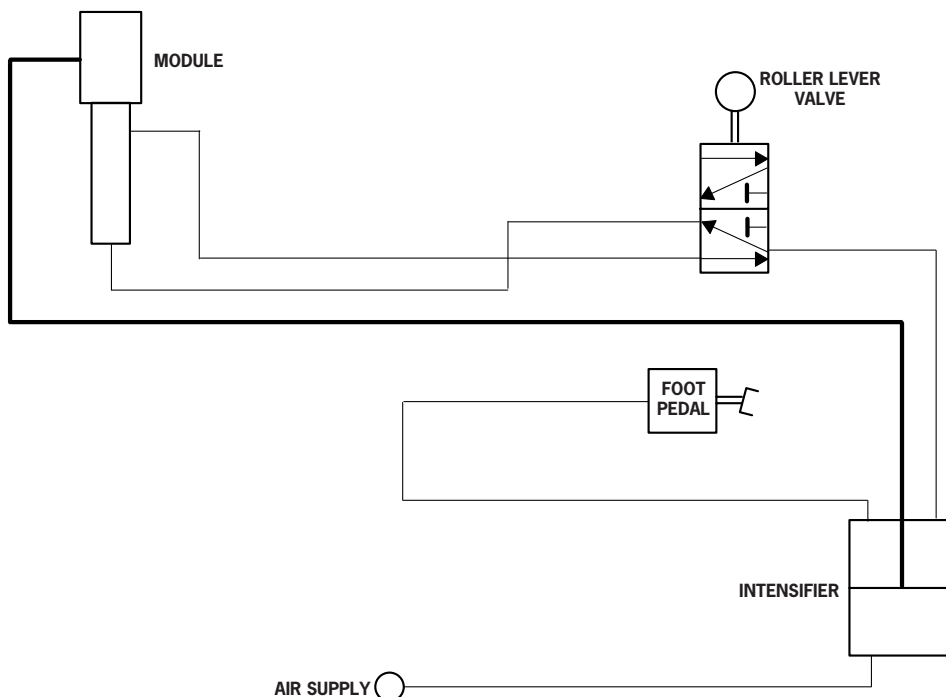
## 07475 MODEL - AUTOMATIC GUARD

### 7475-0002 / 7475-0003. Includes Automatic Guard 7475-3100(S) and 07475-00200 (S) Module/Intensifier

- From the Automatic guard, connect the black 6mm pneumatic tube to the fitting at the rear of the module (Tail jaws on)
- From the Automatic guard, connect the black 4mm pneumatic tube to the fitting at the middle of the module (Tail jaws off)
- From the Automatic guard, connect the blue 6mm pneumatic tube to intensifier. On the rear face of the intensifier connect to fitting on the mains inlet.
- Fit a hose between the intensifier and the main air supply.
- From the foot pedal connect the black 4mm pneumatic tube to the intensifier. On the front face of the intensifier connect to fitting on the right.



## 7475-0002 / 7475-0003 AUTOMATIC GUARD - PNEUMATIC CIRCUIT



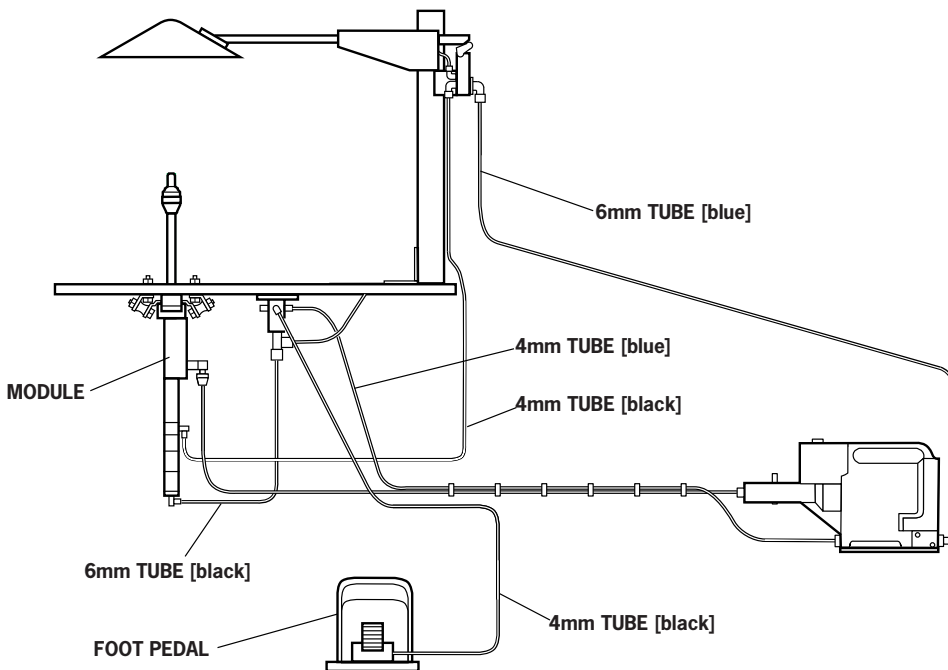


# Putting into Service

## C-FRAME GUARD

**7475-0005. Includes C-Frame Guard 7475-3200(S) and 07475-00200 (S) Module/Intensifier**

- From the C-Frame guard, connect the black 6mm pneumatic tube (connected to the tee connector on the valve located under the base plate) to the fitting at the rear of the module (Tail jaws on)
- From the C-Frame guard, connect the black 4mm pneumatic tube (connected to the 5/2 roller valve on the upright section) to the fitting at the middle of the module (Tail jaws off)
- From the C-Frame guard, connect the blue 4mm pneumatic tube (connected to the valve located under the base plate) to the intensifier. On the front face of the intensifier connect to fitting on the right.
- From the C-Frame guard, connect the 6mm blue pneumatic tube (connected to the 5/2 roller valve on the upright section) to intensifier. On the rear face of the intensifier connect to fitting on the mains inlet.



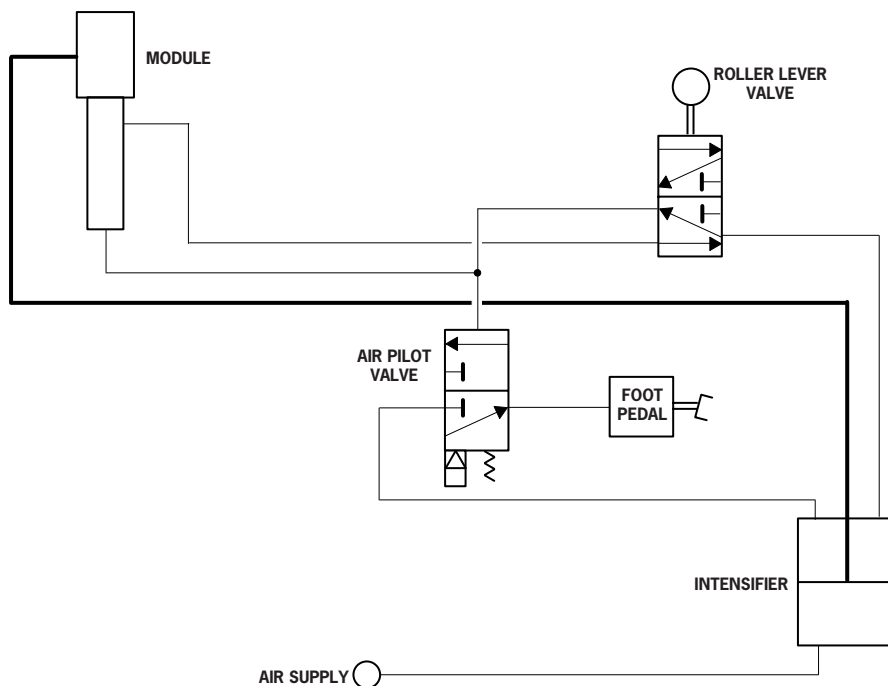
- From the C-Frame guard, connect the black 4mm pneumatic tube (connected to the valve located under the base plate) to the foot pedal.

**Note:**

Substitute item 35 (7005-1528 packed loose with C-Frame guard) banjo connector in place of existing fitting on the foot pedal.

- Fit a hose between the intensifier and the main air supply.

## 7475-0005 C-FRAME GUARD - PNEUMATIC CIRCUIT



# Putting into Service

## MODULAR HEAD BUSH STOPS

### IMPORTANT

**Bush stops are fitted to reduce the stroke length of the tool thus the tool cycle time and shock loads. Minimising shock loads will increase the efficiency of the tool and will prolong the life of the mandrel.**

Each tool is supplied with three bush stops already fitted. It may be necessary to remove one or more of these to match the length of the fasteners to be placed so that when in the fully back position, the mandrel head lies just inside the nose jaws. Use the table below to ascertain the number of bush stops recommended for your fastener. First find the relevant diameter and within that section select the correct length code. These two digits are the last two of the fastener part number.

Read the corresponding number of bush stops in the table below.

Fastener Diameter Code	03 (3/32", 2.5mm and 2.8mm)										04 (1/8")					
	Fastener length code	04	06	08	10	12	14	16	18	20	22	04	06	08	10	12
Number of fill bush stops	3	3	2	2	1	0	0	0	0	0	3	2	2	2	1	1

Fastener Diameter Code	05 (5/32")						06 (3/16")						08 (1/4", 6mm)			
	Fastener length code	05/06	07/08	09/10	11/12	13/14	15/16	07	09	11	13	15	17	09	11	13
Number of fill bush stops	3	3	3	1	1	0	3	2	1	1	0	0	2	1	0	0

For extra bush stops, 1/8" thick, order part number 07667-00206

Adjusting the number of stops

- Ensure that the air supply to the tool is disconnected.
- Remove Modular Head Assembly from the mounting plate/Machine Top Plate.
- Hold body **7** in a pair of soft vice jaws and unscrew Tail Jaw Housing **11**. This exposes the Piston Nut **18** and Locknut **27**.
- Add or remove, as applicable, Buffer Stops **13** in accordance with the table opposite.
- Refit Tail Jaw Housing **11**, tightening it onto Body **7**.
- Remove from vice and refit Modular Head Assembly into position.

*Note: No oil loss will be expected during the above operation, therefore re-priming is not necessary.*

Item numbers in **bold** refer to the general assembly drawing and parts list for 07667-00200 (pages 28-29).

# Putting into Service

## CURSOR

### IMPORTANT

**If fitted incorrectly, the cursor will not allow feeding of the fasteners.**

While the cursor will be fitted the correct way round when the tool is supplied, we recommend that you check its orientation before fitting the nose equipment. The sprung loaded, slightly concave, end of the cursor should point towards the front of the tool as shown in the illustration.

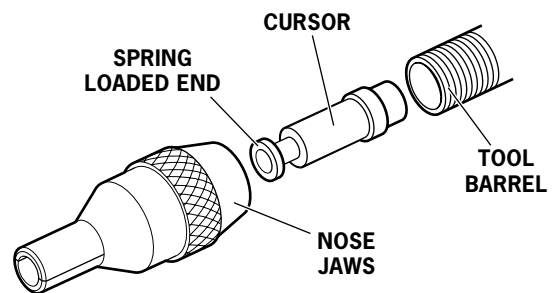
When fitted the correct way round, the cursor will easily slide out of the barrel when a mandrel is pushed into its centre then pulled back.

To reverse the orientation of the cursor, follow these steps:

- Remove the Screw **1** and Washer **2** from the body **7**.
- Remove barrel assembly from body **7**.
- Remove Grub Screw **23** from Barrel Nut **14**.

*Note: When replacing screw. Secure using Loctite Screwloc 222.*

- Hold Barrel **12** securely and remove Barrel Nut **14**. Exercise caution as the Barrel Return Spring **6** is under compression.
- Insert a mandrel into the hole in the rear end of Barrel **12** until it protrudes through the front of the barrel, then pull out the mandrel and cursor together through the front.
- Reassemble components in reverse order.
- Insert Cursor Assembly **24** into the front of the barrel, correct way round.



## LOADING AND RELOADING THE TOOL

### IMPORTANT

**The procedure for loading the tool and for fitting the nose equipment to the tool is integral.**

When ordering a complete tool or system you will normally be supplied with all the nose equipment required for the fastener to be placed. To identify nose equipment components or to select the correct elements, read the nose equipment section, on pages 14-17.

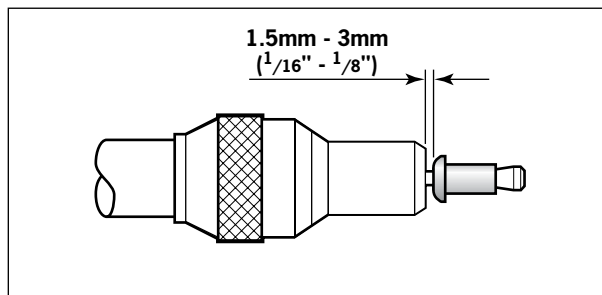
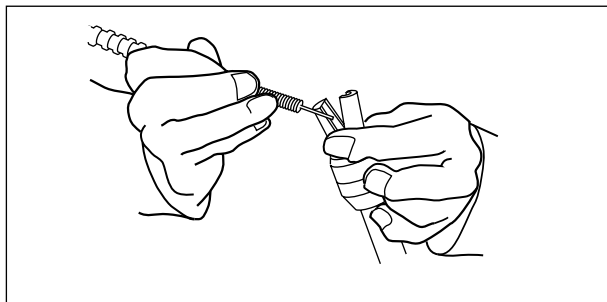
If you have been supplied with a nose jaw, mandrels and mandrel follower springs proceed with loading the tool and fitting the nose equipment as shown overleaf.

Item numbers in **bold** refer to the general assembly drawing and parts list for 07667-00200 (pages 28-29).

# Putting into Service

## Loading the Tool

- Connect the air supply to the tool.
- Open tail jaws which grip the mandrel, by:  
7475-0003 Automatic Guard: Flip the guard up.  
7475-0005 C- Frame Guard: Push the guard away from the operator.
- Screw selected nose jaws onto barrel of the tool.
- Insert a mandrel into the tail end of the fasteners through the paper pod.
- Slide the mandrel follower spring onto the mandrel ensuring correct orientation, as shown in the table on page 13.
- Gripping the tail end of the mandrel, tear off the paper pod from around the fasteners.
- Open the nose jaws either by rotating the outer ring on Cam operated jaws or by pushing outwards on the jaw ends, as illustrated below left.
- Insert the previously assembled mandrel, mandrel follower spring and fasteners into the nose jaws until the first fastener to be placed is protruding from the nose jaw.
- Close the nose jaws and adjust so that the first fastener protrudes by 1.5mm - 3mm ( $1/16''$  to  $1/8''$ ), as shown in the illustration below right.
- Close the tail jaws to ensure the mandrel is gripped, by:  
7475-0003 Automatic Guard assembly: Flip the guard down.  
7475-0005 C- Frame Guard: Pull the guard towards the operator.



## Reloading the Tool

- Open tail jaws of tool.
- Open the nose jaws and pull the empty mandrel and mandrel follower spring out of the tool.
- Reload the tool by following the above instructions, starting at stage ■.

## OPERATING PROCEDURE

### IMPORTANT

**You must check that the cursor orientation and the nose equipment are correct before attempting to operate the tool.**

- Push the fastener, protruding from the nose jaws, fully into the application holes ensuring that the tool is held square.
- Operate the foot pedal without releasing - the mandrel head is pulled through the fastener, forming the fastener into the application.
- Remove the application.
- Release the foot pedal. The next fastener will be automatically presented through the nose jaws, ready for placing.

MANDREL FOLLOWER SPRINGS IDENTIFICATION AND ORIENTATION				
FASTENER		NOSE JAW (SEE NOSE EQUIPMENT SECTION)	MANDREL SIZE	MANDREL/MANDREL FOLLOWER SPRING AND FASTENER ASSEMBLY
NAME	SIZE			
BRIV®	3/32"	STANDARD TAPERED	ALL	
	3/32"	LIMITED ACCESS & LIMITED ACCESS CAM OPERATED	ALL	
	1/8"	ALL	ALL	
	5/32"	ALL	ALL	
	3/16"	ALL	ALL	
	6mm	STANDARD	ALL EXCEPT 3rd OVERSIZE	
CHOBERT® AVLUG® GROVIT®	3/32"	ALL EXCEPT STANDARD TAPERED, LIMITED ACCESS	ALL	
	3/32"	STANDARD TAPERED, LIMITED ACCESS	ALL	
	1/8"	ALL	ALL	
CHOBERT® GROVIT®	5/32"	ALL	ALL EXCEPT 3rd OVERSIZE	
	5/32"	ALL	3rd OVERSIZE	
	3/16"	ALL	ALL EXCEPT 2nd OVERSIZE	
	3/16"	ALL	2nd OVERSIZE	
CHOBERT®	1/4"	ALL	ALL	
RIVSCREW®	2.8mm 3mm 3.5mm 4mm	ALL	ALL	
AVSERT®	2.5mm 4 x 40 UNC	ALL	ALL	
	3mm 6 x 32 UNC	ALL	ALL	
AVTRONIC®	2.5mm	ALL	ALL	
	2.8mm	ALL EXCEPT LIMITED ACCESS	ALL	
	2.8mm	LIMITED ACCESS	ALL	

# Nose Assemblies

On speed fastening tools such as 07475, the nose equipment always consists of three elements: a Nose Jaw, a Mandrel and a Mandrel Follower Spring. All three items are matched to the fastener being placed and to the hole size in the application.

## IMPORTANT

**To avoid complete dismantling of the tool it is essential to check the orientation of the cursor before fitting the nose equipment to the tool. See 'CURSOR' section on page 11.**

**It is essential that the correct nose equipment is fitted to the tool to ensure both effective placing of the fastener and SAFE operation of the tool. READ THE SAFETY INSTRUCTIONS page 4 carefully.**

To identify the correct combination of nose equipment to fit your tool first select a nose jaw by reading the section below then read the mandrel section to select part numbers both for the mandrel itself and for the mandrel follower spring. Mandrels and mandrel follower springs are illustrated on page 13.

To fit the nose equipment, follow the 'Loading the Tool' procedure page 11.

## NOSE JAWS

### IMPORTANT

**The wrong nose jaw could result in an incorrectly placed fastener or unsatisfactory clench.**

Nose Jaws can be categorised into four different basic shapes as illustrated on page 15. Even though internal dimensions will vary according to the intended fastener. Exact dimensions referring to the letters in the illustrations opposite are indicated in the 'Nose Jaw Selection Tables' on pages 16-17.

For a particular shape, there may be several options of end form giving access benefits or fastener placing enhancement.

#### Flat

- Normal end form of all nose jaws.
- Suitable on all applications with no access restrictions.

#### Universal

- Designed for use with universal head Chobert® fasteners.
- Can also be used with Briv fasteners to obtain the highest possible clench. Note this reduces the maximum grip range of the Briv fastener by approximately 0.4mm (0.015").

#### Recessed

- For use with Briv fasteners ONLY.
- It gives a higher clench than a flat end form but less than a universal end form, with no reduction of the grip range of the fastener.

#### Tapered

- Available as shown in the 'Nose Jaw Selection Tables'.
- Allows greater accessibility than a flat end form and places the same range.

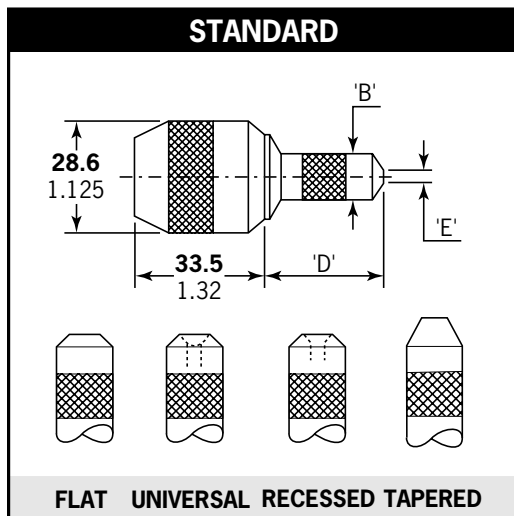
#### Head Forming

- For use with Rivscrew® fasteners ONLY.
- Deforms the head of the fastener to achieve good clench.

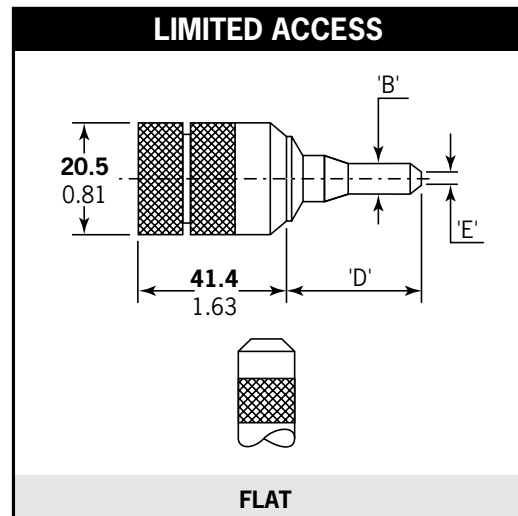
# Nose Assemblies

## SELECTING A NOSE JAW

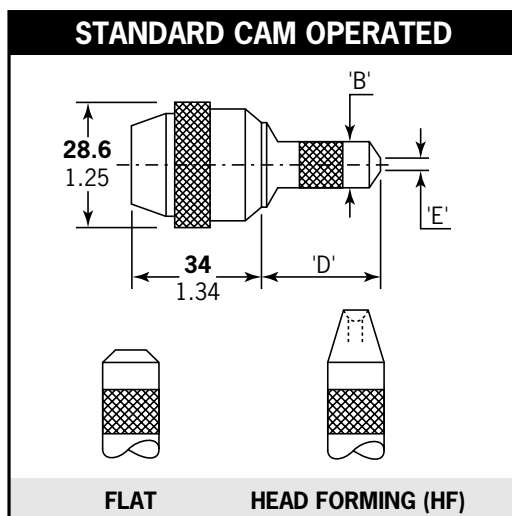
- List the name, size and material of the fastener to be placed.
- Look for this fastener in the first column of the nose jaw selection tables on page 16 if using imperial measurements and on page 17 if using metric units.
- Looking right across the table, take note of which nose jaws are available. ONLY those shown are available.
- Select which is most suitable for your application by referring to the respective nose jaw drawing. If your application has no access restriction, you should select the standard shape with a flat end form with or without cam.



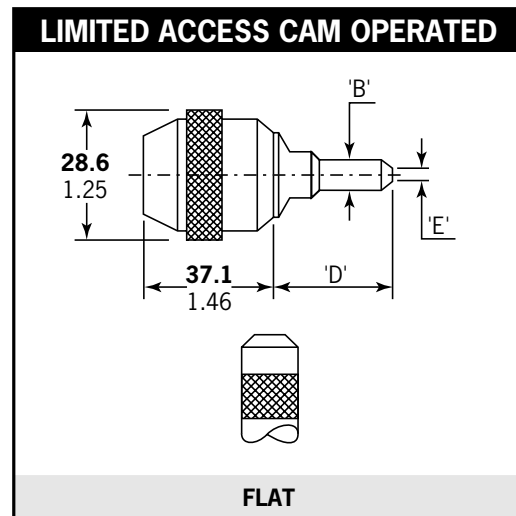
Available in 4 different end forms to place all fasteners (except Rivscrew). Suitable on applications with no or little access restriction.



Available as shown in NOSE JAW SELECTION TABLE. Allows access into very restrictive applications.



Available as shown in NOSE JAW SELECTION TABLE overleaf. Equivalent functions to the Standard and Limited Access above with the addition of a cam to ease and speed up the nose jaw opening thus the pod reloading procedure.



# Nose Assemblies

## NOSE JAW SELECTION - IMPERIAL

The 'REF N°' column cross references with the 'REF N°' columns in the mandrel section. It identifies both the mandrel and mandrel follower spring required for a particular nose jaw with a specific fastener.

FASTENER	REF. N°	NOSE JAW					REF. N°	NOSE JAW				
		TYPE AND END FORM	PART N°	DIMENSIONS				TYPE AND END FORM	PART N°	DIMENSIONS		
				'B'	'D'	'E'				'B'	'D'	'E'
3/32" CHOBERT® & GROVIT®	1	STANDARD - FLAT	07150-03003	.36	1.30	.16	1	# STANDARD - UNIVERSAL	07150-03203	.36	1.33	.24
	1	STD. CAM OPERATED - FLAT	07170-04500	.36	1.30	.16	1	LTD. ACCESS CAM OPERATED	07177-03003	.20	1.18	.16
	2	STANDARD - TAPERED	07170-03103	.36	1.30	.16	3	LIMITED ACCESS	07274-01000	.22	1.07	.16
1/8" CHOBERT® & GROVIT®	4	STANDARD - FLAT	07150-03004	.41	1.18	.20	4	# STANDARD - UNIVERSAL	07150-03204	.41	1.22	.32
	4	STANDARD - TAPERED	07170-03104	.41	1.19	.20	4	STD. CAM OPERATED - FLAT	07170-04600	.41	1.18	.20
5/32" CHOBERT® & GROVIT®	5	STANDARD - FLAT	07150-03005	.48	1.30	.24	5	# STANDARD - UNIVERSAL	07150-03205	.48	1.35	.41
	5	STANDARD - TAPERED	07150-03105	.44	1.30	.24	5	STD. CAM OPERATED - FLAT	07170-04700	.48	1.30	.24
3/16" CHOBERT® & GROVIT®	6	STANDARD - FLAT	07150-03006	.56	1.18	.33	6	# STANDARD - UNIVERSAL	07150-03206	.56	1.24	.47
	6	STANDARD - TAPERED	07150-03106	.56	1.18	.33	6	STD. CAM OPERATED - FLAT	07170-04800	.56	1.18	.33
1/4" CHOBERT®	7	STANDARD - FLAT	07150-03008	.64	1.18	.39	7	STD. CAM OPERATED - FLAT	07170-04900	.64	1.18	.39
3/32" BRIV® Brass only	8	STANDARD - TAPERED	07170-03103	.36	1.30	.15	9	LTD. ACCESS CAM OPERATED	07177-03003	.20	1.18	.16
	9	LIMITED ACCESS	07274-01000	.22	1.07	.16	-	-	-	-	-	-
1/8" BRIV® Al. Alloy, Brass, Steel	10	STANDARD - FLAT	07150-03004	.41	1.18	.20	10	STANDARD - RECESSED	07170-03004	.41	1.20	.30
	10	STANDARD - TAPERED	07170-03104	.41	1.19	.20	-	-	-	-	-	-
5/32" BRIV® Al. Alloy, Brass, Steel	11	STANDARD - FLAT	07150-03005	.48	1.30	.24	11	STANDARD - RECESSED	07170-03005	.48	1.32	.41
5/32" BRIV® St. Steel only	12	STANDARD - FLAT	07150-03005	.48	1.30	.24	12	STANDARD - RECESSED	07170-03005	.48	1.32	.41
3/16" BRIV® Al. Alloy, Brass, Steel	13	STANDARD - FLAT	07150-03006	.56	1.18	.33	13	STANDARD - RECESSED	07170-03006	.56	1.20	.47
3/16" BRIV® St. Steel only	14	STANDARD - FLAT	07150-03006	.56	1.18	.33	14	STANDARD - RECESSED	07170-03006	.56	1.20	.47
6mm BRIV® Al. Alloy, Steel	15	STD. CAM OPERATED	07170-05600	.64	1.21	.52	15	STANDARD - FLAT	07170-05800	.64	1.21	.52
3/32" AVLUG®	16	STANDARD - FLAT	07150-03003	.36	1.30	.16	16	STANDARD - TAPERED	07150-03103	.36	1.30	.16
	16	STD. CAM OPERATED - FLAT	07170-04500	.36	1.30	.16	-	-	-	-	-	-
1/8" AVLUG®	17	STANDARD - FLAT	07150-03004	.41	1.18	.20	17	STANDARD - TAPERED	07170-03104	.41	1.19	.20
	17	STD. CAM OPERATED - FLAT	07170-04600	.41	1.18	.20	-	-	-	-	-	-
2.5mm AVTRONIC®	18	STANDARD - FLAT	07150-03003	.36	1.30	.16	18	LTD. ACCESS CAM OPERATED	07271-08000	.41	1.18	.16
2.8mm AVTRONIC®	19	STANDARD - FLAT	07271-05600	.36	1.30	.16	20	LTD. ACCESS CAM OPERATED	07271-08100	.40	1.18	.16
2.8mm RIVSCREW®	21	STD. CAM OPERATED - HF	07271-03000	.41	1.18	.24	-	-	-	-	-	-
3.0mm RIVSCREW®	22	STD. CAM OPERATED - HF	07271-03000	.41	1.18	.24	-	-	-	-	-	-
3.5mm RIVSCREW®	23	STD. CAM OPERATED - HF	07271-03500	.41	1.18	.24	-	-	-	-	-	-
4.0mm RIVSCREW®	24	STD. CAM OPERATED - HF	07271-04000	.41	1.18	.25	-	-	-	-	-	-

# These nose jaws are suitable for placing Chobert® fasteners with a Universal Head Form. When used on the equivalent size of Briv®, the highest possible clench is achieved. Note that when using Briv® fasteners, the maximum grip is reduced by approximately 0.015" (0.4 mm).



# Nose Assemblies

## NOSE JAW SELECTION - METRIC

FASTENER	REF. N°	NOSE JAW						REF. N°	NOSE JAW					
		TYPE AND END FORM	PART N°	DIMENSIONS			TYPE AND END FORM		PART N°	DIMENSIONS				
				'B'	'D'	'E'				'B'	'D'	'E'		
3/32" CHOBERT® & GROVIT®	1	STANDARD - FLAT	07150-03003	9.14	33.02	4.06	1	# STANDARD - UNIVERSAL	07150-03203	9.14	33.78	6.10		
	1	STD. CAM OPERATED - FLAT	07170-04500	9.14	33.02	4.06	1	LTD. ACCESS CAM OPERATED	07177-03003	5.08	29.97	4.06		
	2	STANDARD - TAPERED	07170-03103	9.14	33.02	5.08	3	LIMITED ACCESS	07274-01000	5.59	27.18	4.06		
1/8" CHOBERT® & GROVIT®	4	STANDARD - FLAT	07150-03004	10.41	29.97	6.10	4	# STANDARD - UNIVERSAL	07150-03204	10.41	30.99	8.13		
	4	STANDARD - TAPERED	07170-03104	10.41	30.23	6.10	4	STD. CAM OPERATED - FLAT	07170-04600	10.41	29.97	5.08		
5/32" CHOBERT® & GROVIT®	5	STANDARD - FLAT	07150-03005	12.19	33.02	8.38	5	# STANDARD - UNIVERSAL	07150-03205	12.19	34.29	10.41		
	5	STANDARD - TAPERED	07150-03105	11.18	33.02	8.38	5	STD. CAM OPERATED - FLAT	07170-04700	12.19	33.02	6.10		
3/16" CHOBERT® & GROVIT®	6	STANDARD - FLAT	07150-03006	14.22	29.97	9.91	6	# STANDARD - UNIVERSAL	07150-03206	14.22	31.50	11.94		
	6	STANDARD - TAPERED	07150-03106	14.22	29.97	3.81	6	STD. CAM OPERATED - FLAT	07170-04800	14.22	29.97	8.38		
1/4" CHOBERT®	7	STANDARD - FLAT	07150-03008	16.26	29.97	4.06	7	STD. CAM OPERATED - FLAT	07170-04900	16.26	29.97	9.91		
3/32" BRIV® Brass only	8	STANDARD - TAPERED	07170-03103	9.14	33.02	5.08	9	LTD. ACCESS CAM OPERATED	07177-03003	5.08	29.97	4.06		
	9	LIMITED ACCESS	07274-01000	5.59	27.18	5.08	-	-	-	-	-	-		
1/8" BRIV® Al. Alloy, Brass, Steel	10	STANDARD - FLAT	07150-03004	10.41	29.97	6.10	10	STANDARD - RECESSED	07170-03004	10.41	30.48	7.62		
	10	STANDARD - TAPERED	07170-03104	10.41	30.23	6.10	-	-	-	-	-	-		
5/32" BRIV® Al. Alloy, Brass, Steel	11	STANDARD - FLAT	07150-03005	12.19	33.02	8.38	11	STANDARD - RECESSED	07170-03005	12.19	33.53	10.41		
	12	STANDARD - FLAT	07150-03005	12.19	33.02	8.38	12	STANDARD - RECESSED	07170-03005	12.19	33.53	10.41		
5/32" BRIV® St. Steel only	12	STANDARD - FLAT	07150-03005	12.19	33.02	8.38	12	STANDARD - RECESSED	07170-03005	12.19	33.53	10.41		
3/16" BRIV® Al. Alloy, Brass, Steel	13	STANDARD - FLAT	07150-03006	14.22	29.97	4.06	13	STANDARD - RECESSED	07170-03006	14.22	30.48	11.94		
	14	STANDARD - FLAT	07150-03006	14.22	29.97	4.06	14	STANDARD - RECESSED	07170-03006	14.22	30.48	11.94		
3/16" BRIV® St. Steel only	14	STANDARD - FLAT	07150-03006	14.22	29.97	4.06	14	STANDARD - RECESSED	07170-03006	14.22	30.48	11.94		
6mm BRIV® Al. Alloy, Steel	15	STD. CAM OPERATED	07170-05600	16.33	30.65	13.14	15	STANDARD - FLAT	07170-05800	16.33	30.65	13.14		
	16	STANDARD - FLAT	07150-03003	9.14	33.02	4.06	16	STANDARD - TAPERED	07150-03103	9.14	33.02	4.06		
3/32" AVLUG®	16	STD. CAM OPERATED - FLAT	07170-04500	9.14	33.02	4.06	-	-	-	-	-	-		
	17	STANDARD - FLAT	07150-03004	10.41	29.97	5.08	17	STANDARD - TAPERED	07170-03104	10.41	29.97	5.08		
1/8" AVLUG®	17	STD. CAM OPERATED - FLAT	07170-04600	10.41	29.97	5.08	-	-	-	-	-	-		
	18	STANDARD - FLAT	07150-03003	9.14	33.02	4.06	18	LTD. ACCESS CAM OPERATED	07271-08000	10.41	29.97	4.06		
2.5mm AVTRONIC®	19	STANDARD - FLAT	07271-05600	9.14	33.02	4.06	20	LTD. ACCESS CAM OPERATED	07271-08100	10.16	29.97	4.06		
2.8mm AVTRONIC®	21	STD. CAM OPERATED - HF	07271-03000	10.41	29.97	6.10	-	-	-	-	-	-		
2.8mm RIVSCREW®	22	STD. CAM OPERATED - HF	07271-03000	10.41	29.97	6.10	-	-	-	-	-	-		
3.0mm RIVSCREW®	23	STD. CAM OPERATED - HF	07271-03500	10.41	29.97	6.10	-	-	-	-	-	-		
3.5mm RIVSCREW®	24	STD. CAM OPERATED - HF	07271-04000	10.41	29.97	6.35	-	-	-	-	-	-		

# These nose jaws are suitable for placing Chobert® fasteners with a Universal Head Form. When used on the equivalent size of Briv®, the highest possible clench is achieved. Note that when using Briv® fasteners, the maximum grip is reduced by approximately 0.015" (0.4 mm).

# Nose Assemblies

## MANDRELS AND MANDREL FOLLOWER SPRINGS

Mandrels and mandrel follower springs, illustrated on page 13 need to be selected to suit the fastener type and size as well as the size of the hole in the application. Use of the wrong mandrel could increase the risk of breakage and the wear of the mandrel head. Feeding problems could occur if the wrong mandrel follower spring is used.

### IMPORTANT

**READ THE SAFETY INSTRUCTIONS page 4 carefully.**

While a small amount of wear and marking will naturally occur through normal and correct use of mandrels, they must be regularly examined for excessive wear and marking, with particular attention to the head diameter, the tail jaw gripping area of the shank or heavy pitting of the shank and any mandrel distortion. Mandrels which fail during use could forcibly exit the tool. It is the customer's responsibility to ensure that mandrels are replaced before any excessive levels of wear and always before the maximum recommended number of placings. Contact your Avdel representative who will let you know what that figure is by measuring the broach load of your application with our calibrated measuring tool. These tools can also be purchased under part number 07900-09080, supplied with all necessary information for testing.

## CHOBERT® AND GROVIT® - IMPERIAL

For mandrel or mandrel follower spring selection, follow instructions above.

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN					HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT® & GROVIT®	1	AS REC.	.0725	07150-07003	.166	07150-09003	.071	-	-	-	-	-	-	07150-06803
	1	-	-	-	-	-	-	+0.035	.076	-	-	07150-09103	.078	07150-06803
	2	AS REC.	.0725	07150-07003	.166	07150-09003	.071	-	-	-	-	-	-	07170-06873
	2	-	-	-	-	-	-	+0.035	.076	-	-	07150-09103	.078	07170-06873
	3	AS REC.	.0725	07150-07003	.166	07150-09003	.071	-	-	-	-	-	-	07170-06903
3	-	-	-	-	-	-	-	+0.035	.076	-	-	07150-09103	.078	07170-06903
1/8" CHOBERT® & GROVIT®	4	AS REC.	.088	07150-07004	.216	07150-09004	.090	+0.04	.092	07150-07104	.237	07150-09104	.098	07150-06804
5/32" CHOBERT® & GROVIT®	5	AS REC.	.107	07150-07005	.244	07150-09005	.100	+0.08	.115	07150-07105	.284	07150-09105	.116	07170-06875
3/16" CHOBERT® & GROVIT®	6	AS REC.	.132	07150-07006	.247	07150-09006	.102	+0.14	.146	07150-07106	.320	07150-09106	.130	07170-06876
1/4" CHOBERT® & GROVIT®	7	AS REC.	.184	07150-07008	.268	07150-09008	.110	+0.12	.196	07150-07108	.330	07150-09108	.134	07150-06808

FASTENER	REF. N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE					HOLE SIZE	3RD OVERSIZE MANDREL - RED					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT® & GROVIT®	1	+0.035	.076	07150-07103	.185	-	-	-	-	-	-	-	-	07150-06803
	2	+0.035	.076	07150-07103	.185	-	-	-	-	-	-	-	-	07170-06873
	3	+0.035	.076	07150-07103	.185	-	-	-	-	-	-	-	-	07170-06903
1/8" CHOBERT® & GROVIT®	4	+0.10	.098	07150-07204	.268	07150-09204	.110	+0.14	.102	07150-07304	2.88	07150-09304	.118	07150-06804
5/32" CHOBERT® & GROVIT®	5	+0.15	.122	07150-07205	.320	07150-09205	.130	-	-	-	-	-	-	07170-06875
5	-	-	-	-	-	-	-	+0.025	.132	07150-07305	.372	07150-09305	.150	07150-06805
3/16" CHOBERT® & GROVIT®	6	+0.24	.156	07150-07206	.372	07150-09206	.150	-	-	-	-	-	-	07150-06806

# Nose Assemblies

The tables on pages 18-22 list the part numbers of all mandrels and mandrel follower springs per fastener group of fasteners, i.e. for Chobert® and Grovit®.

While fastener sizes are always shown in their specified units, each table has been produced twice to offer dimensions in imperial and metric. These 'Mandrel Selection' tables cross-reference with the 'Nose Jaw Selection' tables on pages 16 and 17 through the 'Ref. No.' column.

It is the diameter of the head at the end of a mandrel which when pulled through controls the expansion of the fastener body.

While there are different head shapes to suit different type of fasteners (see illustration on page 21), progressive head sizes are needed to reflect manufacturing tolerances on the diameter of the hole in your application so that the fastener always expands sufficiently to fill the hole.

Too large a mandrel head would over stress the mandrel and mandrels that fail during use could forcibly exit the tool. Selection tables are arranged into four 'mandrel size' sections, ranging from 'standard' to '3rd oversize', each being colour coded as per the end of the mandrel heads themselves.

## CHOBERT® AND GROVIT® - METRIC

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN					HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT® & GROVIT®	1	AS REC.	1.84	07150-07003	4.22	07150-09003	1.80	-	-	-	-	-	-	07150-06803
	1	-	-	-	-	-	-	+0.09	1.93	-	-	07150-09103	1.98	07150-06803
	2	AS REC.	1.84	07150-07003	4.22	07150-09003	1.80	-	-	-	-	-	-	07170-06873
	2	-	-	-	-	-	-	+0.09	1.93	-	-	07150-09103	1.98	07170-06873
	3	AS REC.	1.84	07150-07003	4.22	07150-09003	1.80	-	-	-	-	-	-	07170-06903
	3	-	-	-	-	-	-	+0.09	1.93	-	-	07150-09103	1.98	07170-06903
1/8" CHOBERT® & GROVIT®	4	AS REC.	2.24	07150-07004	5.49	07150-09004	2.29	+1.0	2.34	07150-07104	6.02	07150-09104	2.49	07150-06804
5/32" CHOBERT® & GROVIT®	5	AS REC.	2.72	07150-07005	6.20	07150-09005	2.54	+2.0	2.92	07150-07105	7.21	07150-09105	2.95	07170-06875
3/16" CHOBERT® & GROVIT®	6	AS REC.	3.35	07150-07006	6.27	07150-09006	2.59	+3.5	3.71	07150-07106	8.13	07150-09106	3.30	07170-06876
1/4" CHOBERT® & GROVIT®	7	AS REC.	4.67	07150-07008	6.81	07150-09008	2.79	+3.0	4.98	07150-07108	8.38	07150-09108	3.40	07150-06808

FASTENER	REF. N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE					HOLE SIZE	3RD OVERSIZE MANDREL - RED					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT® & GROVIT®	1	+0.09	1.93	07150-07103	4.70	-	-	-	-	-	-	-	-	07150-06803
	2	+0.09	1.93	07150-07103	4.70	-	-	-	-	-	-	-	-	07170-06873
	3	+0.09	1.93	07150-07103	4.70	-	-	-	-	-	-	-	-	07170-06903
1/8" CHOBERT® & GROVIT®	4	+0.25	2.49	07150-07204	6.81	07150-09204	2.79	+3.5	2.59	07150-07304	7.32	07150-09304	3.00	07150-06804
5/32" CHOBERT® & GROVIT®	5	+0.38	3.10	07150-07205	8.13	07150-09205	3.30	-	-	-	-	-	-	07170-06875
	5	-	-	-	-	-	-	+6.3	3.35	07150-07305	9.45	07150-09305	3.81	07150-06805
3/16" CHOBERT® & GROVIT®	6	+0.60	3.96	07150-07206	9.45	07150-09206	3.81	-	-	-	-	-	-	07150-06806

# Nose Assemblies

To find the correct part number of a mandrel for a particular application, read the instructions below after you have gathered the following information as per example alongside. Answers for the example are shown in *grey italic*.

FASTENER NAME	<i>example</i>	<i>Chobert®</i>
FASTENER SIZE		<i>1/8"</i>
DATASHEET		<i>Series 1125</i>
APPLICATION HOLE SIZE		<i>0.1335"</i>
CLEARANCE BEHIND APPLICATION		<i>Infinite</i>
'REF.N°' FROM NOSE JAW SELECTION TABLE		<i>5 (standard flat)</i>

- Subtract the minimum hole size recommended (AS REC.) in the fastener datasheet from the actual application hole size. *-example: 0.005.*
- Turn to the page with the 'Mandrel Selection' table for your fastener, selecting either the imperial or the metric dimensions table (pages 18 to 20). *-example: page 18.*
- Starting with the 'Standard Mandrel - Green' section, find your fastener size in the left-hand column. *-example 1/8" Chobert® & Grovit®.*
- If you selected a nose jaw with which to place your fastener, you should now be able to find a line within your fastener section with the same 'Ref No.' as that from the 'Nose Jaw Selection' table. *-example: 5.* This is your line 'Ref. No.' in which you will find both your mandrel and mandrel follower spring part number. This line continues into the second half of the table for the '2nd' and '3rd' oversize mandrels.
- Scan along the line to the 'hole size' columns and select which ever is the nearest or equal to the figure calculated in step one. You may now read the mandrel part number next to the 'hole size'. *-example: 07150-06104*
- For Chobert® and Grovit® only, most mandrels are also available in a 'short reach' version (see illustration on page 21). Short reach mandrels are used to minimise the possibility of the mandrel head contacting a read obstruction. This would result in the underside of the fastener head not seating properly on the application surface, causing a lack on clench in the joint.
- Whichever size mandrel you settle on, you will also need to check the 'P' figure against that mandrel is adequate. 'P' is the clearance required for the mandrel head at the back of the application IN ADDITION to the length of the fastener protruding through the application, as shown in the illustration on page 21.
- You may now read the corresponding mandrel follower spring part number in the right-hand column of the table. *-example: 07150-06804.* In all cases, satisfactory clenching of the joint should be assessed particularly if the size of the hole in your application is very close to the next oversize hole condition, when it will be safe to select the greater size of mandrel to obtain a higher clench. REMEMBER that this will increase the broach load and reduce the mandrel life.

## BRIV® - IMPERIAL

For mandrel or mandrel follower spring selection, follow instructions overleaf.

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV® Brass only	8	AS REC.	.072	07150-07013	.119	+0.04	.076	07150-07113	.123	07170-06873
	9	AS REC.	.072	07150-07013	.119	+0.04	.076	07150-07113	.123	07170-06903
1/8" BRIV® Al. Alloy, Brass, Steel	10	AS REC.	.092	07271-07414	.120	+0.05	.097	07271-07514	.126	07150-06814
5/32" BRIV® Al. Alloy, Brass, Steel	11	AS REC.	.110	07150-07015	.136	+0.05	.115	07150-07115	.142	07170-06875
5/32" BRIV® St. Steel only	12	AS REC.	.120	07170-07805	.126	+0.05	.125	07170-07825	.132	07170-06875
3/16" BRIV® Al. Alloy, Brass, Steel	13	AS REC.	.141	07150-07016	.157	+0.05	.146	07150-07116	.164	07170-06876
3/16" BRIV® St. Steel only	14	AS REC.	.153	07170-07806	.150	+0.05	.158	07170-07826	.156	07170-06876
6mm BRIV® Al. Alloy, Steel	15	AS REC.	.179	07150-07018	.165	+0.05	.184	07150-07118	.171	07150-06808

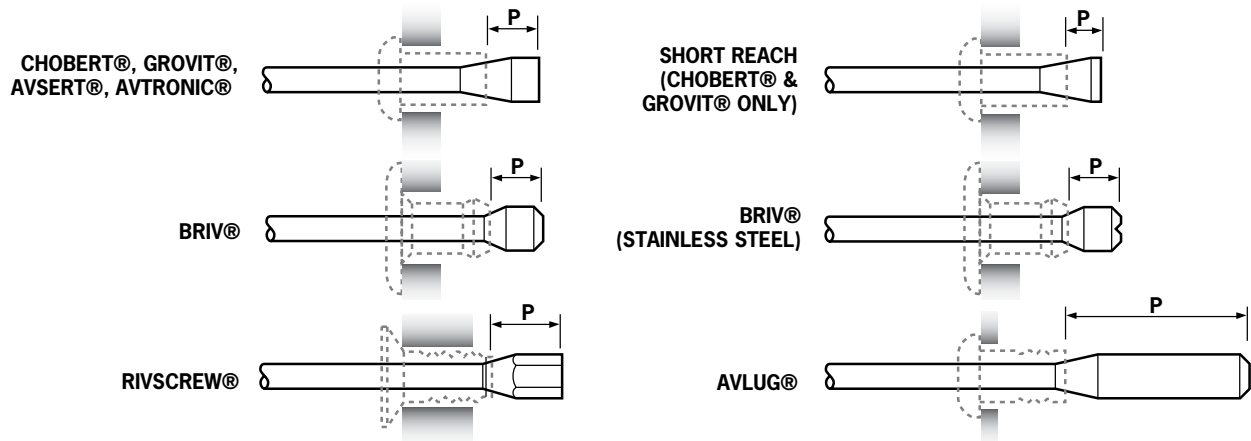
FASTENER	REF. N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV® Brass only	8	+0.008	.079	07150-07213	.126	-	-	-	-	07170-06873
	9	+0.008	.079	07150-07213	.126	-	-	-	-	07170-06903
1/8" BRIV® Al. Alloy, Brass, Steel	10	+0.010	.102	07271-07614	.133	-	-	-	-	07150-06814
5/32" BRIV® Al. Alloy, Brass, Steel	11	+0.010	.120	07150-07215	.149	-	-	-	-	07170-06875
3/16" BRIV® Al. Alloy, Brass, Steel	13	+0.010	.151	07150-07216	.170	+0.012	.153	07150-07316	.173	07170-06876
6mm BRIV® Al. Alloy, Steel	15	+0.010	.189	07150-07218	.177	-	-	-	-	07150-06808

# Nose Assemblies

## MANDREL HEAD TYPES AND 'P' LENGTH

Mandrels for stainless steel Briv® are easily identifiable by a 'V' cut in the end of the mandrel heads.

When using curved nose jaws, mandrels have to be bent by hand to match the curvature of the nose jaw, thus ensuring good feed of fasteners.



## BRIV® - METRIC

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV® Brass only	8	AS REC.	1.83	07150-07013	3.02	+10	1.93	07150-07113	3.12	07170-06873
	9	AS REC.	1.83	07150-07013	3.02	+10	1.93	07150-07113	3.12	07170-06903
1/8" BRIV® Al. Alloy, Brass, Steel	10	AS REC.	2.34	07271-07414	3.05	+13	2.46	07271-07514	3.20	07150-06814
5/32" BRIV® Al. Alloy, Brass, Steel	11	AS REC.	2.79	07150-07015	3.45	+13	2.92	07150-07115	3.61	07170-06875
5/32" BRIV® St. Steel only	12	AS REC.	3.05	07170-07805	3.20	+13	3.18	07170-07825	3.35	07170-06875
3/16" BRIV® Al. Alloy, Brass, Steel	13	AS REC.	3.58	07150-07016	3.99	+13	3.71	07150-07116	4.17	07170-06876
3/16" BRIV® St. Steel only	14	AS REC.	3.89	07170-07806	3.81	+13	4.01	07170-07826	3.96	07170-06876
6mm BRIV® Al. Alloy, Steel	15	AS REC.	4.54	07150-07018	4.18	+13	4.67	07150-07118	4.34	07150-06808

FASTENER	REF. N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV® Brass only	8	+20	2.01	07150-07213	3.20	-	-	-	-	07170-06873
	9	+20	2.01	07150-07213	3.20	-	-	-	-	07170-06903
1/8" BRIV® Al. Alloy, Brass, Steel	10	+25	2.59	07271-07614	3.38	-	-	-	-	07150-06814
5/32" BRIV® Al. Alloy, Brass, Steel	11	+25	3.05	07150-07215	3.78	-	-	-	-	07170-06875
3/16" BRIV® Al. Alloy, Brass, Steel	13	+25	3.84	07150-07216	4.32	+30	3.85	07150-07316	4.39	07170-06876
6mm BRIV® Al. Alloy, Steel	15	+25	4.79	07150-07218	4.49	-	-	-	-	07150-06808

# Nose Assemblies

## AVLUG®, AVSERT®, AVTRONIC® & RIVSCREW® - IMPERIAL

For mandrel or mandrel follower spring selection, follow instructions on page 18.

FASTENER	LINE N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG®	16	AS REC.	.076	07150-07603	.353	+003	.079	07150-07703	.368	07150-06803
1/8" AVLUG®	17	AS REC.	.098	07150-07604	.593	-	-	-	-	07150-06804
2.5mm AVTRONIC®	18	AS REC.	.070	07170-07025	.140	+003	.073	07170-07125	.140	07150-06803
2.8mm AVTRONIC®	19	AS REC.	.070	07170-07028	.150	+003	.082	07170-07128	.150	07170-06528
	20	AS REC.	.079	07170-07028	.150	+003	.082	07170-07128	.150	07170-06528
2.8mm RIVSCREW®	21	AS REC.	*.065	07271-07030	.127	-	-	-	-	07271-06630
3.0mm RIVSCREW®	22	AS REC.	*.065	07271-07030	.127	-	-	-	-	07271-06630
3.5mm RIVSCREW®	23	AS REC.	*.0825	07271-07035	.132	-	-	-	-	07271-06635
4.0mm RIVSCREW®	24	AS REC.	*.103	07271-07140	.150	-	-	-	-	07271-06640

\* These Dimensions are Across Flats

FASTENER	LINE N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
2.5mm AVTRONIC®	18	+006	.076	07170-07225	.140	-	-	-	-	07150-06803
2.8mm AVTRONIC®	19	+006	.085	07170-07728	.150	-	-	-	-	07170-06528
	20	+006	.085	07170-07228	.150	-	-	-	-	07170-06528

## AVLUG®, AVSERT®, AVTRONIC® & RIVSCREW® - METRIC

FASTENER	LINE N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG®	16	AS REC.	1.93	07150-07603	8.97	+10	2.01	07150-07703	9.35	07150-06803
1/8" AVLUG®	17	AS REC.	2.49	07150-07604	15.06	-	-	-	-	07150-06804
2.5mm AVTRONIC®	18	AS REC.	1.78	07170-07025	3.56	+07	1.85	07170-07125	3.56	07150-06803
2.8mm AVTRONIC®	19	AS REC.	2.01	07170-07028	3.81	+07	2.08	07170-07128	3.81	07170-06528
	20	AS REC.	2.01	07170-07028	3.81	+07	2.08	07170-07128	3.81	07170-06528
2.8mm RIVSCREW®	21	AS REC.	*1.65	07271-07030	3.23	-	-	-	-	07271-06630
3.0mm RIVSCREW®	22	AS REC.	*1.65	07271-07030	3.23	-	-	-	-	07271-06630
3.5mm RIVSCREW®	23	AS REC.	*2.10	07271-07035	3.35	-	-	-	-	07271-06635
4.0mm RIVSCREW®	24	AS REC.	*2.62	07271-07140	3.81	-	-	-	-	07271-06640

\* These Dimensions are Across Flats

FASTENER	LINE N°	HOLE SIZE	2ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
2.5mm AVTRONIC®	18	+15	1.93	07170-07225	3.56	-	-	-	-	07150-06803
2.8mm AVTRONIC®	19	+15	2.16	07170-07228	3.81	-	-	-	-	07170-06528
	20	+15	2.16	07170-07228	3.81	-	-	-	-	07170-06528

# Servicing the Tool

Regular servicing should be carried out and a comprehensive inspection performed annually or every 500,000 cycles, whichever is sooner.

## IMPORTANT

**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.**

### DAILY

- Daily, before use or when first putting the tool into service. Pour a few drops of clean lubricating oil into the air inlet of the intensifier if no lubricator is fitted on air supply. If the tool is in continuous use, the air hose should be disconnected from the main air supply and the tool lubricated every two to three hours.
- Check for air and oil leaks. If damaged, hoses and couplings should be replaced.
- If there is no filter on the pressure regulator, bleed the airline to clear it of accumulated dirt or water before connecting the air hose to the intensifier. If there is a filter, drain it.
- Check that the nose equipment is correct.
- Check mandrels regularly for signs of wear or damage monitoring the number of placings (read the safety instructions on page 4).
- Ensure the guard is undamaged and functions correctly.
- Ensure the stroke of the modular head is sufficient for the fastener being placed. Re-prime if necessary.

### WEEKLY

- Conduct the full "Daily" procedures as described above.
- Remove, inspect, clean and grease the Tail Jaws (refer to "Dismantling Tail Jaws" page 27).
- Check oil level in the intensifier Unit reservoir is approximately 12mm (1/2") below the transparent cover plate, top up if necessary.

### MOLY LITHIUM GREASE EP 3753 SAFETY DATA

Grease can be ordered as a single item, the part number is shown in the service kit page 24.

#### 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 burning or disposal on approved site.

#### Handling

Use barrier cream or oil resistant gloves

#### Storage

Away from heat and oxidising agent.

# Servicing the Tool

## SERVICE KIT

For all servicing we recommend the use of the service kit (part number 07900-04750(S)).

SERVICE KIT					
ITEM PART N°	DESCRIPTION	N° OFF	ITEM PART N°	DESCRIPTION	N° OFF
07900-00002	SPANNER ASSEMBLY	1	07900-00409	12mm X 13mm A/F SPANNER	1
07900-00006	SPATULA	1	07900-00433	SPANNER 24 & 26mm OPEN ENDED	1
07900-00008	7/16in X 1/2in A/F SPANNER	1	07900-00434	SPANNER 32 & 30mm OPEN ENDED	1
07900-00012	9/16 X 5/8 A/F SPANNER (1/18in thick)	1	07900-00446	EXTRACTOR	1
07900-00013	HEXAGON WRENCH 1/8" A/F	1	07900-00488	SPANNER ASSEMBLY	1
07900-00194	JAW HOUSING KEY	1	07900-00496	HEXAGONAL WRENCH 2.5mm A/F	1
07900-00201	HEXAGON WRENCH 0.050in A/F	1	07900-00520	3/8 DIAMETER ROD	1
07900-00224	HEXAGON WRENCH 4mm A/F	1	07900-00521	1/4in DIAMETER ROD	1
07900-00225	HEXAGON WRENCH 5mm A/F	1	07900-00522	ASSEMBLY SPANNER FOR HEAD PISTON	1
07900-00226	HEXAGON WRENCH 6mm A/F	1	07900-00576	ASSEMBLY BULLET	1
07900-00237	3/8 B.S.W SPANNER	1	07900-00577	PISTON ASSEMBLY ROD	1
07900-00351	HEXAGON WRENCH 3mm A/F	1	07900-00953	SLEEVE	1
07900-00392	8mm A/F SPANNER	1	07900-00954	PUSH ROD	1
07900-00393	15mm x 14mm A/F SPANNER	1	07992-00020	80gm MOLYLITHIUM GREASE E.P.3753	1 tin
07900-00394	17mm A/F SPANNER	1			

Note: Spanner sizes are measured 'across flats' unless otherwise specified.



Every 500,000 cycles the tool should be completely dismantled and components should be replaced where worn, damaged or when recommended. All 'O' rings and seals should be renewed and lubricated with Moly Lithium grease EP 3753 before assembling.

## IMPORTANT

**Safety Instructions appear on page 4.**  
**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 airline must be disconnected before any servicing or dismantling is attempted, unless specifically instructed otherwise.

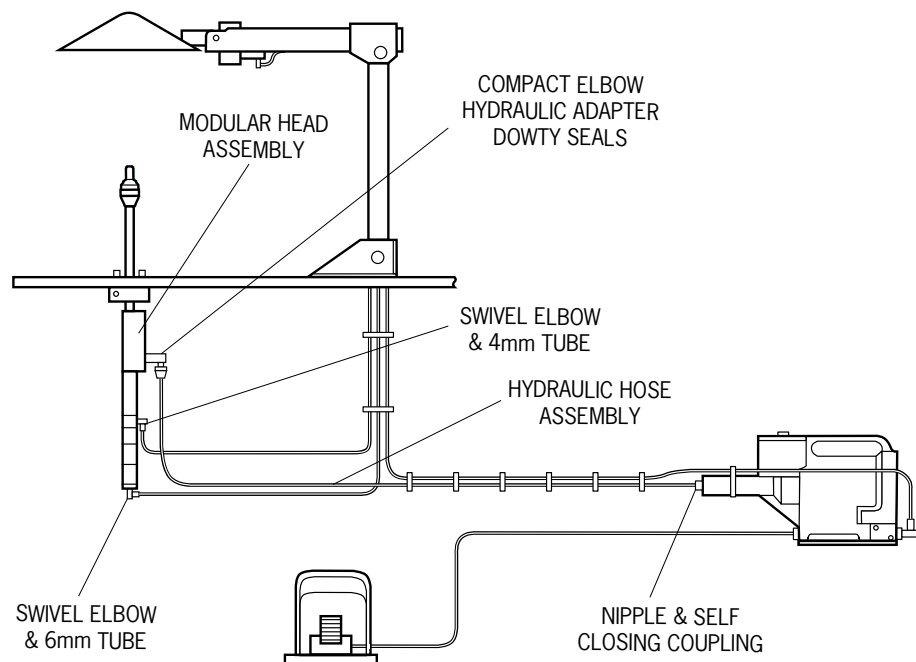
It is recommended that any dismantling operation be carried out in clean conditions.

## DISMANTLING THE 07475

### Separating the Module from the Assembly

- Remove the nose jaw equipment from the Modular Head Assembly
- Remove the Modular Head Assembly from the guard, by: -
  - 7475-0003 Automatic Guard: Remove the module from either the Solid Mounting Block or Rubber Bush Mounting Block using the appropriate spanners \*
  - 7475-0005 C-Frame Guard: Remove the module from the Rubber Bush Mounting Block using the appropriate spanners \*
- Disconnect nipple from self-closing coupling at the intensifier.
- Remove the thumb nut on swivel elbow and remove the 6mm tube. Using a Spanner \* remove swivel elbow from module.
- Remove the thumb nut on swivel elbow and remove the 4mm tube. Using a Spanner \* remove swivel elbow from module.
- Using a spanner \* remove the hydraulic hose assembly, compact elbow, hydraulic adapter and dowty seals from module.

### 7475-0003 Automatic Guard



## DISMANTLING MODULE 07667

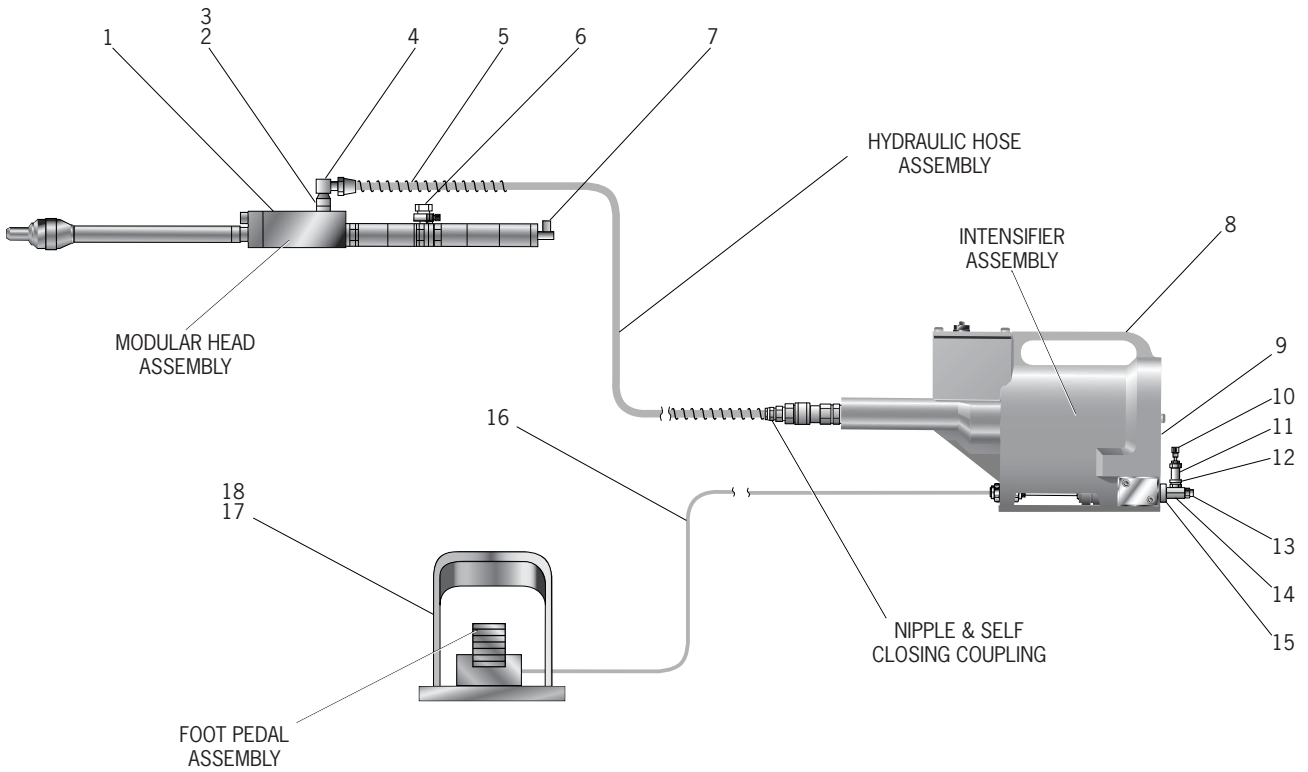
### Dismantling Tail Jaws

- With the aid of Spanners\*, remove Adaptor and Tail Jaw Assembly from Tail Jaw Housing **11**. The Turret **36** and Turret Jaws **51** will be exposed. Care should be taken not to misplace the Turret Jaws.
- Clean and inspect Jaw Housing. It will be necessary to remove the Jaw Housing only if damaged. To remove Jaw Housing **15** use Jaw Housing Key\* and Spanners\*.
- Clean all items, clean and replace as necessary. Regrease using Moly Lithium based grease.

\* Refers to items included in the service kit, see page 24.

Item numbers in **bold** refer to the general assembly and parts list on pages 28-29.

# Hydraulic Module Intensifier Assembly 07475-00200(S)



## 07475-00200(S) PARTS LIST

ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	07667-00200	HYDRAULIC MODULE	1	-	11	07005-00468	NON-RETURN VALVE	1	-
2	07005-00824	HYDRAULIC ADAPTOR	1	-	12	07005-00475	1/8 BSP-M5 MALE CONNECTOR	1	-
3	07003-00037	DOWTY SEAL	1	-	13	07007-00292	RED CAP	1	-
4	07005-01038	COMPACT ELBOW	1	-	14	07475-00201	1/4 BSP-DOUBLE MALE ELBOW	1	-
5	07008-00421	HYDRAULIC HOSE & COUPLING ASSY	1	-	15	07003-00065	ALUMINIUM WASHER	1	-
6	07005-01526	UNIVERSAL ELBOW (BANJO) dia 4mm	1	-	16	07005-00354	PLASTIC TUBE 3mm I/D (BLACK)	1	-
7	07005-01527	UNIVERSAL ELBOW (BANJO) dia 6mm	1	-	17	07007-01510	FOOT PEDAL	1	-
8	07531-00200	INTENSIFIER	1	-	18	07220-00217	LABEL (COMPANY LOGO)	1	-
9	07475-00205	LABEL (AIR PRESSURE)	1	-	19	07900-00596	INSTRUCTION MANUAL *	1	-
10	07005-01597	MALE CONNECTOR dia 6mm	1	-					

\* Not shown

# Hydraulic Module Assembly 07667-00200 - Maintenance

## DISMANTLING TAIL JAWS ASSEMBLY

- Remove Adaptor and Tail Jaws Assembly as described.
- Remove Adaptor **38** from Front Cylinder **37** using Spanner\*. Remove Banjo **39** and 'O' Ring **48**.
- With the aid of Spanners\* remove Turret **36** from Piston Rod **42**.
- With the aid of Spanners\* remove Front Cylinder **37** from Rear Cylinder **43**. Remove Front Piston Rod **40** and Piston **41**. Remove Circlip **50** and remove Piston from Front Piston Rod. Remove 'O' Ring **46** from Front Cylinder **37**.

*Note: Removal of 'O' Rings from internal recesses requires the use of a pointed probe. Care must be taken not to damage sealing surfaces. Remove 'O' Ring **49** from Piston **41** using Spatula \*.*

- Remove Seal Retainer **45**. With the aid of spanner\* remove Rear Cylinder Assembly (Front) **43** from Rear Cylinder Assembly (Back) **43**. Remove Piston Rod **42**, Circlip **50**, Piston **41**, and 'O' Ring Seals as described.
- Remove Seal Retainer **45**. With the aid of spanner \* remove Rear Cylinder Assembly (Back) **43** from Rear Plug **44**. Remove Seal Retainer **45**. Remove Piston Rod, Circlip, Piston and 'O' Ring Seals as described.
- Replace worn or damaged parts as required. Clean all parts thoroughly, lubricate Seals and Cylinder Bores with Moly lithium grease. Re-assemble in reverse order.

## DISMANTLING HYDRAULIC BODY ASSEMBLY

- Using Hexagon Wrench\* remove Button Head Screws **22** and Bonded Seals **21** from Body **7**. Allow hydraulic fluid to drain from Cylinder Body.
- Using Hexagon Wrench\* remove Barrel Assembly etc.
- Using spanners\* to prevent the Body **7** rotating, and with the aid of spanners\* remove the Tail Jaw Housing **11**.
- With the aid of spanners\* remove Locknut **27** and Piston Nut **18**. Remove Buffer Stops **13**.

*Note: It is important that the same number of Buffer Stops removed, are replaced on re-assembly.*

- Remove Piston **10**. Remove Lip Seal **3** and Bearing Tape **16**, clean all parts thoroughly, inspect for damage and replace if necessary.
- Remove Lip Seal **26** from Body **7**, replace.

*Note: Extreme care must be taken when removing Seals, to avoid damage to sealing surfaces.*

Inspect Piston diameters, and Body Cylinder Bore, for wear and damage. Replace Seals in the correct relative positions. For Lip Seals **26** use assembly tools\*. Insert Seal in tapered end of Sleeve\*. Ensure seal is orientated correctly. Insert sleeve into bore of Body **7**. Using Push Rod\*, push Seal out of sleeve into body groove. Lubricate Seals and Cylinder Bores with Moly Lithium grease.

## RE-ASSEMBLING HYDRAULIC BODY

- Using Assembly Bullet\*, positioned on the thread of Piston **10** and with the aid of Piston Assembly Rod\*, push the piston through the bore of the body **7** until it reaches the shoulder of the Body, remove the Assembly Bullet\*.
- Assemble Buffer Stops **13**, ensure the same number are assembled as were removed.
- Screw Piston Nut **18** and Lock Nut **27** onto the Thread of the Piston **10**. Using Spanners\*, lock the Nuts together, ensuring that the front face of Locknut **27** is flush with the front face of Piston **10**.
- Fit Barrel Assembly to Body **7**. Secure using Washer **2** and Screw **1**. Lock Screw using Hexagon Wrench.
- Fit Tail Jaw Housing **11** and Tail Jaw Assembly to Body **7** and tighten using spanners\*.

## DISMANTLING BARREL ASSEMBLY

- Using hexagon Wrench\*, remove Screw **1** and Washer **2** from Body **7**.
- Remove Barrel Assembly from Body **7**.
- Using Hexagon Wrench\*, remove Grub Screw **23** from Barrel Nut **14**.

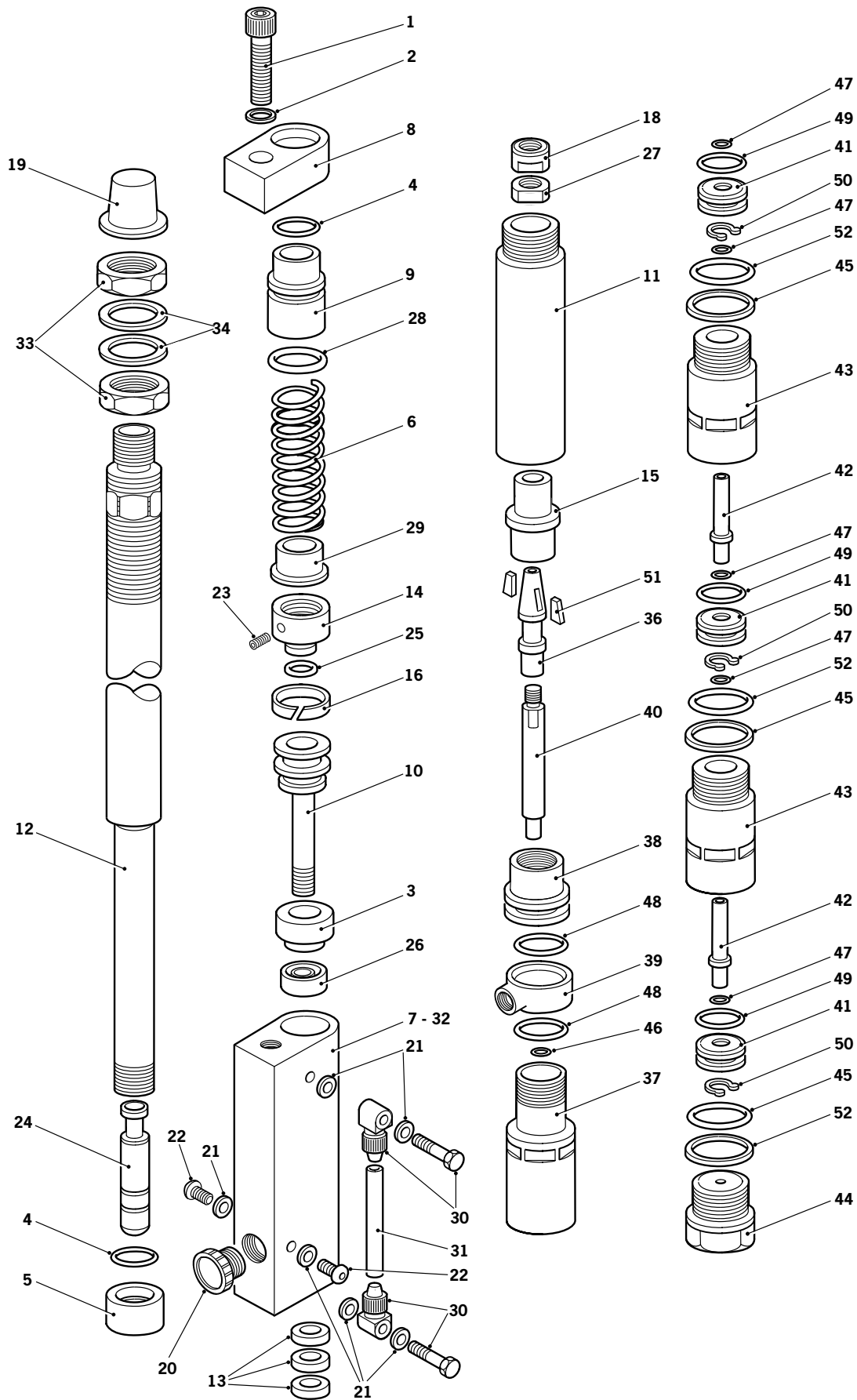
*Note: When Replacing Screw, secure using Locktite Screwloc 222.*

- With the aid of Spanners\* hold Barrel **12** and remove Barrel Nut **14** using Spanners\*.
- Remove Barrel Return Spring **6** and Barrel Spring Retainer **8**. Remove 'O' Ring **4** from Barrel Spring Retainer **8**.
- Clean and inspect all parts. Replace if damaged or worn. Assemble in reverse order.

\* Refers to items included in the service kit, see page 24.

Item numbers in **bold** refer to the general assembly and parts list on pages 28-29.

# General Assembly of Hydraulic Module 07667-00200



# Parts List for Hydraulic Module 07667-00200

07667 PARTS LIST									
ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	07001-00250	M8 SOCKET HEAD CAP SCREW	1	-	26	07003-00224	LIP SEAL	1	-
2	07002-00105	M8 WASHER	1	-	27	07650-00214	LOCKNUT	1	-
3	07003-00221	LIP SEAL	1	-	28	07003-00147	'O' RING	1	-
4	07003-00178	'O' RING	2	-	29	07650-00218	SPRING GUIDE	1	-
5	07667-00201	OIL COLLECTOR	1	-	30	07005-00850	ELBOW	2	-
6	07490-03002	BARREL RETURN SPRING	1	-	31	07005-00909	CLEAR NYLON TUBE	6cm	-
7	07667-00209	BODY	1	-	32	07273-00203	SAFETY LABEL	1	-
8	07650-00216	BARREL SPRING RETAINER	1	-	33	07650-00501	BARREL LOCK NUT	2	-
9	07650-00217	SEAL SPRING GUIDE	1	-	34	07660-00202	BARREL WASHER	2	-
10	07667-00205	PISTON	1	-					
11	07650-00205	TAIL JAW HOUSING	1	-	36	07650-00303	TURRET	1	-
12	07650-00206	BARREL	1	-	37	07657-00301	FRONT CYLINDER	1	-
13	07667-00206	BUFFER STOP	3	-	38	07657-00302	ADAPTOR	1	-
14	07667-00207	BARREL NUT	1	-	39	07657-00303	BANJO	1	-
15	07650-00209	JAW HOUSING	1	-	40	07657-00304	FRONT PISTON ROD	1	-
16	07005-01270	BEARING TAPE	1	-	41	07657-00305	PISTON	3	-
17					42	07657-00306	PISTON ROD	2	-
18	07650-00213	PISTON NUT	1	-	43	07657-00307	REAR CYLINDER ASSEMBLY (FRONT/BACK)	2	-
19	07007-00017	DUST CAP	1	-	44	07657-00308	REAR PLUG	1	-
20	07007-00353	PROTECTIVE PLUG	1	-	45	07657-00309	SEAL RETAINER	3	-
21	07003-00033	2BA BONDED SEAL	6	2	46	07003-00036	'O' RING	1	-
22	07001-00114	10-24 UNC BUTTON HEAD SCREW	2	-	47	07003-00042	'O' RING	5	-
23	07001-00243	GRUB SCREW	1	-	48	07003-00667	'O' RING	2	2
24	07271-01100	CURSOR ASSEMBLY	1	-	49	07003-00100	'O' RING	3	-
25	07003-00036	'O' RING	1	-	50	07004-00057	CIRCLIP	3	-
					51	07151-00403	TURRET JAWS	2	2
					52	07003-00153	'O' RING	3	-

## DISMANTLING INSTRUCTIONS

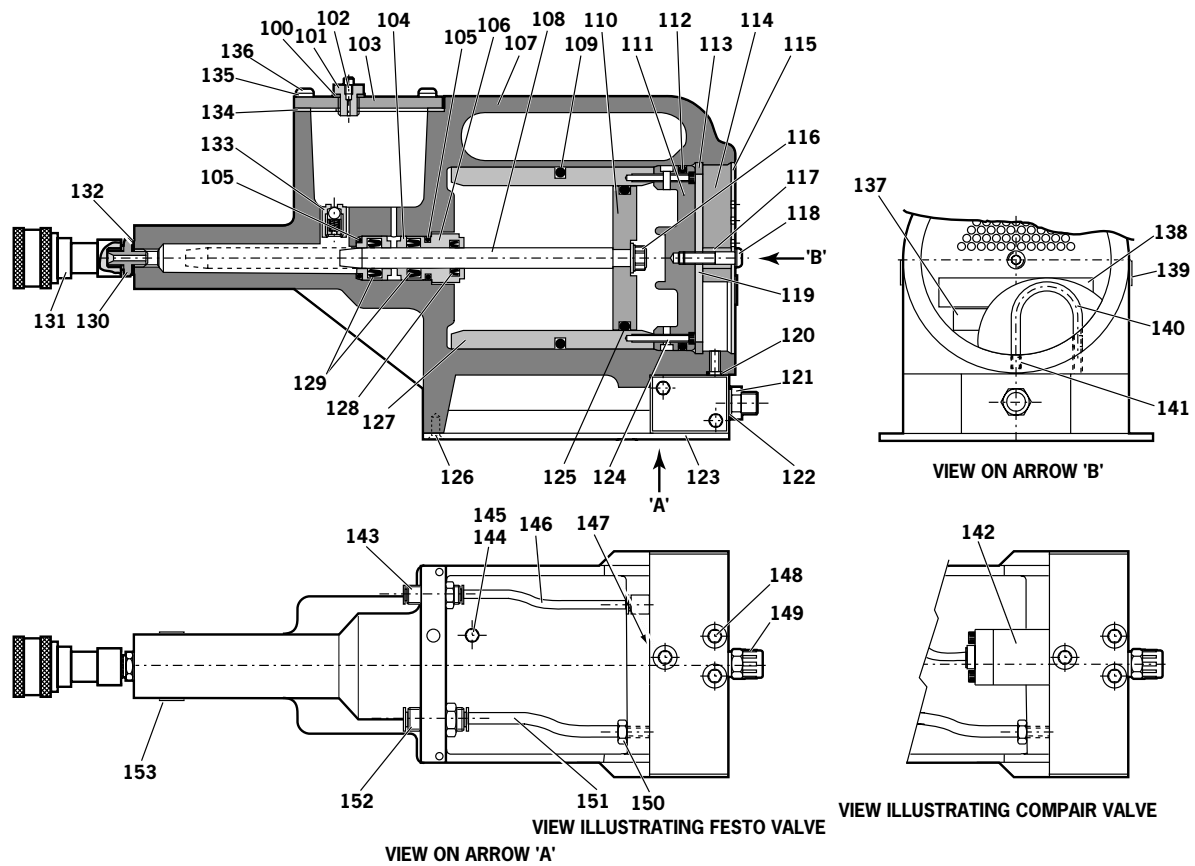
- When dismantling the intensifier assembly, first disconnect the air supply hose to intensifier inlet connector.
- Using an Allen Key\* undo four Screws **126** and remove Protection Plate **123**.
- Disconnect the Trigger Hose **146** from the Intensifier Valve **142** or **147** by depressing the outlet collet and withdrawing the hose.
- Remove Cover Plate **103** and Gasket **134** by removing Screws **136** and Washers **135** using Allen Key\*.
- Ensure that gasket is not damaged to ensure a proper seal on assembly.
- Invert intensifier assembly and drain oil from reservoir into a suitable container.
- Remove Quick Release Connector **131** together with Connector **130** and Seals **132** with suitable spanner\*.
- Remove Intensifier Valve **142** or **147** by removing the fixing screws with a suitable spanner taking care to retain 'O' Ring **120** located in the Intensifier Body Casting.
- Remove Screw **118** using a suitable Allen Key\* and remove Silencer Cover **115**, Foam Silencer **114**, Spacer **117** and Retaining Plate **119**.
- Pull off the 6mm Plastic Tube **140** from Vacuum Connectors **141**.
- From the base of the intensifier insert a 3mm Allen Key \* through the two holes and unscrew the Vacuum Connectors **141**. Note:
  - Care must be taken as the vacuum connectors are locked and sealed in place using Loctite 574.
  - If difficult to remove, the vacuum connectors can be drilled out using a  $\frac{3}{16}$ " or 4.7mm diameter drill.
- To reassemble the Vacuum Connectors **141**, the following procedure must be followed: -
  - Soak the vacuum connectors in a suitable primer, i.e. Perma Bond A905
  - Place a drop of Loctite 574 in the intensifier threaded hole.
  - From the base of the intensifier insert the Allen Key \* through the hole. Ensure that the Allen Key \* is free from Loctite 574 before inserting into the vacuum connector.
  - Rotate the Allen Key while applying Loctite 574 to the base of the vacuum connector.
  - Screw the vacuum connector into the intensifier, ensuring that there is sufficient Loctite 574 at the base of the fitting such the thread is not visible.
- Using a screwdriver, carefully remove internal Retaining Ring **113**. Clean and inspect groove for sign of damage.
- Using Extractor\*, insert male threaded end into End Cover **111** and withdraw it along with intensifier Sleeve **127** and 'O' Rings **109** and **112**.
- Insert rod\* through the connector orifice at the front of the intensifier body and trap the intensifier Piston Rod **108** and piston assembly.
- Using a suitable Allen Key\*, unscrew two Screws **124** and remove End Cover **111** from intensifier Sleeve **127**.
- Remove Seal Plug **106** with spanner\*.
- Insert rod\* through connector orifice at the front of the intensifier body and push out Seal Housing **104** and associated 'O' rings and lip seals.
- Remove Valve Housing Assembly **133** from the main body with a suitable spanner\*. Clean by blowing through with a low-pressure air jet.
- Remove Piston Rod **108** from intensifier Air Piston **110** by gripping the first 20 mm ( $\frac{3}{4}$ " ) of the rod in a vice fitted with soft jaws, taking care not to damage or mark the working surface.
- Unscrew locking Nut **116** with a suitable spanner\*.
- Assemble in the reverse order of dismantling, observing the following:
  - Clean all parts and renew all 'O' rings.
  - Lubricate all seals using Moly lithium grease.
  - Valve Housing Assembly **133** must be refitted using a thread sealing adhesive.
  - Assemble the Piston Assembly using a new Nut **116**.
- End Cover **111** must be fitted correctly inside Retaining Ring **113**. The tool must not be operated if the end cover has been omitted.

### IMPORTANT

Priming is ALWAYS necessary after the tool has been dismantled and prior to operating.

\* Refers to items included in the service kit, see page 24.  
Item numbers in **bold** refer to the illustration and parts list opposite.

# Intensifier 07531-02200



## 07531-02200 PARTS LIST

ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
100	07003-00037	SEAL	1	1	127	07531-00201	SLEEVE	1	-
101	07240-00211	FILLER SCREW	1	-	128	07003-00337	LIP SEAL	1	1
102	07001-00418	BLEED SCREW	1	1	129	07003-00336	LIP SEAL	2	2
103	07240-00210	COVER PLATE	1	-	130	07005-00406	CONNECTOR	1	-
104	71420-02006	SEAL HOUSING	1	-	131	07005-00759	QUICK RELEASE CONNECTOR	1	-
105	07003-00153	'O' RING	2	-	132	07003-00142	SEAL	2	1
106	71420-02007	SEAL PLUG	1	-	133	07240-00400	VALVE HOUSING ASSEMBLY	1	-
107	71420-02300	BODY ASSEMBLY	1	-	134	07240-00209	GASKET	1	1
108	71420-02008	PISTON ROD	1	-	135	07002-00073	WASHER	4	1
109	07003-00182	'O' RING	1	1	136	07001-00554	SCREW	4	1
110	07531-00202	AIR PISTON	1	-	137	07007-01504	LABEL	1	-
111	07531-00204	END COVER	1	-	138	07240-00217	LABEL	1	-
112	07003-00183	'O' RING	1	1	139	07531-00205	LABEL	2	-
113	07004-00069	RETAINING RING	1	1	140	07005-00596	6mm PLASTIC TUBE	-	-
114	07240-00213	FOAM SILENCER	1	1	141	07245-00103	VACUUM CONNECTOR	2	-
115	07240-00214	SILENCER COVER	1	-	142	07005-00590	COMPAIR VALVE	1	1
116	07002-00017	NUT	1	1	143	07005-01431	BULKHEAD CONNECTOR	1	1
117	07240-00215	SPACER	1	-	144	07005-00668	M5 PLUG	1	-
118	07001-00417	SCREW	1	1	145	07005-00670	M5 SEALING RING	1	-
119	07240-00216	RETAINING PLATE	1	-	146	07005-01084	4mm PLASTIC TUBE	-	-
120	07001-00042	'O' RING	1	1	147	07005-01524	FESTO VALVE	1	-
121	07005-00041	CONNECTOR	1	-	148	07001-00176	SCREW	3	-
122	07003-00065	WASHER	1	-	149	07007-00292	1/4" BSP REDCAP	1	-
123	07240-00220	PROTECTION PLATE	1	-	150	07005-00647	CONNECTOR	1	-
124	07001-00375	SCREW	2	-	151	07005-01085	6mm PLASTIC TUBE	-	-
125	07003-00238	'O' RING	1	1	152	07005-00855	BULKHEAD UNION	1	-
126	07001-00396	SCREW	4	-	153	07007-01503	LABEL	1	-

# Pilot Valve 07005-00590 - Maintenance

## DISMANTLING INSTRUCTIONS

Please note that these service instructions refer to the Compair valve where fitted. (The Festo valve is not serviceable.)

Servicing of the valve is limited to the removal/replacement of 'O' rings.

- Remove Screws **24** and remove pilot assembly.
- Remove Piston **11** and discard 'O' Rings **3, 10, 4** and **5**.
- Remove Screws **26** and **21** and remove End Caps **22** and **25**.
- Withdraw Pistons **12** and **18** and remove 'O' Rings **7** and **9** from pistons.
- Withdraw Spool **16** from bore, taking care not to damage surface of spool and remove location Washers **14** and **17**, 'O' Ring **8**, Spacers **15** and 'O' Ring **6** from each end of valve body.
- Remove five interface 'O' Rings **4**.
- Discard ALL 'O' rings removed.
- Clean all parts with paraffin or white spirit. DO NOT USE SOLVENTS. Dry all parts.
- Lightly smear bores of valve Body **23**, pilot valve Body **19**, both End Caps **22** and **25** and all replacement 'O' rings with CENTOPLEX 2 grease.
- Fit new 'O' Rings **10, 4** and **5** to Piston **11** and insert into pilot valve body.
- Fit new 'O' Rings **3, 10** and **6** to pilot valve body, place Top Cap **20** in position and secure pilot valve assembly to main valve Body **23** with Screws **24**. Ensure that the interface seal housing faces upward with the G1/4 at the bottom. Ensure orientation of Piston **11** is correct.
- With main valve Body **23** in the same position, fit green location Washer **17** to the left hand side of the valve assembly.
- Starting from the right hand side of the valve, assemble alternately 'O' Rings **8** and Spacers **15** (6 seals and 5 spacers) and finally complete the stack assembly with white location Washer **14**.
- Lightly smear Spool **16** with CENTOPLEX 2 grease, supplied with the service kit, and slide spool through seal/spacer stack.
- Fit 'O' Rings **9** and **7** to respective Pistons **18** and **12**, fit 'O' Rings **6** to ends of main valve Body **23**.
- Insert pistons into End Caps **25** and **22** and assemble end caps to valve, taking care to locate piston shafts into holes in the ends of Spool **16**.
- Secure end cap assemblies to main valve Body **23** with Screws **26** and **21**.
- Fit interface 'O' Rings **4** into their housings in the main valve body.
- If the pipe connection to the pilot assembly is damaged, replace Plastic Collet **2** and lift out the 'O' Ring **1** from Cartridge **27**.
- Fit new 'O' Ring **1** and insert Plastic Collet **2** into Cartridge **27**.

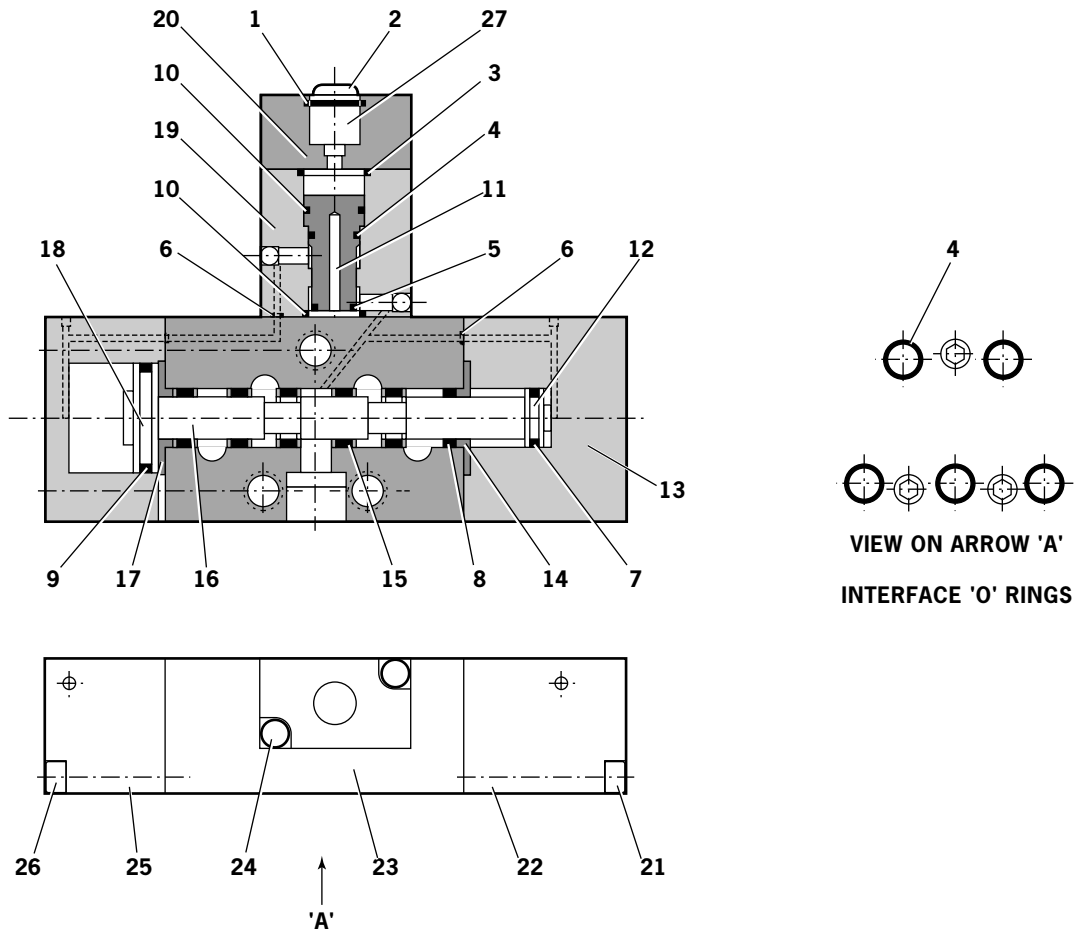
### IMPORTANT

**Priming is ALWAYS necessary after the tool has been dismantled and prior to operating.**

Item numbers in **bold** refer to the illustration and parts list opposite.



# Pilot Valve 07005-00590



## 07005-00590 VALVE PARTS LIST

ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	07005-00599	* 'O' RING	-	-	15	-	SPACER	5	-
2	07005-00598	* PLASTIC COLLET	-	-	16	-	SPOOL	1	-
3	07003-00204	* 'O' RING	1	-	17	-	WASHER	1	-
4	07003-00103	* 'O' RING	6	-	18	-	PISTON	1	-
5	07003-00042	* 'O' RING	1	-	19	-	BODY	1	-
6	07003-00121	* 'O' RING	4	-	20	-	TOP CAP	1	-
7	08005-00127	* 'O' RING	1	-	21	-	SCREW	2	-
8	07003-00105	* 'O' RING	6	-	22	-	END CAP	1	-
9	07003-00178	* 'O' RING	1	-	23	-	BODY	1	-
10	07003-00017	* 'O' RING	2	-	24	-	SCREW	2	-
11	-	PISTON	1	-	25	-	END CAP	1	-
12	-	PISTON	1	-	26	-	SCREW	2	-
13	07005-00590	VALVE ASSEMBLY	-	-	27	-	CARTRIDGE	1	-
14	-	WASHER	1	-					

\* Together these items make up a Service Kit for the valve with the addition of one Centoplex 2 tube of grease, the kit is available from Textron Fastening Systems, part number 07005-01538.

# Priming

Priming is ALWAYS necessary after the tool has been dismantled and prior to operating. It may also be necessary to restore the full stroke after considerable use, when the stroke may be reduced and fasteners are not fully placed by one operation of the trigger.

## OIL DETAILS

The recommended oil for priming is Hyspin VG32 available in 0.5l (part number 07992-00002) or one gallon containers (part number 07992-00006). Please see safety data below.

## HYSPIN VG 32 OIL SAFETY DATA

### First Aid

#### SKIN:

Wash thoroughly with soap and water as soon as possible. Casual contact requires no immediate attention. Short term contact requires no immediate attention.

#### INGESTION:

Seek medical attention immediately. DO NOT induce vomiting.

#### EYES:

Irrigate immediately with water for several minutes. Although NOT a primary irritant, minor irritation may occur following contact.

### Fire

Suitable extinguishing media: CO<sub>2</sub>, dry powder, foam or water fog. DO NOT use water jets.

### Environment

WASTE DISPOSAL: Through authorised contractor to a licensed site. May be incinerated. Used product may be sent for reclamation.

SPILLAGE: Prevent entry into drains, sewers and water courses. Soak up with absorbent material.

### Handling

Wear eye protection, impervious gloves (e.g. of PVC) and a plastic apron. Use in well ventilated area.

### Storage

No special precautions.

## PRIMING PROCEDURE

### IMPORTANT

#### DO NOT OPERATE THE FOOT PEDAL WHILE THE BLEED SCREW IS REMOVED

All operations should be carried out on a clean bench, with clean hands in a clean area.

Ensure that the new oil is perfectly clean and free from air bubbles.

Care MUST be taken at all times, to ensure that no foreign matter enters the tool, or serious damage may result.

- Connect Air Inlet point of Air Regulator Unit.
- Fill Oil Reservoir of Intensifier Unit by unscrewing Filler Screw (item **101** page 31) and pouring in Hyspin VG.32 Priming Oil (see page above for details). Replace Filler Screw (item **101** page 31) ensuring Bleed Screw (item **102** page 31) has first been removed.
- Using Allen Key \*, remove Button Head Screw and Bonded Seal (items **22** and **21** on Modular Head Assembly details pages 28 and 29) from the side of the Modular Head Assembly.
- With the Modular Head Assembly held below the level of the Intensifier Reservoir and a suitable receptacle positioned to receive the Priming Fluid, allow the oil to run from the Bleed Orifice until non-aerated oil is emitted
- When clear Priming Fluid runs freely from the Bleed Orifice, replace Bonded Seal and Button Head Screw into the Modular Head Assembly.
- DO NOT activate the Foot Pedal until the above instructions are completed.

Note: Never re-prime tool using oil previously used during re-priming.

\* Refers to items included in the service kit, see page 24.

Item numbers in **bold** refer to the general assemblies and parts lists pages 28, 29 and 31.

# Fault Diagnosis

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF
Feeding More Than One Fastener		Check as for Mandrel slip below. Ensure correct Nose Equipment is fitted and has been fitted the correct way round. Refer to either 'Nose Equipment Manual NE/CHOB.' or "NE/BRV." as appropriate.	5
		Ensure the correct gap is left between the head of the rivet and the Front Nose Jaws when loading a new Mandrel (0.062/0.125in).	12
Mandrel Slipping in Tail Jaws		Check to ensure sufficient volume and correct air pressure is available. Ensure there are no air leaks to the Tail Jaws.	5
		Check for worn Tail Jaws. Check for wear on tail end of Mandrel.	
		Ensure Tail Jaws Switch is functioning and that no air leaks are evident from connections.	
Excessive Tail Jaw Wear		Ensure correct Nose Equipment has been selected for rivet/hole size combination. Ensure correct fastener has been selected for grip range being fastened.	
		Ensure correct air pressure/volume is available and no fluctuations are evident Check for air leaks.	5, 23
		Ensure the correct number of Buffer Stops are fitted to Modular Head Assembly	27
Not Feeding Fastener		Ensure the correct gap is left between the head of the fastener and the Front Nose Jaws when loading a new Mandrel (0.062/0.125in).	12
		Ensure Cursor is fitted the correct way round. (sprung loaded ring to face Front Nose Jaws).	11
		Clean and oil Cursor Assembly. Ensure correct Nose Equipment has been fitted.	
		Weak spring on outside of cursor Assembly	

Other symptoms or failures should be reported to your local Avdel authorised distributor or repair centre.

# Fault Diagnosis

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF
Incomplete or no stroke of Modular Head		Check oil in Intensifier Unit. Refill Intensifier and check for oil leaks.	
		Modular Head Assembly needs re-priming	34
		Ensure Bleed Screw (item <b>102</b> on Intensifier Unit) has been removed	31
		Insufficient air pressure or volume	5

Other symptoms or failures should be reported to your local Avdel authorised distributor or repair centre.

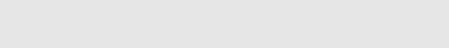




# Declaration of Conformity

We, Avdel UK Limited, Mundells, Welwyn Garden City, Herts, AL7 1EZ  
declare under our sole responsibility that the product:

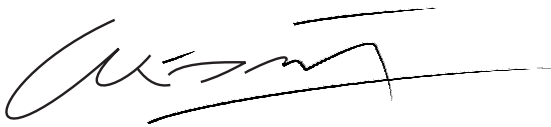
**Model 07475**

Serial No. 

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


EN292 part 1 and part 2	
ISO 8662 part 1	EN 60742/0695
ISO 3744	EN 50081-1
ISO PREN792 part 14	EN 55014


following the provisions of the Machine Directive 98/37/EC



A. Seewraj - Product Engineering Manager - Automation Tools

Welwyn Garden City - date of issue



 **This box contains a power tool which is in conformity with Machines Directive 98/37/EC. The 'Declaration of Conformity' is contained within.**



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