

# Instruction Manual



74405

**Hydro-Pneumatic Power Tool**



# Contents

---

<b>Safety Instructions</b>	4
<b>Specifications</b>	
Tool Specification for 74405	5
Tool Specification for Intensifier	5
Tool Dimensions	5
<b>Intent of Use</b>	6
<b>Putting into Service</b>	
Air Supply	7
Operating Procedure	7
Stroke Adjustment	8
<b>Nose Assemblies</b>	
Fitting Instructions	9
Servicing Instructions	10
Nose Assembly Components	10
<b>Servicing the Tool</b>	
Servicing	11
Daily / Weekly	11
Service Kit	11
Moly Lithium Grease EP 3753 Safety Data	12
<b>Maintenance</b>	13
Head Assembly	13
Air Motor Assembly	14
Handle and Trigger Assembly	14
Intensifier	15
<b>General Assemblies and Parts Lists</b>	
Head Assembly General Assembly	16
Head Assembly Parts List	17
Intensifier General Assembly	18
Intensifier Parts List	19
Hand Tool General Assembly and Parts List	20
<b>Priming</b>	
Oil Details	21
Hyspin® VG 32 Oil Safety Data	21
Priming Procedure	22
<b>Fault Diagnosis</b>	
Symptom, Possible Cause and Remedy	23-24

## LIMITED WARRANTY

**Avdel makes the limited warranty that its products will be free of defects in workmanship and materials which occur under normal operating conditions. This Limited Warranty is contingent upon: (1) the product being installed, maintained and operated in accordance with product literature and instructions, and (2) confirmation by Avdel of such defect, upon inspection and testing. Avdel makes the foregoing limited warranty for a period of twelve (12) months following Avdel's delivery of the product to the direct purchaser from Avdel. In the event of any breach of the foregoing warranty, the sole remedy shall be to return the defective Goods for replacement or refund for the purchase price at Avdel's option. THE FOREGOING EXPRESS LIMITED WARRANTY AND REMEDY ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES. ANY IMPLIED WARRANTY AS TO QUALITY, FITNESS FOR PURPOSE, OR MERCHANTABILITY ARE HEREBY SPECIFICALLY DISCLAIMED AND EXCLUDED BY AVDEL.**

Avdel UK Limited policy is one of continuous product development and improvement and we reserve the right to change the specification of any product without prior notice.

# 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.
- 11 The operating pressure shall not exceed 7 bar.
- 12 Do not operate the tool if it is not fitted with a complete nose assembly or swivel head unless specifically instructed otherwise.
- 13 Care shall be taken to ensure that spent stems are not allowed to create a hazard.
- 14 If the tool is fitted with a stem collector, it must be emptied when half full.
- 15 If the tool is fitted with a stem deflector, it should be rotated until the aperture is facing away from the operator and other person(s) working in the vicinity.
- 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 When carrying the tool from place to place keep hands away from the trigger/lever to avoid inadvertent start up.
- 19 Excessive contact with hydraulic fluid oil should be avoided. To minimize the possibility of rashes, care should be taken to wash thoroughly.
- 20 C.O.S.H.H. data for all hydraulic oils and lubricants is available on request from your tool supplier.

# Specifications

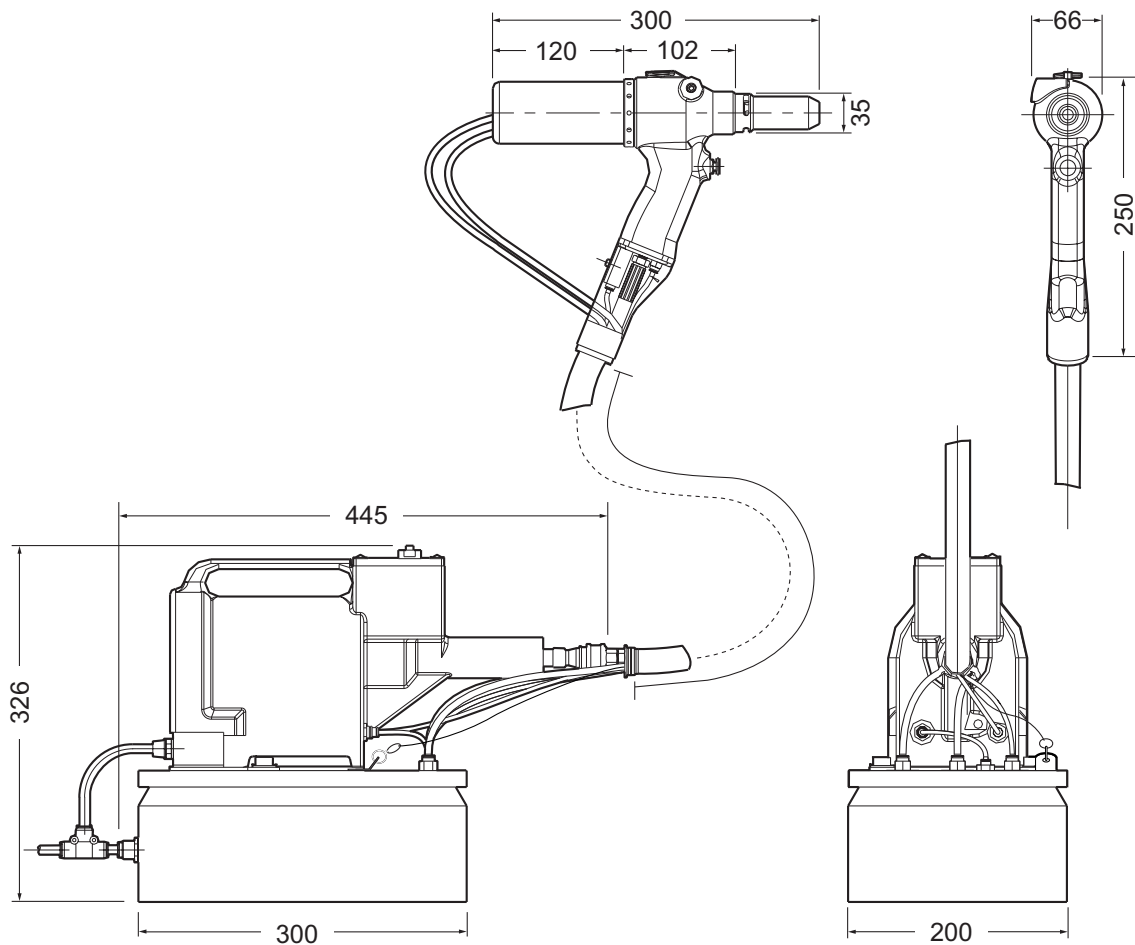
## Tool Specification for 74405

<b>Air Pressure</b>	Minimum - Maximum	5-7 bar	60 - 100 lbf/in <sup>2</sup>
<b>Free Air Volume Required</b>	@ 5.5 bar or 75 lbf/in <sup>2</sup>	15 litres	.525 ft <sup>3</sup>
<b>Stroke</b>	Maximum	16 mm	.63 in
<b>Motor Speed</b>	SPIN ON	2000 RPM	
	SPIN OFF	2000 RPM	
<b>Pull Force</b>	@ 5.5 bar or 75 lbf/in <sup>2</sup>	13.84 kN	3111 lbf
<b>Cycle Time</b>	Approximately	3 seconds	
<b>Noise Level</b>	Less than	75 dB(A)	
<b>Weight</b>	Without equipment or hose	2 kg	4.4 lb
<b>Vibration</b>	Less than	2.5 m/s <sup>2</sup>	

## Tool Specification for Intensifier

<b>Air Pressure</b>	Minimum - Maximum	5-7 bar
<b>Free Air Volume Required</b>	@ 5.5 bar or 75 lbf/in <sup>2</sup>	3.6 litres
<b>Noise Level</b>	Less Than	75 dB(A)

## Tool Dimensions



Dimensions in millimetres

# Intent of Use

---

The hydro-pneumatic 74405 tool is designed to place Avdel® Threaded Inserts at high speed making it ideal for batch or flow-line assembly in a wide variety of applications throughout all industries.

A complete tool is made up of two separate elements which will be supplied individually:

- Base Tool - 74405-01000
- Nose Assembly - see datasheet 07900-00857

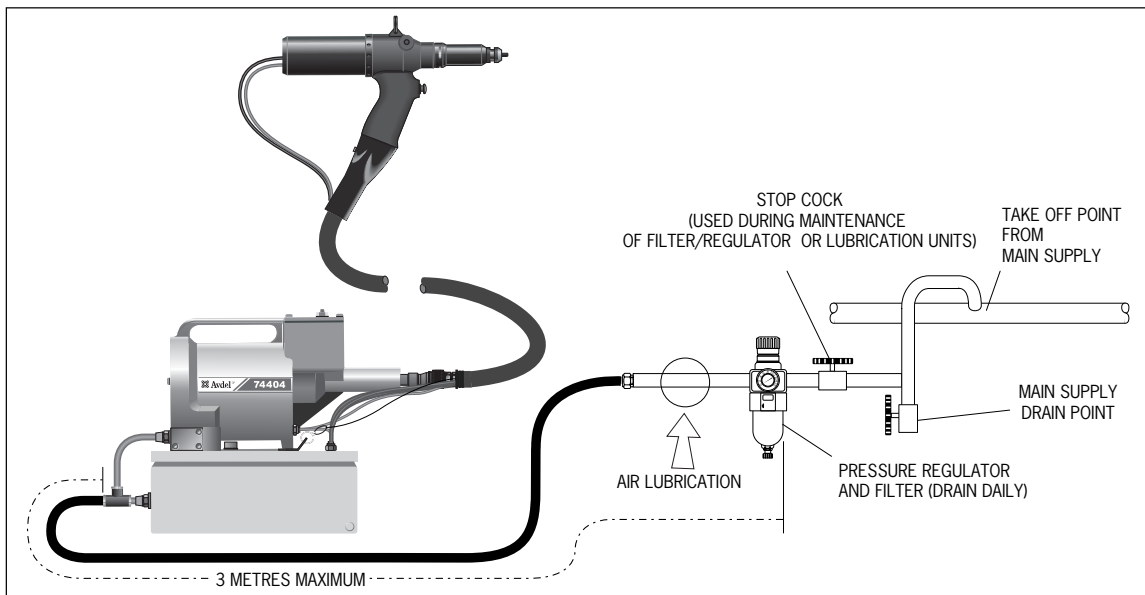
# Putting into Service

## Air Supply

All tools are operated with compressed air at an optimum pressure of 5.5 bar. We recommend the use of pressure regulators and filtering systems on the main air supply. These should be fitted within 3 metres of the tool (see diagram below) to ensure maximum tool life and minimum tool maintenance.

Air supply hoses should have a minimum effective working pressure rating of 150% of the maximum pressure produced in the system or 10 bar, whichever is the highest. Air hoses should be oil resistant, have an abrasion resistant exterior and should be armoured where operating conditions may result in hoses being damaged. All air hoses MUST have a minimum bore diameter of 6.4 millimetres or ¼ inch.

Read servicing daily details page 11.



Follow the steps below when connecting the tool to the intensifier and main air supply:

- Push the end of the large hydraulic hose from the tool into the quick release connector on the end of the intensifier.
- On the front face of the intensifier (Refer to page 18):
  - Push the black pneumatic (4mm OD) line into the reducer fitting which is located in the left hand bulkhead connector.
  - Push the blue pneumatic (4mm OD) line into the plastic collet of the right hand bulkhead connector.
- On the top face of the control box (Refer to page 20):
  - Push the blue pneumatic (6mm OD) line into the reducer labelled 'Air Motor Spin On' on the top face of the control box - LH side.
  - Push the black pneumatic (6mm OD) line into the reducer labelled 'Air Motor Spin Off' on the top face of the control box - middle.
  - Push the black pneumatic (4mm OD) line from the flexible hose assembly into the reducer labelled 'Aux Spin Off' on the top face of the control box - RH side.
  - Push the black pneumatic (4mm OD) line from the reducer fitting on the intensifier into the reducer labelled 'Intensifier Timer' on the top face of the control box.
- Fit a pneumatic hose between the male connector at the rear of the intensifier and main air supply.

## Operating Procedure

- Before you use the tool, remove the Screw **3\*** on top of the oil reservoir of the intensifier to allow venting. Replace screw when transporting the intensifier.
- Ensure that a nose assembly suitable for the fastener is fitted (see separate nose assembly data sheet 07900-00857).
- Connect the tool to the intensifier and the intensifier to the air supply.
- Offer up insert, lip first to the drive screw. A light pressure will start the motor and automatically thread the insert up against the nose and stop.
- Insert the fastener into the application squarely.
- Fully depress the trigger. This will both place the insert into the application and reverse it off the drive screw.

\* Item number refers to Intensifier general assembly and parts list on pages 18 and 19.

# Putting into Service

## Stroke Adjustment

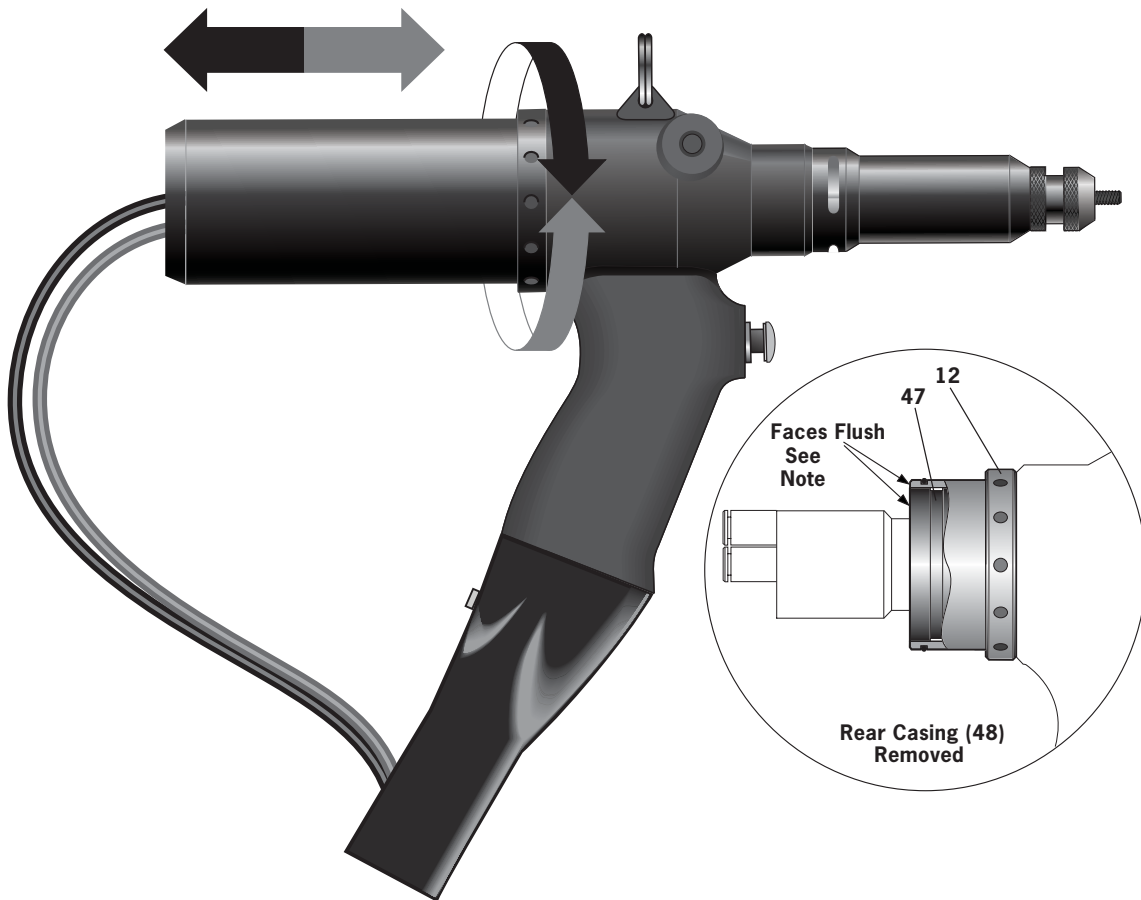
---

This adjustment is necessary to insure optimum insert deformation. It is suggested, therefore, that a test plate with the same thickness and hole size as the workpiece is used.

If deformation is insufficient, the insert will rotate inside the application.

If deformation is excessive, thread distortion will occur and possibly drive screw fracture.

The stroke is adjusted by the amount the Stroke Adjustment Lock Nut **12**, (parts list page 17), is screwed in or out. To shorten the stroke, screw in; to lengthen the stroke, unscrew the rear casing. Adjust until optimum deformation is obtained.



### Note

#### IMPORTANT

At the correct stroke the rear faces of the Adjustment Ring **47** and the Stroke Adjustment Lock Nut **12** will be flush.

The Adjustment Ring **47** must not be wound out beyond this point.

Item numbers in **bold** refer to the illustrations on pages 16 and 17.



## Fitting Instructions

### IMPORTANT

The Nose Assembly must be fitted before operating the tool.

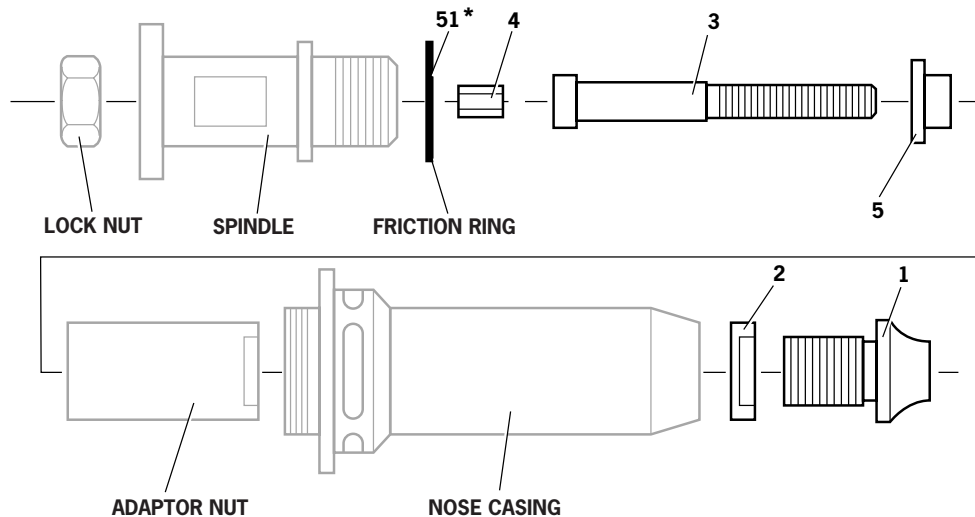
It is essential that the correct nose assembly is fitted prior to operating the tool. By knowing your original complete tool part number or the details of the fastener to be placed, you will be able to order a new complete nose assembly using the datasheet 07900-00857 for nose assembly components.

### IMPORTANT

The air supply must be disconnected when fitting or removing nose assemblies unless specifically instructed otherwise.

- If still fitted remove the nose casing and adaptor nut.
- Insert Drive Shaft **4** into spindle.
- Fit Drive Screw **3** onto Drive Shaft **4**.
- Insert Reducing Sleeve **5** (if required) into the adaptor nut.
- Position Friction Ring **51\*** onto the spindle.
- Screw the adaptor nut onto the spindle.
- Hold the spindle with a spanner\*, tighten the lock nut anti-clockwise, ensuring the friction ring is not caught between the faces of the spindle and the adapter nut.
- Screw on the nose casing together with Nose Tip **1** and nose tip Lock Nut **2**.
- The reverse operation is carried out for equipment removal.
- With tool still disconnected from air supply, screw one insert onto the drive screw manually making sure the insert is flush with the end of the drive screw.
- Set nose tip in exact position and lock nose tip nut clockwise with a spanner\*.
- Remove the insert from the drive screw.

(Item numbers in **bold** refer to illustration below, **51\*** refers to illustration on page 16).



\*Items in grey are included in the base tool.

\* Item included in the 74405 Service Kit. For complete list see page 11.

## **Servicing Instructions**

---

- Remove the nose equipment using the reverse procedure to the 'Fitting Instructions' (see page 9).
- Any worn or damaged part should be replaced.
- Particularly check wear on Drive Screw **3** and Drive Shaft **4**.
- Assemble according to fitting instructions.

(Item numbers in **bold** refer to illustration on page 9)

## **Nose Assembly Components**

---

See separate data sheet 07900-00857 for nose assembly components.

# Servicing the Tool

## Servicing

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

**IMPORTANT**  
**Read safety instructions 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 tool shall be examined regularly for damage and malfunction.**

## Daily

- Daily, before use or when first putting the tool into service, pour a few drops of clean, light lubricating oil into the air inlet of the tool. 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 leaks. If damaged, hoses and couplings should be replaced by new items.
- If there is no filter on the pressure regulator, bleed the air line to clear it of accumulated dirt or water before connecting the air hose to the tool.
- Check that the nose assembly is correct.
- Check the stroke of the tool is adequate to place selected insert (see Stroke Adjustment page 8).
- Inspect the drive screw in the nose assembly for wear or damage. Renew, if necessary.

## Weekly

- Check for oil leaks and air leaks on air supply hose and fittings.

For all servicing we recommend the use of the Service Kit, part number 74405-99990, detailed below.

<b>SERVICE KIT : 74405-99990</b>					
<b>PART N°</b>	<b>DESCRIPTION</b>	<b>N° OFF</b>	<b>PART N°</b>	<b>DESCRIPTION</b>	<b>N° OFF</b>
07900-00618	PUSHER	1	07900-00521	Ø1/4" ROD	1
07900-00409	12mm/13mm SPANNER	1	07900-00639	NYLON BUSH	1
07900-00632	17mm/19mm SPANNER	2	07900-00640	METAL BUSH	1
74200-12196	17mm THIN SPANNER	1	07900-00161	EXTERNAL CIRCLIP PLIERS	1
07900-00642	27mm/30mm SPANNER	1	07900-00157	INTERNAL CIRCLIP PLIERS	1
07900-00859	42mm SPANNER	1	07900-00625	SOFT MALLET	1
07900-00158	Ø2mm PIN PUNCH	1	07900-00426	COMBINATION SPANNER	1
07900-00624	Ø4mm PIN PUNCH	1	07900-00860	BULLET	1
07900-00469	2.5mm ALLEN KEY	1	07900-00717	SPANNER FOR INTENSIFIER	1
07900-00351	3mm ALLEN KEY	1	07900-00692	TRIGGER VALVE EXTRACTOR	1
07900-00224	4mm ALLEN KEY	1	07992-00020	GREASE - MOLY LITHIUM EP3753	1
07900-00225	5mm ALLEN KEY	1	07992-00075	GREASE - MOLYKOTE® 55M	1
07900-00226	6mm ALLEN KEY	1	07900-00775	GREASE - MOLYKOTE® 111	1

Grease used during tool maintenance can be ordered as a single item, the part number is shown in the Service Kit above.

# Servicing the Tool

## **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 11.

### **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.

C.O.S.H.H. data for all hydraulic oils and lubricants is available on request from your local tool supplier.

# Maintenance

---

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

## I M P O R T A N T

**Read Safety Instructions 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 tool shall be examined regularly for damage and malfunction.**

The air line 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. Prior to dismantling the tool it is necessary to remove the nose assembly. For simple removal instructions see the nose assemblies section, page 9.

Remove Bleed Screw **32** and Washer **31** and drain oil from tool.

For total tool servicing we advise that you proceed with dismantling of sub-assemblies in the order shown below.

To disconnect the Oil Hose **46\*** and Air Delivery and Return Hose **45\*** from the tool, disengage Spiral Protection Sleeve **47\*** from Sleeve **39** and lower Sleeve **39** to gain access to the hoses.

Disconnect Air Hoses by pushing and releasing the quick release connectors. Using two spanners, undo Oil Hose **46\*** at Air Connector **38** leaving the connector attached to the handle of the tool. Remove the tool.

Remove the nose equipment from the tool by loosening the nose tip lock nut and unscrewing the nose tip. Unscrew Nose Casing **33**, and with the aid of spanners\* remove the components of the nose assembly. Remove the two Air Tubes **48\*** from the Centre Connectors **1**.

## Head Assembly

---

- Using the pins of the combination spanner\*, unscrew Stroke Adjustment Lock Nut **12**.
- Withdraw Stroke Adjustment Lock Nut **12**, Air Motor Assembly **49**, Spring **13**, Movement Pivot **22**, Shim Adjustment Ring **23**, Piston **24** and Lip Seal **25**.
- Grip the flats on the Air Motor Casing **3** in a vice fitted with soft jaws and with a spanner\* separate the air motor assembly from the Piston **24**. Spring **13** and Stroke Adjustment Lock Nut **12** can now be removed from Air Motor Casing **3**.
- Using circlip pliers\* remove Circlip **26** and extract Lip Seal **42**.
- From the Air Motor Casing **3** remove Centre Connector **1** using an Allen key\* and extract Spring **2**, Ball **4** and Pushrod **5**.
- Reassemble in reverse order of dismantling, observing the following:
- Use nylon bush\* and pusher\* to fit Lip Seal **42** into it's housing.
- Use circlip pliers\* to fit Circlip **26**.
- Insert metal bush\* into Handle **28**.
- Fit Lip Seal **25** onto Piston **24**.
- Screw bullet\* onto Piston **24** to ease insertion of Lip Seal **25** into the handle.
- Insert Piston **24** into the handle through the metal bush\*, then remove the bush\* and bullet\* from the piston.

## Reassembly of Head Assembly

- Assemble in reverse order of dismantling
- When reassembling, clean threads of air motor and piston and assemble using Loctite® 243.

\*refers to items included in the 74405 Service Kit. For a complete list see page 11.

Item numbers in **bold** refer to the Base Tool General Assembly drawings and Parts Lists pages 16-17.

Item numbers **bold\*** refer to the Intensifier General Assembly drawings and Parts List pages 18-19.

# Maintenance

## Air Motor Assembly

---

- Tap the Air Motor Casing **3** gently on the bench to remove the air motor assembly from the casing.
- Using circlip pliers\*, remove Circlip **14**.
- Remove Bearing **15** and Planet Gear Spindle **11**, together with three Planets **16** from Planet Gear **10**.
- Remove Planet Gear **10** and Spacer **17**.
- Using a soft mallet, tap on splined head of Rotor **19** and remove Bearing **9** and Front End Plate **8**.
- Tap out Rotor **19** and Rotor Blades **7**, five off.
- Place Rear End Plate **20** in the vice and using a pin punch\*, tap on centre of Rotor **19** to remove Bearing **21**. Take care not to lose Pin **6**.
- Remove Bearing **21**.
  
- Assemble in reverse order of dismantling, observing the following:
- Rear side of Rotor **19** must touch Rear End Plate **20** without any axial gap. Any existing gap will disappear when Bearing **21** is fully located.
- When inserting the air motor assembly into Air Motor Casing **3**, align components so that Pin **6** locates the centre hole between the spin-on and spin-off ports of the air motor casing.

## Handle and Trigger Assembly

---

- Using a spanner, undo Lock Nut **35** and remove Trigger **34**, 'O' Ring **36** and Spring **2** from Handle **28**.
- Remove Screw **41** to release Emergency Spin-Off Button **40**.
- Assemble in reverse order to dismantling.

\*refers to items included in the 74405 Service Kit. For a complete list see page 11.  
Item numbers in **bold** refer to the Base Tool General Assembly drawing and Parts List pages 16-17.

# Maintenance

## Intensifier

---

- When dismantling the intensifier assembly, first disconnect the air supply hose to Inlet Connector **22**.
- Using an Allen Key\* undo four Screws **27** and remove Protection Plate **24**.
- Disconnect the trigger hose from the Connector/Reducing Valve **48** by depressing the outlet collet and withdrawing the hose.
- Remove Cover Plate **4** and Gasket **35** by removing Screws **37** and Washers **36** 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 **32** together with Connector **31** and Seals **33** with suitable spanner\*.
- Remove Screw **19** using a suitable Allen Key\* and remove Silencer Cover **16**, Foam Silencer **15**, Spacer **18** and Retaining Plate **20**.
- Using a screwdriver, carefully remove internal Retaining Ring **14**. Clean and inspect groove for sign of damage.
- Using Extractor\*, insert male threaded end into End Cover **12** and withdraw it along with 'O' Ring **13**.
- Insert Rod\* through the connector orifice at the front of the Body Assembly **8** and tap out Piston Rod **9** together with Air Piston Spacer **26**, 'O' Ring **28**, Air Piston **11**, 'O' Ring **10** and Nut **17**.
- Remove Seal Plug **7** with spanner\*.
- Insert Rod\* through connector orifice at the front of the Body Assembly **8** and push out Seal Housing **5** and associated 'O' rings and lip seals.
- Remove Valve Housing Assembly **34** from the main body with a suitable spanner\*. Clean by blowing through with a low-pressure air jet.
- Remove Piston Rod **9** from Air Piston **11** by gripping the first 20 mm (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 **17** 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 **34** must be refitted using a thread sealing adhesive.
  - Assemble the Piston Assembly using a new Nut **17**.
  - End Cover **12** must be fitted correctly inside Retaining Ring **14**. The tool must not be operated if the end cover has been omitted.

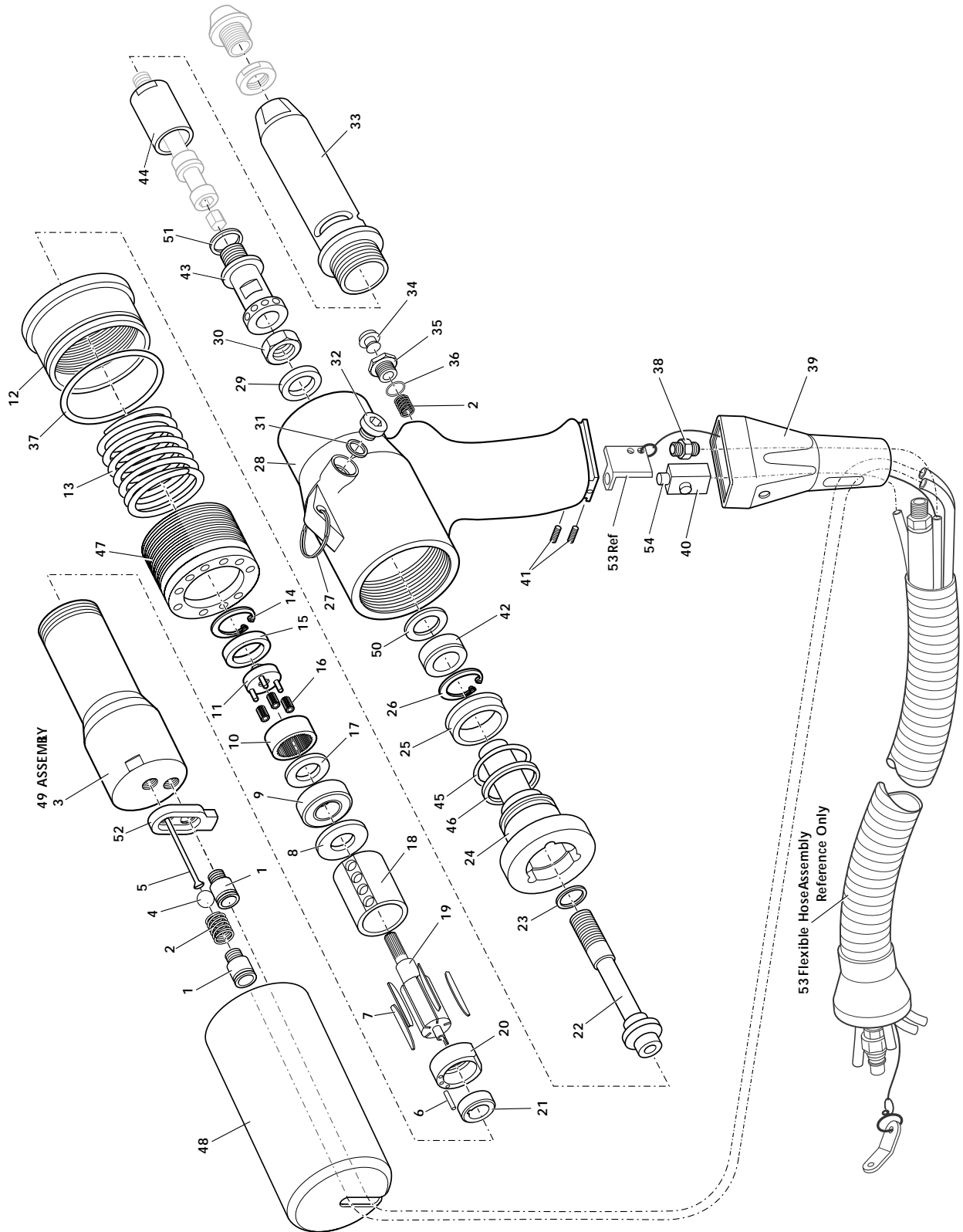
### I M P O R T A N T

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

\* Refers to items included in the 74405 Service Kit. For complete list see page 11.  
Items in **bold** refer to the Intensifier General Assembly drawing and Parts List on pages 18-19.

# Head Assembly 74405-12000

## General Assembly





# Head Assembly 74405-12000

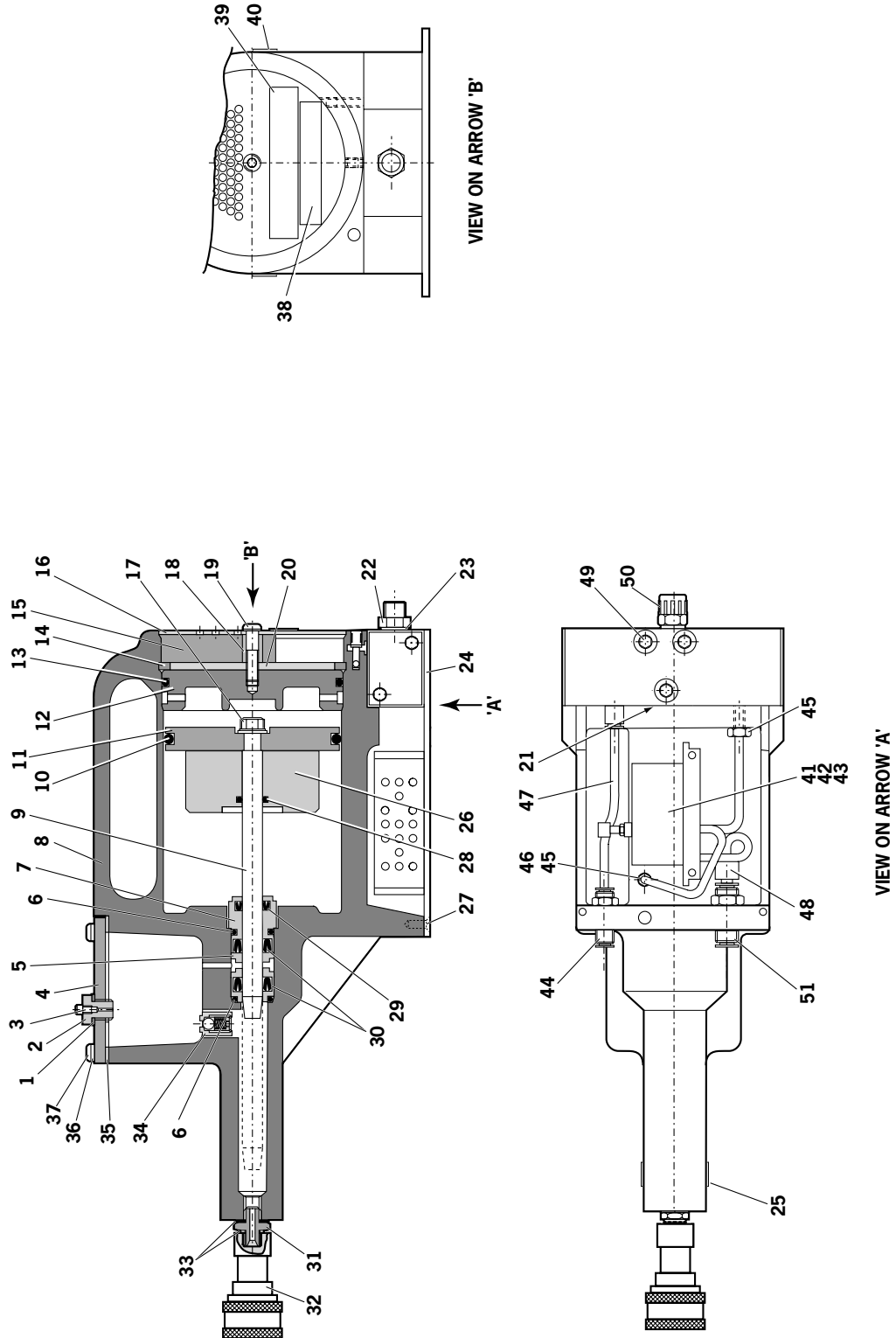
## Parts List

\* These are minimum recommended levels of spares based on regular servicing

74405-12000 PARTS LIST									
ITEM	PART N°	DESCRIPTION	QTY	SPARES*	ITEM	PART N°	DESCRIPTION	QTY	SPARES*
01	07655-09220	CENTRE CONNECTOR	2	-	28	74405-12001	HANDLE - MACHINED	1	-
02	07555-09219	SPRING	2	-	29	74405-12054	SPACER	1	-
03	74401-12046	AIR MOTOR CASING	1	-	30	07655-00803	LOCKNUT	1	-
04	07555-09218	BALL	1	-	31	07265-02011	OIL SEAL WASHER	1	-
05	74401-12047	PUSHROD	1	1	32	07265-02010	BLEED SCREW	1	1
06	07555-09216	PIN	1	-	33	74405-12027	NOSE CASING	1	-
07	07555-09213	ROTOR BLADE	5	5	34	07265-03023	TRIGGER	1	-
08	07555-09210	FRONT END PLATE	1	-	35	07265-03022	LOCK NUT	1	-
09	07555-09206	BEARING	1	-	36	07555-00502	O' RING	1	-
10	74200-12065	PLANET GEAR	1	-	37	07003-00391	O' RING	1	-
11	74200-12063	PLANET GEAR SPINDLE	1	-	38	07005-01951	AIR CONNECTOR 4mm	1	-
12	74405-12003	STROKE ADJUSTMENT LOCK NUT	1	-	39	74401-12008	SLEEVE	1	-
13	74401-12025	SPRING	1	-	40	74405-12057	AUXILIARY SPIN OFF BUTTON	1	-
14	74200-12061	CIRCLIP	1	1	41	74401-12002	SCREW	2	-
15	74200-12062	BEARING	1	-	42	07003-00273	LIP SEAL	1	1
16	07555-09208	PLANET	3	-	43	74200-12044	SPINDLE	1	-
17	74200-12066	SPACER	1	-	44	74200-12092	ADAPTOR NUT	1	-
18	07555-09211	STATOR	1	-	45	07003-00342	O' RING	1	-
19	74200-12070	ROTOR	1	-	46	71213-02022	BEARING TAPE	1	-
20	07555-09214	REAR END PLATE	1	-	47	74405-12002	ADJUSTMENT RING	1	-
21	07555-09215	BEARING	1	-	48	74405-12004	PROTECTIVE COVER	1	-
22	74405-12021	MOVEMENT PIVOT	1	-	49	74405-12030	AIR MOTOR ASSEMBLY	1	-
23	74200-12055	SHIM ADJUSTMENT RING	1	1	50	71213-02021	BEARING TAPE	1	-
24	74405-12020	PISTON	1	-	51	07003-00028	FRICTION RING	1	-
25	07003-00341	LIP SEAL	1	-	52	74405-12061	AIR MOTOR GUIDE	1	-
26	07265-02005	CIRCLIP	1	-	53	07008-00444	FLEXIBLE HOSE ASSEMBLY (REFERENCE ONLY)	1	-
27	07265-03021	SUSPENSION RING	1	-	54	74405-12056	BUTTON LOCATOR	1	-

# Intensifier 74404-02000

## General Assembly



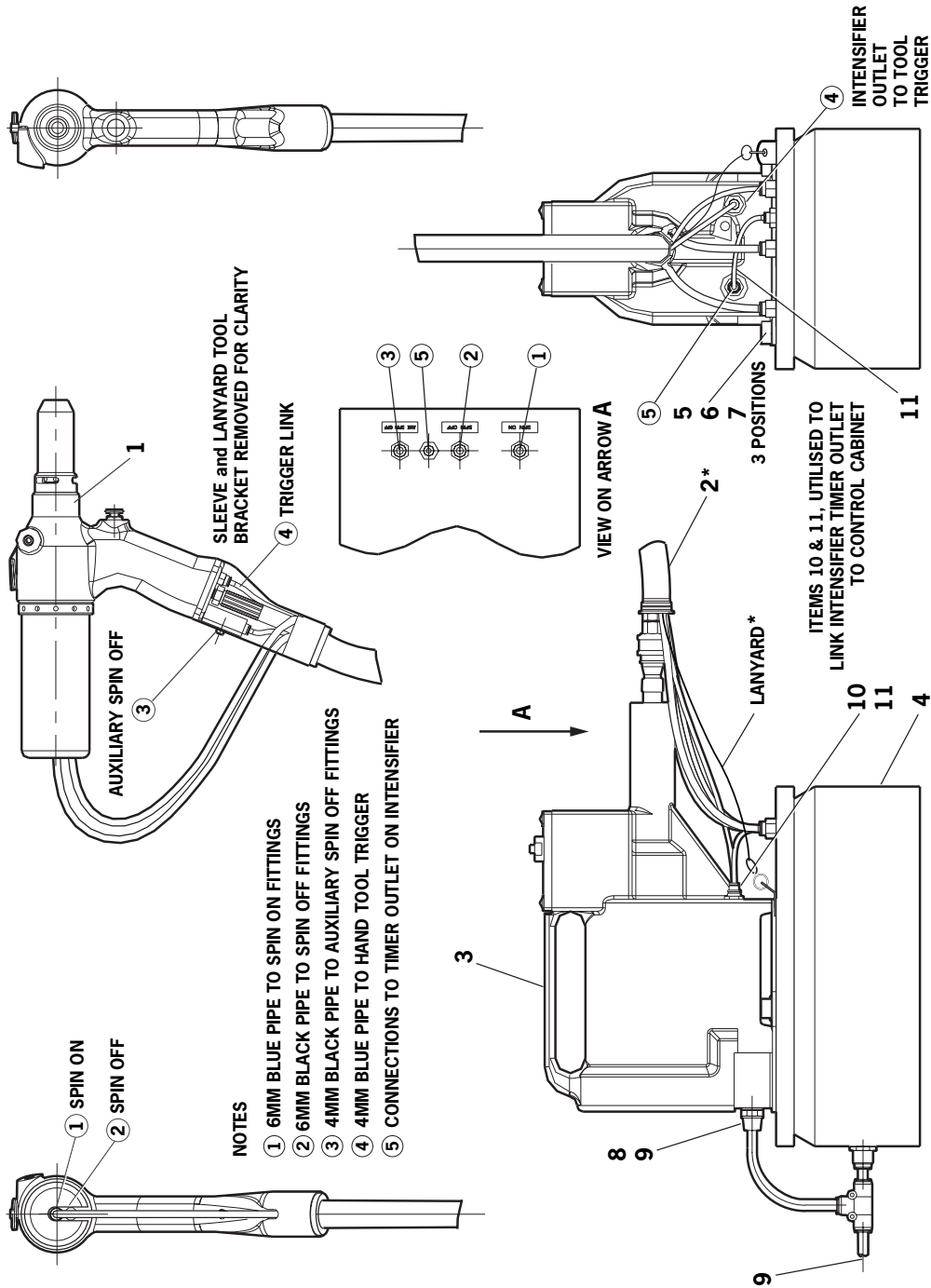
# Intensifier 74404-02000

## Parts List

74404-02000 PARTS LIST									
ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	07003-00037	1/4" BSP DOWTY SEAL	1	1	27	07001-00396	M4 SCREW COUNTERSUNK	4	-
2	07240-00211	FILLER SCREW	1	-	28	07008-00181	'O' RING	1	-
3	07001-00418	M4 BLEED SCREW SOCKET HD	1	1	29	07003-00337	LIP SEAL	1	1
4	07240-00210	COVER PLATE	1	-	30	07003-00336	LIP SEAL	2	2
5	71420-02006	SEAL HOUSING	1	-	31	07005-00406	CONNECTOR	1	-
6	07003-00153	'O' RING	2	-	32	07005-00759	QUICK RELEASE CONNECTOR	1	-
7	71420-02007	SEAL PLUG	1	-	33	07003-00142	BONDED SEAL	2	1
8	71420-02300	BODY ASSEMBLY	1	-	34	07240-00400	VALVE HOUSING ASSEMBLY	1	-
9	71420-02008	PISTON ROD	1	-	35	07240-00209	GASKET	1	1
10	07003-00182	'O' RING	1	1	36	07002-00073	WASHER	4	1
11	07240-00206	AIR PISTON	1	-	37	07001-00554	10-24 UNC SCREW BUTTON HD	4	1
12	07240-00207	END COVER	1	-	38	07007-01504	CE LABEL	1	-
13	07003-00183	'O' RING	1	1	39	07240-00217	LABEL	1	-
14	07004-00069	RETAINING RING	1	1	40	74404-02010	LABEL	2	-
15	07240-00213	FOAM SILENCER	1	1	41	07005-01976	TIMING VALVE	1	-
16	07240-00214	SILENCER COVER	1	-	42	07001-00248	M4 SCREW COUNTERSUNK	2	-
17	07002-00017	NUT	1	1	43	07002-00123	M4 NUT	2	1
18	07240-00215	SPACER	1	-	44	07005-01431	BULKHEAD CONNECTOR	1	1
19	07001-00417	M6 SCREW BUTTON HEAD	1	1	45	07005-00456	MALE HOSE CONNECTOR	2	-
20	07240-00216	RETAINING PLATE	1	-	46	07005-00591	3mm BLACK TUBE A/R	-	-
21	07005-01524	VALVE	1	-	47	07005-01084	4mm BLACK TUBE (110mm)	-	-
22	07005-00041	INLET CONNECTOR	1	-	48	07005-01977	CONNECTOR/REDUCING VALVE	1	-
23	07003-00065	SEALING WASHER	1	-	49	07001-00176	M6 SCREW CAP HEAD	3	-
24	07240-00220	PROTECTION PLATE	1	-	50	07007-00292	1/4" BSP REDCAP	1	-
25	07007-01503	BOOK MARK LABEL	1	-	51	07005-00855	BULKHEAD UNION	1	-
26	74404-02001	AIR PISTON SPACER	1	-					

# Hand Tool 74405-01000

## General Assembly and Parts List



### 74405-01000 PARTS LIST

ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	74405-12000	THREADED INSERT HAND TOOL	1	-	7	07002-00105	M8 WASHER	3	-
2	07008-00444	FLEXIBLE HOSE ASSEMBLY	1	-	8	07005-10072	8MM TUBING x 2.5M	2	-
3	74404-02000	INTENSIFIER	1	-	9	07005-01573	MALE CONNECTOR 8MM TUBE	2	-
4	07007-02065	CONTROL SYSTEM	1	-	10	07005-01977	6MM TO 4MM REDUCER	1	-
5	74405-12080	MODIFIED M8 NUTSERT®	9	-	11	07005-01084	BLACK PLASTIC PIPE 4MM	1	-
6	07001-00469	M8x15 SOCKET CAP HD SCREW	3	-	12	07007-01424	TIE WRAP	1	-

# 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 have been reduced and fasteners are not now being fully placed by one operation of the trigger.

## Oil Details

---

The recommended oil for priming is Hyspin<sup>®</sup> VG32 available in 0.5l (part number 07992-00002) or one gallon containers (part number 07992-00006). Please find specific table and safety data below.

## Hyspin<sup>®</sup> 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

Flash point: 232°C. Not classified as flammable.

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.

C.O.S.H.H. data for all hydraulic oils and lubricants is available on request from your local tool supplier.

# Priming

## Priming Procedure

---

### I M P O R T A N T

**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.**

- Place tool on its side, Bleed Screw **32** side up.
- With an Allen key, unscrew Bleed Screw **32** and remove with Oil Seal Washer **31**.
- Fill tool with priming oil rocking gently to expel air.
- Replace Oil Seal Washer **31** and Bleed Screw **32** and tighten.
- You must now bleed the tool. This operation is to ensure air bubbles are eliminated from the oil circuit.
- Using an Allen key, ensure oil Bleed Screw **32** is fully tightened, unscrew by ONE TURN only, connect the tool to the air supply and depress the trigger.
- Wait until oil appears all round oil Bleed Screw **32** then re-tighten. Wipe excess oil away.
- Release the trigger.
- Using an Allen key remove Bleed Screw **32** and Oil Seal Washer **31**.
- Top-up with priming oil to reset level. Replace Oil Seal Washer **31** and Bleed Screw **32** and fully tighten.
- It is necessary to fit the appropriate nose equipment and adjust the tool stroke (see page 8) prior to operating the tool.

Item numbers in **bold** refer to the Base Tool General Assembly drawing and Parts List pages 16-17.

# Fault Diagnosis

## Symptom, Possible Cause and Remedy

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF
Pneumatic motor runs slowly	Air leak from motor	Check for worn seals. Replace.	-
	Low air pressure	Increase	-
	Air way blockage	Clear restriction in air supply	-
	Worn drive screw	Replace	-
	Rotor blades jamming	Lubricate tool through air inlet	-
	Rotor blades worn	Replace rotor blades	-
Insert does not deform properly	Stroke incorrectly set	Adjust	-
	Air pressure outside the tolerance	Adjust	-
	Low oil level	Prime tool	-
	Insert out of grip	Check grip range of insert	-
Drive screw turns independent of motor	Worn or damaged drive shaft	Replace	-
	Worn or damaged drive screw	Replace	-
	Adaptor nut loose	Tighten	-
Insert will not place onto drive screw	Incorrect insert thread size	Change to correct insert	-
	Incorrect drive screw fitted	Change to correct drive screw	-
	Worn or damaged drive screw	Replace	-
	Nose equipment incorrectly assembled	Disconnect air supply, re-fit nose equipment carefully	-
Tool is jammed on placed insert	Excessive stroke	DO NOT DEPRESS TRIGGER. Depress emergency spin-off button. Tool should spin off. Reset stroke. If not, disconnect air to tool. Insert a 4 mm pin through nose casing slots into Spindle <b>43</b> . Turn until drive screw leaves insert. Use new insert AND drive screw.	-
	Defective insert		
	Worn or defective drive screw		
Drive screw breaks	Stroke of tool excessive	Reset stroke	-
	Side load on drive screw	Hold tool square to application when placing	-
		Insert	-
Tool does not spin on	Screw adaptor nut loose	Tighten	-
	No air supply	Connect	-

Item numbers in **bold** refer to the Base Tool General Assembly drawing and Parts List pages 16-17. Other symptoms or failures should be reported to your local Avdel authorised distributor or repair centre.

# Fault Diagnosis

## Symptom, Possible Cause and Remedy

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF
Tool does not spin on	Insufficient gap between Lock Nut <b>30</b> and Spindle <b>43</b>	Adjust gap to between 1.5mm and 2mm	-
	Pushrod <b>5</b> too short	Replace	-
	Air motor jammed	Lubricate tool at air inlet. If insufficient dismantle & clean air motor thoroughly	-
Trigger inoperative	Static friction	Depress trigger a few times	-
	Low air pressure	Increase air pressure	-
Drive screw does not return and/or keeps spinning off	Lip Seal <b>25</b> is defective	Replace	-
Tool does not spin off	Adaptor Nut <b>44</b> loose	Tighten	-
	No air supply	Connect	-
	Air motor jammed	Lubricate tool at air inlet. If insufficient dismantle & clean air motor thoroughly	-



# Notes

---

# Notes

---

# Declaration of Conformity

We, Avdel UK Limited, Watchmead Industrial Estate, Welwyn Garden City, Herts, AL7 1LY  
declare under our sole responsibility that the product:

**Model 74405**

Serial No.

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

EN ISO 12100 - parts 1 & 2	
BS EN ISO 8662 - part 6	BS EN ISO 11202
BS EN ISO 3744	BS EN 982
ISO EN 792 part 13 - 2000	BS EN 983

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



A. Seewraj - Product Engineering Manager - Automation Tools

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.**



An Acument™ Global Technologies Company

**AUSTRALIA**

**Acument Australia Pty Ltd.**

891 Wellington Road  
Rowville, Victoria 3178  
Tel: +61 3 9765 6400  
Fax: +61 3 9765 6445  
Email: info@acument.com.au

**CANADA**

**Avdel Canada, a Division of Acument  
Canada Limited.**

87 Disco Road  
Rexdale  
Ontario M9W 1M3  
Tel: +1 416 679 0622  
Fax: +1 416 679 0678  
Email: infoAvdel-Canada@acument.com

**CHINA**

**Acument China Ltd.**

RM 1708, 17/F., Nanyang Plaza,  
57 Hung To Rd., Kwun Tong  
Hong Kong  
Tel: +852 2950 0631  
Fax: +852 2950 0022  
Email: infochina@acument.com

**FRANCE**

**Avdel France S.A.S.**

33 bis, rue des Ardennes  
BP4  
75921 Paris Cedex 19  
Tel: +33 (0) 1 4040 8000  
Fax: +33 (0) 1 4208 2450  
Email: AvdelFrance@acument.com

**GERMANY**

**Avdel Deutschland GmbH**

Klusriede 24  
30851 Langenhagen  
Tel: +49 (0) 511 7288 0  
Fax: +49 (0) 511 7288 133  
Email: AvdelDeutschland@acument.com

**ITALY**

**Avdel Italia S.r.l.**

Viale Lombardia 51/53  
20047 Brugherio (MI)  
Tel: +39 039 289911  
Fax: +39 039 2873079  
Email: vendite@acument.com

**JAPAN**

**Acument Japan Kabushiki Kaisha**

Center Minami SKY,  
3-1 Chigasaki-Chuo, Tsuzuki-ku,  
Yokohama-city, Kanagawa Prefecture  
Japan 224-0032  
Tel: +81 45 947 1200  
Fax: +81 45 947 1205  
Email: info@acument.co.jp

**SINGAPORE**

**Acument Asia Pacific (Pte) Ltd.**

#05-03/06 Techlink  
31 Kaki Bukit Road 3  
Singapore, 417818  
Tel: +65 6840 7431  
Fax: +65 6840 7409  
Email: Tlim@acument.com

**SOUTH KOREA**

**Acument Korea Ltd.**

212-4, Suyang-Ri,  
Silchon-Eup, Kwangju-City,  
Kyunggi-Do, Korea, 464-874  
Tel: +82 31 798 6340  
Fax: +82 31 798 6342  
Email: info@acumentkorea.com

**SPAIN**

**Avdel Spain S.A.**

C/ Puerto de la Morcuera, 14  
Poligono Industrial Prado Overa  
Ctra. de Toledo, km 7,8  
28919 Leganés (Madrid)  
Tel: +34 (0) 91 3416767  
Fax: +34 (0) 91 3416740  
Email: ventas@acument.com

**UNITED KINGDOM**

**Avdel UK Limited**

Pacific House  
2 Swiftfields  
Watchmead Industrial Estate  
Welwyn Garden City  
Hertfordshire  
AL7 1LY  
Tel: +44 (0) 1707 292000  
Fax: +44 (0) 1707 292199  
Email: enquiries@acument.com

**USA**

**Avdel USA LLC**

614 NC Highway 200 South  
Stanfield,  
North Carolina 28163  
Tel: +1 704 888-7100  
Fax: +1 704 888-0258  
Email: infoAvdel-USA@acument.com

© Avdel UK Limited 2007

Manual No.	Issue	Change Note No.
07900-00856	A	05/531
	AA	06/191
	B	07/044
	B2	07/103
	B3	07/236

Avdel®, NUTSERT®, Versa-Nut® are trademarks of Avdel UK Limited.

www.avdel-global.com