



An Acument™ Global Technologies Company

# Instruction Manual



Genesis® G1

**Hydro-Pneumatic Power Tool**



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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.**

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. The Plastic Body and Base Cover must be changed after approximately 1 million cycles or whenever there is evidence of impact damage, chipping or cracks. 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. Any such sharp features must not be allowed to indent or otherwise damage the plastic body or End Cap of the tool - see Safety Rule 4. Do not operate the tool if it is not fitted with a Rubber Base Cover.
- 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.

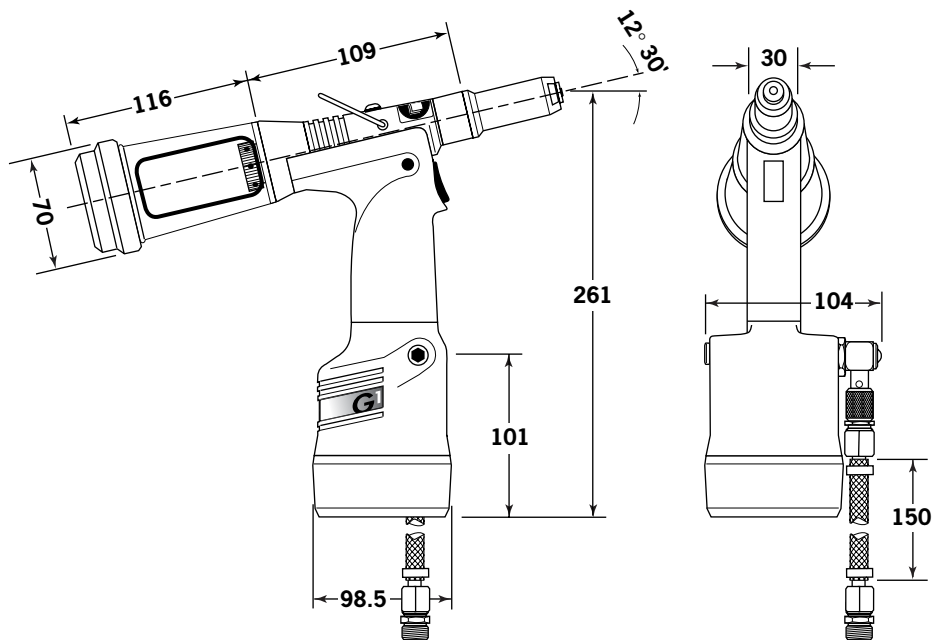
# Specifications

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<b>Air Pressure</b>	Minimum - Maximum	5-7 bar
<b>Free Air Volume Required</b>	@ 5.5 bar	1.2 litres
<b>Stroke</b>	Minimum	14 mm
<b>Pull Force</b>	@ 5.5 bar	5.3 kN
<b>Cycle time</b>	Approximately	1 second
<b>Noise Level</b>	Less than	75 dB(A)
<b>Weight</b>	Without nose equipment	1.1 kg
<b>Vibration</b>	Less than	2.5 m/s <sup>2</sup>

## Tool Dimensions

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Dimensions in millimetres

# Intent of Use

## Range of Fasteners

G1 is a hydro-pneumatic tool designed to place Avdel® breakstem fasteners at high speed making it ideal for batch or flow-line assembly in a wide variety of applications throughout light/medium industries where the plastic components will not be subject to impact damage. It can place all fasteners listed opposite.

The tool features an adjustable vacuum system for fastener retention and trouble free collection of the spent stems regardless of tool orientation. See the 'Operating Procedure' on page 8 for adjustment instructions.

FASTENER NAME	FASTENER SIZE ( $\frac{MM}{IN}$ )			
	3	3.2	4.0	4.3
AVEX®	●	●	●	
STAVEX®		●		
AVINOX®		●		
AVIBULB®		●		
BULBEX®			●	
T-LOK®		●		●
AVDEL® SR		●	●	
MBC		●	●	
MBC/LC		●	●	
AVSEAL®			●	

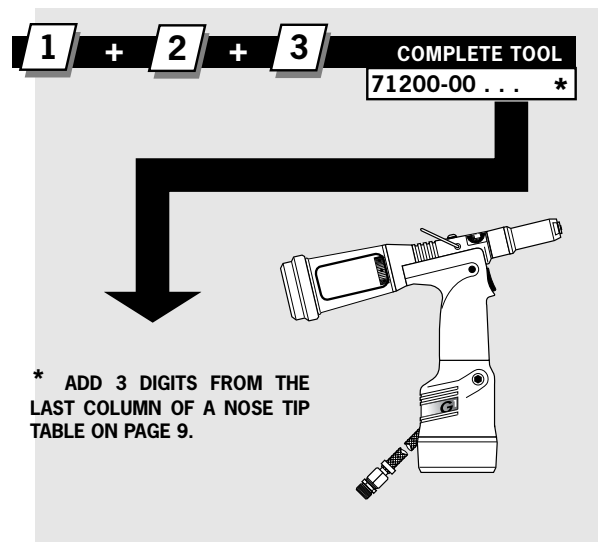
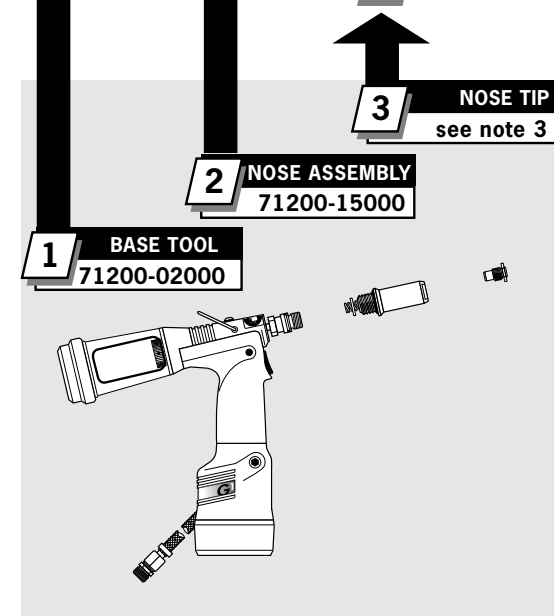
## Part Numbering

A complete tool, except the 71200-00039 (see note at bottom of page) is made up of three separate elements which will be supplied individually. See diagram below.

**1** The part number of the base tool remains the same whichever nose assembly, or nose tip is fitted. See the General Assembly page 16.

**2** This single nose assembly will allow placing of non-aerospace fasteners by simply selecting the appropriate nose tip from the range of type 1 nose tips. Other nose assemblies are available for applications with restricted access and for aerospace fasteners. See pages 8-9.

**3** The nose tip part number relates to a specific fastener. If access to the application is restricted, some extended nose tips are available. See page 9 for selection tables.



If you wish to place most of the fasteners in the table above, you can order the 71200-00039 complete tool comprising of:

- 71200-02000 base tool
- 71200-15000 nose assembly
- Nose tips 71210-05002 and 71210-16070, one screwed into the base cover. Fit nose tip as indicated page 9.

You can order the above two nose tips and nose assembly as a nose assembly kit part number 71200-15100.

- For some fasteners the base tool and nose assembly and tip will be supplied separately.

**NOSE EQUIPMENT MUST BE FITTED AS DESCRIBED ON PAGE 8.**



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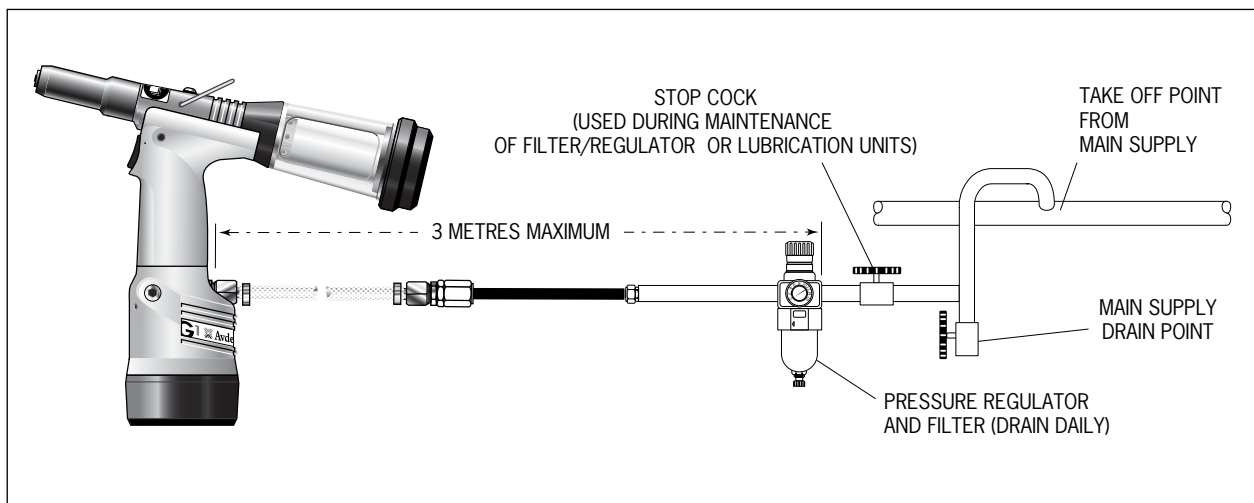
# Putting into Service

## 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 working effective 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 1/4 inch.

Read daily servicing details page 11.



## Operating Procedure

- Ensure that a nose assembly suitable for the fastener is fitted as described on page 8.
- Connect the tool to the air supply.
- Insert the fastener stem into the nose of the tool.
- Insert the tool with the fastener squarely into the prepared hole of the application.
- Fully actuate the trigger. The tool cycle will broach the fastener.
- Check that broken stems are being extracted to the rear of the tool. If not, adjust the vacuum extraction rotary valve **57**.

## Adjusting Vacuum Extraction

- Using a screwdriver, turn rotary valve **57** until the air flow at the rear of the tool ceases.
- With the nose of the tool pointing downwards, insert a fastener into the nose and hold it into position.
- Turn the rotary valve either way until there is sufficient suction to retain the fastener.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

## I M P O R T A N T

**Nose assemblies do NOT include nose tips. Nose tips must be ordered separately.**

A tool must always be fitted with the correct nose assembly and nose tip for your fastener (see diagram page 6 and 9 for part numbers), and apart from -00039 these items will be supplied separately, refer to tables opposite.

If your application presents no access restriction use a type '1' nose tip unless you are placing an aerospace fastener which requires a type '3' nose tip.

Dimensions 'A' and 'B' will help you assess the suitability of a particular nose tip. You should finally check that the dimensions of the nose casing, shown page 9, will not restrict access to your application.

If access is restricted type '2' nose tips are available for some fasteners. Refer to type '2' nose tip table.

It is essential that the correct nose assembly and correct nose tip are fitted prior to operating the tool.

## Fitting Instructions

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## I M P O R T A N T

**The air supply must be disconnected when fitting or removing nose assemblies.**

Item numbers in **bold** refer to nose assembly components in all 3 nose tip tables, see page 9.

- Lightly coat jaws **4** with Moly lithium grease\*.
- Drop jaws **4** into jaw housing **3**.
- Insert jaw spreader **5** into jaw housing **3**.
- Locate buffer **6** on jaw spreader **5**.
- Locate spring **7** onto jaw spreader **5**.
- Fit locking ring **8** onto the jaw spreader housing of the tool.
- Holding tool pointing down, screw on the assembled jaw housing **3** onto the jaw spreader housing and tighten with spanner.
- Screw the nose tip into nose casing **1** and tighten with spanner\*.
- Place nose casing **1** over jaw housing **3** and screw onto the tool, tightening with spanner\*.

## Servicing Instructions

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Nose equipment should be serviced at weekly intervals. You should hold some stock of all internal components of the nose assembly and nose tips as they will need regular replacement.

- Remove the nose equipment using the reverse procedure to the 'Fitting instructions'.
- Any worn or damaged part should be replaced.
- Particularly check wear on jaws.
- Check spring **7** is not distorted.
- Assemble according to fitting instructions.

\* Item included in the G1 service kit. For complete list see page 13.



## Nose Tips

<sup>1</sup> In inches then in millimetres.  
<sup>2</sup> Head forming nose tips for use with countersunk heads ONLY.  
<sup>3</sup> Long nose tip for deep placing.

### TYPE 1 NOSE TIPS

**COMPLETE TOOL PART NUMBER :**  
 precede with  
 71200-00

NOSE ASSEMBLY part n° 71200-15000			FASTENER		NOSE TIP (mm)			see above		
ITEM	DESCRIPTION	PART N°	NAME	Ø <sup>1</sup>	MATERIAL	PART N°	'A'	'B'		
1	NOSE CASING	07340-00306	AVEX®	1/8	3.2	Al Alloy	71210-05002	12.7	3.3	... 001
2	'O' RING	07003-00067		1/8	3.2	Steel	71210-16070	12.7	3.3	... 004
3	JAW HOUSING	07340-00304		1/8	3.2	Al Alloy	07340-06401 <sup>2</sup>	12.7	2.9	... 003
4	JAWS	71200-15001		-	3	Al Alloy	71210-05002	12.7	3.3	... 001
5	JAW SPREADER	71200-15010		5/32	4.0	Al Alloy	71210-16070	12.7	3.3	... 004
6	BUFFER	71210-05001	5/32	4.0	Al Alloy	07340-06501 <sup>2</sup>	12.7	1.8	... 009	
7	SPRING	07498-04301	BULBEX®	5/32	4.0	Al Alloy	71210-16070	12.7	3.3	... 004
8	LOCKING RING	07340-00327	AVDEL® SR	1/8	3.2	Any	71210-05002	12.7	3.3	... 001
				5/32	4.0	Any	71210-16070	12.7	3.3	... 004
			AVINOX®	1/8	3.2	Stainless Steel	71210-16070	12.7	3.3	... 004
			AVIBULB®	1/8	3.2	Steel	71210-16070	12.7	3.3	... 004
			T-LOK®	-	4.3	Steel	07340-06201	12.7	3.3	... 120
			AVSEAL®	-	4	Al Alloy	71210-16001	12.7	4.9	... 160
				-	4	Al Alloy	71210-16006 <sup>3</sup>	12.7	6.9	... 180
			CHERRY N™	3/32			71200-16051			

<sup>1</sup> In inches then in millimetres.

### TYPE 2 NOSE TIPS

**COMPLETE TOOL PART NUMBER :**  
 precede with  
 71200-00

NOSE ASSEMBLY part n° 71200-15200			FASTENER		NOSE TIP (mm)			see above		
ITEM	DESCRIPTION	PART N°	NAME	Ø <sup>1</sup>	MATERIAL	PART N°	'A'	'B'		
1	NOSE CASING	07340-02804	AVEX®	1/8	3.2	Al Alloy	07340-02805	9.5	12.95	... 002
2	'O' RING	07003-00067		1/8	3.2	Steel	07340-02806	9.5	11.4	... 008
3	JAW HOUSING	07340-00304		5/32	4.0	Al Alloy	07340-02806	9.5	11.4	... 008
4	JAWS	71200-15001	BULBEX®	5/32	4.0	Al Alloy	07340-02806	9.5	11.4	... 008
5	JAW SPREADER	71200-15010	AVIBULB®	1/8	3.2	Steel	07340-02806	9.5	11.4	... 008
6	BUFFER	71210-05001	T-LOK®	-	4.3	Steel	07241-07101	12.7	7.5	... 121
7	SPRING	07498-04301								
8	LOCKING RING	07340-00327								

**TYPE 2 NOSE TIPS ARE EXTENDED TO ALLOW ACCESS INTO APPLICATIONS WHERE TYPE 1 NOSE TIPS WILL NOT REACH.**

**THEY MUST BE FITTED TO THE NOSE ASSEMBLY SHOWN.**

<sup>1</sup> In inches then in millimetres.

### TYPE 3 NOSE TIPS

**COMPLETE TOOL PART NUMBER :**  
 precede with  
 71200-00

NOSE ASSEMBLY part n° 71200-15300			FASTENER		NOSE TIP (mm)			see above		
ITEM	DESCRIPTION	PART N°	NAME	Ø <sup>1</sup>	MATERIAL	PART N°	'A'	'B'		
1	NOSE CASING	07344-02001	MBC	1/8	3.2	Al Alloy	07340-06701	12.7	4.8	... 300
2	'O' RING	07003-00067		1/8	3.2	Stainless Steel	07340-06701	12.7	4.8	... 300
3	JAW HOUSING	07340-00304		5/32	4.0	Al Alloy	07340-06801	12.7	5.0	... 305
4	JAWS	71200-15001	MBC/LC	1/8	3.2	Al Alloy	07344-04701	12.7	4.6	... 320
5	JAW SPREADER	71200-15010		1/8	3.2	Stainless Steel	07344-04701	12.7	4.6	... 320
6	BUFFER	71210-05001		1/8	3.2	Hybrid	07344-04701	12.7	4.6	... 320
7	SPRING	07498-04301		5/32	4.0	Al Alloy	07344-04701	12.7	4.6	... 320
8	LOCKING RING	07340-00327		5/32	4.0	Hybrid	07344-04701	12.7	4.6	... 320

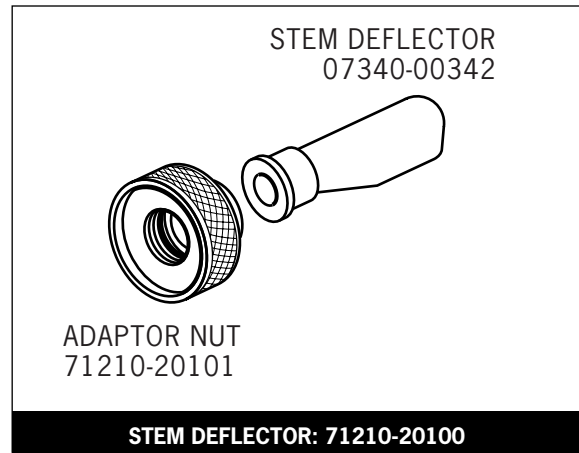
**TYPE 3 NOSE TIPS ARE SPECIFICALLY FOR THE AEROSPACE FASTENERS LISTED ABOVE.**

**THEY MUST BE FITTED TO THE NOSE ASSEMBLY SHOWN.**

## Stem Deflector

The stem deflector is a very simple alternative to the standard stem collector and allows access in restricted areas. To replace the stem collector with the stem deflector proceed as follows:

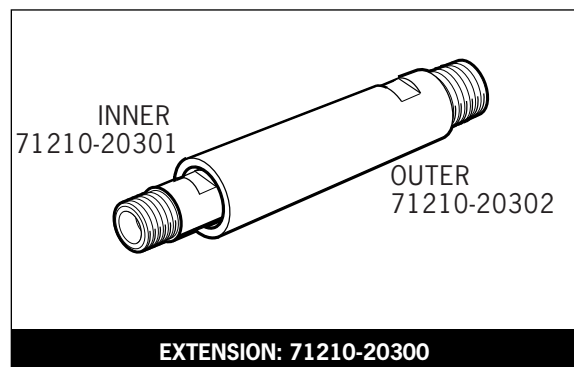
- Unscrew retaining nut **21** by inserting a 3 millimetre diameter rod into one of the holes.
- Remove retaining nut **21** and the stem collector assembly, items **15, 16, 17, 18, 19,** and **20.**
- Screw the adaptor nut onto end cap **22.**
- Push the boss end of the stem deflector into the internal groove of the adaptor nut.
- Rotate the stem deflector until the aperture faces away from the operator and other person(s) in the vicinity.



## Extension

Fitted between the tool and the nose assembly, the extension allows access into deep channels.

- To fit the extension, remove any nose assembly components.
- Screw the inner extension to jaw spreader housing **1.**
- Screw the outer onto head assembly **4.**
- Fit the nose assembly onto the extension.



Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

# Servicing the Tool

## **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.**

## **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 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 leaks. If damaged, hoses and couplings should be replaced.
- 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. If there is a filter, drain it.
- Check that the nose equipment is correct for the fastener to be placed.
- Check the stroke of the tool meets the minimum specification (page 5). The last step of the Priming Procedure on page 19 explains how to measure the stroke.
- Either a stem collector or a stem deflector must be fitted.
- Check that base cover **35** is fully tightened onto body **33**. Check that broken stems are being extracted to the rear of the tool. If not, refer to 'Adjusting the vacuum extraction' page 8.
- Using a screwdriver turn rotary valve **57** until the air flow at the rear of the tool ceases. With the nose of the tool pointing downwards, insert a fastener into the nose and hold it into position. Turn the rotary valve either way until there is sufficient suction to retain the fastener.

## **Weekly**

- Dismantle and clean nose assembly, with special attention to the jaws. Lubricate with Moly Lithium grease EP 3753 before assembling.
- Check for oil leaks and air leaks in the air supply hose and fittings.

## **Monthly**

- Check & replace Plastic Body & Base Cover if there is evidence of impact damage, chipping or cracks.

## **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 13.

### **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.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

# Specifications

## Molykote 55m Grease Safety Data

### First Aid

#### SKIN:

Flush with water. Wipe off.

#### INGESTION:

No first aid should be needed.

#### EYES:

Flush with water.

### Fire

FLASH POINT: Above 101.1°C. (closed cup)

Explosive Properties: No

Suitable Extinguishing Media: Carbon Dioxide Foam, Dry Powder or fine water spray.

Water can be used to cool fire exposed containers.

### Environment

Do not allow large quantities to enter drains or surface waters.

Methods for cleaning up: Scrape up and place in suitable container fitted with a lid. The spilled product produces an extremely slippery surface.

Harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. However, due to the physical form and water - insolubility of the product the bioavailability is negligible.

### Handling

General ventilation is recommended. Avoid skin and eye contact.

### Storage

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

## Molykote 111 Grease Safety Data

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### First Aid

#### SKIN:

No first aid should be needed.

#### INGESTION:

No first aid should be needed.

#### EYES:

No first aid should be needed.

#### INHALATION:

No first aid should be needed.

### Fire

FLASH POINT: Above 101.1°C. (closed cup)

Explosive Properties: No

Suitable Extinguishing Media: Carbon Dioxide Foam, Dry Powder or fine water spray.

Water can be used to cool fire exposed containers.

### Environment

No adverse effects are predicted.

### Handling

General ventilation is recommended. Avoid eye contact.

### Storage

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

## Annually

(or every 1 million cycles whichever is the soonest)

Annually or every 1 million 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 Molykote 55m grease for pneumatic sealing or Molykote 111 for hydraulic sealing.

The plastic body and base cover must be changed after approximately 1 million cycles, or whenever there is evidence of impact damage, chipping or cracks.

For an easy complete service, Avdel is offering a complete service kit.

<b>SERVICE KIT : 71200-99990</b>		Spanners are specified in inches and across flats unless otherwise stated	
<b>PART N°</b>	<b>DESCRIPTION</b>	<b>PART N°</b>	<b>DESCRIPTION</b>
07900-00697	PISTON SLEEVE	07900-00164	CIRCLIP PLIERS
07900-00692	TRIGGER VALVE EXTRACTOR	07900-00008	7/16 x 1/2 SPANNER
07900-00701	BULLET	07900-00012	9/16 x 5/8 SPANNER
07900-00672	'T' SPANNER	07900-00015	5/8 x 11/16 SPANNER
07900-00706	'T' SPANNER SPIGOT	07900-00686	PEG SPANNER
07900-00702	GUIDE TUBE	07900-00677	SEAL EXTRACTOR
07900-00703	INSERTION ROD	07900-00698	STOP NUT
07900-00351	3 MM ALLEN KEY	07900-00700	PRIMING PUMP
07900-00469	2.5 MM ALLEN KEY	07992-00020	GREASE - MOLY LITHIUM E.P.3753
07900-00158	2 MM PIN PUNCH	07992-00075	GREASE - MOLYKOTE 55M
		07900-00755	GREASE - MOLYKOTE 111

### 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 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.

Before proceeding with dismantling, empty the oil from the tool. Remove screw **7** and bonded seal **8** from the top of the handle assembly and drain the oil into a suitable container.

Prior to dismantling the tool it is necessary to remove the nose equipment. For instructions see the nose equipment section, pages 8-9.

For a complete service of the tool, we advise that you proceed with dismantling of sub-assemblies in the order shown.

After any dismantling REMEMBER to prime the tool and fit the nose equipment.

## Head Assembly

- Unscrew retaining nut **21** and pull off stem collector assembly, items **15, 16, 17, 18, 19** and **20**.
- Pull off stem collector adaptor **12**.
- Using the 'T' spanner\* remove end cap **22** together with seal **14** 'O' ring **13** and lip seal **23**.
- Remove buffer **24**.
- Loosen locknut **3** with a spanner\* then unscrew jaw spreader housing **1** and 'O' ring **2**.
- Remove locknut **3**.
- Push head piston **5** to the rear and out of head assembly **4** taking care not to damage the cylinder bore.
- Using circlip pliers\* remove seal retainer **25**. Push lip seal **6** to the rear and out of head assembly **4** taking care again not to damage the cylinder bore.
- Remove seal housing **61** and lip seal **60**.

\* Item included in the G1 service kit.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

# Servicing the Tool

## Head Assembly

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Assemble in reverse order to dismantling noting the following points:

- Place lip seal **6** onto the insertion rod\* ensuring correct orientation. Push the guide tube\* into the head of the tool and push the insertion rod\* with the seal into place through the guide tube\*. Pull the insertion rod\* out then the guide tube.
- The chamfered edge of retainer **25** must face forward with the gap at the bottom.
- After fitting seals **59**, **9** and **10** onto the piston ensuring correct orientation, lubricate the cylinder bore and place the piston sleeve\* into the back of head assembly **4**. Slide the bullet\* onto the threaded part of piston **5** and push the piston with the seals through the piston sleeve\* as far as it will go. Slide the bullet\* off the piston and remove the piston sleeve.
- Jaw spreader housing **1** must be fully tightened onto head piston **5** before tightening locknut **3** against it.
- Use Loctite 932 when reassembling Retaining Nut **21**.

## Pneumatic Piston Assembly

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- Remove 'ON/OFF' valve assembly **53** and 'O' ring **44**.
- Clamp the body of the inverted tool **ACROSS THE AIR INLET BOSSES** in a vice fitted with soft jaws.
- Using the peg spanner\* unscrew base cover **35** and pull out cylinder liner **40**.
- Remove pneumatic piston assembly **37** from body **33** together with 'O' ring **34**, lip seal **36** and guide ring **30**.
- Screw the seal extractor\* into seal assembly **29** and pull it out of the intensifier tube of head assembly **4**.

Assemble in reverse order to dismantling.

## Valve Spool Assembly

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- Remove pneumatic piston assembly **37** and seal assembly **29** as described immediately above.
- Using the 'T' spanner\* and 'T' spanner spigot\* undo clamp nut **31** and remove it together with clamp plate **55**, transfer tube **39** and valve rod **38**.
- Release the tool from the vice and separate body **33** with 'O' ring **26** from handle assembly **27**.
- Remove 'O' ring **28** from the intensifier tube and pull off head assembly **4** from handle assembly **27**.
- Push out valve seat **56** with both 'O' rings **52**.
- Pull out all the components of valve spool assembly **46**.
- Finally remove 'O' ring **51** out of the handle counterbore.

Assemble in reverse order noting the following points -

- Ensure that the central port in valve seat **56** faces upwards.
- Use Loctite 243 when reassembling Clamp Nut **31**, torque to 11ft lb (14.91 Nm).

## Trigger

---

- Using the 2 millimetre diameter pin punch\*, drive trigger pin **43** out and lift off trigger **42**.
- Unscrew trigger valve **41** using the trigger valve extractor\*.

Assemble in reverse order to dismantling.

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

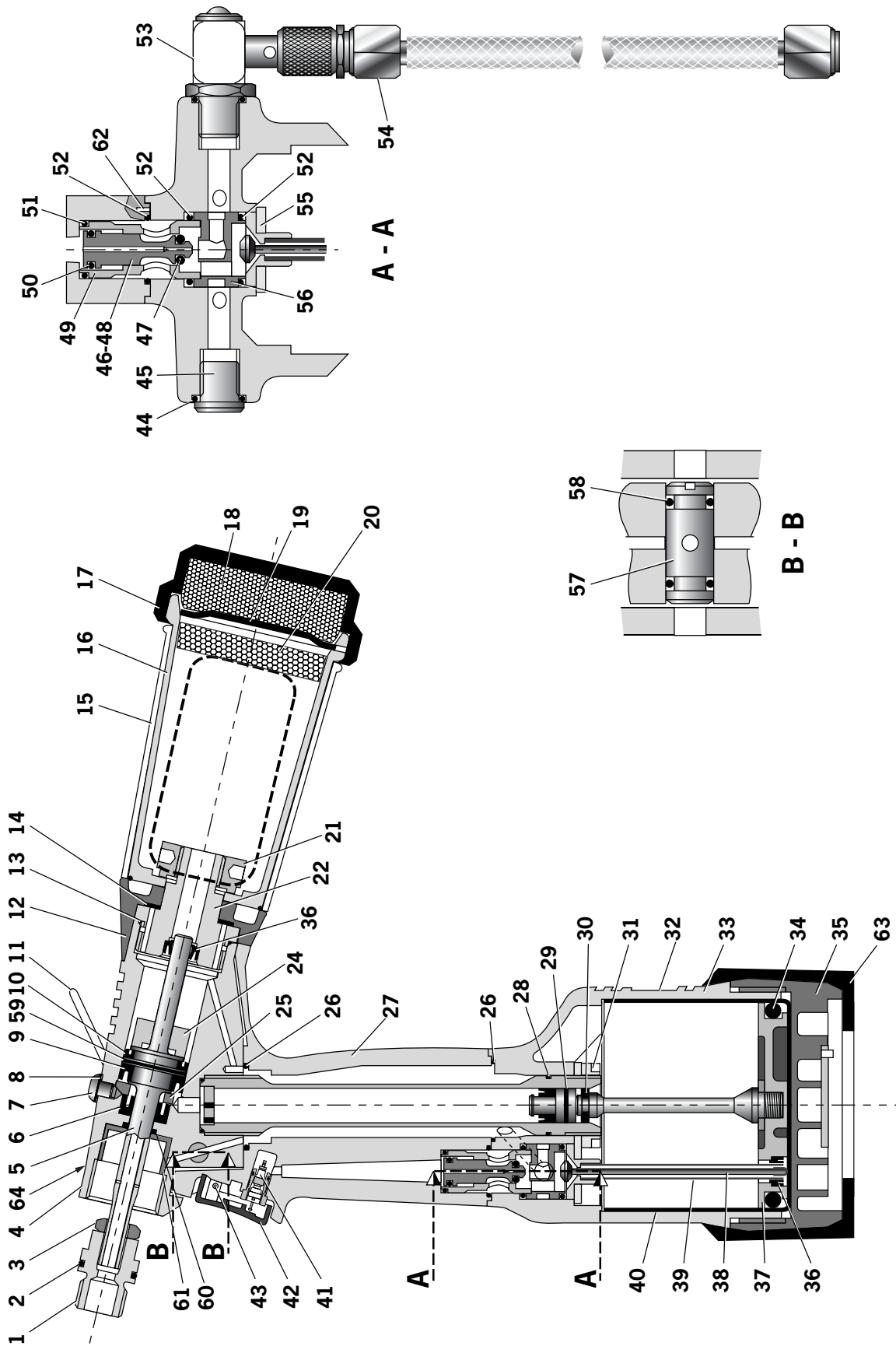
**Check the tool against daily and weekly servicing  
Priming is ALWAYS necessary after the tool has been dismantled and prior to operating.**

\* Item included in the G1 service kit. For complete list see page 13.  
Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

# Notes

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# General Assembly of Base Tool 71200-02000





# Parts List for 71200-02000

* These are minimum recommended levels of spares based on regular servicing									
71200-02000 PARTS LIST									
ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
01	71200-02016	JAW SPREADER HOUSING	1	-	34	07003-00293	'O' RING	1	-
02	07003-00277	'O' RING	1	1	35	71200-02006	BASE COVER	1	1
03	07002-00154	THIN NUT	1	1	36	07003-00300	LIP SEAL	2	-
04	71200-03320	HEAD ASSEMBLY	1	-	37	71200-03200	PNEUMATIC PISTON ASSEMBLY (INCLUDES 30-34 & 36)	1	1
05	71200-02120	HEAD PISTON	1	-	38	71200-03500	VALVE ROD	1	-
06	07003-00343	LIP SEAL	1	2	39	71200-03600	TRANSFER TUBE	1	-
07	07001-00405	SCREW	1	1	40	71200-02012	CYLINDER LINER	1	-
08	07003-00194	SEAL	1	2	41	07005-00088	TRIGGER VALVE	1	-
09	07003-00296	LIP SEAL	1	1	42	71210-02008	TRIGGER	1	-
10	07003-00294	LIP SEAL	1	2	43	71210-02024	TRIGGER PIN	1	-
11	71210-02022	SUSPENSION RING	1	-	44	07003-00127	'O' RING	1	-
12	71200-02007	STEM COLLECTOR ADAPTOR	1	-	45	07005-01274	PLUG	1	1
13	07003-00301	'O' RING	1	2	46	71210-03400	VALVE SPOOL ASSEMBLY (47 to 50)	1	-
14	71210-02029	SEAL	1	1	47	07003-00268	• 'O' RING	1	-
15	07640-00239	STEM CATCHER OUTER #	1	-	48	71210-03402	• VALVE SPOOL	1	2
16	71210-02051	STEM CATCHER BODY #	1	-	49	71210-03401	• VALVE BODY	1	-
17	71210-02034	SILENCER CAP #	1	1	50	07003-00042	• 'O' RING	1	-
18	71210-02035	SILENCER #	1	1	51	07003-00271	'O' RING	1	2
19	07340-00335	STEM CATCHER END CAP #	1	-	52	07003-00281	'O' RING	3	3
20	07640-00244	SILENCER #	1	1	53	71210-03700	ON/OFF VALVE ASSEMBLY	1	-
21	71210-02028	RETAINING NUT	1	-	54	07008-00010	FLEXIBLE HOSE	1	-
22	71200-02010	END CAP	1	-	55	71200-02021	CLAMP PLATE	1	-
24	71200-02030	BUFFER	1	-	56	71210-02009	VALVE SEAT	1	-
25	71200-02019	SEAL RETAINER	1	-	57	71210-02013	ROTARY VALVE	1	-
26	07003-00288	'O' RING	2	2	58	07003-00189	'O' RING	2	2
27	71210-04000	HANDLE ASSEMBLY	1	-	59	07003-00100	'O' RING	1	-
28	07003-00287	'O' RING	1	1	60	07003-00344	LIP SEAL	1	-
29	71230-03800	SEAL ASSEMBLY	1	-	61	71200-02104	SEAL HOUSING	1	-
30	71200-03205	GUIDE RING	1	-	62	07007-00224	SPIROL PIN	2	-
31	71210-02014	CLAMP NUT	1	-	63	71200-02055	RUBBER BOOT	1	-
32	71200-02027	LABEL	1	1	64	07007-01503	BOOK SYMBOL LABEL	1	-
33	71200-02003	BODY	1	-					

# These items are also available as a complete kit. Part Number 71210-20400.

# 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

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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

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### 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.

## Priming Kit

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To enable you to follow the priming procedure opposite, you will need to obtain a priming kit:

PRIMING KIT : 07900-00688	
PART N°	DESCRIPTION
07900-00351	3mm ALLEN KEY
07900-00698	STOP NUT
07900-00700	PRIMING PUMP
07900-00224	4mm ALLEN KEY
07900-00734	MAXLOK®STOP NUT

# Priming

## Priming Procedure

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

**DISCONNECT THE TOOL FROM THE AIR SUPPLY OR SWITCH OFF AT VALVE 53.**

**REMOVE THE NOSE EQUIPMENT FROM THE TOOL.**

**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.**

- Remove bleed screw **7** and seal **8**.
- Connect air supply to tool and switch ON/OFF valve **53** to 'ON" position.
- Invert tool over suitable container and actuate trigger. Waste oil will be ejected through the bleed screw hole.

**CARE SHOULD BE TAKEN TO ENSURE THAT THE BLEED HOLE IS NOT DIRECTED TOWARDS THE OPERATOR OR OTHER PERSONS.**

- Screw stop nut 07900-00698 onto jaw spreader housing **1**.
- Disconnect air supply to tool or switch ON/OFF valve **53** to 'OFF" position.
- Fill the priming pump with oil.
- Screw priming pump 07900-00700 into the bleed screw hole with seal **8** in place.
- Actuate the priming pump by pressing down and releasing several times until resistance is felt.
- Remove the priming pump and the stop nut.
- Replace bleed screw **7** and seal **8**.
- Connect air supply to tool and switch ON/OFF valve **53** to 'ON" position.
- Check that the stroke of the tool meets the minimum specification of 14 millimetres. To check the stroke, measure the distance between the front face of jaw spreader housing **1** and the front face of the head, BEFORE pressing the trigger and when the trigger is fully actuated. The stroke is the difference between the two measurements. If it does not meet the minimum specification, repeat the priming procedure.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17.

# Fault Diagnosis

SYMPTOM	POSSIBLE CAUSE	REMEDY	PAGE REF
More than one operation of the trigger needed to place fastener	Air leak	Tighten joints or replace components	
	Insufficient air pressure	Adjust air pressure to within specification	5
	Lack of lubrication	Lubricate tool at air inlet point	7
	Worn or broken jaws	Fit new jaws	8-9
	Low oil level or air in oil	Prime tool	18-19
	Build up of dirt inside the nose assembly	Service nose assembly	8
Tool will not grip stem of fastener	Worn or broken jaws	Fit new jaws	8-9
	Build up of dirt inside nose assembly	Service nose assembly	8
	Loose jaw housing	Tighten against locking ring	8-9
	Weak or broken spring in nose assembly	Fit new spring	8-9
	Incorrect component in nose assembly	Identify and replace	8-9
	Rotary valve incorrectly adjusted	Adjust as in 'Operating Procedure'	7
Jaws will not release broken stem of fastener	Build up of dirt inside the nose assembly	Service nose assembly	8
	Jaw housing, nose tip or nose casing not properly seated	Tighten nose assembly	8-9
	Weak or broken spring in nose assembly	Fit new spring	8-9
	Air or oil leak	Tighten joints or replace components	
	Low oil level or air present in oil	Prime tool	18-19
Cannot feed next fastener	Broken stems jammed inside tool	Empty stem collector	4 (point 14)
		Check jaw spreader is correct	8-9
		Adjust air pressure to within specification	5
	Rotary valve incorrectly adjusted	Adjust as in 'Operating Procedure'	7
Slow cycle	Lack of lubrication	Lubricate tool at air inlet point	8
	Low air pressure	Adjust air pressure to within specification	5
	Build up of dirt inside nose assembly	Service nose assembly	8
Tool fails to operate	No air pressure	Connect and adjust to within specification	5
	Damaged trigger valve <b>41</b>	Replace	16-17
	Loose base cap <b>35</b>	Tighten	16-17
	Loose stem collector	Tighten retaining nut <b>21</b>	16-17
Fastener fails to break	Insufficient air pressure	Adjust air pressure to within specification	5
	Fastener outside tool capability	Use more powerful Genesis tool. Contact Avdel	
	Low oil level or air present in oil	Prime tool	18-19

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 16-17

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

# 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 G1**

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 3744

ISO EN 792 part 13 - 2000

BS EN ISO 11202

BS EN 982

BS EN 983

following the provisions of the Machine Directive 89/392/EC

(as amended by Directive 91/368/EC, 93/44/EC as superceded by 98/37/EC and 93/68/EC)



A. Seewraj - Product Engineering Manager - Automation Tools



**This box contains a power tool which is in  
conformity with Machines Directive  
89/392/EC. The 'Declaration of Conformity'  
is contained within.**



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