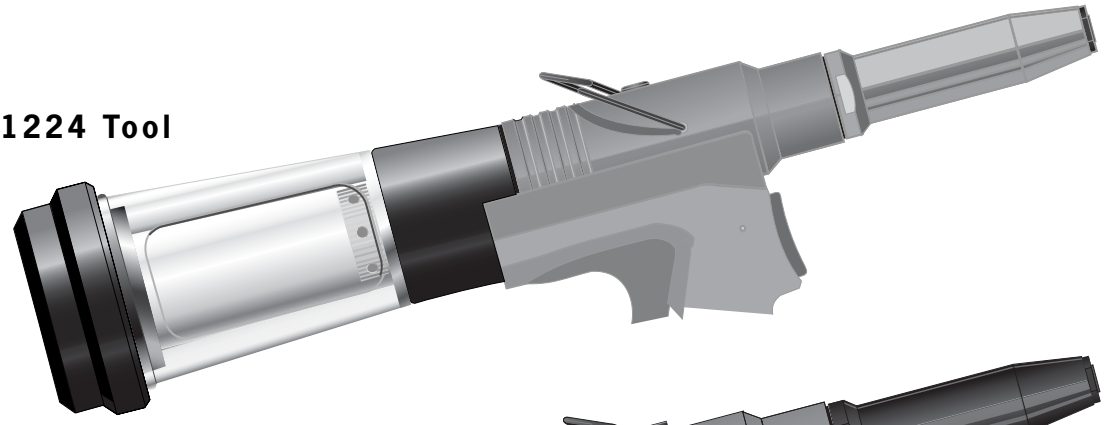
Avdel®

Instruction Manual

Original Instruction

71224 Tool



71223 Tool

Genesis® nG3

Hydro-Pneumatic Power Tool

71223 Removable Bottle and 71224 Fixed Bottle

Contents

Safety Instructions

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 air line 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 The Tool MUST NOT be operated with the Stem Collector Bottle removed.

16 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.

17 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.

18 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.

19 When carrying the tool from place to place keep hands away from the trigger/lever to avoid inadvertent start up.

20 Excessive contact with hydraulic fluid oil should be avoided. To minimize the possibility of rashes, care should be taken to wash thoroughly.

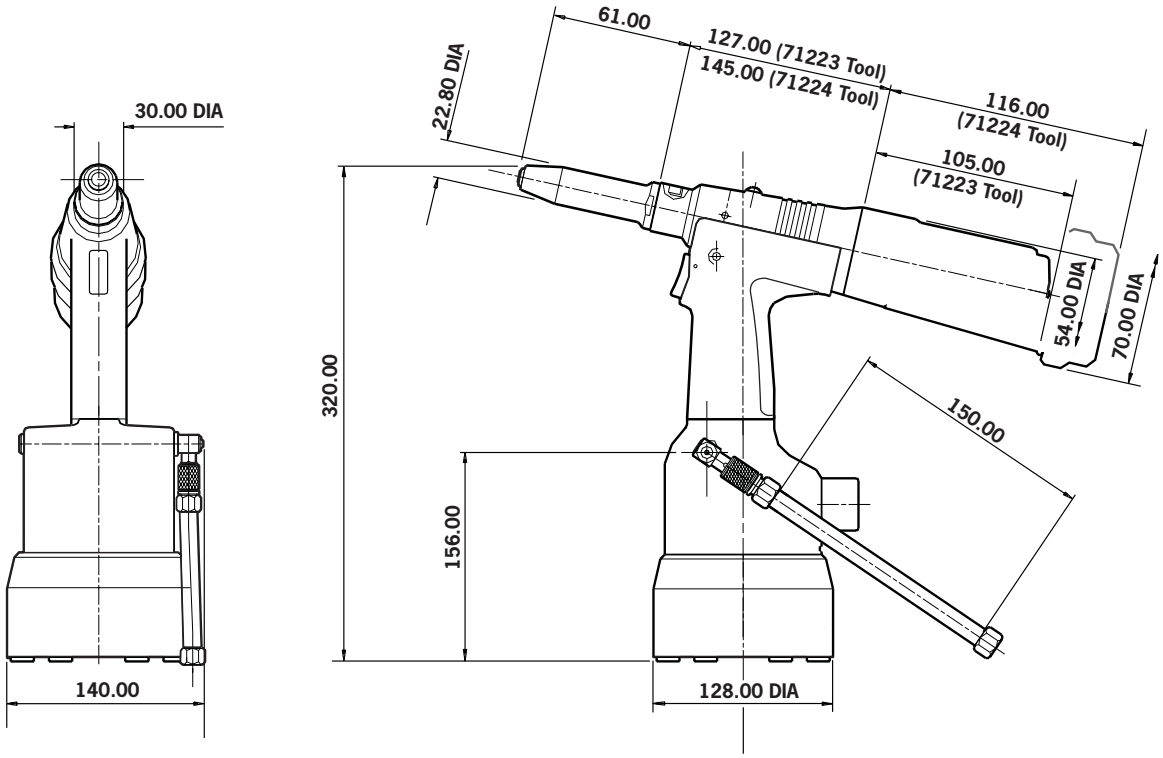
21 C.O.S.H.H. data for all hydraulic oils and lubricants is available on request from your tool supplier.

Specifications

Tool Specification

Air Pressure	Minimum - Maximum	5-7 bar
Free Air Volume Required	@ 5.5 bar	4.3 litres
Stroke	Minimum	26 mm
Pull Force	@ 5.5 bar	12.9 kN
Cycle Time	Approximately	1.2 seconds
Noise Level		75 dB(A)
Weight	Including nose equipment	2.25 kg
Vibration	Less than	2.5 m/s^2

71223 and 71224 Tool Dimensions



Dimensions in millimetres

Intent of Use

Range of Fasteners

nG3 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 all industries. It can place all fasteners listed opposite.

The tool features a vacuum system for fastener retention and trouble free collection of the spent stems regardless of tool orientation.

A complete tool is made up of three separate elements which will be supplied individually.
See diagram below.

NOSE EQUIPMENT MUST BE FITTED AS DESCRIBED ON PAGE 9.

FASTENER NAME	FASTENER SIZE (MM / IN)														
	3	3.2	4.0	4.3	4.8	5	5.2	6	6.4	6.5	7	8	9	9.5	10
	–	1/8	5/32	–	3/16	–	–	–	1/4	–	–	–	–	3/8	–
AVEX®	●	●	●		●				●						
STAVEX®			●		●				●						
AVINOX® II		●	●		●										
AVIBULB®		●	●		●			●							
ETR							●								
BULBEX®			●		●										
T-LOK®				●	●										
AVDEL® SR		●	●		●				●						
MONOBOLT®					●				●						
INTERLOCK®					●				●						
AVTAINER®									●					●	
*AVSEAL® II								●		●	●	●	●		
Q RIVET		●	●		●				●						
T RIVET					●				●						
AVDELMATE®					●				●						
KLAMP-TITE®					●				●						
KLAMPTITE KTR®					●				●						

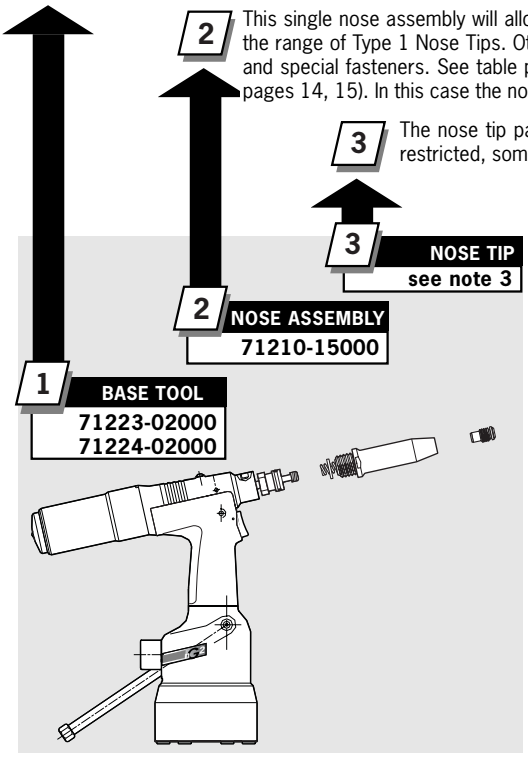
*For Avseal® equipment refer to separate Data Sheet 07900-00840

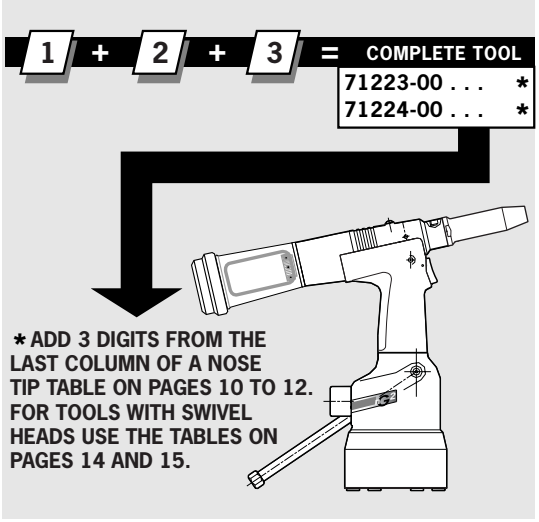
Part Numbering

1 The part number of the base tool remains the same whichever nose assembly, or nose tip is fitted. See the General Assembly pages 24-26. If a swivel head is fitted, the same base tool must be adapted. See details page 14.

2 This single nose assembly will allow placing of 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 special fasteners. See table pages 11-12. A nose assembly can be substituted by a swivel head (see pages 14, 15). In this case the nose tip is part of the swivel head.

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 table pages 11-12.





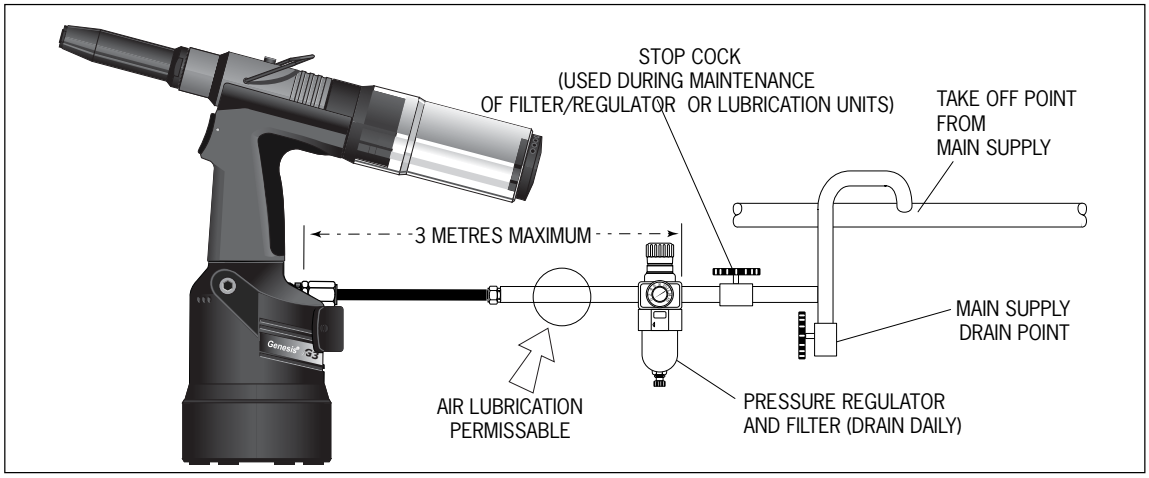
Putting into Service

Air Supply

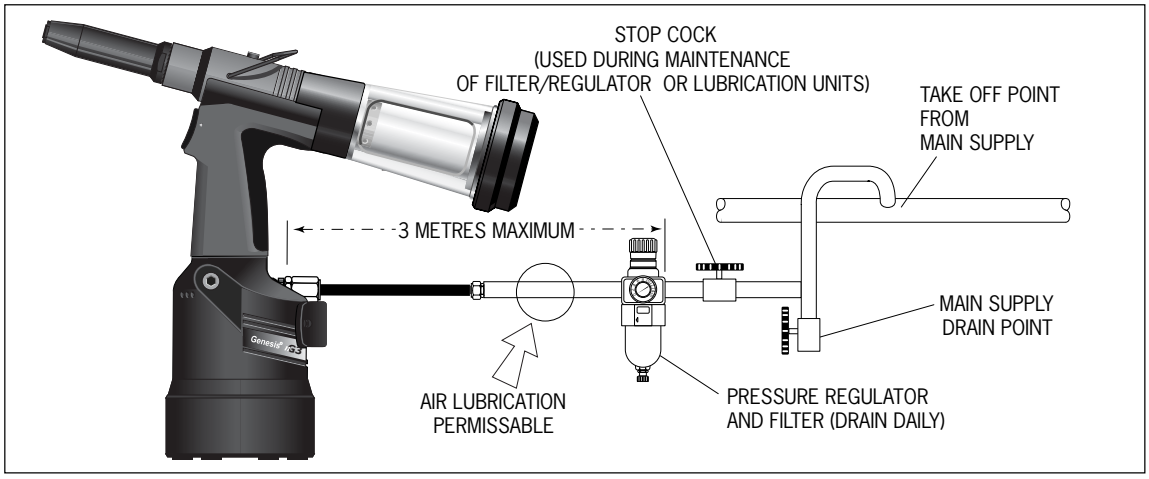
All tools are operated with compressed air at an optimum pressure of 5.5 bar. We recommend the use of pressure regulators and filtering systems on the main air supply. These should be fitted within 3 metres of the tool (see diagram below) to ensure maximum tool life and minimum tool maintenance.

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 1/4 inch.

71223 Tool Removable Bottle



71224 Tool Fixed Bottle



Adjusting the Vacuum Extraction

- Using a screwdriver, turn Rotary Valve **38** 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.

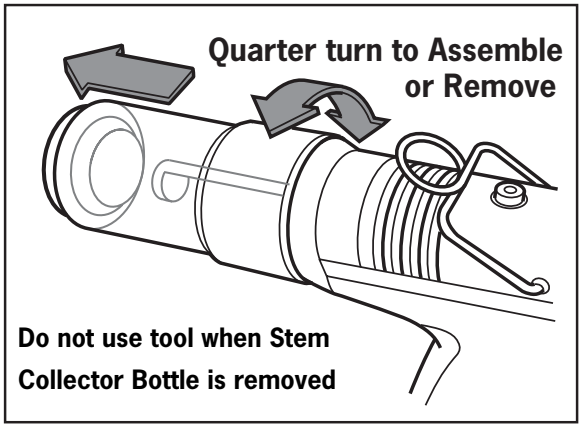
Putting into Service

Operating Procedure

- Ensure that the correct nose assembly suitable for the fastener is fitted.
- Connect the tool to the air supply.
- Insert the fastener stem into the nose of the tool. If using a standard nose assembly, the fastener should remain held in by the vacuum system.
- Bring the tool with the fastener to the application so that the protruding fastener enters squarely into the hole of the application.
- Fully actuate the trigger. The tool cycle will broach the fastener and with standard nose assemblies the broken stem will be projected to the rear of the tool into the collector bottle.

Removable Stem Collector Bottle 71213-05100

- A quarter turn rotation removes or replaces the collector bottle.



Nose Assemblies

Fitting Instructions

I M P O R T A N T

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

A complete tool must always be fitted with the correct nose assembly and nose tip for your fastener and must be ordered separately, refer to the 'NOSE TIPS' tables on pages 9 to 11.

If your application presents no access restriction use a Type '1' Nose Tip. If you are placing Avtainer® fasteners a Type 5 Nose Tip must be used.
Dimensions 'A' and 'B' in the following Nose Tip tables will help you assess the suitability of a particular nose tip.
You should also check that the dimensions of the nose casing will not restrict access to your application. If access is restricted Type '2' Nose Tips are available for some fasteners. Refer to the table on page 10.
It is essential that nose assembly and nose tip are compatible with the fastener prior to operating the tool.

The Type 4 Nose Tip is an alternative to place 1/4 in Monobolt®. Refer to the table on page 11.
Swivel heads are available as an alternative to nose assemblies as well as an extension when further reach is required.
See pages 12 to 16 in the 'Accessories' section.

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 nose tip tables.

- Lightly coat Jaws **4** with Moly Lithium grease*.
- Drop Jaws **4** into Jaw Housing **3** or Chuck Collet **9** depending on which nose assembly you are using.
- Insert Jaw Spreader **5** into Jaw Housing **3** or insert Front Spring Guide **10** into Chuck Collet **9**.
- Locate Buffer **6** on Jaw Spreader **5**.
- Locate Spring **7** onto Jaw Spreader **5** or onto Front Spring Guide **10**.
- Screw Rear Spring Guide **11** into Chuck Collet **9**.
- Fit Locking Ring **8** onto the Jaw Spreader Housing of the tool.
- Holding tool pointing down, screw the assembled Jaw Housing **3** or Chuck Collet **9** 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** or Chuck Collet **9** and screw onto the tool, tightening with spanner*.

Servicing Instructions

Nose assemblies 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.

Use Spanner 07900-00849 (supplied with tool) to assist when servicing the nose equipment.

- Remove the nose equipment using the reverse procedure to the 'Fitting Instructions'.
- Any worn or damaged part should be replaced.
- Clean and check wear on jaws.
- Ensure that the jaw spreader is not distorted.
- Check Spring **7** is not distorted.
- Assemble according to Fitting Instructions above.

* Item included in the nG3 Service Kit. For complete list see page 20.

Nose Assemblies

Nose Tips

IMPORTANT

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

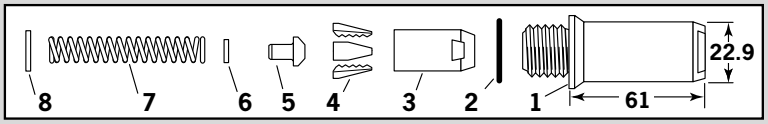
TYPE 1 *NOSE TIPS*

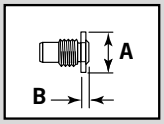
[1] *In inches then in millimetres.*
[2] *Head forming nose tips for use with countersunk heads ONLY.*

NAME	FASTENER Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVEX®	1/8	3.2	Al Alloy	71210-05002	12.7	4.8	...001
	1/8	3.2	Steel	71210-16070	12.7	3.3	...004
	1/8	3.2	Al Alloy	07340-06401[2]	12.7	2.9	...003
	–	**3.0**	Al Alloy	71210-05002	12.7	4.8	...001
	5/32	4.0	Al Alloy	71210-16070	12.7	3.3	...004
	5/32	4.0	Steel	07381-04701	12.7	2.8	...010
	5/32	4.0	Al Alloy	07340-06501[2]	12.7	3.3	...009
	3/16	4.8	Al Alloy	07381-04701	12.7	2.8	...010
Large flange	3/16	4.8	Al Alloy	07340-04800	19.0	3.3	...016
	3/16	4.8	Steel	07490-04401	12.7	3.3	...017
	3/16	4.8	Al Alloy	07340-06601[2]	12.7	4.1	...015
	1/4	6.4	Al Alloy	07612-02001	12.7	3.3	...021
MONOBOLT®	3/16	4.8	Any	71210-16020	12.7	4.1	...200
BULBEX®	5/32	4.0	Al Alloy	71210-16070	12.7	3.3	...004
	3/16	4.8	Al Alloy	07381-04701	12.7	2.8	...010
AVINOX®II	1/8	3.2	Stainless Steel	71210-16070	12.7	3.3	...004
	5/32	4.0	Stainless Steel	07381-04701	12.7	2.8	...010
	3/16	4.8	Stainless Steel	07498-01401	12.7	4.8	...082
T-LOK®	–	**4.3**	Steel	07340-06201	12.7	3.3	...120
	3/16	4.8	Steel	07340-06201	12.7	3.3	...120
AVIBULB®	1/8	3.2	Steel	71210-16070	12.7	3.3	...004
	5/32	4.0	Steel	07381-04701	12.7	2.8	...010
	3/16	4.8	Steel	07498-01401	12.7	4.8	...082
	–	**6.0**	Steel	07612-02001	12.7	3.3	...021
AVDEL® SR	1/8	3.2	Any	71210-05002	12.7	4.8	...001
	5/32	4.0	Any	71210-16070	12.7	3.3	...004
	3/16	4.8	Any	07348-07001	12.7	5.7	...062
Countersunk	3/16	4.8	Any	71210-16050	12.7	5.7	...064
	1/4	6.4	Any	71220-60001	12.7	3.3	...063
INTERLOCK®	3/16	4.8	Any	07381-04701	12.7	2.8	...010
STAVEX®	1/8	3.2	Steel	71210-16070	12.7	3.3	...004
	5/32	4.0	Steel	07381-04701	12.7	2.8	...010
	3/16	4.8	Steel	07381-04701	12.7	2.8	...010
Large flange	3/16	4.8	Steel	07340-04800	19.0	3.3	...016
Countersunk	3/16	4.8	Steel	07381-04701	12.7	2.8	...010
	1/8	3.2	Stainless Steel	71210-16070	12.7	3.3	...004
	5/32	4.0	Stainless Steel	07381-04701	12.7	2.8	...010
	3/16	4.8	Stainless Steel	07381-04701	12.7	2.8	...010
Q RIVET	1/8	3.2	Any	71210-05002	12.7	4.8	...001
	5/32	4.0	Any	07340-06201	12.7	3.3	...120
	3/16	4.8	Any	07340-06201	12.7	3.3	...120
	1/4	6.4	Any	07612-02001	12.7	3.3	...021
AVDELMATE®	3/16	4.8	Any	07340-06201	12.7	3.3	...120
	1/4	6.4	Any	07612-02001	12.7	3.3	...021
KLAMPTITE KTR®	3/16	4.8	Any	71220-16060	12.7	4.8	...430
	1/4	6.4	Any	71220-16061	12.7	4.8	...435
KLAMP-TITE®	3/16	4.8	Any	07381-04701	12.7	2.8	...010
	1/4	6.4	Any	07612-02001	12.7	3.3	...021
T RIVET	3/16	4.8	Al Alloy	703-A-25-6TA	12.7	6.35	...380
Large flange	3/16	4.8	Al Alloy	703-B-21	12.7	6.35	...381
	3/16	4.8	Al Alloy/Steel	703-A-25-6T	12.7	6.35	...383
Large flange	3/16	4.8	Al Alloy/Steel	703-B-26	12.7	6.35	...384
	1/4	6.4	Al Alloy	743-A-25-8TA	12.7	6.65	...385
Large flange	1/4	6.4	Al Alloy	743-B-21	12.7	6.65	...386
	1/4	6.4	Al Alloy/Steel	743-A-25-8T	12.7	6.65	...387
Large flange	1/4	6.4	Al Alloy/Steel	743-B-26	12.7	6.65	...388

NOSE ASSEMBLY
part nº 71210-15000

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07340-00306
2	'O' RING	07003-00067
3	JAW HOUSING	07340-00304
4	JAWS	71210-15001
5	JAW SPREADER	07498-04502
6	BUFFER	71210-05001
7	SPRING	07500-00418
8	LOCKING RING	07340-00327





COMPLETE TOOL PART NUMBER :
precede with
71223-00 or
71224-00

Nose Assemblies

Nose Tips

TYPE 2
NOSE TIPS

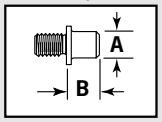
FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVEX®	1/8	3.2	Aluminium Alloy	07340-02805	9.5	12.95	... **0 0 2**
	1/8	3.2	Steel	07340-02806	9.5	11.4	... **0 0 8**
	5/32	4.0	Aluminium Alloy	07340-02806	9.5	11.4	... **0 0 8**
	5/32	4.0	Steel	07340-02807	12.7	10.0	... **0 1 4**
	3/16	4.8	Aluminium Alloy	07340-02807	12.7	10.0	... **0 1 4**
	3/16	4.8	Steel	07340-07301	12.7	11.8	... **0 1 8**
BULBEX®	5/32	4.0	Aluminium Alloy	07340-02806	9.5	11.4	... **0 0 8**
	3/16	4.8	Aluminium Alloy	07340-02807	12.7	10.0	... **0 1 4**
T-LOK®	–	**4.3**	Steel	07241-07101	12.7	10.0	... **1 2 1**
	3/16	4.8	Steel	07241-07101	12.7	10.0	... **1 2 1**
STAVEX®	1/8	3.2	Steel	07340-02806	9.5	11.4	... **0 0 8**
	5/32	4.0	Steel	07340-02807	12.7	10.0	... **0 1 4**
	3/16	4.8	Steel	07340-02807	12.7	10.0	... **0 1 4**
	1/8	3.2	Stainless Steel	07340-02806	9.5	11.4	... **0 0 8**
	5/32	4.0	Stainless Steel	07340-02807	12.7	10.0	... **0 1 4**
	3/16	4.8	Stainless Steel	07340-02807	12.7	10.0	... **0 1 4**
AVIBULB®	1/8	3.2	Steel	07340-02806	9.5	11.4	... **0 0 8**
	5/32	4.0	Steel	07340-02807	12.7	10.0	... **0 1 4**
E.T.R	–	**5.2**	Steel/Brass	07340-02807	12.7	10.0	... **0 1 4**

[1] *In inches then in millimetres.*

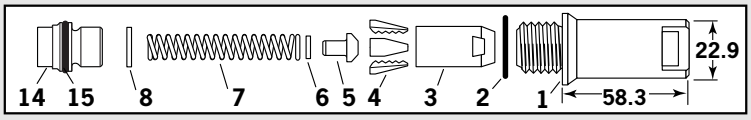
NOSE ASSEMBLY
part nº 71210-15200

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07340-02804
2	'O' RING	07003-00067
3	JAW HOUSING	07340-00304
4	JAWS	71210-15001
5	JAW SPREADER	07498-04502
6	BUFFER	71210-05001
7	SPRING	07500-00418
8	LOCKING RING	07340-00327
14	JAW SPREADER HOUSING	71210-02101
15	'O' RING	07003-00277

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



COMPLETE TOOL PART NUMBER :
precede with
71223-00 or
71224-00



Note: Items **14** and **15** are not required when assembling a Type 2 Nose Tip to the Base Tool nG3 (71223-02000 or 71224-02000).

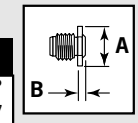
Nose Assemblies

Nose Tips

TYPE 4 NOSE TIP

FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
MONOBOLT®	1/4	6.4	Any	71220-16021	14.3	4.1	... 202

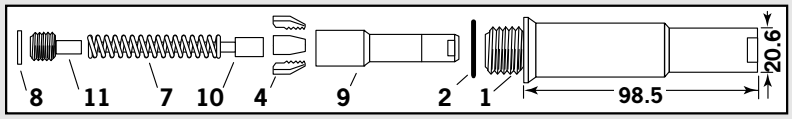
[1] *In inches then in millimetres*



COMPLETE TOOL PART NUMBER : precede with 71223-00 or 71224-00

NOSE ASSEMBLY part nº 71220-15400

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07498-00501
2	'O' RING	07003-00067
9	CHUCK COLLET	07498-00502
4	JAWS	07497-03002
10	FRONT SPRING GUIDE	07498-00507
7	SPRING	07500-02005
11	REAR SPRING GUIDE	07498-00503
8	LOCKING RING	07340-00327

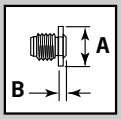


FITTED TO THIS LONG NOSE ASSEMBLY, THE TYPE 4 NOSE TIP WILL ALLOW THE PLACING OF 1/4 " MONOBOLT® FASTENERS IN APPLICATIONS REQUIRING VERY DEEP ACCESS.

TYPE 5 NOSE TIP

FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVTAINER®	3/8	9.6	Steel	07498-00802	19.1	4.1	... 243

[1] *In inches then in millimetres*

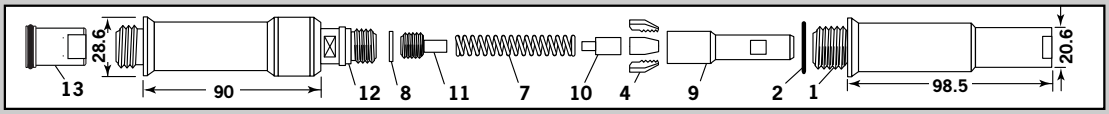


COMPLETE TOOL PART NUMBER : precede with 71223-00 or 71224-00

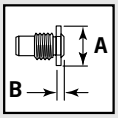
NOSE ASSEMBLY part nº 71220-15500

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07498-00501
2	'O' RING	07003-00067
9	CHUCK COLLET	07498-00801
4	JAWS	07220-02302
10	FRONT SPRING GUIDE	07498-00803
7	SPRING	07500-02005
11	REAR SPRING GUIDE	07498-00503
8	LOCKING RING	07340-00327
12	SIDE EJECTION ADAPTOR	07498-00900
13	VAC SHUT-OFF STOP NUT ASSY	71233-20200

THERE IS ONLY ONE TYPE 5 NOSE TIP, SPECIFICALLY DESIGNED TO PLACE AVTAINER® FASTENERS WITH THIS SPECIAL NOSE ASSEMBLY.

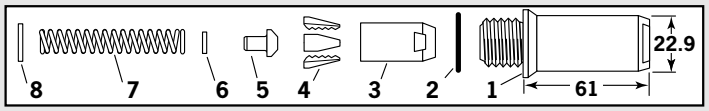


TYPE 6 NOSE TIPS



COMPLETE TOOL PART NUMBER PRECEDED WITH: 71223-00 or 71224-00

FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see above
MONOBOLT®	1/4	6.4	Any	71220-16021	14.3	4.1	... 201
INTERLOCK®	1/4	6.4	Any	07612-02001	14.3	3.6	... 261
STAVEX®	1/4	6.4	Any	07612-02001	14.3	3.6	... 261



NOSE ASSEMBLY part nº 71230-15800

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07340-00306
2	'O' RING	07003-00067
3	JAW HOUSING	07612-02003
4	JAWS	07612-02002
5	JAW SPREADER	07498-04502
6	BUFFER	07498-03003
7	SPRING	07500-00418
8	LOCKING RING	07340-00327

[1] In inches then in millimetres

Accessories

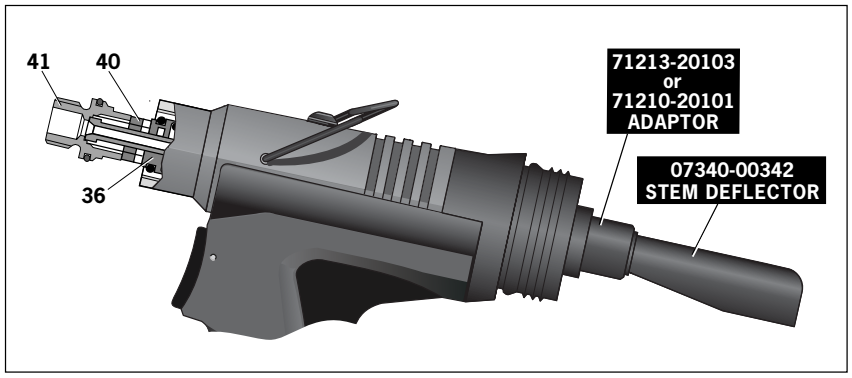
Stem Deflector

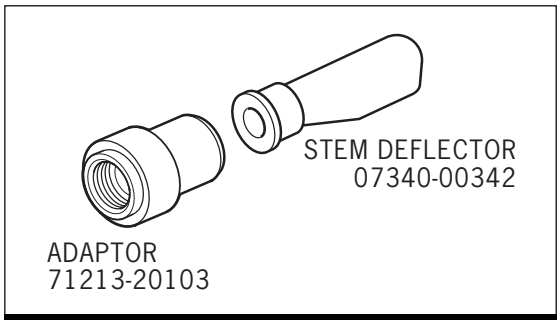
The stem deflector is a very simple alternative to the standard stem collector and allows access in restricted areas. To replace the stem collector with the stem deflector proceed as follows:

Preparing the Base Tool for use with Stem Deflector

The airline must be diconnected before any servicing or dismantling.

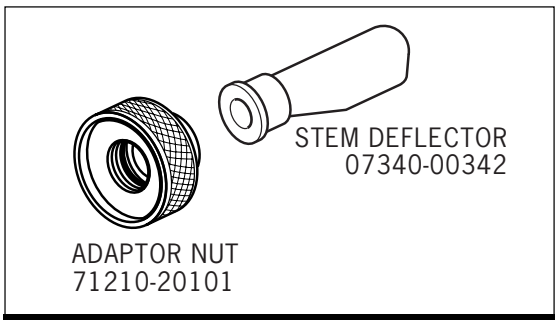
- Remove stem collector bottle assembly 71213-05100 or 71210-20400.





71223 Tool

- Fit Stem Deflector (07340-00342) into Adaptor (71213-20103).
- Screw Adaptor onto End Cap Assembly 71213-05103.
- Rotate the stem deflector until the aperture faces away from the operator and any other person(s) in the vicinity.
- Turn off air supply to the vacuum system by adjusting Rotary Valve **38**.



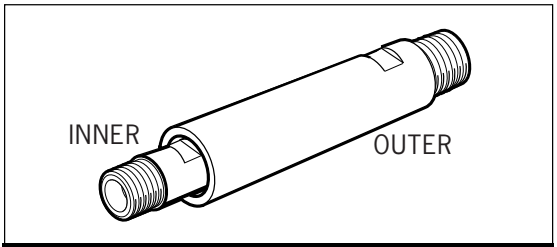
71224 Tool

- Fit Stem Deflector (07340-00342) into Adaptor (71210-20101).
- Screw Adaptor onto End Cap Assembly 71403-02102.
- Rotate the stem deflector until the aperture faces away from the operator and any other person(s) in the vicinity.
- Turn off air supply to the vacuum system by adjusting Rotary Valve **38**.

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 **41**.
- Screw the outer onto Head Assembly **58**.
- Fit the nose assembly onto the extension.



EXTENSION 71210-20300

Swivel Heads

Instead of a nose assembly, a swivel head can be fitted to a base tool. It allows 360° rotation of the tool about the nose tip and allows access into many applications otherwise too restrictive. There are two types of swivel heads: the straight swivel head with the nose tip slightly offset from the centre line of the tool head and the right-angle swivel head with the nose tip on a perpendicular axis to the head of the tool. See drawings below for dimensions and pages 15-16 for detail.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24 and 25.

Accessories

Swivel Heads

IMPORTANT

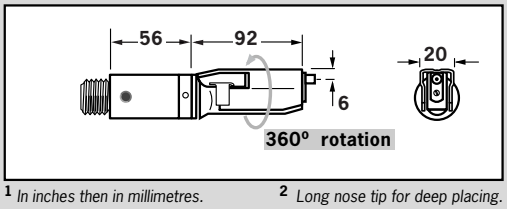
PRIOR to fitting a swivel head, the base tool must be adapted. See Preparing the Base Tool opposite.
In contrast to nose assemblies part numbers of swivel heads do INCLUDE a nose tip as shown below.

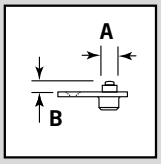
Swivel heads are supplied separately for fitting to a base tool forming a complete tool. See table below for part numbers. Jaws and nose tips vary depending on the fastener to be placed but all other components remain the same within each type of swivel head. See the 'capability' tables below and page 15. For the 'Constant Components' table see page 17.

'A' and 'B' dimensions will help you assess the accessibility of your application.

STRAIGHT SWIVEL HEAD capability

FASTENER NAME	Ø[1]		MATERIAL	SWIVEL HEAD PART Nº	NOSE TIP (mm) PART Nº	'A'	'B'	JAWS PART Nº	see below
AVEX®	1/8	3.2	Al Alloy	07345-03000	07345-03600	7.87	3.81	07340-00213	...001
	1/8	3.2	Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Al Alloy	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	...010
	3/16	4.8	Al Alloy	07345-03200	07345-03800	7.87	3.81	07490-04602	...010
BULBEX®	5/32	4.0	Al Alloy	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	3/16	4.8	Al Alloy	07345-03200	07345-03800	7.87	3.81	07490-04602	...010
AVINOX® II	1/8	3.2	Stainless Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Stainless Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	...010
AVSEAL® II	–	**4.0**	Al Alloy	71213-06000	71213-16401	6.35	1.95	07340-00213	...160
	–	**4.0**	Al Alloy	71213-06600	71213-16402[2]	6.35	4.11	07340-00213	...180
	–	**5.0**	Al Alloy	71213-06100	71213-16403	7.62	2.00	07340-00213	...161
	–	**5.0**	Al Alloy	71213-06700	71213-16404[2]	7.62	4.11	07340-00213	...181
STAVEX®	1/8	3.2	Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	...010
	1/8	3.2	Stainless Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Stainless Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	...010





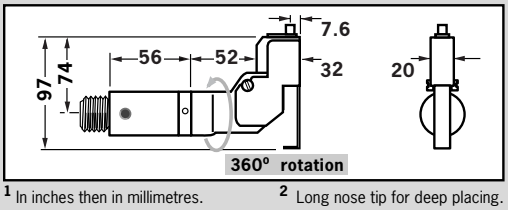
COMPLETE TOOL PART NUMBER :
precede with 71223-30 or 71224-30
(the stop nut and safety cap are included)

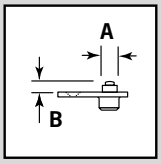
IMPORTANT: in contrast to complete tools with nose assemblies, those fitted with swivel heads include the nose tip as a part of the head.

[1] *In inches then in millimetres.* [2] *Long nose tip for deep placing.*

RIGHT-ANGLE SWIVEL HEAD capability

FASTENER NAME	Ø[1]		MATERIAL	SWIVEL HEAD PART Nº	NOSE TIP (mm) PART Nº	'A'	'B'	JAWS PART Nº	see below
AVEX®	1/8	3.2	Aluminium Alloy	07346-03000	07345-03600	7.87	3.81	07340-00213	...001
	1/8	3.2	Steel	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Aluminium Alloy	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Steel	07346-03200	07345-03800	7.87	3.81	07490-04602	...010
	3/16	4.8	Aluminium Alloy	07346-03200	07345-03800	7.87	3.81	07490-04602	...010
BULBEX®	5/32	4.0	Aluminium Alloy	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	3/16	4.8	Aluminium Alloy	07346-03200	07345-03800	7.87	3.81	07490-04602	...010
AVINOX® II	1/8	3.2	Stainless Steel	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Stainless Steel	07346-03200	07345-03800	7.87	3.81	07490-04602	...010
AVSEAL® II	–	**4.0**	Aluminium Alloy	71213-04000	71213-16401	6.35	1.95	07340-00213	...160
	–	**4.0**	Aluminium Alloy	71213-04700	71213-16402[2]	6.35	4.11	07340-00213	...180
	–	**5.0**	Aluminium Alloy	71213-04100	71213-16403	7.62	2.00	07340-00213	...161
	–	**5.0**	Aluminium Alloy	71213-04800	71213-16404[2]	7.62	4.11	07340-00213	...181
STAVEX®	1/8	3.2	Steel	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Steel	07346-03200	07345-03800	7.87	3.81	07490-04602	...010
	1/8	3.2	Stainless Steel	07346-03100	07345-03700	7.87	3.81	07340-00213	...004
	5/32	4.0	Stainless Steel	07346-03200	07345-03800	7.87	3.81	07490-04602	...010





COMPLETE TOOL PART NUMBER :
precede with 71223-40 or 71224-40
(the stop nut and safety cap are included)

IMPORTANT: in contrast to complete tools with nose assemblies, those fitted with swivel heads include the nose tip as a part of the head.

[1] In inches then in millimetres. [2] Long nose tip for deep placing.

Accessories

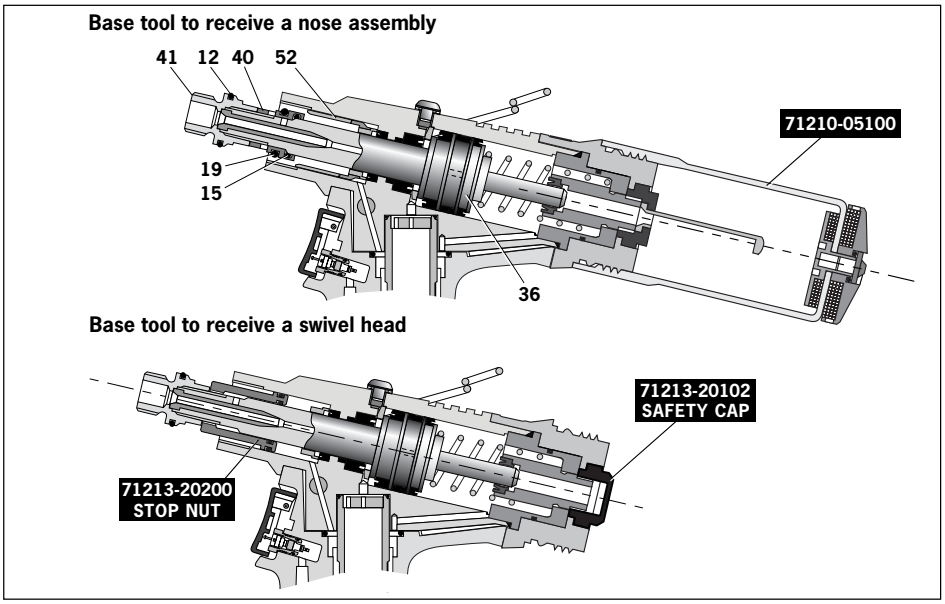
Preparing the Base Tool for Right-Angle and Straight Swivel Head Attachment

- Disconnect the air supply.
- Remove any nose assembly items.
- Remove Stem Collector Bottle Assembly (71213-05100) or 71210-20400.
- Replace assembly with Safety Cap (71213-20102 or 71210-20101).
- Unscrew Jaw Spreader Housing **41** and remove with 'O' Ring **12**
- Remove Locknut **40**, 'O' Rings **15** and **19**, and Seal Housing **52**. Do not refit these items.
- Screw Stop Nut (71213-20200) onto the front of Head Piston **36** as far as it will go by hand.
- Refit Jaw Spreader Housing **41** and 'O' Ring **12**, tighten onto Head Piston **36,** finally tighten Stop Nut against Jaw Spreader Housing.

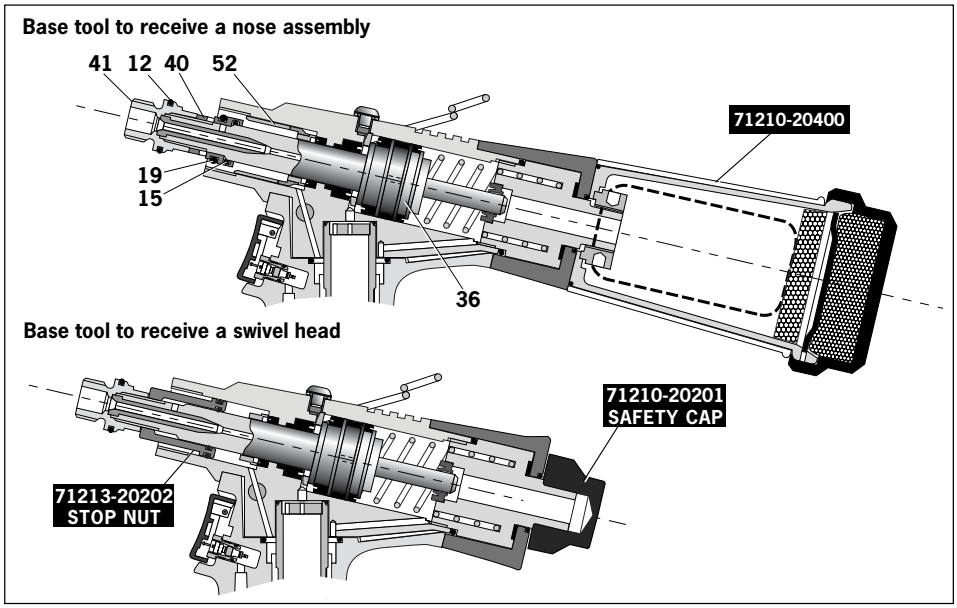
The tool is now ready to be fitted with a swivel head. Instructions page 16.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24-25.

Base Tool 71223



Base Tool 71224



Accessories

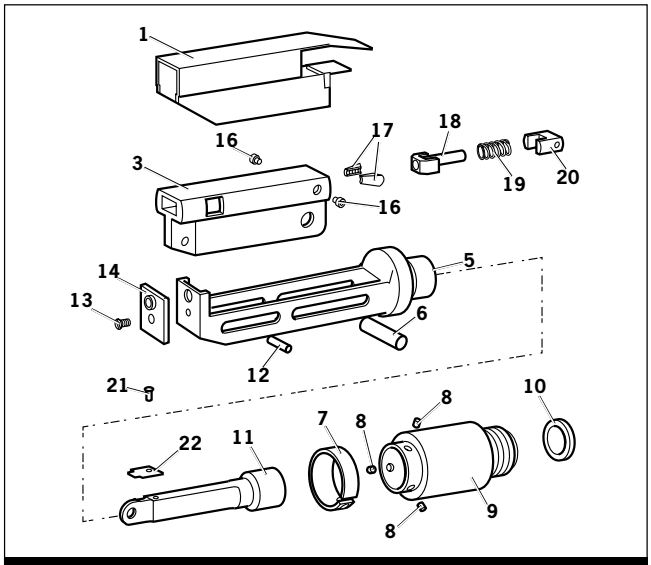
The fitting and servicing procedures for both types of head are almost identical. Differences are clearly indicated.

I M P O R T A N T

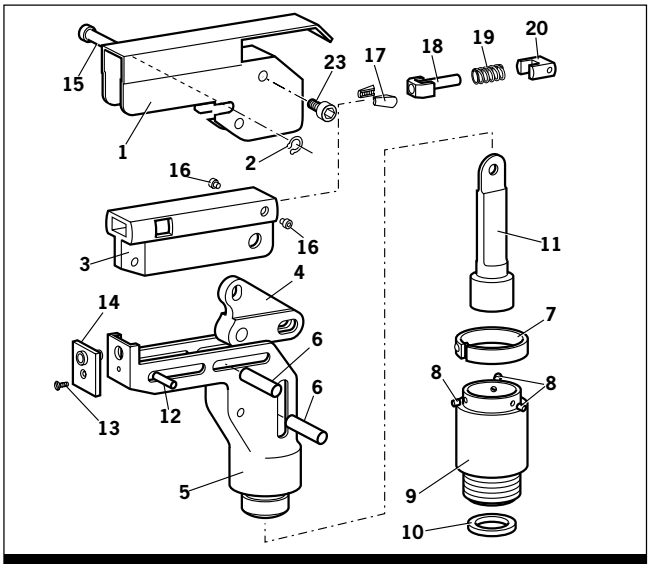
PRIOR to fitting a swivel head, the base tool must be adapted. See Preparing the Base Tool opposite.
The air supply must be disconnected when fitting or removing swivel heads.

Swivel Head Fitting Instructions

The following procedure will allow you to assemble and fit either of the swivel heads to the tool. If you order a complete swivel head rather than individual components, you will only need to start at stage **'L'**.
All moving parts should be lubricated. Unless stated otherwise use MolyLithium grease (details page 18).
When on grey tint, instructions refer only to the right-angle swivel head. Item numbers in **bold** refer to illustrations below.



STRAIGHT SWIVEL HEAD



RIGHT-ANGLE SWIVEL HEAD

A Fit Locking Ring **10** over Jaw Spreader Housing **41*** (71210-02102). ***See page 15.

B Coat Screw **13** with thread locking adhesive and use to secure Nose Tip **14** onto Body **5**.

C Lightly lubricate items **17**, **18**, **19**, **20** and insert into Jaw Carrier **3** as shown. Secure with Screws **16**.

D Position Lever **4** into Body **5** and hold in place with pin **15** through the hole of Body **5** (not a slot).

E Lubricate the sides of the Jaw Carrier Assembly and insert into Body **5**.

F Lubricate Rollers **8** and ENSURE that they will freely rotate in the holes of Adaptor **9**. If necessary ream the holes.

G Position Spring Clip **7** over Adaptor **9** past the holes for the rollers and rotate until the locating peg is aligned with the corresponding hole in Adaptor **9** (smallest hole).

H Fit Adaptor **9** over the end of Body **5** and drop Rollers **8** into place. Push Spring Clip **7** over Rollers **8**.

I Insert Spindle **11** through Adaptor **9** into Jaw Carrier **3** until the hole lines up with slot in Body **5**. Temporarily hold in place with Pin **6**.

J Insert Pin **12** through the front slot of Body **5** into Jaw Carrier **3**.

K Hold the assembly vertical to prevent all pins dropping out and slide the jaw carrier assembly back and forth a few times to ensure free movement. Go to **M**.

L Remove Screws **23** (4 off) and Guard **1**. On a straight swivel head also remove Screw **21** and Platform **22**.

M Push Pin(s) **6** out and let Spindle **11** drop out. Screw Spindle **11** onto the Jaw Spreader Housing of the tool, leaving the small screw fixing hole uppermost for straight swivel. Tighten gently with a tommy bar.

N Screw the assembly over Spindle **11** onto the tool handle. Replace Pin(s) **6**.

O On straight swivel heads attach Platform **22** onto the top of the Spindle **11** with Screw **21**. Deburr the back end of Platform **22** so that it cannot catch on Guard **1**.

P Snap Guard **1** over the assembly, align screw holes in guard with tapped holes in body assembly.

Q Insert Pivot Pin **15** through slots in guard and hole in body. Fit Circlip **2** onto pivot pin so that the circlip seats in groove provided.

R Coat the thread of Screws **23** (4 off) with thread locking adhesive and screw into body assembly securing guard to body assembly.

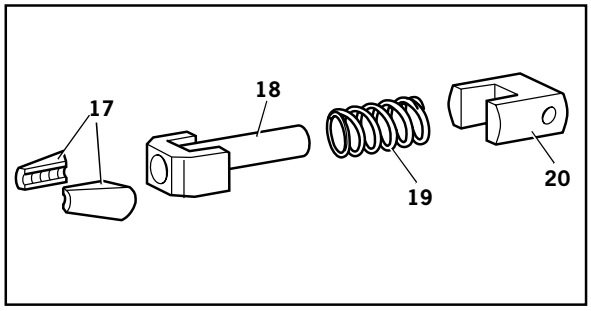
Accessories

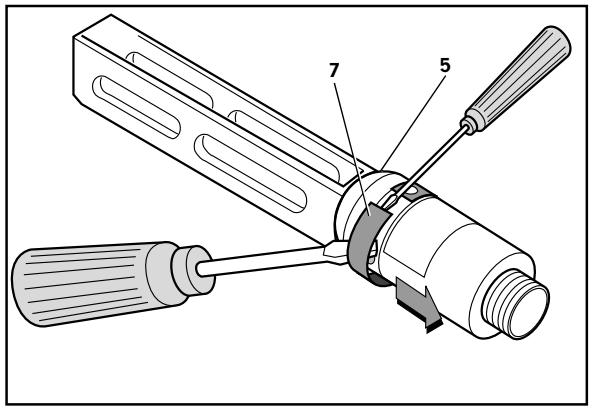
Swivel Head Servicing Instructions

Swivel heads should be serviced at weekly intervals.

- Remove the complete head using the reverse procedure to the 'Fitting instructions' omitting step '**L**'.
- If Guard **1** is at all damaged it must be replaced by a new one.
- Any worn or damaged parts should be replaced.
- Pay particular attention to jaw carrier items in the upper illustration opposite as follows:
  Check wear on Jaws **17**.
  Check that Jaw Spreader Tube **18** is not distorted.
  Check that Spring **19** is neither broken or distorted.
  Check that Spring Guide **20** is not damaged.
- Check that Spring clip **7** is not distorted. When removing Spring Clip **7**, use two screwdrivers as shown in the lower illustration opposite.
- Check for excessive wear on slots of Body **5**.
- Assemble according to fitting instructions.

  Item numbers in bold refer to Swivel Head illustrations on this page. Guard **1** refers to illustration on page 16.





While nose tips and jaws will vary for each swivel head, other components remain constant within each type of head. See table below. For nose tips and jaws part numbers see within the tables on pages 10, 11 and 12.

CONSTANT COMPONENTS

ITEM	DESCRIPTION	STRAIGHT SWIVEL	RIGHT-ANGLE SWIVEL
1	GUARD	07494-05000	07495-03003
2	CIRCLIP	-	07004-00105
3	JAW CARRIER	07494-03026	07494-03026
4	LEVER	-	07495-03004
5	BODY	07494-03015	07495-03002
6	PIVOT PIN	07343-02207	07343-02207
7	SPRING CLIP	07495-03900	07495-03900
8	ROLLER	07007-00039	07007-00039
9	ADAPTOR	07345-03001	07345-03001
10	LOCKING RING	07345-03003	07345-03003
11	SPINDLE	07345-03002	07345-03002
12	DOWEL PIN	07007-00038	07007-00038
13	SCREW	07342-02207	07342-02207
15	PIVOT PIN	-	07346-03102
16	SCREW	07494-03028	07494-03028
18	JAW SPREADER	07346-03101	07346-03101
19	SPRING	07165-00305	07165-00305
20	SPRING GUIDE	07494-03027	07494-03027
21	SCREW	07001-00368	–
22	PLATFORM	07345-00401	–
23	SCREW	-	07210-00804

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

- 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 assembly or swivel head 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 28 explains how to measure the stroke.
- Either a stem collector or a stem deflector must be fitted to the tool unless using a swivel head is fitted.
- Check that Base Cover **31** is fully tightened onto Body **30**.

Weekly

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

MolyLithium Grease EP 3753 Safety Data

Grease can be ordered as a single item, the part number is shown in the Service Kit page 20.

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_2, 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.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24-25.

Servicing the Tool

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

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.

Servicing the Tool

Service Kit

For an easy complete service, Avdel offers the complete service kit below.

SERVICE KIT : 71210-99990		Spanners are specified in inches and across flats unless otherwise stated	
PART Nº	**DESCRIPTION**	**PART Nº**	**DESCRIPTION®**
07900-00667	PISTON SLEEVE	07900-00008	7/16" x 1/2" SPANNER
07900-00692	TRIGGER VALVE EXTRACTOR	07900-00012	9/16" x 5/8" SPANNER
07900-00670	BULLET	07900-00015	5/8" x 11/16" SPANNER
07900-00672	'T' SPANNER	07900-00686	PEG SPANNER
07900-00706	LOCATION SPIGOT	07900-00677	SEAL EXTRACTOR
07900-00684	GUIDE TUBE	07900-00698	STOP NUT
07900-00685	INSERTION ROD	07900-00700	PRIMING PUMP
07900-00351	3 MM ALLEN KEY	07992-00020	GREASE - MOLY LITHIUM E.P.3753
07900-00469	2.5 MM ALLEN KEY	07992-00075	GREASE - MOLYKOTE® 55M
07900-00158	2 MM PIN PUNCH	07900-00755	GREASE - MOLYKOTE® 111
07900-00224	4 MM ALLEN KEY	07900-00850	PIN SPANNER
07900-00734	STOP NUT - MAXLOK®	07900-00898	ROTARY VALVE HOOK
07900-00164	CIRCLIP PLIERS		

Maintenance

(Annually or every 500,000 cycles whichever is the soonest)

Annually or 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 Molykote® 55m grease for pneumatic sealing or Molykote® 111 for hydraulic sealing.

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.

Before proceeding with dismantling, empty the oil from the tool following the first four steps of the 'Priming Procedure' on page 28.

Prior to dismantling the tool it is necessary to remove the nose equipment. For instructions see the nose assemblies section, pages 10 to 12 or if a swivel head was fitted pages 14 to 16.

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 to fit an appropriate nose assembly or swivel head.

Nose Equipment

- Unscrew Nose Casing **1** and Nose Tip.
- Unscrew Jaw Housing **3** and remove Jaws **4**, Jaw Spreader **5**, Spring **7** and Buffer **6**.
- Inspect all components. Renew all damaged or worn parts.
- Clean all parts and apply MolyLithium Grease EP 3753 (07992-00020) to taper bore of Jaw Housing.
- Reassemble in reverse order to above.

  Item numbers in **bold** refer to Nose Tip Table on page 10.

Servicing the Tool

Dismantling the Tool

Before dismantling the tool the oil must be emptied from it.

- With the air supply switched OFF at ON/OFF Valve Assembly **62** remove Bleed Screw **1** and Bonded Seal **6**.
- Insert tool over a suitable container, switch air supply ON and actuate tool.
- Oil will expel from bleed screw orifice into container.
- Switch air supply OFF after all oil is expelled.

Ensure the bleed screw orifice is facing away from the person performing this operation.

Head Assembly

71223 Tool with Removable Stem Collector Bottle

- Quarter turn and pull off Stem Collector Bottle Assembly **9**. See illustration on page 8.
- Unscrew retaining Nut **8** together with Deflector **7**.
- Pull off Bottle Adaptor Assembly **6**.
- Unscrew End Cap Assembly **4** together with 'O' Rings **2**, **3** and Lip Seal **1**.

or

71224 Tool with Fixed Stem Collector Bottle

- Rotate the Stem Collector Outer so that the aperture in the stem Collector Body is fully exposed.
- Unscrew the Retaining Nut **3**.
- Remove the Bottle Assembly **4**.
- Remove the Bottle Adaptor Assembly **8**.
- Unscrew and remove the End Cap Assembly **2** together with Lip Seal **1**, 'O' Ring **7** and Seal **6** .

Item numbers in **bold** above refer to the Stem Collector Bottles Removable and Fixed on page 26.

then

- Remove Spring **91**.
- Loosen Locknut **40** with a spanner* and unscrew Jaw Spreader Housing **41** together with 'O' Ring **12**.
- Withdraw Vacuum Sleeve **42**.
- Remove Locknut **40** together with 'O' Rings **19** and **15**.
- Push Head Piston **36** to the rear and out of Head Assembly **58** taking care not to damage the cylinder bore.
- Using circlip pliers* remove Seal Retainer **43**. Push Lip Seal **8** and Bearing Tape **26** to the rear and out of Head Assembly **58** taking care not to damage the cylinder bore.
- Remove Seal Housing **52** and Lip Seal **2**.

Assemble in reverse order noting the following points:

- Place Lip Seal **8** onto the insertion rod* ensuring correct orientation. Locate the guide tube* into the head of the tool and push the insertion rod* with the seal in place through the guide tube*. Pull the insertion rod* out and then the guide tube*.
- The chamfered edge of Seal Retainer **43** must face forward with the gap at the bottom.
- After fitting Lip Seals **11** 'O' Rings **18** (x2) and Bearing Tape **27** onto the Head Piston **36** ensuring correct orientation, lubricate the cylinder bore and place the piston sleeve* into the back of Head Assembly **58**. Slide the bullet* onto the threaded part of Head Piston **36** 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 piston sleeve*.
- Jaw Spreader Housing **41** must be fully tightened onto Head Piston **36** before tightening Locknut **40** against it.
- Reprime in accordance with the instructions on page 28.

* Item included in the nG3 Service Kit. For complete list see page 20.
Item numbers in **bold** refer to the General Assembly and Parts List of Common parts on pages 24 and 25.

Servicing the Tool

Pneumatic Piston Assembly

- Remove 'ON/OFF' Valve Assembly **62**.
- Clamp the body of the inverted tool **ACROSS THE AIR INLET BOSSES** in a vice fitted with soft jaws.
- Pull off Rubber Boot **48**.
- Using the peg spanner* unscrew Base Cover **31**.
- Unscrew Nyloc Nuts **67** (2 off) and remove Base Plate Assembly **65**.
- Remove Cylinder Liner **37** together with Sealing Washers **29** (2 off) and 'O' Rings **66** (2 off).
- Remove Pneumatic Piston Assembly **57** together with 'O' Ring **75**, Lip Seal **90** (3 off) and Guide Ring **51**.
- Engage the Seal Extractor* into Seal Assembly **60** and withdraw Seal Assembly from intensifier tube of the Head Assembly **58**.

Assemble in reverse order to dismantling.

- Seals should be checked for damage and replaced as necessary. Lubricate pneumatic seals with Molykote® 55m and hydraulic seals with Molykote® 111.

Air Valve

Dismantling

- Remove Pneumatic Piston Assembly **57** as described above in Pneumatic Piston Assembly.
- Using Spanner (07900-00672), and Location Spigot Assembly (07900-00706). Unscrew Clamp Nut **39** and remove together with Top Plate Assembly **44** together with Tie Rods **56**, Transfer Tube Assembly **61**, 'O' Rings **14** and Silencer Pads **53**.
- Remove tool from vice and separate Body **30** from Handle **64**. Remove 'O' Ring **17**.
- Push out the Valve Seat **34**, from the Body **30**, together with 'O' Rings **14.**
- Pull out Valve Spool Assembly **59** from Handle **64**. Remove 'O' Ring **7** from handle counterbore.

Assembly

Assemble in reverse order to Dismantling Instructions

- Seals should be checked for damage and replaced if necessary, lubricated with Molykote® 55m grease.
- Apply Loctite® 243 to Clamp Nut **39** and tighten to torque 11ftlb (14.91 Nm).

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 nG3 Service Kit. For complete list see page 20.
Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24 and 25.

Servicing the Tool

Rotary Valve

Dismantling

- Remove Pneumatic Piston Assembly **57** as described in Pneumatic Piston Assembly.
- Using Spanner (07900-00672), and Location Spigot Assembly (07900-00706), unscrew Clamp Nut **39** and remove together with Top Plate Assembly **44** together with Tie Rods **56**, Transfer Tube Assembly **61**, Seperate Body **30** from Handle **64**. Remove 'O' Rings **16** and **17.**
- Seperate Head Assembly **58** from Handle **64**.
- Push out Rotary Valve **38** together with 'O' Rings **5**.

Assemble in reverse order to Dismantling Instructions noting the following:

- Seals should be checked for damage and replaced if necessary, lubricated with Molykote® 55m grease.

Trigger

Dismantling

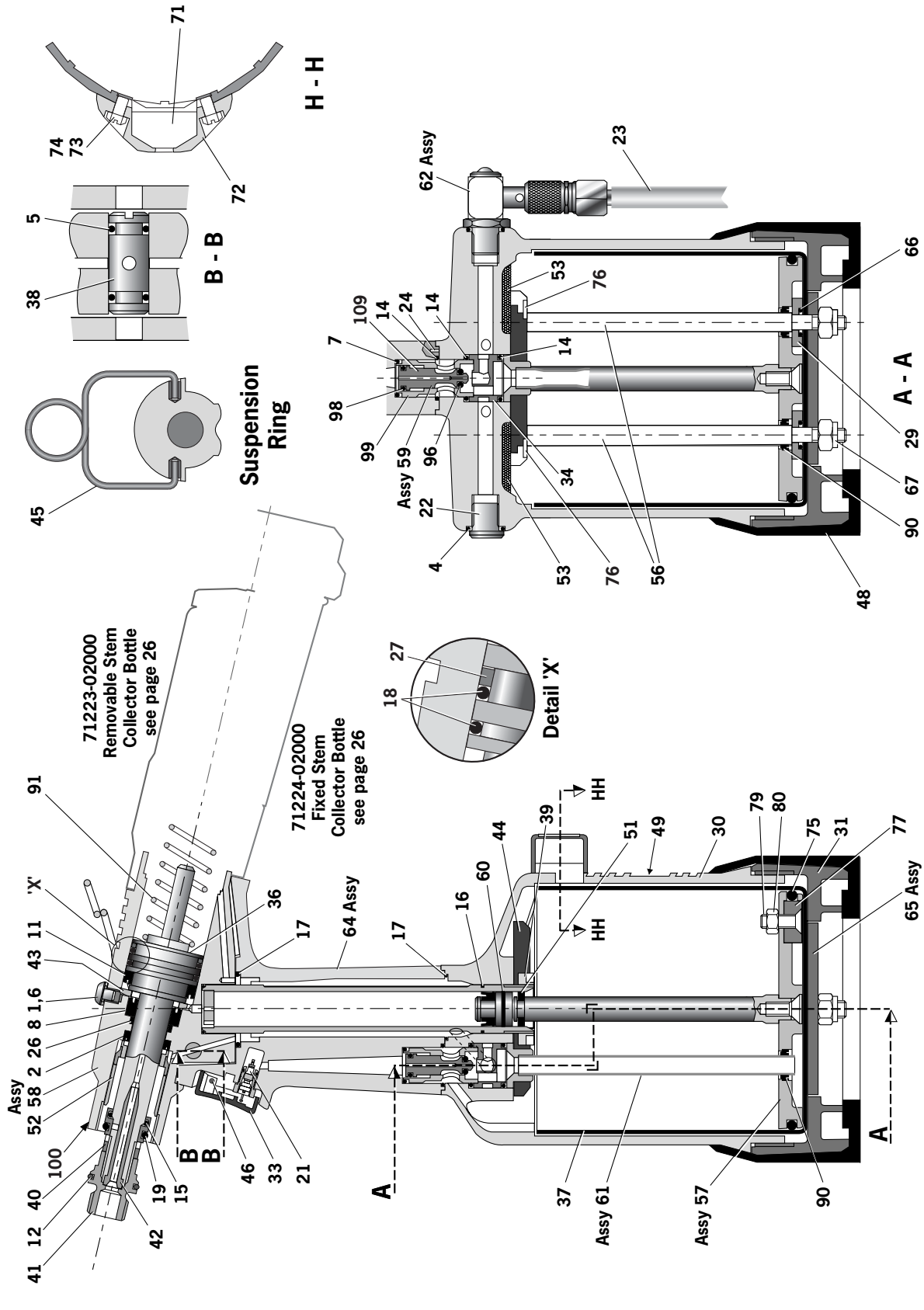
- Using a 2mm pin punch (07900-00158) drive Trigger Pin **46** out and remove Trigger **33.**
- Unscrew Trigger Valve **21** using trigger valve extractor (07900-00692).

Assemble in reverse order to Dismantling Instructions.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24 and 25.

Common Parts

General Assembly of Common Parts 71223-02000 and 71224-02000



Common Parts

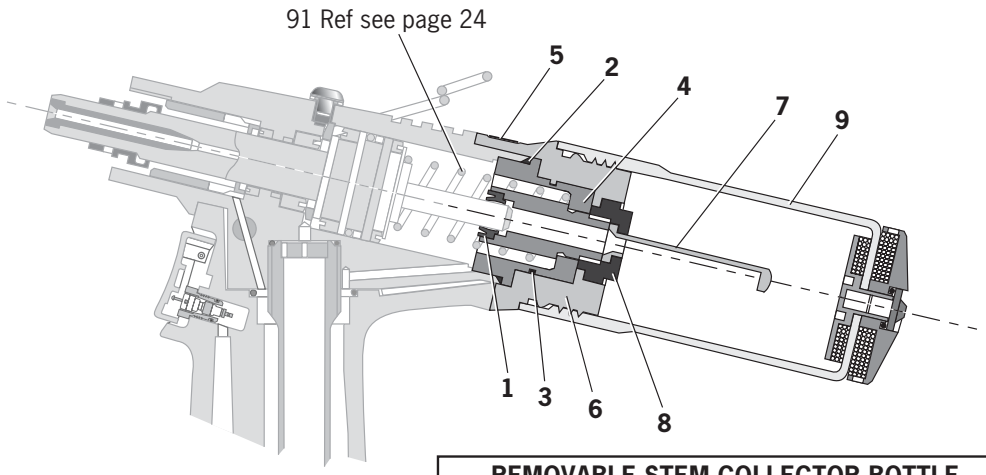
Parts List for Common Parts 71223-02000 and 71224-02000

71223-02000 and 71224-0200 PARTS LIST * These are minimum recommended levels of spares based on regular servicing

ITEM	PART Nº	DESCRIPTION	QTY	SPARES
01	07001-00405	M5x5 HEX SOCKET BUTTON HD SCREW	1	3
02	07003-00333	LIP SEAL	1	2
04	07003-00127	'O' RING	1	
05	07003-00189	'O' RING	2	
06	07003-00194	M5 BONDED SEAL	1	2
07	07003-00271	'O' RING	1	3
08	07003-00273	LIP SEAL	1	
11	07003-00341	LIP SEAL	1	
12	07003-00277	'O' RING	1	
14	07003-00281	'O' RING	3	
15	07003-00204	'O' RING	1	
16	07003-00287	'O' RING	1	
17	07003-00288	'O' RING	2	
18	07003-00342	'O' RING	2	3
19	07003-00310	'O' RING	1	
21	07005-00088	TRIGGER VALVE	1	1
22	07005-01274	1/8" BSP PLUG	1	
23	07008-00010	6" FLEXIBLE HOSE	1	
24	07007-00224	3mm DIAx10mm SPIROL PIN	2	
26	71213-02021	BEARING TAPE - PISTON ROD	1	1
27	71213-02022	BEARING TAPE - PISTON	1	1
29	71221-02006	SEALING WASHER	2	
30	71223-02001	BODY MACHINED	1	
31	71221-02002	BASE COVER	1	
33	71213-02051	TRIGGER	1	1
34	71210-02009	VALVE SEAT	1	
36	71223-02121	HEAD PISTON	1	
37	71221-02008	CYLINDER LINER	1	
38	71210-02013	ROTARY VALVE	1	
39	71210-02014	CLAMP NUT	1	
40	71210-02103	LOCKNUT	1	
41	71210-02101	JAW SPREADER HOUSING	1	
42	71220-02102	VACUUM SLEEVE	1	
43	71210-02019	SEAL RETAINER	1	
44	71213-02010	TOP PLATE ASSEMBLY	1	
45	71210-02022	SUSPENSION RING	1	
46	71210-02024	TRIGGER PIN	1	2
48	71221-02007	RUBBER BOOT	1	
49	71223-02027	LABEL	1	
51	71210-03205	GUIDE RING	1	
52	71210-02104	SEAL HOUSING	1	
53	71210-02031	SILENCER	2	
56	71221-02004	TIE ROD	2	
57	71221-03210	PNEUMATIC PISTON ASSEMBLY (ITEMS 51, 75 & 90)	1	
58	71213-03330	HEAD ASSEMBLY	1	
59	71210-03400	VALVE SPOOL ASSEMBLY (ITEMS 96, 98, 99 & 109)	1	1
60	71210-03800	SEAL ASSEMBLY	1	1
61	71230-03600	TRANSFER TUBE ASSEMBLY	1	
62	71210-03700	ON/OFF VALVE ASSEMBLY	1	
64	71213-02016	HANDLE ASSEMBLY	1	
65	71221-02014	BASE PLATE ASSEMBLY	1	
66	07003-00027	'O' RING	2	
67	07002-00108	M6 NYLOC NUT	2	
71	71221-20105	MODIFIED COUNTER	1	
72	71221-20101	COUNTER MOULDING	1	
73	71221-20103	MOULDING RETAINING NUT	2	
74	71221-20102	SPECIAL M4 SCREW	2	
75	07003-00182	'O' RING	1	2
76	07002-00163	WASHER	2	
77	07007-01993	CENTRE POLE MAGNET	1	
79	71221-20104	M5 X 19 COUNTERSUNK SCREW	1	
80	07002-00098	M5 NYLOC NUT	1	
90	07003-00274	LIP SEAL	3	3
91	07490-03002	SPRING	1	
96	07003-00268	'O' RING	1	
97	07003-00398	'O' RING	2	
98	07003-00042	'O' RING	1	
99	71210-03401	VALVE BODY	1	
100	07007-01503	LABEL BOOK SYMBOL	1	
103	07900-00930	TOOL INSTRUCTION MANUAL (NOT SHOWN)	1	
105	07900-00849	NOSE EQUIPMENT SPANNER (NOT SHOWN)	1	
106	07900-00890	SEAL KIT DATA SHEET (NOT SHOWN)	1	
107	71213-05101	STEM DEFLECTOR	1	
108	71213-03001	WARNING LABEL	1	
109	71210-03402	VALVE SPOOL	1	

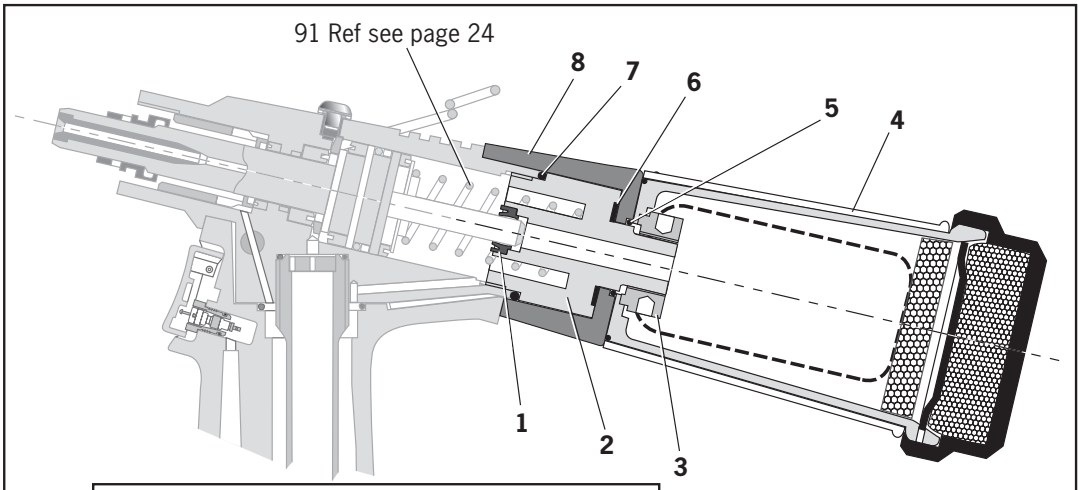
Stem Collector Bottles Removable and Fixed

71223 Tool Removable



REMOVABLE STEM COLLECTOR BOTTLE		
ITEM	DESCRIPTION	PART NUMBER
1	LIP SEAL	07003-00274
2	O-RING	07003-00278
3	O-RING	07003-00398
4	END CAP ASSEMBLY	71213-05103
5	WARNING LABEL	71213-03001
6	BOTTLE ADAPTOR	71213-05104
7	DEFLECTOR	71213-05101
8	RETAINING NUT	71213-05102
9	COLLECTOR BOTTLE ASSEMBLY	71213-05100

71224 Tool Fixed



FIXED STEM COLLECTOR BOTTLE		
ITEM	DESCRIPTION	PART NUMBER
1	LIP SEAL	07003-00274
2	END CAP ASSEMBLY	71403-02120
3	RETAINING NUT	71210-02028
4	FIXED COLLECTOR BOTTLE ASSEMBLY	71210-20400
5	O ' RING	07003-00067
6	SEAL	71210-02029
7	'O' RING	07003-00278
8	BOTTLE ADAPTOR ASSEMBLY	71403-02110

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® VG32 available in 0.5 litre (part number 07992-00002) or one gallon containers (part number 07992-00006). Please see safety data below.

Hyspin® VG32 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_2, 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

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

PRIMING KIT : 07900-00688	
PART Nº	**DESCRIPTION**
07900-00351	3 mm ALLEN KEY
07900-00700	PRIMING PUMP
07900-00224	4 mm ALLEN KEY

Priming

Priming Procedure

I M P O R T A N T

DISCONNECT THE TOOL FROM THE AIR SUPPLY OR SWITCH OFF AT ON/OFF VALVE ASSEMBLY 62.
REMOVE NOSE ASSEMBLY OR SWIVEL HEAD COMPONENTS.
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.

- Switch OFF air supply at ON/OFF Valve Assembly **62**.
- Remove all nose equipment. (see page 9).
- Remove Bleed Screw **1** and Bonded Seal **6.**
- Invert tool over suitable container, switch ON air supply at ON/OFF Valve Assembly **62** and actuate tool.
- Residual oil in the tools hydraulic system will empty through bleed screw orifice.

CARE SHALL BE TAKEN TO ENSURE THAT THE BLEED HOLE IS NOT DIRECTED TOWARDS THE OPERATOR OR OTHER PERSONNEL.

- Switch air supply OFF at ON/OFF Valve Assembly **62**.
- Screw priming pump (07900-00700) into bleed screw port, utilising Bonded Seal **6**.
- Actuate Priming Pump by pressing down and releasing several times until resistance is evident and the Head Piston starts to move rearward.

ENSURE PUMP IS KEPT 'SQUARE' TO BLEED SCREW PORT DURING PRIMING OPERATION TO PREVENT BREAKAGE OF BLEED NIPPLE ON PRIMING PUMP.

- Remove the priming pump, surplus oil will expel from bleed screw port.
- Replace the Bleed Screw **1** together with Bonded Seal **6.**
- Switch ON air supply at ON/OFF Valve Asembly **62.**
- Check that the stroke of the head piston reaches specification. If not repeat above procedure.
- Switch OFF air supply and refit nose equipment. (see page 9).
- Check that the stroke of the tool meets the minimum specification of 14 millimetres. To chech the stroke, measure the distance between the front face of the jaw spreader housing and the front 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 24 and 25.

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
	Worn or broken jaws	Fit new jaws	9
	Low oil level or air in oil	Prime tool	27, 28
	Build up of dirt inside the nose assembly	Service nose assembly	9†
Tool will not grip stem of fastener	Worn or broken jaws	Fit new jaws	9, 10, 11, 12
	Build up of dirt inside the nose assembly	Service nose assembly	9
	Loose jaw housing	Tighten against locking ring	9
	Weak or broken spring in nose assembly	Fit new spring	9, 10, 11, 12
	Incorrect component in nose assembly	Identify and replace	10, 11, 12
Jaws will not release broken stem of fastener	Build up of dirt inside the nose assembly	Service nose assembly	9†
	Jaw housing, nose tip or nose casing not properly seated	Tighten nose assembly	10, 11, 12
	Weak or broken spring in nose assembly	Fit new spring	10, 11, 12
	Air or oil leak	Tighten joints or replace components	
	Low oil level or air present in oil	Prime tool	27, 28
Cannot feed next fastener	Broken stems jammed inside tool	Empty stem collector	8
		Check jaw spreader is correct	10, 11, 12
		Adjust air pressure to within specification	5
Slow cycle	Low air pressure	Adjust air pressure to within specification	5
	Build up of dirt inside the nose assembly	Service nose assembly	9†
Tool fails to operate	No air pressure	Connect and adjust to within specification	5
	Damaged Trigger Valve **21**	Replace	23
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 UK Limited	
	Low oil level or air present in oil	Prime tool	27, 28

* Pages 14 to 16 if a swivel head is used instead of a nose assembly.
† Page 16 if a swivel head is used instead of a nose assembly.
Item numbers in **bold** refer to the general assembly drawing and parts list on pages 24 and 25.

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

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 nG3

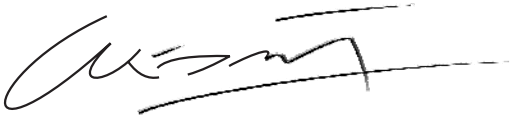
Serial No.

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 2006/42/EC.



A. Seewraj - Product Engineering Manager - Automation Tools

Date of issue

CE **This box contains a power tool which is in conformity with Machines Directive 2006/42/EC. The 'Declaration of Conformity' is contained within.**

Notes

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Our Technology, Your Success

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