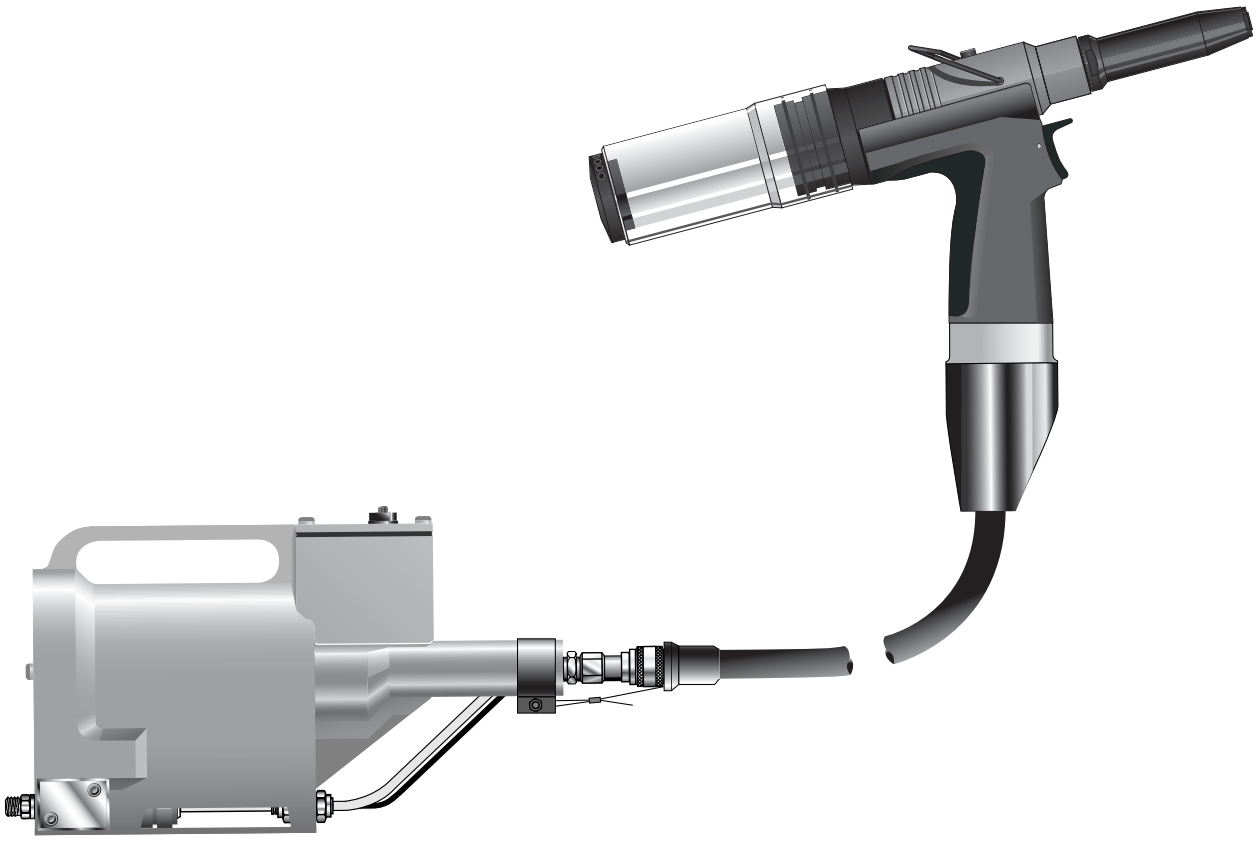
Avdel®

An Acument™ Global Technologies Company

Instruction Manual



Genesis® nG2S

Hydro-Pneumatic Power Tool

Contents

Safety Rules

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

1 Do not use outside the design intent.

2 Do not use equipment with this tool/machine other than that recommended and supplied by Avdel UK Limited.

3 Any modification undertaken by the customer to the tool/machine, nose assemblies, accessories or any equipment supplied by Avdel UK Limited or their representatives, shall be the customer's entire responsibility. Avdel UK Limited will be pleased to advise upon any proposed modification.

4 The tool/machine must be maintained in a safe working condition at all times and examined at regular intervals for damage and function by trained competent personnel. Any dismantling procedure shall be undertaken only by personnel trained in Avdel UK Limited procedures. Do not dismantle this tool/machine without prior reference to the maintenance instructions. Please contact Avdel UK Limited with your training requirements.

5 The tool/machine shall at all times be operated in accordance with relevant Health and Safety legislation. In the U.K. the "Health and Safety at Work etc. Act 1974" applies. Any question regarding the correct operation of the tool/machine and operator safety should be directed to Avdel UK Limited.

6 The precautions to be observed when using this tool/machine must be explained by the customer to all operators.

7 Always disconnect the 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 Vacuum Air MUST be turned off using the Trigger before removing the Stem Collector Bottle which 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.

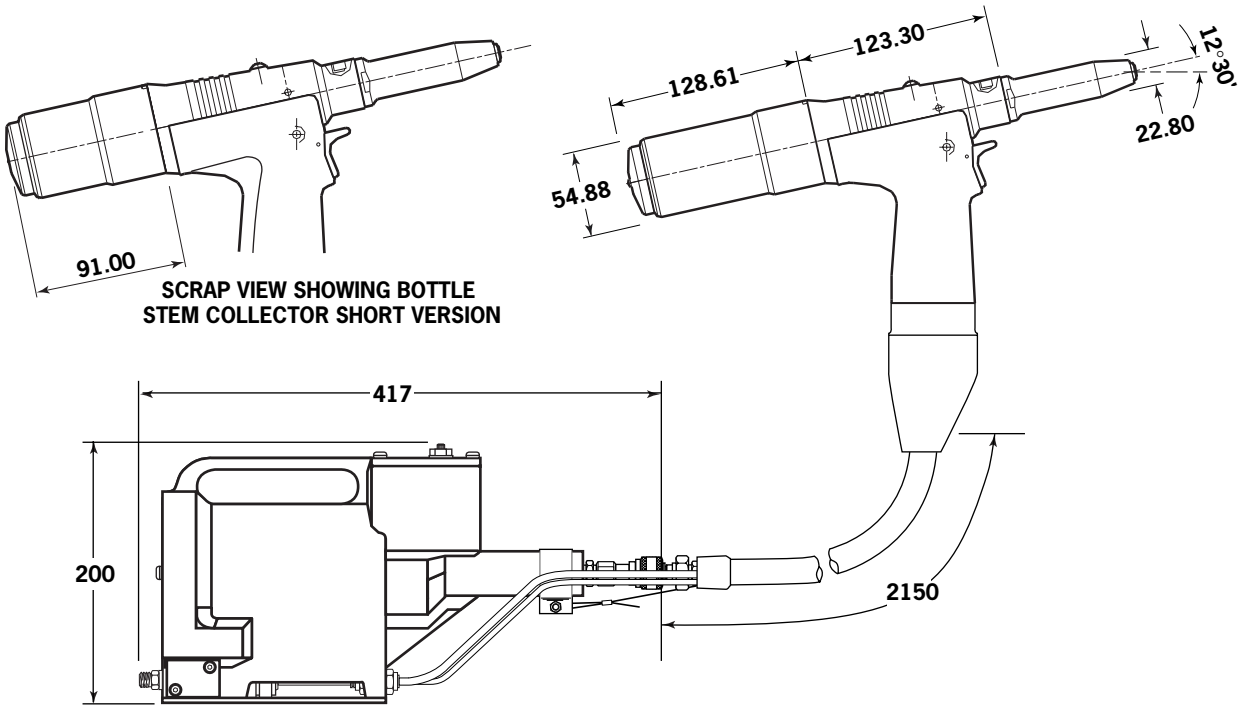
20 Excessive contact with hydraulic fluid oil should be avoided. To minimize the possibility of rashes, care should be taken to wash thoroughly.

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

Specifications

Air Pressure	Minimum - Maximum	5-7 bar
Free Air Volume Required	@ 5.5 bar	3.6 litres
Stroke	Minimum	17 mm
Pull Force	@ 5.5 bar	10.88 kN
Cycle time	Approximately	1 second
Noise Level		75 dB(A)
Weight	Without nose equipment or intensifier	0.88 kg
Vibration	Less than	2.5 m/s^2
Intensifier Ratio		44:1

Tool Dimensions



Dimensions in millimetres

Intent of Use

Range of Fasteners

*n*G2s 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.

See the 'Operating Procedure', page 7, for adjustment instructions.

A complete tool, except the 71401-00039, is made up of three separate elements which must be ordered individually.
See diagram below.

If you wish to place most of the fasteners in the table opposite, you can order the 71401-00039 complete tool comprising:

- **71401-01000 base tool.**
- **71213-15000 nose assembly.**
- **Nose tips 71210-05002, 71210-16070 and 07381-04701.**

Fit nose tips as indicated on pages 8 to 12.

FASTENER NAME	FASTENER SIZE (MM / IN)									
	3	3.2	4.0	4.3	4.8	5	5.2	6	6.5	7
	–	1/8	5/32	–	3/16	–	–	–	–	–
AVEX®	●	●	●		●					
STAVEX®		●	●		●					
AVINOX®II		●	●		●					
AVIBULB®		●	●		●					
ETR							●			
BULBEX®			●		●					
T-LOK®				●	●					
AVDEL® SR		●	●		●					
MONOBOLT®					●					
INTERLOCK®					●					
KLAMPTITE™ KTR					●					
KLAMPTITE™					●					
AVDEL®		●	●		●					
MBC®		●	●		●					
MBC®/LC		●	●		●	●		●	●	●
AVSEAL®II			●							

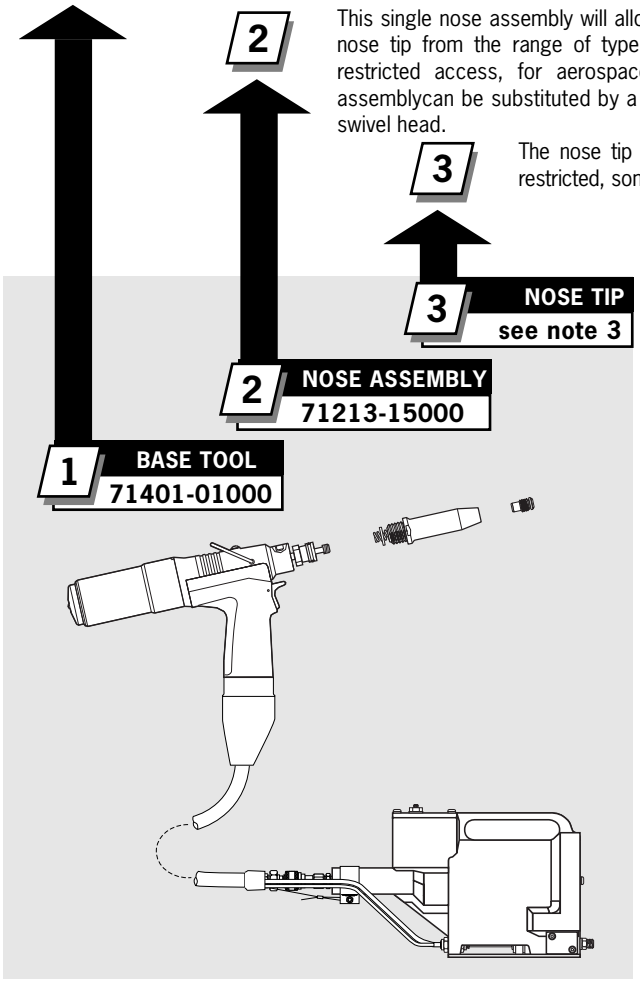
You can order the above three nose tips and nose assembly as a nose assembly kit part number 71213-15100. For some fasteners, the base tool, nose assembly and nose tip must be ordered separately.
NOSE EQUIPMENT MUST BE FITTED AS DESCRIBED ON PAGE 8.

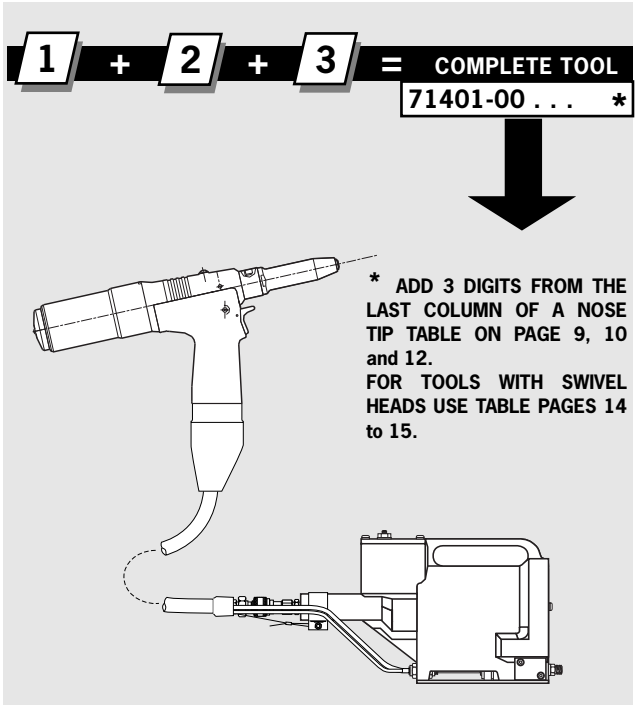
Part Numbering

1 The part number of the base tool remains the same whichever nose assembly, or nose tip is fitted. For details of the pistol, see page 26. If a swivel head is fitted, the same base tool must be adapted. See details page 15.

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, for aerospace and special fasteners. See tables pages 9, 10 and 12. A nose assemblycan be substituted by a swivel head (see pages 14 to16). 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 page 12 for selection table.



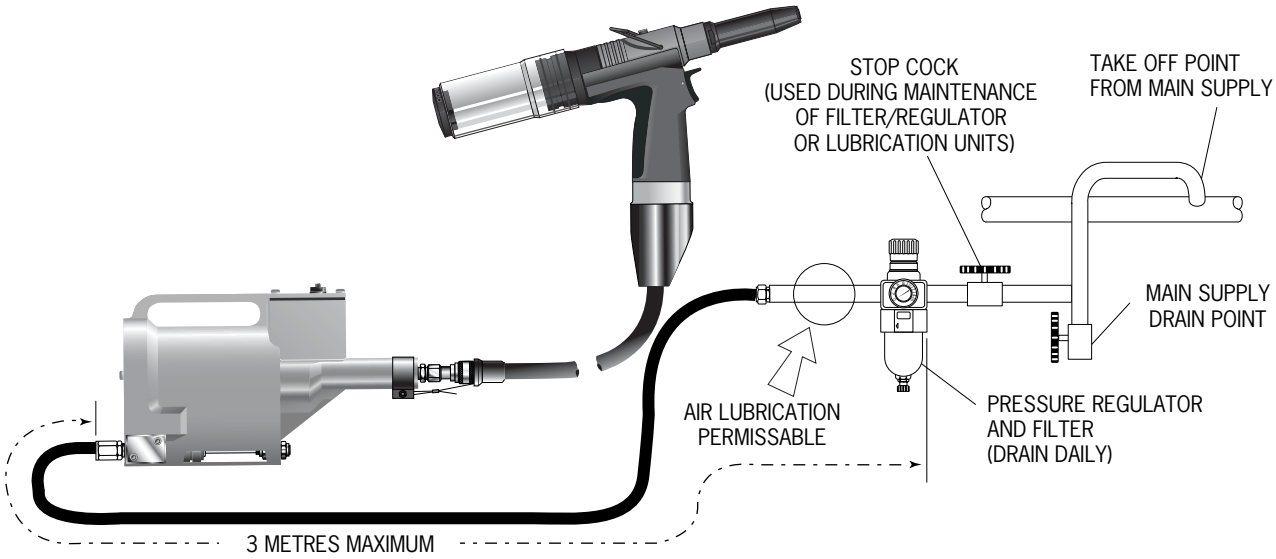


Putting into Service

Air Supply

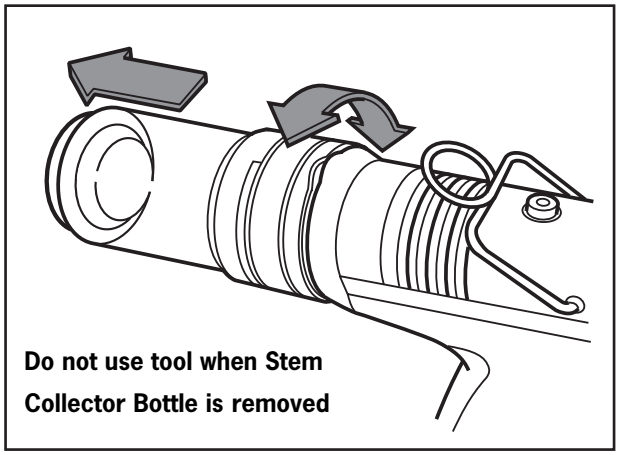
All tools are operated with compressed air at an optimum pressure of 5.5 bar. We recommend the use of pressure regulators and filtering systems on the main air supply. These should be fitted within 3 metres of the tool (see diagram below) to ensure maximum tool life and minimum tool maintenance.

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

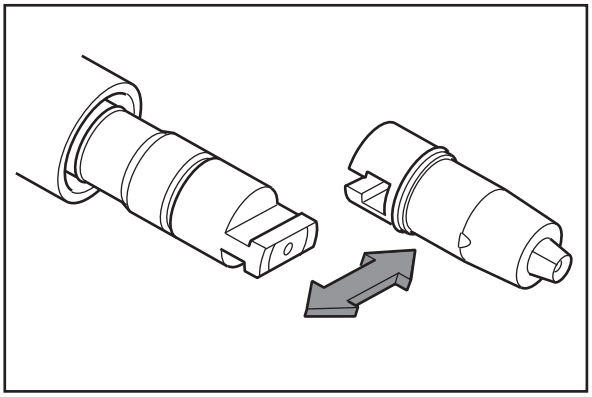


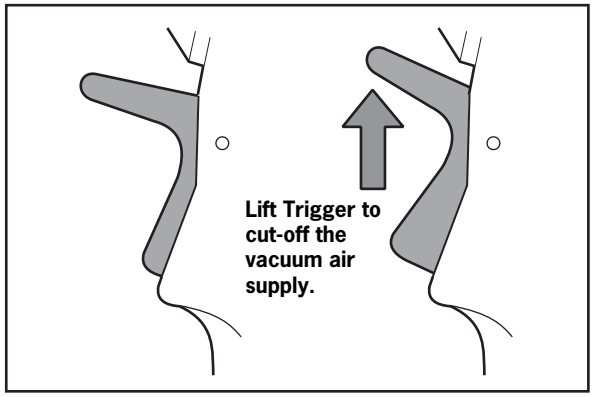
Operating Procedure

- 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.
- A partial rotation and pull movement removes the collector bottle. The Trigger should be lifted to cut-off the vacuum supply air prior to removing the collector bottle.



- To minimise air consumption, the Trigger should be 'lifted" to cut-off the vacuum air supply if the tool is not to be used for a period of time.





Fitting Instructions

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 4 Nose Tip tables (pages 9, 10 and 12).

- Lightly coat Jaws **4** with MolyLithium 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**.
- Insert Detent Sleeve **10** into Jaw Spreader Housing 'T' **9**. Not applicable to Type 2 and 3 Nose Assemblies.
- Fit Locking Ring **8** onto the Jaw Spreader Housing 'T' **9**.
- For tools converted to nose assemblies Type 2 and 3, fit Locking Ring **8** onto the Jaw Spreader Housing 'T' **9** attached to the tool.
- Tighten Jaw Housing **3** and assembled components onto Jaw Spreader Housing 'T' **9**.
- Utilising the 'T' section profiles assemble Nose Assembly onto the tool piston via the Male 'T' Adaptor (item **1** pages 26-27). Not applicable to Type 2 and 3 Nose Assemblies.
- 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

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 assembly.

- 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.

Item numbers in **bold** refer to the nose assembly components in all four Nose Tip tables on pages 9, 10 and 12.

* Item included in the *n*G2s service kit. For complete list see page 20.

Nose Tips

I M P O R T A N T
Nose assemblies do NOT include nose tips. Nose tips must be ordered separately.

A tool (except part number 71401-00039) 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 below and pages 10 and 12.

If your application presents no access restriction use a Type '1' Nose Tip unless you are placing aerospace fasteners which requires a Type '3' Nose Tip.

Dimensions 'A' and 'B' below 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 12.

It is essential that nose assembly and nose tip are compatible with the fastener prior to operating the tool. If you have ordered a 71401-00039 complete tool, it is important that you check that the nose tip already fitted to the nose assembly is the correct one to place your fastener by sliding the fastener stem into the nose tip. No force should be required and play should be minimal.

Swivel heads are available as an alternative to nose assemblies when further reach is required. See pages 14 to 16 in the 'Accessories' section.

TYPE 1 *NOSE TIPS*

[1] *In inches then in millimetres.*
[2] *Head forming nose tips for use with countersunk heads ONLY.*
[3] *Long nose tip for deep placing.*
[4] *Dome head.*
[5] *Countersunk.*

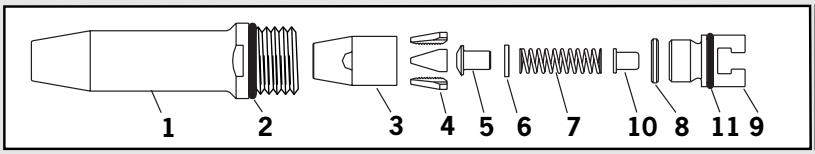
***** Complete tool part number 71401-00039 does not only include the 71213-15000 nose assembly below but also the following three nose tips: 71210-05002, 71210-16070 and 07381-04701 making up a nose assembly kit part number 71401-15100. Use the nose tip listed in the table.

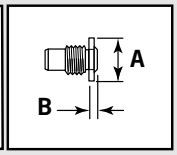
***** Items 3-11 available as cartridge assembly 71213-20320

NOSE ASSEMBLY
part nº 71213-15000
(+ 3 nose tips above = 71213-15100)

ITEM	DESCRIPTION	PART Nº	
1	TAPERED NOSE CASING	71213-00350	
2	'O' RING	07003-00067	
3	JAW HOUSING - TAPERED	71210-15902	*
4	JAW	71210-15001	*
5	JAW SPREADER	07498-04502	*
6	BUFFER	71210-05001	*
7	SPRING	07500-00418	*
8	LOCKING RING	07340-00327	*
9	JAW SPREADER HOUSING 'T'	71210-20321	*
10	DETENT SLEEVE	71210-20322	*
11	'O' RING	07003-00277	*

FASTENER NAME	FASTENER Ø[1]		FASTENER MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVEX®	1/8	3.2	Al Alloy	71210-05002	12.7	4.8	**... 0 3 9***
	1/8	3.2	Steel	71210-16070	12.7	3.3	**... 0 3 9***
	1/8	3.2	Al Alloy	07340-06401[2]	12.7	2.9	**... 0 0 3**
	–	3.0	Al Alloy	71210-05002	12.7	4.8	**... 0 3 9***
	5/32	4.0	Al Alloy	71210-16070	12.7	3.3	**... 0 3 9***
	5/32	4.0	Steel	07381-04701	12.7	2.8	**... 0 3 9***
	5/32	4.0	Al Alloy	07340-06501[2]	12.7	3.3	**... 0 0 9**
	3/16	4.8	Al Alloy	07381-04701	12.7	2.8	**... 0 3 9***
Large flange	3/16	4.8	Al Alloy	07340-04800	19.0	3.3	**... 0 1 6**
	3/16	4.8	Steel	07490-04401	12.7	3.3	**... 0 1 7**
	3/16	4.8	Al Alloy	07340-06601[2]	12.7	4.1	**... 0 1 5**
MONOBOLT®	3/16	4.8	Any	71210-16020	12.7	4.1	**... 2 0 0**
BULBEX®	5/32	4.0	Al Alloy	71210-16070	12.7	3.3	**... 0 3 9***
	3/16	4.8	Al Alloy	07381-04701	12.7	2.8	**... 0 3 9***
KLAMPTITE™KTR	3/16	4.8	Al Alloy	71220-16060	12.7	4.5	**... 1 4 1**
KLAMPTITE™	3/16	4.8	Al Alloy	07381-04701	12.7	2.8	**... 0 3 9***
AVINOX® II	1/8	3.2	Stainless Steel	71210-16070	12.7	3.3	**... 0 3 9***
	5/32	4.0	Stainless Steel	07381-04701	12.7	2.8	**... 0 3 9***
	3/16	4.8	Stainless Steel	07498-01401	12.7	4.8	**... 0 8 2**
T-LOK®	–	4.3	Steel	07340-06201	12.7	3.3	**... 1 2 0**
	3/16	4.8	Steel	07340-06201	12.7	3.3	**... 1 2 0**
AVIBULB®	1/8	3.2	Steel	71210-16070	12.7	3.3	**... 0 3 9***
	5/32	4.0	Steel	07381-04701	12.7	2.8	**... 0 3 9***
	3/16	4.8	Steel	07498-01401	12.7	4.8	**... 0 8 2**
AVDEL® SR	1/8	3.2	Any	71210-05002	12.7	4.8	**... 0 3 9***
	5/32	4.0	Any	71210-16070	12.7	3.3	**... 0 3 9***
	3/16	4.8	Any	07348-07001[4]	12.7	5.7	**... 0 6 2**
	3/16	1.8	Any	71210-16050[5]	12.7	5.7	**... 0 6 4**
INTERLOCK®	3/16	4.8	Any	07381-04701	12.7	2.8	**... 0 3 9***
STAVEX®	1/8	3.2	Steel	71210-16070	12.7	3.3	**... 0 3 9***
	5/32	4.0	Steel	07381-04701	12.7	2.8	**... 0 3 9***
	3/16	4.8	Steel	07381-04701	12.7	2.8	**... 0 3 9***
Large flange Countersunk	3/16	4.8	Steel	07340-04800	19.0	3.3	**... 0 1 6**
	3/16	4.8	Steel	07381-04701	12.7	2.8	**... 0 3 9***
	1/8	3.2	Stainless Steel	71210-16070	12.7	3.3	**... 0 3 9***
	5/32	4.0	Stainless Steel	07381-04701	12.7	2.8	**... 0 3 9***
	3/16	4.8	Stainless Steel	07381-04701	12.7	2.8	**... 0 3 9***
Q-RIVET™	1/8	3.2	Any	71210-05002	12.7	4.8	**... 0 3 9***
	5/32	4.0	Any	07340-06201	12.7	3.3	**... 1 2 0**
	3/16	4.8	Any	07340-06201	12.7	3.3	**... 1 2 0**





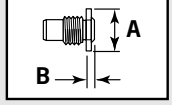
COMPLETE TOOL PART NUMBER :
precede with 71401-00.

AVSEAL®II
NOSE TIPS

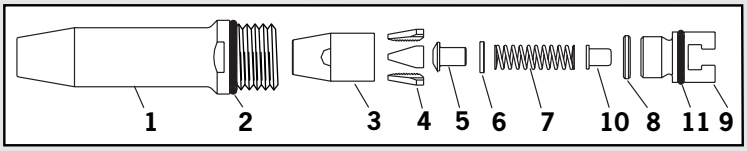
NAME	FASTENER Ø[1]		MATERIAL		NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVSEAL®II	5/32	4.0	Standard Al. Alloy - Flush Nose Tip	71213-16100	71210-16102	12.7	2.5	... 401
	5/32	4.0	Standard Al. Alloy - 2mm Extended Nose Tip	71213-16100	71210-16106	12.7	5.4	... 402
	5/32	4.0	Standard Al. Alloy - 8mm Extended Nose Tip	71213-16100	71210-16110	12.7	11.4	... 403
	–	5.0	Standard Al. Alloy - Flush Nose Tip	71213-16100	71210-16103	12.7	2.5	... 404
	–	5.0	Standard Al. Alloy - 2mm Extended Nose Tip	71213-16100	71210-16107	12.7	5.4	... 405
	–	5.0	Standard Al. Alloy - 8mm Extended Nose Tip	71213-16100	71210-16111	12.7	11.4	... 406
	–	6.0	Standard Al. Alloy - Flush Nose Tip	71213-16100	71210-16104	12.7	2.5	... 407
	–	6.0	Standard Al. Alloy - 2mm Extended Nose Tip	71213-16100	71210-16108	12.7	5.4	... 408
	–	6.0	Standard Al. Alloy - 8mm Extended Nose Tip	71213-16100	71210-16112	12.7	11.4	... 409
	–	6.5	Standard Al. Alloy - Flush Nose Tip	71213-16100	71210-16114	12.7	2.5	... 413
	–	6.5	Standard Al. Alloy - 2mm Extended Nose Tip	71213-16100	71210-16115	12.7	5.4	... 414
	–	6.5	Standard Al. Alloy - 8mm Extended Nose Tip	71213-16100	71210-16116	12.7	11.4	... 415
	–	7.0	Standard Al. Alloy - Flush Nose Tip	71213-16100	71210-16105	12.7	2.5	... 410
	–	7.0	Standard Al. Alloy - 2mm Extended Nose Tip	71213-16100	71210-16109	12.7	5.4	... 411
	–	7.0	Standard Al. Alloy - 8mm Extended Nose Tip	71213-16100	71210-16113	12.7	11.4	... 412

NOSE ASSEMBLY
part nº 71213-16100

ITEM	DESCRIPTION	PART Nº	
1	TAPERED NOSE CASING	71213-00350	
2	'O' RING	07003-00067	
3	JAW HOUSING - TAPERED	71210-15902	*
4	JAW	71210-16101	*
5	JAW SPREADER	07498-04502	*
6	BUFFER	71210-05001	*
7	SPRING	07500-00418	*
8	LOCKING RING	07340-00327	*
9	JAW SPREADER HOUSING 'T'	71210-20321	*
10	DETENT SLEEVE	71210-20322	*
11	'O' RING	07003-00277	*



COMPLETE TOOL PART NUMBER :
precede with 71401-00.

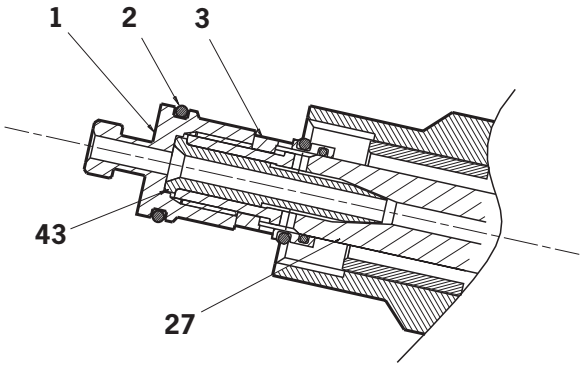


***** Items 3-11 available as cartridge assembly 71213-16320

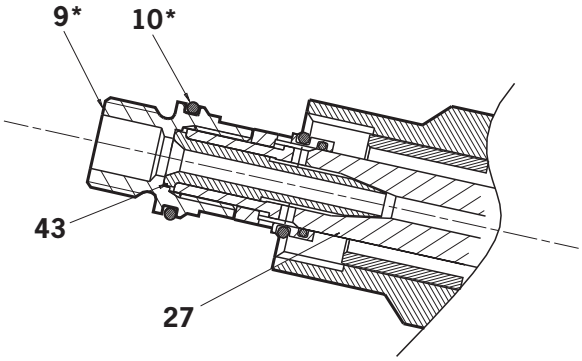
Fitting Types 2/3 or Nose Extension

To fit Nose Tips Type 2/3 or Nose Extension, the 'T' Adaptor **1** must be replaced with Jaw Spreader Housing **9***.

- Loosen Locknut **3** using 16mm AF Spanner.
- Unscrew and remove 'T' Adaptor **1** together with 'O' Ring **2**.



- Fit Jaw Spreader Housing **9*** together with 'O' Ring **10*** (supplied with Type 2 and 3 Nose Assemblies)
- The Jaw Spreader Housing **9*** must be tightened onto Head Piston **27** trapping Vacuum Sleeve **43** finally tighten Locknut **3** against Jaw Spreader Housing **9***.



Items **9*** and **10*** refer to nose assembly components in Nose tip tables on page 12.
For other items in **bold** refer to the general assembly drawing and parts list on pages 26 and 27.

Nose Tips

TYPE 2 *NOSE TIPS*

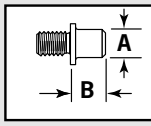
FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVEX®	1/8	3.2	Aluminium Alloy	07340-02805	9.5	12.95	... 002
	1/8	3.2	Steel	07340-02806	9.5	11.4	... 008
	5/32	4.0	Aluminium Alloy	07340-02806	9.5	11.4	... 008
	5/32	4.0	Steel	07340-02807	12.7	10.0	... 014
	3/16	4.8	Aluminium Alloy	07340-02807	12.7	10.0	... 014
	3/16	4.8	Steel	07340-07301	12.7	11.8	... 018
BULBEX®	5/32	4.0	Aluminium Alloy	07340-02806	9.5	11.4	... 008
	3/16	4.8	Aluminium Alloy	07340-02807	12.7	10.0	... 014
T-LOK®	–	**4.3**	Steel	07241-07101	12.7	10.0	... 121
	3/16	4.8	Steel	07241-07101	12.7	10.0	... 121
STAVEX®	1/8	3.2	Steel	07340-02806	9.5	11.4	... 008
	5/32	4.0	Steel	07340-02807	12.7	10.0	... 014
	3/16	4.8	Steel	07340-02807	12.7	10.0	... 014
	1/8	3.2	Stainless Steel	07340-02806	9.5	11.4	... 008
	5/32	4.0	Stainless Steel	07340-02807	12.7	10.0	... 014
	3/16	4.8	Stainless Steel	07340-02807	12.7	10.0	... 014
AVIBULB®	1/8	3.2	Steel	07340-02806	9.5	11.4	... 008
	5/32	4.0	Steel	07340-02807	12.7	10.0	... 014
ETR	–	**5.2**	Steel/Brass	07340-02807	12.7	10.0	... 014

[1] *In inches then in millimetres.*

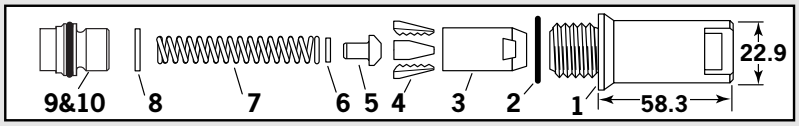
NOSE ASSEMBLY
part nº 71210-15200

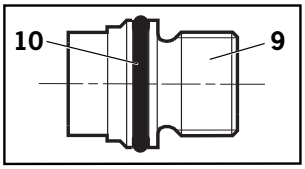
ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07340-02804
2	'O' RING	07003-00067
3	JAW HOUSING	07340-00304
4	JAWS	71210-15001
5	JAW SPREADER	07498-04502
6	BUFFER	71210-05001
7	SPRING	07500-00418
8	LOCKING RING	07340-00327
9	JAW SPREADER HOUSING	71210-02101
10	'O' RING	07003-00277

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 71401-00





Remove Male 'T' Adaptor **1** from the Tool (see page 11) and replacewith Jaw Spreader Housing **9*** (71210-02101) and 'O' Ring **10***.

TYPE 3 *NOSE TIPS*

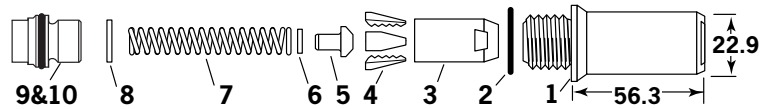
TYPE 3 NOSE TIPS ARE SPECIFICALLY FOR THE AEROSPACE FASTENERS LISTED BELOW.

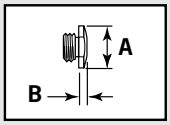
FASTENER NAME	Ø[1]		MATERIAL	NOSE TIP (mm) PART Nº	'A'	'B'	see below
AVDEL®	1/8	3.2	Al Alloy	71210-16030	12.7	2.5	... 283
	1/8	3.2	Al Alloy ***O***	71210-16031	12.7	2.5	... 284
	1/8	3.2	Stainless Steel	71210-16032	12.7	3.3	... 285
	5/32	4.0	Al Alloy	71210-16033	12.7	2.5	... 288
	5/32	4.0	Al Alloy ***O***	71210-16034	12.7	2.5	... 289
	5/32	4.0	Stainless Steel	71210-16035	12.7	3.3	... 290
	3/16	4.8	Al Alloy	71210-16036	12.7	2.5	... 293
	3/16	4.8	Al Alloy ***O***	71210-16037	12.7	2.5	... 294
MBC®	1/8	3.2	Any	07340-06701	12.7	4.8	... 300
	5/32	4.0	Any	07340-06801	12.7	5.0	... 305
	3/16	4.8	Al Alloy	07340-06901	12.7	5.1	... 310
MBC®L/C	1/8	3.2	Any	07344-04701	12.7	4.6	... 320
	5/32	4.0	Any	07344-04701	12.7	4.6	... 320
	3/16	4.8	Al Alloy	07344-04701	12.7	4.6	... 320

[1] *In inches then in millimetres.* ***O*** *Oversize*

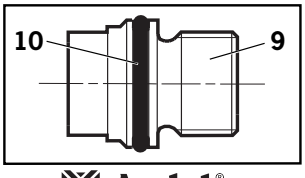
NOSE ASSEMBLY
part nº 71210-15300

ITEM	DESCRIPTION	PART Nº
1	NOSE CASING	07344-02001
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
9	JAW SPREADER HOUSING	71210-02101
10	'O' RING	07003-00277





COMPLETE TOOL PART NUMBER : precede with 71401-00



Remove Male 'T' Adaptor **1** from the Tool (see page 11) and replacewith Jaw Spreader Housing **9*** (71210-02101) and 'O' Ring **10***.

9* and **10*** refer to the illustrations on this page.

Accessories

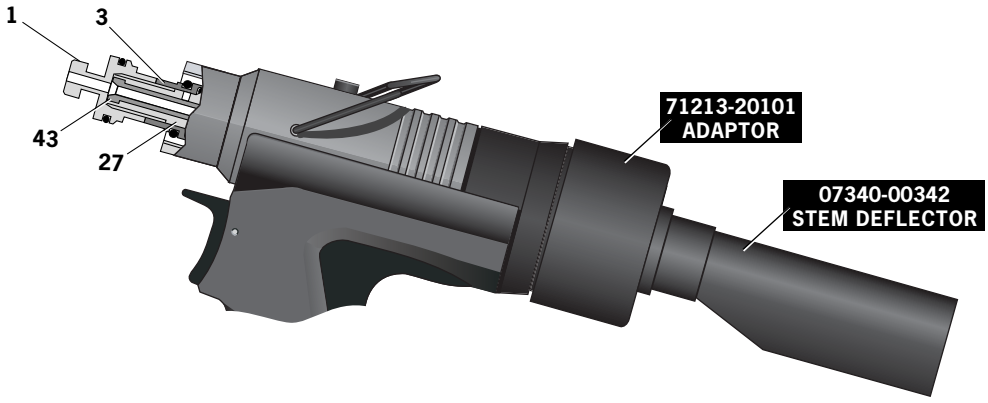
Stem Deflector

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:

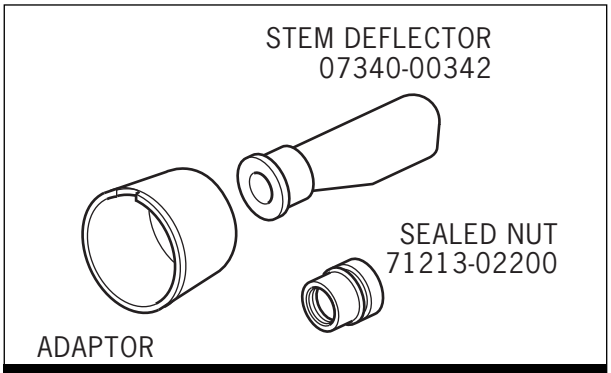
Preparing the Base Tool for use with Stem Deflector

The airline must be disconnected before any servicing or dismantling.
'Sealed' Nut 71213-02200 replaces Locknut **3** (to cut-off air supply to vacuum system) as follows:

- Loosen Locknut **3** using 16mm AF spanner.
- Unscrew and remove Both 'T' Adaptor **1** and Locknut **3**.
- Replace Locknut **3** with 'Sealed" Nut 71213-02200, screw the 'Sealed" Nut onto head Piston **27** to disable the vacuum system.
- 'T' Adaptor **1** must be tightened onto Head Piston **27** to trap Vacuum Sleeve **43** against the head piston, finally tightening the 'Sealed' Nut against it.
- Remove the Stop Plate Assembly (page 23) by Unscrewing Screws 21 (2 off).



- Fit Stem Deflector (07340-00342) into Adaptor (71213-20101).
- Push the assembled Stem Deflector and Adaptor over Bottle Adaptor Assembly **24** and align with the cut-out feature.



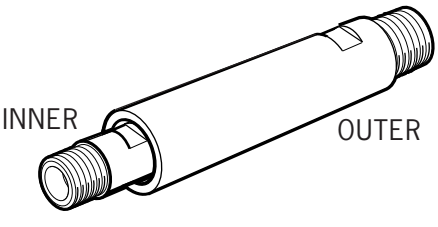
STEM DEFLECTOR: 71210-20100

Extension

Fitted between the tool and the nose assembly the extension allows access into deep channels.
The tool must be fitted with Jaw Spreader Housing **9*** and 'O' Ring **10*** before the extension can be fitted. See page 11 for fitting instructions.

- To fit the extension, remove any nose assembly components.
- Screw the inner extension to Jaw Spreader Housing **9***.
- Screw the outer onto Head Assembly **4**.
- Fit the nose assembly onto the extension.

Item numbers in **bold** refer to the General Assembly drawings and Parts Lists pages 26-27.
9* and **10*** refers to the nose assembly components in Nose Tip tables on page 12.



EXTENSION - 'T' ADAPTOR 71213-12000
EXTENSION - NON QUICK RELEASE 71210-20300

Accessories

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 and page 15 for dimensions and page 16 for details.

I M P O R T A N T

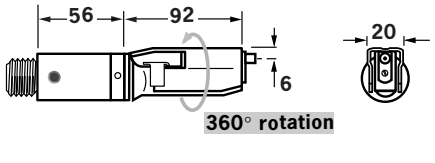
PRIOR to fitting a swivel head, the base tool must be adapted. See Preparing the Base Tool page 15.
In contrast to nose assemblies part numbers of swivel heads do INCLUDE a nose tip as shown below.

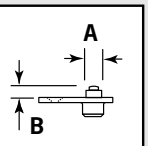
Swivel heads can be ordered on their own or supplied with a base tool. See table below for part numbers. Jaws and nose tips vary depending on the fastener to be placed but all other components remain the same within each type of swivel head. See the 'capability' tables below and page 15, 'Constant Components ' table 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 N°	NOSE TIP (mm) PART N°	'A'	'B'	JAWS PART N°	see below
AVEX®	1/8	3.2	Al Alloy	07345-03000	07345-03600	7.87	3.81	07340-00213	**... 0 0 1**
	1/8	3.2	Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	5/32	4.0	Al Alloy	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	5/32	4.0	Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**
	3/16	4.8	Al Alloy	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**
BULBEX®	5/32	4.0	Al Alloy	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	3/16	4.8	Al Alloy	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**
AVINOX® II	1/8	3.2	Stainless Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	5/32	4.0	Stainless Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**
AVSEAL® II	–	**4**	Al Alloy	71213-06000	71213-16401	6.35	1.95	07340-00213	**... 1 6 0**
	–	**4**	Al Alloy	71213-06600	71213-16402[2]	6.35	4.11	07340-00213	**... 1 8 0**
	–	**5**	Al Alloy	71213-06100	71213-16403	7.62	2.00	07340-00213	**... 1 6 1**
	–	**5**	Al Alloy	71213-06700	71213-16404[2]	7.62	4.11	07340-00213	**... 1 8 1**
AVDEL®	1/8	3.2	Al Alloy	07345-03300	07345-03301	5.08	1.17	07340-00229	**... 2 8 3**
	1/8	3.2	Al Alloy ***O***	07494-03600	07494-03601	5.08	1.17	07340-00229	**... 2 8 4**
	1/8	3.2	Stainless Steel	07494-03000	07494-03011	5.08	3.81	07340-00213	**... 2 8 5**
	5/32	4.0	Al Alloy	07345-03400	07345-03401	6.6	0.84	07340-00229	**... 2 8 8**
	5/32	4.0	Al Alloy ***O***	07494-03700	07494-03701	6.6	0.84	07340-00229	**... 2 8 9**
	3/16	4.8	Al Alloy	07345-03500	07345-03501	8.13	0.25	07498-04401	**... 2 9 3**
	3/16	4.8	Al Alloy ***O***	07494-03800	07494-03801	8.13	0.25	07498-04401	**... 2 9 4**
MBC®	1/8	3.2	Al Alloy	07345-04000	07165-00701	4.75	1.9	07340-00229	**... 3 0 0**
	5/32	4.0	Al Alloy	07345-04100	07165-00702	6.35	2.36	07340-00229	**... 3 0 5**
	3/16	4.8	Al Alloy	07345-04200	07165-00703	7.92	2.46	07498-04401	**... 3 1 0**
MBC®L/C	1/8	3.2	Al Alloy	07345-04700	07345-04701	7.87	2.03	07340-00229	**... 3 2 0**
	5/32	4.0	Al Alloy	07345-04700	07345-04701	7.87	2.03	07340-00229	**... 3 2 0**
	5/32	4.0	Al Alloy ***O***	07345-04800	07345-04701	7.87	2.03	07498-04401	**... 3 2 7**
	3/16	4.8	Al Alloy	07345-04800	07345-04701	7.87	2.03	07498-04401	**... 3 2 7**
STAVEX®	1/8	3.2	Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	5/32	4.0	Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**
	1/8	3.2	Stainless Steel	07345-03100	07345-03700	7.87	3.81	07340-00213	**... 0 0 4**
	5/32	4.0	Stainless Steel	07345-03200	07345-03800	7.87	3.81	07490-04602	**... 0 1 0**

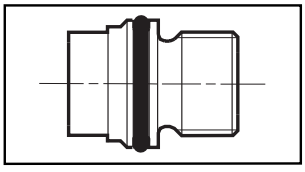




COMPLETE TOOL PART NUMBER :
precede with 71401-30
(the stop nut and safety cap are included)

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.* ***O*** *Oversize*



Remove Male 'T' Adaptor **1** from the Tool (see page 11) and replace with Jaw Spreader Housing (71210-02101).

Accessories

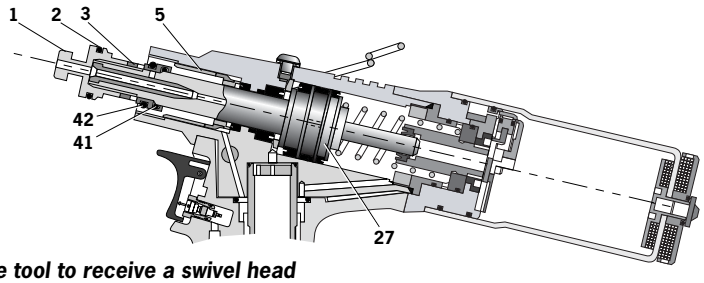
Preparing the Base Tool for Right-Angle and Straight Swivel Head Attachment

- Disconnect the air supply.
- Remove any nose assembly items.
- Remove Stem Collector Bottle Assembly **20** (71213-03800).
- Replace assembly **20** with Safety Cap (71213-20201)
- Unscrew Male 'T' Adaptor **1** and remove with 'O' Ring **2**, Locknut **3**, 'O' Rings **42** and **41**, and Seal Housing **5**. Do not refit these items.
- Screw Stop Nut (71213-20200) onto the front of Head Piston **27** as far as it will go by hand.
- Fit Jaw Spreader Housing (71210-02101) and 'O' Ring **2**, tighten onto Head Piston **27,** finally tighten Stop Nut against Jaw Spreader Housing.

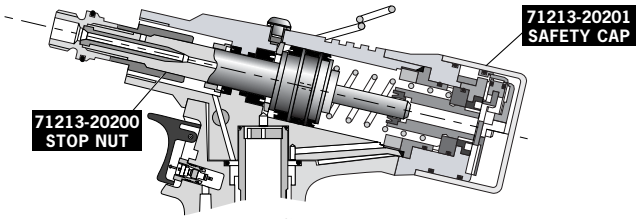
The tool is now ready to be fitted with a swivel head. Instructions page 16.

Item numbers in **bold** refer to the general assembly drawing and parts list on pages 26-27.

Base tool to receive a nose assembly

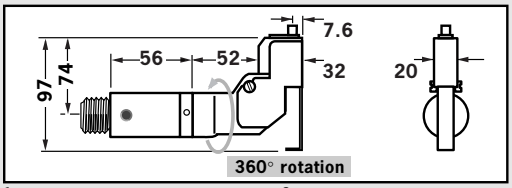


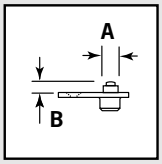
Base tool to receive a swivel head



RIGHT-ANGLE SWIVEL HEAD capability

NAME	FASTENER Ø[1]		MATERIAL	SWIVEL HEAD PART N°	NOSE TIP (mm) PART N°	'A'	'B'	JAWS PART N°	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	Aluminium Alloy	71213-04000	71213-16401	6.35	1.95	07340-00213	...160
	–	4	Aluminium Alloy	71213-04700	71213-16402[2]	6.35	4.11	07340-00213	...180
	–	5	Aluminium Alloy	71213-04100	71213-16403	7.62	2.00	07340-00213	...161
	–	5	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
AVDEL®	1/8	3.2	Aluminium Alloy	07346-03300	07345-03301	5.08	1.17	07340-00229	...283
	1/8	3.2	Aluminium Alloy ***O***	07495-03600	07494-03601	5.08	1.17	07340-00229	...284
	1/8	3.2	Stainless Steel	07495-03000	07494-03011	5.08	3.81	07340-00213	...285
	5/32	4.0	Aluminium Alloy	07346-03400	07345-03401	6.6	0.84	07340-00229	...288
	5/32	4.0	Aluminium Alloy ***O***	07495-03700	07494-03701	6.6	0.84	07340-00229	...289
	3/16	4.8	Aluminium Alloy	07346-03500	07345-03501	8.13	0.25	07498-04401	...293
	3/16	4.8	Aluminium Alloy ***O***	07495-03800	07494-03801	8.13	0.25	07498-04401	...294
MBC®	1/8	3.2	Aluminium Alloy	07346-04000	07165-00701	4.75	1.9	07340-00229	...300
	5/32	4.0	Aluminium Alloy	07346-04100	07165-00702	6.35	2.36	07340-00229	...305
	3/16	4.8	Aluminium Alloy	07346-04200	07165-00703	7.92	2.46	07498-04401	...310
MBC®L/C	1/8	3.2	Aluminium Alloy	07346-04500	07345-04701	7.87	2.03	07340-00229	...320
	5/32	4.0	Aluminium Alloy	07346-04500	07345-04701	7.87	2.03	07340-00229	...320
	5/32	4.0	Aluminium Alloy ***O***	07346-04600	07345-04701	7.87	2.03	07498-04401	...327
	3/16	4.8	Aluminium Alloy	07346-04600	07345-04701	7.87	2.03	07498-04401	...327

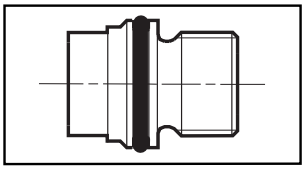




COMPLETE TOOL PART NUMBER :
precede with 71401-40
(the stop nut and safety cap are included)

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. ***O*** Oversize



Remove Male 'T' Adaptor **1** from the Tool (see page 11) and replace with Jaw Spreader Housing (71210-02101).

Accessories

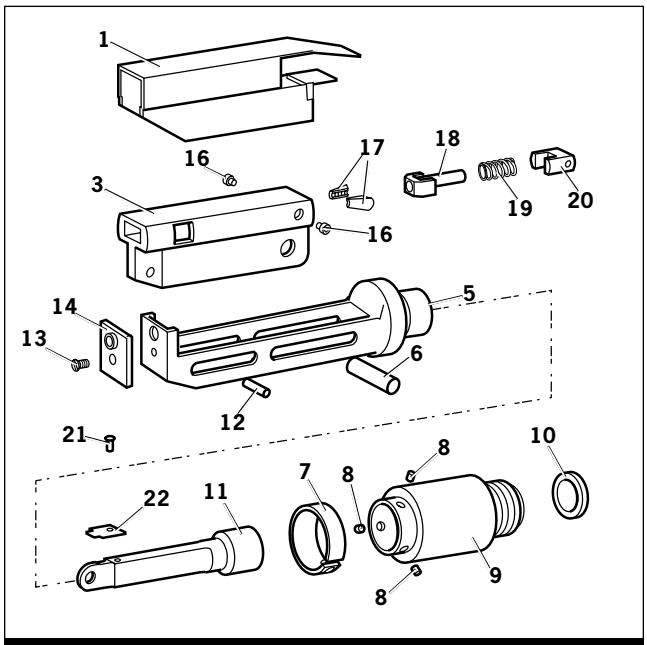
Straight and Right-Angle Heads

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

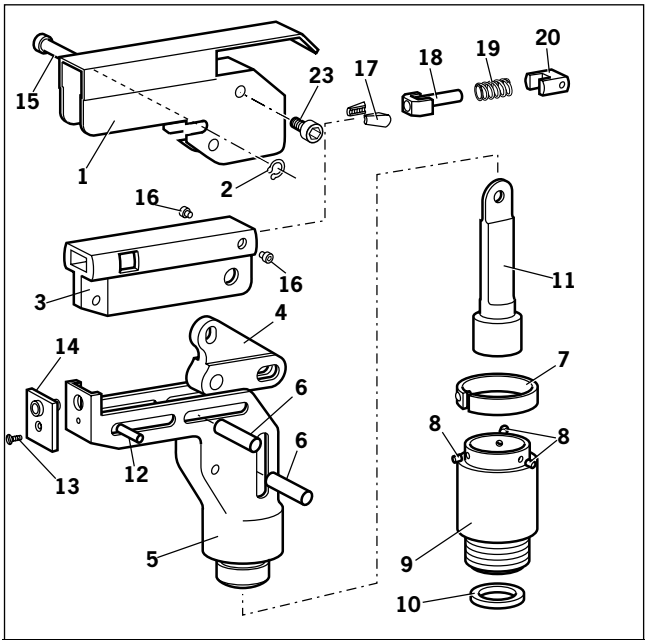
I M P O R T A N T
PRIOR to fitting a swivel head, the base tool must be adapted. See previous page.
The air supply must be disconnected when fitting or removing swivel heads.

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 HEAD

A Fit Locking Ring **10** over Jaw Spreader Housing **9***.

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 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 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.

Item numbers in **bold** refer to illustrations on this page.
9* refers to 71210-02101 Jaw Spreader Housing.

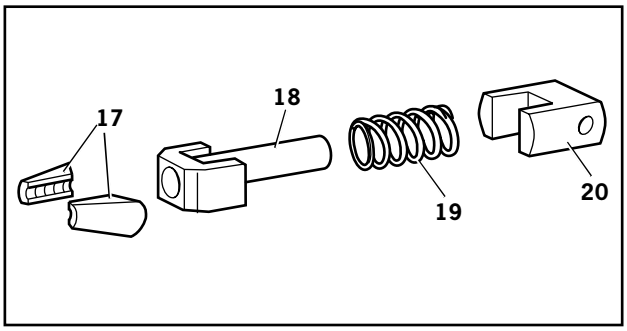
Accessories

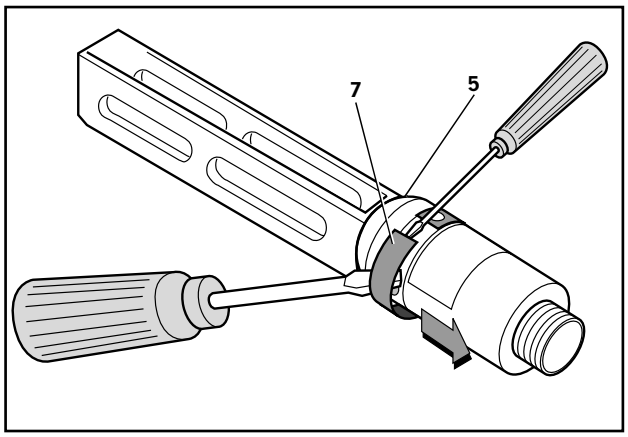
Servicing Instructions

Swivel heads should be serviced at weekly intervals.

- Remove the complete head using the reverse procedure to the 'Fitting instructions' omitting step '**L**' on page 16.
- 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 on page 16.

1* refers to item 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 pages 9, 10 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	SECURING SCREW (4OFF)	-	07210-00804

Item numbers in **bold** refer to illustrations on this page and page 16.

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.
- 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 31 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.
- Ensure that Rotary Valve **48** is correctly adjusted for fastener retention (see 'Operating Procedure' page 7).
- Stem Collector Bottle: 'O' Rings **17** and **23** to be checked for wear, cleaned and lubricated with Molycote® 55M.

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.
- Top up the reservoir of the intensifier with hydraulic oil.

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 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 drawings and Parts List pages 26-27.

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	07900-00012	9/16 x 5/8 SPANNER
07900-00692	TRIGGER VALVE EXTRACTOR	07900-00015	5/8 x 11/16 SPANNER
07900-00670	BULLET	07900-00686	PEG SPANNER
07900-00672	'T' SPANNER	07900-00677	SEAL EXTRACTOR
07900-00706	'T' SPANNER SPIGOT	07900-00698	STOP NUT
07900-00684	GUIDE TUBE	07900-00700	PRIMING PUMP
07900-00685	INSERTION ROD	07992-00020	GREASE - MOLYLITHIUM E.P.3753
07900-00351	3 MM ALLEN KEY	07992-00075	GREASE - MOLYKOTE® 55M
07900-00469	2.5 MM ALLEN KEY	07900-00755	GREASE - MOLYKOTE® 111
07900-00158	2 MM PIN PUNCH	07900-00850	PIN SPANNER
07900-00164	CIRCLIP PLIERS	07900-00898	VALVE HOOK
07900-00008	7/16 x 1/2 SPANNER		

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 three steps of the 'Priming Procedure' on page 31.

Prior to dismantling the tool it is necessary to remove the nose equipment. For instructions see the nose assemblies section, pages 8 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.
- Remove the Nose Equipment Cartridge by sliding in the same plane to the Piston.
- Unscrew Jaw Housing **3** from the Jaw Spreader Housing 'T' **9** and remove Jaws **4**, Jaw Spreader **5**, Spring **7**, Buffer **6** and Detent Sleeve **10**.
- 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 Tables on pages 9, 10 and 12.

Servicing the Tool

Head Assembly

- Twist and pull off Stem Collector Bottle Assembly **20**. See illustration on page 7.
- Remove Stop Plate Assembly **19** by unscrewing Screws **21** 2 off.
- Unscrew Retaining Nut **22**.
- Pull off Bottle Adaptor Assembly **24** together with 'O' Rings **23** and **17**.
- Remove End Cap Assembly **18** together with 'O' Ring **25** (2 off) and Lip Seal **26**.
- Remove Spring **15**.
- Loosen Locknut **3** with a spanner* and unscrew Male 'T' Adaptor **1** together with 'O' Ring **2**.
- With draw Vacuum Sleeve **43**.
- Remove Locknut **2** together with 'O' Rings **42** and **41**.
- Push Head Piston **27** to the rear and out of Head Assembly **6** taking care not to damage the cylinder bore
- Using circlip pliers* remove Seal Retainer **12**. Push Lip Seal **9** and Bearing Tape **8** to the rear and out of Head Assembly **6** taking care not to damage the cylinder bore.
- Remove Seal Housing **5** and Lip Seal **7**.

Assemble in reverse order noting the following points:

- Place Lip Seal **9** 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 **12** must face forward with the gap at the bottom.
- After fitting Lip Seals **13**, **14**, 'O' Ring **50** and Bearing Tape **51** onto the Head Piston **27** ensuring correct orientation, lubricate the cylinder bore and place the piston sleeve* into the back of Head Assembly **6**. Slide the bullet* onto the threaded part of Head Piston **27** 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*.
- Male 'T' Adaptor **1** must be fully tightened onto Head Piston **27** to trap Vacuum Sleeve **43** against the head piston, before tightening Locknut **3** against it.
- Reprime in accordance with the instructions on page 31.

Item numbers in **bold** refer to the General Assembly drawing and Parts List on pages 26 and 27.

* Item included in the *n*G2s Service Kit. For complete list see page 20.

Servicing the Tool

Rotary Valve

Dismantling

- Using a 4mm pin punch (07900-00158) drive Trigger Pin **40** out and remove Trigger Assembly **39**.
- Disconnect Hose Assembly **35** and remove Nut **32**.
- Seperate Head Assembly **6** from Handle **29**. NOTE ORIENTATION OF ROTARY VALVE **48**.
- Push out Rotary Valve **48** together with 'O' Rings **49**.

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.
- Ensure Rotary Valve **48** is assembled in correct orientation to align valve pins with forks on the Trigger Assembly **39**. See illustration below.

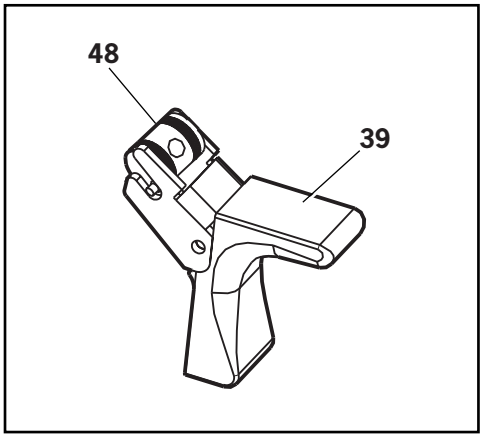
Trigger

Dismantling

- Using a 4mm pin punch (07900-00158) drive Trigger Pin **40** out and remove Trigger Assembly **39**.
- Unscrew Trigger Valve **38** using trigger valve extractor (0900-00692).

Assemble in reverse order to Dismantling Instructions noting the following:

- When assembling Trigger **39** the trigger forks locate on the pins each side of the Rotary Valve **48**.
- Ensure Rotary Valve **48** is orientated correctly. See illustration below.



Item numbers in **bold** refer to the General Assembly drawing and Parts List on pages 26 and 27.

Servicing the Tool

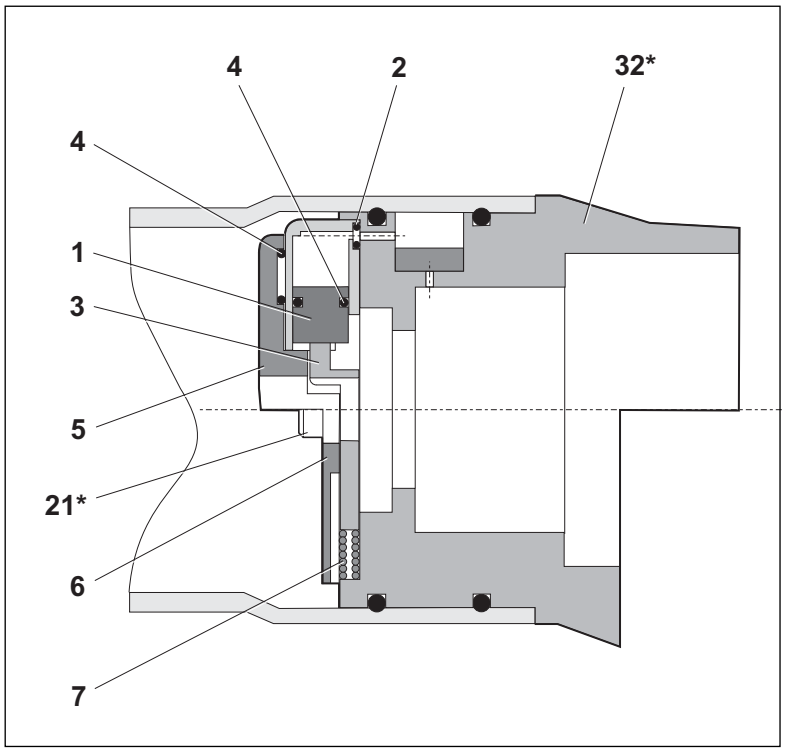
Stop Plate Assembly (71213-03900)

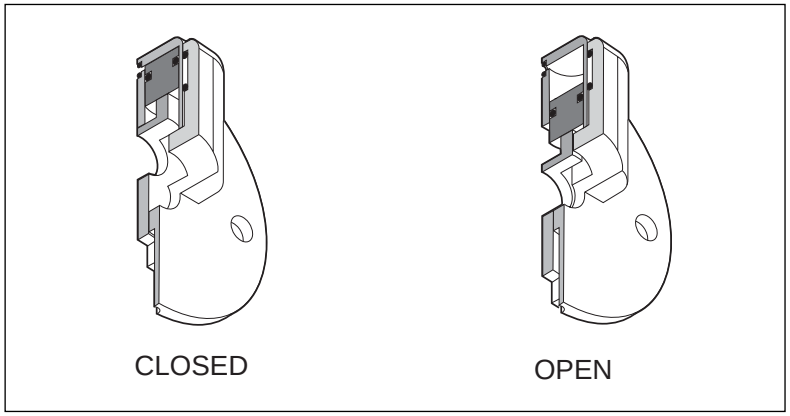
Assembly (see illustration below)

- Place 'O' Ring **2** into the recess in Housing **5** retain in position using grease Molykote® 55m.
- Assemble 'O' Ring **4** onto Piston **1** and push assembly into Housing **5** making sure it is in as far as it will go.
- Position the slot in Piston **1** parallel to the step face in Housing **5**.
- Slide Plate Shut Off **3** into the assembled parts **1**, **2**, **4**, and **5**. Retain parts in place using grease Molykote® 55m.
- Place 'O' Ring **4** into the recess of Cover Plate **6** retain in position using grease Molykote® 55m.
- Place Spring **7** into position, locate using the recesses in both Plate Shut Off **3** and Bottle Adaptor Assembly **24***.
- Position the above assembled parts onto Bottle Adaptor Assembly **24***.
- Secure in position using two Screws **21***.

*see pages 26 and 27.

ITEM	DESCRIPTION
1	PISTON
2	'O' RING
3	PLATE SHUT OFF
4	'O' RING
5	HOUSING
6	COVER PLATE
7	SPRING





Servicing the Tool

Intensifier

- Diconnect the Air supply.
- Remove Cover Plate **58** and Gasket **83** by removing Screws **94** (4off) and Washers **95** (4 off).
- Drain oil into suitable container.
- Disconnect all air lines and hydraulic hoses.
- Remove Protection Plate **71** by removings Screws **72** (4 off).
- Remove Valve **89** by removing Screws **85** (3 off).
- Remove Screw **68**, Silencer Cover **96**, Foam Silencer **64**, Spacer **67** and Retaining Plate **66**.
- Remove Internal Retaining Ring **69**.
- Using Screw **68** as a puller, insert into end cover **63** and withdraw the end cover.
- Remove Quick Release Connector **78**.
- Insert the $^1/_4$" diameter rod* through Double Male Connector **79** at the front of the intensifier body and push out Intensifier Piston Rod **59** together with 'O' Ring **100**, Piston Stop **99**, Intensifier Air Piston **60**, 'O' Ring **61** and Nut **65**.
- Remove Seal Plug **74** with spanner 07900-00717*.
- Insert the $^1/_4$" diameter rod* through Connector **79** and push out Seal Housing **77**.
- To clean Non-return Valve **82**, blow through orifice in top of valve with a low air pressure gun. Should it be necessary to remove the valve from the main body, use spanner 07900-00717*. On re-assembly use Loctite® 225 on the threads to secure in main body.

Asemble in the reverse order to dismantling.

I M P O R T A N T

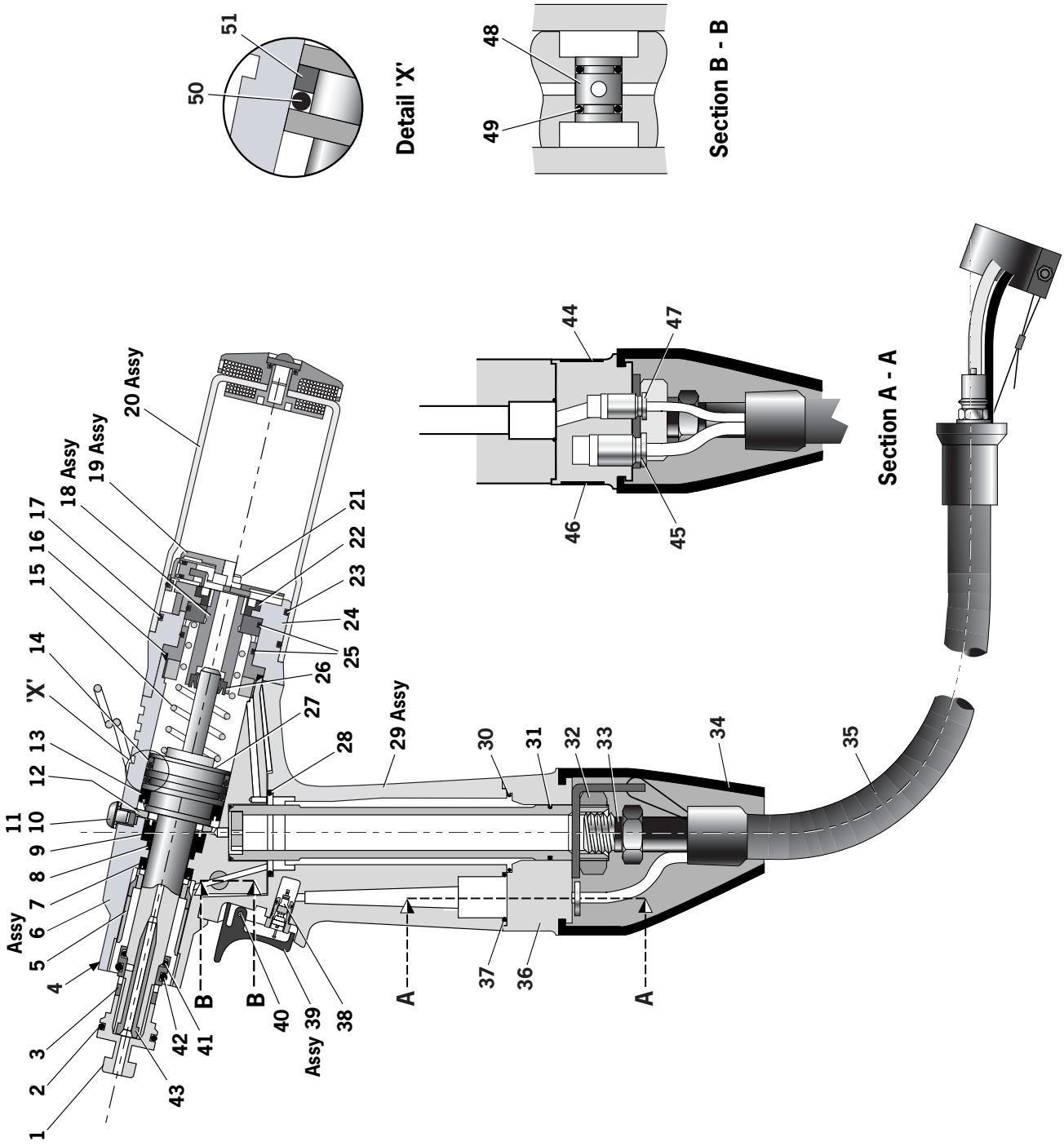
Check the tool against daily and weekly servicing.
Priming is ALWAYS necessary after the tool has been dismantled and prior to operating.

Item numbers in **bold** refer to the General Assembly drawing and Parts List on pages 28 and 29.

*Item included in the nG2s Service Kit, for complete list see page 20.

Notes

General Assembly of Pistol 71401-02000(s)



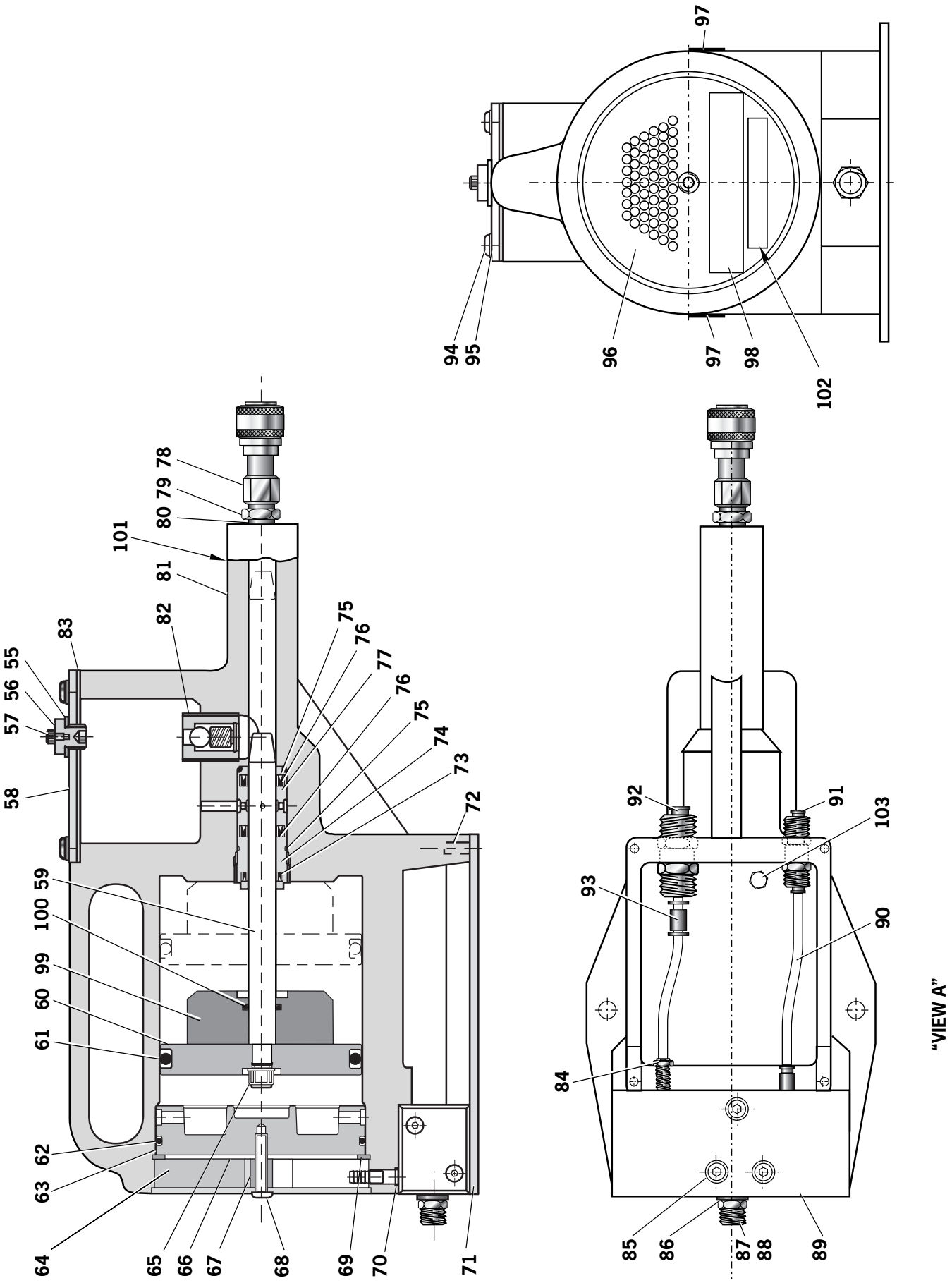
Parts List for 71401-02000(s)

71401-02000(s) PARTS LIST

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

ITEM	PART Nº	DESCRIPTION	QTY	SPARES*
01	71213-02020	MALE 'T' ADAPTOR	1	-
02	07003-00277	'O' RING	1	1
03	71210-02103	LOCKNUT	1	1
04	07007-01503	LABEL BOOK SYMBOL	1	-
05	71210-02104	SEAL HOUSING	1	1
06	71213-03320	HEAD ASSEMBLY	1	-
07	07003-00333	LIP SEAL	1	-
08	71213-02021	BEARING TAPE - PISTON ROD	1	-
09	07003-00273	LIP SEAL	1	-
10	07001-00405	M5x5 HEXAGON SOCKET BUTTON HEAD SCREW	1	-
11	07003-00194	M5 BONDED SEAL	1	-
12	71210-02019	SEAL RETAINER	1	-
13	07003-00341	LIP SEAL	1	-
14	07003-00275	LIP SEAL	1	-
15	07490-03002	SPRING	1	-
16	07003-00278	'O' RING	1	-
17	07003-00416	'O' RING	1	-
18	71213-02025	END CAP ASSEMBLY	1	-
19	71213-03900	STOP PLATE ASSEMBLY	1	-
20	71213-03800	STEM COLLECTOR BOTTLE ASSEMBLY	1	-
21	07001-00677	SCREW	2	-
22	71213-02028	RETAINING NUT	1	-
23	07003-00415	'O' RING	1	-
24	71213-03000	BOTTLE ADAPTOR ASSEMBLY	1	-
25	07003-00398	'O' RING	2	-
26	07003-00274	LIP SEAL	1	-
27	71213-02121	HEAD PISTON	1	-
28	07003-00288	'O' RING	2	-
29	71213-02013	HANDLE ASSEMBLY	1	-
30	07003-00288	'O' RING	2	2
31	07003-00287	'O' RING	1	-
32	07002-00152	THIN NUT	1	-
33	07003-00142	BONDED SEAL	1	1
34	71400-02002	GATOR	1	-
35	07008-00413	HOSE ASSEMBLY	1	-
36	71400-02001	HANDLE BASE	1	-
37	07003-00281	'O'RING	1	-
38	07005-00088	TRIGGER VALVE	1	-
39	71213-02008	TRIGGER ASSEMBLY	1	-
40	71210-02024	TRIGGER PIN	1	-
41	07003-00204	'O' RING	1	-
42	07003-00310	'O' RING	1	-
43	71210-02102	VACUUM SLEEVE	1	-
44	71401-02003	LABEL	1	-
45	07005-01952	6 MM CONNECTOR	1	1
46	71400-02031	LABEL	1	-
47	07005-01951	4 MM CONNECTOR	1	1
48	71213-02012	ROTARY VALVE	1	-
49	07003-00189	'O' RING	2	-
50	07003-00342	'O' RING	1	
51	71213-02022	BEARING TAPE	1	

General Assembly of Intensifier 71421-02000(s)



Parts List for 71421-02000(s)

71421-02000(s) PARTS LIST

ITEM	PART Nº	DESCRIPTION	QUANTITY
55	07003-00037	SEAL	1
56	07240-00211	FILLER SCREW	1
57	07001-00418	SCREW	1
58	07240-00210	COVER PLATE	1
59	71420-02008	INTENSIFIER PISTON ROD	1
60	07240-00206	INTENSIFIER AIR PISTON	1
61	07003-00182	'O' RING	1
62	07003-00183	'O' RING	1
63	07240-00207	END COVER	1
64	07240-00213	FOAM SILENCER	1
65	07002-00017	NUT	1
66	07240-00216	RETAINING PLATE	1
67	07240-00215	SPACER	1
68	07001-00417	SCREW	1
69	07004-00069	INTERNAL RETAINING RING	1
70	07003-00042	'O' RING	1
71	07240-00220	PROTECTION PLATE	1
72	07001-00396	SCREW	4
73	07003-00337	LIP SEAL	1
74	71420-02007	SEAL PLUG	1
75	07003-00153	'O' RING	2
76	07003-00336	LIP SEAL	2
77	71420-02006	SEAL HOUSING	1
78	07005-00759	QUICK RELEASE CONNECTOR (FEMALE)	1
79	07005-00406	DOUBLE MALE CONNECTOR	1
80	07003-00142	SEAL	2
81	71420-02300	BODY ASSEMBLY	1
82	07240-00400	NON-RETURN VALVE	1
83	07240-00209	GASKET	1
84	07005-00456	MALE HOSE CONNECTOR	1
85	07001-00176	SCREW	1
86	07003-00065	ALUMINIUM SEALING WASHER	1
87	07005-00041	DOUBLE MALE CONNECTOR	1
88	07007-00292	THREADED REDCAP	1
89	07005-01524	VALVE	110 MM
90	07005-01084	4 MM Ø BLACK PLASTIC TUBE	1
91	07005-01431	BULKHEAD CONNECTOR	1
92	07005-00855	BULKHEAD UNION	1
93	07005-01977	PUSH - IN CONNECTOR (WITH REDUCING SLEEVE)	4
94	07001-00554	SCREW	4
95	07002-00073	WASHER	1
96	07240-00214	SILENCER COVER	2
97	71401-02010	SELF ADHESIVE LABEL	2
98	07240-00217	LABEL (MAX PRESSURE)	1
99	71420-02005	PISTON STOP	1
100	07003-00181	'O' RING	1
101	07007-01503	BOOK SYMBOL LABEL	1
102	07007-01504	CE LABEL	1
103	07005-00668	M5 PLUG	1

Priming

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

Oil Details

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

Hyspin® VG 32 Oil Safety Data

First Aid

SKIN:

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

INGESTION:

Seek medical attention immediately. DO NOT induce vomiting.

EYES:

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

Fire

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

Priming Procedure

I M P O R T A N T

All operations should be carried out on a clean bench, with clean hands in a clean area.
Ensure that the new oil is perfectly clean and free from air bubbles.
Care MUST be taken at all times, to ensure that no foreign matter enters the tool, or serious damage may result.

- Remove Bleed Screw **10** and Bonded Seal **11**.
- Connect air supply to the intensifier.
- Screw the non-return valve assembly (part number 07900-00714 from the Service Kit) into the hole for Bleed Screw **10**.
- Place the end of the rubber tube of the non-return valve assembly over a suitable oil collecting container.
- Fill the reservoir of the intensifier with Hyspin® oil.
- Fully actuate the trigger and hold for 2 seconds before releasing. Oil will be drawn into the system from the reservoir.
- Repeat this last step until the oil expelled out of the non-return valve is totally clear of air.
- Keep placing head below oil level of Intensifier.
- Remove the non-return valve assembly.
- Replace Bleed Screw **10** and Bonded Seal **11** and top up the oil in the reservoir of the intensifier.
- Check that the stroke of the tool meets the minimum specification of 17 millimetres. To check the stroke, measure the distance between the front face of Jaw Spreader Housing 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 26 and 27.

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	8
	Low oil level or air in oil	Prime tool	30, 31
	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, 10, 12
	Build up of dirt inside the nose assembly	Service nose assembly	8
	Loose jaw housing	Tighten against locking ring	8
	Weak or broken spring in nose assembly	Fit new spring	8, 9, 10, 12
	Incorrect component in nose assembly	Identify and replace	9, 10, 12
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	9, 10, 12
	Weak or broken spring in nose assembly	Fit new spring	9, 10, 12
	Air or oil leak	Tighten joints or replace components	
	Low oil level or air present in oil	Prime tool	30, 31
Cannot feed next fastener	Broken stems jammed inside tool	Empty stem collector	7
		Check jaw spreader is correct	9, 10, 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	8†
Tool fails to operate	No air pressure	Connect and adjust to within specification	5
	Damaged Trigger Valve **32**	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	30-31

Item numbers in **bold** refer to the General Assembly drawing and Parts List pages 26-27.
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 *n*G2s

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 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

Date of issue

CE **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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	A2	06/536
	B	07/044
	B3	07/174

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