



Instruction Manual

Original Instruction



Smaller Diameter NeoBolt® Fasteners

Installation Equipment ($\frac{3}{16}$ " $\frac{1}{4}$ " $\frac{5}{16}$ " $\frac{3}{8}$ ")

Nose Equipment, Placing Tools and Tool Power Units

Safety Instructions

This technical datasheet must be read with particular attention to the safety rules and operating instructions listed in the Genesis® nG3LB, 73200 and 07287 Tool Instruction Manuals, by any person fitting or operating the NeoBolt Installation Equipment.

AVDEL® RECOMMENDS THAT ONLY AVDEL® HYDRAULIC POWER UNITS BE USED TO DRIVE AVDEL® 07287 INSTALLATION TOOLS, AS OTHER MAKES OF HYDRAULIC POWER UNITS AND TOOLING MAY NOT OPERATE AT THE SAFE DESIGNED WORKING PRESSURES.

ENSURE THAT THERE IS ADEQUATE CLEARANCE FOR THE TOOL OPERATOR'S HANDS BEFORE PROCEEDING.

DO NOT ABUSE THE TOOL BY DROPPING OR USING IT AS A HAMMER.

AVOID CONTAMINATION OF THE NOSE EQUIPMENT AS THIS MAY CAUSE ACCELERATED WEAR OR CLOGGING WHICH MAY JAM THE TOOL.

Specification

Intent of Use

The NeoBolt Installation Equipment, comprising NeoBolt nose equipment, and either nG3LB, 73200 or 07287 tools, is designed for placing the smaller four diameters of Avdel® NeoBolt structural fasteners only.

This document is concerned with the specification, set-up and operating instructions specific to the small diameter NeoBolt Installation Equipment. The Instruction Manuals for the nG3LB, 73200 or 07287 tools must be referred to for full details of the placing tool specification, operating instructions, servicing and routine maintenance.

The correct placing tool and nose assembly must be selected for each NeoBolt fastener size. The table below provides a full list of nose assemblies and placing tools required and should be used to select the correct placing equipment.

NEOBOLT SIZE	NOSE ASSEMBLY			PLACING TOOL		
	PART NUMBER	DIM. 'A'	DIM. 'B'	MODEL	PART NUMBER	INSTRUCTION MANUAL(S)
3/16"	71213-05500	60.9	30.5	nG3LB	71256-02000	07900-01067 & 07900-00930
1/4"	71213-06800	60.9	30.5	nG3LB	71256-02000	07900-01067 & 07900-00930
5/16"	73200-05000	101.5	26.9	73200	73200-02000	07900-01033
3/8"	73200-05100	100.5	40.0	07287	07287-00200	07900-00918

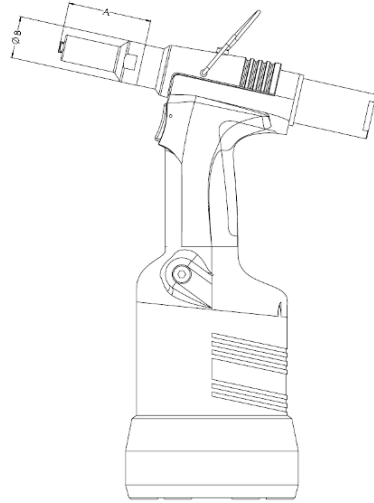
Refer to the illustration on page 4 for the identification of the nose assembly dimensions 'A' and 'B'.

I M P O R T A N T - THE NOSE ASSEMBLIES, HAND TOOLS AND POWER UNITS MUST BE USED IN ACCORDANCE WITH THE SAFETY RULES AND OPERATING INSTRUCTIONS CONTAINED WITHIN THIS DOCUMENT AND IN THE HAND TOOL AND POWER UNIT INSTRUCTION MANUALS.

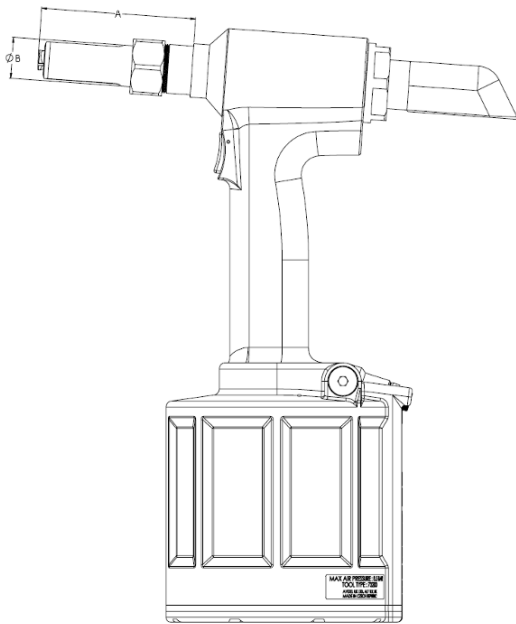
THE PLACING OF FASTENERS NOT INCLUDED IN THIS DATASHEET COULD HAVE A DETRIMENTAL IMPACT ON THE WORKING LIFE OF THE TOOL, POWER UNIT AND NOSE ASSEMBLIES AND COULD INVALIDATE THE WARRANTY.

Although non-preferred, it is also possible to use standard Huck® placing tools in combination with NeoBolt nose assemblies in order to install certain sizes of NeoBolt fasteners. The table below provides a full list of NeoBolt nose assemblies and the applicable Huck placing tools. It is important to note that it becomes the customer's responsibility to ensure the placing tool and any associated pump unit is operated safely with appropriate oil pressures to ensure the fastener and nose equipment are not subject to excessive loading in operation. It should also be noted that future design changes made by Huck to their placing tool designs may mean that NeoBolt nose assemblies no longer fit correctly. If in any doubt please contact Avdel technical support staff for advice.

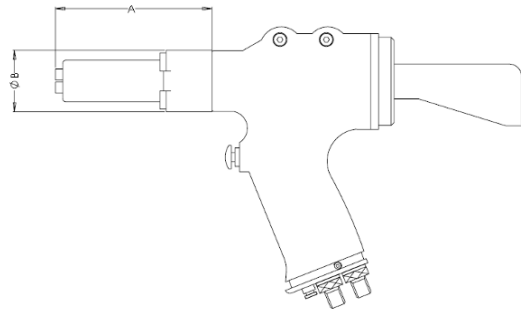
NEOBOLT SIZE	NOSE ASSEMBLY			PLACING TOOL		
	PART NUMBER	DIM. 'A'	DIM. 'B'	MODEL	MANUFACTURER	INSTRUCTION MANUAL(S)
5/16"	73200-05000	101.5	26.9	2580	Huck	(Refer to Huck)
3/8"	73200-05100	100.5	40.0	2580	Huck	(Refer to Huck)
5/16"	73200-05000	101.5	26.9	2503	Huck	(Refer to Huck)
3/8"	73200-05100	100.5	40.0	2503	Huck	(Refer to Huck)



71256-02000 tool for 3/16" and 1/4" NeoBolt



73200-02000 tool for 5/16" NeoBolt



07287-00200 tool for 3/8" NeoBolt

Refer to the table on page 3 for the nose assembly dimensions 'A' and 'B'.

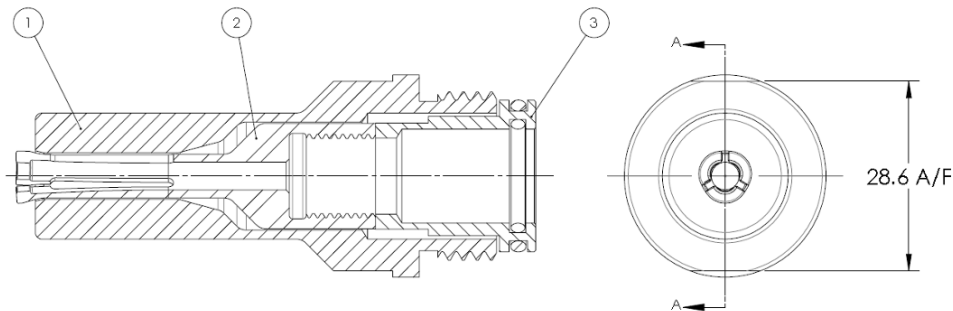
Nose Equipment

IMPORTANT – ENSURE THE HAND TOOL OR POWER UNIT COMPRESSED AIR SUPPLY IS DISCONNECTED BEFORE FITTING OR REMOVING THE NOSE ASSEMBLY

Details of the components within each NeoBolt nose assembly are provided in the tables and illustrations below.

For NeoBolt fastener sizes $\frac{3}{16}$ " and $\frac{1}{4}$ "

NEOBOLT SIZE	NOSE ASSEMBLY	1		2		3	
		ANVIL		COLLET		ADAPTOR	
		PART NUMBER	PART NO.	QTY	PART NO.	QTY	PART NO.
$\frac{3}{16}$"	71213-05500	71213-05501	1	71213-05502	1	71233-20201	1
$\frac{1}{4}$"	71213-06800	71213-06801	1	71213-06802	1	71233-20201	1



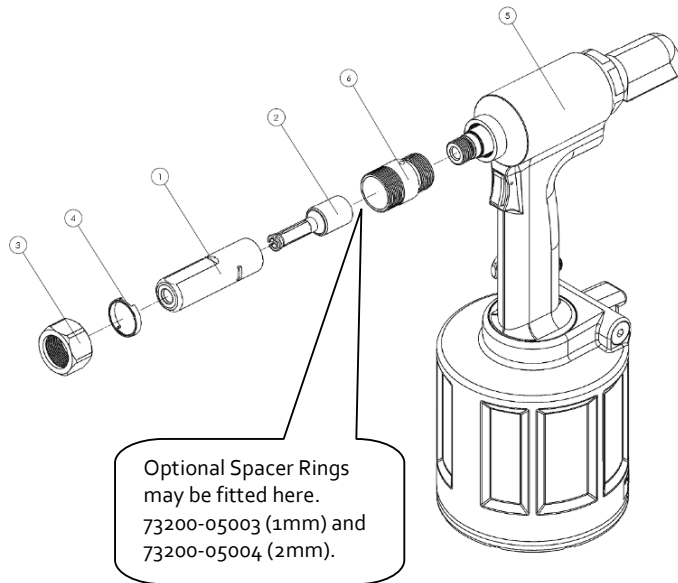
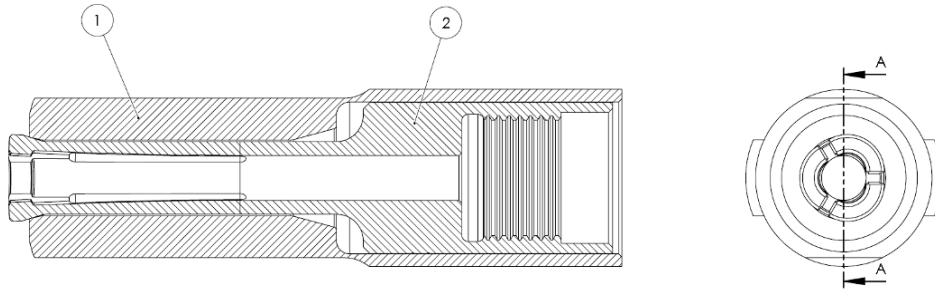
Fitting Instructions

Item numbers in **bold** refer to nose assembly components in the tables and illustration above. Nose assemblies should only be fitted to nG3LB tools (Part No. 71256-02000).

- Lightly coat the outer surface of the Collet **2** jaws and the Anvil **1** bore with Moly Lithium grease.
- Screw Adaptor **3** onto the placing tool piston rod until it reaches the end of the piston rod thread.
- Screw Collet **2** fully onto the placing tool piston rod until it contacts the end face of the tool piston.
- Unscrew Adaptor **3** until it contacts the end face of the Collet **2** and then tighten the two together using spanners on the flats of each part.
- Slide Anvil **1** over Collet **2** and push the expanded end of the Collet into the Anvil Bore. Some force will be required to do this and so care should be taken to prevent pinching of hands – ideally wear protective gloves or cover the Anvil with a thick rag. Once the Collet is within the Anvil, screw the threaded end of the Anvil **2** into the placing tool head and tighten with a spanner.
- Removal of the Anvil **1** and Collet **2** is the reverse procedure.

For NeoBolt fastener sizes 5/16"

NEOBOLT SIZE	NOSE ASSEMBLY	1		2	
		ANVIL		COLLET	
	PART NUMBER	PART NO.	QTY	PART NO.	QTY
5/16"	73200-05000	73200-05001	1	73200-05002	1



Fitting Instructions

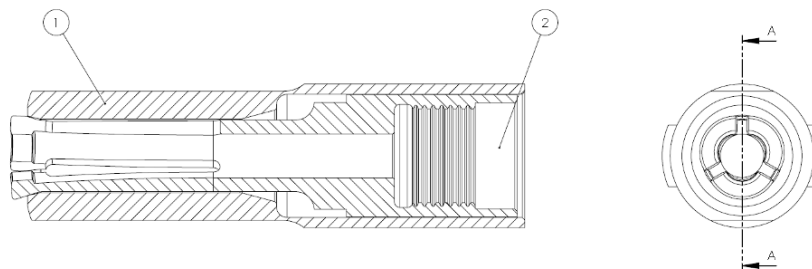
Item numbers in **bold** refer to nose assembly components in the tables and illustration above. Note that the Retaining Nut **3** (Part No. 73200-02042) and Adaptor Ring **4** (Part No. 73200-02043) are parts of the placing tool **5&6** (Part No. 73200-02000).

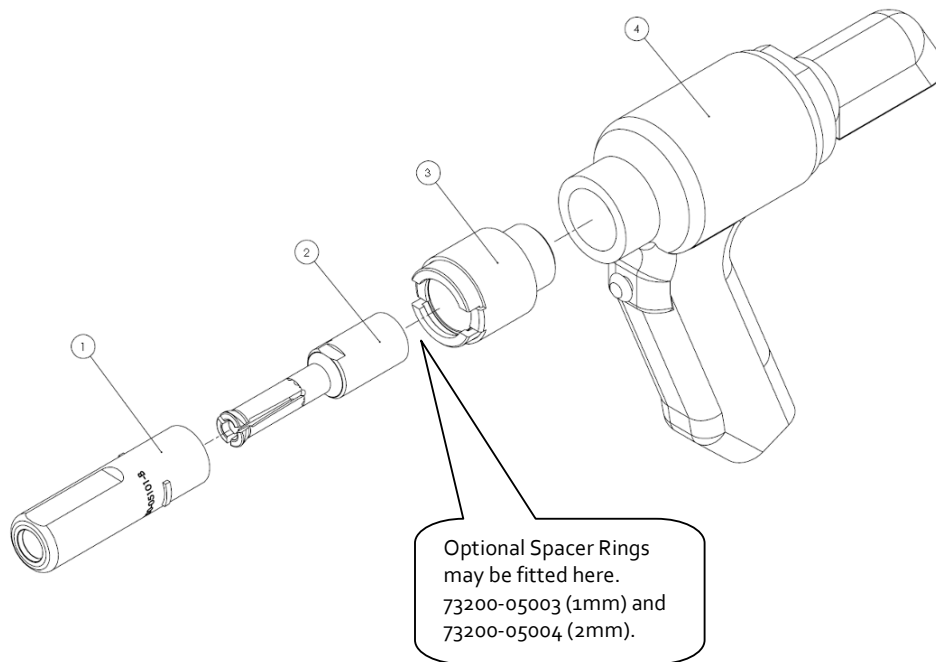
For optimum adjustment of the collet positioning Optional Spacer Rings (Part No. 73200-05003 and 73200-05004) are provided with each nose assembly. It is recommended that the 2mm thick ring (Part No. 73200-05004) is used for the initial assembly, however more or less spacing may be required to suit the particular tool.

- Lightly coat the outer surface of the Collet 2 jaws and the Anvil 1 bore with Moly Lithium grease.
- Clean the threaded end of the tool piston rod and apply two drops of Loctite® 243 threadlock to the middle of the threaded region.
- Fit appropriate Optional Spacer Ring(s) over placing tool piston rod.
- Screw Collet 2 fully onto the placing tool piston rod and lightly tighten using a spanner on the flats of Collet 2.
- Slide Anvil 1 over Collet 2 and push the expanded end of the Collet into the Anvil bore. Some force will be required to do this and so care should be taken to prevent pinching of hands – ideally wear protective gloves or cover the Anvil with a thick rag.
- Once the lugs of the Anvil 1 are resting against the end of the tool head, slide the Adaptor Ring 4, with its cut-outs facing the tool, over the Anvil 1 and align so that the Collet lugs engage with the cut-outs in the Adaptor Ring 4.
- Screw the Retaining Nut 3 onto the threaded end of the placing tool head and tighten with a spanner.
- Check that Collet 2 is positioned correctly within the Anvil 1. The opening in the centre of the Collet should be slightly larger than the NeoBolt pin pulling tail diameter and as a guide the Collet should protrude by about 4mm from the front face of the Anvil. (Excessive Collet protrusion will reduce the available tool stroke when installing NeoBolt fasteners close to minimum grip condition.) If the Collet opening is too small, additional spacing is required. If the Collet protrusion is too great, reduce the spacer thickness.
- Removal of the Anvil 1 and Collet 2 is the reverse procedure.

For NeoBolt fastener sizes 3/8"

NEOBOLT SIZE	NOSE ASSEMBLY	1		2	
		ANVIL		COLLET	
	PART NUMBER	PART NO.	QTY	PART NO.	QTY
3/8"	73200-05100	73200-05101	1	73200-05102	1





Fitting Instructions

Item numbers in **bold** refer to nose assembly components in the tables and illustration above. Note that the Head Extension assembly **3** (Part No. 07220-01500) is part of the placing tool (Part No. 07287-00200).

For optimum adjustment of the collet positioning Optional Spacer Rings (Part No. 73200-05003 and 73200-05004) are provided with each nose assembly. It is recommended that the 1mm thick ring (Part No. 73200-05003) is used for the initial assembly, however more or less spacing may be required to suit the particular tool.

- Lightly coat the outer surface of the Collet **2** jaws and the Anvil **1** bore with Moly Lithium grease.
- Clean the threaded end of the tool piston rod and apply two drops of Loctite® 243 threadlock to the middle of the threaded region.
- Fit appropriate Optional Spacer Ring(s) over placing tool piston rod.
- Screw Collet **2** onto the placing tool piston rod until it reaches the end of the piston rod thread and lightly tighten using a spanner on the flats of Collet **2**.
- Pull and then rotate the sprung outer sleeve of the Head Extension assembly **3** so that it reveals two open cut-outs.
- Slide Anvil **1** over Collet **2** and push the expanded end of the Collet into the Anvil bore. Some force will be required to do this and so care should be taken to prevent pinching of hands – ideally wear protective gloves or cover the Anvil with a thick rag.
- Align the lugs of the Anvil **1** with the cut-outs in the Head Extension assembly **3** and push in towards the tool to fully engage the lugs in the cut-outs. Then rotate the Anvil **1** by approximately half a turn.
- Rotate the outer sleeve of the Head Extension assembly **3** so that it springs back into the closed position to retain the Anvil **1** and covers the cut-outs.

- Check that Collet **2** is positioned correctly within the Anvil **1**. The opening in the centre of the Collet should be slightly larger than the NeoBolt pin pulling tail diameter and as a guide the Collet should protrude by about 5mm from the front face of the Anvil. (Excessive Collet protrusion will reduce the available tool stroke when installing NeoBolt fasteners close to minimum grip condition.) If the Collet opening is too small, additional spacing is required. If the Collet protrusion is too great, reduce the spacer thickness.
- Removal of the Anvil **1** and Collet **2** is the reverse procedure.

Service Instructions

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

- Remove the nose assembly using the reverse procedure to the 'Fitting Instructions'.
- Any worn or damaged part should be replaced.
- Clean and check wear on the Collet **2** jaws and the Anvil **1** bore.
- Clean and inspect components, renewing worn or damaged items.
- Re-assemble according to the 'Fitting Instructions'.

Putting Into Service

Preparation for Use

IMPORTANT – READ THE APPROPRIATE PLACING TOOL MANUAL CAREFULLY BEFORE PUTTING INTO SERVICE.

PERSONAL INJURY OR DAMAGE TO EQUIPMENT MAY OCCUR WITHOUT CORRECT AIR INLET PRESSURES. THE REGULATED AIR PRESSURES MUST NOT EXCEED THOSE PRESSURES LISTED IN THE PLACING TOOL SPECIFICATION FOR THE SPECIFIC SIZE OF FASTENER.

IMPORTANT – BEFORE PUTTING THE TOOL INTO SERVICE:

- (nG3LB and 73200 tools) ENSURE THAT A SUITABLE AIR PRESSURE REGULATOR IS FITTED IN-LINE WITH THE PLACING TOOL, THAT THE PRESSURE ADJUSTMENT IS READILY ACCESSIBLE, AND THAT A PRESSURE DIAL GAUGE OR READOUT IS CLEARLY VISIBLE FOR SETTING.
- (07287 tools) ENSURE THAT THE INTERNAL AIR PRESSURE REGULATOR IS SET TO THE RECOMMENDED PRESSURE AND THAT THE AIR SUPPLY CAN DELIVER SUFFICIENT FLOW RATE TO THE TOOL.

Pressure Settings

CAUTION - CORRECT AIR PRESSURES ARE IMPORTANT FOR PROPER FUNCTION OF THE INSTALLATION TOOL AND FOR CORRECT INSTALLATION OF THE NeoBolt FASTENER.

For correct installation of NeoBolt fasteners the air pressure for the specified placing tool must be set as stated in the table below.

NEOBOLT SIZE	PLACING TOOL		AIR PRESSURE SETTING (bar)
	MODEL	PART NUMBER	
3/16"	nG3LB	71256-02000	3.0
1/4"	nG3LB	71256-02000	5.2
5/16"	73200	73200-02000	3.6
3/8"	07287	07287-00200	4.0

AIR PRESSURE SETTINGS LOWER THAN THOSE STATED ABOVE WILL NOT FULLY SWAGE THE NEOBOLT COLLAR, LEADING TO LOWER THAN SPECIFIED PERFORMANCE FOR THE FASTENER.

AIR PRESSURE SETTINGS HIGHER THAN THOSE STATED ABOVE MAY CAUSE FAILURE OF THE NEOBOLT PIN DURING INSTALLATION AND WILL ALSO REDUCED THE LIFE OF THE NOSE EQUIPMENT.

Ensure Operators who have access to the pressure regulation are familiar with the correct settings.

Putting Into Service

Operating Instructions

Checking the Joints for NeoBolt fasteners

- Measure and ensure that the total joint thicknesses (the combination of the thickness of all the layers in all joints to be fastened) fall within the grip range specified for the NeoBolt fastener. Refer to the NeoBolt datasheet or Sales Drawing. To help with identification, each NeoBolt pin has the grip length code embossed on the pin head.
- Check application and remove excessive gaps between the layers of the joint. Gaps may be due to joint layers being bent or distorted. The gap is excessive if it is not possible to screw the collar fit-up tab onto the pin fit-up thread by at least half a turn. Additional clamping of the joint may be necessary to avoid excessive gaps.
- Measure and ensure that the hole diameters fall within the specified range. Ensure that holes are aligned in the different layers. Do not force pins into poorly aligned holes as this can damage the pin surface and fit-up thread. If necessary increase hole sizes up to the maximum specified diameter to ease pin insertion.

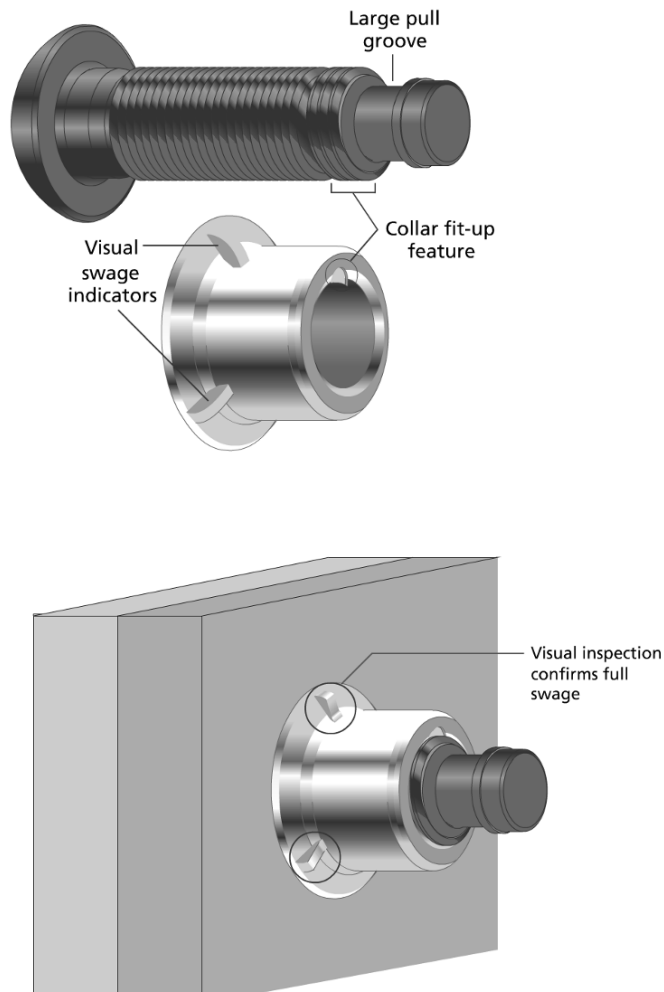
To Install NeoBolt fasteners

- Put NeoBolt pin tail into hole and push fully through the joint layers.
- Fit NeoBolt collar over the pin tail (the flanged end of the collar must be closest to the workpiece) and rotate clockwise to engage the collar onto the pin fit-up thread by at least half a turn.
- Push the Collet fully over the pin pulling tail until Collet fully covers the pulling groove on the NeoBolt pin. The placing tool must be held perpendicular (90°) to the workpiece surface.
- Depress and hold the tool trigger switch to start the installation cycle. The Collet will grip the NeoBolt pin tail and pull the Anvil up against the collar.
- Continue to hold the trigger down until the collar is fully swaged and the forward motion of the Anvil stops against the collar flange.
- Release the trigger. The placing tool piston and Collet will then return to push the Anvil off the installed collar and release the pintail from the Collet.
- Once the installed fastener has been ejected from the Anvil, the placing tool, nose assembly and pump unit are ready for the next installation.

CAUTION – DO NOT RELEASE THE TRIGGER UNTIL THE PLACING TOOL PULL CYCLE IS COMPLETE. RELEASING THE TRIGGER BEFORE THIS POINT WILL RESULT IN AN INCORRECTLY PLACED AND PARTIALLY INSTALLED NEOBOLT FASTENER.

Visual Inspection of Installed NeoBolt fasteners

- The raised radial bars on the installed NeoBolt collar flange should show signs of having been flattened by the front face of the swaging Anvil (see below).
- The pin tail should not be greatly distorted, break or shear off. Some minor marking of the bearing surface in the pull groove is however normal.



General Advice for Installing NeoBolt fasteners

- When installing multiple NeoBolt fasteners, fit all the collars onto the pins prior to using the placing tool.
- Avoid dropping the tool as the impact can damage the end of the collet or allow dirt and grit to clog and wear out the nose equipment prematurely.

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For an authorized distributor nearby please check www.StanleyEngineeredFastening.com/econtact/distributors

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07900-01071	B	15/181

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