



**HOWMET  
AEROSPACE**

*Lockbolt & pull-type blind fasteners*



# Tooling Catalogue



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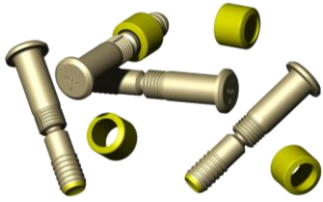


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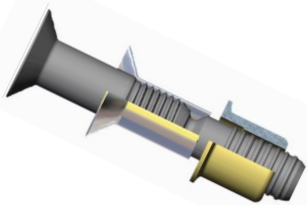
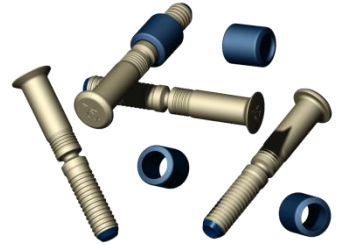


# Fasteners covered by the HFS tools



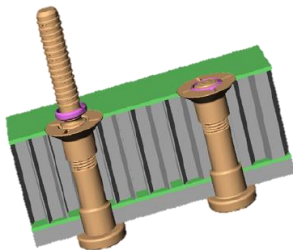
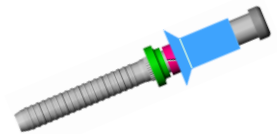
**LGP<sup>®</sup> & GP<sup>™</sup>** : HFS offer tools for the complete LGP lockbolt<sup>®</sup> and GP<sup>™</sup> product range, inch and metric application, from 4 mm to 12,7 mm

**XPL<sup>®</sup>** : XPL<sup>®</sup> lockbolt are eXtended Performance Lockbolt, with double grip capability. They essentially use same tools than LGP, with an extended diameter range.



**RXL<sup>™</sup> & ALC<sup>™</sup>** : sleeved fasteners, improving electrical conductivity. Interference fit installation. Last generation of fasteners and tools allow use of a same tool for pull and swage.

**Blind rivets / bolts** : HFS tool product range covers installation of blind rivets and blind bolts, NAS1919/21, MS21140/41, EN6122/27/28/29 and others, from 4 mm up to 12,7 mm.



**Asp<sup>®</sup> fastener** : Asp<sup>®</sup> fastener are fasteners are specifically designed for honeycomb applications, where damage prevention is critical. HFS tooling product range cover installation tools dedicated to ASP.



# Different type of tools



## ▶ Pneudraulic :

They require pressurized air, 6,5 bars pressure. They can be used up to 9,5 mm diameter.

HFS tools combine a reduced weight, with an improved ergonomic, to reduce operators' fatigue.

HFS Lockbolt pneudraulic tools have a unique oil reservoir feature which allows for reduced maintenance frequency.

## ▶ Battery operated :

Electric installation tools can install fasteners up to ¼", Lockbolt and blinds. They use last generation of 18 volts Li-Ion batteries offering extended lifetime and quick charge capability.

They do not require any power source and are ideal if air or electric power supply are not available. They also do not have any hose or wire attached which improves ergonomic.



## ▶ Hydraulic :

They require an hydraulic power rig, can work up to 600 bars pressure, and are ideal for very high production rates. They are required for large diameter fasteners, 10 mm and more.

Due to higher pressure, they are usually lighter and smaller than pneudraulic tools, but have hydraulic hoses that can limit maneuverability.

They require basically no maintenance, nor inspection.



# Hydraulic power rig

## ▶ HC315AF

HC315 AF is HFS standard power rig, fitting in most of the applications. It has a pressure preset of 450 bars, manually adjustable if needed, and a flow rate of 1,5 liters per minutes.

It is designed to install any aerospace fastener, from 4 mm to 12,7 mm included. It is compliant with the standard HFS hydraulic product range.

It shall be the preferred hydraulic power rig. More advanced power rigs are shown on next page. They are to be used for intensive pull-in applications or swaging of large diameter fasteners.

The HC315AF is available in different voltage options, single phase 110 & 220 Volts, and 3 phases 230 & 400 Volts. Voltage shall be specified in part number as follow :

HC315AF/S110 : 110 Volts single phase

HC315AF/S230 : 230 Volts single phase

HC315AF/T230 : 230 Volts three phases

HC315AF/T400 : 400 Volts three phases



All HFS power rigs are built on modular aluminum frames, are equipped with Plexiglas panels on the sides, wheels and handles.

# Hydraulic power rig

## Pressure recognition systems

### ▶ HK3413PC

PC (Pressure Control) power rigs and tool product range is ideal for intensive pull-in applications. It has an improved cooling capability, combined with a Pressure Control feature, that will automatically recognize the connected tool, and adapt pressure to the application. It requires "PC" hydraulic tools for Pressure Control feature, and also accept all standard hydraulic tools. It is available in 110, 220 volts single phase version and 230 & 400 volts 3 phases.

HK3413PC/S110 : 110 Volts single phase

HK3413PC/S230 : 230 Volts single phase

HK3413PC/T230 : 230 Volts three phases

HK3413PC/T400 : 400 Volts three phases

### ▶ HK418CPC

CPC (Computer Pressure Control) power rigs feature a high accuracy and highly repeatable pressure regulation system. They are equipped with a PLC unit, pressure transducer and a large display on front panel, showing max pressure reached during installation cycle. High accuracy of the HK418CPC power rig allow installation of larger diameters XPL © fasteners, 14,3 and 15,9 mm, equipped with removable pintails. It will accept all other tools, standard and PC type. It is available in 400 Volts, 3 phases only.



HK3413PC



HK418CPC



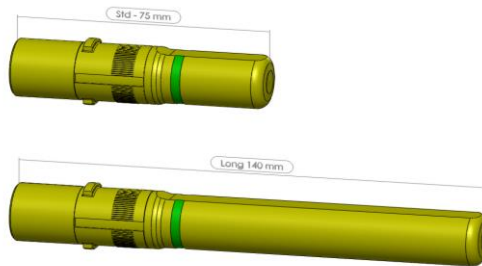
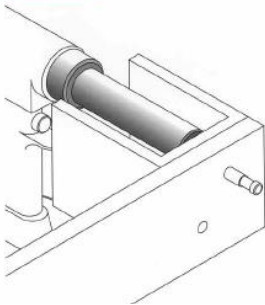
# Nose assembly Standard

## ▶ IN LINE

In line nose assemblies are recommended for general use. They typically have a longer life time than the equivalent offset nose, and a lower cost. Spare parts are also more common, and shall be easier to procure.

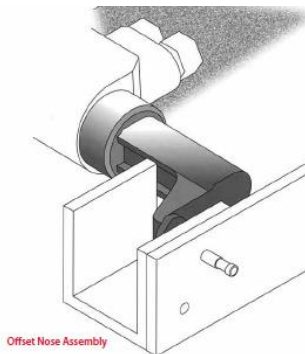
They are usually available in 2 lengths.

In-Line Nose Assembly

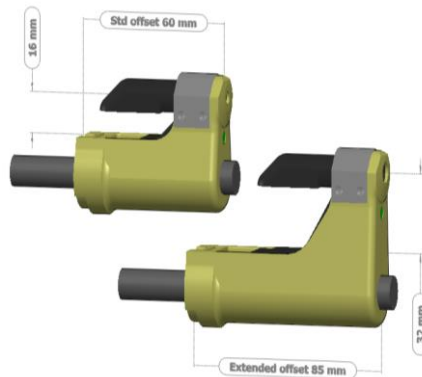


## ▶ OFFSET

Offset noses shall only be used in applications which have limited accessibility. Attachment is different from the in line noses, which will require different tools and/or adapters. Two offset distances are available. A straddle offset option is also offered.



Offset Nose Assembly

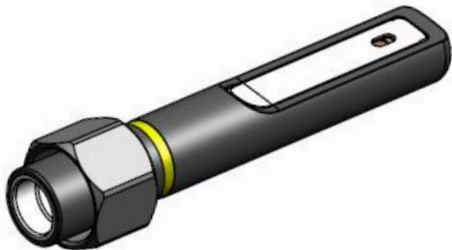




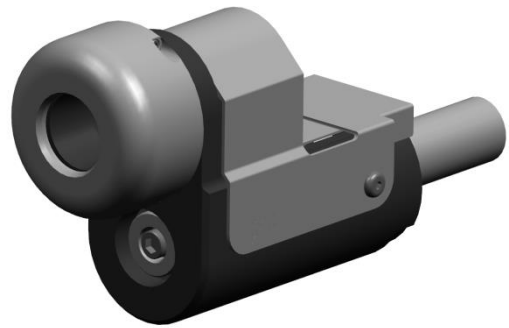
# Nose assembly Specific

## ▶ SPECIFIC

Noses for specific applications, or limited accessibility, are available. They shall be used if standard noses do not fit in the application. Please contact your Howmet representative for further info & details. Few examples of Howmet tooling capabilities are shown here below.



In-line nose with  
reduced center to edge  
distance



Swivel pad offset nose  
assembly for pull-in



700 series hydraulic tool  
combo pull & swage



90° offset adapter for  
lockbolt & blind  
bolts/rivets



# How to use this catalog ?

A chart is shown for each fastener family. It shows available noses, combined with optimum installation tool for each fastener diameter. Adapter option is shown if available, allowing to install offset nose on tools designed for in line noses.

Background colors indicate nose connection style. Larger tools, having more capacity and stroke than recommended tool, can be used as alternative if they have same connection.

Tools, noses and/or adapters can be ordered individually.

Alcoa Diameter	Dia. Inch / mm	In line				Adapter →	Off-Set					
		Noses		Tools			Noses				Tools	
		Standard	Long	Pneudraulic	Hydraulic		Std		Straddle		Pneudraulic	Hydraulic
						Off-Set	Off-Set +	Off-Set	Off-Set +			
5	.1640" 4,16 mm	<u>99-2501</u>	<u>99-2502</u>				<u>99-3700</u>	<u>99-3700-1</u>	<u>99-3733</u>	<u>99-3733-1</u>		
6	.1900" 4,8 mm	<u>99-2507</u>	<u>99-2508</u>	<u>244X</u>	<u>2480</u>	128279-2*	<u>99-3701</u>	<u>99-3701-1</u>	<u>99-3734</u>	<u>99-3734-1</u>	<u>244OSX</u>	<u>206-500</u>
7	.2187" 5,55 mm	<u>99-2675</u>	<u>99-2676</u>				<u>99-3762</u>	<u>99-3762-1A</u>	<u>99-3763</u>	<u>99-3763-1</u>		
8	.2500" 6,35 mm	<u>99-2513</u>	<u>99-2514</u>				<u>99-3702</u>	<u>99-3702-1</u>	<u>99-3735</u>	<u>99-3735-1</u>		
10	.3125" 7,9 mm	<u>99-2519</u>	<u>99-2520</u>	<u>254</u>	<u>2503</u>	129503**	<u>99-3719</u>	<u>99-3719-1</u>	<u>99-1736DG</u>			
12	.3750" 9,5 mm	<u>99-2522</u>	<u>99-2523</u>				<u>99-3754</u>	<u>99-3754-1</u>				
14	.4375" 11,1 mm	<u>99-2657</u>	<u>99-2657-1</u>		<u>2600-16-12</u>		<u>99-3790</u>					
16	.5000" 12,7 mm	<u>99-2669</u>	<u>99-2669-1</u>									

Tools can also be ordered assembled, ready to use. Simply combine underlined section of the tool part number you have selected with underlined section of nose assembly, adding a "A" letter in between. Howmet will assemble the tool for you, and will include adaptor if needed, plus pintail collector bag or any other component needed.

For example, you have selected a long in line nose for LGP, part number 99-2508, and a 244 pneudraulic tool, build assembly part number as follow :

Alcoa Diameter	Dia. Inch / mm	Noses		Tools		Adapte →
		Standard	Long	Pneudraulic	Hydraulic	
5	.1640" 4,16 mm	<u>99-2501</u>	<u>99-2502</u>			
6	.1900" 4,8 mm	<u>99-2507</u>	<u>99-2508</u>	<u>244X</u>	<u>2480</u>	128279-2
7	.2187" 5,55 mm	<u>99-2675</u>	<u>99-2676</u>			

Assembly part number : **244X A 2508**



# Fastener family – Lockbolt Inch

Howmet Fastening Systems (HFS) only guarantees system performances when genuine HFS GP® lockbolt, LGP® lockbolt, or XPL® lockbolt components are used in combination with other genuine HFS hardware and are installed using HFS tooling. HFS expressly does not guarantee system performance, and disclaims any and all liability, when: (a) fasteners and/or components from an unlicensed source are used in combination with HFS fasteners and/or components; and/or (b) HFS fasteners are installed without HFS tooling. Head marking must reflect GP, LGP and XPL as applicable. Customer part numbers are provided for reference only.

Cust. Pin P/N	Cust. collar P/N	HFS Pin P/N	HFS collar P/N	Tooling selection list
ABS0548 / 0549* ASNA2391 / 2392* ASNA2043 / 2048* MBBN4481*	ASNA2025*	LGPL4SC/SP LGPL2SC/SP	3SLC-C	<b>LGP®</b>
ASNA2041/2042* ABS0095/ABS1781*	ASNA2045*	LGPL4/7/8/9SP/SC- V( )B	SLFC-MV	
EN6050/6100/6120*	EN6051/6054*	LGPL2/4SP/SCEB	3SLC-F/G	
BACB31D / E / F	BACC30CT	ALP 7/8/12	ASF-LV	
B0206072 / B0206071 BACB31P6 / BACB31N6		ALC8SC-VC ALC12SP-VC		
ABS0998*	ABS0999*	XPL8BP	XBF-LV	<b>XPL®</b>
ABS0995/1504/1506*	ABS1505*	XPL4/8MC/MP	XMC-LV	
ABS0268/0269	ABS0270/0644	GPL8TC/TP-V	2TC-C/FTC-C	<b>GP™</b>
ASNA2040/2054*	ASNA2044*	GPL7TC/TP-EU	2TC-M	

\* See diameter [conversion chart](#) to define Howmet diameter code



# Fastener family – RXL

Howmet Fastening Systems (HFS) only guarantees system performances when genuine HFS GP® lockbolt, LGP® lockbolt, or XPL® lockbolt components are used in combination with other genuine HFS hardware and are installed using HFS tooling. HFS expressly does not guarantee system performance, and disclaims any and all liability, when: (a) fasteners and/or components from an unlicensed source are used in combination with HFS fasteners and/or components; and/or (b) HFS fasteners are installed without HFS tooling. Head marking must reflect GP, LGP and XPL as applicable. Customer part numbers are provided for reference only.

Cust. Pin P/N	Cust. collar P/N	HFS Pin P/N	HFS collar P/N	Tooling selection list
ABS1745* ABS1778*	ABS1746* ABS1780*	RXL12BP-VC RXL4BC-VL	RXLC-LC RXC-LV	RXL™

# Interference fit – Pull-in

Cust. P/N	HFS P/N	Tooling selection list
ABS0548/0549* ABS0995/1506*	LGPL( )S( )-V( )L XPL( )M( )-V( )L	Pull-in
B0206072 / B0206071 BACB31P6 / BACB31N6	ALC( )S( )-VC	

# Fastener family – ASP

ASNA2705*	ASP( )	ASP™
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\* See diameter [conversion chart](#) to define Howmet diameter code



# Fastener family – Lockbolt metric

Howmet Fastening Systems (HFS) only guarantees system performances when genuine HFS GP® lockbolt, LGP® lockbolt, or XPL® lockbolt components are used in combination with other genuine HFS hardware and are installed using HFS tooling. HFS expressly does not guarantee system performance, and disclaims any and all liability, when: (a) fasteners and/or components from an unlicensed source are used in combination with HFS fasteners and/or components; and/or (b) HFS fasteners are installed without HFS tooling. Head marking must reflect GP, LGP and XPL as applicable. Customer part numbers are provided for reference only.

Cust. Pin P/N	Cust. collar P/N	HFS Pin P/N	HFS collar P/N	Tooling selection list
35655 35656 35657	35665	MGPL6/7/8TP/TC-TX	M2TC-C	<b>MGP™</b>
JN0028 JN0029	JN0024	MGPL28/29 TP/TC	M2TC-C	

35660 35661	35666	MLGPL6/9 CTX	MSLFC-MV
JN0026 JN0027	JN0023	MLGPL2/22 SC/SP V	M3/4SLC-C
JN0030 JN0031	JN0025	MLGPL28/29 SC/SP	MSLFC-MV
EN4172 EN4173 EN4401 EN4402	EN4175 ECS6102	MLGPL28/29 SC/SP	MSLFC-MV
DIN65548 DIN65549	DIN65355	MLGPL28/29 SC/SP	MSLFC-MV
JN0177 JN0179	JN0201	MLGPL22/22 SC/SP EB	M3/4SLC-G

**MLGP™**



# Fastener family – Blinds

Cust. P/N

HFS P/N

Tooling  
selection list

NAS1919/1921S U

SMLS100/SMLSP U

Blind Rivets U

NAS1919/1921S

SMLS100/SMLSP

Blind Rivets

ASNA0077/0078

HC3212/3213

NAS9303/9304

HCXXXX / HRXXXX

HuckMax

MS21140/21141 (W)

S/UPB/UB100 EU (W)

MS90353/90354 (W)  
ASNA0026/0027(S)

S/UBP/UB100 T (W)

ASNA0341/0342/0363  
A297/298/299

S/UPB/100/130 MV (W)

Blind Bolts (W)

EN6122/6127/6128/6129

UABP/100/130/6127

UAB



# Lockbolt Diameter correspondance

		<b>Airbus</b>				<b>Boeing Bombardier</b>	
HFS dia code	Dia inch / mm	0095					
		0548	2041				
		0549	2042				
		0995	2043				
		0998	2048				
		1504	2054	ABS 0268 0269	MBBN 4481	6050 EN 6100 6120	B 206071 BAC 31P 206072 B 31N
		1506	2391				
		1745	2392				
		1778	2705				
		1781					
<b>5</b>	4,16 mm 5/32"	<b>2</b>	<b>5</b>	<b>4</b>	<b>040</b>	<b>5</b>	
<b>6</b>	4,8 mm 3/16"	<b>3</b>	<b>6</b>	<b>5</b>	<b>050</b>	<b>6</b>	
<b>7</b>	5,55 mm 7/32"	<b>3A</b>	<b>7</b>		<b>060</b>	<b>7</b>	
<b>8</b>	6,35 mm 1/4"	<b>4</b>	<b>8</b>	<b>6</b>	<b>080</b>	<b>8</b>	
<b>10</b>	7,9 mm 5/16"	<b>5</b>	<b>10</b>			<b>10</b>	
<b>12</b>	9,5 mm 3/8"	<b>6</b>	<b>12</b>			<b>12</b>	
<b>14</b>	11,1 mm 7/16"	<b>7</b>				<b>14</b>	
<b>16</b>	12,7 mm 1/2"	<b>8</b>					
<b>18</b>	14,3 mm 9/16"	<b>9</b>					
<b>20</b>	15,9 mm 5/8"	<b>10</b>					

All equipment listed in this catalog refers to Howmet diameter code.  
Metric and blind fasteners diameter code are usable directly, no conversion is required.



# LGP<sup>®</sup> installation tool selection chart

HFS Diameter code	Dia. Inch / mm	In line					Off-Set						
		Noses		Tools			Noses				Tools		
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Electric	Pneudraulic	Hydraulic
					Off-Set (OR) *	Off-Set + (OL) *	Off-Set (ZR) *	Off-Set + (ZL) *					
5	,1640" 4,16 mm	<b>99-2501</b>	<b>99-2502</b>	(K)EBS43X or (K)EBS44X	<b>243X</b> or <b>244X</b>	<b>2480</b>	<b>99LGP-05-ORAD</b>	<b>99LGP-05-OLAD</b>	<b>99LGP-05-ZRAD</b>	<i>99 LGP- 05- ZLAD</i>	(K)EBS43OSX or (K)EBS44OSX	<b>243OSX</b> or <b>244OSX</b>	<b>206-500</b>
6	,1900" 4,8 mm	<b>99-2507</b>	<b>99-2508</b>	(K)EBS44X	<b>244X</b>		<b>99LGP-06-ORAD</b>	<b>99LGP-06-OLAD</b>	<b>99LGP-06-ZRAD</b>	<b>99LGP-06-ZLAD</b>	(K)EBS44OSX	<b>244OSX</b>	
7	,2187" 5,55 mm	<b>99-2675</b>	<b>99-2676</b>	(K)EBS44X	<b>244X</b>		<i>99 LGP- 07- OR AD</i>	<i>99 LGP- 07- OLAD</i>	<i>99 LGP- 07- ZR AD</i>	<b>99LGP-07-ZLAD</b>	(K)EBS44OSX	<b>244OSX</b>	
8	,2500" 6,35 mm	<b>99-2513</b>	<b>99-2514</b>				<b>99LGP-08-ORAD</b>	<b>99LGP-08-OLAD</b>	<b>99LGP-08-ZRAD</b>	<b>99LGP-08-ZLAD</b>			
10	,3125" 7,9 mm	<b>99-2519</b>	<b>99-2520</b>		<b>254</b>	<b>2583</b>	<b>99-3719</b>	<i>99- 3719-1</i>	<i>99- 1736DG</i>		<b>254OS</b>	<b>208-625</b>	
12	,3750" 9,5 mm	<b>99-2522</b>	<b>99-2523</b>				<b>99-3754</b>	<i>99- 3754-1</i>					
14	,4375" 11,1 mm	<i>99- 2657</i>					<i>99- 3790</i>						
16	,5000" 12,7 mm	<i>99- 2669</i>											

Colors in chart indicates nose connection style.

LGP<sup>®</sup> noses are identified by a yellow color, a stripe on anvil for in line, a dot on face of nose for offset.

Click on tool part number to go to tool detailed information page.

*Italic are Make To Order items, price is depending on quantity, prefer standard ones if possible.*

\* Clearance noses with reduced center to edge distance are available for restricted accessibility area. For such noses, **OR/ZR** becomes **OC/ZC**. **OL/ZL** becomes **OB/ZB**.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



**HOWMET  
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# XPL<sup>®</sup> installation tool selection chart

HFS diameter code	Dia Inch / mm	In line					Off-Set						
		Noses		Tools			Noses				Tools		
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Electric	Pneudraulic	Hydraulic
						Off-Set (OR)*	Off-Set + (OL)*	Off-Set (ZR)*	Off-Set + (ZL)*				
5	.1640" 4,16 mm	<a href="#">99-2501</a>	<a href="#">99-2502</a>	(K) <a href="#">EBS43X</a> or (K) <a href="#">EBS44X</a>	<a href="#">243X</a> or <a href="#">244X</a>	<b>2480</b>	<a href="#">99LGP-05-ORAD</a>	<a href="#">99LGP-05-OLAD</a>	<a href="#">99LGP-05-ZRAD</a>	<a href="#">99LGP-05-ZLAD</a>	(K) <a href="#">EBS43OSX</a> or (K) <a href="#">EBS44OSX</a>	<a href="#">243OSX</a> or <a href="#">244OSX</a>	<b>206-500</b>
6	.1900" 4,8 mm	<a href="#">99-2507</a>	<a href="#">99-2508</a>	(K) <a href="#">EBS44X</a>	<a href="#">244X</a>		<a href="#">99LGP-06-ORAD</a>	<a href="#">99LGP-06-OLAD</a>	<a href="#">99LGP-06-ZRAD</a>	<a href="#">99LGP-06-ZLAD</a>	(K) <a href="#">EBS44OSX</a>	<a href="#">244OSX</a>	
7	.2187" 5,55 mm	<a href="#">99-2675</a>	<a href="#">99-2676</a>	(K) <a href="#">EBS44X</a>	<a href="#">244X</a>		<a href="#">99LGP-07-ORAD</a>	<a href="#">99LGP-07-OLAD</a>	<a href="#">99LGP-07-ZRAD</a>	<a href="#">99LGP-07-ZLAD</a>	(K) <a href="#">EBS44OSX</a>	<a href="#">244OSX</a>	
8	.2500" 6,35 mm	<a href="#">99-2513</a>	<a href="#">99-2514</a>				<a href="#">99LGP-08-ORAD</a>	<a href="#">99LGP-08-OLAD</a>	<a href="#">99LGP-08-ZRAD</a>	<a href="#">99LGP-08-ZLAD</a>			<b>206-XPL-08</b>
10	.3125" 7,9 mm	<a href="#">99-2519</a>	<a href="#">99-2520</a>		<a href="#">254</a>		<a href="#">99-3719</a>	<a href="#">99-3719-1</a>	<a href="#">99-1736DG***</a>			<a href="#">254OS</a>	<b>208-625</b>
12	.3750" 9,5 mm	<a href="#">99-2522</a>	<a href="#">99-2523</a>		<a href="#">256</a>		<a href="#">99-3754-XPL</a>	<a href="#">99-3754-1XPL</a>					<b>208-750</b>
14	.4375" 11,1 mm	<a href="#">99-2657</a>											
16	.5000" 12,7 mm	<a href="#">99-2669</a>											
18	.5625" 14,3 mm	<a href="#">99-2632LGP</a>											
20	.6250" 15,9 mm	<a href="#">99-2634LGP</a>											

Colors in chart indicates nose connection style.

All XPL<sup>®</sup> tools will also work with LGP<sup>®</sup> fasteners.

Click on tool part number to go to tool detailed information page.

*Italic are Make To Order items, price is depending on quantity.*

\* Clearance noses with reduced center to edge distance are available for restricted accessibility area. For such noses, OR/ZR becomes OC/ZC. OL/ZL becomes OB/ZB.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



**HOWMET  
AEROSPACE**

# GP™ installation tool selection chart

## GP Installation Tool

Alcoa diameter	Dia Inch / mm	In line					Off-Set				
		Noses		Tools			Noses		Tools		
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Electric	Pneudraulic	Hydraulic
						Off-Set	Off-Set +				
5	,1640" 4,16 mm	<a href="#">99-2549T</a>	<a href="#">99-2550T</a>		<a href="#">243X</a> or <a href="#">244X</a>		<a href="#">99GP-05-ORAD</a>	<a href="#">99GP-05-OLAD</a>		<a href="#">243OSX</a> or <a href="#">244OSX</a>	
6	,1900" 4,8 mm	<a href="#">99-2555</a>	<a href="#">99-2556</a>	<a href="#">(K)EBS44X</a>		<a href="#">2480</a>	<a href="#">99GP-06-ORAD</a>	<a href="#">99GP-06-OLAD</a>	<a href="#">(K)EBS44OSX</a>		<a href="#">206-500</a>
7	,2187" 5,55 mm	<a href="#">99-2681</a>	<a href="#">99-2682</a>		<a href="#">244X</a>		<a href="#">99GP-07-ORAD</a>	<a href="#">99GP-07-OLAD</a>		<a href="#">244OSX</a>	
8	,2500" 6,35 mm	<a href="#">99-2564</a>	<a href="#">99-2565</a>		<a href="#">254</a>		<a href="#">99GP-08-ORAD</a>	<a href="#">99GP-08-OLAD</a>			<a href="#">206-XPL-08</a>
10	,3125" 7,9 mm	<a href="#">99-2567</a>	<a href="#">99-2568</a>			<a href="#">2583</a>	<a href="#">99-1720 DG</a>			<a href="#">254OS</a>	
12	,3750" 9,5 mm	<a href="#">99-2570</a>			<a href="#">256</a>		<a href="#">99-1756 DG</a>				<a href="#">208-625</a>

Colors in chart indicates nose connection style.  
Click on tool part number to go to tool detailed information page.  
*Italic are Make To Order items, price is depending on quantity.*

- *Inch Lockbolt*
- *Metric Lockbolt*
- *Blind rivets & bolts*
- *ASP*



# MGP™ installation tool selection chart

## Metric MGP Installation Tool

Diameter	In line					Off-Set						
	Noses		Tools			Noses				Tools		
	Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Electric	Pneudraulic	Hydraulic
4 mm	<a href="#">99-2573</a>	<a href="#">99-2574</a>	<b>(K)EBS44X</b>	<a href="#">243X or 244X</a>	<b>2480</b>	<a href="#">99-3706</a>	<a href="#">99-3706-1</a>	<a href="#">99-3748</a>		<b>(K)EBS44OSX</b>	<a href="#">243OSX or 244OSX</a>	<b>206-500</b>
5 mm	<a href="#">99-2579</a>	<a href="#">99-2580</a>		<b>244X</b>		<a href="#">99-3707</a>	<a href="#">99-3707-1</a>	<a href="#">99-3749</a>				
6 mm	<a href="#">99-2585</a>	<a href="#">99-2586</a>		<a href="#">99-3708</a>		<a href="#">99-3708-1</a>	<a href="#">99-3750</a>					
8 mm	<a href="#">99-2591</a>			<b>254</b>	<b>2583</b>	<a href="#">99-1722 DG</a>					<b>254OS</b>	<b>208-625</b>
10 mm	<a href="#">99-2594</a>			<b>256</b>								

Colors in chart indicates nose connection style.

MGP™ noses are identified by a blue color, a stripe on anvil for in line, a dot on face of nose for offset.

Click on tool part number to go to tool detailed information page.

*Italic are Make To Order items, price is depending on quantity.*

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



# MLGP™ installation tool selection chart

## Metric MLGP Installation Tool

Diameter	In line					Off-Set						
	Noses		Tools			Noses				Tools		
	Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Electric	Pneudraulic	Hydraulic
						Off-Set	Off-Set +	Off-Set	Off-Set +			
4 mm	<a href="#">99-2525</a>	<a href="#">99-2526</a>	<b>(K)EBS44X</b>	<a href="#">243X</a> or <a href="#">244X</a>	<b>2480</b>	<a href="#">99-3709</a>	<a href="#">99-3709-1</a>	<a href="#">99-3743</a>		<b>(K)EBS44OSX</b>	<a href="#">243OSX</a> or <a href="#">244OSX</a>	<b>206-500</b>
5 mm	<a href="#">99-2531</a>	<a href="#">99-2532</a>				<a href="#">99-3710</a>	<a href="#">99-3710-1</a>	<a href="#">99-3744</a>				
6 mm	<a href="#">99-2537</a>	<a href="#">99-2538</a>		<a href="#">244X</a>		<a href="#">99-3711</a>	<a href="#">99-3711-1</a>	<a href="#">99-3745</a>				
8 mm	<a href="#">99-2543</a>			<b>254</b>	<b>2583</b>	<a href="#">99-1721DG</a>					<a href="#">254OS</a>	<a href="#">208-625</a>
10 mm	<a href="#">99-2546</a>											

Colors in chart indicates nose connection style.

MLGP™ noses are identified by a red color, a stripe on anvil for in line, a dot on face of nose for offset.

Click on tool part number to go to tool detailed information page.

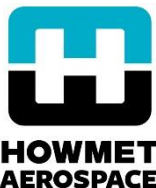
*Italic are Make To Order items, price is depending on quantity.*

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



# Pull-in GP™/LGP®/XPL®/MGP™/MLGP™/ALC™ Lockbolts

## Pull-in tools

Howmet Dia code Inch fasteners	Metric fasteners dia.	In line						Off-Set					
		Noses		Tools				Noses		Tools			
		Standard	Long	Pneudraulic		Electric	Hydraulic	Standard	Extended	Pneudraulic		Electric	Hydraulic
				Tool	Press. Regulator					Tool	Press. Regulator		
5	4 mm	<a href="#">99_LGP-05-PR AC</a>	<a href="#">99_LGP-05-PL AC</a>	<b>202</b>	<b>127308-4</b>	<b>(K)EBSPX5</b>	<b><a href="#">2480PC120</a></b>	<a href="#">99-1833</a>	<a href="#">99-1833-1</a>	<b>244OSX</b>	<b>127308-3</b>	<b>(K)EBSPSX5</b>	<b><a href="#">206-500PC70</a></b>
6	5 mm	<a href="#">99_LGP-06-PR AC</a>	<a href="#">99_LGP-06-PL AC</a>		<b>127308-6</b>	<b>(K)EBSPX6</b>	<b><a href="#">2480PC160</a></b>	<a href="#">99-1834</a>	<a href="#">99-1834-1</a>		<b>127308-5</b>	<b>(K)EBSPSX6</b>	<b><a href="#">206-500PC100</a></b>
7	N/A	<a href="#">99_LGP-07-PR AC</a>	<a href="#">99_LGP-07-PL AC</a>		<b>127308-6</b>	<b>(K)EBSPX7</b>	<b><a href="#">2480PC170</a></b>	<a href="#">99-1853</a>	<a href="#">99-1853-1</a>		<b>127308-5</b>	<b>(K)EBSPSX7</b>	<b><a href="#">206-500PC110</a></b>
8	6 mm	<a href="#">99_LGP-08-PR AC</a>	<a href="#">99_LGP-08-PL AC</a>		<b>127308-10</b>	<b>(K)EBSPX8</b>	<b><a href="#">2480PC280</a></b>	<a href="#">99-1835</a>	<a href="#">99-1835-1</a>		<b>127308-9</b>	<b>(K)EBSPSX8</b>	<b><a href="#">206-500PC170</a></b>
10	N/A	<a href="#">99-1831</a>	<a href="#">99-1831-1</a>	<b>2057</b>	<b>127308-11</b>		<b><a href="#">2583PC210</a></b>	<a href="#">99-1836</a>		<b>254OS</b>	<b>127308-7</b>		<b><a href="#">208-750PC140</a></b>
12		<a href="#">99-1832</a>	<a href="#">99-1832-1</a>		<b>127308-15</b>		<b><a href="#">2583PC320</a></b>	<a href="#">99-1837</a>			<b>127308-10</b>		<b><a href="#">208-750PC220</a></b>

Colors in chart indicates nose connection style.

Pull-in noses will be identified by a white color, a stripe on anvil for in line, a dot on face of nose for offset.

Pull-in tools are for interference fit applications, and require appropriate pintail length on fasteners. Pressure adjustment is needed, through recommended air pressure regulator, that has to be put in line with tools for pneudraulic, while hydraulic tools will automatically recognize appropriate pressure when connected to a PC style power rig. Next page shown Inva-Valve option, to be used with old generation power rigs.

Click on tool part number to go to tool detailed information page.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



# Pull-in GP™/LGP®/XPL®/MGP™/MLGP™/ALC™ Lockbolts

## Pull-in tools

Alcoa Dia code Inch fasteners	Metric fasteners dia.	In line				Off-Set			
		Noses		Tools		Noses		Tools	
		Standard	Long	Pneudraulic & Electric	Hydraulic	Standard	Extended	Pneudraulic & Electric	Hydraulic
5	4 mm	<a href="#">99_LGP-05-PRAC</a>	<a href="#">99_LGP-05-PLAC</a>	See previous page	<a href="#">2480INVA120</a>	<a href="#">99-1833</a>	<a href="#">99-1833-1</a>	See previous page	<a href="#">206-500INVA70</a>
6	5 mm	<a href="#">99_LGP-06-PRAC</a>	<a href="#">99_LGP-06-PLAC</a>		<a href="#">2480INVA160</a>	<a href="#">99-1834</a>	<a href="#">99-1834-1</a>		<a href="#">206-500INVA100</a>
7	N/A	<a href="#">99_LGP-07-PRAC</a>	<a href="#">99_LGP-07-PLAC</a>		<a href="#">2480INVA170</a>	<a href="#">99-1853</a>	<a href="#">99-1853-1</a>		<a href="#">206-500INVA110</a>
8	6 mm	<a href="#">99_LGP-08-PRAC</a>	<a href="#">99_LGP-08-PLAC</a>		<a href="#">2480INVA280</a>	<a href="#">99-1835</a>	<a href="#">99-1835-1</a>		<a href="#">206-500INVA170</a>
10	N/A	<a href="#">99-1831</a>	<a href="#">99-1831-1</a>		<a href="#">2583INVA210</a>	<a href="#">99-1832</a>			<a href="#">208-750INVA140</a>
12		<a href="#">99-1832</a>	<a href="#">99-1832-1</a>		<a href="#">2583INVA320</a>	<a href="#">99-1832</a>			<a href="#">208-750INVA220</a>



Colors in chart indicates nose connection style.

Pull-in noses will be identified by a white color, a stripe on anvil for in line, a dot on face of nose for offset.

Pull-in tools are for interference fit applications, and require appropriate pintail length on fasteners.

Chart to be used if standard power rigs are used, without pressure recognition capability (HC315 / HK3413). Pressure recognition system will be replaced by a valve, installed in line with installation tool.

Click on tool part number to go to tool detailed information page.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



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# RXL™ pull & swage installation tools

## RXL™ Installation Tool

Alcoa Dia code	Dia Inch / mm	In line - Pull & swage			Off-Set					
		Noses		Tools	Pull-in			Swage		
		Standard	Long	Hydraulic	Nose		Tool	Nose		Tool
				Hydraulic	Off-Set	Off-Set +	Hydraulic	Off-Set	Off-Set +	Hydraulic
6	.1900" 4,8 mm	<a href="#">99-2858-RXL</a>	<a href="#">99-2859-RXL</a>	<a href="#">2480PCS190</a>	<a href="#">99-1834-RXL</a>	<a href="#">99-1834-1-RXL</a>	<a href="#">206-500PC100</a>	<a href="#">99LGP-06-ORAD</a>	<a href="#">99LGP-06-OLAD</a>	<a href="#">206-500PC</a>
8	.2500" 6,35 mm	<a href="#">99-2866-RXL</a>	<a href="#">99-2867-RXL</a>	<a href="#">2480PCS280</a>	<a href="#">99-1835-RXL</a>	<a href="#">99-1835-1-RXL</a>	<a href="#">206-500PC170</a>	<a href="#">99LGP-08-ORAD</a>	<a href="#">99LGP-08-OLAD</a>	<a href="#">206-500PC</a>
10	.3125" 7,9 mm	<a href="#">99-2870-RXL</a>	<a href="#">99-2871-RXL</a>	<a href="#">2583PCS210</a>	<a href="#">99-1836-RXL</a>	<a href="#">99-1836-1-RXL</a>	<a href="#">208-750PC140</a>	<a href="#">99-3719</a>	<a href="#">99-3719-1</a>	<a href="#">208-625PC</a>
12	.3750" 9,5 mm	<a href="#">99-2872-RXL</a>	<a href="#">99-2873-RXL</a>	<a href="#">2583PCS320</a>	<a href="#">99-1837-RXL</a>	<a href="#">99-1837-1-RXL</a>	<a href="#">208-750PC220</a>	<a href="#">99-3754</a>	<a href="#">99-3754-1</a>	
14	.4375" 11,1 mm	<a href="#">99-2628-RXL</a>		<a href="#">2600-16-12PCS220</a>	<a href="#">99-1864-RXL</a>	<a href="#">99-1864-1-RXL</a>	<a href="#">208-750PC290</a>	<a href="#">99-3793</a>		
16	.5000" 12,7 mm	<a href="#">99-2630-RXL</a>		<a href="#">2600-16-12PCS270</a>						
18	.5625" 14,3 mm	<a href="#">99-2632-RXL</a>		<a href="#">2600-16-12CPC340</a>						
20	.6250" 15,9 mm	<a href="#">99-2634-RXL</a>		<a href="#">2600-16-12CPC480</a>						

Colors in chart indicates nose connection style.

RXL™ tools require PC/CPC power rigs. Same tool will pull & swage for in line tools, offset require different tool for pull and swage.

Click on tool part number to go to tool detailed information page.

PC swage tool can be replaced by standard tool for power rig from S/N 5059 (purchased after October 2014)

→ Inch Lockbolt

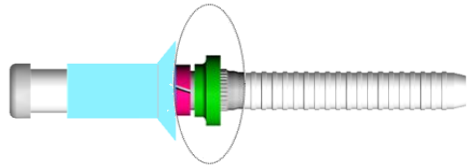
→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



# Blind Rivet U with drive anvil washer



**Blind rivets NAS1919/1921 U (with drive anvil washer)**

Diameter code	In Line					Offset / 90°				
	Nose assy		Tool			Nose assy		Tool		
	Standard	Long	Electric	Pneudraulic	Hydraulic	Off-Set	90°	Electric	Pneudraulic	Hydraulic
4						99HCM-MD-ORAC-46	99 HCM -MD- RRAC- 46			
5	99-3458-202	99-3459-202	(K)EBS43X	2012	2480					
6						99-3717U		(K)EBS44OSX	244OSX	206-500
8	99-2743U	99-2744U		2025		99-3718U				

Colors in chart indicates nose connection style.

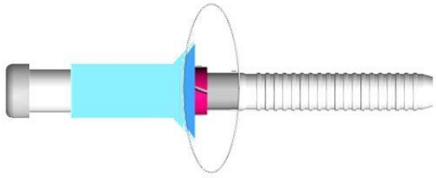


- Inch Lockbolt
- Metric Lockbolt
- Blind rivets & bolts
- ASP





# Blind rivets without drive anvil washer



## NAS1919/1921 Installation Tool

Diameter Code	In Line					Offset				
	Nose assy		Tool			Nose assy		Tool		
	Standard	Long	Electric	Pneudraulic	Hydraulic	Standard	Extended	Pneudraulic	Hydraulic	
4	<a href="#">99-2725</a>	<a href="#">99-2726</a>	<b>(K)EBS44X</b>	<b>2012</b>	<b>2480</b>	<a href="#">99-3715</a>	<a href="#">99-3715-1</a>	<b>(K)EBS44OSX</b>	<b>244OSX</b>	<b>206-500</b>
5	<a href="#">99-2731</a>	<a href="#">99-2732</a>				<a href="#">99-3716</a>	<a href="#">99-3716-1</a>			
6	<a href="#">99-2737</a>	<a href="#">99-2738</a>				<a href="#">99-3717</a>	<a href="#">99-3717-1</a>			
8	<a href="#">99-2743</a>	<a href="#">99-2744</a>					<a href="#">99-3718</a>			

Colors in chart indicates nose connection style.  
 All listed noses are available with blunt face, for NAS with drive anvil washer. Add "U" at end of nose assembly part number.



- Inch Lockbolt
- Metric Lockbolt
- Blind rivets & bolts
- ASP



# HuckMax Blind Rivets

## HuckMax & CherryMAX®

Diameter code	Standard connection						Cherry* style connection				
	Nose assy				Tool			Nose assy			Tool
	In Line		Off-Set	90°	Electric	Pneudraulic	Hydraulic	In Line	Off-Set	90°	Pneudraulic
Standard	Long										
4											
5	<u>99-3458-202</u>	<u>99-3459-202</u>	<u>99HCM-MD-ORAC-46</u>	<u>99 HCM -MD- RR AC- 46</u>	<u>(K)EBS43X</u>	<u>2012</u>	<u>2480</u>	<u>99-3442</u>	<u>99-1333</u> or <u>99-1336</u>	<u>99-1334</u>	<u>2013</u>
6											

CherryMAX® is a trademark of Cherry® Aerospace

\* Cherry style noses can be installed on Cherry tools, and 2013 tool can be used with Cherry noses

Colors in chart indicates nose connection style.

99-1333 and 99-1336 are similar noses. 99-1333 offers better accessibility, in terms of center to edge distance, compared to 99-1336. However, a reduced lifetime shall be expected, due to single jaw design, limiting pintail engagement.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



# Blind bolts

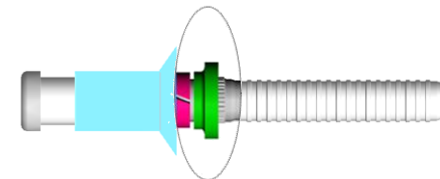
## Blind bolt installation tools (All except UAB)

Diameter Code	Material	In Line					Offset				
		Nose assy		Tool			Nose assy		Tool		
		Standard	Long	Electric	Pneudraulic	Hydraulic	Standard	Extended	Electric	Pneudraulic	Hydraulic
4	All	<a href="#">99-2725(U)</a>	<a href="#">99-2726(U)</a>	<b>(K)EBS44X</b>	<b>202</b>	<b>2480</b>	<a href="#">99-3715(U)</a>	<a href="#">99-3715-1(U)</a>	<b>(K)EBS44OSX</b>	<b>244OSX</b>	<b>206-500</b>
5		<a href="#">99-2701(W)</a>	<a href="#">99-2702(W)</a>				<a href="#">99-3712(W)</a>	<a href="#">99-3712-1(W)</a>			
6		<a href="#">99-2707(W)</a>	<a href="#">99-2708(W)</a>				<a href="#">99-3713(W)</a>	<a href="#">99-3713-1(W)</a>			
8	A286, Ti	<a href="#">99-2713(W)</a>	<a href="#">99-2714(W)</a>		<b>2025</b>		<a href="#">99-3714(W)</a>	<a href="#">99-3714-1(W)</a>			
	+ Steel	<a href="#">99-2716(W)</a>	<a href="#">99-2717(W)</a>								
10	All	<a href="#">99-2719(W)</a>	<a href="#">99-2720(W)</a>		<b>254</b>						
12	Ti					<b>2583</b>					
	+ A286	<a href="#">99-2722(W)</a>	<a href="#">99-2723(W)</a>		<b>256</b>						
	+ Steel										

Colors in chart indicates nose connection style.

“W” between parentes is is for fasteners with drive anvil washer. It shall be used if fasteners part number is ending by “W”.

\* See page 60 for tooling configuration options and kitting part numbers.



Optionnal drive anvil washer shown in green

- Inch Lockbolt
- Metric Lockbolt
- Blind rivets & bolts
- ASP



# UAB

## UAB installation tools EN6122/6127/6128/6129

Diameter Code	In line				Offset				
	Nose assy	Tool			Nose assy		Tool		
	Standard	Electric	Pneudraulic	Hydraulic	Standard	Extended	Electric	Pneudraulic	Hydraulic
5	99-2782	(K)EBS44X	<u>202</u> or <u>2025</u>	2480	<u>99-3764</u>	<u>99-3764-1</u>	(K)EBS44OSX	<u>244OSX</u>	<u>206-500</u>
6					<u>99-3765</u>	<u>99-3765-1</u>			
7	99UAB-MD -IRAC-78		<u>2025</u>						
8					<u>99-3766</u>	<u>99-3766-1</u>			
9	99 UAB-MD -IRAG-90		<u>254</u>	<u>2583</u>					
10									

Colors in chart indicates nose connection style.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind rivets & bolts

→ ASP



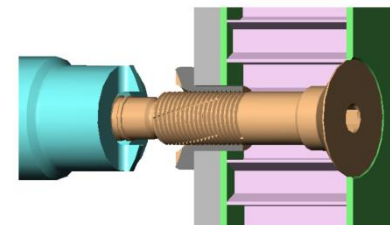
## ASP installation tools

Diameter	Screw driver	In line				Offset			
		Nose assy	Tool			Nose assy	Tool		
			Standard	Electric	Pneudraulic		Hydraulic	Standard	Electric
3/16"	106524	99- <u>2642</u>	<u>2012</u>			99- <u>3728</u>	(K) <u>EBS44OSX</u>	<u>244OSX</u>	<u>206-500</u>
1/4"	106525	99- <u>2645</u>	(K) <u>EBS44X</u>	<u>202</u>	<u>2480</u>	99- <u>3729</u>			
5/16"	107735	99- <u>2648</u>				99- <u>3730</u>			

Colors in chart indicates nose connection style.

Screw driver is to be used to sleeve on pin. It is equipped with a 6,35 mm square recess. Torque is to be defined according to joint material, and level of performances.

Tools are used for swaging lockring.



- Inch Lockbolt
- Metric Lockbolt
- Blind rivets & bolts
- ASP

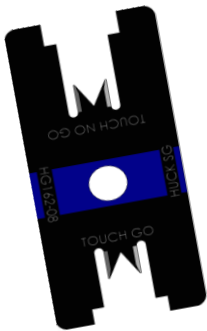


# Fastener selection & Inspection

## ▶ GRIP GAGES

Grip gage are used for fastener grip selection. The chart below shows appropriate grip gage according to fastener part number.

<b><i>Fastener type</i></b>	<b><i>Gage P/N</i></b>
<i>Blind bolts &amp; Blind rivets</i>	<b>105093</b>
<i>GP / LGP / ALP Lockbolt &amp; EN6114/6115</i>	<b>122666</b>
<i>MGP / MLGP Lockbolt, 2 mm grip range (Eurofighter)</i>	<b>122667</b>
<i>XPL Lockbolt</i>	<b>126983</b>
<i>RXL &amp; RXB Sleeved Fasteners</i>	<b>129885</b>



## ▶ SWAGE GAGES

Swage gages allow inspection of installed fasteners. See chart on following pages for part number selection.

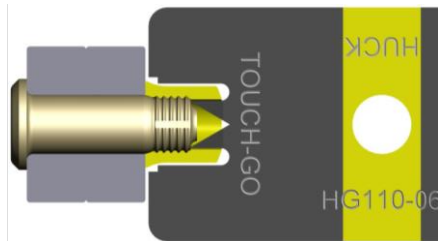
## ▶ NOSE ASSEMBLY VERIFICATION

Noses are subject to wearing, and it is recommended to occasionally inspect swage cavity dimensions. HFS Swage Cavity Inspection sheets, containing a guide and dimensions to use are shown in following pages.



# Swage gages usage

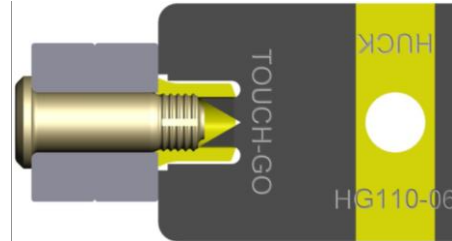
## ▶ TOUCH GO SIDE



**Accept**

Contact between swage gage and end of the pin.

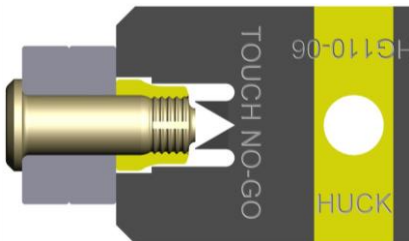
No contact between collar and swage gage, no contact between structure and swage gage.



**Reject**

Contact between collar & gage or contact between structure & gage.

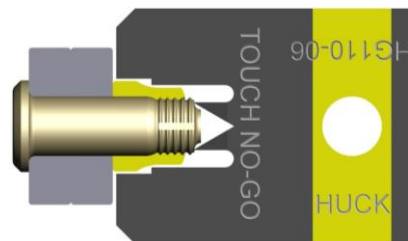
## ▶ TOUCH NO GO SIDE



**Accept**

Contact between assembly and gage.

No contact between collar and swage gage, no contact between pin and gage.

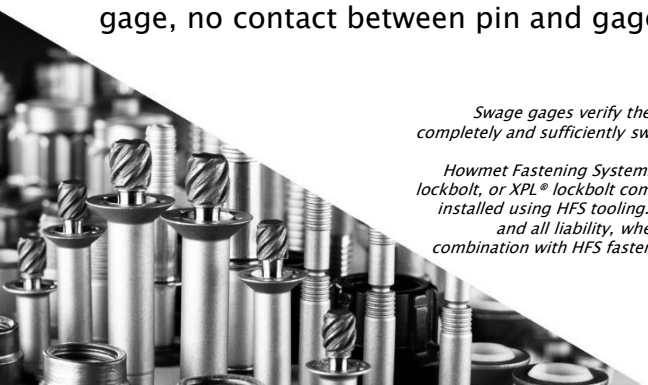


**Reject**

Contact between pin & gage or contact between collar & gage.

*Swage gages verify the correct length pin is used and inspect the swage collar to determine if it is completely and sufficiently swaged. This gage does not verify tooling, equipment, and part conformance.*

*Howmet Fastening Systems (HFS) only guarantees compatibility when genuine HFS GP® lockbolt, LGP® lockbolt, or XPL® lockbolt components are used in combination with other genuine HFS hardware and are installed using HFS tooling. HFS expressly does not guarantee system performance, and disclaims any and all liability, when: (a) fasteners and/or components from an unlicensed source are used in combination with HFS fasteners and/or components; and/or (b) HFS fasteners are installed without HFS tooling. Head marking must reflect GP, LGP and XPL as applicable.*



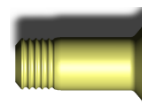
# Swage gages selection

▶ GP™ / LGP® lockbolt Inch series pull type

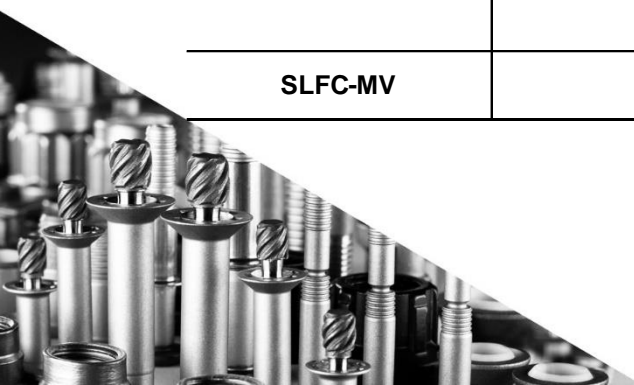


<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Swage gage P/N</i>
2TC-C / 2TCC-C	GPL8TP-V / GPL8TC-V	HG100(-)
FTC-C		HG140(-)
2TCC-M	GPL7TP-EU / GPL7TC-EU	HG134(-)
3SLC-C	LGPL2SP/LGPL2SC LGPL4SP/LGPL4SC	HG110(-)
	LGPL7/8/9S(-)V( )B	HG131(-)
SLFC-MV	LGPL7/8/9S(-)V( )B	HG118(-)
	LGPL4S(-)V( )B	HG166(-)
3SLC-F / 3SLC-G	HLGPL2/4S( )EB	HG171(-)

▶ GP™ / LGP® lockbolt inch series stump type



<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Swage gage P/N</i>
2TC-C / 2TCC-C	GPS8TP-V / GPS8TC-V	HG107(-)
3SLC-C	LGPS4SP/LGPL4SC	HG113(-)
	LGPS7/8/9S(-)V( )B	HG138(-)
SLFC-MV	LGPS7/8/9S(-)V( )B	HG119(-)





# Swage gages selection

▶ XPL® lockbolt



<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Swage gage P/N</i>
XMC-LV	XPL4MP/MC-V / XPL8MC-V	HG164(-)
	XPL8BP / XPL4BC-V	HG176(-)
XBF-LV	XPL8BP / XPL4BC-V	HG162(-)

▶ MGP™ / MLGP™ Metric series pull type

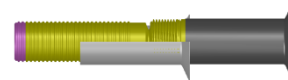


<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Swage gage P/N</i>
M2TC-C	MGPL6/7/8TP/TC-TX	HG115(-)
	MGPL28/29 TP/TC	HG142(-)
MSLFC-MV	MLGPL6/9 CTX	HG129(-)
	MLGPL28/29 SC/SP	HG143(-)
	MLGPL2/22 SC/SP-V	HG146(-)
M3/4SLC-C	MLGPL2/22 SC/SP-V	HG141(-)
	MLGPL28/29 SC/SP	HG144(-)
M3/4SLC-G	MLGPL2/22 SC/SP-EB	HG175(-)



# Swage gages selection

- ▶ **ALC™ / RXL™ – Sleeved fasteners – Lockbolt types**



<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Swage gage P/N</i>
<b>ASFC-LV</b> <i>BACB30CY / B0206075</i>	<b>AL8SC / AL12SP-VC()</b> <i>BACB31N6 / BACB31P6</i> <i>B0206071 / B0206072</i>	<b>HG169-()</b>
<b>RXLC-LV</b> <i>ABS1746</i>	<b>RXL12BP-VC</b> <i>ABS1745</i>	<b>HG172-()</b>
<b>RXC-LV</b> <i>ABS1780</i>	<b>RXL4BC-VL</b> <i>ABS1778</i>	<b>HG173-()</b>

- ▶ **RXB™ / Threaded systems pin protrusion gages**

<i>Collar P/N</i>	<i>Pin P/N</i>	<i>Pin protrusion gage kit</i>
<b>ASNA2528 / 2529</b> <b>2531 / 2536</b>	<b>EN6114 / 6115</b> <i>Up to 6 dia (9,5 mm), including 3A</i>	<b>HG177-()</b>
<b>RXN-LV / RXNA-LV</b> <i>ABS1745 / 1746</i>	<b>RXB12BP / RXB4BC</b> <i>ABS1741 / ABS1776</i>	<b>HG174-()</b>
	<b>PRXB4BC</b> <i>ABS1820</i>	<b>HG179-()</b>



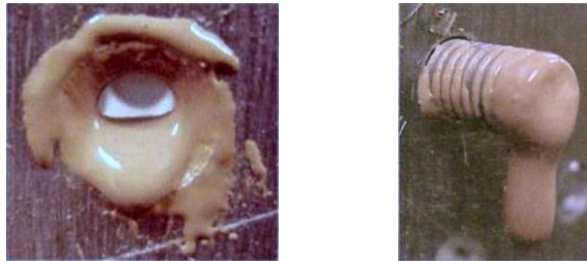
# Tool maintenance recommendations

## ▶ Maintenance guide lines

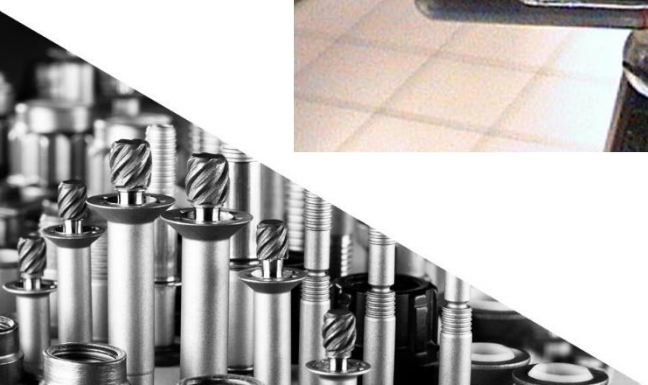
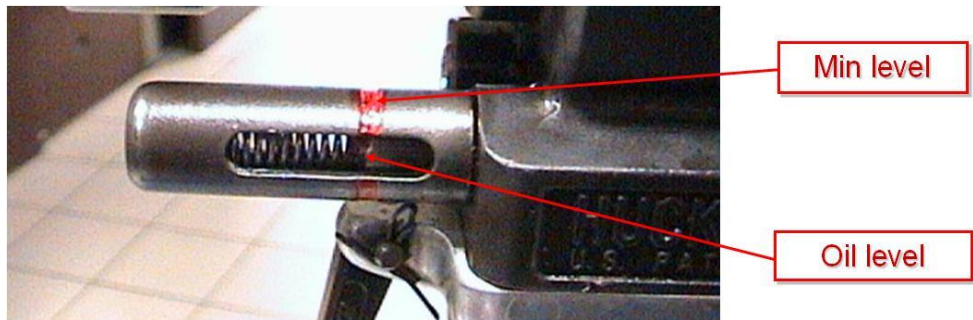
- Swage cavities are subject to wearing. It is recommended, during each maintenance operation, to verify swage cavity is smooth, and below max in-use diameter of swage cavity. Swage Cavity Inspection sheets are shown in next pages for each fastener family.



- Noses, and especially jaws are sensitive to sealant. Proper cleaning practices shall be used to optimize life time of nose assemblies.



- Pneudraulic Lockbolt tools are equipped with an oil reservoir feature. It is recommended, for optimum maintenance operation, to fill reservoir before reaching minimum level. If oil level goes below min, tool will need to go thru a full fill & bleed process.



# Tool maintenance Spare parts & kits

## ► Maintenance Kits

- For each tool, a maintenance kit is available. Kit contains all o'rings, back-up rings, spring, plugs and specific tool require for maintenance operation.

- Kit part numbers are as follow :

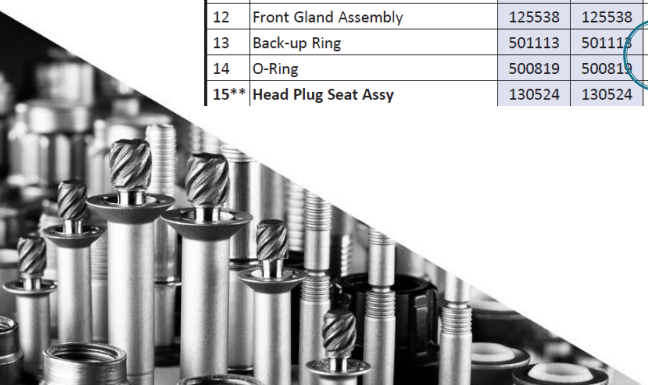
- **2012KIT** for 2012
- **202KIT** for 202
- **2025KIT** for 2025
- **2047KIT** for 2047
- **2057KIT** for 2057
- **244KIT** for 244, 244OS, 244X and 244OSX
- **254KIT** for 254
- **2480KIT** for 2480
- **2503KIT** for 2502, 2503, 2582 and 2583
- **2600KIT** for 2600-16-12
- **206-375KIT** for 206-375, 206-500, 206XPL-08 & 206-625
- **208-625KIT** for 208-625 and 208-750
- **OS5500KIT** for OS5500-56-( )



- Kit content is shown on part lists of tool manual. Any component with a \* symbol next to qty is part of maintenance kit.

Item	Description	244X	244OSX	Qty
1	Handle	130351	130351	1
2	Cable Assy	116404-1	116404-1	1
3	Trigger Cable Pin	505496	505496	1
4	Roll Pin	500621	500621	1
5	Trigger	124333-2	124333-2	1
6	Polyseal	505818	505818	1*
7	Retaining Nut	111795	n/a	1
8	Stop	120588	125951	1
9	Nose Adapter	125537	130377	1
10	Wiper Seal	505817	505817	1*
11	Gland Cap	122432	122432	1
12	Front Gland Assembly	125538	125538	1
13	Back-up Ring	501113	501113	1*
14	O-Ring	500819	500819	1*
15**	Head Plug Seat Assy	130524	130524	1

Item	Description	244X	244OSX	Qty
56	Bottom Plate	128790	128790	1
57	Muffler	115554-1	115554-1	1
58	Locknut	505420	505420	1
59	Washer	506493	506493	1
60	Cylinder Head	123778	111959-1	1
61	Air Piston	123776	123753	1
62	Retaining Ring	506490	506490	1
63	Piston Rod	125561	125561	1
64	Pivot Screw	125118	125118	1
65	Spring	116272-244	116272-244	1*
66	O-Ring	507396	507396	3*
67	Throttle Valve	125562	125562	1
68	Throttle Arm	123754	123754	1
69	Screw	500062	500062	4
70	Housing Spacer Assy	112403	112403-1	1

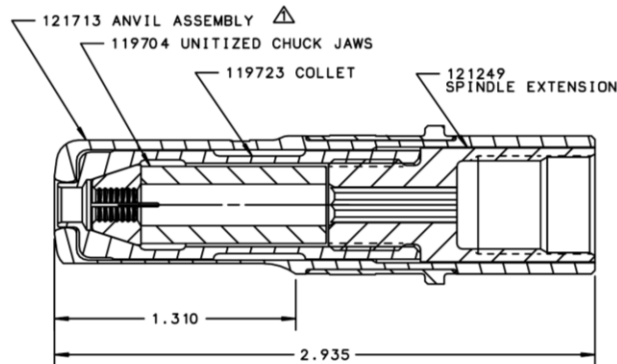


# Tool maintenance

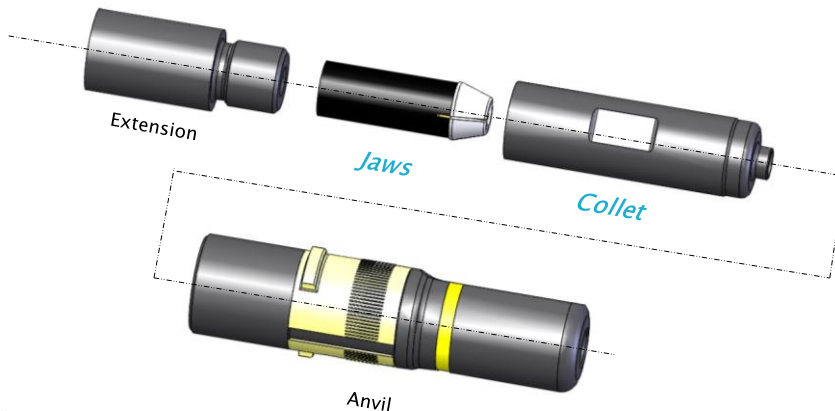
## Noses spare parts

### ► Noses components

- Each component of nose assembly can be ordered individually. Part number is shown on nose drawing, shipped with each nose assembly.



- Last nose drawings can also be downloaded on <https://www.hfsindustrial.com/us/tooling-resource-center/index/view/brand/huck-aerospace>
- Jaws are subject to wearing, and it is recommended to have them available on site. Collets of Lockbolt noses shall also be held on site.
- Spring, screws and small components that can be lost easily shall also be kept on stock.





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# Swage Cavity Inspection Sheets



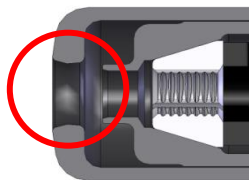
LGP® & XPL® lockbolt installation noses have a yellow identification strip

For proper and smooth lockbolt installations, a periodic inspection and cleaning of swage cavities is recommended. The following instructions are related to LGP® & XPL® lockbolt systems

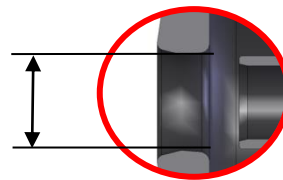
The inspection consists in a visual validation that the swage cavity is smooth and free of contamination, followed by verification with a plug gage of the swage cavity internal. Diameter has to always be in the dimensional limits of the following table. **Max. in service** dimensions column lists the maximum acceptable diameter of the swage cavities for LGP® and XPL® lockbolt installation noses and for the anvils installed on Automatic Collar Feeding Devices (ACFD).

<b>Swage cavity Dimensions</b>		
Diameter Code	<i>Dia mm</i>	max in service mm
-05	4,16	5,687
-06	4,8	6,274
-07	5,55	7,353
-08	6,35	8,283
-10	7,9	10,368
-12	9,5	12,261
-14	11,1	14,486
-16	12,7	16,703
-18	14,3	18,834
-20	15,9	20,688

Nose assembly



Diameter to be inspected



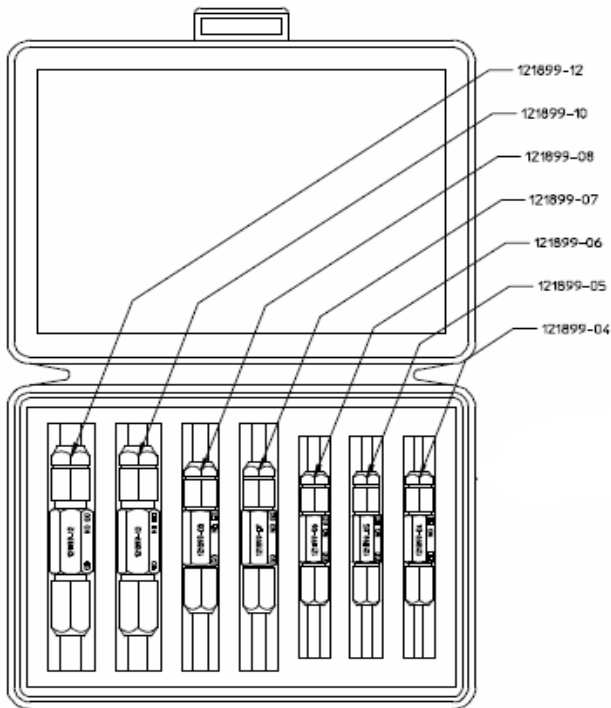
ACFD anvil



Diameter to be inspected



Installation noses exceeding Max. in service dimensions require immediate replacement



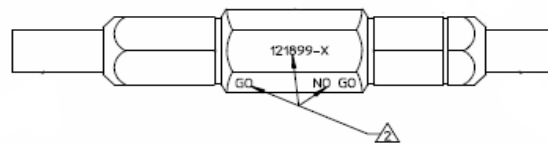
Kits are available for easier operation. HFS gages are made to indicated max in service dimension  $\pm 3\mu\text{m}$ .

Part numbers are :

**512LGPKIT** for diameter between  $5/32''$  (4,16mm) to  $3/8''$  (9,5 mm).

**1420LGPKIT** for diameter between  $7/16''$  (11,1 mm) to  $5/8''$  (15,9 mm).

Any gage that produces equivalent results to the HFS gauge can be used.



**NO GO** cylindrical gauge should not enter in swage cavity.

**GO** cylindrical gauge is maximum manufacturing dimension, to be used for incoming inspection only.

For further information, please contact Howmet Fastening Systems at the following address:

Howmet Fastening Systems  
15 rue du petit Albi  
95800 Cergy-Pontoise  
France  
Tel : +33-1-34-33-98-00

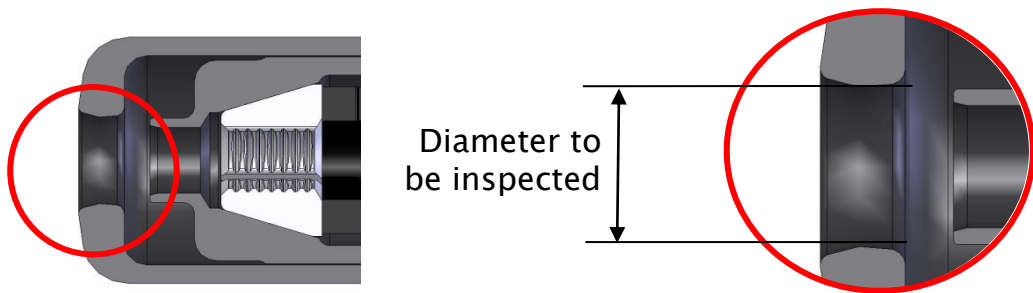


GP™ installation noses do not have a identification colour

For proper and smooth lockbolt installations, a periodic inspection and cleaning of swage cavities is recommended. The following instructions are related to GP™ lockbolt systems.

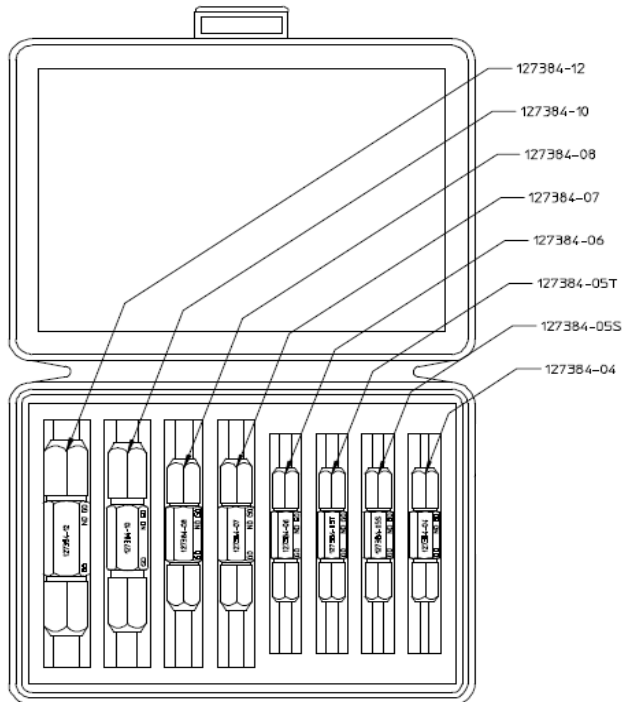
The inspection consists in a visual validation that the swage cavity is smooth and free of contamination, followed by verification with a plug gage of the swage cavity internal diameter. Diameter has to always be in the dimensional limits of the following table. **Max. in service** dimensions column lists the maximum acceptable diameter of the swage cavities for GP™ installation noses:

<b>Swage cavity Dimensions</b>		
Diameter Code	<i>Dia mm</i>	<b>max in service mm</b>
-05	4,16	<b>6,007</b>
-06	4,8	<b>6,972</b>
-07	5,55	<b>8,456</b>
-08	6,35	<b>9,195</b>
-10	7,9	<b>11,481</b>
-12	9,5	<b>13,995</b>



Installation noses exceeding Max. in service dimensions require immediate replacement

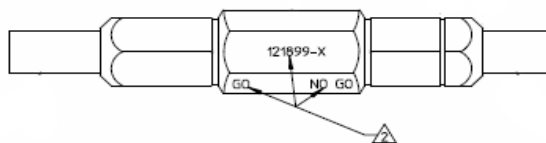




Kits are available for easier operation. HFS gages are made to indicated max in service dimension  $\pm 3\mu\text{m}$ .

Part number is 512GPKIT for diameter between  $5/32$ " (4,16mm) to  $3/8$ " (9,5 mm).

Any gage that produces equivalent results to the HFS gauge can be used.



NO GO cylindrical gauge should not enter in swage cavity.

GO cylindrical gauge is maximum manufacturing dimension, to be used for incoming inspection only.

For further information, please contact Howmet Fastening Systems at the following address:

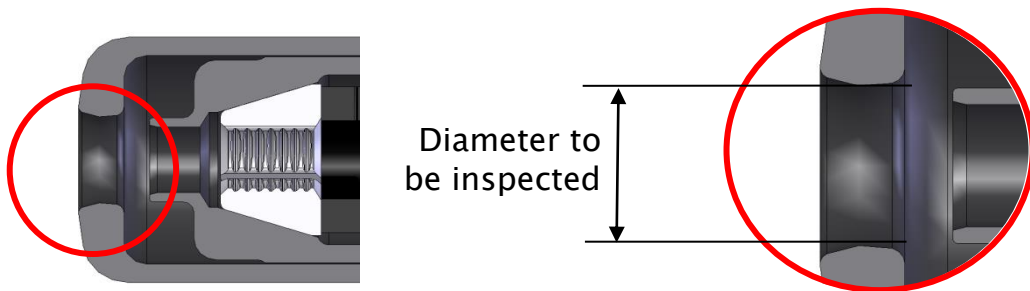
Howmet Fastening Systems  
15 rue du petit Albi  
95800 Cergy-Pontoise  
France  
Tel : +33-1-34-33-98-00

MLGP™ installation noses have a red identification strip

For proper and smooth lockbolt installations, a periodic inspection and cleaning of swage cavities is recommended. The following instructions are related to MLGP™ lockbolt systems

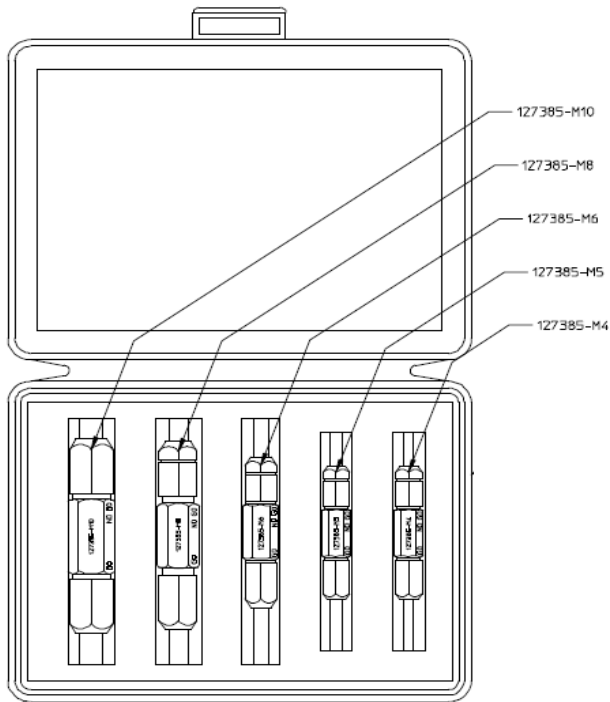
The inspection consists in a visual validation that the swage cavity is smooth and free of contamination, followed by verification with a plug gage of the swage cavity internal diameter. Diameter has to always be in the dimensional limits of the following table. **Max. in service** dimensions column lists the maximum acceptable diameter of the swage cavities for MLGP™ installation noses:

<i>Swage cavity Dimensions</i>		
Diameter Code	<i>Dia mm</i>	max in service mm
-04	4	5,474
-05	5	6,510
-06	6	7,838
-08	8	10,472
-10	10	12,878



Installation noses exceeding Max. in service dimensions require immediate replacement

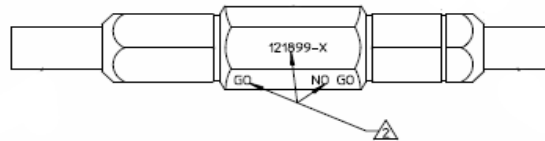




A kit is available for easier operations. It is calibrated to indicated max in service dimension  $\pm 3\mu\text{m}$ .

Part number is 512MLGPKIT for diameter from 4 to 12 mm.

Any gauge that produces equivalent results to the HFS gauge can be used.



**NO GO** cylindrical gauge should not enter in swage cavity.

**GO** cylindrical gauge is maximum manufacturing dimension, to be used for incoming inspection only.

For further information, please contact Howmet Fastening Systems at the following address:

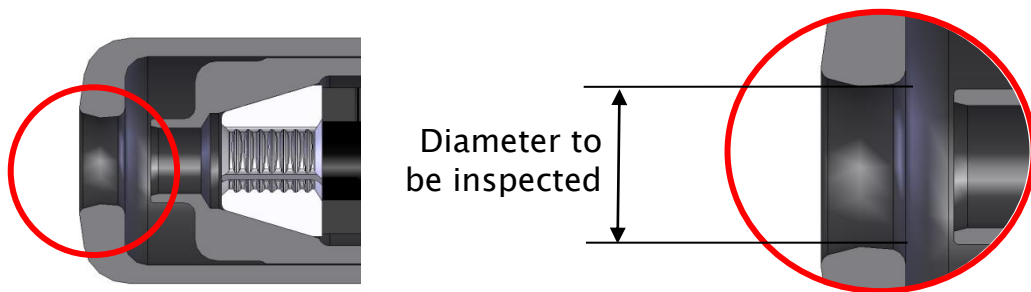
Howmet Fastening Systems  
15 rue du petit Albi  
95800 Cergy-Pontoise  
France  
Tel : +33-1-34-33-98-00

MGP™ installation noses have a blue identification strip

For proper and smooth lockbolt installations, a periodic inspection and cleaning of swage cavities is recommended. The following instructions are related to MGP™ lockbolt systems

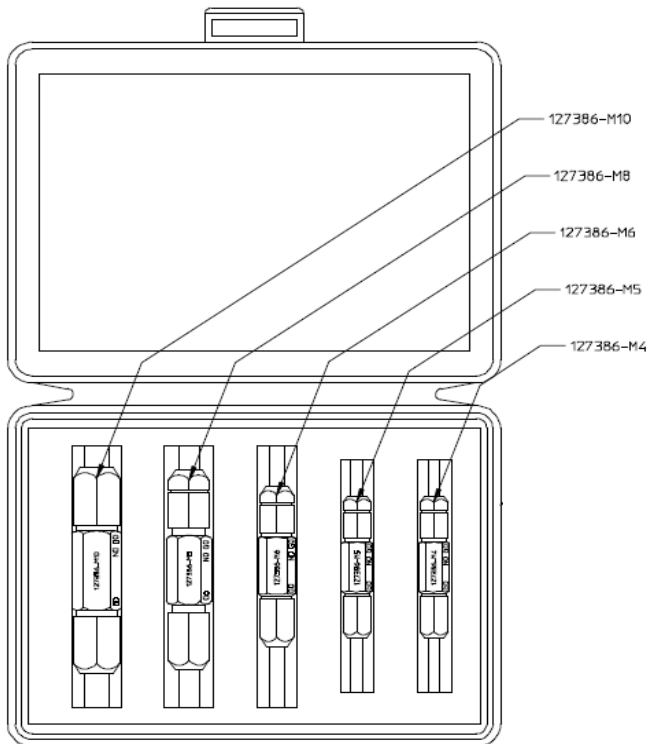
The inspection consists in a visual validation that the swage cavity is smooth and free of contamination, followed by verification with a plug gage of the swage cavity internal diameter. Diameter has to always be in the dimensional limits of the following table. **Max. in service** dimensions column lists the maximum acceptable diameter of the swage cavities for MGP™ installation noses:

<b>Swage cavity Dimensions</b>		
<b>Diameter Code</b>	<b>Dia mm</b>	<b>max in service mm</b>
-04	4	5,829
-05	5	7,310
-06	6	8,890
-08	8	11,532
-10	10	14,072



Installation noses exceeding Max. in service dimensions require immediate replacement

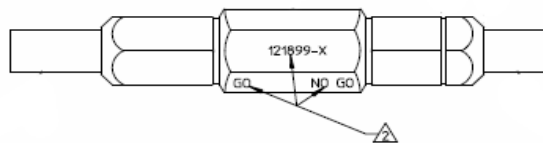




A kit is available for easier operations. HFS gages are made to indicated max in service dimension  $\pm 3\mu\text{m}$ .

Part number is 512MGPKIT for diameter from 4 to 10 mm.

Any gage that produces equivalent results to the HFS gage can be used.

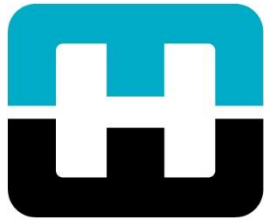


NO GO cylindrical gauge should not enter in swage cavity.

GO cylindrical gauge is maximum manufacturing dimension, to be used for incoming inspection only.

For further information, please contact Howmet Fastening Systems at the following address:

Howmet Fastening Systems  
15 rue du petit Albi  
95800 Cergy-Pontoise  
France  
Tel : +33-1-34-33-98-00



**HOWMET  
AEROSPACE**

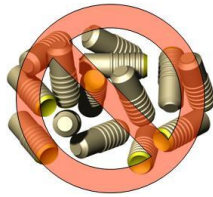
# Accessories Options



# Accessories / Options



**Pintail collector bags:** In line tools and nose assembly can be equipped with optional pintail collection bag to eliminate FOD. If tools are ordered assembled, bag will be included wherever it is needed.

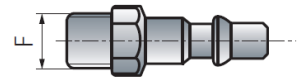


## Part number:

**125652** for 2012, 2013, 202, 2025, 244X & 2480.

**125655** for 2581, 2582, 2583, 254 & 256.

**111247** for 2600



**Air connectors:** Pneudraulic tools are delivered without air connector. They are equipped with a ¼" 18 female pipe thread to accept air hose fitting. Quick connectors are available as shown here.

**Staubli :** 253-7532  
**Walther :** 1038001  
**CEJN 410 :** 667-2024

Assembled tool will include the Staubli air quick connectors. Add a "G" prefix before assembly part number for Walther quick connector or a "U" for CEJN 410 quick connector.

244XA2508



Staubli air connector

G244XA2508



Walther air connector

U244XA2508



CEJN410 air connector





# Accessories / Options

Pintail collection system for EBS4( )X electric installation tool: EBS4( )X tool is equipped with a pintail bag system P/N EB44-PBBL.

Pintail collection system can store up to 500 pintails, depending on fastener diameter installed.



**Plastic pintail collection bottles:** Optional plastic bottles are also available, in either black (PN EB44-B5B) or transparent (PN EB44-B5T).



# Accessories / Options



**Batteries:** 18 Volts Li-Ion technology batteries. Batteries are available in HFS as follow :

- 2,5 Ah : HST-PR-1825
- 5Ah : HST-PR-1850

Tool is also compliant with standard Makita batteries 18 Volts Li-Ion product range, BL18 serie (2,5 Ah min).

**Rubber boot for batteries are available as well :**

- On battery HST-PR-1825, use **cover-1825**
- On battery HST-PR-1850, use **cover-1850**



**Battery charger:** charging time of about 45 minutes. Compliant with all 18 Volts Li-Ion batteries sold by HFS.

3 chargers are available, depending on country in which they are to be used:

- EU : HST-PR-2830 - 230 Volt
- UK : HST-PR-2830-UK - 230 Volt, UK plug. EU adapter compliant as well thru adaptor.
- US : HST-PR2830-USA - 110 Volt



# Accessories / Options

## Power rigs

**Cable holder:** Power rigs can be equipped with a cable holder, allowing to hold tool during transportation. It can be installed per user preference, on the modular frame of power rig.



**CH-AF : Cable Holder for Aluminum Frame**



**Extra handles:** All power rigs can be equipped with additional handles, to ease manipulation. In such configuration, power rigs will be equipped with 2 lateral handles on each side, one vertical, and one horizontal, 4 handles total.

**H** at end of power rig part number indicated optional handles.

HC315AF/T400-**H**

Optional Handles



# Accessories / Options



## Electric plugs:

Single phase 230 Volts power rigs are delivered equipped with plugs.

Three phases and single phase 110 Volts hydraulic power rigs are delivered without electric plug, due to variety.

They can be equipped with standard industrial 16 amps plugs. In such case, simply specify number of pins of plug you wish at end of selected power rig part number as follow :



3 x 400 Volts 4 pins plug, 3 phases and earth connection  
16 Amps



3 x 400 Volts 5 pins plug, 3 phases, neutral and earth connection  
16 Amps

Example for 3 x 400 Volts, red plugs. Similar option available for 3 x 230 Volts, blue plugs.

## HC315AF/T400-4

Number of pins in the plug, **4** (3phases + earth), or **5** (3phases, neutral and earth).

For 3 x 400 Volts 32 Amps power supply, 5 pins version, a Power Adapter is available. It is equipped with a built in fuse, and allow safe use of 3 x 400 Volts 16 amps, 5 pins power rigs on 32 amps plug.



## PA32/T400-5

3 x 400 Volts, 5 pins

Power Adapter for 32 Amps plug

To be used with any power rig T400-5 on 32 amps plug.

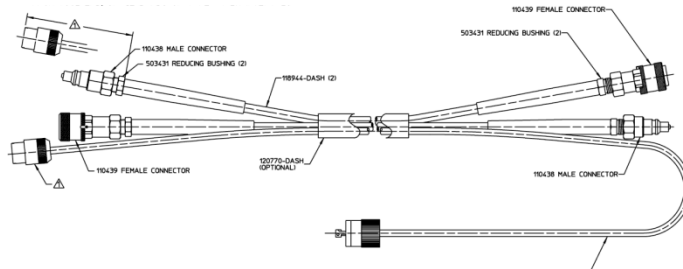


# Accessories / Options

**Hydraulic extension kits:** Hydraulic tools can be equipped with hose extension kits, in various length. Standard hose kit is designed to work with HC315AF, PC hose kit with PC power rigs and tools, and CPC hose kit with CPC power rigs and tools. Main lengths available are shown here below :

## *Length in meters*

	<b>6</b>	<b>8</b>	<b>10</b>	<b>20</b>
<b>HC315AF</b>	HAX17-ECA33	HAX25-ECA33	HAX30-ECA33	HAX50-ECA33
<b>HK3413PC</b>	HS6PC	HS8PC	HS10PC	HS20PC
<b>HK418CPC</b>	HS6CPC	HS8CPC	HS10CPC	HS20CPC



# Accessories / Options

**Pressure verification kits:** PC and CPC power rigs require occasional pressure verification. Trouble shooting of power rig also require pressure verifications and checking, and it is recommended, if hydraulic tools are used, to have available a pressure verification kit.

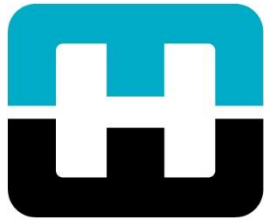
HFS offer 3 kits for each kind of power rigs. They come in a plastic suitcase, and are directly usable on HFS power rigs, to verify both pull and return pressures.

**PV-X :** Pressure Verification kit for HC315AF and all standard power rigs

**PV-PC :** PV-X pressure verification kit plus switch box for HK3413PC power rig.

**PV-PC-CPC :** PV-PC pressure verification kit plus switch box for HK418CPC power rig.





**HOWMET  
AEROSPACE**

# Collar removal

Lockbolt collar cutters



# Collar removal



**Manual collar cutters:** Knipex® collar cutters are based on standard pliers. Same plier can remove aluminum double-end collars (3CLC-C) from 5/32" up to 5/16".

In addition to the standard version, a 45° angle offset plier is available if required for accessibility.

**546/548 tool mounted collar cutter :** Tool mounted collar cutters are designed to fit on 244X pneudraulic tools, and are fastest and more efficient solution to cut double cylindrical collars (3SLC-C). They are designed to offer a 45° angle positioning, and can cut collars in most of the accessibility conditions. They allow removal of collars up to 5/16".



**Hydraulic collar cutter:** Hydraulic collar cutters are required for flanged titanium collars, or any XPL® lockbolt collars. There are 2 subfamilies :

- *Double Blades* : Double blades cutters allow to cut all XPL © collars, and cylindrical aluminum collars.
- *FCMV cutters* : They are only option to remove SLFC-MV collars, made of Cp Titanium.

They require hydraulic pumps to be operated.



SLFC-MV collars cut with FCMV hydraulic cutter






XBF-LV collars cut with Double Blades hydraulic cutter





# Lockbolt collar cutters type & selection

*Collar cutter compatibility per collar part number*

			Manual	Pneudraulic	Hydraulic	
						
			Std: 86 05 250 S5 45° off : 86 05 250 S4	546/548	VA2-CC( )-FCMV	VA2-CC( )-DB Double Blade
<b>LGP</b>	<b>3SLC-C</b> <small>ASNA2025</small>	Alum double end				
	<b>SLFC-MV</b> <small>ASNA2045</small>	Titan flanged				
<b>XPL</b>	<b>XMC-LV</b> <small>ABS1505</small>	Ta3V2,5 double end				
	<b>XBF-LV</b> <small>ABS0998</small>	Ta3V2,5 flanged				
<b>RXL</b>	<b>RXC/RXLC-LV</b> <small>ABS1748/1776</small>	Ta3V2,5 flanged				

Blue cell indicates cutter compatibility for each collar part number. For non listed collars, contact HFS



# Lockbolt collar cutters type & selection

## Part number per diameter

	-05	-06	-07	-08	-10	-12	-14	-16	-18	-20
	4,16 mm / 5/32"	4,8 mm / 3/16"	5,5 mm / 7/32"	6,35 mm / 1/4"	7,9 mm / 5/16"	9,5 mm / 3/8"	11,1 mm / 7/16"	12,7 mm / 1/2"	14,3 mm / 9/16"	15,9 mm / 5/8"
<b>Manual (Knipex ®)</b>	Standard : 86 05 250 S5 45° offset : 86 05 250 S4									
<b>Pneudraulic 546/548</b>	548-05	546	PR3183	548	548-10					
<b>Hydraulic for SLFC-MV : FCMV</b>	VA2-CC05-FCMV	VA2-CC06-FCMV	VA2-CC07-FCMV	VA2-CC08-FCMV	VA2-CC10-FCMV	VA2-CC12-FCMV				
<b>Hydraulic Double Blade : DB</b>	VA2-CC05-DB	VA2-CC06-DB	VA2-CC07-DB	VA2-CC08-DB	VA2-CC10-DB	VA2-CC12-DB	VA2-CC14-DB	VA2-CC16-DB	VA2-CC18-DB	VA2-CC20-DB



# Collar removal – Power source

Tool mounted collar cutters  
*Tooling compatibility*



546/548 collar cutters are designed to work with 244X pneudraulic tools.

Hydraulic collar cutter  
*Hydraulic pump option*



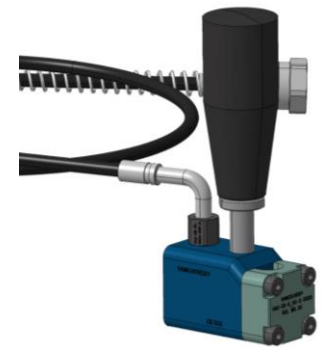
Hydro pneumatic pump – All VA2 collar cutters

VA2-SP-PH-VA



Manual pump – VA2 collar cutters up to 12 dia (9,5 mm / 3/8")

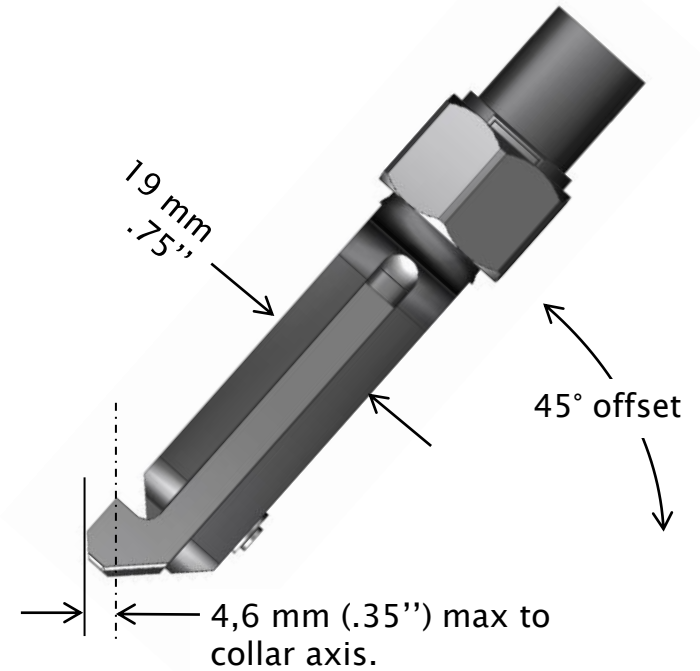
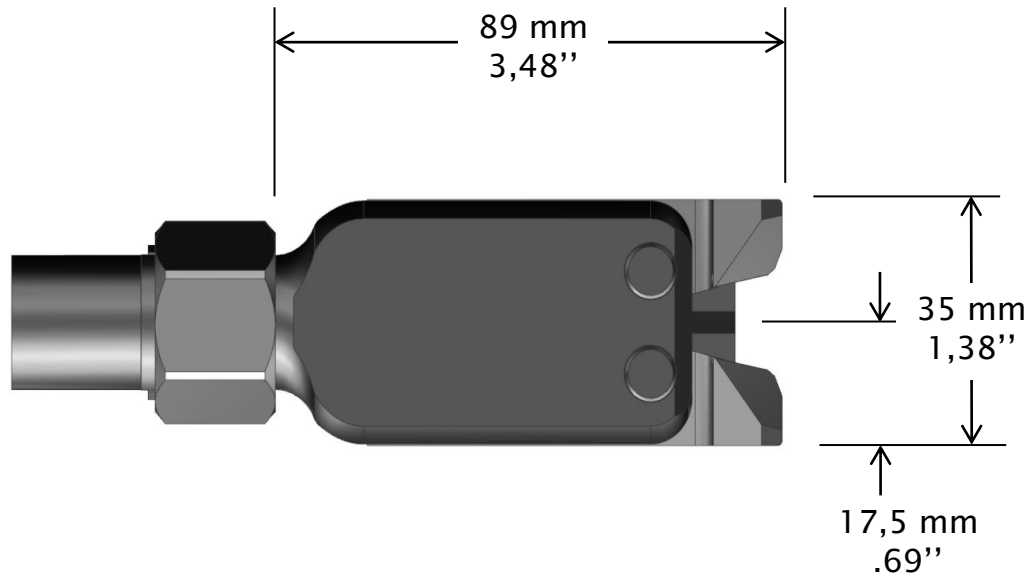
VA2-MP700



VA2-CC()-()



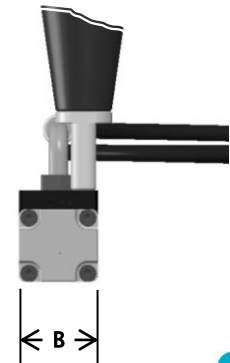
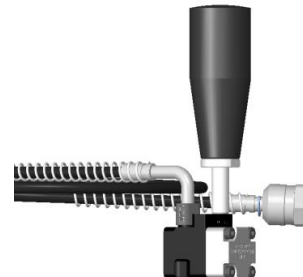
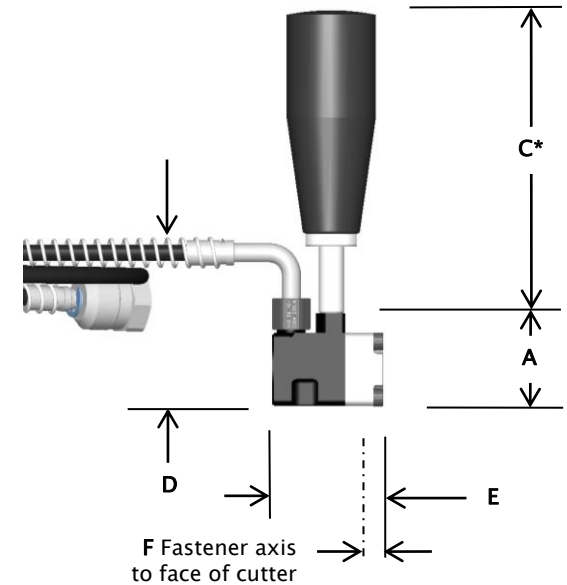
# 546/548 Collar cutters



# Hydraulic Collar cutters

		-05	-06	-07	-08	-10	-12	-14	-16	-18	-20
<b>FCMV</b> collar cutters	<b>A</b>			31		34	38				
	<b>B</b>			27		33	40				
	<b>C*</b>			91							
	<b>D</b>	53		60		55,5	60				
	<b>E</b>		52	53,5	55	62	77,5				
	<b>F</b>	8,5	12	12,7	13,7	16	22				
<b>Double Blade DB</b> collar cutters	<b>A</b>	29	29,2		31	34	38	45		56	
	<b>B</b>		25		27	33	40	49,5	50	70	
	<b>C*</b>		95				91				
	<b>D</b>	52	52,1		60	62	67	85	85,5	96,5	
	<b>E</b>	34,4	34,9		54	58	68,2	80	82	108	
	<b>F</b>	9,5	9,8	13,8	14	21,7	22,1	27,6	28,7	40	39

\* Handle can be removed if needed





# Tools drawings & main characteristics



# (K)EBS43X & (K)EBS44X

## Configurations :

EBS43X: EBS43X tool, no battery, no charger

KEBS43X: EBS43X tool, 1 x 2,5Ah battery HST-PR-1825 & battery cover cover-1825

EBS44X: EBS44X tool, no battery, no charger

KEBS44X: EBS44X tool, 1 x 2,5Ah battery HST-PR-1825 & battery cover cover-1825

Underlined characters are to be used for kit part numbers construction and will define configuration of tool shipped in tool.

Battery chargers are shown in accessories section as well as optional pintail collection systems.

HFS EBS43( ) and EBS44( ) tools are also usable with 18 Volts Makita batteries (BL18 serie, 2,5 Ah min).



## Kit additional components



EBS43X and EBS44X Electric installation tools are designed to install LGP® lockbolt and XPL® lockbolt fasteners up to ¼" (6,35 mm) diameter, see selection chart for optimum tool selection.

They can also install blind fasteners up to ¼".

- **Stroke** : EBS43X : 12,7 mm  
EBS44X : 14,3 mm
- **Weight** : 1,7 Kgs without battery, 2,1 Kgs with 2.5 Ah battery.
- **Capacity** : EBS43X 3400 lbs (1500 daN)  
EBS44X 4500 lbs (2000 daN)
- **Rated Voltage** : DC 18 Volts

Light blue attachment

# (K)EBS43OSX & (K)EBS44OSX



## Configurations :

EBS43OSX: EBS43X tool, no battery, no charger

KEBS43OSX: EBS43X tool, 1 x 2,5Ah battery HST-PR-1825 & battery cover cover-1825.

EBS44OSX: EBS44X tool, no battery, no charger

KEBS44OSX: EBS44X tool, 1 x 2,5Ah battery HST-PR-1825, battery cover cover-1825.



## Kit additional components



Underlined characters are to be used for kit part numbers construction and will define configuration of tool shipped in tool.

Battery chargers are shown in accessories section as well as optional pintail collection systems.

HFS EB43S( ) and EB44S( ) tools are also usable with 18 Volts Makita batteries (BL18 serie, 2,5 Ah min).

EBS43OSX and EBS44OSX Electric installation tools are designed to install LGP® lockbolt and XPL® lockbolt fasteners up to ¼” (6,35 mm) diameter, see selection chart for optimum tool selection.

They can also install blind fasteners up to ¼”.

- **Stroke** : EBS43X : 12,7 mm  
EBS44X : 14,3 mm
- **Weight** : 1,7 Kgs without battery, 2,1 Kgs with 2.5 Ah battery.
- **Capacity** : EBS43OSX 3400 lbs (1500 daN)  
EBS44OSX 4500 lbs (2000 daN)
- **Rated Voltage** : DC 18 Volts

Dark blue attachment, offset noses only.



# (K)EBSPX & (K)EBSPXSX

## Configurations :

EBSPX( ): Tool, load adjusted for pull-in of fastener diameter between parenthesis, no battery, no charger for in line pull-in noses.

KEBSPX( ): EBSPX tool, 1 x 2,5Ah battery HST-PR-1825 & battery cover cover-1825

EBSPXSX( ): Tool, load adjusted for pull-in of fastener diameter between parenthesis, no battery, no charger for offset pull-in noses.

KEBSPXSX( ): EBSPXSX tool, 1 x 2,5Ah battery HST-PR-1825 & battery cover cover-1825

Underlined characters are to be used for kit part numbers construction and will define configuration of tool shipped in tool.

Battery chargers are shown in accessories section as well as optional pintail collection systems.

HFS EBSPX ( ) and EBSPXSX ( ) tools are also usable with 18 Volts Makita batteries (BL18 serie, 2,5 Ah min).



## Kit additional components



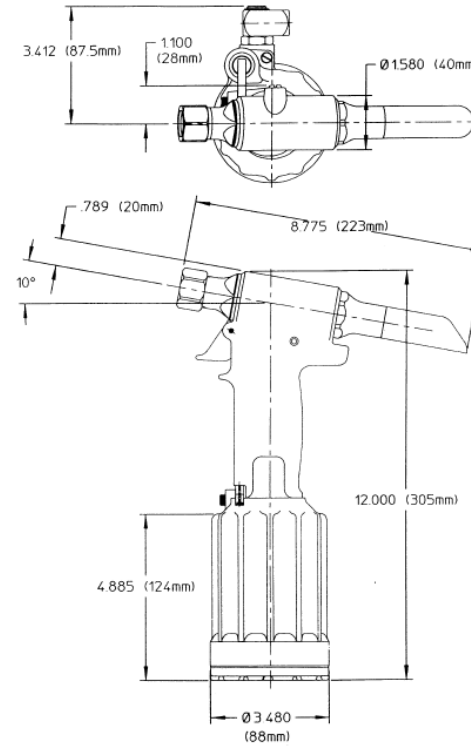
EBSPX ( ) and EBSPXSX ( ) Electric installation tools are designed to pull-in LCP® lockbolt and XPL® lockbolt fasteners up to ¼” (6,35 mm) diameter, see selection chart for optimum tool selection. Load is adjusted to optimum pull-in load for diameter specified between parenthesis. Load and stroke can also be adjusted by user if required using HFS tool manager software.

- **Stroke** : EBSPX( ) : 25 mm  
EBSPXSX : 14,3 mm
- **Weight** : 1,7 Kgs without battery, 2,1 Kgs with 2.5 Ah battery.
- **Capacity** : adjustable thru software, 2000 daN max.
- **Rated Voltage** : DC 18 Volts

Light blue attachment  
EBSPX

Dark blue attachment  
EBSPXSX

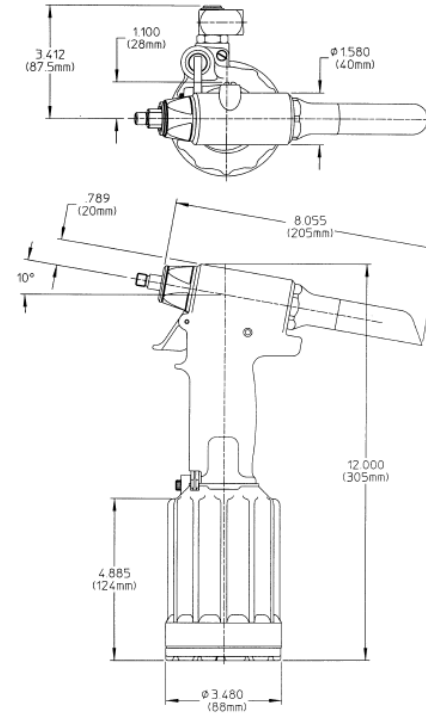
# 2012



- **Min. Stroke:** .650
- **Air Pressure:** 90 psi
- **Speed/Cycles:** 20 per minute
- **Air Consumption:** 2.9 CFM
- **Weight of 2012:** 4.4 lbs
- **Weight of 2012B & 2012V:** 4.7 lbs
- **Min. Capacity:** 2670 lbs @ 90 psi

Light blue attachment

# 2013



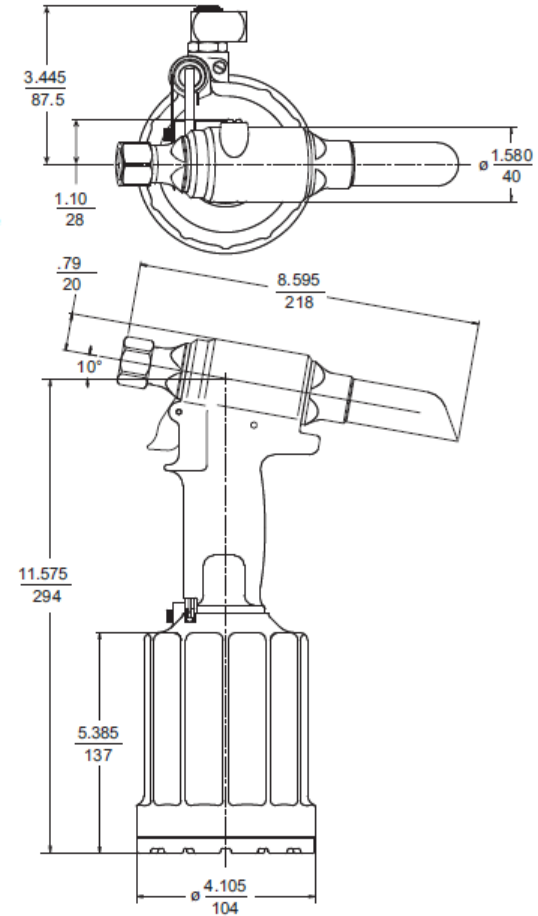
- Min. Stroke: .650
- Air Pressure: 90 psi
- Speed/Cycles: 20 per minute
- Air Consumption: 2.9 CFM
- Weight of 2013: 4.4 lbs
- Weight of 2013B & 2013V: 4.7 lbs
- Min. Capacity: 2670 lbs ~ 90 psi

Purple attachment

# 202



- Stroke: .750 in
- Weight: 5.1 lbs
- Air Pressure: 90 psi
- Capacity: 3889 lbs @ 90 psi
- Speed/Cycles: 20 per minute



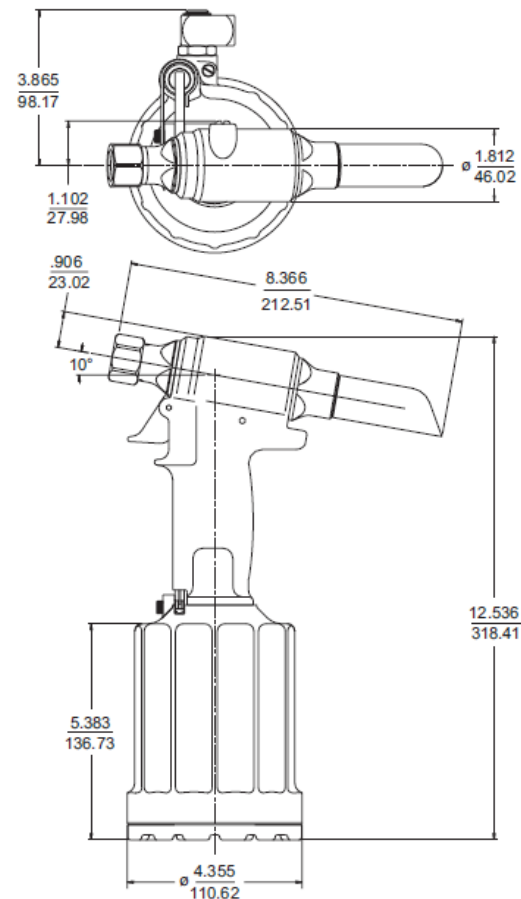
Light blue attachment  
Can be used wherever 2012 is used.

# 2025



## Models 2025 & 2025L

- Stroke: .675 in
- Weight: 5 lbs 12oz
- Air Pressure: 90 psi
- Capacity: 5290 lbs @ 90 psi
- Speed/Cycles: 30 per minute
- Noise Level: 75 dBA @ 90 psi



Light blue attachment  
Can be used wherever 2012 and 202 are used.

# 2057



## SPECIFICATIONS

### HYDRAULIC FLUID:

ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications. Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): "the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed."

MAX INLET PRESSURE: 7400 psi, (510 bar)

PULL CAPACITY: 5280 lbs (24 KN) @ 90 psi

STROKE: .815 in. ( 2.07 cm)

WEIGHT WITHOUT NOSE ASSY: 10.01 lbs (4.54 kg)

HEAD LENGTH WITHOUT NOSE ASSY: 8.4 in (21.3 cm)

HEAD WIDTH: 2.25 in (5.72 cm)

CYLINDER DIAMETER: 4.63 in (11.76 cm)

CENTERLINE TO TOP OF HEAD: .73 in (1.85 cm)

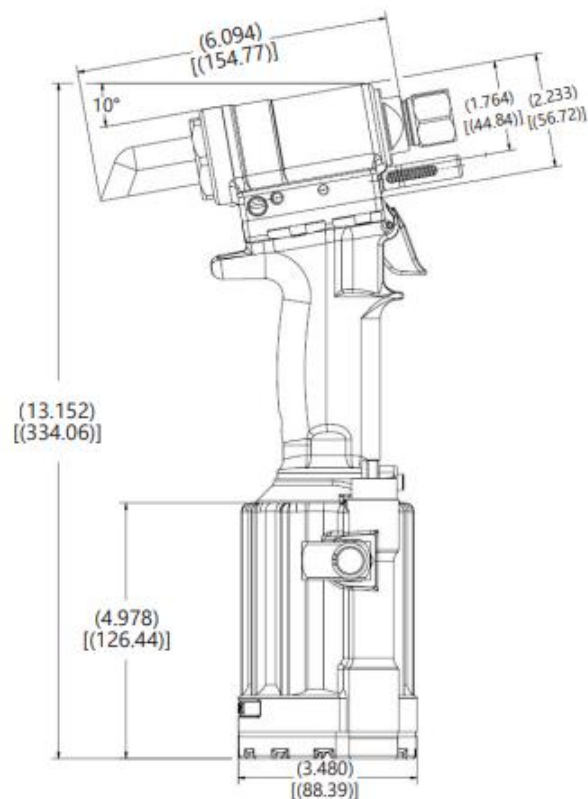
OVERALL HEIGHT: 14.62 in (37.13 cm)

AIR PRESSURE REQD: 90-100 psi (620-690 kPa)

AIR CONSUMPTION: 11.5 CFM (1.005 m<sup>3</sup>/s)  
(based on 30 fastener installation per minute)

Light orange attachment  
Long stroke tool, pull-in only

# 243X



**STROKE**

243X: .565 inches (1.66 cm)

**WEIGHT**

5 lbs 11 oz (2.58 kg)

**MAXIMUM AIR PRESSURE**

90 psi (6.2 BAR)

**CAPACITY**

2945 lbf (13.1 kN) @ 90 psi (6.2 BAR)

**SPEED/CYCLES**

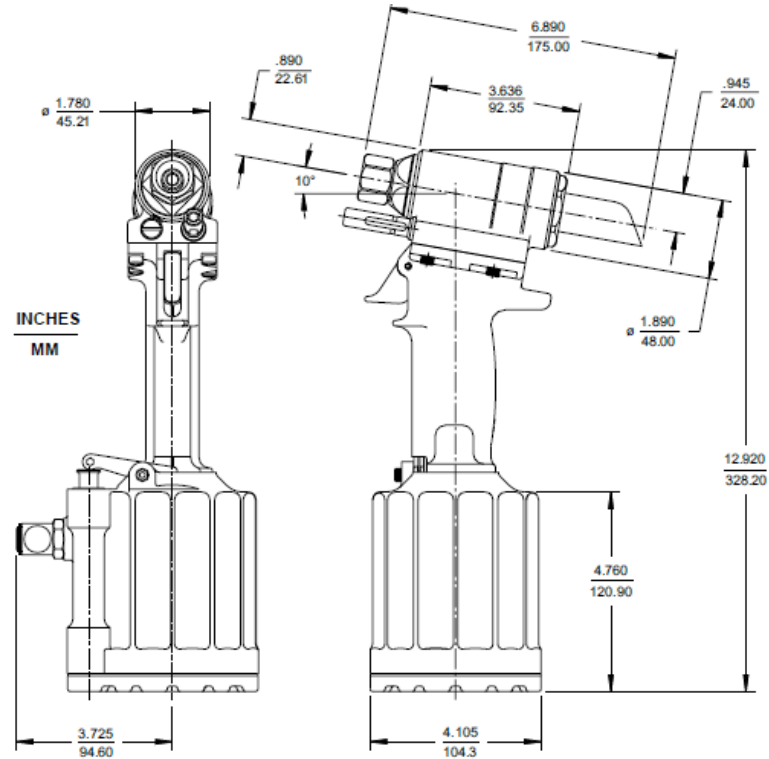
30 per minute

**MAXIMUM OPERATING TEMPERATURE**

125°F (52°C)

Light blue attachment

# 244X

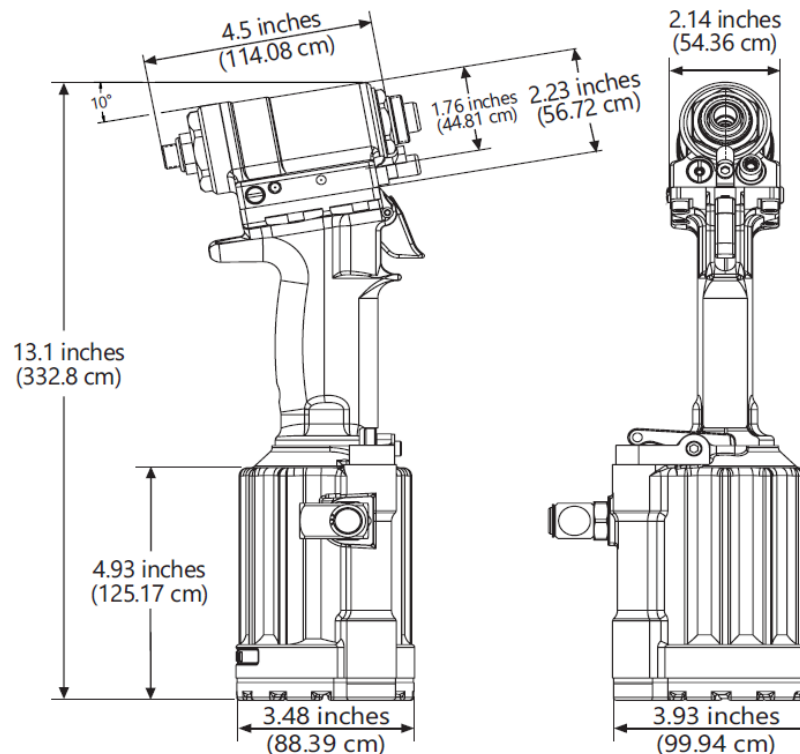


- Stroke: .562 in
- Weight: 5 lbs 11oz
- Air Pressure: 90-100 psi
- Capacity: 4606 lbs @ 90 psi
- Speed/Cycles: 30 per minute
- Noise Level: 75 dBA @ 90 psi

Light blue attachment



# 2430SX



### STROKE

243X: .565 inches (1.66 cm)

### WEIGHT

5 lbs 11 oz (2.58 kg)

### MAXIMUM AIR PRESSURE

90 psi (6.2 BAR)

### CAPACITY

2945 lbf (13.1 kN) @ 90 psi (6.2 BAR)

### SPEED/CYCLES

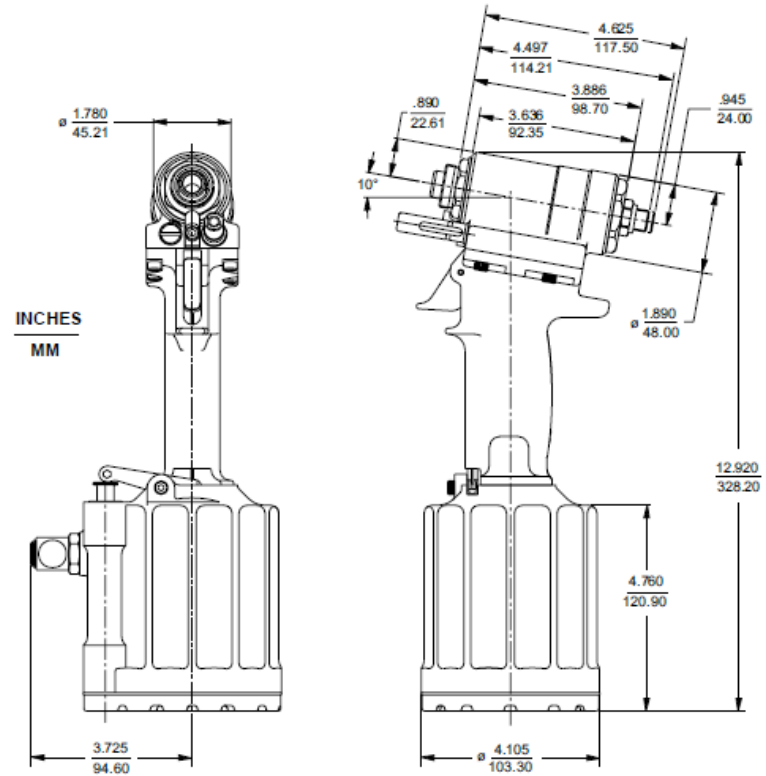
30 per minute

### MAXIMUM OPERATING TEMPERATURE

125°F (52°C)

Dark blue attachment, offset noses only.

# 2440SX

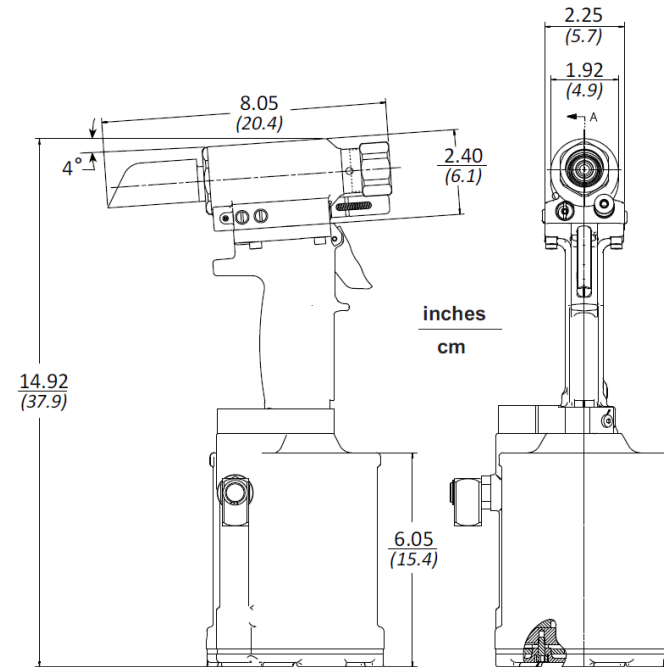
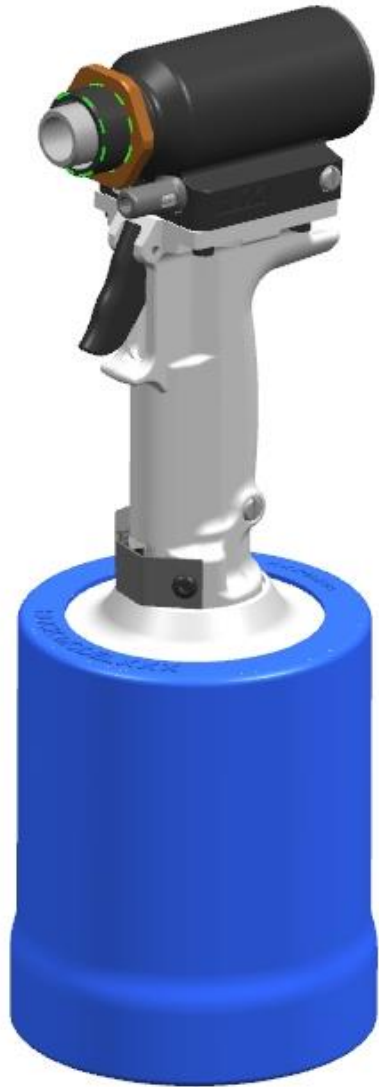


- Stroke: Adjustable 0 - .500 in
- Weight: 5 lbs 11oz
- Air Pressure: 90-100 psi
- Capacity: 4606 lbs @ 90 psi
- Speed/Cycles: 30 per minute
- Noise Level: 75 dBA @ 90 psi

Dark blue attachment, offset noses only.



# 2540S



**WEIGHT:**  
8.67 lbs (3.9 kg)

**MAX AIR PRESSURE:**  
100 psi (6.9 bar)

**MIN PULL CAPACITY:**  
8,620 lbs (38.34 kN) @ 90 psi

**MIN PULL CAPACITY:**  
8,620 lbs (38.34 kN) @ 90 psi

**MIN STROKE:**  
.565 inches (1.43 cm)

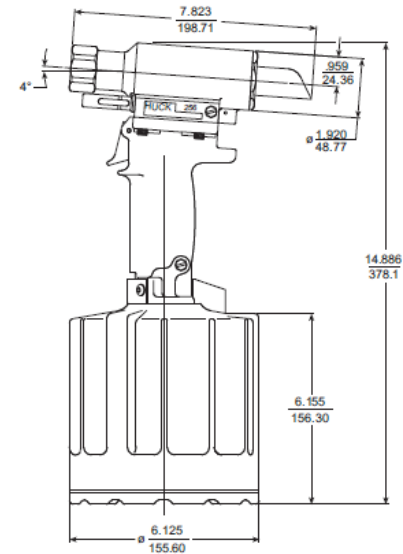
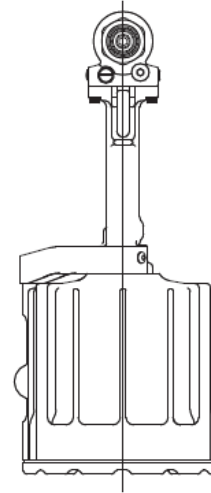
Dark orange attachment, offset noses only.

# 256

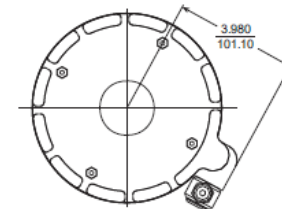
## TOOL SPECIFICATIONS



INCHES  
MM

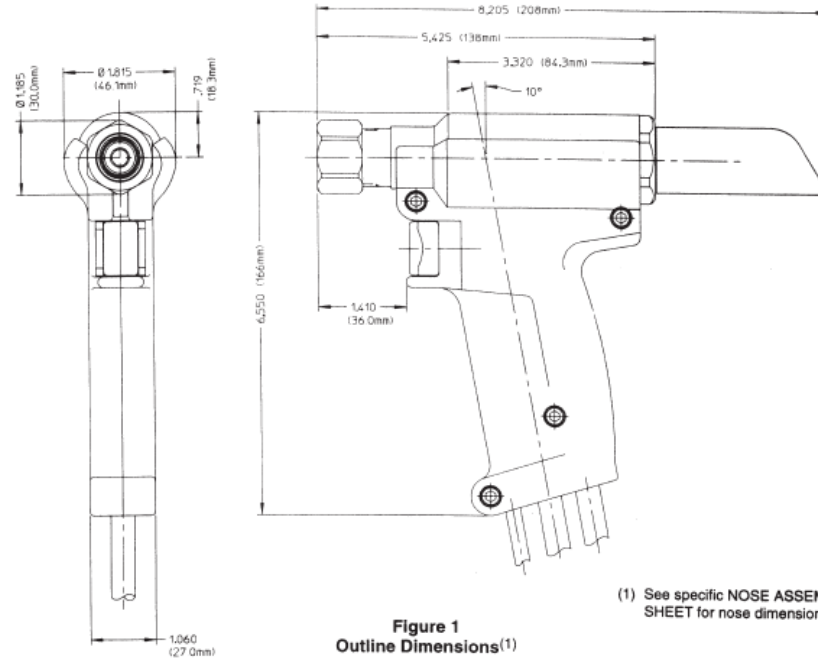


- Stroke: .875
- Weight: 11.1 lbs
- Air Pressure: 90-100 psi
- Capacity: 9986 lbs @ 90 psi
- Speed/Cycles: 30 per minute
- Noise Level: 85 dBA @ 90 psi



Light orange attachment  
Can be used wherever 245 is used.

# 2480



**Figure 1**  
**Outline Dimensions<sup>(1)</sup>**

(1) See specific NOSE ASSEMBLY SHEET for nose dimensions.

<u>Model No.</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>	<u>Weight</u>	<u>Stroke</u>
2480	8.63 in. 219 mm	1.88 in. 48 mm	6.50 in. 165 mm	2.2 lbs. 1.0 kg	.875 22.2 mm

Power source	.....	Huck POWERIG Hydraulic Unit
PULL pressure	.....	8400 psi 580 BAR
RETURN pressure	.....	3200 psi 220 BAR
Maximum pinbreak	.....	5380 lb <sub>f</sub> 23,931 N

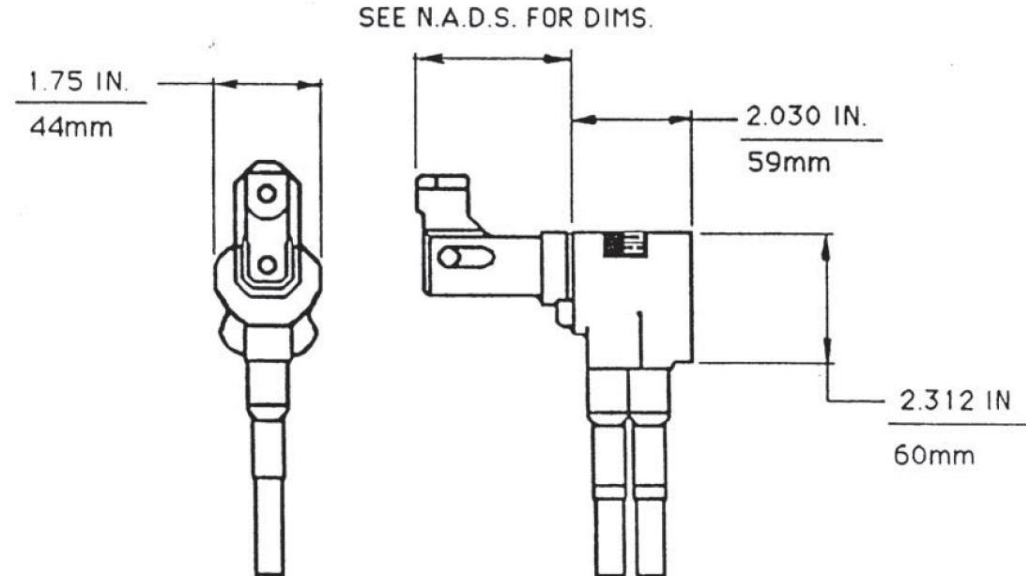
Light blue attachment.  
Shipped with 3,6 meters length hoses.

# 206-375 / 206-500



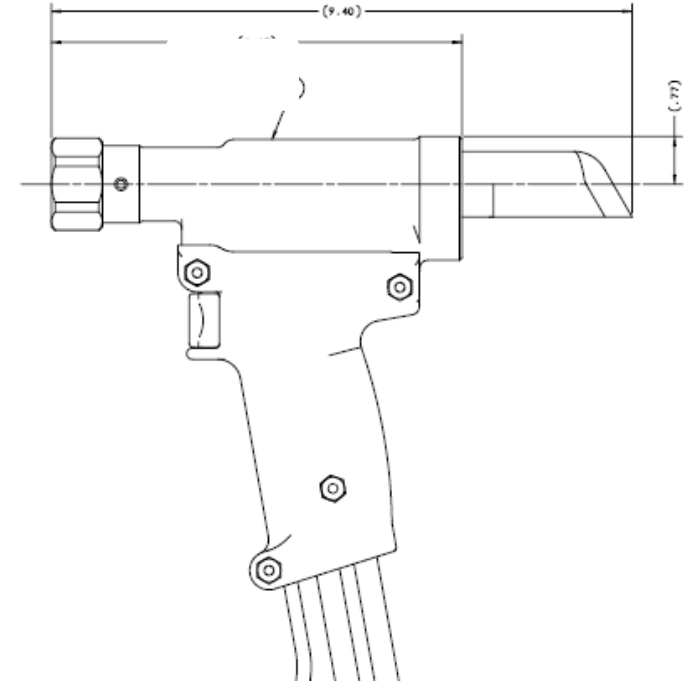
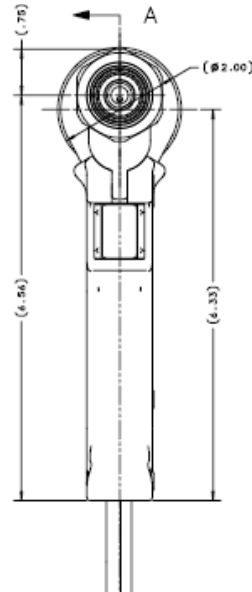
<u>Model No.</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>	<u>Weight</u>
206-375	4.5 in. 115 mm	1.75 in. 43.5 mm	3.25 in. 83mm	3.37 lbs. 1.5 kg

**Note:** Length, Width, Height and Weight include overall dimensions/weight of typical assembled Offset Nose Assembly and Tool.



Dark blue attachment, offset noses only.  
Shipped with 3,6 meters length hoses.  
Switch from 206-375 to 206-500 by removing stroke limiter, and switch release valve.

# 2583



Length	9.40"	(23,9 mm)
Width	2.00"	(50 mm)
Height (incl. handle)	7.31"	(185 mm)
Weight	4.6 lbs	2,9 Kgs
Max Pull press.	8400 PSI	580 bars
Max Return press.	2400 PSI	165 bars

Light orange attachment.  
Shipped with 3,6 meters length hoses.

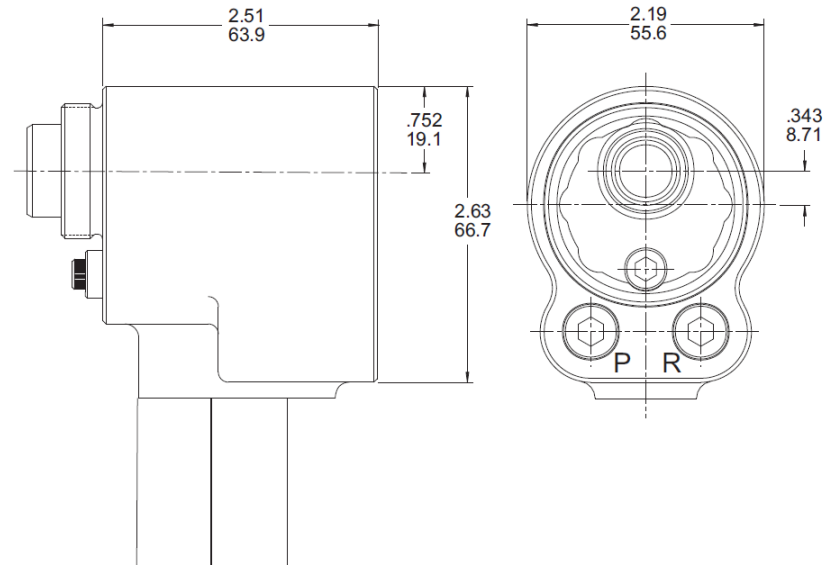


# 208-625 / 208-750



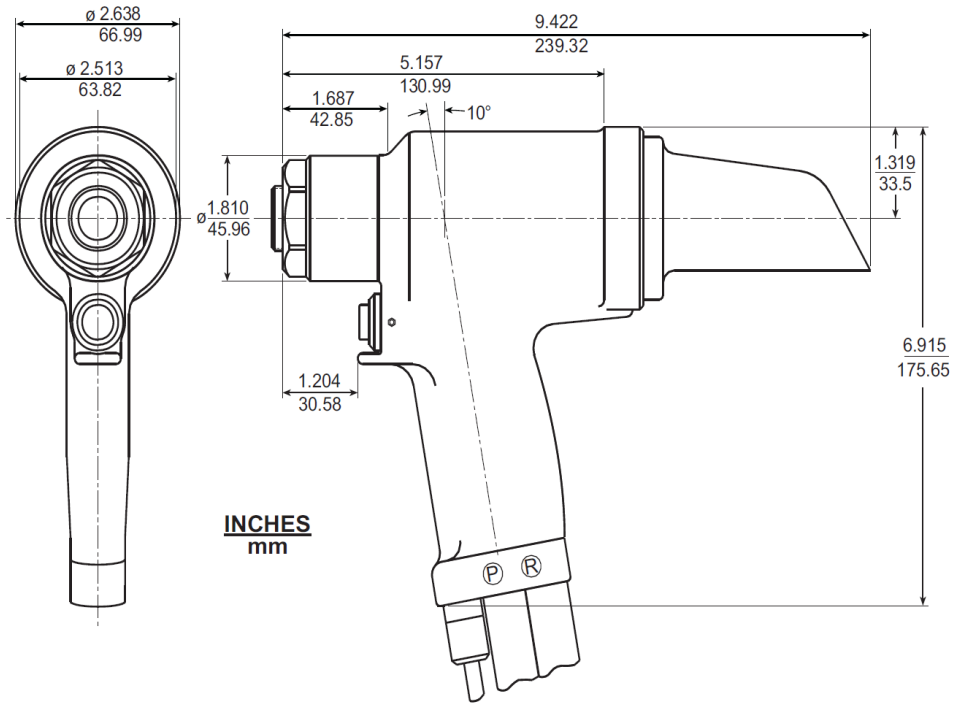
<u>Model No.</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>	<u>Weight</u>
208-625	6.0 in. 152 mm	2.19 in. 56 mm	3.81 in. 97mm	3.96 lbs. 1.8 kg

**Note:** Length, Width, Height and Weight include overall dimensions/weight of typical assembled Offset Nose Assembly and Tool.



Dark orange attachment, offset noses only.  
Shipped with 3,6 meters length hoses.  
Switch from 208-625 to 208-750 by removing stroke limiter, and switch release valve.

# 2600-16-12



**PULL CAPACITY:**

20,020 lbs (89.05 kN) @ 7400 psi

**WEIGHT:**

7.3 lbs (3.31 kg)

**STROKE:**

1.25 inches (3.18 cm)

Light green attachment.  
Shipped with 3,6 meters length hoses.



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**Download last version, nose datasheets and 3D models on**

<https://www.hfsindustrial.com/us/tooling-resource-center/index/view/brand/huck-aerospace>



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