

GENERAL **FASTENERS**

AVDEL

FASTENERS DIVISION OF
ZIP WHOLESALE (WGTN) LTD

WELLINGTON
P.O. BOX 30-446 LOWER HUTT
TELEPHONE 60-125

AUCKLAND
P.O. BOX 8037 NEWTON
TELEPHONE 362-480

"POP" TUCKER RIVETS

The range includes:

- Monel
- Aluminium
- Copper
- All Aluminium
- Steel Rivets

Both Hand operated tools and Pneumatic placing tools are available.

"KLIK" MARSON RIVETS

The range includes:

- Steel - Cadmium plated
- Aluminium
- All Aluminium
- Stainless Steel
- Copper Rivets

AVDEL SHEET GRIPPERS

Designed for holding panels in place while fixing.

Available in 3/32, 7/64, 1/8, 5/32, 3/16 and 1/4 inch diameters.

JO BOLT

A blind fastener for use where high strength fastening is required.

PIP PINS

A truly versatile quick release pin. Available in most diameters and lengths.

CHERRY AIRCRAFT RIVETS

Details on request.

POP RIVETS

MONEL STANDARD OPEN RIVETS

This metal is composed principally of nickel and copper, it has high tensile strength, and with the exception of stainless steel, is the most versatile of all metals in common use. Being rustless and resistant to interaction with most other metals, it has an unlimited variety of uses.

All monel metal 'POP' rivets carried in stock are passivated and cadmium coated, and can be soldered or brazed without difficulty. Cadmium coating only or plain monel rivets can be supplied on indent. Stainless Steel mandrels for TLP/D/419, TLP/D/424 and TLP/D/429 can be manufactured on request.

All monel rivet stocks are covered by air release notes.

Dimensions in inches.

Rivet Diameter	Code	Recommended Riveting Thicknesses				Length of Rivet under head	Recommended Drill Size	Standard Box Quantity	Standard Bulk Carton
	TLP/D TLP/K	Break Stem Mandrels		Break Head Mandrels					
		Domed Head Rivets	C'sk Head Rivets	Domed Head Rivets	C'sk Head Rivets				
7/64 (2.8 mm.)	319	.020 -.07	.020 -.09	.010 -.09	.010 -.11	.19	No. 33 2.85 mm.	1,000	10,000
	321	.071 -.09	.091 -.11	.091 -.11	.111 -.13	.21			
1/8 (3.2 mm.)	413	—	—	.010 -.05	.010 -.08	.13	No. 30 .1285 3.25 mm.	1,000	10,000
	419	.020 -.07	.030 -.01	.051 -.09	.081 -.12	.19			
	424	.071 -.12	.101 -.15	.091 -.14	.121 -.17	.24			
	429	.121 -.17	.151 -.20	.141 -.19	.171 -.22	.29			
	435	.171 -.23	.201 -.26	.191 -.25	.221 -.28	.35			
	440	.231 -.28	.261 -.31	.251 -.30	.281 -.33	.40			
5/32 (4.0 mm.)	519	.020 -.05	.040 -.08	.010 -.08	.010 -.11	.19	No. 20 .161 4.10 mm.	1,000	8,000
	524	.051 -.10	.081 -.13	.081 -.14	.111 -.17	.24			
	530	.101 -.16	.131 -.19	.141 -.20	.171 -.23	.30			
	537	.161 -.23	.191 -.26	.201 -.25	.231 -.28	.37			
	540	.231 -.26	.261 -.29	.251 -.29	.281 -.32	.40			
	545	.261 -.31	.291 -.34	.291 -.34	.321 -.37	.45			
3/16 (4.8 mm.)	624	.020 -.09	.050 -.12	.010 -.12	.010 -.15	.24	No. 11 .191 4.85 mm.	500	5,000
	630	.091 -.15	.121 -.18	.121 -.17	.151 -.20	.30			
	636	.151 -.20	.181 -.23	.171 -.23	.201 -.26	.36			
	639	.201 -.23	.231 -.26	.231 -.25	.261 -.28	.39			
	650	.231 -.34	.261 -.37	.251 -.36	.281 -.39	.50			
	665	.341 -.49	.371 -.52	.361 -.51	.391 -.54	.65			
	675	.491 -.59	.521 -.62	.511 -.61	.541 -.64	.75			
1/4 (6.4 mm.)	850	.151 -.30	.181 -.33	—	—	.50	F 6.53 mm.	250	2,000
	870	.301 -.50	.331 -.53	—	—	.70			

RIVET METAL COMPOSITION

To specification D.T.D. 10B—VPN 120–150.

Carbon	-	-	-	0.19%	Nickel	-	-	-	66.68%
Manganese	-	-	-	0.90%	Silicon	-	-	-	0.04%
Sulphur	-	-	-	0.007%	Iron	-	-	-	0.83%
Copper	-	-	-	31.31%					

RIVET SPECIFICATIONS

Dimensions in inches.

Rivet Diameter + .003 - .001	Head Diameter	Head Thickness		Mandrel Diameter	Mandrel Breaking Load	Rivet Shear Fail Load
		Domed Head	Countersunk Head			
7/64 .109	.192 ± .007	.020 ± .003	.028 ± .003	.072	620 lb. ± 30 lb.	300 lb. (136 kg.)
1/8 .125	.236 ± .007	.025 ± .003	.036 ± .003	.076	750 lb. ± 30 lb.	420 lb. (190 kg.)
5/32 .156	.263 ± .007	.028 ± .003	.039 ± .003	.090	930 lb. ± 40 lb.	560 lb. (250 kg.)
3/16 .187	.320 ± .010	.040 ± .010	.045 ± .010	.114	1,600 lb. ± 60 lb.	940 lb. (426 kg.)
1/4 .253	.427 ± .010	.053 ± .010	.059 ± .010	.152	2,800 lb. ± 60 lb.	1,600 lb. (726 kg.)

ALUMINIUM STANDARD OPEN RIVETS

These rivets are made of an alloy resistant to reaction with other metals, but their use with copper or brass is not recommended. They can be used with steel in conditions not conducive to corrosion. Aluminium rivets can be supplied with an anodised finish in several colours on indent only. Air release notes can be issued for aluminium rivets only when specially indented.

Dimensions in inches.

Rivet Diameter	Code	Recommended Riveting Thicknesses				Length of Rivet	Recom-mended Drill Size	Standard Box Quantity	Standard Bulk Carton
	TAP/D TAP/K	Break Stem Mandrels		Break Head Mandrels					
		Domed Head Rivets	C'sk Head Rivets	Domed Head Rivets	C'sk Head Rivets				
3/32 (2.4 mm.)	315	—	—	.010 -.05	.010 -.08	.15	No. 41	1,000	10,000
	320	.020 -.07	.030 -.10	.051 -.09	.081 -.12	.20	.096		
	329	.071 -.17	.101 -.20	.091 -.19	.121 -.22	.29	2.44 mm.		
1/8 (3.2 mm.)	414	—	—	.010 -.05	.010 -.08	.14	No. 30 .1285 3.25 mm.	1,000	10,000
	420	.020 -.07	.030 -.10	.051 -.09	.081 -.12	.20			
	423	.071 -.10	.101 -.13	.091 -.12	.121 -.15	.23			
	429	.101 -.17	.131 -.20	.121 -.19	.151 -.22	.29			
	435	.171 -.23	.201 -.26	.191 -.25	.221 -.28	.35			
	440	.231 -.28	.261 -.31	.251 -.30	.281 -.33	.40			
	450	.281 -.38	.311 -.41	—	—	.50			
466	.381 -.54	.411 -.55	—	—	.66				
5/32 (4.0 mm.)	518	.020 -.05	.040 -.08	.010 -.08	.010 -.11	.18	No. 20 .161 4.10 mm.	1,000	8,000
	523	.051 -.10	.081 -.13	.081 -.13	.111 -.16	.23			
	529	.101 -.16	.131 -.19	.131 -.19	.161 -.22	.29			
	537	.161 -.23	.191 -.26	.191 -.25	.221 -.28	.37			
	545	.231 -.31	.261 -.34	.251 -.33	.281 -.36	.45		500	
	550	.311 -.36	.341 -.39	.331 -.38	.361 -.41	.50			
	560	.361 -.46	.391 -.49	—	—	.60			
	565	.461 -.51	.491 -.54	—	—	.65			
3/16 (4.8 mm.)	625	.020 -.09	.050 -.12	.010 -.12	.010 -.15	.25	No. 11 .191 4.85 mm.	500	5,000
	629	.091 -.13	.121 -.16	.121 -.16	.151 -.19	.29			
	635	.131 -.19	.161 -.22	.161 -.22	.191 -.25	.35			
	640	.191 -.22	.221 -.25	.221 -.25	.251 -.28	.40			
	649	.221 -.30	.251 -.33	.251 -.34	.281 -.37	.49			
	657	.301 -.38	.331 -.41	.341 -.42	.371 -.45	.57			
	665	.381 -.46	.411 -.49	.421 -.51	.451 -.54	.65		250	
	665LF	.381 -.46	—	—	—	.65			
	675	.461 -.54	.491 -.56	.511 -.61	.541 -.64	.75			
	6100	.541 -.79	—	—	—	1.00			
	6125	.791 -1.04	—	—	—	1.25			
	6150	1.041 -1.29	—	—	—	1.50			
	7/32 (5.5 mm.)	749	.231 -.32	.261 -.35	.251 -.36	.281 -.39			

RIVET METAL COMPOSITION

The rivet metal conforms to British specification L.58—

Manganese	-	-	-	0.5%	Iron	-	-	-	-	0.7%
Magnesium	-	-	-	4.5-5.5%	Silicon	-	-	-	-	0.6% max.
Aluminium	-	-	-	the balance						

RIVET SPECIFICATIONS

Dimensions in inches.

Rivet Diameter + .003 — .001	Head Diameter	Head Thickness		Mandrel Diameter	Mandrel Breaking Load	Rivet Shear Fail Load
		Domed	Countersunk			
3/32 .093	.185 ± .007	.027 ± .003	.033 ± .003	.056	305 lb. ± 20 lb.	110 lb. (50 kg.)
1/8 .125	.236 ± .007	.028 ± .003	.036 ± .003	.072	485 lb. ± 30 lb.	220 lb. (100 kg.)
5/32 .156	.263 ± .007	.028 ± .003	.039 ± .003	.090	780 lb. ± 30 lb.	310 lb. (140 kg.)
3/16 .187	.375 ± .010*	.057 ± .004	.064 ± .004	.104	1,120 lb. — 1,200 lb.	470 lb. (213 kg.)
3/16 long	.340 ± .010	.032 ± .004	.060 ± .005	.104	1,120 lb. — 1,200 lb.	470 lb. (213 kg.)
7/32 .218	.324 ± .010	.032 ± .004	.039 ± .004	.120		500 lb. (226 kg.)

* TAP/D/665 LF has a head diameter of .625"

BLIND RIVETING TOOLS

From many years of experience Tuckers have developed a full range of carefully designed versatile tools of both hand-operated and pneumatic types, which enables work to be approached from any angle even in positions inaccessible by other methods of riveting.

When selecting a 'POP' riveting tool the purchaser must consider, along with price, the size range of rivets to be used, accessibility of the work and physical limitations of the operators.

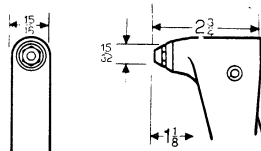
It has been found that parts show very little sign of wear and tear under ordinary working conditions and may not have to be changed for a considerable time, provided that the tool is maintained in good working order, whether in use or not. Bearing surfaces should be lubricated frequently and jaws should be cleaned regularly with a wire brush to ensure efficient gripping.

All parts are obtainable as spares, and are fully interchangeable. All Branches of the Company carry a comprehensive range of spare parts and full servicing facilities are available.

So that pneumatic tools may be quickly set up for work, airhose, speed couplings and pipe and hose fittings are carried in stock.

The chart on page 15 gives details of the types of rivets each tool will set, together with code numbers for the jaws and nosepieces.

A versatile riveting plier which, by a mere change of nosepiece, is suitable for setting $\frac{3}{32}$ ", $\frac{7}{64}$ " and $\frac{1}{8}$ " 'POP' Standard Open Rivets in monel, steel, copper and aluminium alloy; also $\frac{5}{32}$ " aluminium alloy and $\frac{1}{8}$ " Sealed 'POP' rivets. The main body casting is of high grade aluminium alloy and all steel parts are hardened and tempered.

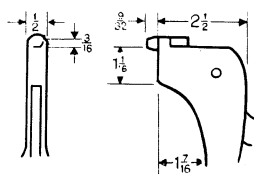


TT55

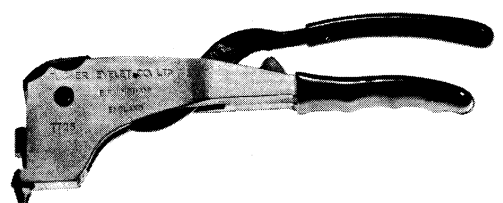


'POP' riveting pliers capable of taking the same range of rivets as the TT55 pliers but designed to work in confined spaces, such as in channels and as close as $\frac{3}{16}$ " to angles.

When changing from one rivet diameter to another it is necessary to change both nosepiece and collet jaw. The main body casting is of a robust bronze alloy and all steel parts are hardened and tempered.

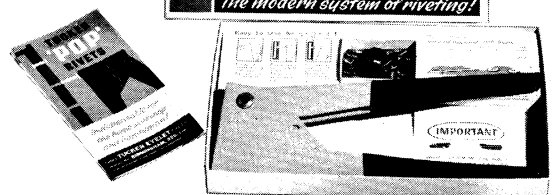
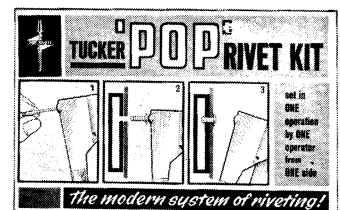


TT26

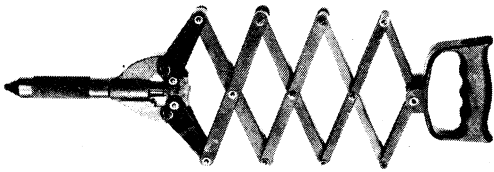


CK2

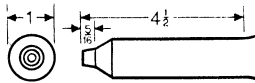
For the home handyman the CK2 kit is ideal. A small selection of steel rivets and the correct No. 30 drill is included with a tool which takes all standard $\frac{1}{8}$ " 'POP' rivets. It is not recommended for the tradesman as it is neither as versatile nor as sturdy as their work requires. Standard Open $\frac{1}{8}$ " 'POP' rivets are available from hardware stores in 48c packs to meet the home users' needs.



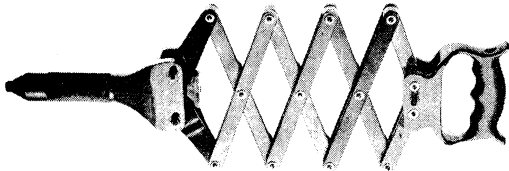
TT4



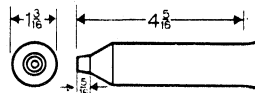
A hand-operated Lazy Tong 'POP' riveting tool capable of setting all Standard Open and Sealed 'POP' rivets up to and including 3/16" diameter. Main castings are of light and strong aluminium alloy, all parts subject to wear are of heat treated steel. The outer barrel, of robust bronze, has a diameter of 1" for a length of 4½". The Tool weighs 4 lb. 2 oz. Also available as a power unit (TT104) to operate the A1 and A2 heads below.



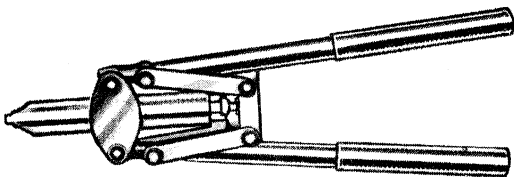
TT24



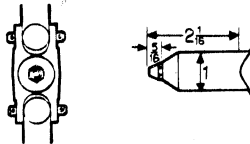
A heavy duty Lazy Tong similar to the TT4 but capable of setting all diameters of 'POP' rivets. It weighs 6 lb. 6 oz., and the bronze outer barrel has a diameter of 1-3/16" for 4½".



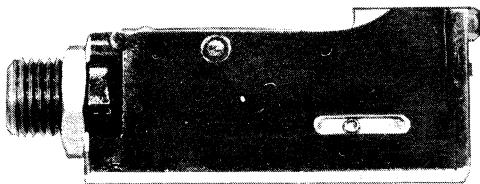
TT17



For working overhead, or where the workpiece will not readily stand the thrust involved when using the TT4, the TT17 lever hand tool is ideal. The overall length is 18½", the weight 3 lb. 10 oz.

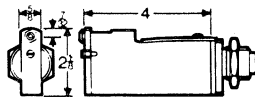


A1

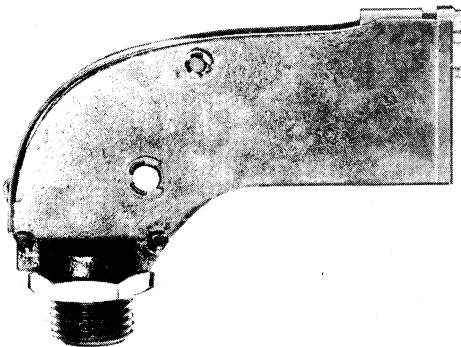


Designed to facilitate 'POP' riveting in positions normally inaccessible to the straight forward riveting tools, the offset head and corner head can be fitted to Power Units TT101, TT103, TT104 and TT108. An adaptor between the head and the Power Unit is required. They are capable of setting all sizes of 'POP' rivets except ¼" diameter, however care must be taken to use the combination of jaw and nosepiece appropriate to the size of rivet in use. (Refer Page 11).

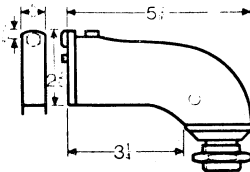
A1 Offset Head: Weight 1 lb. 5 oz.



A2

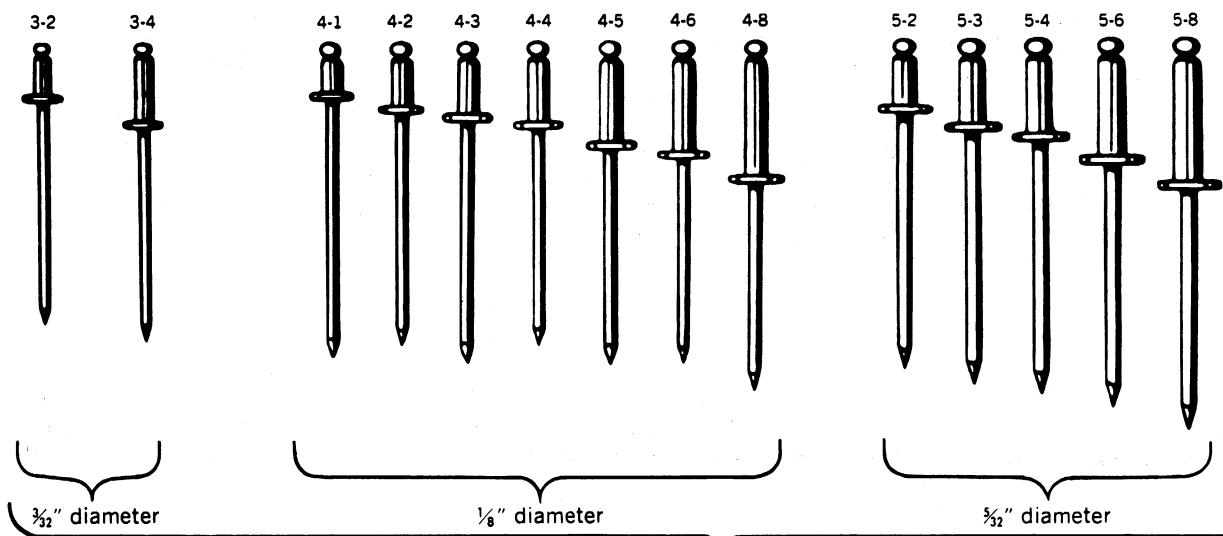


A2 Corner Head: Weight 1 lb. 9 oz.



KLIK RIVETS

ACTUAL SIZE



Buttonhead Rivets STANDARD RIVETS FOR JOBS WHICH DO NOT DEMAND A FLUSH SURFACE

KLIK-FAST								Buttonhead Rivets			
								1008 Steel Rivet 1050 Steel Stem			
Rivet Dia.	Drill No. Hole Size	L	D	A	B	S	GRIP RANGE	Rivet No.	Wt. in lbs. 100 pcs.	Typical Ultimate Tensile in lbs.	Typical Ultimate Shear in lbs.
3/32	#41 .096-.100	.217 .342	.094	.187	.024	.057	.020-.125 .126-.250	SB3-2 SB3-4	.154 .170	210	155
1/8	#30 .128-.132	.175 .237 .299 .362 .424 .486 .611	.125	.250	.032	.076	.020-.064 .065-.125 .126-.187 .188-.250 .251-.312 .313-.375 .376-.500	SB4-1 SB4-2* SB4-3 SB4-4* SB4-5 SB4-6 SB4-8	.287 .300 .313 .325 .341 .356 .370	425	295
5/32	#20 .160-.164	.259 .316 .384 .509 .634	.156	.312	.039	.096	.020-.125 .126-.187 .188-.250 .251-.375 .376-.500	SB5-2 SB5-3 SB5-4 SB5-6 SB5-8	.514 .540 .550 .575 .614	570	410
3/16	#11 .192-.196	.282 .407 .532 .657 .782 .902	.187	.375	.047	.114	.020-.125 .126-.250 .251-.375 .376-.500 .501-.625 .626-.750	SB6-2 SB6-4 SB6-6** SB6-8** SB6-10** SB6-12**	.780 .880 .910 .997 1.062 1.140	815	590

KLIK-FAST								120° Countersunk Rivets			
1/8	#30 .128-.132	.241 .303 .366	.125	.235	.040	.076	.030-.125 .126-.187 .188-.250	SC4-2 SC4-3 SC4-4	.300 .315 .325	330	295

* ALSO AVAILABLE WITH 3/8 DIAMETER HEAD (A) LARGE FLANGE
**ALSO AVAILABLE WITH 5/8 DIAMETER HEAD (A) LARGE FLANGE

STAINLESS STEEL KLIK RIVETS

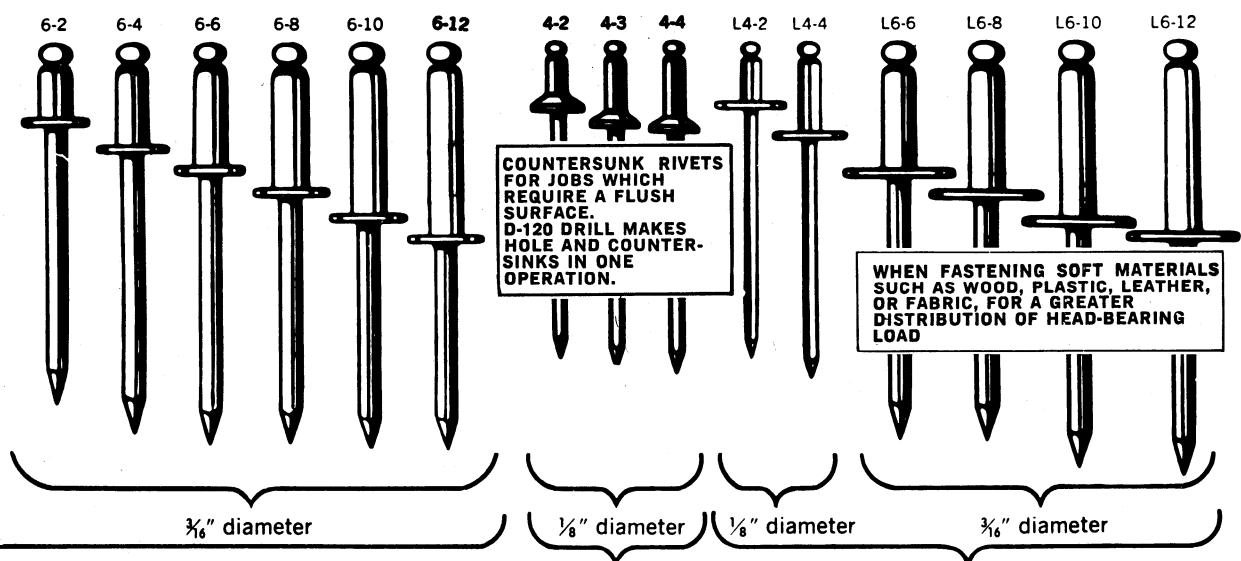
Rivet and stem-type 305 stainless steel in part numbers SSB4-2S and SSB4-4S. Also available with type 305 stainless steel rivet and plated steel stem in part numbers SSB4-2 and SSB4-4.

TENSILE — 700 lbs.
SHEAR — 550 lbs.

ETP Copper Rivets with copper plated 1050 steel stems are available in CB4-2 and CB4-4.

TENSILE — 300 lbs.
SHEAR — 215 lbs.

RIVET CHART



Buttonhead Rivets STANDARD RIVETS FOR JOBS WHICH DO NOT DEMAND A FLUSH SURFACE

120° Countersunk

Large Flange Buttonhead Rivets

5056 Aluminum Rivet 1025 Steel Stem				5052 Aluminum Rivet 7178 Aluminum Stem			
Rivet No.	Wt. in lbs. 100 pcs.	Typical Ultimate Tensile in lbs.	Typical Ultimate Shear in lbs.	Rivet No.	Wt. in lbs. 100 pcs.	Typical Ultimate Tensile in lbs.	Typical Ultimate Shear in lbs.
AB3-2 AB3-4	.120 .127	175	125	AB3-2A AB3-4A	.052 .057	135	85
AB4-1 AB4-2* AB4-3 AB4-4* AB4-5 AB4-6	.246 .250 .254 .256 .262 .269	325	210	AB4-1A AB4-2A* AB4-3A AB4-4A* AB4-5A AB4-6A AB4-8A	.099 .102 .106 .109 .116 .125 .132	235	155
AB5-2 AB5-3 AB5-4 AB5-6 AB5-8	.421 .428 .430 .445 .467	490	340	AB5-2A AB5-3A AB5-4A AB5-6A AB5-8A	.175 .180 .185 .195 .212	350	225
AB6-2 AB6-4 AB6-6** AB6-8** AB6-10** AB6-12**	.620 .675 .715 .760 .810	720	445	AB6-2A AB6-4A AB6-6A** AB6-8A** AB6-10A AB6-12A	.282 .298 .314 .324 .361	500	315

AC4-2 AC4-3 AC4-4	.250 .253 .256	245	220	AC4-2A AC4-3A AC4-4A	.102 .106 .109	180	155
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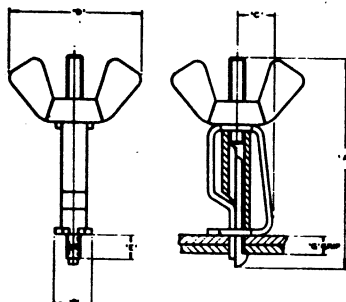
RIVET CODE EXPLANATION

Example: ABL6-6A
A — First Letter . . . Rivet Material (A-Aluminum, S-Steel, C-Copper, SS-Stainless Steel)
B — Second Letter . . . Style of Head (B-Buttonhead, C-Countersunk)
L — Third Letter . . . Large Flange Head
6 — First Number . . . Diameter in 32nd's
6 — Second Number . . . Grip length in 16th's
A — Final Letter . . . Stem Material (A-Aluminum, S-Stainless Steel) No letter indicates plated steel

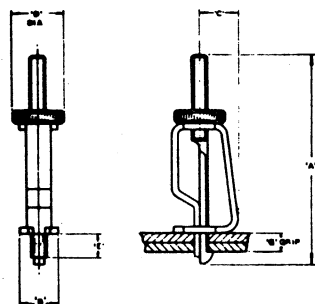
AVDEL

AVDEL RIVETING CLAMPS

**Riveting
Clamps
9100 Series**



WING TYPE



STANDARD TYPE

1 'INCH' TYPE

PRODUCT CODE	NOMINAL DIAMETER	CLAMP TYPE
9140-0600	3/32 & 2.5 MM	STANDARD
9150-0600	3/32 & 2.5 MM	WING NUT
9140-0700	7/64	STANDARD
9140-0800	1/8"	STANDARD
9150-0800	1/8"	WING NUT
9140-1000	5/32 & 4.0 MM	STANDARD
9150-1000	5/32 & 4.0 MM	WING NUT
9140-1200	3/16	STANDARD
9150-1200	3/16	WING NUT
9150-1600	1/4	WING NUT

2 METRIC TYPE

PRODUCT CODE	NOMINAL DIAMETER	CLAMP TYPE
9140-0600	2.5 MM	STANDARD
9145-0600	3.0 MM	STANDARD
9145-0700	3.5 MM	STANDARD
9140-1000	4.0 MM	STANDARD
9150-1000	4.0 MM	WING NUT
9145-1000	5.0 MM	STANDARD
9155-1000	5.0 MM	WING NUT

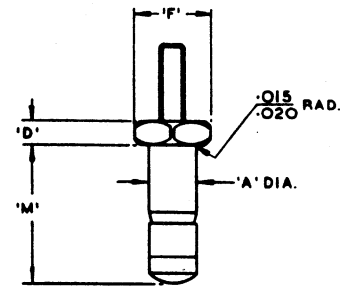
AVDEL RIVETING CLAMPS CAN BE SELECTED BY DIRECT REFERENCE TO TABLE ONE OR TABLE TWO ABOVE, e.g., 9140-1000 IS A STANDARD RIVETING CLAMP FOR USE WITH 5/32 OR 4.0 MM. HOLES.

3 'INCH' DIMENSIONS

PRODUCT CODE	'A'	'B'	'C'	'D'	'E'	'G' GRIP MAX.
9140-0600	1.64	.36	.36	.56	.175	.40
9150-0600	1.50	.36	.36	.875	.175	.40
9140-0700	1.83	.36	.36	.56	.175	.55
9140-0800	1.83	.36	.36	.56	.25	.55
9150-0800	1.75	.36	.36	.875	.25	.55
9140-1000	2.25	.39	.40	.56	.33	.70
9150-1000	2.25	.39	.40	1.062	.33	.70
9140-1200	3.00	.50	.56	.62	.44	1.00
9150-1200	3.00	.50	.56	1.062	.44	1.00
9150-1600	3.90	.60	.72	1.406	.61	1.28

4 METRIC DIMENSIONS (MILLIMETERS)

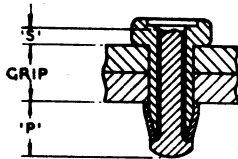
PRODUCT CODE	'A'	'B'	'C'	'D'	'E'	'G' GRIP MAX.
9140-0600	41.7	9.1	9.1	14.2	4.5	10.2
9145-0600	46.5	9.1	9.1	14.2	4.5	14.0
9145-0700	46.5	9.1	9.1	14.2	6.5	14.0
9140-1000	57.1	9.9	10.2	14.2	8.4	17.8
9150-1000	57.1	9.9	10.2	27.0	8.4	17.8
9145-1000	76.2	12.7	14.2	15.7	11.2	25.4
9155-1000	76.2	12.7	14.2	35.7	11.2	25.4



1

PRODUCT CODE	MATERIAL	FINISH
2101	Nut: Alloy Steel BS S103 Bolt: Alloy Steel BS S103 Sleeve: Stainless Steel DTD 189	Cadmium Plated DTD 904
2151	Nut: Stainless Steel FV 448 Bolt: Stainless Steel FV 448 Sleeve: Stainless Steel DTD 189	Sleeve only Cadmium Plated DTD 904
2161	Nut: Stainless Steel FV 448 Bolt: Stainless Steel FV 448 Sleeve: Stainless Steel DTD 189	Nut & Sleeve only Cadmium Plated DTD 904

2



NOM DIA	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "
DIA CODE	06	08	10
DIM A	.190"/.188"	.249"/.247"	.3115"/.3095"
DIM D	.113"/.103"	.135"/.125"	.160"/.150"
DIM F	.310"/.304"	.375"/.367"	.437"/.429"
DIM P NOM	.250"	.292"	.343"
DIM S	.103"/.015"	.135"/.047"	.136"/.033"
HOLE SIZE	.194"/.191"	.253"/.250"	.3155"/.3125"

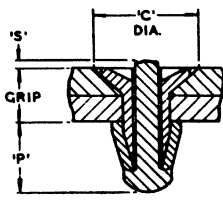
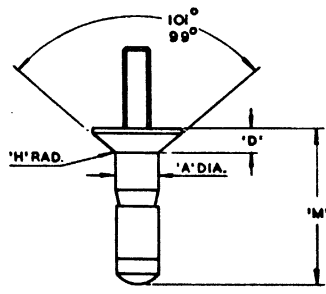
Call-up Explanation *Avdel Part Numbers consist of eight figures*

First four figures (Table One—Product Code) defines the fastener type, head form, material and surface treatment.
Next two figures (Table Two—Diameter Code) defines the shank diameter in 32nd ins.
Last two figures (Table Three—Length Code) defines grip length in 16th ins.
Example: 2101-0804 Jo-Bolt Hexagon Head Alloy Steel Cadmium Plated $\frac{1}{4}$ " Nom. Dia. $\frac{1}{4}$ " Nom. Grip.

3

DIAMETER CODE			06	08	10
LGTH CODE	GRIP RANGE		DIM M MAX	DIM M MAX	DIM M MAX
	MIN	MAX			
02	.094"	.156"	.514"	.578"	
03	.156"	.219"	.577"	.640"	.740"
04	.219"	.281"	.639"	.703"	.802"
05	.281"	.344"	.702"	.765"	.865"
06	.344"	.406"	.764"	.828"	.927"
07	.406"	.469"	.827"	.890"	.990"
08	.469"	.531"	.889"	.953"	1.052"
09	.531"	.594"	.952"	1.015"	1.115"
10	.594"	.656"	1.014"	1.078"	1.177"
11	.656"	.719"	1.077"	1.140"	1.240"
12	.719"	.781"	1.139"	1.203"	1.302"
13	.781"	.844"	1.202"	1.265"	1.365"
14	.844"	.906"	1.264"	1.328"	1.427"
15	.906"	.969"	1.327"	1.390"	1.490"
16	.969"	1.031"	1.389"	1.453"	1.552"

NOTES: 1. 2151 available to special order in Dia. Range 06/08 only.
2. 2161 available to special order in Dia. Range 06 up to grip 12 only.



1

PRODUCT CODE	MATERIAL	FINISH
2103	Nut: Alloy Steel BS S103 Bolt: Alloy Steel BS S103 Sleeve: Stainless Steel DTD 189	Cadmium Plated DTD 904

2

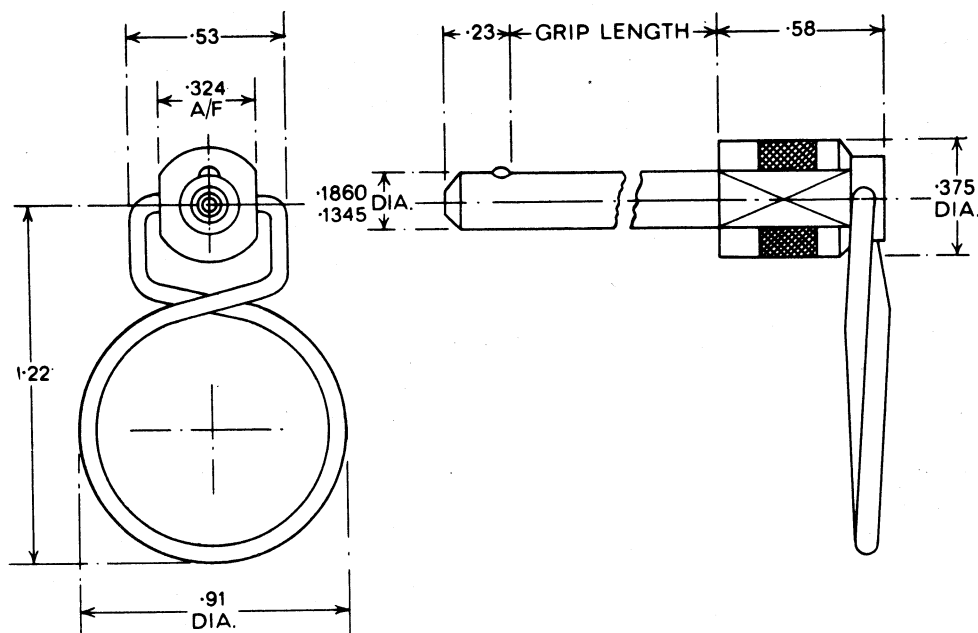
NOM DIA	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "
DIA CODE	06	08	10
DIM A	.190"/.188"	.249"/.247"	.3115"/.3095"
DIM B	.342"	.463"	.577"
DIM C	.381"	.503"	.630"
DIM D	.080"	.106"	.133"
DIM H	.020" .010"	.030" .015"	.030" .015"
DIM P	.250"	.292"	.343"
DIM S	+.005" -.083"	+.010" -.078"	+.0" -.093"
HOLE SIZE	.194"/.191"	.253"/.250"	.3155"/.3125"

Call-up Explanation *Avdel Part Numbers consist of eight figures*

- First four figures** (Table One—Product Code) defines the fastener type, head form, material and surface treatment.
- Next two figures** (Table Two—Diameter Code) defines shank diameter in 32nd ins.
- Last two figures** (Table Three—Length Code) defines grip length in 16th ins.
- Example: 2103-0607 Jo-Bolt 100° Countersunk Head Alloy Steel Cadmium Plated $\frac{3}{16}$ " Nom. Dia. $\frac{1}{16}$ " Nom. Grip.*

3

DIAMETER CODE			06	08	10
LGTH CODE	GRIP RANGE		DIM M MAX	DIM M MAX	DIM M MAX
	MIN	MAX			
02	.094"	.156"	.514"	.578"	—
03	.156"	.219"	.577"	.640"	—
04	.219"	.281"	.639"	.703"	.802"
05	.281"	.344"	.702"	.765"	.865"
06	.344"	.406"	.764"	.828"	.927"
07	.406"	.469"	.827"	.890"	.990"
08	.469"	.531"	.889"	.953"	1.052"
09	.531"	.594"	.952"	1.015"	1.115"
10	.594"	.656"	1.014"	1.078"	1.177"
11	.656"	.719"	1.077"	1.140"	1.240"
12	.719"	.781"	1.139"	1.203"	1.302"
13	.781"	.844"	1.202"	1.265"	1.365"
14	.844"	.906"	1.264"	1.328"	1.427"
15	.906"	.969"	1.327"	1.390"	1.490"
16	.969"	1.031"	1.389"	1.453"	1.552"



1

DIAMETER	PRODUCT PART NO.	S.B.A.C. NO.	GRIP LENGTH
$\frac{3}{16}$ "	3101-0302	AGS 2107/302	0.20"
	3101-0303	AGS 2107/303	0.30"
	3101-0304	AGS 2107/304	0.40"
	3101-0305	AGS 2107/305	0.50"
	3101-0306	AGS 2107/306	0.60"
	3101-0307	AGS 2107/307	0.70"
	3101-0308	AGS 2107/308	0.80"
	3101-0309	AGS 2107/309	0.90"
	3101-0310	AGS 2107/310	1.00"
	3101-0311	—	1.10"
	3101-0312	—	1.20"

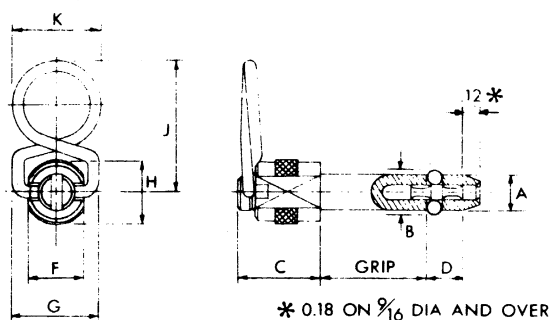
CALL UP EXPLANATION:

The single acting $\frac{3}{16}$ " diameter Pip Pin can be identified by direct reference to Table 1 above e.g. 3101-0309 is a $\frac{3}{16}$ " dia. single acting Pip Pin with a grip length of 0.90" and has the S.B.A.C. Part No. AGS 2107-309.

2

ASSEMBLY PRODUCT CODE 3101		
PART	MATERIAL	FINISH
BODY	ALLOY STEEL SAE 4130	CADMIUM PLATE DTD 904
SPINDLE	ALLOY STEEL SAE 4130	CADMIUM PLATE DTD 904
RING	HIGH CARBON STEEL DTD 215	CADMIUM PLATE DTD 904
BALL	13% CHROMIUM STEEL	—

1



ASSEMBLY PRODUCT CODE 3201		
S.B.A.C.	PART NUMBER CODE	AGS2105
Part	Material	Finish
Body	Alloy Steel SAE 4130	Cadmium Plate DTD 904
Spindle	Alloy Steel SAE 4130	Cadmium Plate DTD 904
Ring	ST. ST DTD 189	
Ball	13% Chromium Steel	—

2

Norm Dia.	Dia. Code	A	B	C	*D	F	G	H	J	K	Ball Dia.
1/4"	04	.247 2485	.287	.72	.29	.365	.66	.438	1.31	.94	3/32"
5/16"	05	.3095 3110	.368	.78	.35	.445	.66	.500	1.31	.94	1/8"
3/8"	06	.3720 3735	.438	.86	.40	.525	.86	.625	1.39	.99	9/64"
7/16"	07	.4345 4360	.505	.86	.40	.525	.86	.625	1.39	.99	5/32"
1/2"	08	.4970 4985	.587	.93	.48	.710	1.04	.813	1.51	.99	3/16"

Nom. Dia.	Dia. Code	A	B	C	*D	F	G	H	J	K	Ball Dia.
9/16"	09	.5595 .5610	.666	.99	.50	.710	1.04	.813	1.51	.99	7/32"
5/8	10	.6220 .6235	.745	1.08	.56	.920	1.32	1.00	1.78	1.14	1/4"
3/4"	12	.7470 .7485	.885	1.20	.62	.920	1.32	1.00	1.78	1.14	9/32"
7/8	14	.8720 .8735	1.041	1.33	.75	1.10	1.50	1.25	1.89	1.14	1/32"
1"	16	.9970 .9985	1.213	1.50	.90	1.10	1.50	1.25	1.89	1.14	13/32"

CALL-UP EXPLANATION *Avdel Part Numbers consist of eight figures*

First four figures (Table One – Product Code) Defines fastener type Head form, material, and surface treatment.

Next two figures (Table Two--Diameter Code) Defines Shank diameter in 1/16 inches

Last two figures (Table Three—Length Code) Defines grip length in 1/10 inches.

Example: 3201-0512 = Pip Pin double acting in alloy steel CAD plated 5/16" diameter 1-20" grip. The corresponding AGS No. is AGS 2105/512.

*Note that the standard Double Acting Pins are as illustrated. Where Dimension 'D' is required in excess of the standard minimum lengths these can be obtained by special order and are identified by using the standard basic call up as above and adding two further digits to the part number which represents 1/10 inches.

e.g. A standard 1/2" diameter double acting Pip Pin with a grip length of 0.7" is 3201-0807 (AGS 2105/807).

A special pin with the Dimension 'D' 0 70" (in lieu of 0 42 standard) and diameter and grip as in above example would be called up as 3201-080707 (No AGS allocated).

APPROVED FOR USE IN AIRCRAFT UNDER SDM NO. 205 AND ARB NO. E1130

3

[illegible]

Fractions of an Inch with Decimal and Millimetre Equivalents			British Standard Wire Gauge	Common Rivet Drill Sizes	
Fractions of inches	Decimals of inches	Milli- metres		Rivet Diameter	Drill Size
1/64	.015625	.03969	1 0.3000	1/16	No.50
1/32	.03125	.07937	2 0.2760	5/32	No.40
3/64	.046875	1.1906	3 0.2520	1/8	No.30
1/16	.0625	1.5875	4 0.2320	5/32	No.20
5/64	.078125	1.9844	5 0.2120	3/16	No.11 OR
3/32	.09375	2.3812	6 0.1920	3/16	No.10
7/64	.109375	2.7781	7 0.1760	1/4	1/4
1/8	.125	3.1750	8 0.1600	Nutsert	Drill Size
9/64	.140625	3.5719	9 0.1440		
5/32	.15625	3.6987	10 0.1280	3/16 Whit	9/32 "
11/64	.171875	4.3656	11 0.1160	1/4 Whit	3/8 "
3/16	.1875	4.7625	12 0.1040	5/10 Whit	1/2 "
13/64	.203125	5.1594	13 0.0920	8 BA	3/16 "
7/32	.21875	5.5562	14 0.0500	6 BA	3/16 "
15/64	.234375	5.9531	15 0.0720	4 BA	7/32 "
1/4	.25	6.3500	16 0.0640	2 BA	9/32 "
17/64	.265625	6.7469	17 0.0560	0 BA	3/8 "
9/32	.28125	7.1437	18 0.0480		
19/64	.296875	7.5406	19 0.0400		
5/16	.3125	7.9375	20 0.0360		
21/64	.328125	8.3344	21 0.0320		
11/32	.34375	8.7312	22 0.0280		
23/64	.359375	9.1281	23 0.0240		
3/8	.375	9.5250	24 0.0220		
25/64	.390625	9.9219	25 0.0200		
13/32	.40625	10.3187	26 0.0180		
27/64	.421875	10.7156	27 0.0164		
7/16	.4375	11.1125	28 0.0148		
29/64	.453125	11.5094	29 0.0136		
15/32	.46875	11.9062	30 0.0124		
31/64	.484375	12.3031	31 0.0116		
1/2	.5	12.7000	32 0.0108		