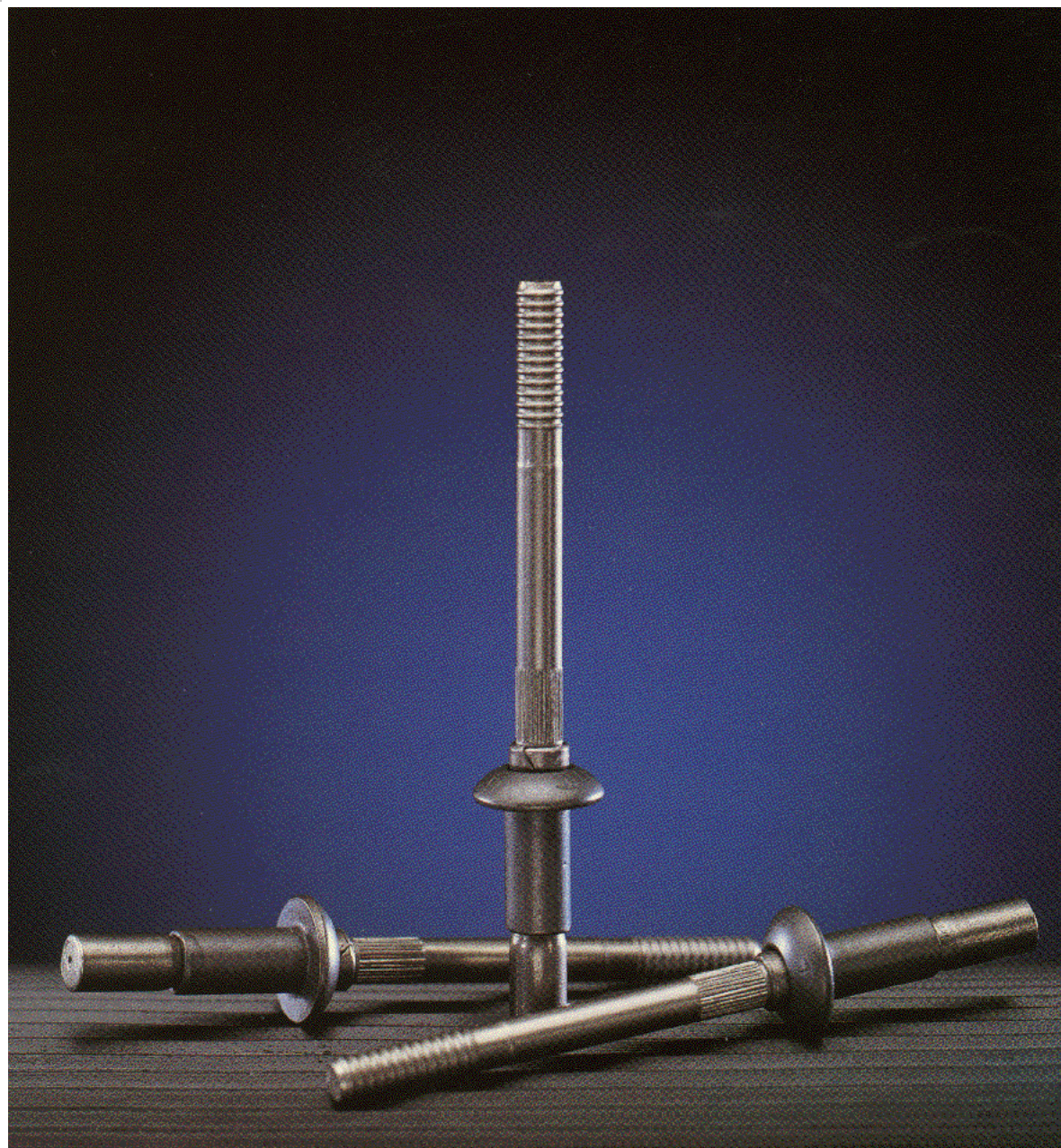


CHERRYLOCK[®]

LOCKED SPINDLE RIVETS



TEXTRON Aerospace Fasteners

WARRANTY

Cherry, a Division of Textron, Inc. (hereinafter “Cherry”), hereby warrants to the initial retail customer and original installer (“Warrantee”) only that its products will be free from defects in material and workmanship, provided that the products are used in accordance with Cherry’s instruction as to maintenance, operation and use.

The warrantee’s only remedy and Cherry’s only obligation in the event of a defect or failure in the products, is that Cherry will, at its sole option, repair, replace, or rework the products, but in no case shall the cost of the foregoing exceed the invoice price of the products.

This warranty shall be void if any person seeking to make a claim for defective or failed products fails to notify Cherry within thirty (30) days of receipt of evidence that the product is defective or has failed, or if said person fails to provide Cherry with such evidence as is reasonably requested concerning the defect or failure, including without limitation, evidence of the date of purchase and date of installation.

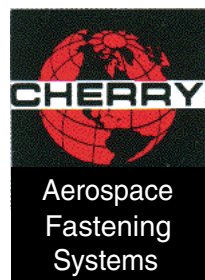
THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT NOT EXPRESSLY PROVIDED FOR HEREIN, OR CONSEQUENTIAL DAMAGES ARISING FROM ANY DEFECT OR FAILURE IN ITS PRODUCTS.

NOTE: The properties, strengths, dimensions, installed characteristics and all other information in this catalog is for guidance only to aid in the correct selection of the products described herein and is not intended or implied as part of the above warranty. All applications should be evaluated for functional suitability and available samples of the described parts can be requested for installed tests, suitability and evaluations.

Supplier’s Federal Identification Code—11815

ATTENTION

Blind rivets are not always a suitable substitute for solid rivets. Maintenance personnel are reminded that AC 43.13-1A chapter 2, section 3 stipulates: “Do not substitute hollow rivets for solid rivets in load carrying members without specific approval of the application by a representative of the Federal Aviation Administration. Blind rivets may be used in blind locations in accordance with the conditions listed in Chapter 5, provided the edgedistances and spacings are not less than the minimum listed in paragraph 99d.”



Cherry Division
of Textron Inc.

BULBED & WIREDRAW CHERRYLOCK®

LOCKED SPINDLE RIVETS

INDEX

	Page
BULB CHERRYLOCK RIVETS	
Description.....	2
How They Work.....	3
Selecting the Rivet; Materials, Strengths & Temperatures.....	4 & 5
Shear and Tensile Strengths.....	6
Installed Weights.....	6
Conversion Table NAS to Cherrylock Numbers.....	7
Standard Pages	
NAS1738 Universal Head.....	8 & 9
NAS1739 Countersunk Head.....	10 & 11
Unisink Head.....	12
156° Countersunk Head.....	13
<hr/>	
WIREDRAW CHERRYLOCK RIVETS	
Description and How They Work.....	14
Selecting the Rivet; Materials, Strengths & Temperatures.....	15
Shear and Tensile Strengths.....	15
Installed Weights.....	16
Conversion Table NAS to Cherrylock Numbers.....	17
Standard Pages	
NAS1398 Universal Head.....	18 & 19
NAS1399 Countersunk Head.....	20 & 21
Countersunk NAS1097 Head Style.....	22 & 23
<hr/>	
RIVET INSTALLATION & INSPECTION.....	24, 25 & 26
<hr/>	
TOOLING.....	27
Tool Selection Chart.....	28
Hand Installation Tools	
G36.....	29
G55.....	30
Power Installation Tools	
G700.....	31
G784.....	32
G685B-S and 6686B-S.....	33
G689.....	34
6695B.....	35
Pulling Heads	
For Power Tools	36
For Hand Tools	37
<hr/>	
ACCESSORIES, MAINTENANCE ITEMS & ASSEMBLY TOOLS.....	38, 39, 40 & 41

BULBED CHERRYLOCK[®] RIVET



Bulbed Cherrylock Rivets are locked spindle and flush fracturing structural rivets within the limits of NAS1740. They Conform to Procurement Specification NAS1740 and Standards Pages NAS1738 and NAS1739.

Bulbed Cherrylock is a complete shear fastening system. Its features can be utilized for optimum strength and performance in both thick and thin sheet.

It provides the highest possible design integrity, particularly in double dimple or high vibration areas.

It is especially suited for applications which require interchangeability with some solid rivets.

All fasteners should be specified and used in accordance with manufacturer's recommendations, using the grip range and hole size information provided in this catalog.

BULBED CHERRYLOCK[®] DESIGN FEATURES

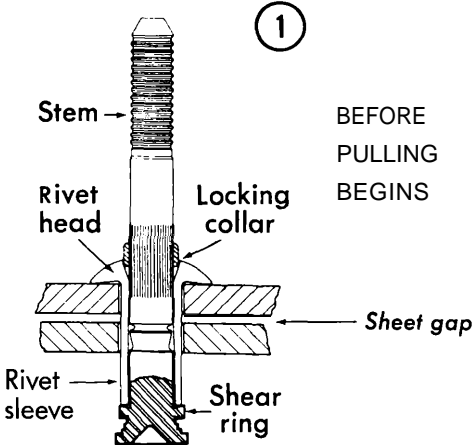
- Large Bulbed Blind Head — Similar to a solid rivet insures higher tensile, shear and fatigue strengths.
- Steel Stem — High stem break load provides high preload and higher fatigue strength.
- High Sheet Clamp-Up — Increased fatigue strength.
- Oversize Shank — Higher shear strength. Lower flush head height for use in thin sheets. Interchangeable with some solid rivets.
- Predictable Hole Fill — Meets requirements of NAS1740.
- Mechanical Locked Stem — Assured structural reliability in blind and non-blind applications. Exceeds fatigue requirements of NAS1740.
- Genuine Flush Fracturing Spindle — No shaving, even in thin sheet applications.
- Head Marking — Grip, materials and manufacturer's identification for installed inspection.
- Self-Inspecting — (Per NAS requirements.)



Typical maximum grip application

BULBED CHERRYLOCK® RIVET

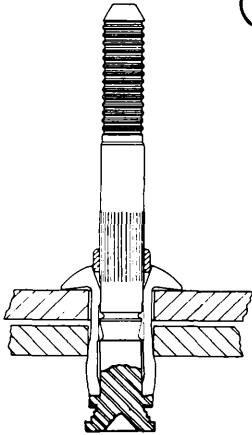
HOW THEY WORK



①

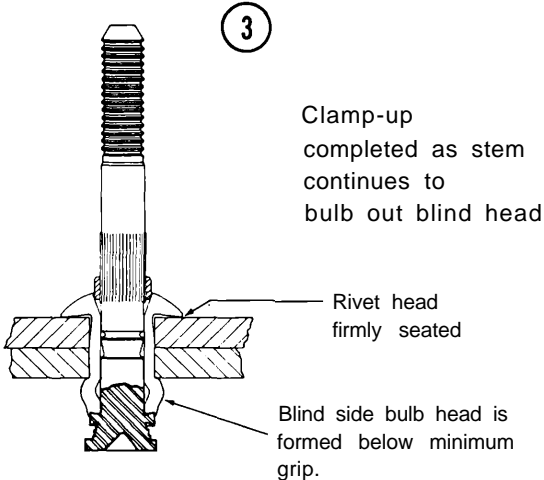
BEFORE
PULLING
BEGINS

②



Stem is
pulled into
rivet sleeve and
starts to form
bulbed blind
head

Clamp-up and hole
fill action begin



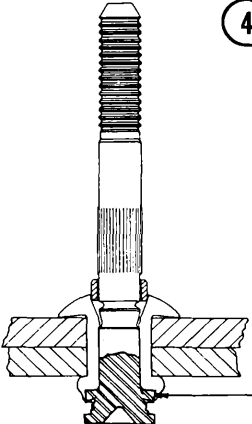
③

Clamp-up
completed as stem
continues to
bulb out blind head

Rivet head
firmly seated

Blind side bulb head is
formed below minimum
grip.

④

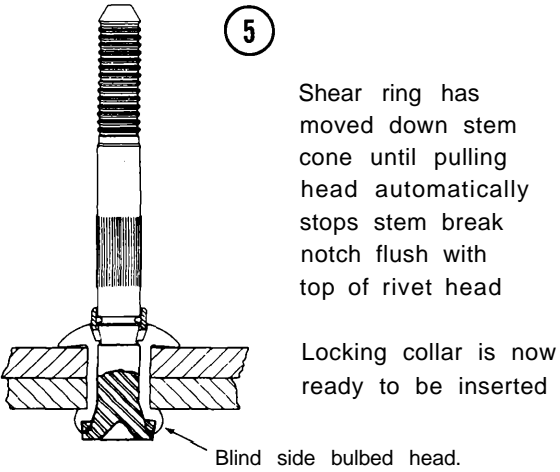


Formation of
blind head and
hole filling are
completed

Shear ring now shears
from stem cone to
allow stem to pull
further into rivet

Shear ring guarantees blind
side bulbed head.

(In minimum grip shear ring may not shear)



⑤

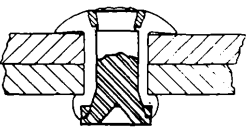
Shear ring has
moved down stem
cone until pulling
head automatically
stops stem break
notch flush with
top of rivet head

Locking collar is now
ready to be inserted

Blind side bulbed head.

⑥

COMPLETELY INSTALLED
BULBED CHERRYLOCK

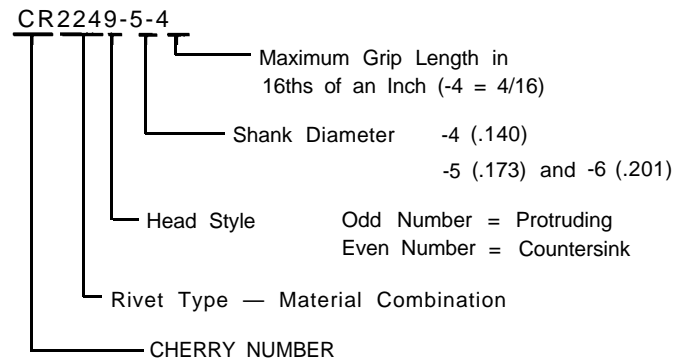
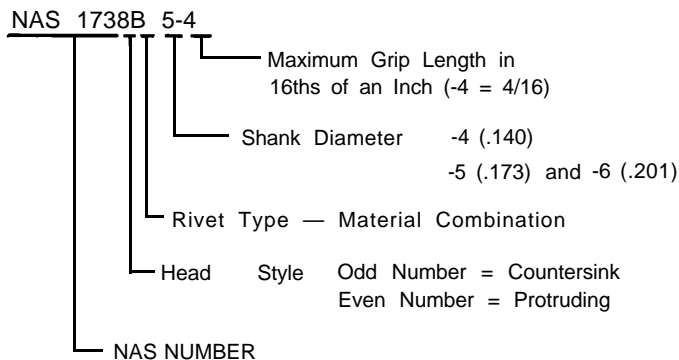


(MAXIMUM GRIP
ILLUSTRATED)

Pulling head has
inserted locking
collar and stem
has fractured flush
with rivet head

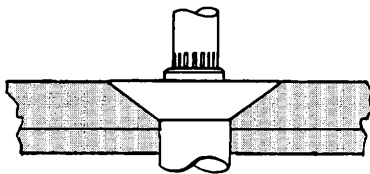
BULBED CHERRYLOCK[®] RIVET SELECTION

NUMBERING SYSTEM

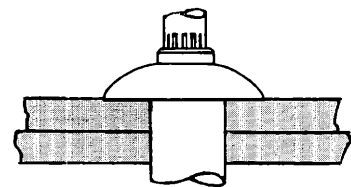


HEAD STYLES

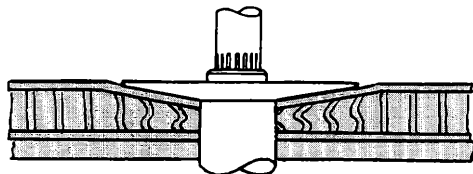
BULBED CHERRYLOCK RIVETS are made in several standard head styles as listed below.



100° COUNTERSUNK
MS 20426
For countersunk applications.

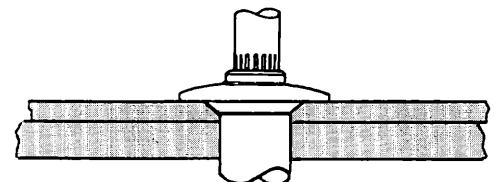


UNIVERSAL
MS 20470
For protruding head applications.



156° COUNTERSUNK
A large diameter, shallow countersunk head providing wide bearing area for honey-comb applications.

NOT COVERED BY NAS STANDARD



UNISINK
A combination countersunk & protruding head for use in very thin top sheets. Eliminates need for double-dimpling.

NOT COVERED BY NAS STANDARD

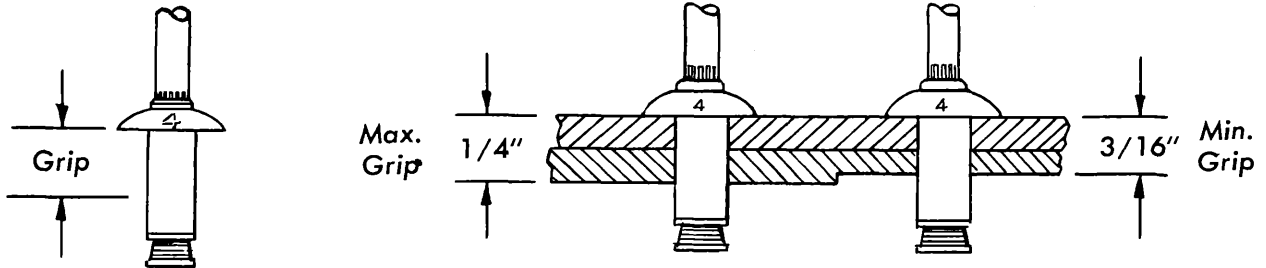
DIAMETERS

Bulbed Cherrylock is available in three diameters: -4 (.140); -5 (.173) and -6 (.201). Bulbed Cherrylock rivet sleeve is 1/64" over nominal size. In most cases the increased bearing area and high strength stem enables Bulbed Cherrylock to replace solid rivets. The oversize sleeve is also ideal for repair or replacement of nominal blind or non-blind fasteners of all types. Note: Standard drills are used to prepare installation holes.

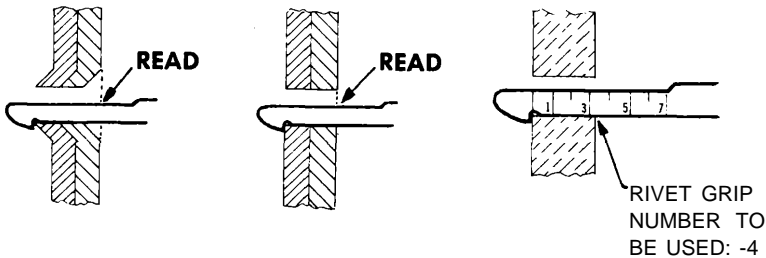
BULBED CHERRYLOCK[®] RIVET SELECTION

GRIP LENGTHS

Grip length refers to the maximum total sheet thickness to be riveted, and is measured in 16ths of an inch. This is identified by the second dash number. All Cherrylock Rivets have their grip length (maximum grip) marked on the rivet head, and have a total grip range of 1/16 of an inch (example: -4 grip rivet has a grip range of .188" to .250").



To determine the proper grip rivet to use, measure the material thickness with a 269C3 Cherry selector gage as shown below. Always read to the next higher number.



To find the rivet grip number, determine the total thickness of the material to be fastened; locate between minimum and maximum columns on material thickness chart. Read directly across to right to find grip number.

MATERIAL THICKNESS RANGE		RIVET GRIP NO.
MINIMUM	MAXIMUM	
See Stds. Pages	1/16"	1
See Stds. Pages	1/8"	2
1/8"	3/16"	3
3/16"	1/4"	4
1/4"	5/16"	5
5/16"	3/8"	6
3/8"	7/16"	7
7/16"	1/2"	8
1/2"	9/16"	9
9/16"	5/8"	10
5/8"	11/16"	11
11/16"	3/4"	12
3/4"	13/16"	13
13/16"	7/8"	14
7/8"	15/16"	15
15/16"	1"	16

Note: For double dimpled sheets, add countersunk rivet head height to material thickness

CSK BULBED CHERRYLOCK RIVET HEAD HEIGHT	
1/8	.035
5/32	.047
3/16	.063

MATERIALS

Bulbed Cherrylock rivets are manufactured in a variety of materials in order to give the user the widest possible choice for optimum design.

RIVET MATERIAL		ULTIMATE RIVET SHEAR STRENGTH (at room temperature)	TYPICAL MAXIMUM TEMPERATURE USE (IN °F)
SLEEVE	STEM		
5056 Aluminum	Alloy Steel	50,000 psi	250
5056 Aluminum	Inconel 600		
MONEL	Inconel 600	55,000 psi	900
Inconel 600	A-266 CRES	75,000 psi	1400

BULBED CHERRYLOCK® RIVET SELECTION

STRENGTH

Minimum ultimate rivet shear and tensile strength (lbs.) per NAS 1740.

Test Method Per MIL-STD-1312-8&-20

ATTENTION

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BULBED CHERRYLOCK RIVETS		SINGLE SHEAR			TENSILE				
		1/8"	5/32"	3/16"	1/8"	5/32"	3/16"		
ALUMINIUM	CR2235 CR2238 CR2239 CR2245 CR2248 CR2249	619	935	1260	345	530	710		
	MONEL	CR2538 CR2539 CR2540 CR2545	895	1353	1823	490	740	1000	
		CRESS	CR2838 CR2839 CR2840	1221	1845	2488	570	860	1160

SOLID RIVETS		SINGLE SHEAR		
		1/8"	5/32"	3/16"
ALUMINIUM	2117-T3	388	596	862
	2017-T3	494	755	1090
	2024-T31	531	815	1180
	5056	363	556	802
MONEL		635	973	1400
CRESS	A-284	1170	1790	2580

Note: Values shown are Fastener capabilities only.
Consult Mil-Hdbk-5 for joint design allowables.

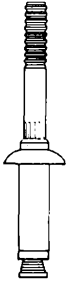
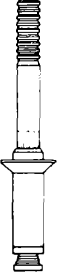
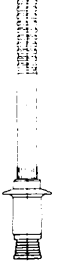
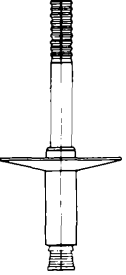
INSTALLED WEIGHTS

Pounds per 1000 pieces

Dash Number	2235 2245	2238 2248	2239 2249	2538P 2538	2539P 2539	2540	2545	2838	2839	2840	2845
4-1	.74	.69	.88	1.09	1.41	1.50	1.30	1.10	1.50	1.60	1.39
4-2	.91	.87	1.06	1.38	1.70	1.79	1.59	1.39	1.79	1.89	1.68
4-3	1.09	1.05	1.24	1.67	1.99	2.08	1.88	1.68	2.08	2.18	1.97
4-4	1.27	1.23	1.42	1.96	2.28	2.37	2.16	1.97	2.37	2.47	2.25
4-5	1.44	1.41	1.60	2.25	2.57	2.66	2.45	2.26	2.66	2.76	2.54
4-6	0	1.59	1.78	2.54	2.86	2.95	0	2.55	2.95	3.05	0
4-7	0	1.77	1.96	2.83	3.15	3.24	0	2.84	3.24	3.34	-
4-8	0	1.95	2.14	3.12	3.44	3.53	0	3.13	3.53	3.63	0
4-9	0	2.13	2.32	3.41	3.73	3.82	0	3.42	3.82	3.92	0
5-1	1.24	0	1.48	0	2.46	-	2.43	0	2.70	3.50	2.67
5-2	1.52	1.46	1.76	2.38	2.91	3.60	2.86	2.40	3.13	-	3.08
5-3	1.81	1.74	2.04	2.83	3.36	4.05	3.30	2.83	3.56	3.93	3.50
5-4	2.08	2.02	2.32	3.28	3.81	4.50	3.73	3.26	3.99	4.35	3.91
5-5	2.35	2.30	2.60	3.73	4.26	4.95	4.17	3.69	4.42	4.79	4.53
5-6	2.63	2.58	2.88	4.18	4.71	5.40	4.62	4.12	4.85	5.22	4.76
5-7	0	2.86	3.16	4.63	5.16	5.85	0	4.55	5.28	5.65	0
5-8	0	3.14	3.44	5.08	5.61	6.30	0	4.98	5.71	6.08	0
5-9	0	3.42	3.72	5.53	6.06	6.75	0	5.41	6.14	6.51	0
5-10	0	3.70	4.00	5.98	6.51	7.20	0	5.84	6.57	6.94	0
5-11	0	3.98	4.28	6.43	6.96	7.65	0	6.27	7.00	7.37	0
6-1	2.00	0	2.47	0	3.97	-	4.18	0	4.30	-	4.51
6-2	2.38	2.47	2.85	3.97	4.59	5.90	4.78	3.70	4.89	5.60	5.08
6-3	2.77	2.85	3.24	4.59	5.21	6.52	5.39	4.29	5.48	6.19	5.66
6-4	3.15	3.24	3.62	5.21	5.83	7.14	6.00	4.88	6.07	6.78	6.24
6-5	3.53	3.62	4.01	5.83	6.45	7.76	6.60	5.47	6.66	7.37	6.81
6-6	3.90	4.01	4.39	6.45	7.07	8.38	7.20	6.06	7.25	7.95	7.38
6-7	4.29	4.39	4.78	7.07	7.69	9.00	7.80	6.65	7.84	8.55	7.95
6-8	4.68	4.78	5.16	7.69	8.31	9.62	8.41	7.24	8.43	9.14	8.53
6-9	0	5.17	5.54	8.31	8.93	10.24	0	7.83	9.02	9.73	0
6-10	0	5.55	5.93	8.93	9.55	10.86	0	8.42	9.61	10.32	0
6-11	0	5.94	6.31	9.55	10.17	11.48	0	9.01	10.20	10.91	0
6-12	0	6.32	6.70	10.17	10.79	12.10	0	9.60	10.79	11.50	0

BULBED CHERRYLOCK® RIVET SELECTION

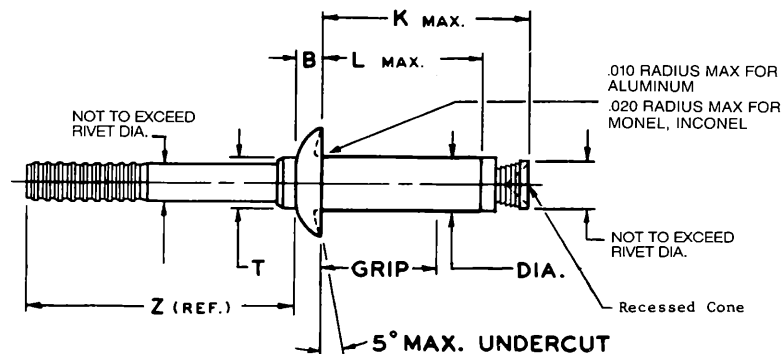
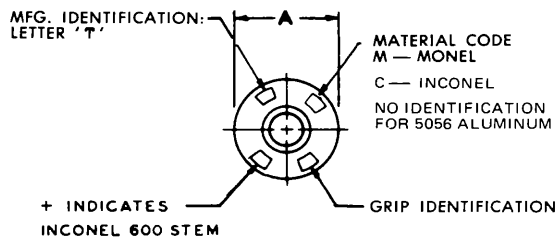
CONVERSION TABLE

HEAD STYLE	NAS NUMBER	CHERRY NUMBER	RIVET MATERIAL	STEM MATERIAL
UNIVERSAL HEAD (MS520470) 	NAS 1738B 1738E 1738M 1738MW 1738C 1738CW	CR2249 2239 2539 2539P 2839 2839CW	5056 Aluminum 5056 Aluminum Monel Monel, Cad. Plt'd. Inconel 600 Inconel 600, Cad. Plt'd.	Alloy Steel, Cad. Plt'd. Inconel 600 Inconel 600 Inconel 600 A286 CR ES A286 CRES
COUNTERSUNK HEAD (MS20426) 	NAS 1739B 1739E 1739M 1739MW 1739C 1739CW	CR2248 2238 2538 2538P 2838 2838CW	5056 Aluminum 5056 Aluminum Monel Monel, Cad. Plt'd. Inconel 600 Inconel 600, Cad. Plt'd.	Alloy Steel, Cad. Plt'd. Inconel 600 Inconel 600 Inconel 600 A286 CRES A286 CRES
UNISINK HEAD 	– – – –	CR2235 2245 2545 2845	5056 Aluminum 5056 Aluminum Monel Inconel 600	Inconel 600 Alloy Steel, Cad. Plt'd. Inconel 600 A286 CRES
COUNTERSUNK HEAD (156°) 	– –	CR2540 2840	Monel Inconel 600	Inconel 600 A286 CRES

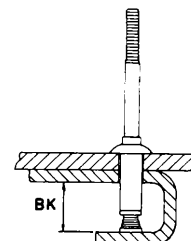
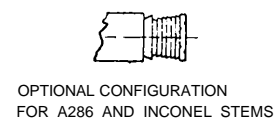
BULBED CHERRYLOCK[®] RIVET

NAS 1738 UNIVERSAL HEAD

PROCUREMENT SPECIFICATION NAS 1740 IS APPLICABLE TO NAS 1738 RIVETS.



DIA. DASH NO.		-4	-5	-6
DIA. +.003/-0.001		.140	.173	.201
A ±.010		.250	.312	.375
B +.010/-0.000		.054	.067	.080
T (REF.)		.119	.148	.174
BK	ALUMINUM	.30	.33	.37
	MONEL & INCONEL	.33	.37	.41
Z (REF)		1.65	1.63	1.65



GRIP LIMITS 16" RANGE	③ RIVET GROUP	1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER		
		DASH NO.	L	K	DASH NO.	L	K	DASH NO.	L	K
MIN. MAX.										
(1) .062	A	4-01	.230	.38	5-01	.250	.42	6-01	.281	.45
.063 .125		4-02	.281	A 4	5-02	.312	.48	6-02	.344	.51
.126 .187		4-03	.344	.50	5-03	.375	.54	6-03	.406	.58
.188 .250		4-04	.406	.57	5-04	.437	.60	6-04	.469	.64
.251 .312		4-05	.469	.63	5-05	.500	.67	6-05	.531	.70
.313 .375		4-06	.531	.69	5-06	.562	.73	6-06	.594	.76
.376 .437		4-07	.594	.75	5-07	.625	.79	6-07	.656	.83
.438 .500		4-08	.656	.82	5-08	.687	.85	6-08	.719	.89
.501 .562		4-09	.719	.88	5-09	.750	.92	6-09	.782	.95
.563 .625					5-10	.812	.98	6-10	.844	1.02
.626 .687					5-11	.875	1.04	6-11	.907	1.08
.688 .750								6-12	.970	1.14

(1)

RIVET DIA.	MIN. GRIP
1/8	.020
5/32	.025
3/16	.030

BULBED CHERRYLOCK[®] RIVET

NAS 1738 UNIVERSAL HEAD

DESIGN NOTE: Rivets with grips greater than their diameter are not required to meet expansion requirements of procurement specification. NAS 1399 Rivets will provide more positive hole fill for longer grips.

RIVET NUMBER	NAS 523 CODE	MATERIAL ①			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2239 NAS 1738E	AAP	5056 QQ-A-430	INCONEL 600 AMS 5665	MONEL QQ-N-281	MI L-A-8625 OR MI L-C-5541	NONE	NONE
CR 2249 NAS 1738B	AAO	5056 QQ-A-430	8740 STEEL AMS 6322	MONEL QQ-N-281	MI L-A-8625 OR MI L-C-5541	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE
CR 2539 NAS 1738M	AAR	MONEL QQ-N-281	INCONEL 600 AMS 5665	MONEL QQ-N-281	NONE	NONE	NONE
CR 2539P NAS 1738 MW	AAS	MONEL QQ-N-281	INCONEL 600 AMS 5665	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE
CR 2839 NAS 1738C	ADB	INCONEL 600 AMS 5687	A-286 CRES AMS 5732	INCONEL 600 AMS 5687	NONE	NONE	NONE
CR 2839CW NAS 1738CW		INCONEL 600 AMS 5687	A-286 CRES AMS 5732	INCONEL 600 AMS 5687	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE

① FOR COMPOSITION ONLY

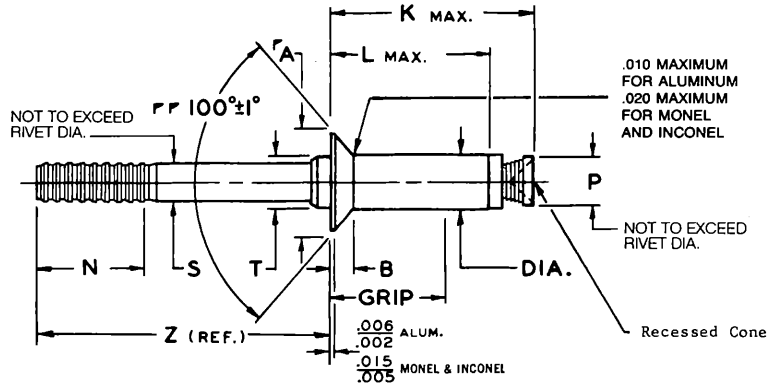
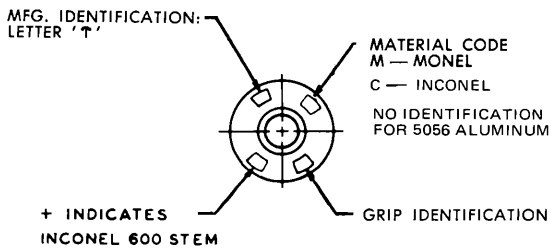
2. DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED IN ACCORDANCE WITH NAS 1740. LUBRICANT MUST NOT BE REMOVED!

③ RIVET GROUP REFERS TO SHIFT-POINT SETTING OF RIVETER.

BULBED CHERRYLOCK® RIVET

NAS 1739 COUNTERSINK HEAD

PROCUREMENT SPECIFICATION NAS 1740 IS APPLICABLE TO NAS 1739 RIVETS.

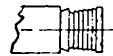


DIA. DASH NO.		-4	-5	-6
DIA. +.003/- .001		.140	.173	.201
A ±.004		.225	.286	.353
B (REF.)		.035	.047	.063
T (REF.)		.119	.148	.174
BK	ALUMINUM	.30	.33	.37
	MONEL & INCONEL	.33	.37	.41
Z(REF)		1.62	1.57	1.59

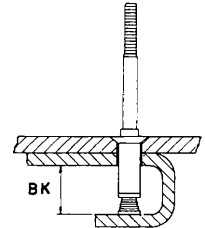
100° ± 1/2° FOR MONEL & INCONEL RIVETS

HEAD DIAMETERS ARE TO THEORETICAL SHARP CORNERS AS MEASURED BY PROJECTION.

SHEET THICKNESS FOR MACHINE COUNTERSUNK HOLES SHALL NOT BE LESS THAN 'B' + .010"



OPTIONAL CONFIGURATION FOR A286 AND INCONEL STEMS



MIN. BLIND CLEARANCE FOR SATISFACTORY INSTALLATION

GRIP LIMITS 1/16" RANGE		③ RIVET GROUP	1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER		
MIN.	MAX.		DASH NO.	L	K	DASH NO.	L	K	DASH NO.	L	K
.045	.062	A	4-01	.230	.38						
.063	.125		4-02	.281	.44	5-02	.312	.48	6-02	.344	.51
.126	.187		4-03	.344	.50	5-03	.375	.54	6-03	.406	.58
.188	.250		4-04	.406	.57	5-04	.437	.60	6-04	.469	.64
.251	.312		4-05	.469	.63	5-05	.500	.67	6-05	.531	.70
.313	.375		4-06	.531	.69	5-06	.562	.73	6-06	.594	.76
.376	.437		4-07	.594	.75	5-07	.625	.79	6-07	.656	.83
.438	.500		4-08	.656	.82	5-08	.687	.85	6-08	.719	.89
.501	.562		4-09	.719	.88	5-09	.750	.92	6-09	.782	.95
.563	.625					5-10	.812	.98	6-10	.844	1.02
.626	.687					5-11	.875	1.04	6-11	.907	1.08
.688	.750								6-12	.970	1.14

BULBED CHERRYLOCK[®] RIVET

NAS 1739 COUNTERSUNK HEAD

DESIGN NOTE: Rivets with grips greater than their diameter are not required to meet expansion requirements of procurement specification. NAS 1399 Rivets will provide more positive hole fill for longer grips.

RIVET NUMBER	NAS 523 CODE	MATERIAL ①			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2238 NAS 1739E	AAV	5056 QQ-A-430	INCONEL 600 AMS 5665	MONEL QQ-N-281	MIL-A-8625 OR MIL-C-5541	NONE	NONE
CR 2248 NAS 1739B	AAT	5056 QQ-A-430	8740 STEEL AMS 6322	MONEL QQ-N-281	MIL-A-8625 OR MIL-C-5541	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE
CR 2538 NAS 1739M	AAW	MONEL QQ-N-281	INCONEL 600 AMS 5665	MONEL QQ-N-281	NONE	NONE	NONE
CR 2538P NAS 1739MW	AA X	MONEL QQ-N-281	INCONEL 600 AMS 5665	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE
CR 2838 NAS 1739C	ADJ	INCONEL 600 AMS 5687	A-286 CRES AMS 5732	INCONEL 600 AMS 5687	NONE	NONE	NONE
CR 2838CW NAS 1739CW	—	INCONEL 600 AMS 5687	A-286 CRES AMS 5732	INCONEL 600 AMS 5687	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE

① FOR COMPOSITION ONLY

2. DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED IN ACCORDANCE WITH NAS 1740. LUBRICANT MUST NOT BE REMOVED!

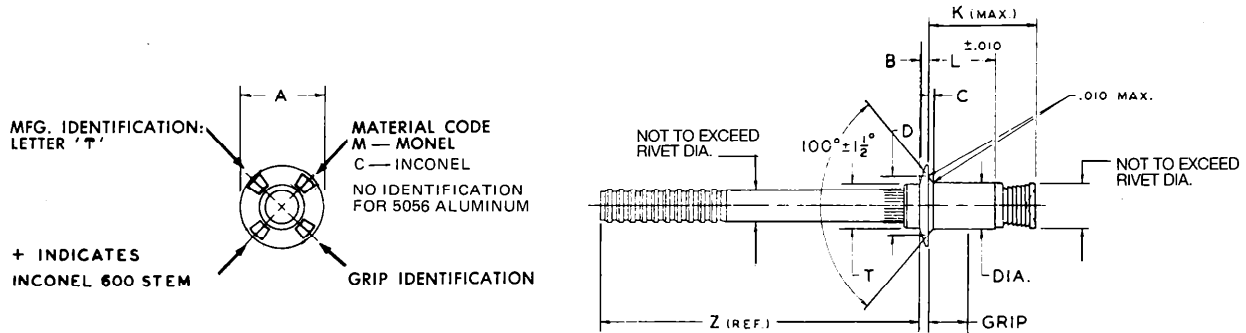
③ RIVET GROUP REFERS TO SHIFT-POINT SETTING OF RIVETER.

BULBED CHERRYLOCK[®] RIVET

UNISINK HEAD

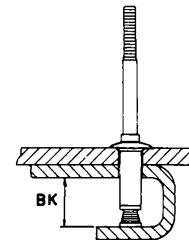
DESIGN NOTE: For use in thin sheets to replace high cost double dimpling. For limited clearance applications where there is insufficient space for full protruding head height.

TOOLING NOTE: Requires H681-B166-() series pulling head.



DIA. DASH NO.	-4	-5	-6	
DIA. +.003/.001	.140	.173	.201	
A±.010	.220	.286	.353	
B + .010/-.000	.022	.030	.040	
C (REF.)	.013	.017	.023	
D±.005	.170	.213	.255	
T(REF.)	.119	.148	.174	
BK	ALUMINUM	.30	.33	.37
	MONEL	.33	.37	.41
Z(REF.)	1.65	1.63	1.65	

OPTIONAL CONFIGURATION FOR A286 AND INCONEL STEMS



MIN. BLIND CLEARANCE FOR SATISFACTORY INSTALLATION

(1)

RIVET DIA.	MIN. GRIP
1/8	.033
5/32	.042
3/16	.053

GRIP LIMITS 1/16" RANGE	④ RIVET GROUP	1/8 DIAMETER				5/32 DIAMETER				3/16 DIAMETER							
		DASH NO.	ALUMINUM		MONEL		DASH NO.	ALUMINUM		MONEL		DASH NO.	ALUMINUM		MONEL		
			L	K	L	K		L	K	L	K		L	K			
(1)	A	4-01	.183	.32	.203	.34	5-01	.205	.34	.236	.38	6-01	.233	.38	.264	.42	
.063		.125	4-02	.247	.38	.265	.40	5-02	.269	.41	.298	.45	6-02	.297	.45	.326	.49
.126		.187	4-03	.311	.45	.328	.47	5-03	.333	.47	.360	.51	6-03	.361	.52	.389	.55
.188		.250	4-04	.375	.51	.390	.53	5-04	.397	.54	.423	.58	6-04	.425	.58	.452	.61
.251		.312	4-05	.439	.58	.453	.59	5-05	.461	.60	.485	.64	6-05	4.89	.65	.514	.68
.313		.375						5-06	.525	.67	.548	.70	6-06	.553	.71	.577	.74
.376		.437											6-07	.617	.78	.639	.80
.438		.500											6-08	.681	.84	.702	.86

RIVET NO.	NAS 523 CODE	MATERIAL			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2235	ACJ	5056 QQ-A-430	INCONEL 600 AMS 5665	MONEL QQ-N-281	MIL-A-8625OR MIL-C-5541	NONE	NONE
CR 2245	ACH	5056 QQ-A-430	8740 STEEL AMS 6322	MONEL QQ-N-281	MIL-A-8625 OR MIL-C-5541	CADMIUMPLATE QQ-P-416 TYPE II, CLASS 2	NONE
CR 2545	ADK	MONEL QQ-N-281	INCONEL 600 AMS 5665	MONEL QQ-N-281	NONE	NONE	NONE
CR 2845	—	INCONEL 600 QQ-W-390	A-286 CRES AMS 5732	INCONEL 600 QQ-W-390	NONE	NONE	NONE

NOTES: FOR COMPOSITION ONLY

2. DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED IN ACCORDANCE WITH NAS 1740. LUBRICANT MUST NOT BE REMOVED!

3. NOT COVERED BY NAS STANDARD. QUOTED ON REQUEST

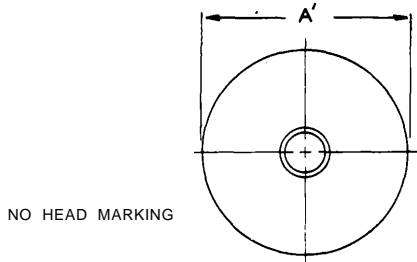
④ RIVET GROUP REFERS TO SHIFT-POINT SETTING OF RIVETER.

BULBED CHERRYLOCK[®] RIVET

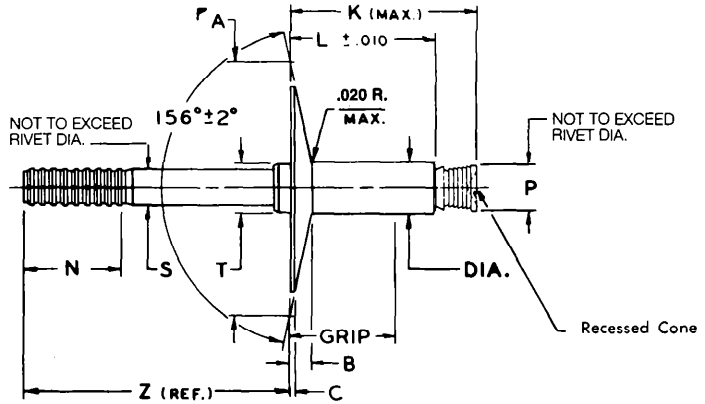
156° COUNTERSINK HEAD

DESIGN NOTE: Use for honeycomb or similarly constructed applications where improved manufactured head bearing area is required.

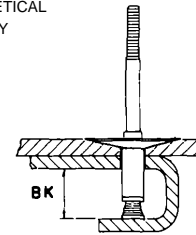
TOOLING NOTE: Requires H681-()F series pulling head.



DIA. DASH NO.	-4	-6	-6
DIA. +.003/.001	.140	.173	.201
A ±.004	.470	.615	.794
A'	.400 ± .020	.520 ± .025	.605 ± .030
B (REF.)	.035	.047	.063
T (REF.)	.119	.148	.174
C	.007 ± .003	.010 ± .004	.020 ± .005
BK	.33	.37	.41
Z (REF.)	1.62	1.57	1.59



HEAD DIAMETERS ARE TO THEORETICAL SHARP CORNERS AS MEASURED BY PROJECTION.



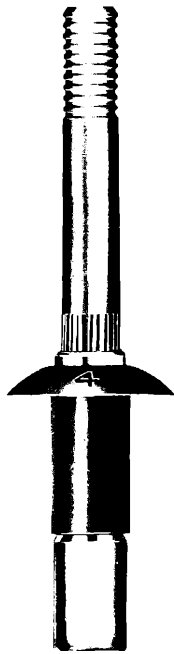
MIN. BLIND CLEARANCE FOR SATISFACTORY INSTALLATION

GRIP LIMITS 1/16" RANGE		④ RIVET GROUP	1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER		
MIN.	MAX.		DASH NO.	L	K	DASH NO.	L	K	DASH NO.	L	K
.045	.062	A	4-01	.203	.34						
.063	.125		4-02	.265	.40	5-02	.298	.45	6-02	.326	.49
.126	.187		4-03	.328	.47	5-03	.360	.51	6-03	.389	.55
.188	.250		4-04	.390	.53	5-04	.423	.58	6-04	.452	.61
.251	.312		4-05	.453	.59	5-05	.485	.64	6-05	.514	.68
.313	.375		4-06	.515	.65	5-06	.548	.70	6-06	.577	.74
.376	.437		4-07	.578	.72	5-07	.610	.76	6-07	.639	.86
.438	.500		4-08	.640	.78	5-08	.673	.83	6-08	.702	.86
.501	.562		4-09	.703	.84	5-09	.735	.89	6-09	.764	.93
.563	.625					5-10	.798	.95	6-10	.827	.99
.626	.687					5-11	.860	1.01	6-11	.889	1.05
.688	.750								6-12	.952	1.11

RIVET NO.	NAS 523 CODE	MATERIAL j			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR2540	ADL	MONEL QQ-N-281	INCONEL 600 AMS5665	MONEL QQ-N-281	NONE	NONE	NONE
CR2840	ADM	INCONEL 600 AMS 5687	A-286 CRES AMS5732	INCONEL 600 AMS 5687	NONE	NONE	NONE

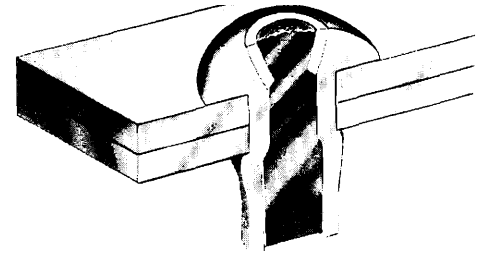
- NOTES:
- ① FOR COMPOSITION ONLY
 - DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED IN ACCORDANCE WITH NAS 1740. LUBRICANT MUST NOT BE REMOVED!
 - NOT COVERED BY NAS STANDARD. QUOTED ON REQUEST.
 - ④ RIVET GROUP REFERS TO SHIFT-POINT SETTING OF RIVETER.

WIREDRAW CHERRYLOCK[®] RIVET



Wiredraw Cherrylock[®] Rivets are locked spindle and flush fracturing structural rivets within the limits of NAS1400. A wide range of sizes, materials and strength levels to select from. This fastener is especially suited for sealing applications and joints requiring an excessive amount of sheet take-up. Conforms to Procurement Specification NAS1400 and Standard Pages NAS1398 and 1399.

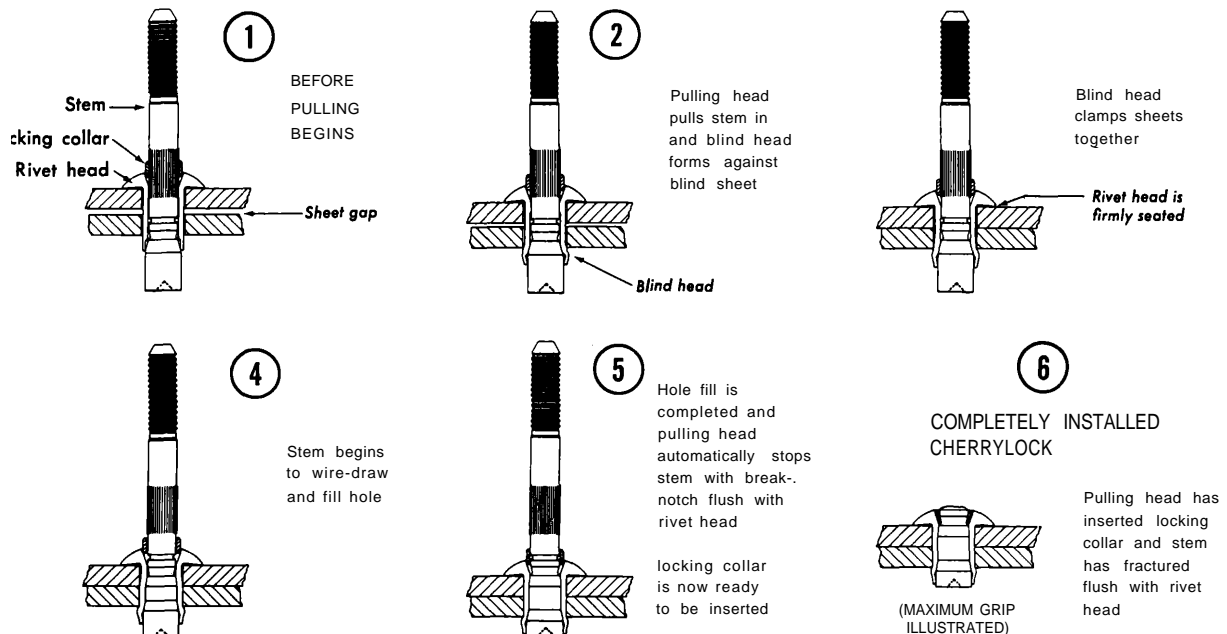
All fasteners should be specified and used in accordance with manufacturer's recommendations, using the grip range and hole size information provided in this catalog.



Typical minimum grip application

- MECHANICALLY LOCKED STEM (Assured reliability — no lost stems)
- WIDE GRIP RANGE (Exceeds 1/16" NAS requirements)
- SELF-INSPECTING (Per NAS requirements)
- POSITIVE HOLE FILL (Increased joint strength)
- HIGH SHEET CLAMP-UP (Increased fatigue strength)
- EXCELLENT HEAD SEATING (Fewer rejections)
- GENUINE FLUSH FRACTURING SPINDLE (No shaving, as with other so-called 'flush-break rivets', even in thin sheets)
- HEAD MARKING (Grip, materials, and mfgs. identification for ready inspection)

HOW THEY WORK



WIREDRAW CHERRYLOCK® RIVET SELECTION

MATERIALS

Cherrylock rivets are manufactured in a wide variety of materials in order to give the user the widest possible choice for optimum design.

RIVET MATERIAL		ULTIMATE SHEAR STRENGTH (at room temperature)	TYPICAL MAXIMUM TEMPERATURE (IN °F)
SLEEVE	STEM		
5056 Aluminum	7075 Aluminum	30,000 psi	250
2017 Aluminum	7075 Aluminum	38,000 psi	250
MONEL	MONEL	55,000 psi	900
A-286 CRES	A-286 CRES ¹	75,000 psi	1200
A-286 CRES	A-286	95,000 psi k	1200

1 ANNEALED "P" DIA.

k 95 KSI FASTENER FOR USE IN HIGH STRENGTH MATERIALS. NOT SUITABLE FOR USE IN ALUMINUM STRUCTURES.

STRENGTH

Minimum ultimate rivet shear and tensile strength (lbs.) per NAS 1400

Test Method Per MIL-STD-1312-8&-20

CHERRYLOCK RIVETS	SINGLE SHEAR					TENSILE				
	3/32"	1/8"	5/32"	3/16"	1/4"	3/32"	1/8"	5/32"	3/16"	1/4"
ALUMINUM 2017 CR2162 CR2163 CR2164		494	755	1090	1970	—	230	375	540	1000
	5056 CR2262 CR2263	388	596	862	1550					
MONEL CR2562 CR2563		710	1090	1580	2840	—	340	550	780	1450
CRES CR2652 CR2653 CR2662 CR2663 CR2664	543	970	1490	2150	3890	360	640	1000	1500	2700
	CR2642 (5) CR2643 (5)	1260	1960	2810	4965	—				

NOTE: (1) Values shown are fastener capabilities only
 (2) Consult Mil-Hdbk-5 for joint design allowables
 (3) For rivet grips greater than listed, use highest value shown for the basic part number and diameter
 (4) 3/32" diameter rivets available in CR2662 & 2663 only
 (5) 95KSI fastener for use in high bearing strength materials such as steel, CRES, titanium, etc. Not suitable in aluminum structures.

ATTENTION

Blind rivets are not always a suitable substitute for solid rivets. Maintenance personnel are reminded that AC 43.13-1A chapter 2, section 3 stipulates: "Do not substitute hollow rivets for solid rivets in load carrying members without specific approval of the application by a representative of the Federal Aviation Administration. Blind rivets may be used in blind locations in accordance with the conditions listed in Chapter 5, provided the edge distances and spacings are not less than the minimum listed in paragraph 99d."

WIREDRAW CHERRYLOCK® RIVET SELECTION


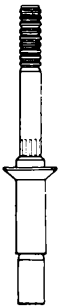
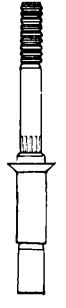
INSTALLED WEIGHTS

Pounds per 1000 pieces

Dash Number	2162 2262	2163 2263	2164	2562	2563	2564	2642 2652 2662	2643 2653 2663	2664
3-1	—	—	—	—	—	—	—	.64	—
3-2	—	—	—	—	—	—	.60	.76	—
3-3	—	—	—	—	—	—	.71	.86	—
3-4	—	—	—	—	—	—	.84	.97	—
3-5	—	—	—	—	—	—	.96	1.09	—
3-6	—	—	—	—	—	—	1.04	—	—
4-1	.290	.437	.26	.95	1.42	.84	.84	1.26	.74
4-2	.382	.528	.35	1.25	1.73	1.14	1.10	1.52	1.00
4-3	.472	.618	.44	1.54	2.02	1.43	1.36	1.78	1.26
4-4	.562	.708	.53	1.84	2.32	1.73	1.62	2.04	1.52
4-5	.657	.802	.62	2.14	2.62	2.03	1.89	2.31	1.79
4-6	.747	.893	.71	2.44	2.91	2.33	2.15	2.57	2.05
4-7	.827	—	.79	2.73	—	2.62	2.41	—	2.31
4-8	—	—	—	—	—	—	—	—	—
5-1	—	.730	—	—	2.38	—	—	2.10	—
5-2	.622	.872	.59	2.03	2.85	1.79	1.79	2.51	1.58
5-3	.764	1.01	.69	2.49	3.30	2.25	2.20	2.91	1.99
5-4	.903	1.15	.83	2.95	3.77	2.71	2.60	3.32	2.39
5-5	1.04	1.30	.97	3.40	4.23	3.17	3.00	3.73	2.79
5-6	1.18	1.44	1.11	3.87	4.69	3.63	3.41	4.13	3.20
5-7	1.33	1.58	1.26	4.33	5.15	4.09	3.82	4.54	3.61
5-8	1.47	1.72	1.40	4.80	5.62	4.56	4.23	4.95	4.02
5-9	—	—	1.54	—	—	5.02	4.64	—	4.43
5-10	—	—	1.68	—	—	5.49	5.05	—	4.84
6-1	—	1.12	—	—	3.68	—	—	3.24	—
6-2	.945	1.32	.80	3.09	4.32	2.62	2.72	3.81	2.30
6-3	1.15	1.53	1.00	3.74	4.98	3.27	3.30	4.39	2.88
6-4	1.35	1.72	1.20	4.42	5.62	3.95	3.87	4.96	3.45
6-5	1.55	1.92	1.40	5.05	6.29	4.58	4.45	5.54	4.03
6-6	1.75	2.12	1.60	5.71	6.93	5.24	5.03	6.11	4.61
6-7	1.95	2.32	1.80	6.38	7.59	5.91	5.61	6.69	5.19
6-8	2.15	2.52	2.00	7.02	8.24	6.55	6.19	7.27	5.77
6-9	2.35	2.73	2.20	7.66	8.91	7.19	6.76	7.85	6.34
6-10	2.55	2.92	2.40	8.32	9.55	7.85	7.33	8.42	6.91
6-11	2.74	3.13	2.60	8.96	10.21	8.49	7.90	9.00	7.48
6-12	2.95	3.32	2.80	9.61	10.84	9.14	8.48	9.56	8.06
6-13	—	—	3.00	—	—	9.78	9.05	—	8.63
6-14	—	—	3.20	—	—	10.43	9.62	—	9.20
8-1	—	—	—	—	—	—	—	—	—
8-2	—	3.00	—	—	9.78	—	—	8.62	—
8-3	2.56	3.35	2.16	8.35	10.95	7.08	7.37	9.65	6.23
8-4	2.92	3.72	2.52	9.54	12.13	8.27	8.41	10.70	7.27
8-5	3.28	4.07	2.88	10.72	13.27	9.45	9.45	11.70	8.31
8-6	3.65	4.45	3.24	11.91	14.49	10.64	10.49	12.80	9.35
8-7	4.00	4.79	3.60	13.04	15.62	11.83	11.53	13.80	10.39
8-8	4.37	5.13	3.96	14.29	16.76	13.02	12.57	14.80	11.43
8-9	4.72	5.52	4.32	15.42	18.02	14.19	13.61	15.90	12.47
8-10	5.07	5.87	4.68	16.56	19.15	15.36	14.65	16.90	13.51
8-11	5.46	6.22	5.04	17.80	20.29	16.53	15.69	17.90	14.55
8-12	5.80	6.57	5.40	18.90	21.42	17.69	16.73	18.90	15.59
8-13	6.15	6.95	5.76	20.03	22.68	18.85	17.77	20.00	16.63
8-14	6.52	7.29	6.12	21.29	23.81	20.02	18.81	21.00	17.67

WIREDRAW CHERRYLOCK® RIVET SELECTION

CONVERSION TABLE

HEAD STYLE	NAS NUMBER	CHERRY NUMBER	RIVET MATERIAL	STEM MATERIAL
UNIVERSAL HEAD 	NAS 1398B	CR2263	5056 Aluminum	7075 Aluminum
	—	2643*	A286 CRES	A286 CRES, STA
	—	2653	A286 CRES	A286 CRES, Ann'ld. Plug
	1398C	2663	A286 CRES	A286 CRES, Ann'ld. Plug
	1398CW	2663CW	A286 CRES, Cad. Plt'd.	A286 CRES, Ann'ld. Plug
	1398D	2163	2017 Aluminum	7075 Aluminum
	1398M	2563M	Monel	Monel
	1398MS	2563S	Monel, Silver Plt'd.	Monel
	1398MW	2563	Monel, Cad. Plt'd.	Monel
COUNTERSUNK HEAD (MS20426) 	NAS 1399B	CR2262	5056 Aluminum	7075 Aluminum
	—	2642*	A286 CRES	A286 CRES, STA
	—	2652	A286 CRES	A286 CRES, Ann'ld. Plug
	1399C	2662	A286 CRES	A286 CRES, Ann'ld. Plug
	1399CW	2662CW	A286 CRES, Cad. Plt'd.	A286 CRES, Ann'ld. Plug
	1399D	2162	2017 Aluminum	7075 Aluminum
	1399M	2562M	Monel	Monel
	1399MS	2562S	Monel, Silver Plt'd.	Monel
	1399MW	2562	Monel, Cad. Plt'd.	Monel
COUNTERSUNK HEAD (NAS1097) 	—	CR2164	2017 Aluminum	7075 Aluminum
	—	2564	Monel, Cad. Plt'd.	Monel
	—	2564M	Monel	Monel
	—	2664	A286 CRES	A286 CRES, Ann'ld. Plug
	—	2664CW	A286 CRES, Cad. Plt'd.	A286 CRES, Ann'ld. Plug

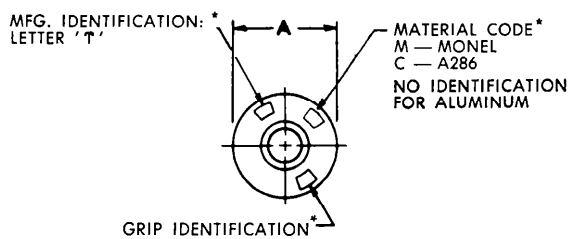
BEARING STRENGTH

For recommended blind side material thickness
see MIL-STD-1515, Requirement 213

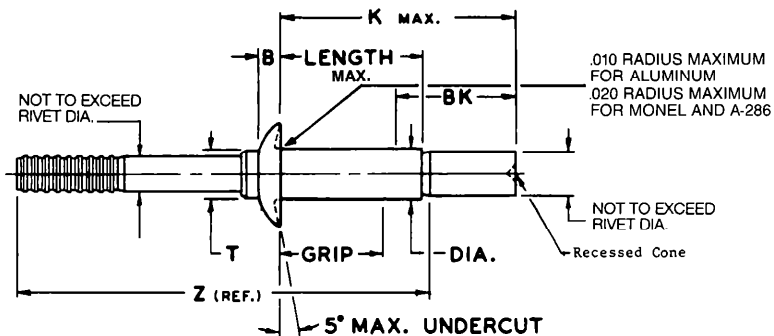
WIREDRAW CHERRYLOCK® RIVET

NAS 1398 UNIVERSAL HEAD

PROCUREMENT SPECIFICATION NAS 1400 IS APPLICABLE TO NAS 1398 RIVETS.

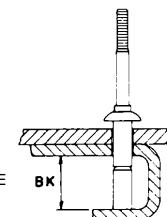
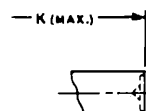


*NO HEAD MARKING ON .3 DIAMETER RIVETS



DIA. DASH NO.	-3 ⁽²⁾	-4	-5	-6	-8	
DIA. +.003/-001	.094	.125	.156	.187	.250	
A	.187 ± .009	.250 ± .012	.312 ± .016	.375 ± .019	.500 ± .025	
B +.010/-000	.040	.054	.067	.080	.107	
T (REF.)	.089	.119	.148	.174	.232	
Z (REF.)	A GROUP	1.78	1.79	1.81	1.85	1.97
	B GROUP			2.06	2.10	2.22
	C GROUP					2.47

OPTIONAL STEM



MIN. BLIND CLEARANCE FOR SATISFACTORY INSTALLATION

Rivet head may be above sheet before installation

GRIP LIMITS 1/16" RANGE	RIVET GROUP	3/32 DIAMETER ⁽²⁾				1/8 DIAMETER				5/32 DIAMETER				3/16 DIAMETER				1/4 DIAMETER			
		DASH NO.	L	K	BK	DASH NO.	L	K	BK	DASH NO.	L	K	BK	DASH NO.	L	K	BK	DASH NO.	L	K	BK
(1)	A	3-01	.166	.33	.22	4-01	.198	.39	.30	5-01	.201	.38	.28	6-01	.225	.44	.27				
.063		3-02	.229	.43	.26	4-02	.260	.51	.35	5-02	.263	.49	.34	6-02	.287	.55	.32	8-02	.323	.57	.37
.126		3-03	.291	.53	.30	4-03	.323	.63	.41	5-03	.326	.61	.39	6-03	.350	.67	.37	8-03	.385	.69	.43
.188		3-04	.354	.63	.34	4-04	.385	.75	.46	5-04	.388	.73	.45	6-04	.412	.79	.43	8-04	.346	.81	.48
.251		3-05	.416	.73	.39	4-05	.448	.87	.52	5-05	.451	.85	.50	6-05	.475	.91	.48	8-05	.510	.93	.54
.313		3-06	.479	.83		4-06	.510	.98	.57	5-06	.513	.97	.56	6-06	.537	1.03	.54	8-06	.573	1.04	.60
.376						4-07 ⁽³⁾	.573		.63	5-07	.576	1.09	.62	6-07	.600	1.15	.60	8-07	.635	1.16	.65
.438						4-08 ⁽³⁾	.635		.69	5-08	.638	1.20	.67	6-08	.662	1.27	.65	8-08	.698	1.28	.71
.501										5-09 ⁽⁴⁾	.701	1.38	.78	6-09	.725	1.34	.76	8-09	.760	1.46	.82
.563										5-10 ⁽⁴⁾	.763	1.50	.84	6-10	.787	.156	.82	8-10	.823	1.58	.88
.626	B												6-11	.850	1.68	.88	8-11	.885	1.70	.94	
.688													6-12	.912	1.81	.93	8-12	.948	1.83	1.00	
.751																		8-13	1.010	1.95	1.06
.813	C																	8-14	1.073	2.07	1.12

WIREDRAW CHERRYLOCK[®] RIVET

NAS 1398 UNIVERSAL HEAD

DESIGN NOTE: FOR USE IN LONG GRIP APPLICATIONS

Wire-draw Cherrylocks provide complete hole-fill making them especially well suited for applications requiring sealing capabilities.

An additional benefit of wire-draw Cherrylocks are their ability to be installed in stack-ups totaling 1/16" less than the noted minimum for a given grip. This in effect increases the total grip range to 1/8" rather than 1/16". This is not recommended as a regular practice since a weight penalty is incurred. However, there is no degradation of joint integrity.

Use Bulbed Cherrylocks for improved performance in all grips and especially in thin sheets.

RIVET NUMBER	NAS 523 CODE	MATERIAL ⑨			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2163 NAS 1398D	RL	2017-T4 QQ-A-430	7075 QQ-A-430	5056-H38 QQ-A-430	NATURAL COLOR MIL-A-8625 OR MIL-C-5541	MIL-A-8625 OR MIL-C-5541	NONE(5)
CR 2263 NAS 1398B	RK	5056 QQ-A-430	7075 QQ-A-430	5056-H38 QQ-A-430	ORANGE COLOR MIL-A-8625 OR MIL-C-5541	MIL-A-8625 OR MIL-C-5541	NONE(5)
CR 2563 NAS 1398MW	TK	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE
CR 2563M NAS 1398M	RM	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	NONE	NONE	NONE
CR 2563S NAS 1398MS	TL	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	SILVER PLATE QQ-S-365	NONE	NONE
CR 2643 (7) (8)	RH	A-286 CRES AMS5731	A-286 CRES AMS5731	MONEL QQ-N-281	NONE	COPPER COAT (FOR IDENTIFI- CATION ONLY)	NONE
CR 2653 (7)	ACY	A-286 CRES AMS5731	A-286 CRES (6) AMS5731	INCONEL 600 AMS 5687	NONE	NONE	NONE
CR 2663 NAS 1398C	RN	A-286 CRES AMS5731	A-286 CRES (6) AMS5731	MONEL QQ-N-281	NONE	NONE	NONE
CR 2663CW NAS 1398CW	TM	A-286 CRES AMS5731	A-286 CRES (6) AMS5731	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE

NOTES:

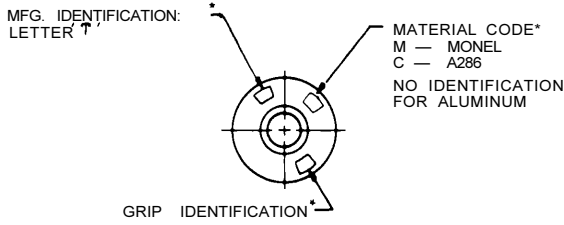
RIVET DIA.	MIN. GRIP
3/32	.020
1/8	.025
5/32	.031
3/16	.037

- (1) (2) 3/32" diameter available in A-286 only (CR2663). Not covered by NAS1398
 (3) Not covered by NAS1398
 (4) Covered by NAS1398 for A-286 and monel only
 (5) May have beige color to identify 5056 material
 (6) "P" diameter annealed
 (7) Not covered by NAS Standard. Quoted on request.
 (8) 95KSI fastener for use in high bearing strength materials such as steel. CRES, titanium, etc. Not suitable in aluminum structures.
 ⑨ For composition only.
 10. Rivet group refers to shift-Point setting of Riveter which sometimes requires a longer stroke tool.
 11. Do not clean or degrease prior to installation. All of the rivets above may be lubricated in accordance with NAS1400. Lubricant must not be removed.

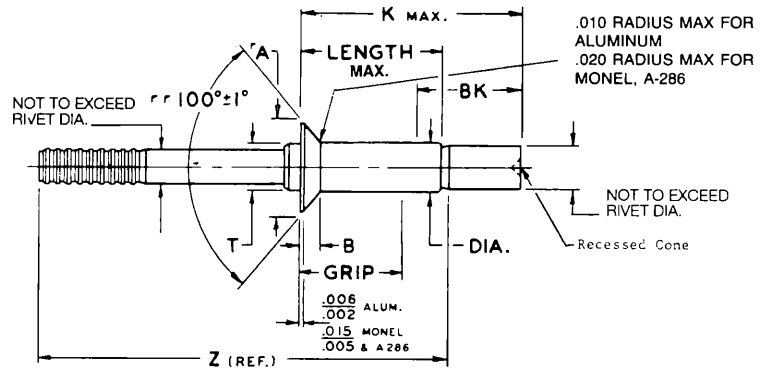
WIREDRAW CHERRYLOCK® RIVET

NAS 1399 COUNTERSUNK HEAD

PROCUREMENT SPECIFICATION NAS 1400 IS APPLICABLE TO NAS 1399 RIVETS.



*NO HEAD MARKING ON .3 DIAMETER RIVETS



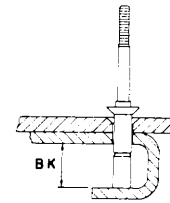
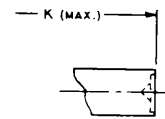
DIA. DASH NO.	-3 ⁽²⁾	-4	-5	-6	-8	
DIA. +.003/-0.01	.094	.125	.156	.167	.250	
MS 20426 HEAD A ±.004	.179	.225	.286	.353	.476	
B (REF.)	.036	.042	.055	.070	.095	
T (REF.)	.089	.119	.148	.174	.232	
Z (REF.)	A GROUP	1.78	1.79	1.81	1.85	1.97
	B GROUP			2.06	2.10	2.22
	C GROUP					2.47

HEAD DIAMETERS ARE TO THEORETICAL SHARP CORNERS AS MEASURED BY PROJECTION.

$r r 100^\circ \pm 1\frac{1}{2}^\circ$ FOR MONEL & CRES RIVETS.

SHEET THICKNESS FOR MACHINE COUNTERSUNK HOLES SHALL NOT BE LESS THAN $B' + .010"$

OPTIONAL STEM



MIN BLIND CLEARANCE FOR SATISFACTORY INSTALLATION

Rivet head may be above sheet before installation

GRIP LIMITS 1/16" RANGE		RIVET GROUP	3/32 DIAMETER ⁽²⁾			1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER			1/4 DIAMETER							
MIN.	MAX.		DASH NO.	L	K	BK	DASH NO.	L	K	BK	DASH NO.	L	K	BK	DASH NO.	L	K	BK				
(1)	.125	A	3-02	.229	.39	.22	4-02	.260	.45	.30	5-02	.263	.44	.28	6-02	.287	.48	.26				
.126	.187		3-03	.291	.49	.26	4-03	.323	.57	.35	5-03	.326	.56	.34	6-03	.350	.60	.32	8-03	.385	.63	.37
.188	.250		3-04	.354	.59	.30	4-04	.385	.69	.41	5-04	.388	.67	.39	6-04	.412	.72	.37	8-04	.446	.75	.43
.251	.312		3-05	.416	.70	.35	4-05	.448	.81	.46	5-05	.451	.79	.45	6-05	.475	.83	.43	8-05	.510	.87	.48
.313	.375		3-06	.479	.81	.39	4-06	.510	.93	.52	5-06	.513	.91	.50	6-06	.537	.95	.48	8-06	.573	.99	.54
.376	.437						4-07 ⁽²⁾	.573		.57	5-07	.576	1.03	.56	6-07	.600	1.07	.54	8-07	.635	1.11	.60
.438	.500						4-08 ⁽²⁾	.635		.63	5-08	.638	1.15	.62	6-08	.662	1.19	.60	8-08	.698	1.23	.65
.501	.562										5-09 ⁽²⁾	.701	1.27	.67	6-09	.725	1.31	.65	8-09	.760	1.34	.71
.563	.625										5-10 ⁽²⁾	.763	1.44	.78	6-10	.787	1.48	.76	8-10	.823	1.52	.82
.626	.687		B											.84	6-11	.850	1.60	.82	8-11	.885	1.64	.88
.688	.750													6-12	.912	1.72	.88	8-12	.948	1.77	.94	
.751	.812													6-13 ⁽²⁾	.938		.94	8-13	1.010	1.89	1.00	
.813	.875	C												6-14 ⁽²⁾	1.00		1.00	8-14	1.073	2.01	1.06	

WIREDRAW CHERRYLOCK® RIVET

NAS 1399 COUNTERSUNK HEAD

DESIGN NOTE: FOR USE IN LONG GRIP APPLICATIONS

Wire-draw Cherrylocks provide complete hole-fill making them especially well suited for applications requiring sealing capabilities.

An additional benefit of wire-draw Cherrylocks are their ability to be installed in stack-ups totaling 1/16" less than the noted minimum for a given grip. This in effect increases the total grip range to 1/8" rather than 1/16". This is not recommended as a regular practice since a weight penalty is incurred. However, there is no degradation of joint integrity.

Use Bulbed Cherrylocks for improved performance in all grips and especially in thin sheets.

RIVET NUMBER	NAS 523 CODE	MATERIAL ①			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2162 NAS 1399D	RP	2017-T4 QQ-A-430	7075 QQ-A-430	5056-H38 QQ-A-430	NATURAL COLOR MIL-A-8625 OR MIL-C-5541	MIL-A-8625 OR MIL-C-5541	NONE ⁽⁵⁾
CR 2262 NAS 1399B	RO	5056 QQ-A-430	7075 QQ-A-430	5056-H38 QQ-A-430	ORANGE COLOR MIL-A-8625 OR MIL-C-5541	MIL-A-8625 OR MIL-C-5541	NONE ⁽⁵⁾
CR 2562 NAS 1399MW	TO	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE
CR 2562M NAS 1399M	RR	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	NONE	NONE	NONE
CR 2562S NAS 1399MS	TP	MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	SILVER PLATE QQ-S-365	NONE	NONE
CR 2642 (7)(8)	RJ	A-286 CRES AMS5732	A-286 CRES AMS5732	MONEL QQ-N-281	NONE	COPPER COAT (FOR IDENTIFI- CATION ONLY)	NONE
CR 2652 (7)		A-286 CRES AMS5731	A-286 CRES ⁽⁴⁾ AMS5731	INCONEL 600 AMS 5687	NONE	NONE	NONE
CR 2662 NAS 1399C	RS	A-286 CRES AMS5731	A-286 CRES ⁽⁴⁾ AMS5731	MONEL QQ-N-281	NONE	NONE	NONE
CR 2662CW NAS 1399CW	TR	A-286 CRES AMS5731	A-286 CRES ⁽⁶⁾ AMS5731	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE

(1) RIVET DIA.	MIN. GRIP
3/32	.063
1/8	.063
5/32	.075
3/16	.090

(2) 3/32" diameter available in A-286 only (CR2662). Not covered by NAS 1399

(3) Not covered by NAS 1399

(4) Covered by NAS 1399 for A-286 and monel only

(5) May have beige color to identify 5056 material

(6) P" diameter annealed

(7) Not covered by NAS Standard. Quoted on request.

(8) 95KSI fastener for use in high bearing strength materials such as steel, CRES, titanium, etc. Not suitable in aluminum structures.

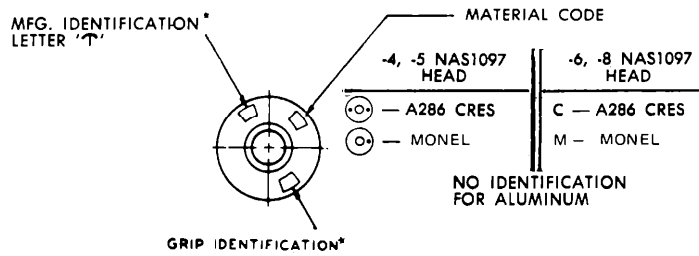
(9) For composition only.

① Rivet group refers to shift-point setting of riveter which sometimes requires a longer stroke tool.

DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED IN ACCORDANCE WITH NAS1400. LUBRICANT MUST NOT BE REMOVED!

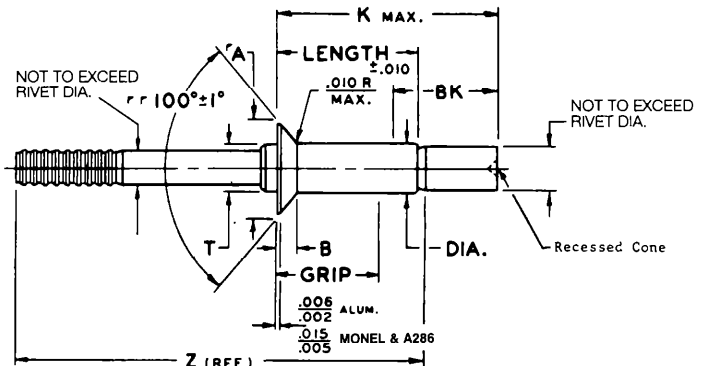
WIREDRAW CHERRYLOCK® RIVET

AS 1097 HEAD



*NO MFG. OR GRIP IDENTIFICATION ON -4 AND -5 DIA

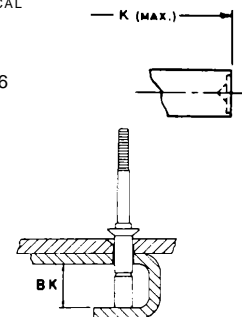
DIA. DASH NO.	-4	-5	-6	-8	
DIA. +.003/-0.01	.125	.156	.187	.250	
NAS 1097 HEAD A ±.004	.192	.243	.299		
B (REF.)	.028	.037	.046		
T (REF.)	.119	.148	.174		
Z (REF.)	A GROUP	1.79	1.81	1.85	1.97
	B GROUP		2.06	2.10	2.22
	C GROUP			2.35	2.47



HEAD DIAMETERS ARE TO THEORETICAL SHARP CORNERS AS MEASURED BY PROJECTION.

r r 100° ± 1½° FOR MONEL & A286

OPTIONAL STEM



MIN. BLIND CLEARANCE FOR SATISFACTORY INSTALLATION
Rivet head may be above sheet before installation

GRIDLIMITS 1/16RANGE		RIVET GROUP	1/8 DIAMETER				5/32 DIAMETER				3/16 DIAMETER				1/4 DIAMETER			
MIN.	MAX.		DASH NO.	LGTH.	K	BK	DASH NO.	LGTH.	K	BK	DASH NO.	LGTH.	K	BK	DASH NO.	LGTH.	K	BK
.063	.125	A	4-02	.250	.45	.30	5-02	.250	.44	.28	6-02	.250	.44	.26				
.126	1.87		4-03	.313	.57	.35	5-03	.313	.56	.34	6-03	.313	.55	.32	8-03	.375	.63	.37
.188	.250		4-04	.375	.69	.41	5-04	.375	.67	.39	6-04	.375	.67	.37	8-04	.438	.75	.43
.251	.312		4-05	.438	.81	.46	5-05	.438	.79	.45	6-05	.438	.78	.43	8-05	.500	.87	.48
.313	.375		4-06	.500	.93	.52	5-06	.500	.91	.50	6-06	.500	.90	.48	8-06	.563	.99	.54
.376	.437		4-07	.563	1.05	.57	5-07	.563	1.03	.56	6-07	.563	1.02	.54	8-07	.625	1.11	.60
.438	.500						5-08	.625	1.15	.62	6-08	.625	1.14	.60	8-08	.688	1.23	.65
.501	.562						5-09	.688	1.27	.67	6-09	.688	1.26	.65	8-09	.750	1.34	.71
.563	.625		B											.76	8-10	.813	1.52	.82
.626	.687													.82	8-11	.875	1.64	.88
.688	.750												.88	8-12	.938	1.77	.94	
.751	.812										6-13	.938	1.79	.94	8-13	1.000	1.89	1.00
.813	.875	C									6-14	1.000	1.91	1.00	8-14	1.063	2.01	1.06

WIREDRAW CHERRYLOCK® RIVET

NAS 1097 HEAD

DESIGN NOTE: FOR USE IN LONG GRIP APPLICATIONS.

Wire-draw Cherrylocks provide complete hole-fill making them especially well suited for applications requiring sealing capabilities.

An additional benefit of wire-draw Cherrylocks are their ability to be installed in stack-ups totaling 1/16" less than the noted minimum for a given grip. This in effect increases the total grip range to 1/8" rather than 1/16". This is not recommended as a regular practice since a weight penalty is incurred. However, there is no degradation of joint integrity.

The low-profile head per NAS 1097 is designed for thin top sheet applications to eliminate the knife-edge condition associated with a deep countersink in thin sheets.

Use Bulbed Cherrylocks for improved performance in all grips and especially in thin sheets.

TOOLING NOTE: Requires H681-()S series pulling head.

RIVET NUMBER	NAS 523 CODE	MATERIAL ①			FINISH		
		RIVET	STEM	LOCK RING	RIVET	STEM	LOCK RING
CR 2164 ⁽³⁾	ADD	2017-T4 QQ-A-430	7075 QQ-A-430	5056-H38 QQ-A-430	NATURAL COLOR ⁽¹⁾ MIL-A-8625 OR MIL-C-5541	MIL-A-8625 OR MIL-C-5541	NONE ⁽¹⁾
CR 2564 ⁽³⁾		MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE
CR 2564M ⁽³⁾		MONEL QQ-N-281	MONEL QQ-N-281	MONEL QQ-N-281	NONE	NONE	NONE
CR 2664 ⁽³⁾	ADF	A-286 CRES AMS 5731 ⁽⁴⁾	A-286 CRES ⁽²⁾ AMS 5731 ⁽⁴⁾	INCONEL 600 AMS 5687	NONE	NONE	NONE
CR 2664CW ⁽³⁾		A-286 CRES AMS 5731 ⁽⁴⁾	A-286 CRES (2) AMS 5731 ⁽⁴⁾	INCONEL 600 AMS 5687	CADMIUM PLATE QQ-P-416 TYPE II, CLASS 2	NONE	NONE

NOTES:

- ① For Composition only.
- (2) May have beige color to identify 5056 material
- (3) "P" diameter annealed
- (4) Not covered by NAS Standard. Quoted on request.
- (5) Rivet group refers to shift-point setting of riveter which sometimes requires a longer stroke tool.

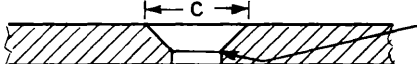
DO NOT CLEAN OR DEGREASE PRIOR TO INSTALLATION. ALL OF THE RIVETS ABOVE MAY BE LUBRICATED, LUBRICANT MUST NOT BE REMOVED!

CHERRYLOCK® RIVET INSTALLATION

HOLE PREPARATION

Recommended drill sizes, hole sizes and countersunk diameter limits

CHERRYLOCK			
Rivet Diam.	Drill Size	Minimum	Maximum
3/32	#40	.097	.100
1/8	#30	.129	.132
5/32	#20	.160	.164
3/16	#10	.192	.196
1/4	F	.256	.261
BULBED CHERRYLOCK			
1/8	#27	.143	.146
5/32	#16	.176	.180
3/16	#5	.205	.209

COUNTERSINKING DIMENSIONS						
						
Rivet Diam.	100° MS20426 HEAD		100° NAS1097 HEAD		100° UNISINK HEAD	
	C Max.	C Min.	C Max.	Min.	C Max.	C Min.
3/32	.182	.176	—	—	—	—
1/8	.228	.222	.195	.189	.173	.167
5/32	.289	.283	.246	.240	.216	.210
3/16	.356	.350	.302	.296	.258	.252
1/4	.479	.473	.395	.389	—	—

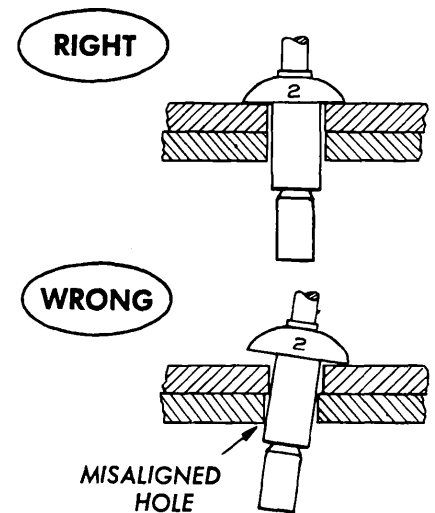
Do not deburr blind side of hole.

SHEET THICKNESS FOR MACHINE COUNTERSUNK HOLE SHALL NOT BE LESS THAN 'B' (RIVET HEAD THICKNESS) + .010"

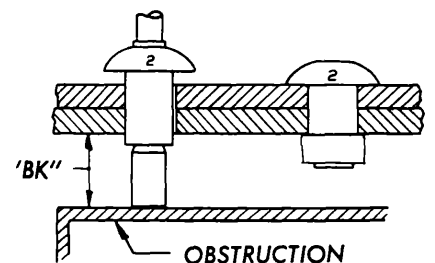
PLACING RIVET IN HOLE

Select the proper pulling head to conform to the diameter and head style of Cherrylock Rivet being installed. The rivet is now ready to be placed in the hole.

The holes in the sheets to be fastened must be of correct size and aligned properly. Do not force the rivet into the hole.



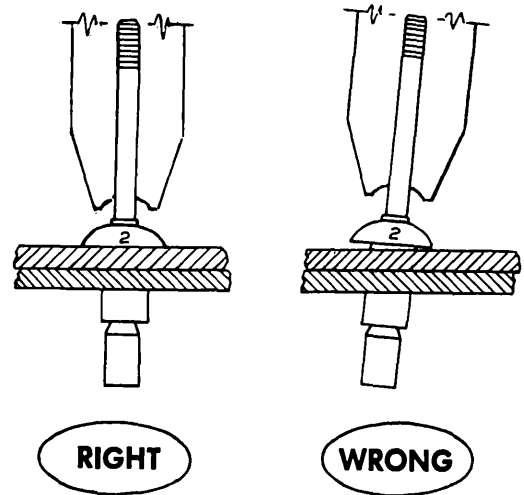
In limited blind clearance applications, the manufactured head of the standard Cherrylock can protrude above the top sheet and will pull down to the sheet as the stem is pulled in. The minimum blind clearance is the "BK" dimension, and is listed on Cherry standards pages.



CHERRYLOCK[®] RIVET INSTALLATION

PLACING PULLING HEAD ON RIVET STEM

Hold the riveter and pulling head in line with the axis of the rivet, while holding the riveter in a light and flexible manner.

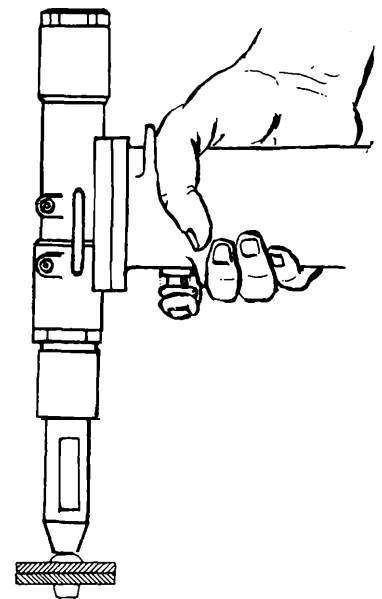


ACTUATING RIVETER

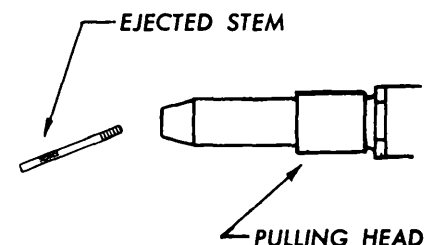
1. The pulling head will pull down and seat against the rivet head.
2. The rivet clamping action will pull the sheets together and seat the rivet head.
3. The action of the rivet will automatically help to bring the riveter and pulling head into proper alignment with the rivet axis.

Pressing down with force will not allow the rivet and the riveter to align themselves with the hole, and this may limit the head seating action of the rivet.

When installing Cherrylock Rivets, hold the riveter in line with the rivet as accurately as possible, and, applying a steady but light pressure, pull the trigger and LET THE RIVET DO THE WORK.

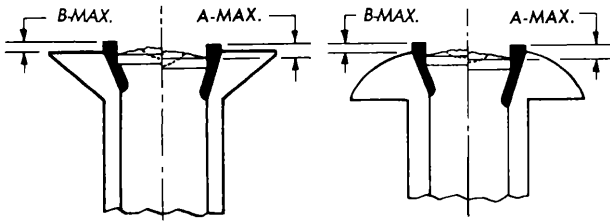


When the rivet is completely installed, release the trigger and the pulling head will automatically eject the pulling portion of the stem through the front end. Controlled stem release into receptacle will control F.O.D. problems.

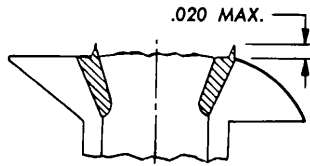


CHERRYLOCK[®] RIVET INSPECTION

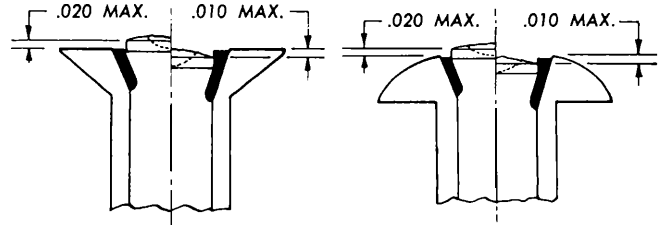
COLLAR PROTRUSION LIMITS WITHIN NAS1400 AND 1740



	DIAMETER DASH NO.				
	-3	-4	-5	-6	-8
A-MAX	.015	.015	.020	.025	.030
B-MAX	.010	.010	.010	.015	.020



STEM PROTRUSION LIMITS WITHIN NAS1400 AND 1740

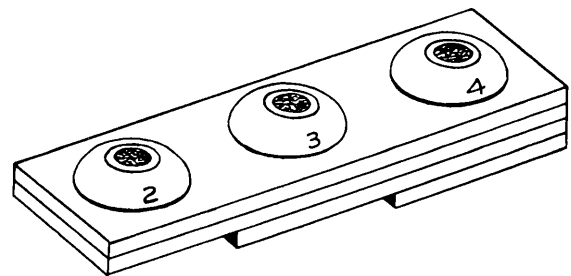


INSPECT INSTALLED RIVET FLUSHNESS TO
BREAK-OFF LIMITS OF NAS1400 AND NAS1740

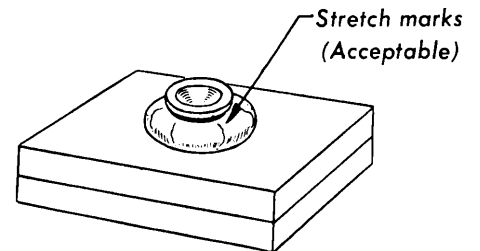
A slight collar "flash" caused by the pressures necessary to drive the collar is acceptable within the limit shown.

If the rivet stem and collar are flush within the limits described it can be safely concluded that a satisfactory blind head and lock has been formed.

CHERRYLOCK RIVETS Have the grip length marked on the rivet head (except 3/32" diameter and 1/8" and 5/32" in NAS1097 head style) to provide positive inspection from the visible side to show that the rivets have been installed with the correct grip.



Superficial stretch marks which may appear in the rivet sleeve are not detrimental to rivet strength and are acceptable.



BULBED BLIND HEAD

Due to the self-inspecting feature of the Cherrylock, it is unnecessary to inspect the blind head formation.



LIGHTWEIGHT

G 700
(5¾ lbs.)



UNIVERSAL

G 784
(8 lbs.)



HEAVY DUTY

G 689
(13 lbs.)

The following pages illustrate the various tools and accessories required to install Cherrylock rivets. Cherry rivets may be installed with either hand or power riveters, the choice being influenced by several factors: the quantity of rivets to be installed, the availability of an air supply, the accessibility of the work, and the size and type of rivet to be installed. In addition to a hand or power riveter, it is necessary to select the correct "pulling head" to complete the installation tool. Pulling heads are not furnished with the riveters but must be ordered separately.

Each Cherrylock riveter is designed to do a specific task in an economical and efficient manner. Properly selected, Cherrylock tools are the most advanced fastener installation equipment available, being light weight, simple and having the broadest pulling capacity. They are of heavy duty design for long life in the shop environment and incorporate a separate locking-collar driving feature to insure head seating and a flush rivet installation without stem shaving. Complete assembly and component data is available to assist your tool crib in maintaining and overhauling these tools.

All Cherrylock installation tools are manufactured exclusively by Cherry Fasteners whose engineering also designed the Cherrylock riveting system. For superior installation results, use with Cherrylock and Bulbed Cherrylock locked spindle rivets.

CHERRYLOCK® RIVET TOOLING

The numbers shown in the rivet columns below are the maximum grip length that can be installed with these tools. Shaded areas indicate those rivet sizes which cannot be installed in any grip length.

TOOL SELECTION CHART

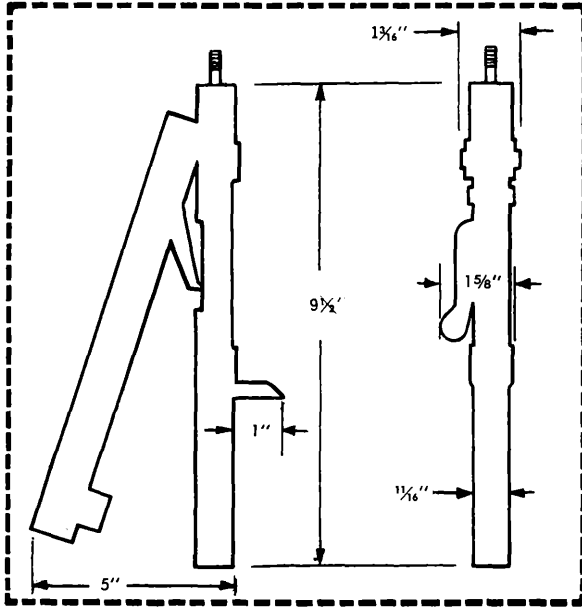
TYPE OF TOOL	CHERRY RIVETER MODEL	BULBED CHERRYLOCKS (NAS 1738 & 1739)						STANDARD CHERRY LOCKS (NAS 1398 & 1399)							
		PULLING HEAD	RIVET DIA.	ALUMINUM		MONEL & INCONEL		PULLING HEAD	RIVET DIA. (3)	ALUMINUM		MONEL		A-206 CRES.	
				2235 2239 2245 2249	2238 2248	2539 2545 2839 2845	2538 2540 2838 2840			2163 2263	2162 2164 2262 2264	2563 2562 2564	2643 2653 2663 (3)	2642 2652 2662 2664 (3)	
				UNIV. HEAD	CTSK. HEAD	UNIV. HEAD	CTSK. HEAD			UNIV. HEAD	CTSK. HEAD	UNIV. HEAD	CTSK. HEAD	UNIV. HEAD	CTSK. HEAD
H A N D	G36A	H615B	- 4	ALL	ALL	-	-	H615B	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	-	-	-	-		- 5	ALL	ALL	ALL	ALL	-	-
			- 6	-	-	-	-		- 6	12	13	-	-	-	-
	G55	H640B	- 4	ALL	ALL	ALL	ALL	H640	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	ALL	ALL	ALL	ALL	ALL	ALL
			- 6	-	-	-	-		- 6	ALL	ALL	ALL	ALL	ALL	ALL
H Y D R O S H I F T	G700	H681	- 4	ALL	ALL	ALL	ALL	H681	- 4	8	9	8	9	8	9
			- 5	-	-	-	-		- 5	8	9	8	9	8 ⁽¹⁾	9 ⁽¹⁾
			- 6	-	-	-	-		- 6	8	9	-	-	-	-
			- 8	-	-	-	-		- 8	-	-	-	-	-	-
	G784	H681	- 4	ALL	ALL	ALL	ALL	H681	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	8	9	8	9	8	9
			- 6	ALL	ALL	ALL	ALL		- 6	8	9	8	9	8	9
			- 8	-	-	-	-		- 8	8	9	8	9	-	-
	G685B-S	H681	- 4	ALL	ALL	ALL	ALL	H681	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	8	9	8	9	8	9
			- 6	ALL	ALL	ALL	ALL		- 6	8	9	8	9	8	9
			- 8	-	-	-	-		- 8	8	9	8	9	-	-
	G686B-S	H681	- 4	ALL	ALL	ALL	ALL	H681	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	ALL	ALL	ALL	ALL	ALL	ALL
			- 6	ALL	ALL	ALL	ALL		- 6	ALL	ALL	ALL	ALL	ALL	ALL
			- 8	-	-	-	-		- 8	ALL	ALL	ALL	ALL	-	-
	G689	H681	- 4	ALL	ALL	ALL	ALL	H681	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	ALL	ALL	ALL	ALL	ALL	ALL
			- 6	ALL	ALL	ALL	ALL		- 6	ALL	ALL	ALL	ALL	ALL	ALL
			- 8	-	-	-	-		- 8	ALL	ALL	ALL	ALL	ALL	ALL
	G695B	H690	- 4	ALL	ALL	ALL	ALL	H690	- 4	4	4	4	4	4	4
			- 5	ALL	ALL	ALL	ALL		- 5	4	4	4	4	4	4
			- 6	-	-	-	-		- 6	4	4	4	4	-	-
			- 8	-	-	-	-		- 8	4	4	-	-	-	-
M E C H A N I C A L	G715A ⁽²⁾	H615B	- 4	ALL	ALL	-	-	H615B	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	-	-	-	-		- 5	8	9	-	-	-	-
			- 6	-	-	-	-		- 6	8	9	-	-	-	-
			- 8	-	-	-	-		- 8	-	-	-	-	-	-
	G740A ⁽²⁾	H640B	- 4	ALL	ALL	ALL	ALL	H640B	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	12	13	12	13	12	13
			- 6	-	-	-	-		- 6	12	13	12	13	-	-
			- 8	-	-	-	-		- 8	12	13	-	-	-	-
	G88A ⁽²⁾	H640B	- 4	ALL	ALL	ALL	ALL	H640B	- 4	ALL	ALL	ALL	ALL	ALL	ALL
			- 5	ALL	ALL	ALL	ALL		- 5	ALL	ALL	ALL	ALL	ALL	ALL
			- 6	ALL	ALL	ALL	ALL		- 6	ALL	ALL	ALL	ALL	ALL	ALL
			- 8	-	-	-	-		- 8	ALL	ALL	ALL	ALL	-	-

(1) May require 95PSI air pressure at tool

(2) Superseded by hydroshift installation tools

(3) 3/32" A-286 (CR2662 & CR2663) rivets may be installed with any Cherry hydro-shift riveter equipped with an H681-3 pulling head

G36A HAND RIVETER



DESCRIPTION

The Cherry G36A Hand Riveter is a lightweight, fast operating tool designed for use in production and repair work and is especially adaptable to working in confined locations. It is operated with one hand and works on a simple, dependable ratchet principle.

The G36A Riveter is 9½" long without a pulling head, weighs only 1½ lbs. and has a 1¼" stroke. It will easily install most aluminum blind rivets up to 3/16" diameter and the smaller diameters of steel, monel and stainless steel rivets. See Tool Selection Chart on Page 28 for complete capacity information.

PULLING HEADS

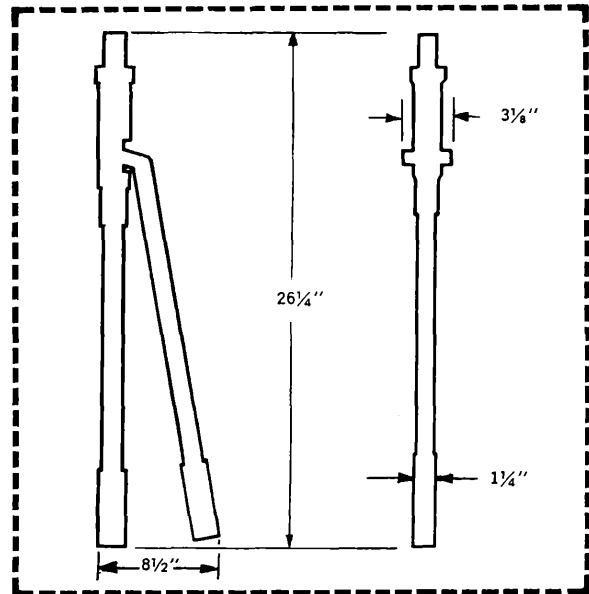
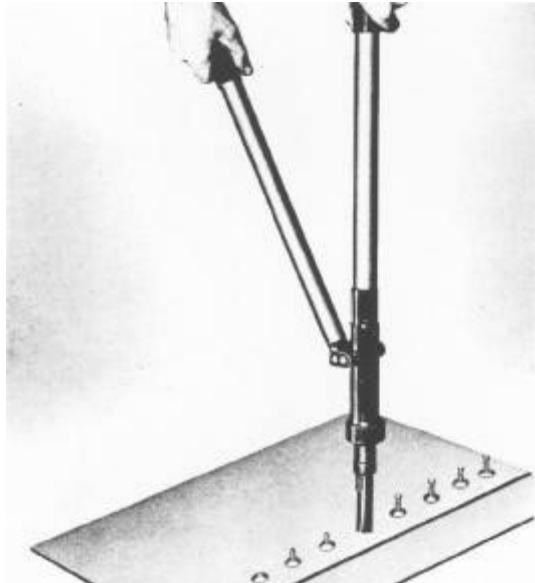
Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

The following pulling heads will fit directly on the G36A Riveter:
H615B Series. . . For 2000 Series Locked Spindle, Flush Fracturing Cherrylock Rivets.

Other types of pulling heads may be used on these riveters by using adapters listed.



G55 HAND RIVETER



DESCRIPTION

The Cherry G55 Hand Riveter is a heavy-duty, well balanced tool designed to install large blind rivets where air power is not available. It is operated with both hands and works on a simple, trouble-free ratchet principle.

The G55 Riveter is 26 $\frac{1}{4}$ " long without a pulling head, weighs 5 lbs. and has a 2 $\frac{1}{2}$ " stroke. It will readily install practically all sizes and styles of blind rivets. See Tool Selection Chart on Page 28 for complete capacity information.

PULLING HEADS

Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

The following pulling heads will fit directly on the G-55 Riveter:

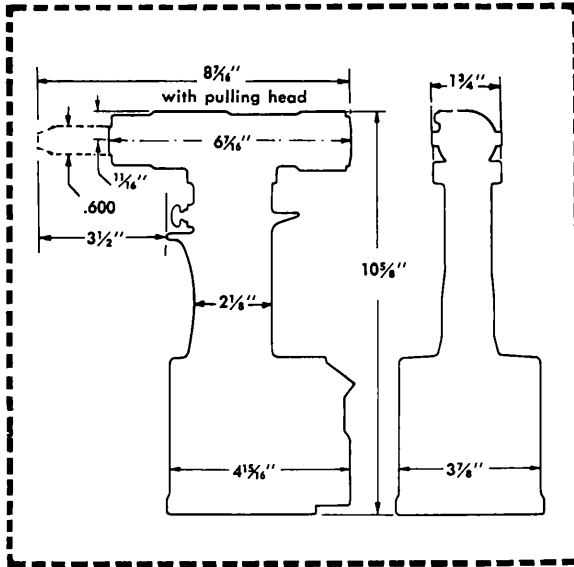
H640B Series .. For 2000 Series Locked Spindle, Flush Fracturing Cherrylock Rivets.

In addition, the smaller, screw-on type pulling heads will fit the G55 by using a 226 adapter.

Other types of pulling heads may be used on these riveters by using adapters listed.



G700 LIGHTWEIGHT POWER RIVETER



U.S. PATENT 3,309,911



DESCRIPTION

The Cherry G700 Lightweight Cherrylock Riveter is a compact pneumatic-hydraulic tool designed specifically for fast, efficient installation of Cherrylock Rivets. It weighs only 5³/₄ lbs. and can be operated in any position with one hand.

The G700 is 10 5/8" high, has a 29/32" stroke and develops a minimum of 1220 lbs. pull on 90 to 125 psi of air pressure at the tool. See the Tool Selection Chart on Page 28 for complete tool capacity information.

PULLING HEADS

Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

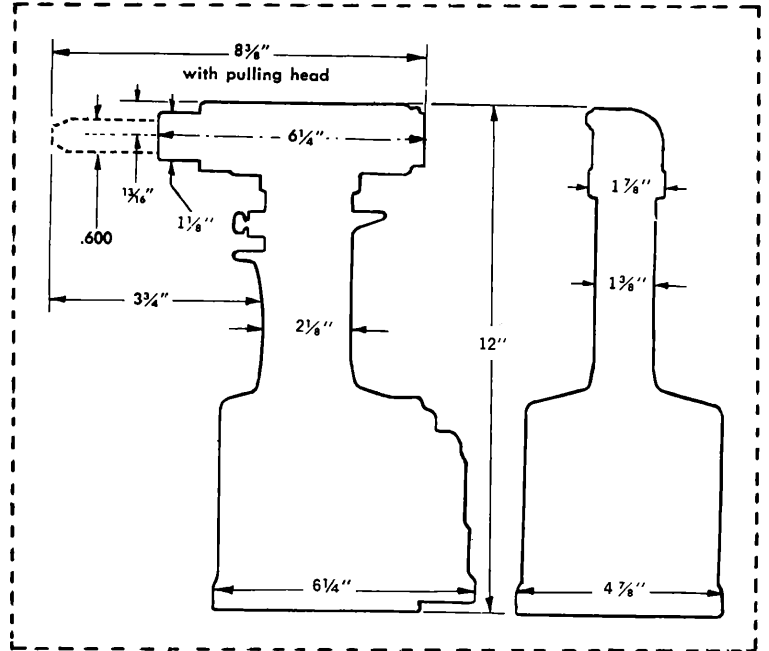
H681 Series pulling heads, fit directly on this tool to install both Bulbed and Standard Cherrylock Rivets.

Other types of pulling heads may be used on these riveters by using adapters listed.



CHERRYLOCK® RIVET TOOLING

G784 UNIVERSAL POWER RIVETER



DESCRIPTION



The Cherry G784 Universal Cherrylock Riveter is a pneumatic-hydraulic Cherrylock installation tool designed specifically for the most efficient installation of most diameters and strength levels. It weighs only 8 lbs. and can be operated in any position with one hand.

The G784 is 12" high, has a 15/16" stroke and generates a minimum of 2650 lbs. of pull on 90 to 125 psi of air pressure at the tool. It will install nearly all diameters of Cherrylock Rivets up to a half-inch grip. ("A" group only). See tool selection chart on page 28 for complete tool capacity information.

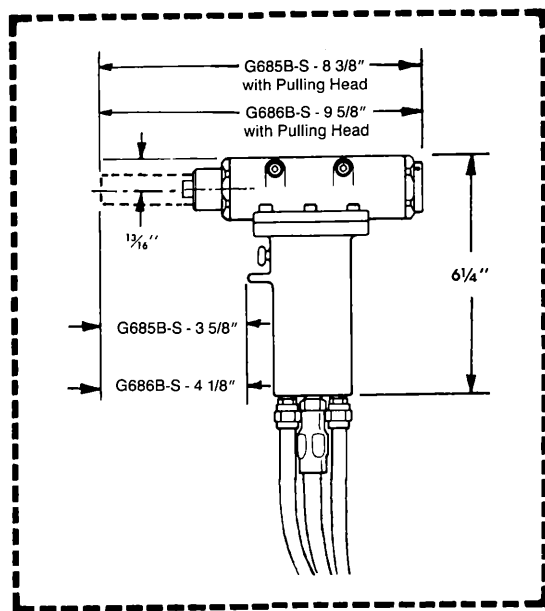
PULLING HEADS

Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

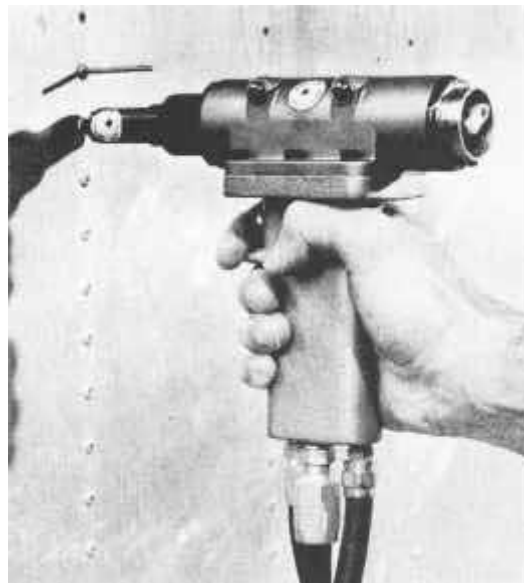
H681 Series pulling heads, fit directly on this tool to install both Bulbed and Standard Cherrylock Rivets.

Other types of pulling heads may be used on these riveters by using adapters listed.

G685B-S & G686B-S LIMITED ACCESS POWER RIVETERS



U.S. PATENT 3,309,911



DESCRIPTION

The Cherry G685B-S & G686B-S Split Cherrylock Riveters are designed specifically for the easiest and most efficient installation of Cherrylock Rivets. In using these "split" tools, the power unit rests on the floor and transmits its power through 8 feet of hose to a light-weight pistol-grip handle; this facilitates rivet installation in many limited access areas and also greatly reduces operator fatigue.

The G685B-S and G686B-S Riveters operate on 90 to 125 psi of air pressure at the tool and differ in capacity as follows:

G685B-S.....	1 1/16" stroke.....	2460 lbs. pull
G686B-S.....	1 9/16" stroke.....	2460 lbs. pull

The difference in stroke determines the size and style of rivets that can be installed with these riveters. See Tool Selection Chart on Page 28 for complete capacity information.

PULLING HEADS

Pulling heads are not furnished with these tools but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

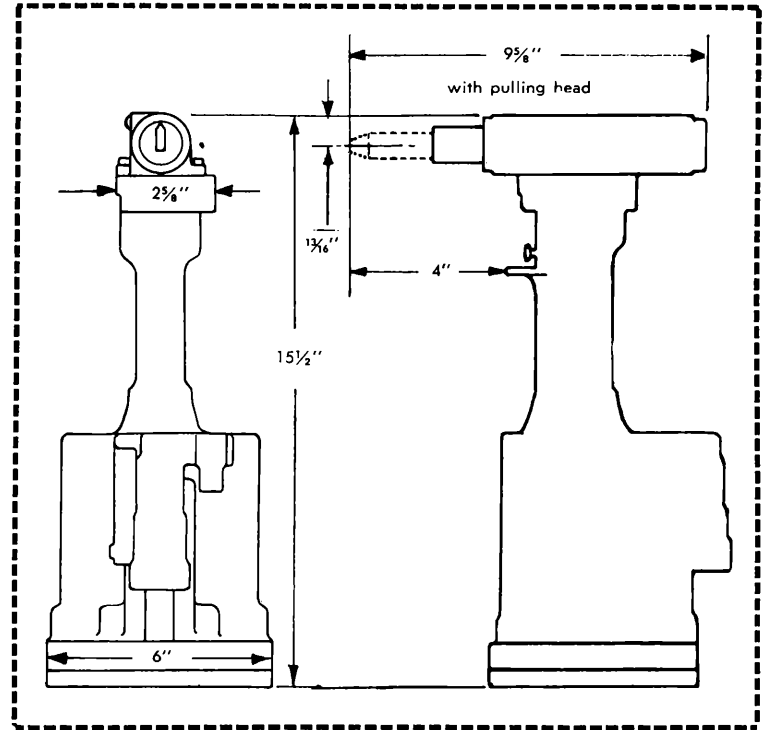
H681 Series pulling heads, fit directly on these tools to install both Bulbed and Standard Cherrylock Rivets.

Other types of pulling heads may be used on these riveters by using adapters listed.



CHERRYLOCK® RIVET TOOLING

G689 HEAVY DUTY POWER RIVETER



U.S. PATENT 3,309,911

DESCRIPTION

The Cherry G689 Heavy Duty Cherrylock Riveter is a pneumatic-hydraulic tool designed specifically for the installation of all Cherrylock Rivets. It weighs only 13 lbs.

The G689 is 15-1/2" high, has a 1-9/16" stroke and generates a minimum of 3540 lbs. of pull on 90 to 120 psi of air pressure at the tool. See tool selection chart on page 28 for complete tool capacity information.

PULLING HEADS

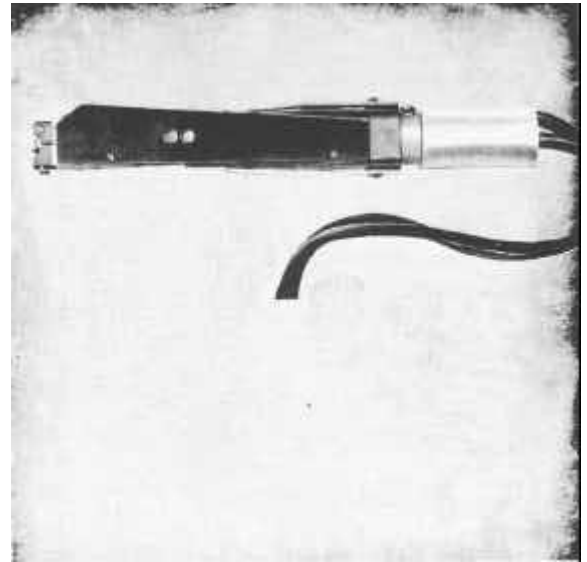
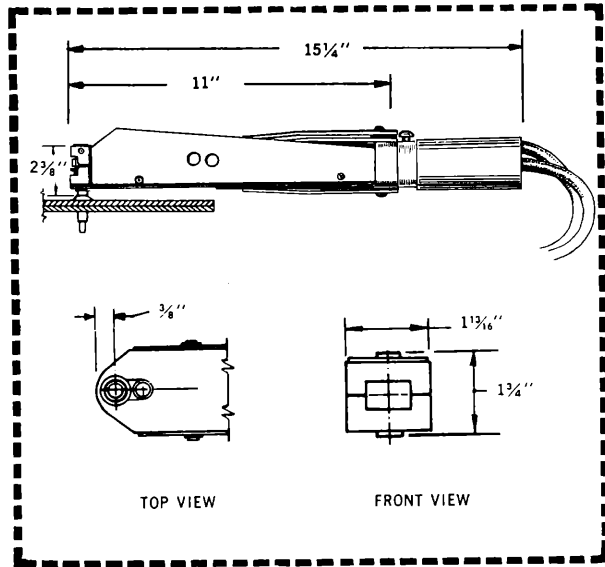
Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

H681 Series pulling heads, fit directly on this tool to install both Bulbed and Standard Cherrylock Rivets.

Other types of pulling heads may be used on these riveters by using adapters listed.



G695B RIGHT ANGLE POWER RIVETER



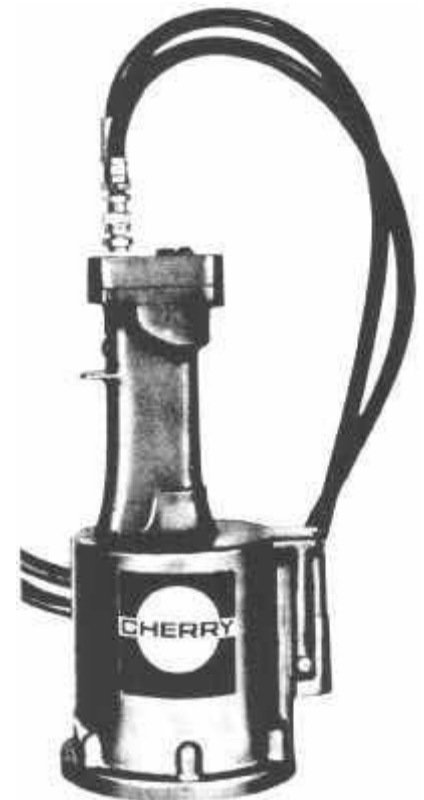
DESCRIPTION

The Cherry G695B Right Angle Riveter is designed specifically for installing Cherrylock Rivets in limited access areas. The G695B Riveter develops a minimum of 3400 lbs. of pulling power on 90 to 125 psi of air pressure at the tool, and has a 5/8" stroke. The power unit rests on the floor and is connected to the right angle unit with 8 feet of hose which further increases the flexibility of this tool. See the Tool Selection Chart on Page 28 for complete capacity information.

PULLING HEADS

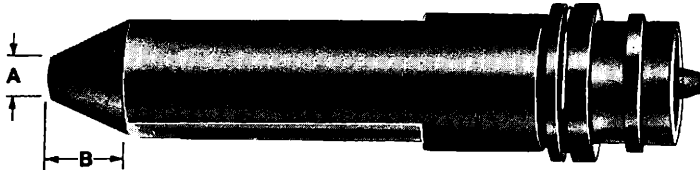
Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

H690 Series pulling heads, fit directly on this tool to install both Bulbed and Standard Cherrylock Rivets.



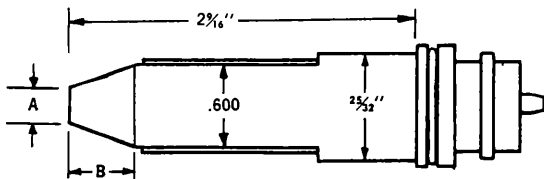
CHERRYLOCK® RIVET TOOLING

PULLING HEADS



H681 SERIES (Replaces H680 Series)

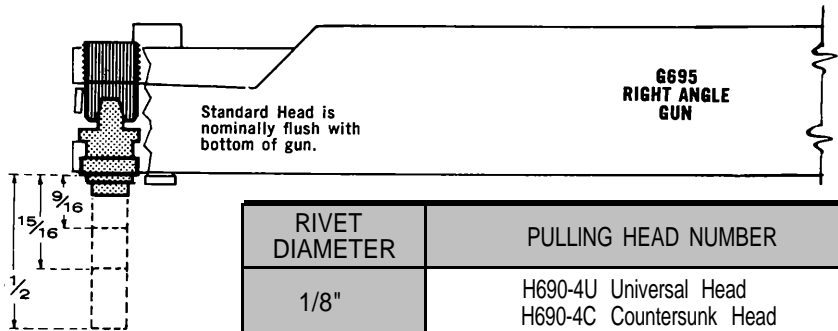
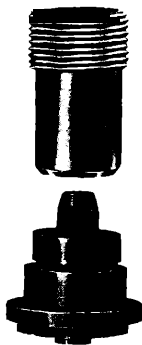
A separate pulling head is required for each diameter Cherrylock Rivet. Although universal (U) pulling heads are available, it is acceptable that countersunk (C) pulling heads be used for installing both universal and countersunk head Cherrylock Rivets. These heads fit directly on all Cherry Hydro-shift Riveters.



H681 pulling heads may be obtained in four extended lengths to reach into difficult access areas. These are 2", 6", 12" & 24" extensions added to the normal head length of 2 9/16". To order extension heads, specify correct pulling head number from chart above and add extension length required. For example, H681-6U-E2 or H681-6U-E12, etc. Prices will be quoted upon request.

RIVET DIAMETER	PULLING HEAD NUMBER	DIMENSIONS	
		A	B
3/32"	H681-3C { Universal Head Countersunk Head (MS 20426)	.163	.332
	H681-4C { Universal Head Countersunk Head (MS 20426)	.208	.341
1/8"	H681-4F Countersunk Head (156°)	.430	.358
	H681-4S Countersunk Head (NAS 1097)	.174	.341
	H681-B166-4 Uni-Sink Head	.250	.359
	H681-5C { Universal Head Countersunk Head (MS 20426)	.269	.352
5/32"	H681-5F Countersunk Head (156°)	.535	.338
	H681-5S Countersunk Head (NAS 1097)	.225	.352
	H681-B166-5 Uni-Sink Head	.313	.377
	H681-6C { Universal Head Countersunk Head (MS 20426)	.335	.386
3/16"	H681-6F Countersunk Head (156°)	.625	.367
	H681-6S Countersunk Head (NAS 1097)	.281	.386
	H681-8166-6 Uni-Sink Head	.375	.419
	H681-8C { Universal Head Countersunk Head (MS 20426)	.458	.398
1/4"	H681-8S Countersunk Head (NAS 1097)	.374	.398

H690 SERIES



There is a separate pulling head required for each head style (universal or countersunk) and each shank diameter of Cherrylock Rivets. These heads fit directly on Cherry Right Angle Riveters G695B.

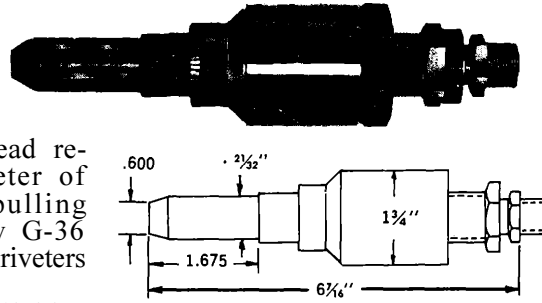
RIVET DIAMETER	PULLING HEAD NUMBER
1/8"	H690-4U Universal Head H690-4C Countersunk Head
	H690-5U Universal Head H690-5C Countersunk Head
3/16"	H690-6U Universal Head H690-6C Countersunk Head
	H690-8U Universal Head H690-8C Countersunk Head

Note: These pulling heads are also available in 9/16", 15/16" and 1/2" extensions. To order, specify proper pulling head and add length of extension to part number; such as H690-4U-15/16".

CHERRYLOCK® RIVET TOOLING

H615B SERIES

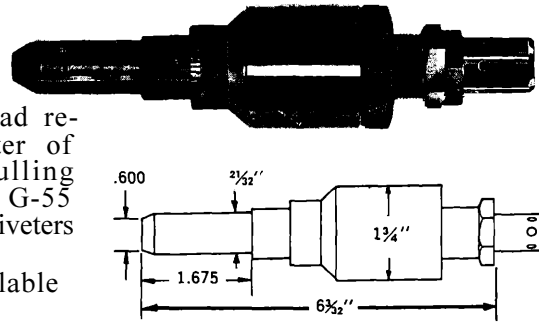
There is a separate pulling head required for each shank diameter of Cherrylock Rivets. These pulling heads fit directly onto Cherry G-36 Riveters and will fit on other riveters by using adapters listed. Universal heads are also available for improved head seating.



RIVET DIAMETER	PULLING HEAD NUMBER
1/8"	H615B-4C { Universal Head Countersunk Head
	H615B-4S Uni-Sink Head
5/32"	H615B-5C { Universal Head Countersunk Head
	H615B-5S Uni-Sink Head
3/16"	H615B-6C { Universal Head Countersunk Head
	H615B-6S Uni-Sink Head

H640B SERIES

There is a separate pulling head required for each shank diameter of Cherrylock Rivets. These pulling heads fit directly onto Cherry G-55 Riveters and will fit on other riveters by using adapters listed. Universal heads are also available for improved head seating.

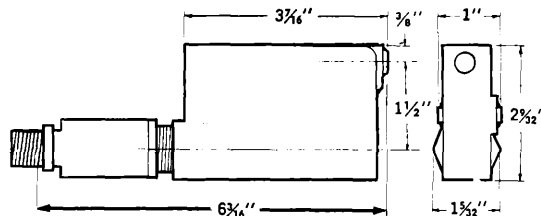
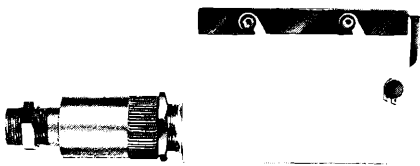


RIVET DIAMETER	PULLING HEAD NUMBER
1/8"	H640-4C { Universal Head Countersunk Head
	H640-4S Uni-Sink Head
5/32"	H640B-5C { Universal Head Countersunk Head
	H640B-5S Uni-Sink Head
3/16"	H640B-6C { Universal Head Countersunk Head
	H640B-6S Uni-Sink Head
1/4"	H640B-8C { Universal Head Countersunk Head

H642 (15 SERIES)

These Offset Pulling Heads are designed for installing Cherrylock Rivets up to 1/2" grip length in limited access areas. There is a separate pulling head required for each rivet head style (universal or coun-

tersunk) and each shank diameter. These pulling heads fit directly onto Cherry G36A Riveters and will fit on other riveters by using adapters listed.

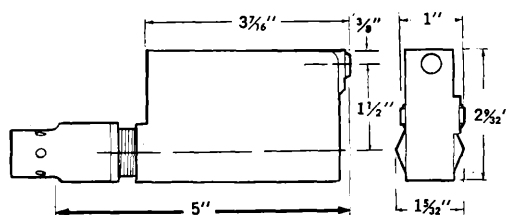


RIVET DIAMETER	PULLING HEAD NUMBER
1/8"	H642-4U15 Universal Head
	H642-4C15 Countersunk Head
5/32"	H642-5U15 Universal Head
	H642-5C15 Countersunk Head
3/16"	H642-6U15 Universal Head
	H642-6C15 Countersunk Head

H642 (40 SERIES)

These Offset Pulling Heads are designed for installing Cherrylock Rivets up to 1/2" grip length in limited access areas. There is a separate pulling head required for each rivet head style (universal or coun-

tersunk) and each shank diameter. These pulling heads fit directly onto Cherry G55 Riveters and will fit on other riveters by using adapters listed.



RIVET DIAMETER	PULLING HEAD NUMBER
1/8"	H642-4U40 Universal Head
	H642-4C40 Countersunk Head
5/32"	H642-5U40 Universal Head
	H642-5C40 Countersunk Head
3/16"	H642-6U40 Universal Head
	H642-6C40 Countersunk Head
1/4"	H642-8U40 Universal Head
	H642-8C40 Countersunk Head

CHERRYLOCK RIVET TOOLING

ADAPTERS AND EXTENSIONS



226 ADAPTER

This adapter converts the screw-on heads H615B or H642 (15 series) to the snap-on type necessary to fit the G55 Hand Riveter.



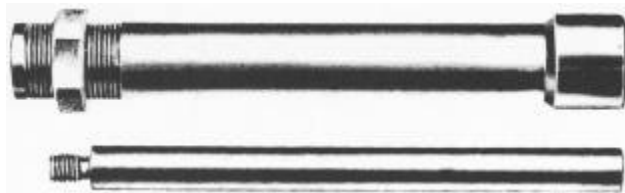
680B46 ADAPTER

This adapter fits all Cherry Hydroshift Riveters to permit the use of H615B or H642 (15 series). It also permits the use of G6H, H80 and H9015 pulling heads for installation of "MS" style rivets.



680B57 ADAPTER

This adapter fits all Cherry Hydroshift Riveters to permit the use of H640B and H642 (40 series) for the installation of Cherrylock Rivets. It also permits the use of H40, H90 and H9040 pulling heads for the installation of "MS" style rivets.



G6H EXTENSIONS

These extensions help reach many restricted installation spots by increasing the overall length of the pulling head. They fit directly on Cherry G56A Riveters and will accept any of the screw-on type pulling heads such as G6H, H80, H9015, H615B. Standard extensions are the G6HEA-2, which is 2" long and G6HEA-4, which is 4" long. Special lengths can be made to order.

GAGES

269C3 GRIP GAGE

A simple, self-explanatory gage for determining material thickness and proper rivet grip length.



T-172 RIVET HOLE SIZE GAGE

These are precision ground, go no-go gages used to check holes drilled for Cherry Blind Rivets. They are made in all standard rivet diameters plus the oversize rivet diameters.



3/32"	T-172-3		
1/8"	T-172-4	1/8" Bulbed	T-172-400
5/32"	T-172-5	5/32" Bulbed	T-172-500
3/16"	T-172-6	3/16" Bulbed	T-172-600
1/4"	T-172-8		

628 SETTING GAGES

These gages are used to adjust the shift point and lock ring anvil settings on Cherrylock mechanical pulling heads, H615B, H640B, H642, and H690. A separate gage is required for each rivet diameter and the correct gage is furnished with each new pulling head, along with instructions for its use.



1/8" diameter	— #628-4 (green)
5/32" diameter	— #628-5 (red)
3/16" diameter	— #628-6 (blue)
1/4" diameter	— #628-8 (alum.)

680A159 SETTING GAGE

This gage is used to adjust the shift point setting on Cherry Hydro-Shift Riveters. One of these gages is furnished with each new Hydro-Shift Riveter, along with instructions for its use.



ANVIL GAGES

These go no-go gages are used to check the hole diameters of lock ring anvils in all Cherrylock pulling heads, H615B, H640B, H642, H681 and H690. Their use will help eliminate installation problems caused by worn, oversized anvils.

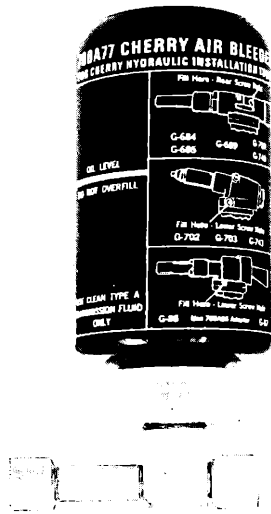
A separate gage is required for each rivet diameter:



3/32" diameter	— P913
1/8" diameter	— P856
5/32" diameter	— P857
3/16" diameter	— P858
1/4" diameter	— P859

CHERRYLOCK® RIVET TOOLING MAINTENANCE ITEMS

700A77 AIR BLEEDER



To keep Cherry Rivet hydraulic tools operating at peak efficiency, it is absolutely essential that the hydraulic systems be kept full of fluid and free of air.

Based on the same principle used in bleeding the hydraulic brake system of an automobile, the 700A77 Cherry Air Bleeder will quickly and easily remove all air and assure the complete filling of the tool with hydraulic fluid. It may be used in the tool crib or right on the production line, since it requires but a few minutes to perform this vital function. The air bleeder is a small item, but does a really big job . . . it prevents downtime.

SERVICE KITS



An assortment of O-Rings, seals, screws, washers, and gaskets likely to need replacing in time, is available in kit form for each Cherry power tool. To avoid unnecessary downtime, it is advisable to have these kits on hand for the tools being serviced:





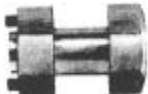
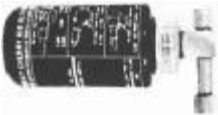


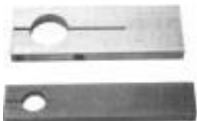










CHERRY TOOL	SERVICE KIT NUMBER
G86A and G88A	G86A/G88A-KS
G685B-S and G686B-S	G685S/686S KS
G689	G689KS
G695B	G695KS
G700	G700KS
G715A	G715KS
G740A	G740KS
G784	G784KS

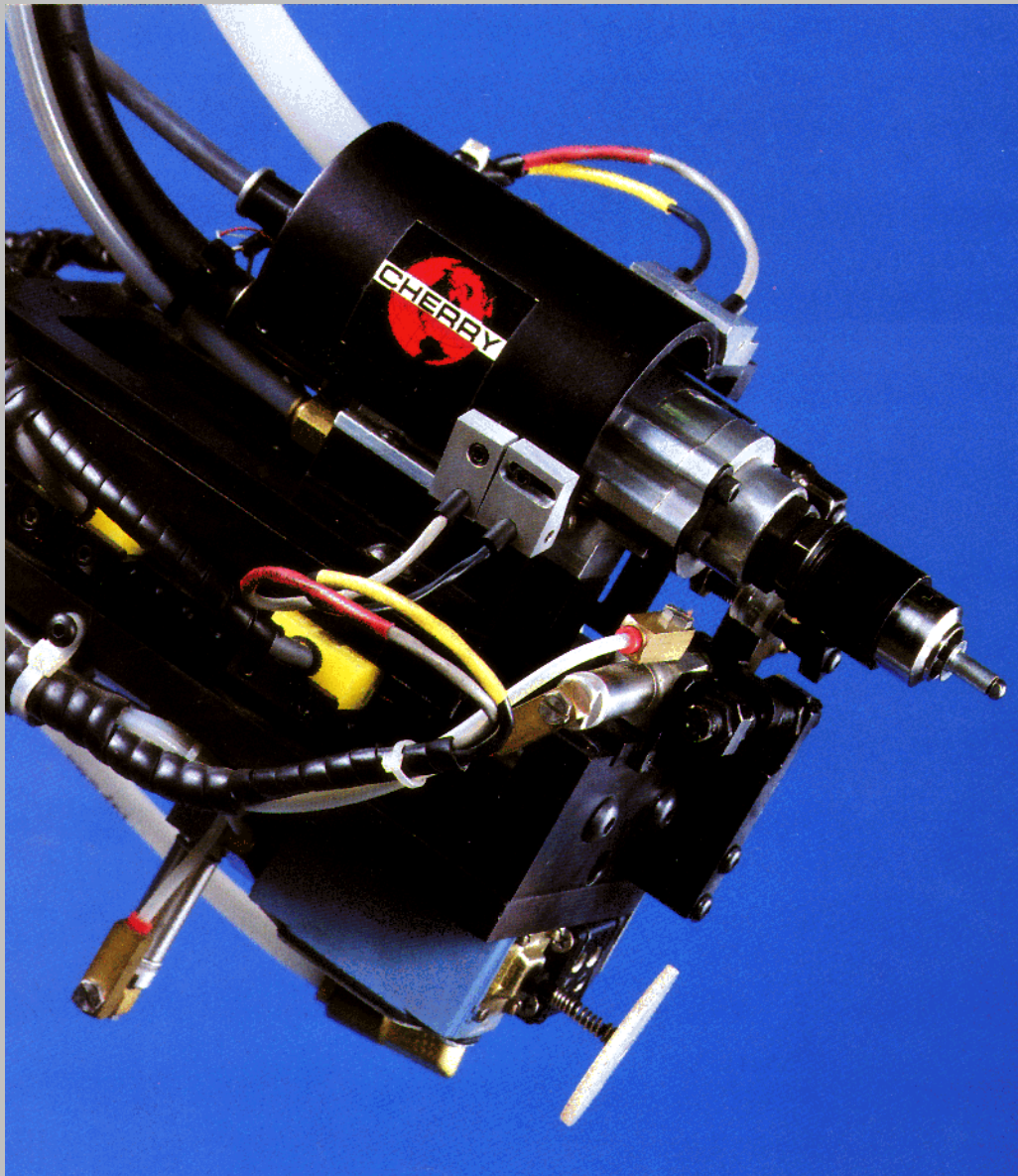
CHERRYLOCK® RIVET TOOLING MAINTENANCE ITEMS

TOOL KITS

To completely dismantle and reassemble Cherry hydraulic tools, it is advisable to use certain special wrenches and seal guides designed for that purpose. The tools shown here may be obtained separately or, preferably, in kit form as indicated:

TOOL KIT NUMBER	CHERRY TOOL MODEL	KIT consists of following individual tools . . . pictured below
G85KT	G86A, G88A & G695B	A, B, C, D, E, F, G, H & J
G685KT	G685B-S, G686B-S, G689	A, B, C, D, E, F, G, H, I, J, K, O & R
G700KT	G700	I, J, K, L, M, N, O, P, Q & S
G784KT	G784	I, J, K, L, O, Q & R

<p>A</p>  <p>530A79 SEAL GUIDE</p>	<p>B</p>  <p>530A80 SEAL GUIDE</p>	<p>C</p>  <p>530A81 SEAL GUIDE</p>	<p>D</p>  <p>530A82 SEAL GUIDE</p>	<p>E</p>  <p>530A83-3 PACKING PLUG WRENCH</p>
<p>F</p>  <p>700A77 AIR BLEEDER</p>	<p>G</p>  <p>530A86 PISTON ROD WRENCH</p>	<p>H</p>  <p>530A88 POWER CYLINDER TOOL</p>	<p>I</p>  <p>680A48/49 CLAMP WRENCH</p>	
<p>J</p>  <p>P1178 VALVE SPOOL EXTRACTOR</p>	<p>K</p>  <p>680A114 SEAL GUIDE</p>	<p>L</p>  <p>700A60 SEAL GUIDE</p>	<p>M</p>  <p>700A61 PISTON ROD WRENCH</p>	<p>N</p>  <p>700A62 POWER CYLINDER TOOL</p>
<p>O</p>  <p>700A63 SHIFT PISTON TOOL</p>	<p>P</p>  <p>700B64 CLAMP WRENCH</p>	<p>Q</p>  <p>700B65 PACKING PLUG WRENCH</p>	<p>R</p>  <p>680A173 END CAP SOCKET WRENCH (1½")</p>	<p>S</p>  <p>700A99 END CAP SOCKET WRENCH (1¼")</p>



Contact Textron Aerospace Fasteners to discuss your robotic needs.



TEXTRON AEROSPACE FASTENERS

Textron Aerospace Fasteners, Inc.
1224 East Warner Ave., Box 2157
Santa Ana, CA 92707-0157
(714) 545-5511
TWX 910/595-1500 TELEX 678431
FAX (714) 850-6093

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