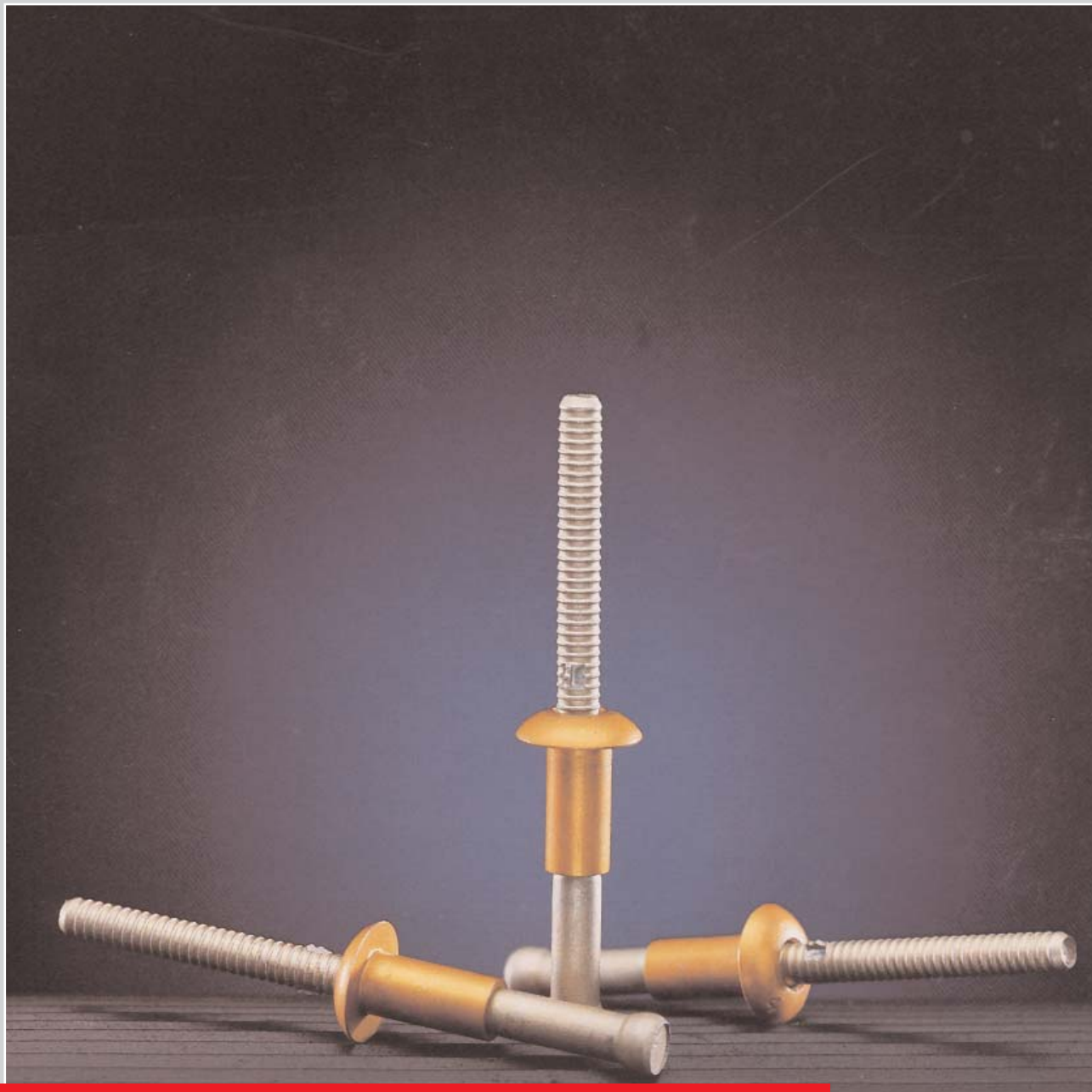
CHERRY®

CHERRY® MS RIVET



TEXTRON Fastening Systems

Aerospace Products

WARRANTY

WARRANTY

Textron Fastening Systems, a Division of Textron Inc. (hereinafter “TFS”). hereby warrants to the initial retail customer (“Warrantee”) only that its products will be free from defects in material and workmanship, provided that the products are used in accordance with TFS’s instruction as to maintenance, operation and use. The foregoing warranty is limited to products that are in the original container and the duration of the warranty is limited to 90 days from the date of first use by the Warrantee.

This Warrantee’s only remedy and TFS’s only obligation in the event of a defect or failure in the products, is that TFS 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 TFS within thirty (30) days after receipt of evidence that the product is defective or has failed, or if said person fails to provide TFS 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. TFS EXPRESSLY DISCLAIMS LIABILITY FOR ALL INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES ARISING FROM ANY DEFECT OR FAILURE IN ITS PRODUCTS. TAF FURTHER DISCLAIMS ALL LIABILITY RESULTING FROM THE USER’S CHOICE OF ITS PRODUCTS FOR ANY PARTICULAR APPLICATION.

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 by the user of the products for functional suitability and evaluations.

ATTENTION:

Important: Blind fasteners are not always interchangeable with non-blind fasteners. Consult with the aircraft original equipment manufacturer for proper application of this product.

Supplier’s Federal Identification Code-11815

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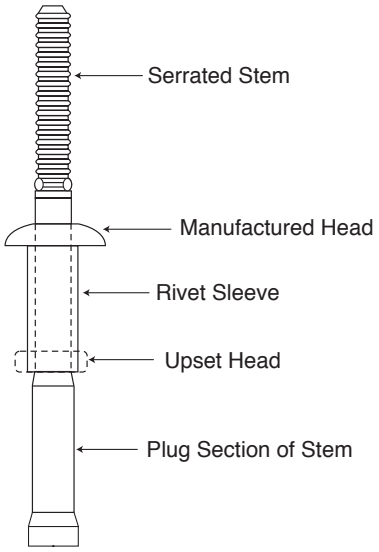
See separate CherryMAX and CherryLOCK catalogs for locked spindle, flush fracturing rivets.

CHERRY MS RIVETS

Cherry MS Rivets have been a reliable standard of the industry since their introduction in 1937. Although superseded in 1960 by the locked spindle specifications NAS1400 and NAS1740, Cherry MS Rivets are still widely used in manufacturing, maintenance and repair and meet the qualification requirements of MIL-R-7885 (self-plugging rivets) and NASM8814 (hollow pull-through rivets).

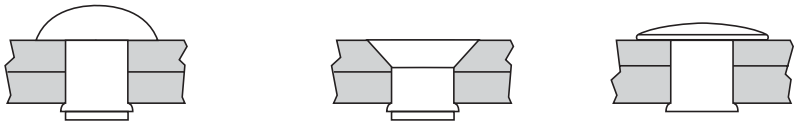
Cherry MS Rivets are manufactured with serrated stems. The earlier, knob stem configuration is considered obsolete.

Cherry blind riveters, and most competitive blind riveters, may be used to install these rivets merely by changing the pulling head that fits on the riveter.



HEAD STYLES

Cherry MS Rivets are made in three standard head styles, 100° flush (corresponding to NASM20426), universal (corresponding to NASM20470) and a modified truss head.



UNIVERSAL HEAD

100° FLUSH HEAD

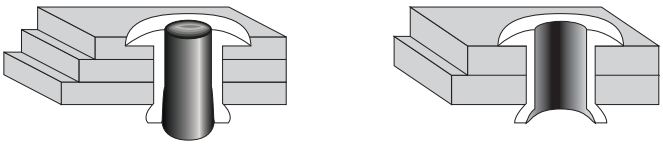
MODIFIED TRUSS HEAD

RIVET TYPES

Cherry MS Rivets are available in two standard types: self-plugging type and hollow pull-through type.

The stem of the self-plugging type pulls up and fills the inside diameter of the sleeve. It will break typically between flush and 1/4" above the rivet head. The protruding stem is then manually trimmed flush with the top of the rivet head in a second operation.

The stem of the pull-through type pulls completely through the rivet sleeve, leaving a hollow rivet of much lower strength than the self-plugging type.



Self-Plugging

Pull Through

DIAMETERS

Cherry MS Rivets are available in four standard diameters: 1/8", 5/32", 3/16" and 1/4". In addition, a 3/32" diameter is available in pull-through type only. Oversize (1/8", 5/32", 3/16" and 1/4") rivets are also manufactured.

HOW TO SELECT THE PROPER RIVET

1. Choose head style desired.
2. Select the material desired.
3. Decide which rivet type (self-plugging or pull-through).
4. Note special characteristics on chart.
5. Note the rivet series number.
6. Select diameter dash number required.
7. Refer to material thickness chart for proper grip number.

MATERIAL	RIVET TYPE	100° FLUSH HEAD		UNIVERSAL HEAD		MODIFIED TRUSS HEAD	
		SPECIAL CHARACTERISTICS	RIVET SERIES NO.	SPECIAL CHARACTERISTICS	RIVET SERIES NO.	SPECIAL CHARACTERISTICS	RIVET SERIES NO.
Aluminum 2117-T4	Pull-Thru	MS20605	CR9116	MS20604	CR9117		CR91484
	Pull-Thru	Oversized Shank	CR9128	Oversized Shank	CR9129		
	Self-Plugging	MS20601	CR9162	MS20600	CR9163		
	Self-Plugging	Oversized Shank	CR9178	Oversized Shank	CR9179		
Aluminum 5056	Pull-Thru	MS20605	CR9126	MS20604	CR9127		CR91464
	Self-Plugging	MS20601	CR9156	MS20600	CR9157		
Monel	Pull-Thru	MS20605	CR9516	MS20604	CR9517		CR95484
	Self-Plugging	MS20601	CR9562	MS20600	CR9563		

MATERIAL THICKNESS CHART

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. Then read directly across to find the grip number.

MATERIAL THICKNESS RANGE		RIVET GRIP NUMBER
MINIMUM	MAXIMUM	
*	.062	1
.063	.125	2
.126	.187	3
.188	.250	4
.251	.312	5
.313	.375	6
.376	.437	7
.438	.500	8
.501	.562	9
.563	.625	10
.626	.687	11
.688	.750	12
.751	.812	13
.813	.875	14
.876	.937	15
.938	1.000	16

* See standards pages

All dimensions in inches.

RECOMMENDED DRILL SIZES AND HOLE SIZE LIMITS

	RIVET SHANK DIAMETER		HOLE SIZE LIMITS AND DRILL SIZE	
	3/32"	(-3)	.097-.100	(#40)
	1/8"	(-4)	.129-.132	(#30)
	5/32"	(-5)	.160-.164	(#20)
	3/16"	(-6)	.192-.196	(#10)
	1/4"	(-8)	.256-.261	(F)
OVERSIZE	1/8"	(-4)	.137-.141	(#29)
OVERSIZE	5/32"	(-5)	.177-.181	(#16)
OVERSIZE	3/16"	(-6)	.206-.210	(#5)
OVERSIZE	1/4"	(-8)	.271-.276	(I)

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

CHERRY MS RIVET STRENGTH DATA

SELF-PLUGGING RIVETS

Typical Ultimate Shear and Tension Strength (All values in pounds)

MIL-HDBK-5 CRITERIA

Design values listed are ultimate allowable shear strength or where identified by ▲ is 1.5 x yield strength. (Yield value is based on .005" offset for 1/8, 5/32 and 3/16, .0063" for 1/4).

RIVET DIA.	RIVET NUMBER	SHEET THICKNESS											Tension Strength Typical
		.020	.025	.032	.040	.050	.063	.071	.080	.090	.100	.125	
UNIVERSAL & COUNTERSUNK HEAD RIVETS IN 2024-T3 ALCLAD ALUMINUM (-SHEETS MACHINE COUNTERSUNK)													
1/8"	CR9156	—	—	—	141	225	305	347	363	363	363	363	240
	CR9157	179	210	249	296	351	363	363	363	363	363	363	240
	CR9162	—	—	—	159	236	327	360	388	388	388	388	265
	CR9163	186	233	277	321	388	388	388	388	388	388	388	265
	CR9178	—	—	—	▲244	308	370	413	435	435	435	435	390
	CR9179	180	242	312	369	422	435	435	435	435	435	435	390
5/32"	CR9156	—	—	—	—	234	350	415	483	537	556	556	390
	CR9157		277	330	385	465	545	556	556	556	556	556	390
	CR9162	—	—	—	—	258	369	439	511	561	596	596	430
	CR9163	—	286	368	425	506	596	596	596	596	596	596	430
	CR9178	—	—	—	—	434	513	562	617	680	738	738	600
	CR9179	—	300	415	517	616	698	730	738	738	738	738	600
3/16"	CR9156	—	—	—	—	—	380	457	543	646	732	802	570
	CR9157	—	—	422	488	582	695	762	802	802	802	802	570
	CR9162	—	—	—	—	—	398	485	577	684	768	862	635
	CR9163	—	—	445	544	643	753	823	862	862	862	862	635
	CR9178	—	—	—	—	—	627	682	748	825	902	1000	850
	CR9179	—	—	458	605	760	884	941	992	1000	1000	1000	850
1/4"	CR9156	—	—	—	—	—	—	—	590	750	900	1190	1200
	CR9157	—	—	—	715	847	992	1090	1195	1300	1400	1450	1200
	CR9162	—	—	—	—	—	—	—	654	795	945	1270	1325
	CR9163	—	—	601	750	961	1110	1200	1305	1415	1550	1550	1325
	CR9178	—	—	—	—	—	—	—	1028	1125	1220	1425	1450
	CR9179	—	—	—	703	972	1230	1350	1460	1570	1660	1720	1450
UNIVERSAL & COUNTERSUNK HEAD RIVETS IN 7075-T6 ALCLAD ALUMINUM													
1/8"	CR9562	—	▲138	▲174	▲219	228	395	496	526	561	595	595	590
	CR9563	218	297	405	485	545	622	652	687	713	713	713	590
5/32"	CR9562	—	—	▲216	▲273	▲339	▲553	684	766	840	867	937	770
	CR9563	—	336	472	631	747	844	903	968	1010	1050	1090	770
3/16"	CR9562				▲328	▲408	▲514	▲666	▲922	1040	1150	1270	1310
	CR9563			533	720	955	1110	1180	1255	1345	1415	1545	1310
1/4"	CR9562	—	—	—	—		▲552	▲693	▲777	▲876	▲990	▲1368	2490
	CR9563				872	1190	1590	1840	1940	2060	2180	2480	2490
UNIVERSAL & COUNTERSUNK HEAD RIVETS IN 18-8 CRES-1/2 HARD (*SHEETS MACHINE COUNTERSUNK)													
1/8"	CR9562	—	—	—	▲354	480	554	585	612	637	662	697	590
	CR9563	402	456	522	580	635	678	701	717	735	747	772	590
5/32"	CR9562	—	—	—	—	▲590	744	797	862	910	952	1012	770
	CR9563	530	621	712	810	903	980	1013	1050	1081	1100	1147	770
3/16"	CR9562	—	—	—	—	—	912	1013	1109	1196	1270	1380	1310
	CR9563	—	785	937	1050	1200	1325	1385	1438	1486	1540	1605	1310
1/4"	CR9562	—	—	—	—	—		—	▲1492	1743	1915	2180	2490
	CR9563	—	—	1362	1615	1845	2090	2220	2340	2450	2540	2710	2490

PULL-THROUGH RIVETS

Typical Ultimate Shear and Tension Strength (All values in pounds)

RIVET DIAM.	9116, 9117,9126, 9127, 91464, 91484		9128 9129		9516,9517 95484	
	TYPICAL SHEAR	TYPICAL TENSION	TYPICAL SHEAR	TYPICAL TENSION	TYPICAL SHEAR	TYPICAL TENSION
3/32	95	110	—	—	185	200
1/8	195	250	215	330	275	430
5/32	290	390	360	550	425	660
3/16	440	590	500	770	690	1080
1/4	770	1000	840	1250	1200	1880

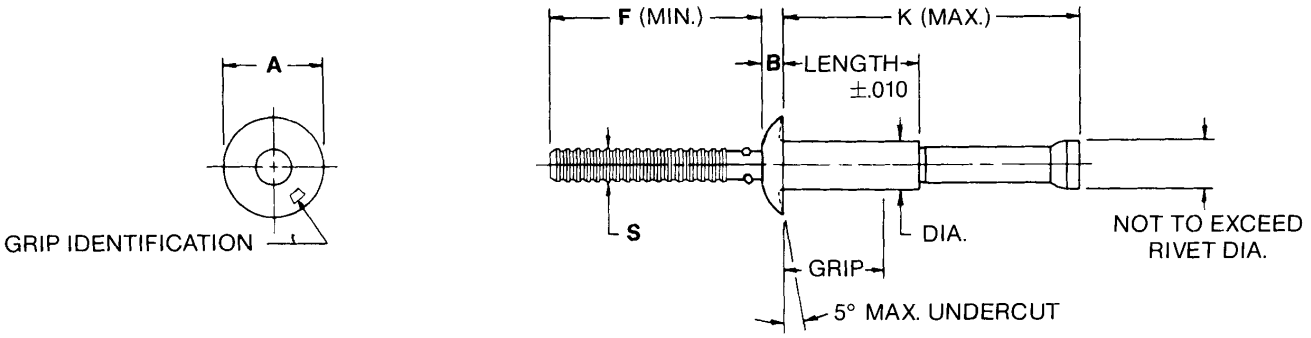
CHERRY MS RIVET

INSTALLED WEIGHTS (pounds per 1,000 pieces)

	SELF-PLUGGING RIVETS						PULL-THROUGH RIVETS					
DASH NO.	9156 9162	9157 9163	9178	9179	9562	9563	9116 9126	9117 9127	9128	9129	9516	9517
3-01	—	—	—	—	—	—	—	.07	—	—	—	.22
3-02	—	—	—	—	—	—	.08	.09	—	—	.25	.29
3-03	—	—	—	—	—	—	.10	.11	—	—	.31	.36
3-04	—	—	—	—	—	—	.12	.13	—	—	.37	.42
4-01	.38	.43	.39	.46	1.24	1.49	.18	.21	.18	.23	.59	.71
4-02	.45	.49	.47	.52	1.45	1.68	.22	.24	.23	.28	.70	.82
4-03	.51	.56	.55	.60	1.69	1.91	.26	.28	.28	.32	.83	.94
4-04	.59	.63	.63	.68	1.92	2.14	.29	.32	.34	.38	.95	1.06
4-05	.67	.70	.72	.77	2.17	2.38	.33	.37	.39	.43	1.08	1.18
4-06	.74	.78	.80	.84	2.41	2.63	.37	.40	44	.48	1.21	1.31
4-07	.82	.86	.88	.93	2.66	2.87	.42	.43	.50	.53	1.34	1.44
4-08	.90	.94	.96	1.00	2.90	3.11	.46	.47	.58	.58	1.57	1.57
5-01	—	.91	—	.99	—	3.11	—	.45	—	.55	1.53	1.69
5-02	.85	.99	.93	1.09	2.72	3.35	.41	.48	.44	.61	1.60	1.78
5-03	.96	1.09	1.06	1.21	3.07	3.67	.46	.53	.53	.67	1.72	1.91
5-04	1.08	1.22	1.20	1.35	3.47	4.05	.51	.59	.61	.76	1.86	2.07
5-05	1.21	1.34	1.34	1.49	3.87	4.43	.57	.65	.69	.83	2.01	2.24
5-06	1.34	1.47	1.49	1.64	4.28	4.84	.63	.71	.77	.92	2.17	2.42
5-07	1.47	1.59	1.63	1.78	4.68	5.23	.69	.76	.86	.99	2.33	2.59
5-08	1.59	1.71	1.77	1.92	5.08	5.62	.75	.82	.94	1.08	2.49	2.77
5-09	1.72	1.84	1.93	2.07	5.50	6.04	—	—	—	—	—	—
6-02	1.77	2.09	1.83	2.26	5.66	6.31	.75	.94	.75	1.09	2.88	3.22
6-03	1.81	2.10	1.90	2.28	5.80	6.83	.81	1.01	.85	1.17	3.03	3.30
6-04	1.95	2.21	2.06	2.41	6.22	7.38	.90	1.07	.96	1.27	3.22	3.58
6-05	2.09	2.35	2.24	2.57	6.69	7.80	.98	1.16	1.08	1.38	3.46	3.84
6-06	2.28	2.52	2.45	2.77	7.27	8.35	1.07	1.24	1.19	1.49	3.67	4.08
6-07	2.45	2.69	2.64	2.96	7.82	8.87	1.16	1.33	1.31	1.60	3.91	4.35
6-08	2.63	2.86	2.85	3.16	8.40	9.43	1.26	1.42	1.43	1.71	4.14	4.61
6-09	2.81	3.05	3.06	3.36	8.97	9.98	1.34	1.51	1.54	1.82	4.39	4.88
6-10	3.00	3.22	3.27	3.57	9.56	10.56	1.44	1.59	1.66	1.94	4.62	5.14
6-11	3.17	3.41	3.47	3.77	10.13	11.13	1.53	1.69	1.78	2.06	4.88	5.43
6-12	3.38	3.59	3.69	3.99	10.75	11.74	—	—	—	—	—	—
8-02	—	3.71	—	4.00	—	—	—	—	—	—	—	—
8-03	3.07	3.96	3.34	4.31	9.80	12.20	1.53	1.98	1.81	2.32	5.66	6.96
8-04	3.36	4.23	3.68	4.62	10.80	13.00	1.68	2.12	2.00	2.50	6.10	7.36
8-05	3.68	4.54	4.03	4.96	11.50	14.00	1.84	2.27	2.19	2.69	6.55	7.80
8-06	3.98	4.83	4.39	5.30	12.80	14.90	1.99	2.42	2.39	2.87	7.01	8.24
8-07	4.30	5.14	4.75	5.65	13.80	16.00	2.15	2.57	2.59	3.07	7.49	8.71
8-08	4.60	5.43	5.10	6.00	14.80	16.90	2.30	2.71	2.79	3.26	7.96	9.16
8-09	4.93	5.76	5.46	6.35	15.80	18.00	2.47	2.88	2.99	3.46	8.44	9.63
8-10	5.25	6.06	5.83	6.71	16.90	18.90	2.62	3.03	3.19	3.66	8.92	10.11
8-11	5.56	6.38	6.20	7.07	17.80	20.00	2.80	3.19	3.39	3.86	9.42	10.59
8-12	5.86	6.69	6.56	7.43	19.00	21.00	2.96	3.34	3.60	4.07	9.90	11.08
8-13	6.22	7.03	6.93	7.81	20.00	22.10	3.13	3.51	3.80	4,27	10.40	11.57
8-14	6.53	7.34	7.30	8.16	21.00	23.00	3.29	3.67	4.01	4.46	10.89	12.05

CHERRY MS RIVET

SELF-PLUGGING, UNIVERSAL HEAD



SERIES NUMBER	MATERIAL		FINISH		NOMINAL DIA.		1/8	5/32	3/16	1/4
	RIVET	STEM	RIVET	STEM	DIA. DASH NO.		-4	-5	-6	-8
DIMENSIONS APPLICABLE TO ALL SERIES NUMBERS					S	± 003	.086	.108	.127	.170
					F	(MIN.)	3/4	3/4	3/4	1
CR9157 (MS20600B)	5056 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (ORANGE)	MIL-A-8625 or MIL-C-5541	DIA.	+.003 –.001	1/8	5/32	3/16	1/4
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B	+.010 –.000	.054	.067	.080	.107
CR9163 (MS20600AD)	2117-T4 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541	MIL-A-8625 or MIL-C-5541	DIA.	+.003 –.001	.134	.172	.203	.266
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B	+.010 –.000	.054	.067	.080	.107
CR9179 OVERSIZE	2117-T4 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (BLUE)	MIL-A-8625 or MIL-C-5541	DIA.	+.003 –.001	.134	.172	.203	.266
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B	+.010 –.000	.054	.067	.080	.107
CR9279 OVERSIZE	5056 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (RED)	MIL-A-8625 or MIL-C-5541	DIA.	+.003 –.001	.134	.172	.203	.266
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B	+.010 –.000	.054	.067	.080	.107
CR9563 (MS20600MP)	MONEL	MONEL	Cadmium Plated Type II	NONE	DIA.	+.003 –.001	1/8	5/32	3/16	1/4
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
CR9563M (MS20600M)			NONE		B	+.010 –.000	.054	.067	.080	.107
CR9579 OVERSIZE	MONEL	MONEL	Cadmium Plated Type II	NONE	DIA.	+.003 –.001	.134	.172	.203	.266
					A		.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
CR9579M OVERSIZE			NONE		B	+.010 –.000	.054	.067	.080	.107

GRIP FOR ALL DIA.		1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER			1/4 DIAMETER		
MINIMUM	△ MAXIMUM	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K
▲ .063	.062 .125	4-1 4-2	.160 .222	.48 .60	5-1 5-2	.182 .245	.53 .62	6-1 6-2	.205 .267	.58 .70	8-2	.312	.85
.126 .188	.187 .250	4-3 4-4	.285 .347	.73 .85	5-3 5-4	.307 .370	.78 .87	6-3 6-4	.330 .392	.83 .95	8-3 8-4	.375 .437	.97 1.09
.251 .313	.312 .375	4-5 4-6	.410 .472	.98 1.10	5-5 5-6	.432 .495	1.03 1.12	6-5 6-6	.455 .517	1.08 1.20	8-5 8-6	.500 .562	1.22 1.34
.376 .438	.437 .500	4-7 4-8	.535 .597	1.23 1.35	5-7 5-8	.557 .620	1.28 1.40	6-7 6-8	.580 .642	1.33 1.45	8-7 8-8	.625 .687	1.47 1.59
.501 .563	.562 .625	4-9 4-10	.660 .722	1.48 1.60	5-9 5-10	.682 .745	1.56 1.68	6-9 6-10	.705 .767	1.58 1.69	8-9 8-10	.750 .812	1.72 1.84
.626 .688	.687 .750	4-11 4-12	.785 .847	1.73 1.82	5-11 5-12	.807 .870	1.74 1.86	6-11 6-12	.830 .892	1.83 1.94	8-11 8-12	.875 .937	1.97 2.09
.751 .813	.812 .875				5-13	.932	2.02	6-13	.955	2.08	8-13 8-14	1.000 1.062	2.22 2.34

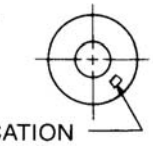
▲ .025 MIN. for -4 DIA.
.031 MIN. for -5 DIA.
.037 MIN. for -6 DIA.

Sizes below heavy lines are not listed on NASM drawings.

CHERRY MS RIVET

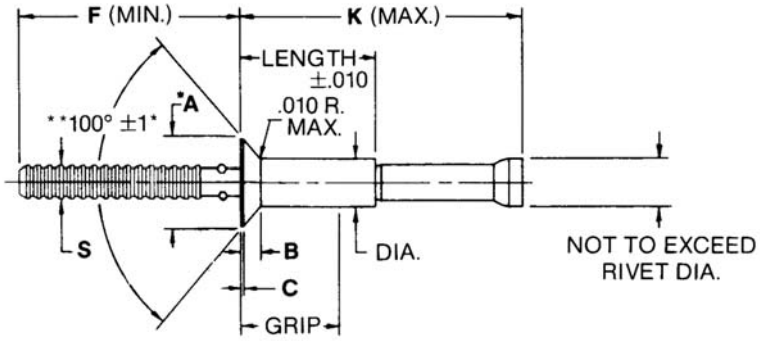
SELF-PLUGGING 100° FLUSH HEAD

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



GRIP IDENTIFICATION

**100° ±1½° FOR MONEL RIVETS



SERIES NUMBER	MATERIAL		FINISH		NOMINAL DIA.	1/8	5/32	3/16	1/4
	RIVET	STEM	RIVET	STEM	DIA. DASH NO.	-4	-5	-6	-8
DIMENSIONS APPLICABLE TO ALL SERIES NUMBERS					S ± 003	.086	.108	.127	.170
					F (MIN.)	3/4	3/4	3/4	1
CR9156 (MS20601B)	5056 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (ORANGE)	MIL-A-8625 or MIL-C-5541	DIA. +.003 –.001	1/8	5/32	3/16	1/4
					A ±.004	.225	.286	.353	.476
					B (REF.)	.042	.055	.070	.095
					C ±.002	.004	.004	.004	.004
CR9162 (MS20601AD)	2117-T4 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541	MIL-A-8625 or MIL-C-5541	DIA. +.003 –.001	1/8	5/32	3/16	1/4
					A ±.004	.225	.286	.353	.476
					B (REF.)	.042	.055	.070	.095
					C .002	.004	.004	.004	.004
CR9178 OVERSIZE	2117-T4 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (BLUE)	MIL-A-8625 or MIL-C-5541	DIA. +.003 –.001	.134	.172	.203	.266
					A ±.004	.225	.286	.353	.476
					B (REF.)	.038	.049	.063	.089
					C ±.002	.004	.004	.004	.004
CR9278 OVERSIZE	5056 ALUM. ALLOY	2017-T4 ALUM. ALLOY	MIL-A-8625 or MIL-C-5541 (RED)	MIL-A-8625 or MIL-C-5541	DIA. +.003 –.001	.134	.172	.203	.266
					A ±.004	.225	.286	.353	.476
					B (REF.)	.038	.049	.063	.089
					C ±.002	.004	.004	.004	.004
CR9562 (MS20601MP)	MONEL	MONEL	Cadmium Plated Type II	NONE	DIA. +.003 –.001	1/8	5/32	3/16	1/4
					A ±.004	.225	.286	.353	.476
CR9562M (MS20601M)			NONE		B (REF.)	.042	.055	.070	.095
					C ±.005	.010	.010	.010	.010
CR9578 OVERSIZE	MONEL	MONEL	Cadmium Plated Type II	NONE	DIA. +.003 –.001	.134	.172	.203	.266
					A ±.004	.225	.286	.353	.476
CR9578M OVERSIZE			NONE		B (REF.)	.038	.049	.063	.089
					C .005	.010	.010	.010	.010

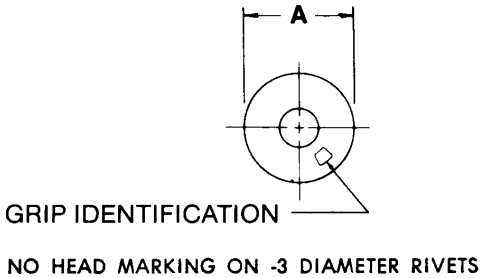
GRIP FOR ALL DIA.		1/8 DIAMETER			5/32 DIAMETER			3/16 DIAMETER			1/4 DIAMETER		
MINIMUM	MAXIMUM	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K
▲	.062	4-1	.160	.42									
▲	.125	4-2	.222	.54	5-2	.245	.60	6-2	.267	.66			
.126	.187	4-3	.285	.67	5-3	.307	.73	6-3	.330	.79	8-3	.375	.86
.188	.250	4-4	.347	.79	5-4	.370	.85	6-4	.392	.91	8-4	.437	.98
.251	.312	4-5	.410	.92	5-5	.432	.98	6-5	.455	1.04	8-5	.500	1.11
.313	.375	4-6	.472	1.04	5-6	.495	1.10	6-6	.517	1.16	8-6	.562	1.23
.376	.437	4-7	.535	1.17	5-7	.557	1.23	6-7	.580	1.29	8-7	.625	1.36
.438	.500	4-8	.597	1.29	5-8	.620	1.35	6-8	.642	1.41	8-8	.687	1.48
.501	.562	4-9	.660	1.42	5-9	.682	1.48	6-9	.705	1.54	8-9	.750	1.61
.563	.625	4-10	.722	1.54	5-10	.745	1.60	6-10	.767	1.66	8-10	.812	1.73
.626	.687	4-11	.785	1.67	5-11	.807	1.73	6-11	.830	1.79	8-11	.875	1.86
.688	.750	4-12	.847	1.79	5-12	.870	1.85	6-12	.892	1.91	8-12	.937	1.98
.751	.812	4-13	.910	1.92	5-13	.932	1.98	6-13	.955	2.04	8-13	1.000	2.11
.813	.875				5-14	.995	2.10	6-14	1.017	2.16	8-14	1.062	2.23
.876	.937										8-15	1.125	2.36
.938	1.000										8-16	1.187	2.48

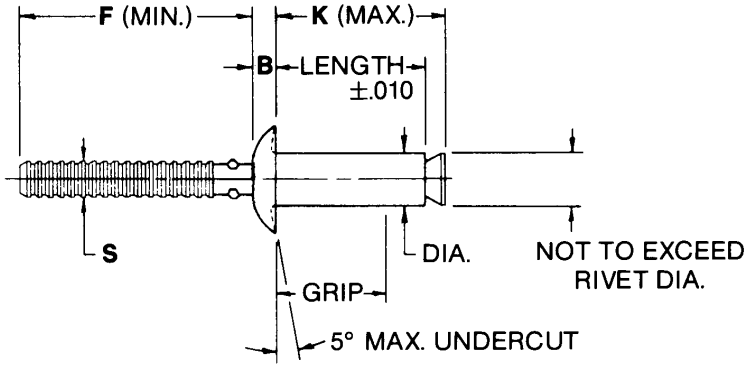
▲ .052 MIN. for -4 DIA.
.065 MIN. for -5 DIA.
.080 MIN. for -6 DIA.

Sizes below heavy lines are not listed on NASM drawings.

CHERRY MS RIVET

PULL THROUGH, UNIVERSAL HEAD





SERIES NUMBER	MATERIAL RIVET	MATERIAL STEM	FINISH RIVET	FINISH STEM	NOMINAL DIA. DASH NO.	3/32 -3	1/8 -4	5/32 -5	3/16 -6	1/4 -8
DIMENSIONS APPLICABLE TO ALL SERIES NUMBERS					S ± 003	.064	.086	.108	.127	.170
					F (MIN.)	3/4	3/4	3/4	3/4	1
CR9117 (MS20604AD)	2117-T4 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541	NONE	DIA. +.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	.187 ± .009	.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B +.010 –.000	.040	.054	.067	.080	.107
CR9127 (MS20604B)	5056 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541 (ORANGE)	NONE	DIA. +.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	.187 ± .009	.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B +.010 –.000	.040	.054	.067	.080	.107
CR9129 OVERSIZE SHANK	2117-T4 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541 (BLUE)	NONE	DIA. +.003 –.001	—	.134	.172	.203	.266
					A	—	.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
					B +.010 –.000	_	.054	.067	.080	.107
CR9517P (MS20604MP)	MONEL	STEEL	Cadmium Plated Type II	NONE	DIA. +.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	.187 ± .009	.250 ±.012	.312 ±.016	.375 ±.019	.500 ±.025
CR9517 (MS20604M)			NONE		B +.010 –.000	.040	.054	.067	.080	.107

GRIP FOR ALL DIA. MIN.	GRIP FOR ALL DIA. MAX.	3/32 DIAMETER DASH NO.	3/32 DIAMETER LENGTH	3/32 DIAMETER K	1/8 DIAMETER DASH NO.	1/8 DIAMETER LENGTH	1/8 DIAMETER K
▲ .063	.062 .125	3-1 3-2	.130 .193	.20 .26	4-1 4-2	.160 .222	.21 .27
.126 .188	.187 .250	3-3 3-4	.255 .318	.33 .39	4-3 4-4	.285 .347	.34 .40
.251 .313	.312 .375				4-5 4-6	.410 .472	.46 .52
.376 .438	.437 .500				4-7 4-8	.535 .597	.59 .65

GRIP FOR ALL DIA. MIN.	GRIP FOR ALL DIA. MAX.	5/32 DIAMETER DASH NO.	5/32 DIAMETER LENGTH	5/32 DIAMETER K	3/16 DIAMETER DASH NO.	3/16 DIAMETER LENGTH	3/16 DIAMETER K	1/4 DIAMETER DASH NO.	1/4 DIAMETER LENGTH	1/4 DIAMETER K
▲ .063	.062* .125	5-1 5-2	.182 .245	.24 .30	6-1 6-2	.205 .267	.27 .33	—	—	—
.126 .126	.187* .250	5-3 5-4	.307 .370	.36 .42	6-3 6-4	.330 .392	.39 .45	8-3 8-4	.375 .437	.46 .52
.251 .251	.312* .375	5-5 5-6	.432 .495	.48 .55	6-5 6-6	.455 .517	.51 .58	8-5 8-6	.500 .562	.58 .65
.376 .376	.437* .500	5-7 5-8	.557 .620	.61 .67	6-7 6-8	.580 .642	.64 .70	8-7 8-8	.625 .687	.71 .77
.501 .501	.562* .625				6-9 6-10	.705 .767	.76 .83	8-9 8-10	.750 .812	.83 .90
.626 .626	.687* .750				6-11 6-12	.830 .892	.89 .95	8-11 8-12	.875 .937	.96 1.02
.751 .751	.812* .875				6-13 6-14	.955 1.017	1.01 1.08	8-13 8-14	1.000 1.062	1.08 1.15
.876 .876	.937* 1.000							8-15 8-16	1.125 1.187	1.21 1.27

▲ .020" Min. for -3 DIA.
.025" Min. for -4 DIA.
.031" Min. for -5 DIA.
.037" Min. for -6 DIA.

* These grips not listed on NASM drawings.

CHERRY MS RIVET

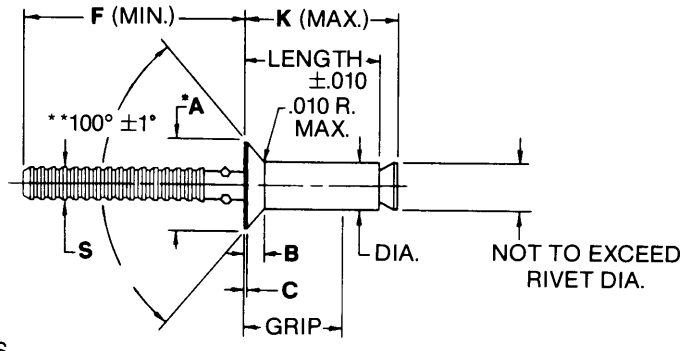
PULL THROUGH, 100° FLUSH HEAD

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

GRIP IDENTIFICATION

NO HEAD MARKING ON -3 DIAMETER RIVETS

**100° ±1½° FOR MONEL RIVETS



SERIES NUMBER	MATERIAL RIVET	FINISH STEM	RIVET	STEM	NOMINAL DIA. 3/32 DIA. DASH NO.		1/8 -3	5/32 -4	3/16 -5	1/4 -6	-8
DIMENSIONS APPLICABLE TO ALL SERIES NUMBERS					S	± 003	.064	.086	.108	.127	.170
					F	(MIN.)	3/4	3/4	3/4	3/4	1
CR9116 (MS20605AD)	2117-T4 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541	NONE	DIA.	+.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	±.004	.179	.225	.266	.353	.476
					B	(REF.)	.036	.042	.055	.070	.095
					C	±.002	.004	.004	.004	.004	.004
CR9126 (MS20605B)	5056 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541 (ORANGE)	NONE	DIA.	+.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	±.004	.179	.225	.286	.353	.476
					B	(REF.)	.036	.042	.055	.070	.095
					C	±.002	.004	.004	.004	.004	.004
CR9128 OVERSIZE SHANK	2117-T4 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541 (BLUE)	NONE	DIA.	+.003 –.001	—	.134	.172	.203	.266
					A	±.004	—	.225	.286	.353	.476
					B	(REF.)	—	.038	.049	.063	.089
					C	±.002	—	.004	.004	.004	.004
CR9516P (MS20605MP)	MONEL	STEEL	Cadmium Plated Type II	NONE	DIA.	+.003 –.001	3/32	1/8	5/32	3/16	1/4
					A	(REF.)	.179	.225	.286	.353	.476
CR9516 (MS20605M)			NONE		B	±.003	.036	.042	.055	.070	.095
					C	±.003	.010	.010	.010	.010	.010

GRIP FOR ALL DIA.		3/32 DIAMETER			1/8 DIAMETER		
MIN.	MAX.	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K
▲ .063	.062 .125	3-1 3-2	.130 .193	.20 .26	4-1 4-2	.160 .222	.21 .27
.126 .188	.187 .250	3-3 3-4	.255 .318	.33 .39	4-3 4-4	.285 .347	.34 .40
.251 .313	.312 .375				4-5 4-6	.410 .472	.46 .52
.376 .438	.437 .500				4-7 4-8	.535 .597	.59 .65

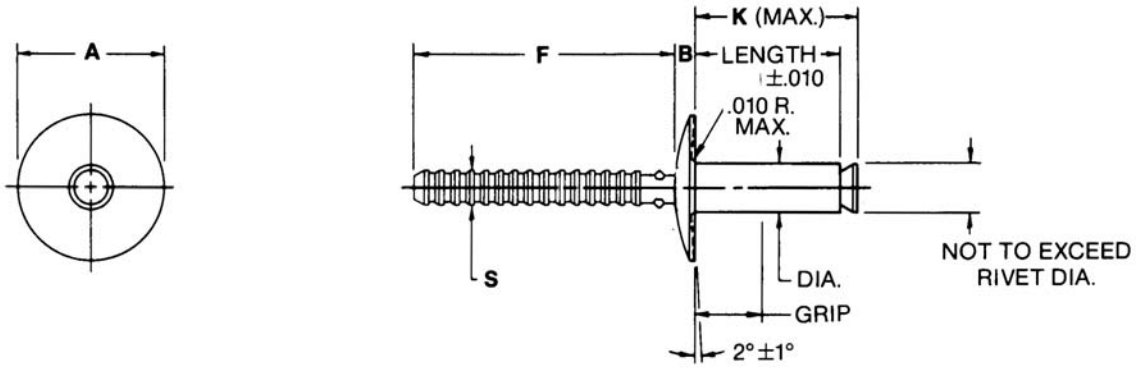
GRIP FOR ALL DIA.		5/32 DIAMETER			1/8 DIAMETER			1/4 DIAMETER		
MIN.	MAX.	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K
▲	.125	5-2	.245	.30	6-2	.267	.33	— —	— —	— —
.126 .126	.187* .250	5-3 5-4	.307 .370	.36 .42	6-3 6-4	.330 .392	.39 .45	8-3 8-4	.375 .437	.46 .52
.251 .251	.312* .375	5-5 5-6	.432 .495	.48 .55	6-5 6-6	.455 .517	.51 .58	8-5 8-6	.500 .562	.58 .65
.376 .376	.437* .500	5-7 5-8	.557 .620	.61 .67	6-7 6-8	.580 .642	.64 .70	8-7 8-8	.625 .687	.71 .77
.501 .501	.562* .625				6-9 6-10	.705 .767	.76 .83	8-9 8-10	.750 .812	.83 .90
.626 .626	.687* .750				6-11 6-12	.830 .892	.89 .95	8-11 8-12	.875 .937	.96 1.02
.751 .751	.812* .875				6-13 6-14	.955 1.017	1.01 1.08	8-13 8-14	1.000 1.062	1.08 1.15
.876 .876	.937* 1.000							8-15 8-16	1.125 1.187	1.21 1.27

▲ .064" MIN. for -3 DIA.
.052" MIN. for -4 DIA.
.065" MIN. for -5 DIA.
.080" MIN. for -6 DIA.

* These grips not listed on NASM drawings.

CHERRY MS RIVET

PULL THROUGH, MODIFIED TRUSS HEAD



SERIES NUMBER	MATERIAL		FINISH		DIA. DASH NO.		-4	-5	-6	-8
	RIVET	STEM	RIVET	STEM						
DIMENSIONS APPLICABLE TO ALL SERIES NUMBERS					S	± 003	.086	.108	.127	.170
					F	(MIN.)	3/4	3/4	3/4	1
CR91464	5056 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541 (ORANGE)	NONE	DIA.	+.003 –.001	1/8	5/32	3/16	1/4
					A		.357 ±.015	.469 ±.020	.562 ±.025	.750 ±.031
					B	+.005	.047	.063	.078	.109
CR91484 ALUM.	2117-T4 ALUM. ALLOY	STEEL	MIL-A-8625 or MIL-C-5541	NONE	DIA.	+.003 –.001	1/8	5/32	3/16	1/4
					A		.357 ±.015	.469 ±.020	.562 ±.025	.750 ±.031
					B	+.005	.047	.063	.078	.109
CR95484	MONEL QQ-N-281	STEEL	NONE	NONE	F	(MIN.)	3/4	3/4	3/4	1
CR95484P	MONEL QQ-N-281	STEEL	CAD. PLATE TYPE II	NONE	S	±.003	.086	.108	.127	.170

GRIP FOR ALL DIA.		1/8 DIAMETER		
MIN.	MAX.	DASH NO.	LENGTH	K
▲ .063	.062 .125	4-1 4-2	.160 .222	.21 .27
.126 .188	.187 .250	4-3 4-4	.285 .347	.34 .40
.251 .313	.312 .375	4-5 4-6	.410 .472	.46 .52

GRIP FOR ALL DIA.		5/32 DIAMETER			3/16 DIAMETER			1/4 DIAMETER		
MIN.	MAX.	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K	DASH NO.	LENGTH	K
▲ .063	.062 .125	5-1 5-2	.182 .245	.24 .30	6-1 6-2	.205 .267	.27 .33	— 8-2	— .312	— .40
.126 .126	.187 .250	5-3 5-4	.307 .370	.36 .42	6-3 6-4	.330 .392	.39 .45	8-3 8-4	.375 .437	.46 .52
.251 .251	.312 .375	5-5 5-6	.432 .495	.48 .55	6-5 6-6	.455 .517	.51 .58	8-5 8-6	.500 .562	.58 .65
.376 .376	.437 .500	5-7 5-8	.557 .620	.61 .67	6-7 6-8	.580 .642	.64 .70	8-7 8-8	.625 .687	.71 .77
.501 .501	.562 .625				6-9 6-10	.705 .767	.76 .83	8-9 8-10	.750 .812	.83 .90
.626 .626	.687 .750				6-11 6-12	.830 .892	.89 .95	8-11 8-12	.875 .937	.96 1.02
.751 .751	.812 .875				6-13 6-14	.955 1.017	1.01 1.08	8-13 8-14	1.000 1.062	1.08 1.15

▲ .025 MIN. for -4 DIA.
.031 MIN. for -5 DIA.
.037 MIN. for -6 DIA.

CHERRY MS RIVET

TOOL SELECTION

The following pages illustrate the various tools and accessories required to install Cherry MS rivets. Cherry MS 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 and must be ordered separately.

Hydro-shift Riveters for Cherrylock Rivets may be used to install MS Rivets by the use of appropriate adapters listed on Page 14.

			SELF PLUGGING				PULL-THROUGH			
			ALUMINUM		MONEL		ALUMINUM		MONEL	
			FLUSH	PROT.	FLUSH	PROT.	FLUSH	PROT.	FLUSH	PROT.
			9156 9162 9178	9157 9163 9179	9562 9578	9563 9579	9116 9126 9128	9117 9127 9129	9516	9517 95484
RIVETER MODEL	**PULLING HEAD**	**RIVET DIA**	9278	9279				91464 91484		
G29	See Adapter Note	3	N/A	N/A	N/A	N/A	ALL	ALL	ALL	ALL
		4	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		5	—	—	—	—	—	—	—	—
		6	—	—	—	—	—	—	—	—
		8	—	—	—	—	—	—	—	—
G702A	H702-3NPR See Adapter Note	3	N/A	N/A	N/A	N/A	ALL	ALL	ALL	ALL
		4	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		5	—	—	—	—	—	—	—	—
		6	—	—	—	—	—	—	—	—
		8	—	—	—	—	—	—	—	—
G746A* G747*	H9015	3	N/A	N/A	N/A	N/A	ALL	ALL	ALL	ALL
		4	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		5	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		6	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		8	—	—	—	—	—	—	—	—
G740A Non-standard Tool	H9040	3	N/A	N/A	N/A	N/A	ALL	ALL	ALL	ALL
		4	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		5	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		6	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		8	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
G704B**	H9040	3	N/A	N/A	N/A	N/A	ALL	ALL	ALL	ALL
		4	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		5	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		6	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
		8	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL

ADAPTER NOTE: Use 728A9 Nosepiece to install 3/32" diameter rivets. Use 728A9-104 Nosepiece to install 1/8" diameter rivets, both included with pulling head.

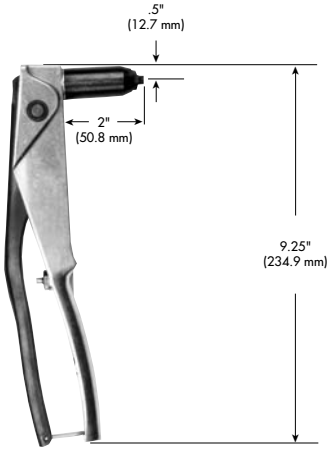
* Use 704A9 Adapter. Will require multiple strokes for long grips

** Use 704A6 Adapter. Will require multiple strokes for long grips

CHERRY MS RIVET

RIVETERS

G29 HAND RIVETER



The Cherry G29 Hand Riveter is a compact, lightweight tool for installing Cherry Nut-plate rivets.

The tool is 9 1/4" long, weights 13 oz. and has a stroke of 5/16"

The pulling head is included with this tool and comes equipped with a 728A9-3 nosepiece and 728A9-104 nosepiece.

G702A POWER RIVETER

The Cherry G702A is a pneumatic/hydraulic tool designed specifically for the most efficient installation of Cherry Nut-Plate rivets. It weighs just over 3 1/2 lbs., has a 3/4" stroke and a rated pull load of 1000 lbs. @ 90 psi air pressure at the tool.

The tool operates on air pressure of 90 to 110 psi. At 90 lbs pressure, the G702A does not exceed 85dB(A) and consumes 2 cfm at 20 cycles per minute.

See the selection chart on page 13 for complete tool capacity.

Pulling heads are not furnished with this tool. They must be ordered separately. Use a H702-3NPR pulling head with the appropriate nosepiece, both included with pulling head.

-3 diameter	728A9-3
-4 diameter	728A9-104

G740A POWER RIVETER

(NON-STANDARD TOOL)

The Cherry G740A is a pneumatic/hydraulic tool designed for heavy, continuous use in production and repair work. It weighs less that 6 1/2 lbs., has a 1 1/4" stroke and a rated pull load of 2320 lbs. @ 90 psi air pressure at the tool.

The tool operates on air pressure of 90 to 110 psi. At 90 lbs. air pressure, the G740A does not exceed 85dB(A) and consumes 6.5cfm at 20 cycles per minute.

See selection chart on page 13 for complete tool capacity.

Pulling heads are not furnished with this tool. They must be ordered separately. Use H9040 pulling heads in the rivet diameter required.

H9015 SERIES PULLING HEADS

There is a separate pulling head required for each shank diameter of rivet. These pulling heads fit directly onto Cherry Riveter G902-15 and will fit other riveters by using adapter listed on page 11.

H9040 SERIES PULLING HEADS

There is a separate pulling head required for each shank diameter of rivet. These pulling heads fit directly onto Cherry Riveter G740A (non-standard tool) and will fit other riveters by using adapters listed on page 11.

H702-3NPR PULLING HEAD

The H702-3NPR pulling head fits directly on the G702A power riveter. It comes equipped with a 728A9-3 nosepiece for installing 3/32" rivets and a 728A9-104 nosepiece for installing 1/8" rivets.

728A9-3 NOSEPIECE

For installing 3/32" rivets.

Fits H702-3NPR pulling head and G29 riveter.

728A9-104 NOSEPIECE

For installing 1/8" rivets.

Fits H702-3NPR pulling head and G29 riveter.

CHERRY MS RIVET

ACCESSORIES

269C3 GRIP GAGE

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

352B1 STEM GAGE - NON STANDARD

This is a spring loaded gage used to determine the “push-out” value of a blind rivet stem. The standard gage, 352B1-10-LBS, is set for 10-12 lbs. stem retention. Special gages can be made to order in 5, 20, 30, 40 and 50 lb. settings.

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.

226 ADAPTER

This adapter converts the H9015 screw-on heads to the snap-on type necessary to fit Cherry Riveters G740A.

680B46 ADAPTER

This adapter fits all Cherry Hydro-Shift Riveters to permit the use of H9015 pulling heads for the installation of MS style rivets.

680B57 ADAPTER

This adapter fits all Cherry Hydro-Shift Riveters to permit the use of H9040 pulling heads for the installation of MS style rivets.

Please visit our web site, www.textronfasteningsystems.com/aerospace, for product catalog information or call our Technical Services Department 714-850-6045 Fax 714-850-6093

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