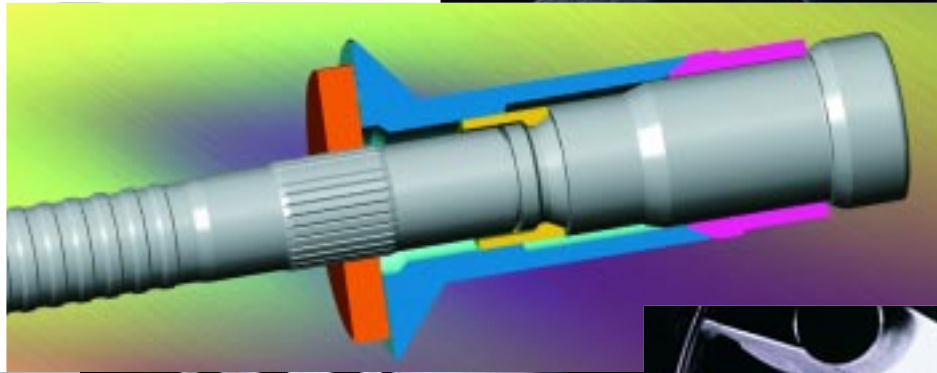


The Updated **Blind Rivet** System

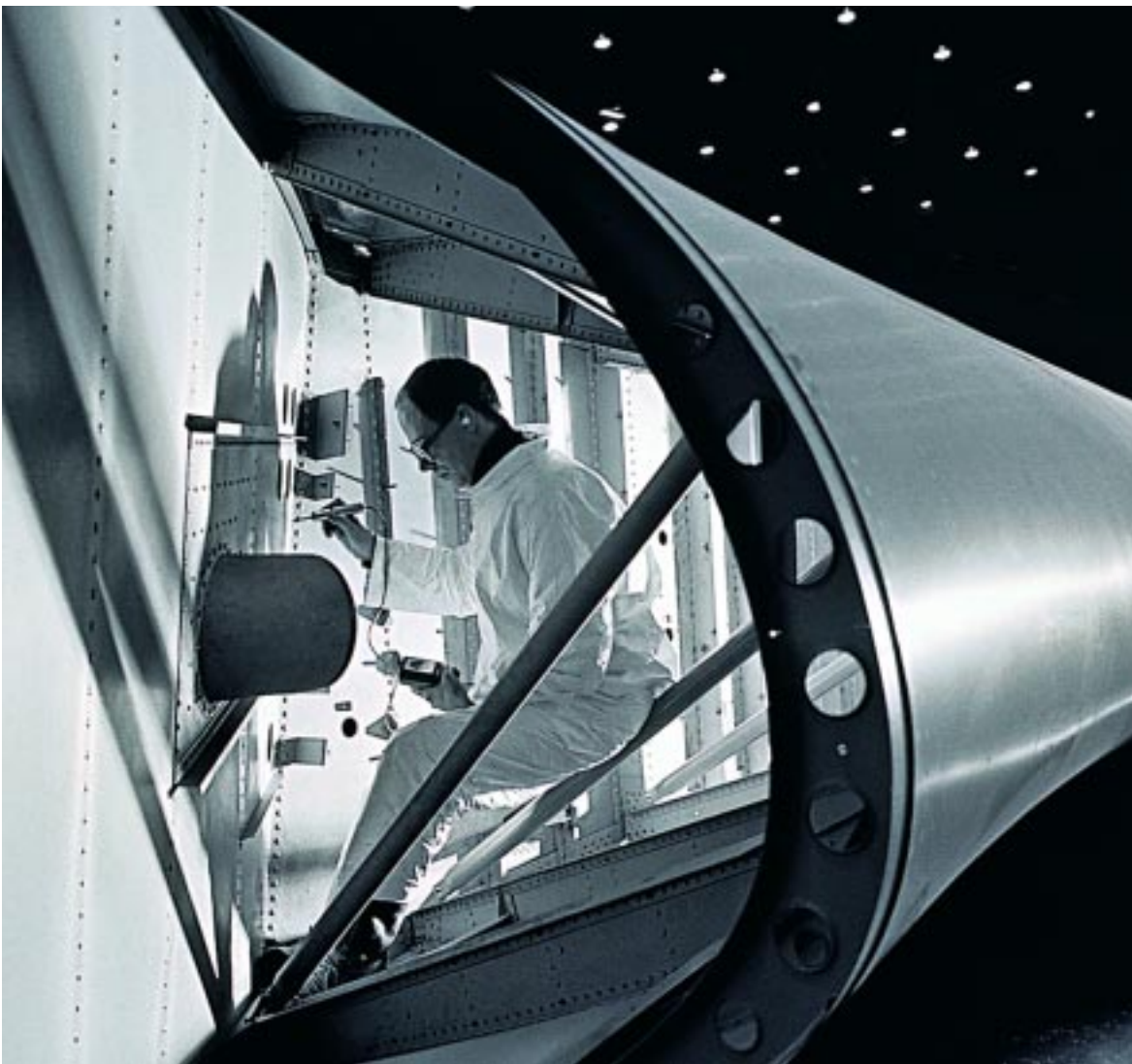
Huck**MAX**[™]



Alcoa
Fastening
Systems

Table of Contents

Introduction to HuckMAX™ Blind Rivets	3
Design, Construction and Function	4
Installation Sequence	5
Fastener Identification and Selection	6
Mechanical Performance & Grip Gauging	7
100° Flush Head HuckMAX™ Rivets	8
Protruding Head HuckMAX™ Rivets	9
100° Flush Head HuckMAX™ Rivets [Oversize Diameter]	10
Protruding Head HuckMAX™ Rivets [Oversize Diameter]	11
Recommendations for Hole Preparation and Installation	12
Installation Tooling	13
Inspection of Installed Rivets	14



The HuckMAX™ Blind Rivet System is a general purpose blind fastening system which combines important features of structural capability and installation convenience. The Huck version incorporates several refinements, which optimize the capabilities of the popular generic systems. The following is a brief summary of the most significant features:

Materials

The HuckMax blind rivet system is available in Aluminum (with either alloy steel or A-286 stainless pins) and Monel (with A-286 stainless pins) for improved corrosion resistance.

Configurations

The system is available in nominal and oversize diameters in flush and protruding head styles.

Specifications Conformance

The system meets all requirements of NAS1686 and 1687, BACR15FP/FR and BPS-R-178, as indicated in the cross reference chart on page 6.

Bulbed Foot Print

The blind side foot print is ideal for applications in thick or thin structure and accommodates up to 10° back side slope without loss of joint properties.

Shank Expansion Feature

Meets all requirements of M7885, NAS1686/1687, BACR15FP/FR and GJ/GK where applicable.

Sheet Take-up

Due to the action of the unique blind side “Expander” component, the system has improved sheet take-up capability conforming to M7885, which has the most severe requirements of all blind rivet specifications. This is a critical improvement over existing generic systems.

Optimized Mechanical Properties of Components

A combination of selected materials, cold working and thermal processing targets the optimum balance between joint performance and functional reliability in each material combination.

Joint Strength

The combination of the above provides improved joint allowables. A comprehensive joint allowables program is in preparation.

Drive Washer

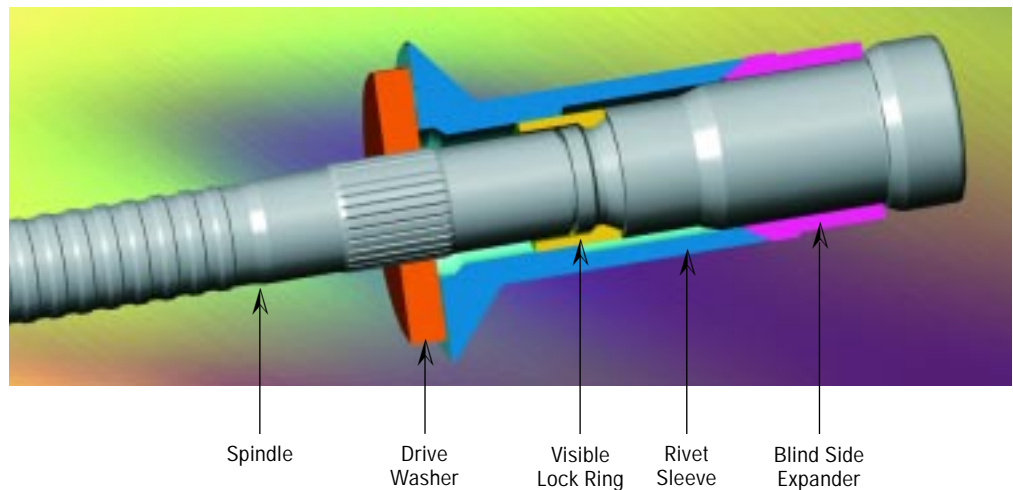
To make it user friendly in the factories and repair activities, the time proven system of “One Tool Does It All” is now an integral part of the HuckMax system.

Installation Tooling

Huck offers a much improved, ergonomic installation tooling system, which helps to reduce operator fatigue. A unique “4 Jaw Pin Gripper™” design guarantees long tool life and improved productivity.

The HuckMAX blind rivet consists of 5 components: the rivet sleeve, the spindle (or pin), a wrap around lock collar, a unique blind side expander and a drive washer. Diameters -4, -5 and -6 are installed with the same tool. The 4 basic components are locked together and work as a single unit to carry shear, tension and vibration loads. The drive washer is discarded after installation.

- The sleeve component is in intimate contact with the structure and absorbs the applied joint loads. It has a rivet head, a shank and the blind side upset.
- The spindle supports the rivet sleeve and shares the joint loads with the sleeve. In addition, the spindle functions as an installation tool to generate hole fill, sheet take-up, to form the blind side upset and to set the lock collar.
- The novel expander component assists in forming the blind side upset, acts as a grip adjusting device and helps to maintain solid contact between the pin and the sleeve over the full grip range. This results in improved sheet take-up and load carrying capability.
- The lock ring is engaged into a lock groove at the pin. During Installation, the lock collar is swaged into a lock pocket in the sleeve, thus locking sleeve and pin together. This allows the installed components to act as a single fastening unit.



The Installation schematic shown below applies to all HuckMAX rivets. Diameters -4, -5 & -6 are installed with one and the same nose assembly.

Step One

The rivet is placed into the prepared hole with clearance. The installation tool engages the pintail and the cycle begins. The pulling load is reacted against the drive washer.



Step Two

The spindle head contacts the end of the expander, which in turn is forced into the sleeve. The blind side bulb formation commences.



Step Three

Continued motion of the spindle starts pulling the sheets together and forming the blind side bulb. As the lock collar is forced against the drive washer, it is swaged into the lock cavity, locking the assembly together.



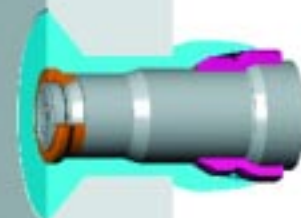
Step Four

As the pulling load continues to increase, the spindle separates at the break neck.



Step Five

The spindle break is flush with the rivet head, the lock is firmly in place, the drive washer is discarded and the installation is complete. The entire installation cycle is accomplished in less than 2 seconds.



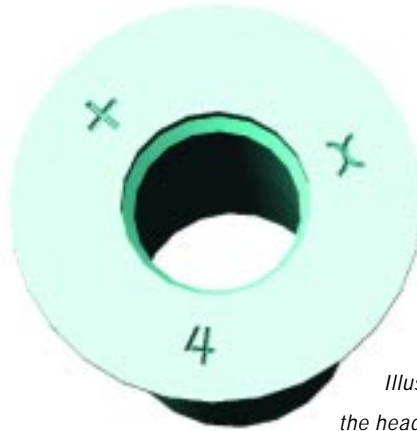
Head Markings

Rivet heads carry the following identification marks:

- The special "H" as manufacturer's identification symbol.
- A material code symbol.
 - Aluminum rivets with alloy steel pin = no letter.
 - Aluminum rivets with Cres pin = symbol "+".
 - Monel rivets with Cres pin = letter "M".
- A grip identification number.

Grip range = nominal grip ± 0.063 "

Example: figure "4" head marking
= -4 grip (ranges from .250" to .188").



*Illustration of
the head markings
on rivet head of HR3252-5-04*

Shear, Tensile and Spindle Retention

Note: The values are specification minimum requirements. Generally the products exceed these minimum values. Shear strength requirements for short grips are lower, commensurate with sheet bearing limits.

Nominal		Aluminum Sleeve (B & E)			Monel Sleeve (M)		
Nom. Rivet Diameter	Single Shear	Ultimate Tensile	Spindle Retention	Single Shear	Ultimate Tensile	Spindle Retention	
-4	664	285	125	995	400	150	
-5	1030	445	200	1545	635	250	
-6	1480	635	290	2215	890	450	

Oversize		Aluminum Sleeve (B & E)			Monel Sleeve (M)		
O/S Rivet Diameter	Single Shear	Ultimate Tensile	Spindle Retention	Single Shear	Ultimate Tensile	Spindle Retention	
-4	814	345	125	1220	490	150	
-5	1245	530	200	1865	740	250	
-6	1685	710	290	2525	1000	450	

Sheet Take-up Capability

The HuckMAX blind rivet system has gap closing capabilities as detailed in the table to the right:

		Force Resisting Gap Closure	
Nom. Diameter	Gap	Aluminum Code "B" and "E"	Monel Code "M"
-4	.010"	15 lbs	20 lbs
-5	.015"	30 lbs	35 lbs
-6	.020"	50 lbs	60 lbs

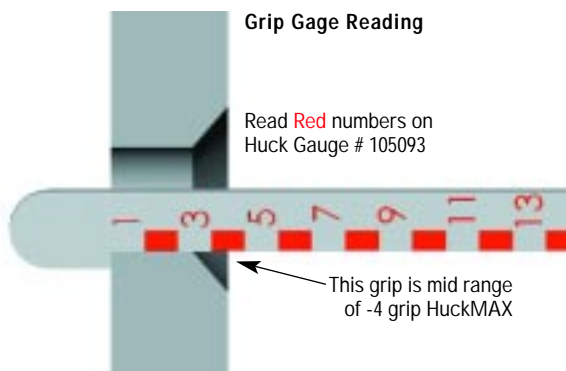
Thin Sheet Pull-Through Strength

The HuckMAX system exceeds the M7885 thin sheet requirements shown in the table to the right:

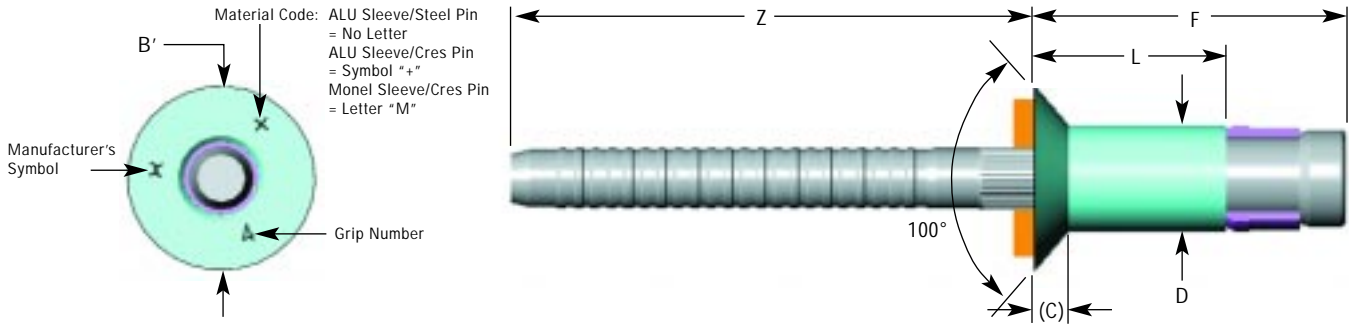
		Thin 2024-T3 Sheet Pull-Through Strength	
Nom. Diameter	Sheet Thickness	Nom. Diameter	O/S Diameter
-4	.025"	160 lbs	180 lbs
-5	.032"	220 lbs	260 lbs
-6	.040"	315 lbs	375 lbs

Grip Gauging

Correct gauging of grip thickness will help to insure sound rivet installations. Huck offers grip measurement gages, which help assure proper fastener grip selection. Huck Gauge #105093 (Red letters only) is configured to gage structural thickness for HuckMAX and most popular Blind Rivet types such as: NAS1919/1921, NAS1398/1399 etc. Care should be taken, that possible sheet gap does not affect grip measurement and does not result in selection of a rivet too long for the job.



100° Flush Head HuckMAX Rivets [Nominal Diameter]



Part Number Key
HR3212 -4 -03

- Max Grip in 1/16th
- Basic Dia. in 32nd
- Basic P/N

Nom. -Dia.	D +.003, -.001	B' Theo. Max.	(C) Ref.	BK Min.	Z Min.	Hole Dia. Recomm.
-4	.126	.229	.041	.355	.870	.129/.132
-5	.157	.290	.054	.370	.940	.160/.164
-6	.189	.357	.069	.415	.940	.192/.196

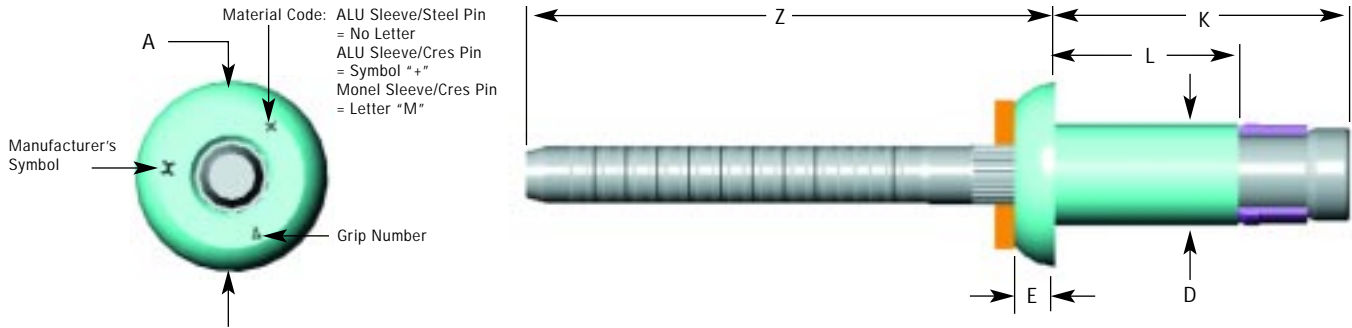
Dimension "BK" is blind side clearance requirement, prior to rivet driving.

Grip Range		-4 Dia. (.126)			-5 Dia. (.156)			-6 Dia. (.190)		
Min.	Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.
Note	.125	-4-02	.224	.45	-5-02	.230	.47	-6-02	.262	.51
.126	.187	-4-03	.287	.51	-5-03	.293	.53	-6-03	.325	.57
.188	.250	-4-04	.349	.57	-5-04	.355	.59	-6-04	.387	.64
.251	.312	-4-05	.412	.63	-5-05	.418	.65	-6-05	.450	.70
.313	.375	-4-06	.474	.70	-5-06	.480	.72	-6-06	.512	.76
.376	.437	-4-07	.537	.76	-5-07	.543	.77	-6-07	.575	.82
.438	.500	-4-08	.599	.82	-5-08	.605	.84	-6-08	.637	.88
.501	.562	-4-09	.662	.88	-5-09	.668	.90	-6-09	.700	.95
.563	.625				-5-10	.730	.96	-6-10	.762	1.01
.626	.687				-5-11	.793	1.02	-6-11	.825	1.07
.688	.750							-6-12	.887	1.13

Note: Min. grip -4 dia. = .063; -5 dia. = .065; -6 dia. = .080

Basic P/N	Industry P/Ns	Material				Finish			
		Sleeve	Pin	Lock Ring	Grip Adjuster	Sleeve	Pin	Lock Ring	Grip Adjuster
HR3212	M7885/3 NAS9302B	Alu 5056	8740 Steel	A-286	Steel	MIL-C-5541	Cad Plated	Passivated	Cad Plated
HR3222	M7885/12 NAS9302E	Alu 5056	A-286	A-286	A-286	MIL-C-5541	Passivated	Passivated	Passivated
HR3522	M7885/5 NAS9308M	Monel	A-286	A-286	A-286 or Monel	None	Passivated	Passivated	Passivated or none
HR3522P	M7885/18 NAS9308MP	Monel	A-286	A-286	A-286 or Monel	NAS4006	Passivated	Passivated	Passivated or none

Protruding Head HuckMAX Rivets [Nominal Diameter]



Part Number Key
HR3213 -4 -03

- Max Grip in 1/16th
- Basic Dia. in 32nd
- Basic P/N

Nom. -Dia.	D +.003, -.001	A Head Dia.	E +.010, -.000	BK Min.	Z Min.	Hole Dia. Recomm.
-4	.126	.250±.012	.054	.355	.870	.129/.132
-5	.157	.312±.016	.067	.370	.940	.160/.164
-6	.189	.375±.019	.080	.415	.940	.192/.196

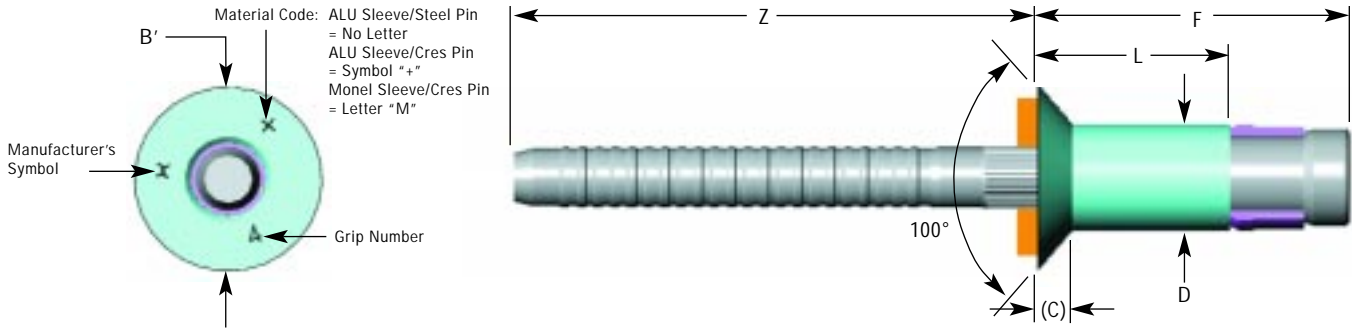
Dimension "BK" is blind side clearance requirement, prior to rivet driving.

Grip Range		-4 Dia. (.126)			-5 Dia. (.156)			-6 Dia. (.190)		
Min.	Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.
Note	.062	-4-01	.161	.38	-5-01	.187	.41	-6-01	.219	.47
.063	.125	-4-02	.224	.45	-5-02	.230	.47	-6-02	.262	.51
.126	.187	-4-03	.287	.51	-5-03	.293	.53	-6-03	.325	.57
.188	.250	-4-04	.349	.57	-5-04	.355	.59	-6-04	.387	.64
.251	.312	-4-05	.412	.63	-5-05	.418	.65	-6-05	.450	.70
.313	.375	-4-05	.474	.70	-5-06	.480	.72	-6-06	.512	.76
.376	.437	-4-07	.537	.76	-5-07	.543	.77	-6-07	.575	.82
.438	.500	-4-08	.599	.82	-5-08	.605	.84	-6-08	.637	.88
.501	.562	-4-09	.662	.88	-5-09	.668	.90	-6-09	.700	.95
.563	.625				-5-10	.730	.96	-6-10	.762	1.01
.626	.687				-5-11	.793	1.02	-6-11	.825	1.07
.688	.750							-6-12	.887	1.13

Note: Min. grip -4 dia. = .025; -5 dia. = .031; -6 dia. = .037

Basic P/N	Industry P/Ns	Material				Finish			
		Sleeve	Pin	Lock Ring	Grip Adjuster	Sleeve	Pin	Lock Ring	Grip Adjuster
HR3213	M7885/2 NAS9301B	Alu 5056	8740 Steel	A-286	Steel	MIL-C-5541	Cad Plated	Passivated	Cad Plated
HR3223	NAS885/11 NAS9301E	Alu 5056	A-286	A-286	A-286	MIL-C-5541	Passivated	Passivated	Passivated
HR3523	M7885/11 NAS9307M	Monel	A-286	A-286	A-286 or Monel	None	Passivated	Passivated	Passivated or none
HR3523P	M7885/17 NAS9307MP	Monel	A-286	A-286	A-286 or Monel	NAS4006	Passivated	Passivated	Passivated or none

100° Flush Head HuckMAX Rivets [Oversize Diameter]



Part Number Key
HR3242 -4 -03
 Max Grip in 1/16th
 Basic Dia. in 32nd
 Basic P/N

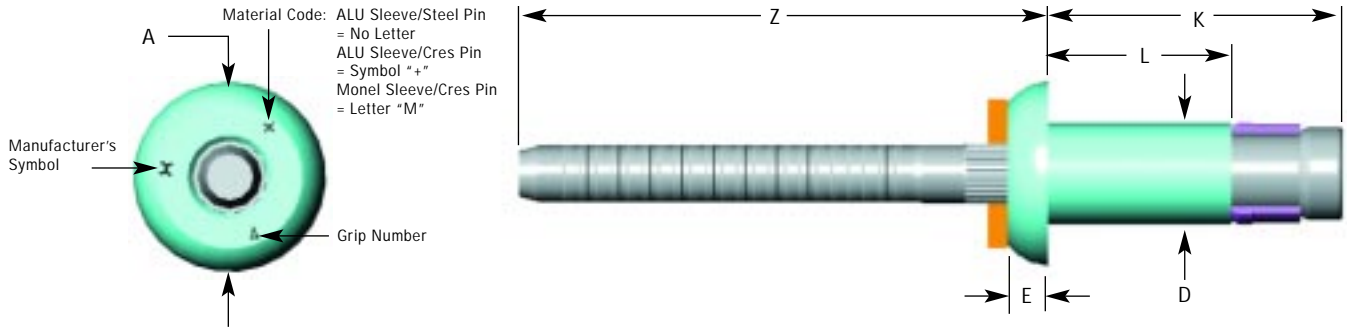
Oversize -Dia.	D +.003, -.001	B' Theo. Max.	(C) Ref.	BK Min.	Z Min.	Hole Dia. Recomm.
-4	.140	.229	.035	.404	.870	.143/.146
-5	.173	.290	.047	.417	.940	.176/.180
-6	.201	.357	.063	.452	.940	.205/.209

Dimension "BK" is blind side clearance requirement, prior to rivet driving.

Grip Range		-4 Dia. (.140)			-5 Dia. (.173)			-6 Dia. (.201)		
Min.	Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.
.045	.062	-4-01	.200	.45						
.063	.125	-4-02	.238	.45	-5-02	.266	.47	-6-02	.265	.51
.126	.187	-4-03	.301	.52	-5-03	.309	.53	-6-03	.328	.57
.188	.250	-4-04	.363	.58	-5-04	.371	.59	-6-04	.390	.64
.251	.312	-4-05	.426	.65	-5-05	.434	.65	-6-05	.453	.70
.313	.375	-4-06	.488	.71	-5-06	.496	.72	-6-06	.515	.76
.376	.437	-4-07	.551	.78	-5-07	.559	.77	-6-07	.578	.82
.438	.500	-4-08	.613	.84	-5-08	.621	.84	-6-08	.640	.88
.501	.562	-4-09	.676	.90	-5-09	.684	.90	-6-09	.703	.95
.563	.625				-5-10	.746	.96	-6-10	.765	1.01
.626	.687				-5-11	.809	1.04	-6-11	.828	1.07
.688	.750							-6-12	.890	1.14

Basic P/N	Industry P/Ns	Material				Finish			
		Sleeve	Pin	Lock Ring	Grip Adjuster	Sleeve	Pin	Lock Ring	Grip Adjuster
HR3242	M7885/7 NAS9305B	Alu 5056	8740 Steel	A-286	Steel	MIL-C-5541	Cad Plated	Passivated	Cad Plated
HR3252	NAS9305E BACR15FP/GJ	Alu 5056	A-286	A-286	A-286	MIL-C-5541	Passivated	Passivated	Passivated
HR3552	M7885/9 NAS9311M	Monel	A-286	A-286	A-286 or Monel	None	Passivated	Passivated	Passivated or none
HR3552P	M7885/23 NAS9311MP	Monel	A-286	A-286	A-286 or Monel	NAS4006	Passivated	Passivated	Passivated or none

Protruding Head HuckMAX Rivets [*Oversize Diameter*]



Part Number Key
HR3243 -4 -03

- Max Grip in 1/16th
- Basic Dia. in 32nd
- Basic P/N

Oversize -Dia.	D +.003, -.001	A Head Dia.	E + .010, -.000	BK Min.	Z Min.	Hole Dia. Recomm.
-4	.140	.250±.012	.054	.404	.870	.143/.146
-5	.173	.312±.016	.067	.417	.940	.176/.180
-6	.201	.375±.019	.080	.452	.940	.205/.209

Dimension "BK" is blind side clearance requirement, prior to rivet driving.

Grip Range		-4 Dia. (.140)			-5 Dia. (.173)			-6 Dia. (.201)		
Min.	Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.	Grip Dash	L +.000 -.030	K Max.
Note	.062	-4-01	.175	.39	-5-01	.203	.43	-6-01	.242	.45
.063	.125	-4-02	.238	.46	-5-02	.266	.47	-6-02	.265	.51
.126	.187	-4-03	.301	.52	-5-03	.309	.53	-6-03	.328	.57
.188	.250	-4-04	.363	.58	-5-04	.371	.59	-6-04	.390	.64
.251	.312	-4-05	.426	.65	-5-05	.434	.65	-6-05	.453	.70
.313	.375	-4-05	.488	.71	-5-06	.496	.72	-6-06	.515	.76
.376	.437	-4-07	.551	.78	-5-07	.559	.77	-6-07	.578	.82
.438	.500	-4-08	.613	.84	-5-08	.621	.84	-6-08	.640	.88
.501	.562	-4-09	.676	.90	-5-09	.684	.90	-6-09	.703	.95
.563	.625				-5-10	.746	.96	-6-10	.765	1.01
.626	.687				-5-11	.809	1.04	-6-11	.828	1.07
.688	.750							-6-12	.890	1.14

Note: Min. grip -4 dia. = .025; -5 dia. = .031; -6 dia. = .037

Basic P/N	Industry P/Ns	Material				Finish			
		Sleeve	Pin	Lock Ring	Grip Adjuster	Sleeve	Pin	Lock Ring	Grip Adjuster
HR3243	M7885/6 NAS9304B	Alu 5056	8740 Steel	A-286	Steel	MIL-C-5541	Cad Plated	Passivated	Cad Plated
HR3253	NAS9304E BACR15FR/GK	Alu 5056	A-286	A-286	A-286	MIL-C-5541	Passivated	Passivated	Passivated
HR3553	M7885/8 NAS9310M	Monel	A-286	A-286	A-286 or Monel	None	Passivated	Passivated	Passivated or none
HR3553P	M7885/21 NAS9310MP	Monel	A-286	A-286	A-286 or Monel	NAS4006	Passivated	Passivated	Passivated or none

Recommendations For Hole Preparation and Installation

Hole Preparation

Drill sizes should be chosen to generate holes within the diameter ranges recommended in the table below. If holes are drilled at the low limit, or if sealant is used in assembly, spindles sometimes break low and installations are not complete. An easy remedy is to drill the holes slightly larger (within the recommended limits). This provides a little extra space for sealant trapped in the hole.

Rivet Dia.	Nom Dia. Rivets		Over Size Dia. Rivets		C'sink Dia.
	Recommended Hole Limits	Recommended Drill Sizes	Recommended Hole Limits	Recommended Drill Sizes	Recommended C'sink Dia. (Note)
-4	.129/.132	#30; 3,3mm	.143/.146	#27; 3,7mm	.222/.228
-5	.160/.164	#20; 4,1mm	.176/.180	#16; 4,5mm	.283/.289
-6	.192/.196	#10; 4,9mm	.205/.209	#5; 5,25mm	.350/.356

Note: For best head flushness results, a rivet can be used to adjust c'sink depth.

Suggestions on good Hole Preparation Practice

Clean round holes within tolerance and with minimal burrs are fundamental to good rivet performance. Below are a few suggestions, which should help to achieve good installations:

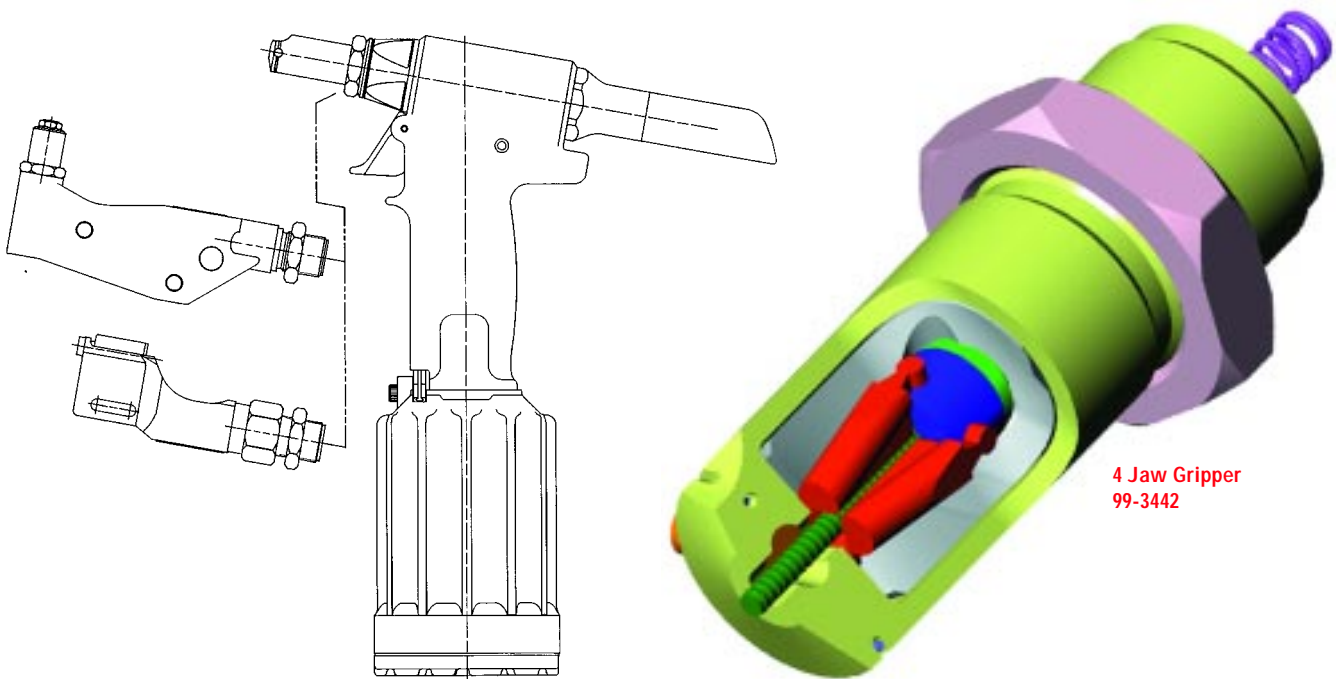
- Drills should be sharp. Optimized drill point geometry has surprising benefits for hole quality, productivity and minimizing operator fatigue.
- Drill speeds are critical to achieve hole quality and productivity. In the case of Aluminum structure, drill speeds of 4,000 to 6,000 RPM are recommended.
- Excessive "push" on the drill motor can create sheet separation and burrs.
- Hole normality is important. Angularity beyond 2° should be avoided.
- Clamping of the structure with temporary devices is very helpful.
- Countersink concentricity is important. Undersize pilots are a common cause of eccentricity problems and cosmetic issues.
- The rivet installation gun should be properly aligned and firmly pushed against the structure. This helps to avoid minor sheet gapping due to misalignment and presence of sealant.
- The trigger must be depressed until pin break indicates completion of the installation cycle.
- Worn and dirty tools can cause bad installations. Of particular importance are the gripping jaws (worn and dirty jaws can cause slipping of the jaws and breaking in the pin tails).

Installation Tooling

A new ergonomically advanced installation tooling system is available for installation of HuckMAX blind rivets. The Huck 2013 pneudraulic tool is redesigned for maximum operator comfort and weighs only 4 1/2 lbs. It is available with a pintail collecting bottle (2013B) or a vacuum attachment (2013V) to collect the pintails. All the nose attachments are of recent design and aim for robust function and long live. Table below summarizes some of the tooling components:

Rivet	Gun	Straight-on HD Nose	Straight-long HD Nose	Off-Set Single Jaw	HD Off-Set Twin Jaw	90 Angle Tool
All HuckMAX Blind Rivets	Huck 2013 Series	99-3442 Note	99-3443 Note	99-1333	99-1336	99-1334

Note: 99-3442 and 3443 feature the new "4 Jaw Pin Gripper "



Note: HuckMAX rivets are also compatible with and may be installed with a variety of Cherry or Allfast installation tools.

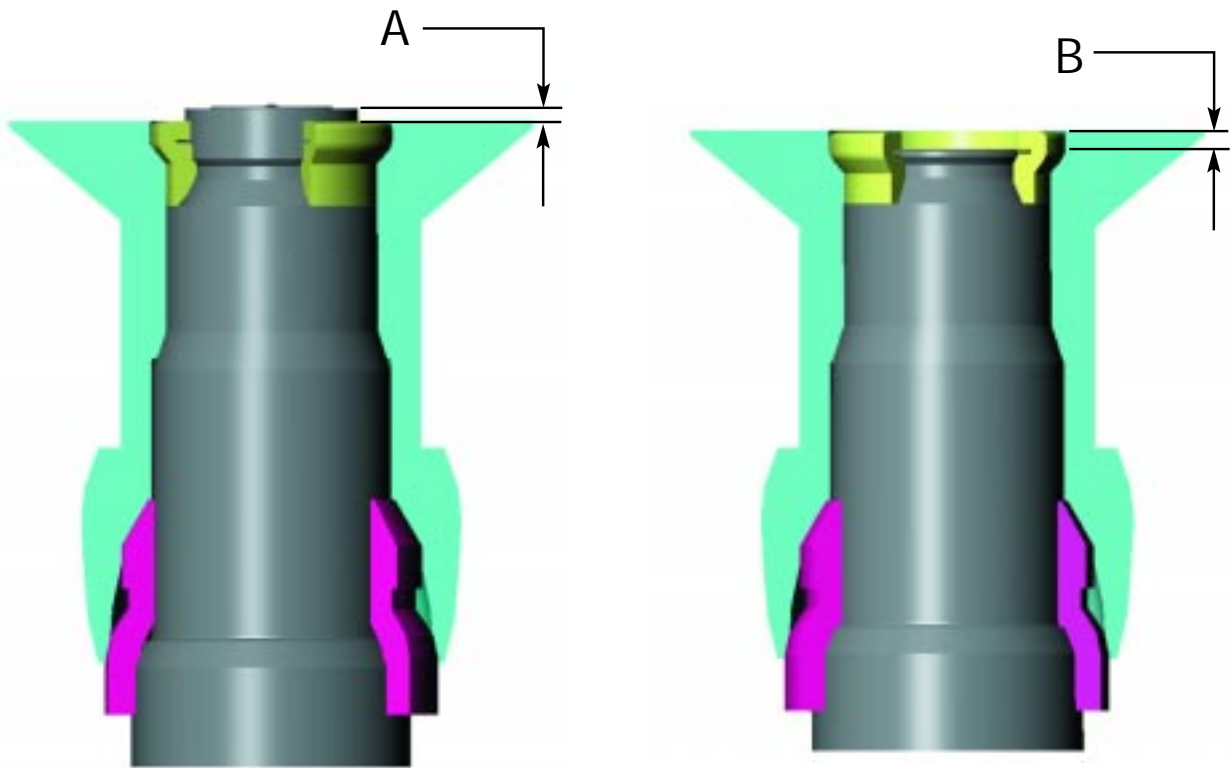
Inspection of Installed Rivets

Inspection of Installed Rivets

The position of the spindle break and the lock collar provide important information about the quality of the installation. The table below shows the spindle flushness limits published in the applicable procurement specifications. Spindle

Rivet Dia.	"A" Dimension Pin above Head	"B" Dimension Pin below Head	Lock Collar Position
-4	+ .010	- .015	Due to the installation principle, the collars are flush with the top of the head
-5	+ .010	- .020	
-6	+ .010	- .020	

flushness per this table indicate good installations, which meet mechanical performance requirements of M7885, NAS1686/1687 and of relevant OEM specifications.



Spindle Flushness Limits

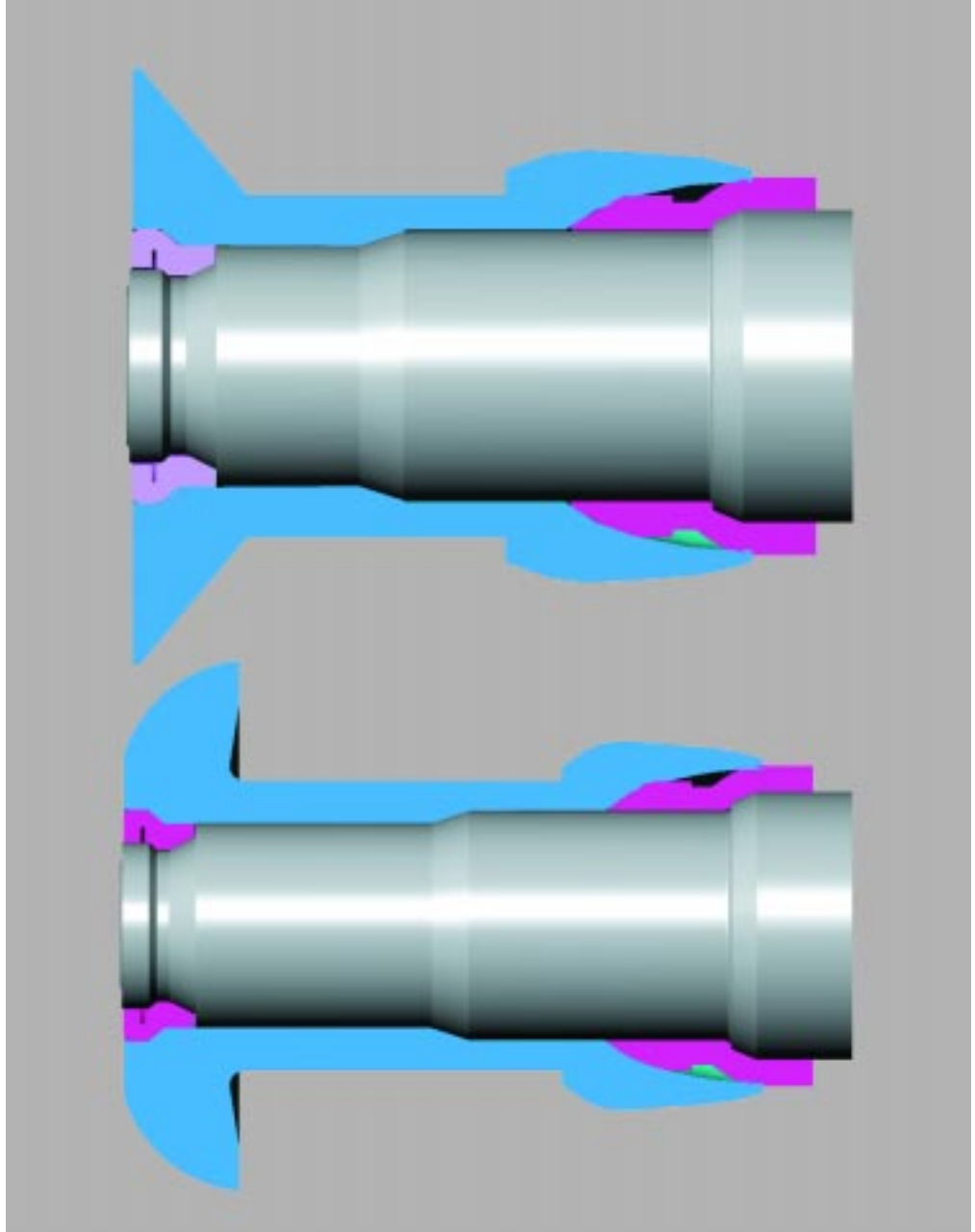
PRELIMINARY JOINT ALLOWABLES

*Table 4.1 Static Joint Strength of 100° Flush Head Locked Spindle
Aluminum Alloy Blind Rivets in Machine-Countersunk Aluminum Alloy Sheet.*

Rivet Type.....	HR3252 (a)	(Fsu = 50 ksi)	Nominal
Sheet Material.....	Clad 2024-T3		
Rivet Diameter, in.....	1/8	5/32	3/16
(Nominal Hole Diameter, in.).....	(0.144)	(0.178)	(0.207)
	Ultimate Strength, lbs.		
Sheet Thickness, in.:			
0.032.....	245(b,e)		
0.040.....	306(e)	378(b,e)	
0.050.....	384(e)	473(e)	
0.063.....	484(e)	598(e)	694(b,e)
0.071.....	546	674(e)	783(e)
0.080.....	597	760(e)	883(e)
0.090.....	628	856	994(e)
0.100.....	658	916	1105
0.125.....	735	1011	1278
0.160.....	814	1144	1432
0.190.....	...	1245	1564
0.250.....	1685
Rivet Shear Strength (c).....	814	1245	1685
	Yield Strength (d), lbs.		
Sheet Thickness, in.:			
0.032.....	142		
0.040.....	188	221	
0.050.....	246	292	
0.063.....	321	384	435
0.071.....	367	441	501
0.080.....	419	505	576
0.090.....	452	576	658
0.100.....	471	647	741
0.125.....	519	723	921
0.160.....	586	806	1018
0.190.....	...	877	1100
0.250.....	1266
Head Height (ref), in.	0.035	0.047	0.063

- a Data supplied by Huck International Inc.
- b Values above the horizontal line in each column are for knife-edge conditions, the use of fasteners in this condition is undesirable. The use of knife-edge conditions in the design of military aircraft requires the specific approval of the procuring activity.
- c Rivet shear strength is documented in BPS-R-178.
- d Permanent set at yield: 4% of nominal hole diameter (see 9.4.1.3.3).
- e Yield is less than 2/3 of indicated ultimate.

JOINT ALLOWABLES for other part number Families in Preparation



For a list of authorized distributors, please contact Huck International in Tucson, Arizona at 800 234 4825

Alcoa
Fastening
Systems

**Huck International, Inc.
Aerospace Blind Fastener Division**

3724 East Columbia
Tucson, Arizona 85714
Phone: 800 234 4825
Phone: 520 519 7400
Fax: 520 519 7555

**Huck International, Inc.
Installation Systems Division**

PO Box 2270 One Corporate Drive
Kingston, NY 12401
Phone: 800 635 8320
Phone: 914 331 7300
Fax: 914 334 7333
Telex: 926486

Huck S.A.

Clos D'Asseville BP4
95450 Us Par Vigny
France
Phone: 33 1 3027 9500
Fax: 33 1 3466 0600

NOTICE: The information contained in this brochure is only for general guidance with regard to properties of the products shown and/or the means for selecting such products, and is not intended to create any warranty, express, implied or statutory, all warranties are contained only in Huck's written quotations, acknowledgements and/or purchase orders. It is recommended that the user secure specific, up-to-date data and information regarding each application and/or use of such products.

Authorized Huck Distributor