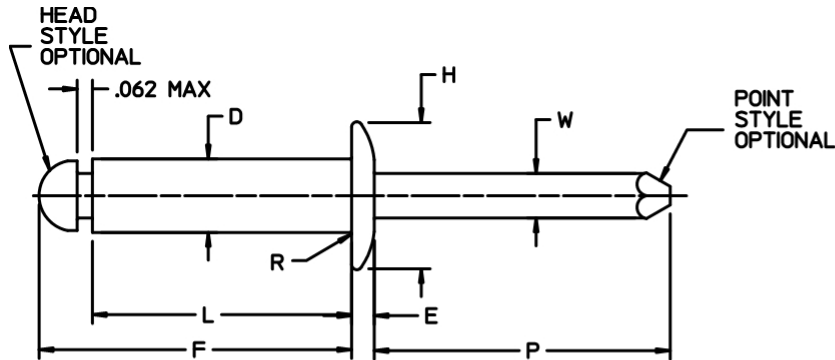


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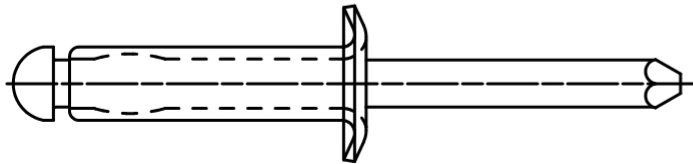
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1. Introduction.

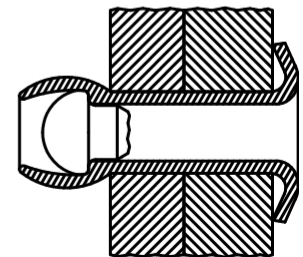
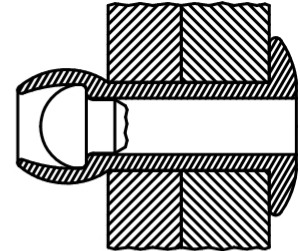
1.1 Scope. This standard establishes the reference dimensions, hole sizes, mechanical, and performance requirements of inch series break mandrel blind rivets suitable for use in joining the component parts of an assembly. A metric series counterpart standard is in existence under designation IFI-505.



Extruded Body Design



Stamped Body Design for Grades 52, 53, and 54



1.2 Definitions.

1.2.1 Blind Rivet. A blind rivet is a blind fastener which has a self-contained mechanical or other feature which permits the formation of an upset on the blind end of the rivet and expansion of the rivet shank during rivet setting to join the component parts of an assembly.

1.2.2 Break mandrel blind rivets are pull mandrel type blind rivets where during the setting operation the mandrel is pulled into or against the rivet body and breaks at or near the junction of the mandrel shank and its upset end.

1.2.3 Definitions of other terms used in this standard are given in IFI-110, *Glossary of Terms Relating to Blind Rivets*.

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Table 1 Dimensions of Regular and Large Dome Head Style Break Mandrel Blind Rivets

Rivet Series No.	Nom Rivet Size	D	H	E	H	E	R	W	P	F	L
		Body Dia	Style 1 - Regular Head		Style 2 - Large Head		Radius of Fillet	Mandrel Dia	Mandrel Protrusion	Blind Side Protrusion	Rivet Body Length
			Head Dia	Head Height	Head Dia	Head Height					
		Ref	Ref	Ref	Ref	Ref	Ref	Ref	Min	Ref	Ref
3	3/32 (0.0938)	0.092	0.188	0.028	0.293	0.040	0.015	0.057	1.00	L + .100	See Table 2
4	1/8 (0.1250)	0.122	0.250	0.036	0.375	0.065	0.020	0.076	1.00	L + .120	
5	5/32 (0.1562)	0.153	0.312	0.043	0.468	0.075	0.020	0.095	1.04	L + .140	
6	3/16 (0.1875)	0.183	0.375	0.053	0.625	0.092	0.025	0.114	1.04	L + .160	
8	1/4 (0.2500)	0.249	0.500	0.069	0.780	0.107	0.030	0.151	1.04	L + .180	
See Notes				5		5	3			4, 5	5

NOTES:

- All dimensions are in inches.
- For application data, see Table 2.
- The junction of head and shank shall have a fillet with a max radius as shown. For Grades 40, 50, and 51 rivets, the max fillet radius for 3/16 in. rivets shall be 0.035 in., and for 1/4 in. rivets shall be 0.060 in.
- When computing the blind side protrusion (F), the max length of rivet body (L) as given in Table 2 for the applicable grip shall be used. Minimum blind side clearance may be calculated by subtracting the actual grip (G), (i.e., total thickness of the material to be joined), from the specified blind side protrusion (F). (Example: To join two plates, each .100 in. thick, with a 5/32 in. rivet, a No. 54 rivet would be used. Minimum blind side clearance necessary to permit proper rivet setting would be $L + .140 - G$, which is $.425 + .140 - .200$, and equals .365 in.).
- The critical dimensions are hole diameter and rivet body length (countersunk rivets includes entire rivet length) to assure the appropriate form, fit, and function even though the other dimensional characterizes are reference only. Specific dimensions can be obtained from the rivet manufacturer.

2. Designations.

2.1 Styles. The two basic styles of break mandrel blind rivets are designated as dome head and countersunk head. Dome head rivets are available in two styles designated as regular head and large head. Countersunk head rivets are available in one style designated as 120 deg countersunk head.

2.2 Grades. The material combinations of break mandrel blind rivets are designated as grades, with each material combination representing a different combination of rivet body material and mandrel material as given in Table 5.

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Table 2 Application Data for Dome Head Style Break Mandrel Blind Rivets

Rivet Series No.	Nom Rivet Size		Recommended Drill Size	Recommended Hole Size	Rivet No.	Material Thickness Grip Range	Rivet Body Length, L
				Max			Ref
3	3/32	0.0938	#41	0.100	32	.031-.125	0.225
					34	.126-.250	0.335
					36	.251-.375	0.475
4	1/8	0.1250	#30	0.133	41	.031-.062	0.188
					42	.063-.125	0.250
					43	.126-.187	0.313
					44	.188-.250	0.375
					45	.251-.312	0.438
					46	.313-.375	0.500
					48	.376-.500	0.625
5	5/32	0.1562	#20	0.164	410	.501-.625	0.750
					52	.031-.125	0.275
					53	.126-.187	0.338
					54	.188-.250	0.400
					56	.251-.375	0.525
					58	.376-.500	0.650
					510	.501-.625	0.800
6	3/16	0.1875	#11	0.196	512	.626-.750	0.925
					62	.031-.125	0.300
					63	.126-.187	0.362
					64	.188-.250	0.425
					66	.251-.375	0.550
					68	.376-.500	0.675
					610	.501-.625	0.800
8	1/4	0.2500	F	0.261	612	.626-.750	0.925
					614	.751-.875	1.050
					616	.876-1.000	1.175
					82	.031-.125	0.350
					84	.126-.250	0.475
					86	.251-.375	0.600
					88	.376-.500	0.725
See Notes			2	3	810	.501-.625	0.850
					812	.626-.750	0.975
					814	.751-.875	1.100
					816	.876-1.000	1.225

NOTES:

1. All dimensions are in inches.
2. Recommended drill sizes are those which normally produce holes within the specified hole size limits.
3. Refer to manufacturer's data for specific information.

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