MIL-HDBK-5 Data

As part of the industry acceptance procedure it becomes necessary to perform static lap shear tests to the requirements outlined in chapter 9 of MIL-HDBK-5. With the approval of the test results the established yields and ultimate performance data in varied sheet material thicknessis published in MIL-HDBK-5 chapter 8. The published values give aerospace designers the joint strength information needed in design of structure. Generally if a product does not have MIL-HDBK-5 performance data the productis overlooked for design.

The MLS blind rivets in all materials were tested and approved for publication in the mid 1970's and data was published under the NAS parts standards number.

Joint performance data taken from MIL-HDBK-5 Chapter 8

NAS1921B Aluminum Blind Rivets						
Material	7075-T6and T651					
	Ultimate Strength			Yield Strength		
Sheet Thickness	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)
.040	171	---	---	110	---	---
.050	232	267	---	161	171	---
.063	313	366	411	247	254	270
.071	360	427	484	303	315	330
.080	416	498	566	354	395	399
.090	477	571	658	373	484	506
.100	494	647	748	393	549	611
.125	---	755	978	---	610	803
.160	---	---	1090	---	---	906
Shear a	494	755	1090	---	---	---

NAS1921M Monel Blind Rivets						
Material	7075-T6 and T651					
	Ultimate Strength			Yield Strength		
Sheet Thickness	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)
.040	---	---	---	---	---	---
.050	595b	---	---	354	---	---
.063	732b	554b	---	447	554	---
.071	816b	1035b	---	504	625	---
.080	913b	1158b	1400b	569	707	843
.090	946b	1289b	1570	607	796	952
.100	980b	1415b	1720b	626	885	1060
.125	1020	1525b	2055b	686	972	1265
.160	---	1565b	2245b	---	1080	1430
.190			2260			1540
Shear a	1020	1565	2220	---	---	---

NAS1921C A-286 CRES						
Material	7075-T6and T651					
	Ultimate Strength			Yield Strength		
Sheet Thickness	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)	1/8" Dia (.125)	5/32" Dia (.164)	3/16" Dia (.192)
.040	---	---	---	---	---	---
.050	612b	---	---	365	---	---
.063	749b	956b	---	466	571	---
.071	831b	1060b	---	528	649	---
.080	932b	1180b	1450b	598	737	873
.090	1110b	1305b	1605b	639	835	990
.100	1090b	1435b	1755b	868	931	1105
.125	---	1670b	2130b	804	1065	1325
.160	---	---	2400b	---	---	1605
Shear a	1090	1670	2400	---	---	---

(1) a Indicates shear strengthis documented n NAS1900
(2) b ndicates yield isless than 2/3 of the ndicated ultimate strength value
(3)The bold line ndicates knife edge
(4) Yield strength as shown was established with a permanent set of .04% offset. These tables were reworked n 1985 to the current offset from the original tables that used a different offset.