1.0 Rivet Diameter Selection

1.1 Rivet diameter should be equal to or greater than the thickness of the thickest part in the joint and less than 3 x the thickness of the thinnest outside part.

1.2 For non-fluid tight applications, the maximum assembly thickness (stackup) should not exceed 2.5 x the rivet diameter. If exceeded, increase the rivet diameter or use a higher strength fastener (lockbolt or bolt/nut).

1.3 For fluid tight applications, the maximum assembly thickness (stackup) should not exceed 2 x the rivet diameter.

1.4 The minimum stackups in Tables 1 and 2 for any particular rivet diameter, shown as .000", are for reference only. The actual minimum stackup should take into consideration minimum sheet thicknesses (t/D ratios) as per MIL-HDBK-5 and minimum countersinking gauges (for flush head rivets) as per DS125.

1.5 The maximum stackups in Tables 1 and 2 for any particular rivet diameter are based on the limit of 2.5 x the rivet diameter specified for non-fluid tight applications (as per para 1.2 above).

2.0 Rivet Length Selection

2.1 The rivet length dash numbers in the rivet specifications refer to the overall length of the rivet.

2.2 The rivet length to be specified on the Engineering Drawing must take into consideration the assembly thickness (stackup) plus the allowance.

2.3 The allowance is the length of shank which is formed into the rivet shop head, and is generally stated in terms of D (rivet diameter).

2.4 Standard Shop Formed Heads (Figure 1) - Table 1 specifies the stackup ranges for universal head and flush head rivets to be driven with a standard shop formed head. A minimum allowance of 1.25D was used to calculate the stackup for each rivet length.

2.5 Flush Shop Formed Heads (Figure 2) - Table 2 specifies the stackup ranges for universal head and flush head rivets to be driven with a flush shop formed head (NAS1097 style). A minimum allowance of .75D was used to calculate the stackup for each rivet length.

LIST OF CURRENT SHEETS											
PAGE	1	2	3	4							
REVISION	-	-	-	-							

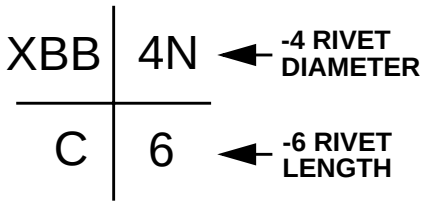
2.6 For special cases when a larger stackup is required, calculate the required rivet length by adding the stackup thickness, the allowance (1.25D for standard shop formed heads as per paragraph 2.4 or .75D for flush shop formed heads as per paragraph 2.5), and for extra long rivets (6D and up), an additional allowance of 1D to allow for the shortening of the rivet as it swells to fill the hole.

3.0 Engineering Drawing Notes:

3.1 The engineering drawings must specify the **rivet diameter and length dash numbers** on the rivet symbol and in the Bill of Material (BOM). The BOM must also show the **quantity required per assembly**, as follows:

RIVET SYMBOL

(as per PPS 2.62)



BILL OF MATERIAL

		26	26	3	C7	1	3AB48	B0205017AD4-8S	RIVET - FLUSH HEAD	-	-
		44	48	2	D5	1	3AB48	B0205017AD4-7S	RIVET - FLUSH HEAD	-	-
		12	32	1	D5	1	3AB48	B0205017AD4-6S	RIVET - FLUSH HEAD	-	-
		-003	-001	FIND NUMBER	ZONE	SHT NO	CAGE CODE	PART NO	DESCRIPTION	PROT FINISH	NOTES
QUANTITY REQ PER				BILL OF MATERIAL							

FIGURE 1 - STANDARD SHOP FORMED HEAD

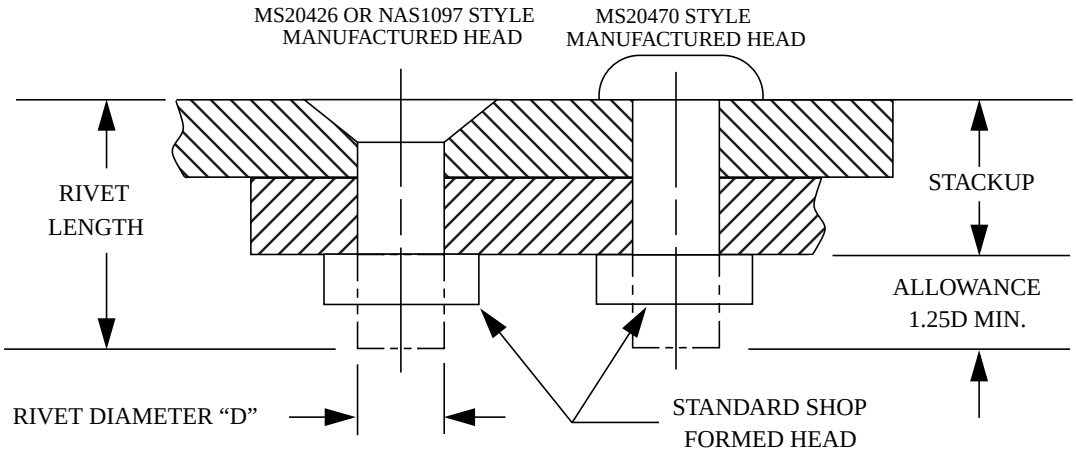


TABLE 1 - STANDARD SHOP FORMED HEAD STACKUP RANGES

			RIVET DIAMETER (in.)																	
			-2		-3		-4		-5		-6		-7		-8		-10		-12	
			1/16	.063	3/32	.094	1/8	.125	5/32	.156	3/16	.188	7/32	.219	1/4	.250	5/16	.313	3/8	.375
			STACKUP (in.)																	
RIVET LENGTH (in.)			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
-3	3/16	.188	.000	.109	.000	.070	.000	.031												
-4	1/4	.250	.110	.156	.071	.133	.032	.094	.000	.055	.000	.016								
-5	5/16	.313			.134	.195	.095	.156	.056	.117	.017	.078	.000	.039						
-6	3/8	.375			.196	.234	.157	.219	.118	.180	.079	.141	.040	.102	.000	.063				
-7	7/16	.438					.220	.281	.181	.242	.142	.203	.103	.164	.064	.125	.000	.047		
-8	1/2	.500					.282	.313	.243	.305	.204	.266	.165	.227	.126	.188	.048	.109	.000	.031
-9	9/16	.563							.306	.367	.267	.328	.228	.289	.189	.250	.110	.172	.032	.094
-10	5/8	.625							.368	.391	.329	.391	.290	.352	.251	.313	.173	.234	.095	.156
-11	11/16	.688									.392	.453	.353	.414	.314	.375	.235	.297	.157	.219
-12	3/4	.750									.454	.469	.415	.477	.376	.438	.298	.359	.220	.281
-13	13/16	.813											.478	.539	.439	.500	.360	.422	.282	.344
-14	7/8	.875											.540	.547	.501	.563	.423	.484	.345	.406
-15	15/16	.938													.564	.625	.485	.547	.407	.469
-16	1	1.000															.548	.609	.470	.531
-17	1-1/16	1.063															.610	.672	.532	.594
-18	1-1/8	1.125															.673	.734	.595	.656
-19	1-3/16	1.188															.735	.781	.657	.719
-20	1-1/4	1.250																	.720	.781
-21	1-5/16	1.313																	.782	.844
-22	1-3/8	1.375																	.845	.906
-23	1-7/16	1.438																	.907	.938

FIGURE 2 - FLUSH SHOP FORMED HEAD

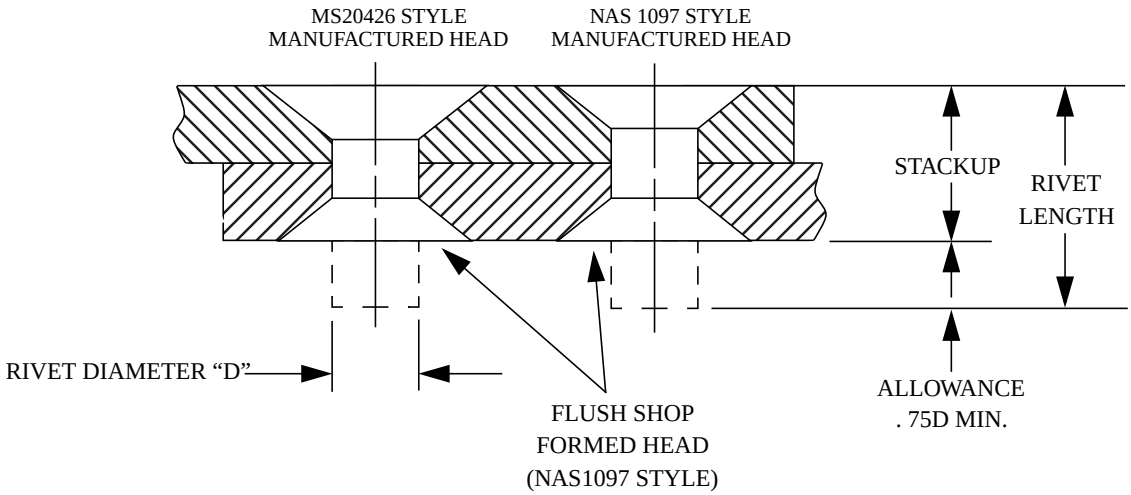


TABLE 2 - 100° FLUSH SHOP FORMED HEAD STACKUP RANGES

RIVET LENGTH (in.)			RIVET DIAMETER (in.)																	
			-2		-3		-4		-5		-6		-7		-8		-10		-12	
			1/16	.063	3/32	.094	1/8	.125	5/32	.156	3/16	.188	7/32	.219	1/4	.250	5/16	.313	3/8	.375
			STACKUP (in.)																	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
-3	3/16	.188	.000	.141	.000	.117	.000	.094	.000	.070	.000	.047	.000	.023						
-4	1/4	.250	.142	.156	.118	.180	.095	.156	.071	.133	.048	.109	.024	.086	.000	.063	.000	.016		
-5	5/16	.313			.181	.234	.157	.219	.134	.195	.110	.172	.087	.148	.064	.125	.017	.078	.000	.031
-6	3/8	.375					.220	.281	.196	.258	.173	.234	.149	.211	.126	.188	.079	.141	.032	.094
-7	7/16	.438					.282	.313	.259	.320	.235	.297	.212	.273	.189	.250	.142	.203	.095	.156
-8	1/2	.500							.321	.383	.298	.359	.274	.336	.251	.313	.204	.266	.157	.219
-9	9/16	.563							.384	.391	.360	.422	.337	.398	.314	.375	.267	.328	.220	.281
-10	5/8	.625									.423	.469	.399	.461	.376	.438	.329	.391	.282	.344
-11	11/16	.688											.462	.523	.439	.500	.392	.453	.345	.406
-12	3/4	.750											.524	.547	.501	.563	.454	.516	.407	.469
-13	13/16	.813													.564	.625	.517	.578	.470	.531
-14	7/8	.875															.579	.641	.532	.594
-15	15/16	.938															.642	.703	.595	.656
-16	1	1.000															.704	.766	.657	.719
-17	1-1/16	1.063															.767	.781	.720	.781
-18	1-1/8	1.125																	.782	.844
-19	1-3/16	1.188																	.845	.906
-20	1-1/4	1.250																	.907	.938