 AEROSPATIALE NORMALISATION GENERALE	NORME D'ETUDES	ASNA0080 Issue : M Date : 02.04.99
	RIVETS, BLIND WITH SHANK LOCKING FLATTENED ROUND HEAD	

Page 1/8

Caution. This product is protected by an industrial patent which is not owned by AEROSPATIALE. It shall not be manufactured by a third party without the written permission of the owner of the patent.

1 FIELD OF APPLICATION

This ASN defines the main characteristics of blind rivets with mechanical shank locking, which can be attached by single action.

They are of two types:


- | | |
|----------------|--|
| Type I | Without abutment washer. |
| Type II | With abutment washer, thus enabling the rivet to be installed using a gun, without an installation tool end being necessary. |

2 NORMATIVE REFERENCES

AMS 5731	Steel bars, forgings, tubing and rings, corrosion heat resistant, 15 Cr-25.5 Ni-2.1 Ti-0.006B-0.30V- consumable electrode melted, 1800°F (982°C). Solution heat treated.
AMS 5732	Steel bars, wire, forgings, tubing, and rings corrosion and heat resistant, 15 Cr-25.5 Ni-1.2 Mo-2.1 Ti-0.006B-0.30V consumable electrode melted, 1800°F (982°C) solution and precipitation heat treated.
AMS 5734	Steel bars, forgings and tubing, corrosion and heat resistant. 15 Cr-25.5 Ni-1.2 Mo-2.1 Ti-0.006B-0.30V consumable electrode melted, 1650°F (899°C) solution heat treated.
AMS 5737	Steel bars, wire, forgings and tubing, corrosion and heat resistant 15 Cr-25.5 Ni-1.2 Mo-2.1 Ti-0.006B-0.30V consumable electrode melted, 1650°F (899°C) solution heat treated.
ASTM-A-967	Standard specification for chemical passivation treatments for stainless steel parts.
MIL-C-83488	Coating aluminium, ion vapor deposited.
QQ-P-416	Plating, cadmium (electrodeposited).
QQ-A-225/4	Aluminium alloy 2014, bar, rod, wire and special shapes; rolled, drawn or cold finished.
QQ-A-430	Aluminium alloy rod and wire; for rivets and cold heading.
NAS 1722	Rivet, blind, self-plugging, mechanically locked spindle.
IGC 04-62-121	Checks for riveting.
IGC 04-81-104	Monograms of fastener manufacturers.

These documents shall be consulted at the latest issue in effect

Keywords: Blind rivet (TC) - Round headed rivet - Rivet.

Original French text drawn up by Louis-Bleriot Corporate Research Center and approved by Direction de la Qualité	Translated and certified by Département Information - Documentation on the 21.06.99 		ASNA0080
--	---	--	-----------------

This document is a translation and is certified as being accurate and faithful to the original French text.
 This document is the property of AEROSPATIALE, no part of it shall be reproduced or transmitted without the express prior written authorization of AEROSPATIALE and its contents shall not be disclosed
 © - AEROSPATIALE- 1999 -

3 REQUIRED CHARACTERISTICS

3.1 Configuration - Dimensions - Type I

These rivets are composed of two parts:

- ① a body
- ② a grooved end shank

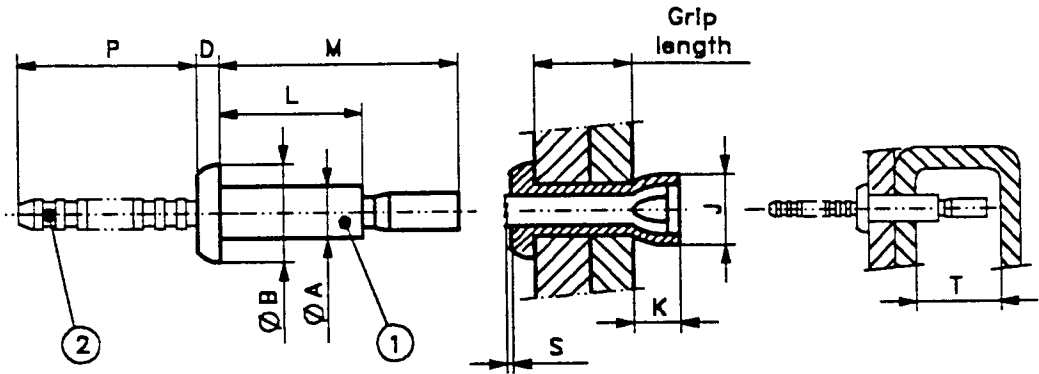


FIGURE 1

TABLE 1 - DIMENSIONS

Nominal Ø A		A				B		D		P		J		K	
		in		mm		Max.		Nominal		Max.		Ref.		Max.	
in	mm	min.	max.	min.	max.	in	mm	in	mm	in	mm	in	mm	in	mm
1/8	3,2	.124	.129	3,15	3,27	.255	6,47	.059	1,50	1.150	29,21	.150	3,80	.08	2,10
5/32	4	.155	.160	3,94	4,06	.317	8,05	.072	1,83	1.250	31,75	.190	4,80	.09	2,30
3/16	4,8	.187	.192	4,75	4,88	.380	9,65	.085	2,16	1.250	31,75	.230	5,80	.12	3,12

Nominal Ø A		Rivet codes A and B		Rivet codes C, D and E	
		S		S	
in	mm	in	mm	in	mm
1/8	3,2	+ .005 - .015	+ 0,13 - 0,38	+ .005 - .015	+ 0,13 - 0,38
5/32	4	+ .005 - .020	+ 0,13 - 0,51	+ .005 - .020	+ 0,13 - 0,51
3/16	4,8	+ .005 - .030	+ 0,13 - 0,76	+ .005 - .030	+ 0,13 - 0,76

3.2 Configuration - Dimensions - Type II

These rivets are composed of four parts:

- ① a body
- ② a grooved end shank
- ③ an abutment washer to be removed during assembly using a grooved shank
- ④ a locking ring (depending on the manufacturer)

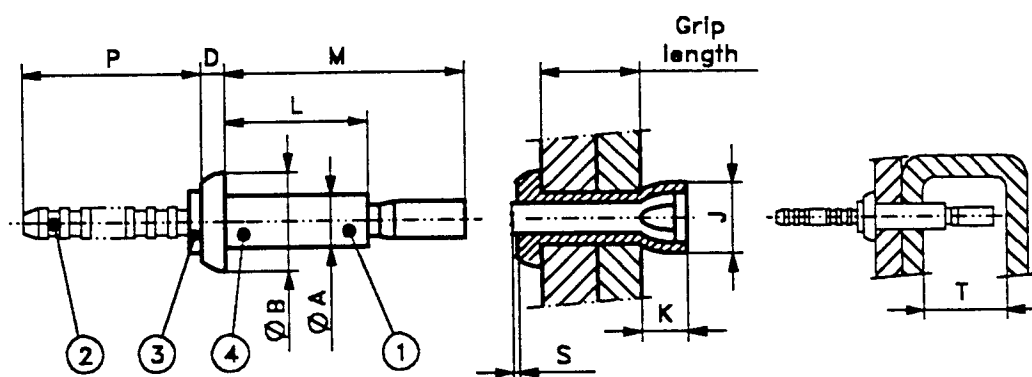


FIGURE 2

TABLE 2 - DIMENSIONS

Nominal Ø A		A				B		D		P		J		K	
		in		mm		Max.		Nominal		Max.		Ref.		Max.	
in	mm	min.	max.	min.	max.	in	mm	in	mm	in	mm	in	mm	in	mm
1/8	3,2	.124	.129	3,15	3,27	.255	6,47	.059	1,50	1.150	29,21	.150	3,80	.08	2,10
5/32	4	.155	.160	3,94	4,06	.317	8,05	.072	1,83	1.250	31,75	.190	4,80	.09	2,30
3/16	4,8	.187	.192	4,75	4,88	.380	9,65	.085	2,16	1.250	31,75	.230	5,80	.12	3,12

Nominal Ø A		Rivet codes A and B		Rivet codes C, D and E	
		S		S	
in	mm	in	mm	in	mm
1/8	3,2	+ .005 - .015	+ 0,13 - 0,38	+ .005 - .015	+ 0,13 - 0,38
5/32	4	+ .005 - .020	+ 0,13 - 0,51	+ .005 - .020	+ 0,13 - 0,51
3/16	4,8	+ .005 - .030	+ 0,13 - 0,76	+ .005 - .030	+ 0,13 - 0,76

3.3 Grip length

TABLE 3

Ø Nomi- nal A	Grip code				Ø code and grip length	Grip length code	Rivet codes A and B								Rivet codes C, D and E							
	min.		Max.				L Max.		M Max.		T min.		Mass kg	L Max.		M Max.		T min.		Mass * kg		
	in	mm	in	mm			in	mm	in	mm	in	mm		in	mm	in	mm	in	mm			
3,2	.020	0,51	.070	1,90	-405	1	.186	4,72	.350	8,90	.190	4,90	0,13	.200	5,08	.320	8,13	.190	4,90	0,47		
	.047	1,19	.141	3,58	-407	2	.240	6,32	.450	11,50	.230	5,90	0,16	.263	6,68	.420	10,67	.230	5,90	0,57		
	.109	2,77	.203	5,16	-409	3	.311	7,90	.580	14,80	.290	7,40	0,19	.325	8,25	.550	13,97	.290	7,40	0,66		
3,2	.172	4,37	.266	6,76	-411	4	.374	9,50	.680	17,60	.340	8,70	0,22	.388	9,85	.660	16,76	.340	8,70	0,75		
	.234	5,94	.328	8,33	-413	5	.436	11,07	.800	20,40	.380	10,00	0,25	.450	11,43	.770	19,56	.390	10,00	0,85		
	.297	7,54	.391	9,93	-415	6	.468	12,67	.910	23,20	.440	11,20	0,29	.513	13,03	.880	22,35	.440	11,20	0,94		
4	.020	0,51	.078	1,98	-506	1	.219	5,56	.380	9,20	.180	4,60	0,27	-	-	-	-	-	-	-		
	.047	1,19	.141	3,56	-508	2	.280	7,11	.510	13,00	.260	6,60	0,32	.280	7,11	.460	11,68	.260	6,60	1,01		
	.109	2,77	.203	5,16	-510	3	.342	8,80	.600	15,30	.300	7,60	0,37	.342	8,00	.560	14,22	.300	7,80	1,14		
4	.172	4,37	.266	6,76	-512	4	.405	10,29	.710	18,10	.350	8,90	0,42	.406	10,29	.670	17,02	.350	8,90	1,27		
	.234	5,94	.328	8,33	-514	5	.467	11,86	.820	20,90	.390	10,00	0,47	.467	11,86	.780	19,81	.390	10,00	1,40		
4	.297	7,54	.381	9,93	-516	6	.530	13,46	.940	23,90	.440	11,20	0,52	.530	13,46	.900	22,86	.440	11,20	1,53		
	.359	9,12	.453	11,51	-518	7	.582	15,04	1.090	27,70	.540	13,80	0,57	-	-	-	-	-	-	-		
	.422	10,72	.516	13,11	-520	8	.655	16,64	1.190	30,30	.570	14,50	0,62	-	-	-	-	-	-	-		
4,8	.020	0,51	.078	1,96	-607	1	.249	6,32	.430	11,00	.220	5,60	0,49	-	-	-	-	-	-	-		
	.047	1,19	.141	3,58	-609	2	.311	7,90	.540	13,80	.280	7,20	0,55	.311	7,90	.500	12,70	.270	6,86	1,58		
	.109	2,77	.203	5,16	-611	3	.374	9,50	.660	16,80	.330	8,40	0,62	.374	9,50	.610	15,49	.330	8,40	1,80		
4,8	.172	4,37	.266	6,76	-613	4	.436	11,07	.780	19,70	.390	9,90	0,69	.436	11,07	.730	18,54	.380	9,65	2,03		
	.234	5,94	.328	8,33	-615	5	.499	12,67	.900	22,90	.440	11,20	0,76	.499	12,67	.850	21,59	.440	11,20	2,25		
4,8	.297	7,54	.391	9,93	-617	6	.561	14,25	1.010	25,70	.500	12,70	0,83	.561	14,25	.970	24,64	.490	12,45	2,48		
	.359	9,12	.453	11,51	-619	7	.623	15,82	1.120	28,50	.540	13,80	0,89	.623	15,82	1.080	27,43	.550	13,97	2,70		
	.422	10,72	.516	13,11	-621	8	.685	17,40	1.270	32,10	.620	15,80	0,86	.691	17,55	1.20	30,48	.610	15,49	2,92		

* The mass is given for 1000 rivets laid.

TABLE 4

Code	Rivet	Element	Material	Surface treatment
A	NOT USED FOR METALLISATION	BODY	Aluminium alloy 2014-T4 QQ-A-225/4	Anodic oxidation
		SHANK	Aluminium alloy 7075-T6 QQ-A-430	Yellow anodic oxidation
		RING	Aluminium alloy 5056 QQ-A-430	None
B	USED FOR METALLISATION	BODY	Aluminium alloy 2014-T4 QQ-A-225/4	None
		SHANK	Aluminium alloy 7075-T6 QQ-A-430	Yellow anodic oxidation
		RING	Aluminium alloy 5056 QQ-A-430	None
C		BODY	A 286 AMS 5731-5732-5734-5737	Cadmium-plating QQ-P-416 Type II CL 2
		SHANK	A 286 AMS 5731	Passivation as per ASTM-A-967
D		BODY	A 286 AMS 5731-5732-5734-5737	Passivation as per ASTM-A-967
		SHANK	A 286 AMS 5731	Passivation as per ASTM-A-967
E		BODY	A 286 AMS 5731-5732-5734-5737	I.V.D. MIL-C-83488 Type II CL 2
		SHANK	A 286 AMS 5731	None

NOTE: These rivets are delivered pre-lubricated and should not be degreased.

3.5 Tensile and shear strength

TABLE 5

Rivet code	Ø Nominal	3,2		4		4,8	
A and B	Single shear strength (N) min.	2002 ¹⁾	2224 ²⁾	3114 ¹⁾	3336 ²⁾	4226 ¹⁾	4448 ²⁾
	Tensile test (N)	1245		2224		3114	
C - D - E	Single shear strength (N) min.	4448		6672		9786	
	Tensile test (N)	2847		4893		6672	

1) Single shear values taken for steel test piece.
2) Single shear values taken for aluminium alloy test piece.

4 DESIGNATION

The item shall be designated as follows:

4.1 New designation

Description block ¹⁾	Identifier block ²⁾
BLIND RIVET	ASNA0080 -415 A (LC) ★
Standard reference _____	_____
Diameter / grip length code (see § 3.3) _____	_____
Rivet code (see § 3.4) _____	_____

NOTE - Where necessary, the company code F5442³⁾ should be specified between the description block and the identifier block.

★NOTE: The use of the letters (LC) is reserved for the procurement departments for orders of Type II rivets.

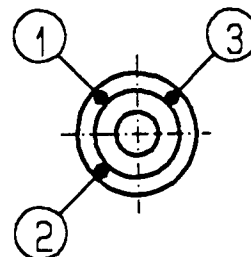
4.2 Old designation (not valid for new design studies)

Description block	Identifier block
BLIND RIVET	ASNA-0080 -415 A
Standard reference _____	_____
Diameter / grip length code (see § 3.3) _____	_____
Rivet code (see § 3.4) _____	_____

5 MARKING

The marking on the rivet head includes the following:

- item no. 1 - Manufacturer's initials: see IGC 04.81.104,
- item no. 2 - Grip length identification number (see paragraph 3.3),
- item no. 3 - The letter C designates stainless steel only.



6 TECHNICAL SPECIFICATIONS

NAS 1722.

7 MANUFACTURER

Refer to the list of qualified manufacturers and products.

1) Optional use.

2) The identifier block shall be written without spaces. Those in the example are only intended to facilitate reading.

3) Company code assigned to AEROSPATIALE Normalisation Générale. F5442 is the designer's code for the present standard.

RECORD OF REVISIONS

Issue ¹⁾	Paragraph modified	Description of modification	Reason
A 05-80		New standard	
B 10-81	-	Cancelled: supersedes NSA 542.12 for new design studies	Helicopter Division request
C 12-83	1	Shank fracture dimension $\pm 0,25$ instead of 0 to 0,25	Defined with the manufacturer
D 06-84	5.2	Dimensions L - M and T modified	Defined with the manufacturer
E 11-85	4	Single shear strength value modified	Defined with the manufacturer
	1	Shank fracture dimension modified	
	5	Dimension S added to table (shank fracture)	
	5.2	Dimensions M and T modified	
F 05-86		Typeset	
G 03-88	3 Finish modified for rivet dimension A	Stainless steel material added	TO request
	4	Old designation replaced by new designation for new design studies	
H 09-88	4.4	Codes specific to surface treatment deleted Codes D and E added Codes A-B-C-D-E define materials + surface treatments Standard revised	CN/DIR 1 AECMA rules applied
J 09-89	4.2	Dimension B min. changed to B max.	
K 03-93	4.3	Standard revised Type II rivet added Shank modified: grooved configuration New heading added for rivet code C-D-E for grip length code .621.	Brought into accordance with manufacturer's documents. Second procurement source for type II added DA request
1) The issue I has not been used			

RECORD OF REVISIONS

Issue	Paragraph modified	Description of modification	Reason
L 09-97	2 Tables 1 and 2 Table 4 Table 5	Standard QQ-A-225/4 added Technical specifications L 601 S, L 699 S and PS-IMR-4000 superseded by NAS 1722. Dimension J nominal becomes J ref. Dimension S for rivets Ø 4 and 4.8 modified. Normative reference for the material for the body of rivets codes A and B modified, QQ-A-430 replaced by QQ-A-225/4 Single shear strength values for steel test pieces added for rivet codes A and B.	Aircraft Business request in accordance with note ref. 564 0707 dated 03/97
M	2 Table 4 4	Reference QQ-P-35 replaced by ASTM-A-967 Designation: reference to modified paragraphs	EUROCOPTER FRANCE request No. 67 dated 11/98