

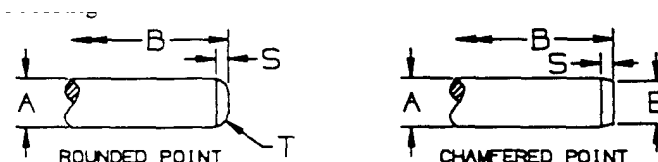
NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)	NUMBER: MPAPS S-G-21.101-GS/PL	
	Former Designation: ESP-G-21.101-GS	
TITLE: Aluminum Rivets – English Series (Noun Code 7220)	CURRENT REV No.: 1506	DATE: June 2015
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: ESP-G-21.101-GS - September 2000
PRINTED COPIES OF THIS DOCUMENT MUST BE VERIFIED FOR CURRENT REVISION		
<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		
Change Notice: Changed to New MPAPS format; Combined GS, PP.		

- 1.0 GENERAL:** The aluminum rivets covered by this standard conform with the aircraft tolerance classification as recognized by the rivet producers.
- 2.0 RESTRICTED CHEMICAL SUBSTANCES:** Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.
- 3.0 HEADS:** The out-of-roundness of head and eccentricity of head in relation to the shank of rivets will not exceed the maximum full indicator reading limits specified in the dimensional tables for the various head styles.
- Tolerance on dimensions not otherwise controlled will be plus and minus .010 inch.
- 4.0 LENGTH:** The length of rivet is measured parallel to the axis of the rivet from the largest diameter of the bearing surface to the extreme point. The tolerance on length will be as shown in the illustrations for the various head styles.
- 5.0 MATERIALS:** Rivets will be of the following materials in the temper conditions designated as covered in MPAPS C-10:
- Normally stocked and readily available -- AA 1100-F and AA 2117-T4
Not normally stocked, but listed in catalogs -- AA 2017-T4, AA 2024-T4, AA 6053-T61, and AA 5056-H32.
Special material -- AA 2017-0 and AA 6053-W
- 6.0 FINISH:** Plain (PLN).
- 7.0 POINTS:** Aluminum rivets are normally furnished with square sheared ends; however, for specific applications and under separate part number, some sizes may be obtained with die formed points. Rounded points only are furnished on rivets of lengths equal to or less than the maximum length values shown in Table 1, under Rounded Point. Chamfered points only are furnished on lengths greater than the maximum length values shown in Table 1, under Rounded Point. Pointing of rivets having lengths longer than the maximum values shown in Table 1, under Chamfered Point will require special processing.

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Dimensions in inches: TABLE 1 - DIMENSIONS OF STANDARD POINTS

A	ROUNDED POINT				CHAMFERED POINT		
	S	T	Rivet Length		E	S	Rivet Length
Nominal Size	Point Length Approx	Point Radius Approx	Countersunk Heads* Max	All Other Heads** Max	Point Diameter Approx	Point Length Approx	All Heads Max
1/16	.016	.019	3/8	1/2	.054	.016	1
3/32	.023	.029	9/16	3/4	.081	.024	1-1/2
1/8	.031	.039	3/4	1	.108	.031	2
5/32	.039	.049	15/16	1- 1/4	.134	.039	2-1/2
3/16	.047	.059	1-1/8	1-1/2	.161	.047	3
1/4	.062	.078	1-1/2	2	.215	.0	4
						62	
5/16	.078	.098	1-1/2	2	.269	.078	5
3/8	.094	.117	1-1/2	2	.322	.094	5

* 100° Countersunk and 78° Countersunk head styles.

** Universal, Mushroom, Round and Flat head styles.

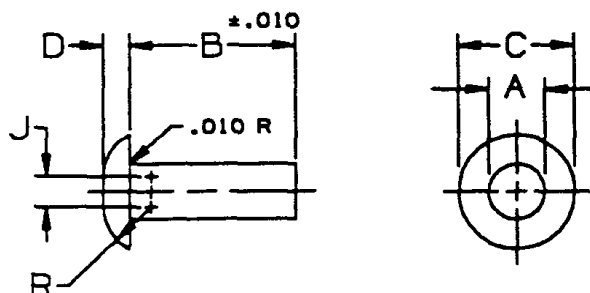
8.0 POLICY FOR SELECTING PARTS FOR NEW DESIGN: Approved parts are so designated to reduce variety of parts and assure maximum availability, interchangeability, and cost savings in volume buying.

For new design, parts shall be selected from "Approved" part list only.

Nominal Sizes: All sizes except 7/32, 9/32, and 7/16
Material: 1100-F and 2117-T4
Head Styles: Universal and 100° Countersunk
Finish: Plain (PLN)

9.0 WORKMANSHIP: Aluminum rivets must be free from burrs, sharp edges and all other defects which might affect their serviceability.

10.0 UNIVERSAL HEAD ALUMINIUM RIVETS:



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