

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS S-J-77.101-GS/PL
		Former Designation: ESP-J-77.101-GS
TITLE: Headed Pins – English Series (Noun Code 6200)	CURRENT REV No.: 1506	DATE: June 2015
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: ESP-J-77.101-GS - August 2006
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, NPP.		

1.0 GENERAL: Headed pins covered in this standard are cold headed, hot headed, or quenched and tempered and should not be confused with Clevis Pins in MPAPS S-J-7.101-GS/PL.

2.0 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.

Material and Finish:	Types 1 or 5, Drilled, Zinc Trivalent (ZN6A)
Diameters:	1/4, 5/16, 3/8, 1/2, 5/8, 3/4 and 1 inch
Lengths:	1/4 inch increments

3.0 SERVICE PARTS SUBSTITUTION POLICY: In the event that engineering does not indicate a "Do not substitute" in engineering specifications, the following substitutions may be implemented in service. This policy is the result of a proposal circulated April 20, 1981, and subsequently approved by engineering departments worldwide.

Headed Pins	
To be Replaced	Service Replacement
Type 1, Plain (PLN)	Type 5, Zinc Trivalent (ZN6A) or Type 1, Zinc Trivalent (ZN6A) (if type 5 equivalent is not set up for service).
Type 1, Zinc Trivalent (ZN6A)	Type 5 Zinc Trivalent (ZN6A)

4.0 HEADING REQUIREMENTS: All sizes up to and including 5/8 inch in diameter or lengths less than 6 inches will be cold headed. All other sizes of pins will be either cold or hot headed.

5.0 MATERIAL: As designated by part number, unheat treated, and heat treated pins will conform to the chemical composition, hardness, and heat treatment requirements for bolts per MPAPS F-31, Part 1, as specified below:

Unheat Treated Pins - Type 1
Heat Treated Pins - Type 5

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6.0 FINISHES: As designated by part number, pins will be furnished plain or plated in accordance with the MPAPS and class listed below:

Plain (PLN)

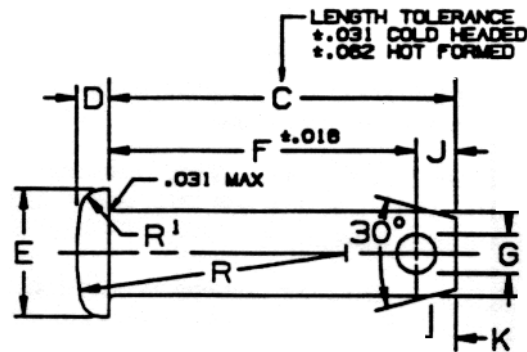
Zinc Trivalent (ZN6A) – MPAPS G-20, Class 6A

7.0 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.

8.0 HOLES: Holes drilled in the body of the pin must follow specifications listed and the head to hole minimum as designated by part number.

The word "NONE" in the Head to Hole column indicates not drilled.

9.0 WORKMANSHIP: Headed pins will not contain imperfections which affect usability or serviceability such as excessive amounts of burrs, seams, laps, loose scale, or irregular surfaces.



Dimensions in inches:

Dimensions in inches.

Nominal Diameter	BODY DIAMETER				E	D	R and R¹		PIN HOLE		Cotter Size and Part Number	K
	Cold Headed Up to 6" Long Incl		Hot Formed Over 6" Long		Dia of Head ± .015	Height of Head ±.015	Radius of Head		G Drill Size +.016 -.000	J Ref		30° Die Point Length
	A		A									
	Max	Min	Max	Min			R	R¹				
1/4	.250	.244	.250	.240	.375	.093	.790	.077	#28 or .141	.141	1/8 x 3/4 103384	.06
5/16	.312	.305	.312	.302	.469	.117	.987	.089				
3/8	.375	.367	.375	.363	.562	.140	1.185	.101				
* 7/16	.437	.428	.437	.425	.656	.164	1.382	.113	# 7 or .203	.203	3/16 x 1 103407	.125
1/2	.500	.490	.500	.486	.750	.187	1.580	.125				
* 9/16	.562	.552	.562	.548	.844	.210	1.777	.136				
5/8	.625	.615	.625	.611	.938	.234	1.975	.148	.266	.266	1/4 x 1-1/4 103419	.156
* 11/16			.687	.671	1.031	.258	2.172	.160				
3/4			.750	.734	1.125	.281	2.370	.172				
* 7/8			.875	.859	1.312	.328	2.765	.195				
1			1.000	.982	1.500	.375	3.160	.219	.328	.328	5/16 x 1-3/4	.250
1- 1/4			1.250	1.232	1.875	.469	3.950	.265				

* NON-PREFERRED

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