

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

1.0 GENERAL: Implementation of this standard must be in accordance with the policies and procedures outlined in MPAPS S-A-0.101. There may also be supplemental group instructions in regard to use of metric standards that should be taken into account.

There are no national or international standards on this product. The specifications are based upon West Pullman manufacture and user requirements.

Inch dimensioned pins may be found on MPAPS S-J-77.101-GS/PL.

2.0 DESIGN CONSIDERATION: Headed pins are an inexpensive and effective approach where loading is primarily in shear. When used in shear, the shear plane of the pin should be kept a minimum distance of one diameter from the end of the pin.

In most shear applications, it is desirable that the pin fails before the shafts or couplings with which they are being used.

Headed pins may also be used to position and lock parts in alignment, serve as a hinge or can be used as a locating surface.

When drilled, headed pins are locked in place with split (cotter) pins.

3.0 METRIC-INCH RELATED SIZES: During the inch to metric design transition period, the following chart of related sizes can be used for reference. This information is not to be considered as a recommendation for substitutions but only as a means of determining approximate dimensional equivalents.

Metric Series mm	Approximate Inch Series
6	1/4
8	5/16
10	3/8, 7/16
12	1/2
16	9/16, 5/8
20	3/4
24	1

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4.0 COLOR CODING: Not recommended, except in cases where adequate insurance is needed to prevent mixing of "metric parts" with look-alike "inch parts." The color blue is standard identifier used in some industries. This must be handled internally at individual plants where needed and is meant to be supplemental to the normal finish and easily deleted when the need for supplemental identification no longer exists. The supplemental blue color should not be used on finishes such as chromium bright which are specified for cosmetic purposes, or phosphate coating which may cause a loss of color identity.

5.0 METHOD OF DESIGNATION: Headed pins will be designated by size, length, word description, material, finish, special feature, if any, and part number as follows:

6 x 20 mm, Headed Pin, Class 8.8, ZN6A, DRLD, Part Number

6.0 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: Steel
Finish:

Class 5.8	Class 8.8
Plain (PLN) Zinc Trivalent (ZN6A)	Zinc Trivalent (ZN6A)

Nominal Sizes
and Length
Incrementation:

Dimensions in millimeters:

Nominal Lengths	Nominal Sizes						
	6	8	10	12	16	20	24
12	X						
16	X	X					
20	X	X	X				
25	X	X	X	X			
30	X	X	X	X			
35	X	X	X	X	X		
40	X	X	X	X	X	X	
45	X	X	X	X	X	X	
50	X	X	X	X	X	X	X
55	X	X	X	X	X	X	X
60	X	X	X	X	X	X	X
65		X	X	X	X	X	X
70		X	X	X	X	X	X
80		X	X	X	X	X	X
90			X	X	X	X	X
100			X	X	X	X	X
120				X	X	X	X
140					X	X	X
160						X	X
190							X
200							X

20 mm Increments Over 200

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