NAVISTAR, INC.			
Material, Parts, and Process Specifications (MPAPS)		*NUMBER:* **MPAPS S-EM-42.101-GS/PL**	
		Former Designation: **ESP-EM-42.101-GS**	
TITLE: **Tapping Bosses - Metric Series**		*CURRENT REV No.:* **1506**	*DATE:* **June 2015**
WRITTEN/EDITED BY: **Materials Engineering**	*APPROVED BY:* **Materials Engineering**	*SUPERSEDES:* **ESP-EM-42.101-GS - September 2000**	

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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.

Change Notice: **Changed to New MPAPS format; Combined GS, GI, PP.**

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 is no National or International standard on this product. The specifications are based upon local manufacture and user requirements.

This standard consists of weldable round and rectangular parts containing a single through tapped hole. The following design parameters must be adhered to:

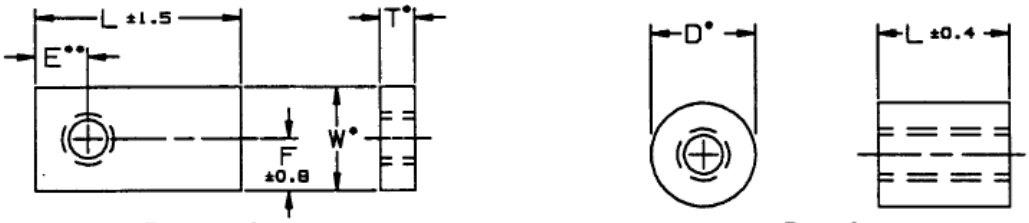
Rectangular Parts:	F dimensions must be on center line. Length (L) must not exceed five times width (W).
Round Parts:	Length (L) must not exceed 2 times outside diameter (D).
Threads:	Coarse only.
Nominal Thread Sizes:	M6, M8, M10, M12, M16, M20, and M24
Length:	5 mm increments thru 90 mm 10 mm increments over 90 mm thru 200 mm 20 mm increments over 200 mm
Width (W) (Rectangular):	12, 16, 20, 25, 30, 35, 40, 50, and 60 mm (Preferred width per ANSI B32.3)
Thickness (T) (Rectangular):	8, 10, 12, 16, 20, 25, 30, 35, and 40 mm (Preferred thickness per ANSI B32.3)
Diameter (D) (Round):	12, 20, 25, 30, 40, 45, 50, and 60 mm (Selected preferred diameters per ANSI B32.4)
Center of Drilled Hole (E):	1 mm increments only.

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Dimensions in millimeters:



Rectangular
(Noun Codes – 0500 or 5780)

Round
(Noun Code – 9560)

* Commercial Mill Tolerance per country of origin.
** Drilled Hole to be located a distance of nominal L minus E.

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 DESIGN CONSIDERATION: Coarse thread series only will be considered as part of this standard, because of the following advantages:

Less tendency to cross thread.
Less likely to be seriously affected by decarburization and oversize minor diameter of internal threads.

4.0 METRIC-INCH RELATED SIZES: During the inch to metric design transition period, the following chart of related tapping boss 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	7/8, 1

5.0 THREADS: The ISO basic profile is essentially the same geometric configuration as the unified screw thread basic form. The threads will be coarse series, tolerance class 6H.

6.0 THREAD TOLERANCES: The ISO medium class of fit 6H(Int)/6g(Ext) is approximately the same as the 2A(Ext)/2B(Int) allowance in the U.S. unified thread series for comparable size. For example:

Thread	Allowance
M10 x 1.5 - 6H(Int)/6g(Ext)	0.032 mm (.00126 in)
3/8-16 UNC 2A(Ext)/2B(Int)	.0013 in (0.033 mm)

7.0 COLOR CODING: Not recommended, particularly for parts which are to be welded during a subsequent assembly operation. The blue color identifier used in some industries has a tendency to adversely affect the welding operation and produce noxious fumes and odor during welding.

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