NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)	*NUMBER:* **MPAPS S-BM-4.101-GS/PL**	
	Former Designation: **ESP-BM-4.101-GS**	
TITLE: **Prevailing-Torque Hex Head Bolts – Metric Series (Noun Code 0810)**	*CURRENT REV No.:* **1506**	*DATE:* **June 2015**
WRITTEN/EDITED BY: **Materials Engineering**	*APPROVED BY:* **Materials Engineering**	*SUPERSEDES:* **ESP-BM-4.101-GS - February 2013**

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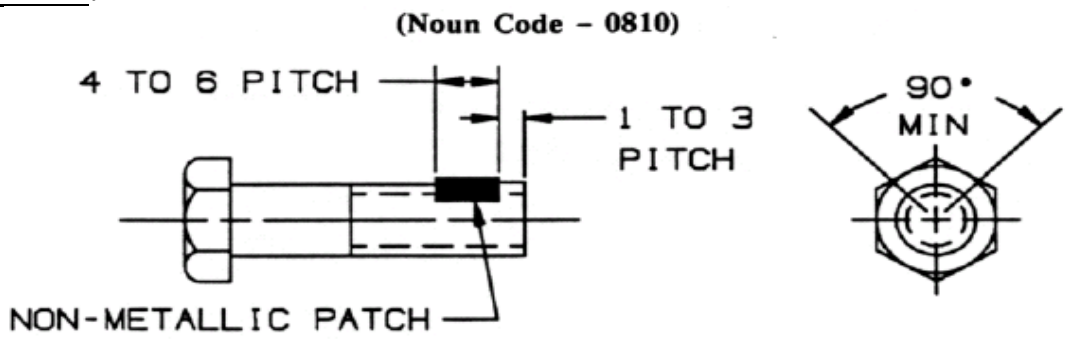
This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.

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

1.0 GENERAL:



A prevailing-torque bolt is one which is torsionally resistant to rotation due to a self-contained prevailing-torque feature and not because of a compressive load developed against the under head bearing surface, a tensile load developed in the shank, or frictional devices designed into the underside of the head. These latter types normally are considered "free running" locking bolts and have high breakaway torque requirements but no prevailing-torque. A prevailing-torque bolt intends to delay or prevent total disassembly of joint when clamp force is decreased or ceases to exist.

The threaded fasteners covered by this standard are prevailing-torque hexagon head bolts with a non-metallic plastic patch bonded to a specified portion of the threads to provide the prevailing-torque feature. These bolts are for applications where temperatures will not exceed 121 ° C.

General Information for metric hex head bolts shown in MPAPS S-BM-1.101-GS/PL will also apply for these Prevailing-Torque Hex Head Bolts.

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

Material:	Class 10.9
Finish:	Phosphate Coating (PHC)
Nominal Sizes:	M6, M8, M10, M12, M16, M20, M24, M30, and M36
Length Incrementation:	Same as Metric Hex Head Bolts

4.0 BASIC BOLT: The bolt must comply in all respects with the General Specifications for Metric Hex Head Bolts, MPAPS S-BM-1.101-GS/PL.

5.0 SURFACE DISCONTINUITIES: Per MPAPS F-31. The use of serrated thread rolling dies is optional for the parts contained in and referenced to this standard.

6.0 METHOD OF DESIGNATION: Prevailing-Torque Hex Head Bolts will be designated on purchase order by size, length, word description, material, special feature, if any, finish, and part number as shown in the following example:

M 10 x 50, Hex Head Bolt, Class 10.9, Prevailing-Torque, PHC, Part Number

7.0 PREVAILING-TORQUE FEATURE: The location and size of the non-metallic plastic patch must comply with the illustration shown above. Bolts will assemble a minimum of one full turn by hand into any mating internally threaded component that is accepted by a properly selected GO thread plug gage.

The prevailing-torque feature will be free from visible porosity, voids, and cracks, and will be uniform in color without streaks, dark areas or other indicators of contamination or degradation. It will be firmly attached to the bolt and will not loosen under normal handling. It will be chemically inert to Regular Gear Lubricant Grade 90 HR, CEMS B-22; Heavy Duty Type Engine Oil Grade lOW-30HD, MPAPS B-21, Part II; Anti-freeze, Single Phase, Ethylene Glycol Base, MPAPS B-1; and "Hy-Tran Fluid," CEMS B-6.

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