

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS F-9546
		Former Designation: TMS-9546
TITLE: Quality Requirements For Two-Piece Wheel Nuts		CURRENT REV No.: 1406
		DATE: JUNE 2014
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: TMS-9546 – June 2007
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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; editorial changes		

1.0 APPLICATION

This specification covers Engineering quality requirements for two-piece wheel nuts used in Navistar assembly plants to attach truck wheels to hubs.

2.0 SCOPE

This specification covers the corrosion and torque-tension testing requirements, the quality plan, quality control, source approval, and shipping and identification requirements.

2.1 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 REFERENCE DOCUMENTS

Unless otherwise specified, the latest issue of all referenced standards shall apply. The following Specifications, Standards, and Regulations are referenced in this specification.

Quality System Standard ISO 9001 or TS-16949	CFR Title 40, Part 280	ASTM B 117
NAVISTAR Engr. Design Standard A-16	CFR Title 29, Part 1910	SAE J995
CFR Title 29, Part 1910	ASME B1.1	SAE J1965
NAVISTAR Manufacturing Std MS-D-13	ASME B1.13M	
NAVISTAR MPAPS B-50		

4.0 REQUIREMENTS

Parts supplied shall meet all applicable requirements of CFR Title 40, Part 280. Testing requirements and a sampling plan consistent with those described in SAE J995 shall be used.

4.1 Corrosion Test Requirements

Corrosion testing per ASTM B 117 shall be performed at the supplier location from which finished parts are shipped to the Navistar assembly plants, or corrosion testing shall be performed on test samples taken from that location. Each test lot will consist of a minimum of five samples.

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4.1.1 Acceptance Criteria

After salt spray testing for minimum 240 hours, there shall be no more than one rust spot, provided that such spot is not larger than 1/16 inch diameter on the significant surfaces* of the nut, and no more than 2% total rust on all surfaces of the nut. All five test samples must pass the salt spray testing requirements in order to be considered acceptable.

(*Significant surfaces are those normally visible when the nut is installed in the final assembly position and includes the interior and bottom of the flange surface and excludes the hex corners, edges, lettered top, and thread form.)

4.2 Torque – Tension Test Requirements

Wheel nuts supplied shall meet all requirements of SAE J1965.

5.0 QUALITY

Production parts shipped to NAVISTAR facilities shall be delivered in a clean condition ready for assembly. Thread form shall conform to Class 2B as per ASME B1.1 or Class 6H per ASME B1.13M.

6.0 QUALIFICATION

New part suppliers shall submit a report certifying compliance to all requirements of this specification. A sample lot of no fewer than 50 pieces shall be submitted to Fastener Engineering for testing and evaluation. No parts shall be shipped for production use prior to formal approval by Fastener Engineering.

6.1 Quality Control Plan

A Quality Control Plan for this product will be established by mutual agreement between NAVISTAR and the supplier. The following items, where applicable*, will be included in the control plan as dimensional features for management by statistical process control.**



1. Corrosion Test Performance
2. Proof Load

* Other characteristics for inclusion in the control plan may be specified on the engineering drawing and/or purchase order.

** See NAVISTAR Engineering Design Standard A-16

7.0 SOURCE APPROVAL AND QUALITY CONTROL

7.1 Supplier Requirements

All suppliers to NAVISTAR Truck and Engine are required to be registered to ISO 9001 Quality System Requirements. NAVISTAR also accept TS-16949 registration as long as the supplier can also fulfill all AIAG PPAP (Production Part Approval Process) documentation and approval requirements. Suppliers must maintain their certification with an accredited registrar and must furnish copies of registration certificates to their NAVISTAR Corporate Buyer upon request.

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