

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS P-9566
		Former Designation:
Tack Welds		CURRENT REV No.: 1710
		DATE: Oct. 2017
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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>		

1.0 APPLICATION

This specification applies to small, non-AWS-standard, metal arc welds, commonly referred to as tack welds, that are specified on NAVISTAR engineering drawings, part assembly drawings, or installation drawings. The subject welds typically do not meet standard AWS requirements due to available space or the need to limit heat to avoid part distortion. These welds can be structural and non-structural, are undersized, and are all special cases.

2.0 SCOPE

This specification defines 3 types of Navistar tack weld call outs, and the quality and qualification requirements for each type.

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 29, Part 1910
 NAVISTAR Supplier Packing and Shipping Std. D-13
 NAVISTAR Engineering Design Std. A-16
 NAVISTAR MPAPS B-50
 NAVISTAR MPAPS FT-9553
 AWS D2.4

4.0 REQUIREMENTS

The location of joints to be welded shall be designated on the engineering drawing using the appropriate welding symbols (per AWS A2.4). All non-standard, metal arc welds will be identified on the print as one of the types listed below.

4.1 Weld Dimensions

The weld does not conform to AWS standards for size and/or length.

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4.2 Weld Type

4.2.1 Type I

4.2.1.1 Tack Weld: General

This is a non-structural weld with the primary purpose to hold 2 parts together during the assembly process. The weld may break during the assembly process and there are no residual quality requirements. The weld is not required to have a size or length identified. A weld size/length requirement can be added to the weld callout for purposes of limiting size to reduce heating and control distortion. The size or length does not have to conform to AWS standards. The type of weld may or may not be identified.

“TACK WELD TYPE I”

will be listed in the tail of the welding symbol.

4.2.2 Type II

4.2.2.1 Tack Weld: Nuts & bolts – Regular (plain, no finish, is preferred) and weld nuts & bolts

This is not recommended but can be used if validated by an approved test method. A welded nut design, for grade 1 nuts or studs, should use a projection weld nut and RPW process as defined in MPAPS FT-9553. For all other grades not using the RPW process, clinch nut construction is preferred.

A structural weld with the primary purpose to hold a nut or bolt in place permanently. The weld must not break. The weld will be a fillet type and the size may or may not be defined. There will be 2 or 3 welds evenly spaced around the nut or bolt. The welds will meet the assembly strength requirements and verification testing may be required as agreed upon between Navistar design engineering and the supplier.

“TACK WELD TYPE II, MIN TORQUE ___ N·m”

will be listed in the tail of the welding symbol.

4.2.2.2 Tack Weld: Fillet Lap Weld

A structural weld with the primary purpose to hold 2 parts together in a lap joint. The effective weld length must be at least 90% of the specified weld length. The weld will meet quality requirement as indicated section 5.0 below or as agreed to by Navistar design engineering and the supplier and as noted on the drawing.

“TACK WELD TYPE II”

or

“TACK WELD TYPE II, see note #___ for requirements”

will be listed in the tail of the welding symbol

4.2.3 Type III – Tack Weld: Temporary

A non-structural weld with the primary purpose to hold 2 parts together during the shipping and handling process. The weld should have no size or strength requirement. The type of weld should not be identified. The weld must be removed.

“TACK WELD TYPE III”

will be listed in the tail of the welding symbol.

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