

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-9505
TITLE: Axle Housing Weld Specification		REVISION: B-1
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	DATE ISSUED: August 2001
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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>		
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1.0 APPLICATION

This specification covers the welding of truck axle housings made from plain carbon steel. Steels to be welded shall be killed and shall have the following composition limits: Carbon - 0.40% max, Phosphorus - 0.04% max, and Sulfur - 0.05% max. This welding specification provides a commercial quality weld for truck applications subject to low-to-moderate stress in service. The specification covers a single quality level, which determines the frequency of inspection.

2.0 SCOPE

This weld specification covers requirements for size, quality, etc., of fillet welds, flash-butt welds, and groove welds used in assembling axle housings.

2.1 The location or joints to be welded shall be designated on the engineering drawing using the appropriate symbols and notes to indicate type, size, length and location as required.

3.0 REFERENCE DOCUMENTS

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

Quality System Standard QS-9000 (ISO 9001)	MIL-Std 105
INTERNATIONAL IQR Quality Standard	AWS A2.0
INTERNATIONAL Manufacturing Standard D-13	CFR Title 29, Part 1910
	AWS A3.0

3.1 Definitions

The welding terms used in this specification shall be interpreted in accordance with the definitions given in AWS Definitions - Welding and Cutting AWS A3.0. Welding symbols shall be those used in AWS Standard Welding Symbols AWS A2.0. Special conditions shall be fully explained by added notes or details on the engineering drawing.

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TABLE 1 – INSPECTION FREQUENCY

Based On Mil-Std 105

A.Q.L.	1%
Lot or Batch Size*	91-150
Inspection Level	II
Normal Inspection**	
Sample Size	12
Accept-Reject	0-1
Tightened Inspection	
Sample Size	20
Accept-Reject	0-1
Reduced Inspection	
Sample Size	8
Accept-Reject	0-1

* Inspection procedures for other lot sizes shall be determined from the applicable A.Q.L. in Mil-Std 105.

** The following process shall be used to switch from one type of inspection to another:

Normal to Tightened

Two of five consecutive lots rejected.

Tightened to Normal

Five consecutive lots accepted.

Normal to Reduced

Preceding ten lots accepted.

Reduced to Normal

Rejection of a lot.

Production becomes irregular or delayed.

Deviations from the as-specified inspection or quality control procedures can be made with the written consent of International after reviewing the detailed procedure.

4.0 REQUIREMENTS

4.1 Weld Length - Fillet Welds

Weld length shall be shown on the engineering drawing. Weld length tolerances are shown in Table 2.

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