



AEROSPACE MATERIAL SPECIFICATION	AMS-STD-2154™	REV. E
	Issued 1998-03 Reaffirmed 2005-09 Revised 2021-07 Superseding AMS-STD-2154D	
Inspection, Ultrasonic, Wrought Metals, Process for		

RATIONALE

AMS-STD-2154D revises standard test block inspection (5.1.2.1), reference standards (5.3), distance-amplitude correction (5.4.10), evaluation of discontinuities (5.4.16), and Table 2, Note 4.

AMS-STD-2154E includes revision to transducer size (5.2.4), adds (5.4.15.1) exceptions to the transfer technique, allows a type 1 option (5.1.1.2), deletes noise note in Table 6, and adds notes of explanation for Figure 12. Because this revision clarifies changes from revision D, changes for both revisions are maintained.

NOTICE

The initial SAE publication of this document was taken directly from U.S. Military Standard MIL-STD-2154. This SAE Standard may retain the same part numbers established by the original military document.

Any requirements associated with Qualified Products Lists (QPLs) may continue to be mandatory for DoD contracts. Requirements relating to QPLs have not been adopted by the SAE for this standard and are not part of this SAE document.

FOREWORD

This document supersedes MIL-I-8950B and MIL-STD-2154, Inspection, Ultrasonic, Wrought Metals, Process. The purpose of AMS-STD-2154 is to standardize the process for applying ultrasonic inspection in the evaluation of wrought metals and wrought metal products.

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TABLE OF CONTENTS

1.	SCOPE	4
1.1	Purpose	4
1.2	Application	4
1.2.1	Wrought Aluminum Alloy Products	4
1.3	Classification	4
1.3.1	Type	4
1.3.2	Class	4
2.	APPLICABLE DOCUMENTS	4
2.1	SAE Publications	4
2.2	ASTM Publications	5
2.3	AIA Publications	5
3.	DEFINITIONS	5
3.1	A-Scan Presentation	5
3.2	Angle Beam Examination	5
3.3	Attenuation	5
3.4	Back Surface Resolution	6
3.5	C-Scan Presentation	6
3.6	Decibel (dB)	6
3.7	Distance-Amplitude Correction (DAC) (Swept Gain, Time Corrected Gain, and Time Variable Gain, etc.)	6
3.8	Entry Surface Resolution	6
3.9	Far Field	6
3.10	Horizontal Linearity Range	6
3.11	Horizontal Limit	6
3.12	Linear Array Probes	6
3.13	Lower Linearity Limit	7
3.14	Near Field	7
3.15	Noise	7
3.16	Primary Reference Response	7
3.17	Signal to Noise Ratio	7
3.18	Straight Beam Examination	7
3.19	Transducer Element	7
3.20	Ultrasonic Sensitivity	7
3.21	Ultrasonic Penetration	7
3.22	Upper Linearity Limit	8
3.23	Vee-Path	8
3.24	Vertical Limit	8
3.25	Virtual Probe	8
4.	GENERAL REQUIREMENTS	8
4.1	Specifying	8
4.2	Personnel Qualification	8
4.3	Written Procedure	8
4.4	General Procedures	9
5.	DETAIL REQUIREMENTS	9
5.1	Materials	9
5.1.1	Couplants	9
5.1.2	Standard Test Block Materials	10
5.2	Equipment	10
5.2.1	Electronic Equipment	10
5.2.2	Alarm	10
5.2.3	Voltage Regulator	10
5.2.4	Transducers	10
5.2.5	Rectangular "Paintbrush" Transducers	11
5.2.6	Transducer Attachments	11

5.2.7	Tank	11
5.2.8	Manipulating Equipment	11
5.3	Reference Standards	12
5.3.1	Reference Standards for Straight Beam Inspection	12
5.3.2	Reference Standards for Angle Beam Inspection	12
5.3.3	Verification	13
5.3.4	Alternate Reference Reflectors	13
5.4	Inspection Procedures	13
5.4.1	General	13
5.4.2	Coverage	13
5.4.3	Scanning Speed	14
5.4.4	Ultrasonic Frequency	14
5.4.5	Water Travel Path for Immersion Method (Type I)	14
5.4.6	Surface Preparation	14
5.4.7	Visual Inspection	14
5.4.8	Reference Standards	14
5.4.9	Preparation for Standardization (Type I)	14
5.4.10	Distance-Amplitude Correction Curve	15
5.4.11	Part Thickness Increases	15
5.4.12	Scanning Index-Determination (Type I)	15
5.4.13	Establishment of Scanning Gain (Type I)	15
5.4.14	Scanning	16
5.4.15	Transfer Technique	16
5.4.16	Evaluation of Discontinuities	16
5.4.17	Corrosion Protection	17
5.5	Quality Assurance Provisions	17
5.5.1	Responsibility for Inspection	17
5.5.2	System Performance	17
5.5.3	Data Records	17
5.5.4	Acceptance Classes	17
5.5.5	Rejection	18
5.6	Packaging	18
5.6.1	Marking	18
6.	NOTES	18
Figure 1	Deleted	21
Figure 2	Deleted	21
Figure 3	Convex surface reference standard configuration for longitudinal wave inspection of parts	21
Figure 4	Standard ultrasonic test block for angle beam examination	22
Figure 5	Hollow cylindrical standards	23
Figure 6	Geometry of flat-bottom holes in hollow cylindrical standards	24
Figure 7	International institute of welding (IIW) ultrasonic reference block	25
Figure 8A	Relevant amplitude versus hole size	26
Figure 8B	dB conversion for FBH size	27
Figure 9	Relation of dB scales and the commonly used percentage scale	27
Figure 10	Angle of refraction and beam off-set for cylindrical standards	28
Figure 11	Surface resolution requirements for ultrasonic inspection of aluminum forgings	28
Figure 12	Coverage diagram for spherically focused transducers showing unacceptable and acceptable areas of coverage	29
Table 1	Recommended standard test block materials	19
Table 2	Electronic equipment requirements	19
Table 3	Deleted	20
Table 4	Flat surface reference standard metal travel	20
Table 5	Surface resolution requirements (except for aluminum forgings)	20
Table 6	Ultrasonic classes	20
Table 7	Round bar and billet reference standard configuration for longitudinal wave inspection	21

1. SCOPE

1.1 Purpose

The purpose of this standard is to provide uniform methods for the ultrasonic inspection of wrought metals and wrought metal products.

1.2 Application

The methods for ultrasonic inspection in this standard are applicable in the detection of flaws in wrought metals and wrought metal products having a cross section thickness equal to 0.250 inch or greater. Round bar and billet may use AMS2628 techniques and equipment for billet over 4.5 inches using the acceptance criteria of Table 6 of AMS-STD-2154. Wrought metals include forging stock, forgings, rolled billet or plate, extruded or rolled bars, extruded or rolled shapes, and parts made from them. Application of the methods in this standard is not intended for non-metals, welds, castings, or sandwich structures.

1.2.1 Wrought Aluminum Alloy Products

Requirements for ultrasonic inspection of aluminum alloy wrought products, except as noted below, shall be in accordance with ASTM B594:

- a. Ultrasonic inspection of machined aluminum alloy parts shall be in accordance with this standard.

1.3 Classification

The ultrasonic inspection methods in this standard shall be classified as follows:

1.3.1 Type

- a. I - Immersion method
- b. II - Contact method

1.3.2 Class

Five ultrasonic acceptance classes shall be as defined in Table 6.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2628	Enhanced Ultrasonic Immersion Inspection for Titanium Alloy and Other Metal Alloy Billets
AMS2632	Inspection, Ultrasonic, of Thin Materials 0.50 Inch (12.7 mm) and Under in Cross-Sectional Thickness
AMS4928	Titanium Alloy Bars, Wire, Forgings, Rings, and Drawn Shapes, 6Al - 4V Annealed
AMS-QQ-A-200/3	Aluminum Alloy 2024, Bar, Rod, Shapes, Tube, and Wire, Extruded