

SAE G-12 FLUIDS SUBCOMMITTEE MEETING
SAVANNAH, MAY 2016
AS5900 STANDARD UPDATE

LABORATOIRE INTERNATIONAL
DES MATÉRIAUX ANTIGIVRE



ANTI-ICING MATERIALS INTERNATIONAL LABORATORY

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AS5900 Update

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Standard Test Method for Aerodynamic Acceptance of SAE AMS 1424 & 1428 Aircraft De/Anti-icing Fluids

AS5900 Update

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- Revision B is the active document
- Issued in 2007
- Editorial and General changes were made since 2007 and a **first ballot for Revision C was initiated on February 29th 2016.**

AS5900 Update – First Ballot

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- Some editorial changes
 - ▣ General improvement of wording and formatting
 - ▣ Updated tables and figures
 - ▣ Information removed from the Scope, placed in a new section (General Information), to reduce scope and correspond to SAE guide document

AS5900 Update – First Ballot

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- ❑ Removed NOTE: These test methods are based on glycol-based fluids, additional testing may be required for non-glycol-based fluids.
- ❑ Requests to remove the note because there are no additional tests at the moment and it is really too vague to be helpful, it was removed for the ballot.

AS5900 Update – First Ballot

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□ Reorganisation of section 4

4.TEST FACILITY REQUIREMENTS

- 4.1 Test Duct Description
 - 4.1.1 Dimensions
 - 4.1.2 Tolerances
 - 4.1.3 Design Features
- 4.2 Test Duct Gas Flow Core Characteristics
 - 4.2.1 Test Gas
 - 4.2.2 Temperature Range
 - 4.2.3 Temperature Stability
 - 4.2.4 Temperature Spatial Uniformity
 - 4.2.5 Velocity Range
 - 4.2.6 Turbulence
 - 4.2.7 Velocity Spatial Uniformity
 - 4.2.8 Relative Humidity
- 4.3 Test Facility Thermal Stability
 - 4.3.1 Test Duct
 - 4.3.2 Test Facility
- 4.4 Test Facility Drainage
- 4.5 Instrumentation
 - 4.5.1 Temperature and Relative Humidity
 - 4.5.2 Test Duct Gas Pressures
 - 4.5.3 Test Duct Gas Velocity and Turbulence
- 4.6 Example Facility

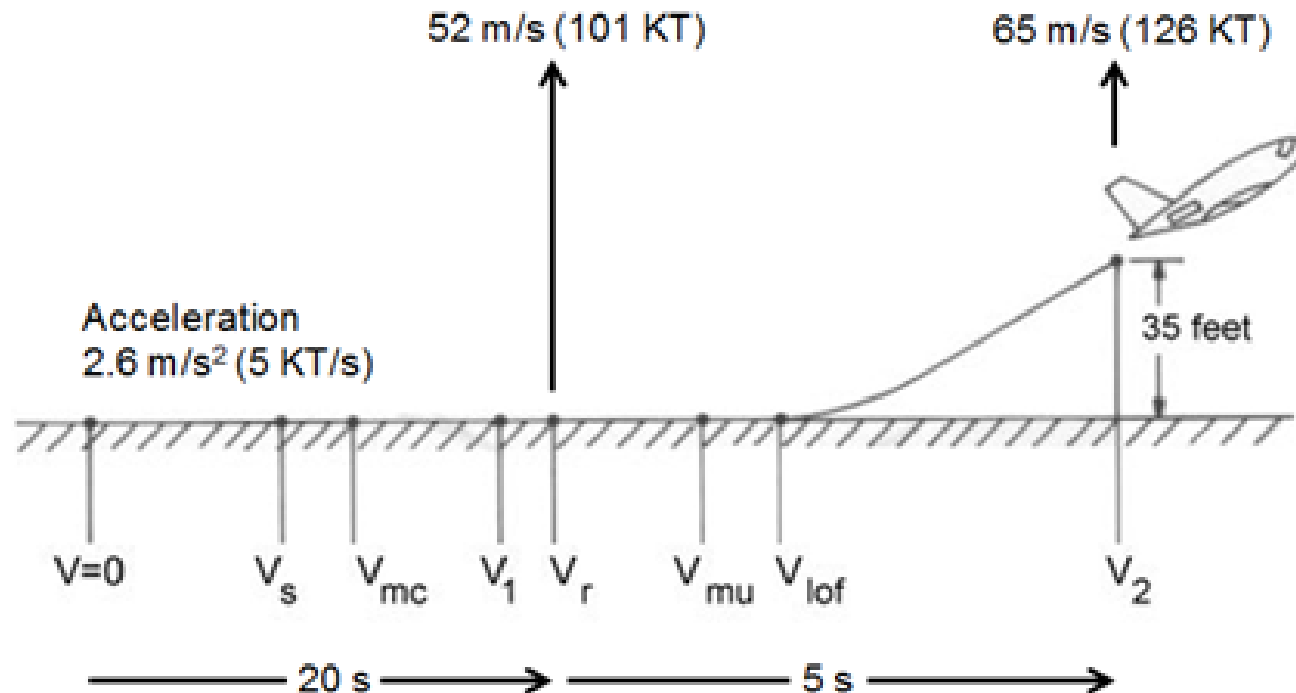
4.TEST FACILITY REQUIREMENTS

- 4.1 Calibration and Test Equipment
- 4.2 Test Duct Description
 - 4.2.1 Material
 - 4.2.2 Dimensions
 - 4.2.3 Tolerances
 - 4.2.4 Design Features
- 4.3 Test Duct Gas Flow Core Characteristics
 - 4.3.1 Test Gas
 - 4.3.2 Gas Temperature
 - 4.3.3 Gas Pressures
 - 4.3.4 Gas Velocity
 - 4.3.5 Relative Humidity
- 4.4 Test Fluid Temperature Measurement
- 4.5 Test Facility Drainage
- 4.6 Example Facility

AS5900 Update – First Ballot

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- Figures which explain speeds for tests



AS5900 Update – First Ballot

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Ballot Results			
Approve	Disapprove	Waive	Participation
29	1	1	31/47
61,7%	2,1%	2,1%	66%

Ballot was disapproved.

AS5900 Update – Disapproved

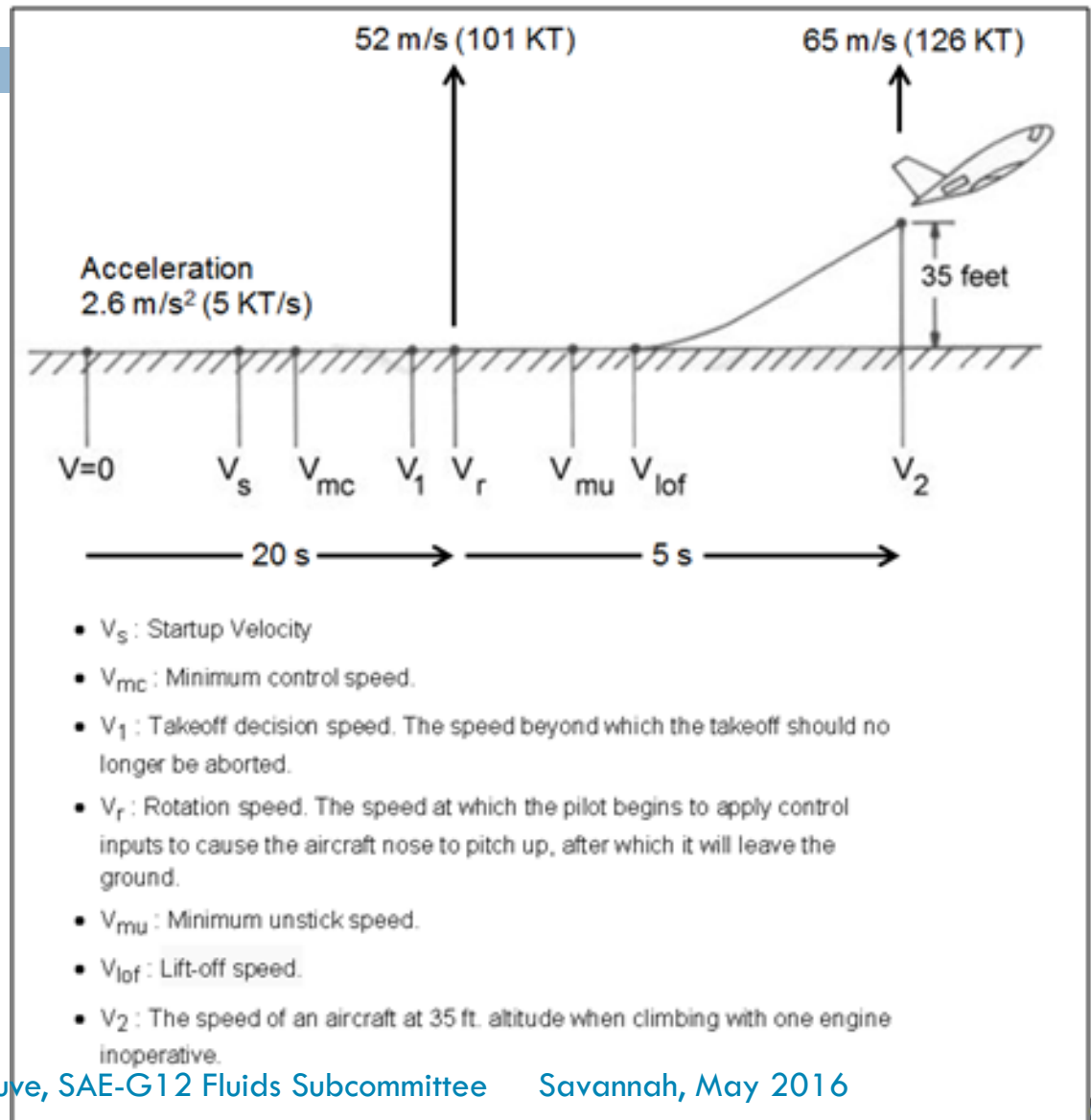
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- Main point for disapproval was lack of explanation behind fluid elimination criteria.
- There was none in previous versions.
- This could be done, already a lot of modification and during previous Fluids meeting, there has been discussion about modifying fluid elimination requirements for Type II-III-IV to maximum final fluid thickness.

AS5900 Update – Other comments

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- It was proposed to add the definition of the speeds in the figure.



AS5900 Update – Other comments

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- Revision B - NOTE: These test methods are based on glycol-based fluids, additional testing may be required for non-glycol-based fluids.

- During ballot, a comment was made to remind that this note was added in Revision B to address the fact that there were non-glycol products available and in development and a lot of people had questions concerning Aerodynamic Acceptance Test and these fluids.

- So instead of removing the note, the note has been modified to :
*NOTE: No additional testing is required for non-glycol fluids at this time.
For more information about non-glycol fluids please refer to AMS1424.*

AS5900 Update – Other comments

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- There was a few other minor editorial comments (reference to a Boeing document, not publicly available, changed to the new ARP6852), which were **all addressed.**

AS5900 Update – New Ballot

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- A new ballot was initiated on April 18th 2016.
- Due May 15th 2016.

Ballot Results			
Approve	Disapprove	Waive	Participation
26	0	1	27/47
55,3%	0%	2,1%	57,4%

- Continue to vote!

AS5900 Update – Collateral effect

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- If ballot is approved, a modification will be required in AMS1424, under section 3.5.3 :

*“A fluid is acceptable for use on large transport type jet aircraft or on lower takeoff rotation speed commuter aircraft if it meets the criteria defined in **6.3** of AS5900. Also see **1.2.1**.”*

In AS5900 Revision C, section **6.3** will become section **7.3** and section **1.2.1** will become section **3.3**

- ARP6852 as well
- Other Documents?

AS5900 Update – Contact

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Comments or suggestions?

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