



METRIC AEROSPACE STANDARD

MA2002

REV. B

Issued 1981-10
Revised 1988-07
Reaffirmed 2007-08
Cancelled 2013-11

Superseded by AS603

Impulse Testing of Hydraulic Hose, Tubing and Fitting Assemblies

RATIONALE

The MA2002 is being cancelled since it is no longer in compliance with latest impulse wave shape requirements in AS603, which the ISO 6772 is based on.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of November 2013 and has been superseded by AS603. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index noting that it is superseded by AS603.

Cancelled specifications are available from SAE.

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2013 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE MA2002B

SAE values your input. To provide feedback
on this Technical Report, please visit
<http://www.sae.org/technical/standards/MA2002B>

Documents

Document Sharing Hub

Equivalent to ISO/TC 20/SC 10 DIS 6772

1. SCOPE:

This standard establishes the requirements and the procedures for impulse testing of hose assemblies, tubing, and fittings for use in aerospace metric hydraulic systems.

2. REQUIREMENTS:

2.1 Shape of Impulse Trace:

When observed on an oscilloscope, the impulse traces show as approximate pressure-time cycles. It is mandatory that these pressure-time curves be confined to the shaded area indicated in Fig. 1, and that the dynamic impulse trace produced by the test machine shall be in conformance with the trace illustrated in Fig. 1.

2.2 Calculations:

The rate of rise will be calculated as follows:

$$\text{"Rate of pressure rise"} = \frac{0.9 p - 0.1 p}{t \text{ at } 0.9 p - t \text{ at } 0.1 p}$$

Where:

p = peak pressure in kPa
t = time in seconds

2.2 (Continued):

NOTES:

- (1) The peak pressure is defined as the maximum pressure reached during the test pressure surge to 125 or 150% of the specified operating pressure, as appropriate.
- (2) Sweep rate on the oscilloscope shall be adjusted so that the slope of the pressure rise shall take advantage of the full size of the screen. The trace or photograph of the impulse cycle shall be an accurate record of the impulse cycle and shall show a grid or other means to permit accurate checking.

2.3 Preparation of Specimens:

The preparation of test specimens shall be defined in the applicable specification of the component. Specimens shall be subjected to the applicable treatments and production test requirements of the component specification.

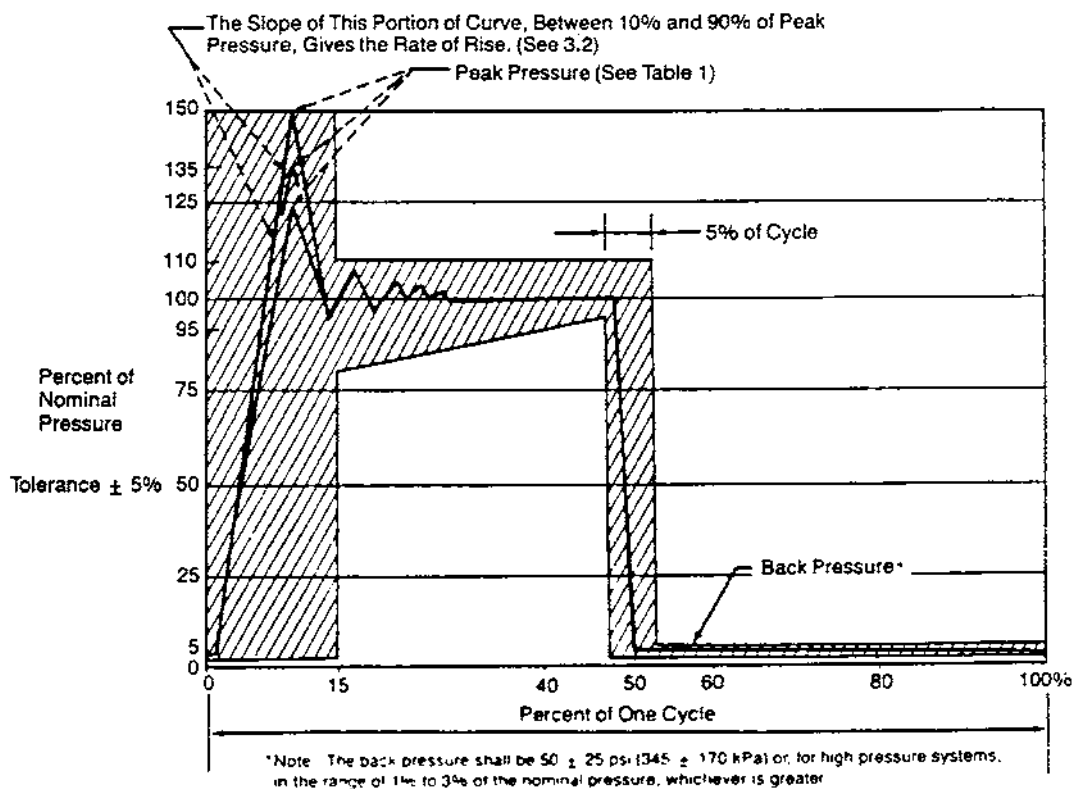


FIGURE 1 - Impulse Trace