SURFACE VEHICLE RECOMMENDED PRACTICE

J2636 MAR2015

Issued 2006-04
Reaffirmed 2015-03

Superseding J2636 APR2006

Corrosion Test Master Establishment

RATIONALE

J2636 has been reaffirmed to comply woth the SAE five-year review policy.

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1. Scope

This SAE lab recommended practice may be applied to corrosion test methods such as salt spray, filiform, Corrosion creep back, etc. This procedure is intended to permit corrosion testing to be assessed between Laboratories for correlation purposes.

1.1 Purpose

The purpose of this procedure is to provide a method to establish and verify a master for corrosion testing.

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1.2 Rationale

The laboratory corrosion testing of wheels and wheel trim for automotive applications does not have a calibration method that can isolate test equipment, process, personnel, gauging, procedures, and materials from the test results. This document provides a guideline for the establishment of a laboratory master test sample to be utilized to confirm the consistency of the test equipment and process to reproduce consistent results. The masters can also provide a basis to correlate the test results between different laboratories, different test equipment, and different laboratory personnel by analysis of the quantitative results of the testing. The use of masters also provides a basis for process variation to be evaluated within a calibrated laboratory .The existence of an approved master may also be an important tool in trouble shooting for the continuous improvement process for test development. Masters tested in conjunction with test sample pieces may provide a rationale for invalidating test results if the results are inconsistent with an established performance level for the master.

2. REFERENCES

2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest version of SAE publications shall apply.

2.1.1 ISO PUBLICATIONS

Available from International Organization for Standardization, 1 rue de Varembe, Case postale 56, CH-1211 Geneva 20, Switzerland, Tel: +41-22-749-01-11, www.iso.org.

ISO Guide 43-1—Proficiency testing inter-laboratory comparisons—Part 1
ISO Guide 43-2—Proficiency testing inter-laboratory comparisons—Part 2
ISO/IEC 17025—General Requirements for the Competence of Testing and Calibration of Laboratories

2.2 Related Publications

The following publications are provided for information purposes and are not a required part of this document.

2.2.1 ASTM PUBLICATIONS

Available from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

2.2.2 AIAG PUBLICATIONS

Available from Automotive Industry Action Group, 26200 Lahser Road, Suite 200, Southfield, MI 48034-7100, Tel: 248-358-3570, www.aiag.org.

3. Corrosion Test Methods

This method can be used in conjunction with many existing test procedures for corrosion testing as it provides an approach that allows the method be tailored to the specific procedure.

4. Procedure

The establishment of a test master sample will vary depending upon the component design, expected or intended corrosion performance objective, and the capability of the test measurement systems. A specific procedure for each laboratory test method is required and a general procedure is not practical to cover the specific issues unique to the individual products and processes. The correlation procedure is provided as follows:

This procedure is intended to provide a framework for a laboratory to establish a master lot and qualify the master lot for use in establishing laboratory to laboratory correlation.

4.1 Figures

4.1.1 Figure 1–Mastering Decision Tree, Master Qualification. Figure 1 provides a systematic approach to qualifying a test master, master lot.

4.1.2 Figure 2–Mastering Decision Tree, Test Operations. Figure 2 provides a systematic approach to evaluating the test operations for correlation with another laboratory and to re-qualify a master lot.

4.1.3 Figure 3–Mastering Decision Tree, Test Procedure Qualification. Figure 3 provides a systematic approach to evaluate the test procedure and assess factors that influence the Gage R & R of the test.

4.1.4 Figure 4–Measurement Systems Assessment Flow Diagram. Figure 4 provides a general outline of the factors that contribute to the capability of the test to assess part performance.

4.2 Definitions

4.2.1 MASTER SAMPLE

A sample part which is produced from a master lot with minimum variation in corrosion performance between any and all of the parts.

4.2.2 MASTER LOT

A master lot is a production lot for which process and material variations are minimized such that, as much as possible, each part is equivalent to the one before and after it in the process for corrosion performance.

4.3 Equipment and Test Materials

Equipment and test materials will vary dependant on the specific test for which this method is applied.

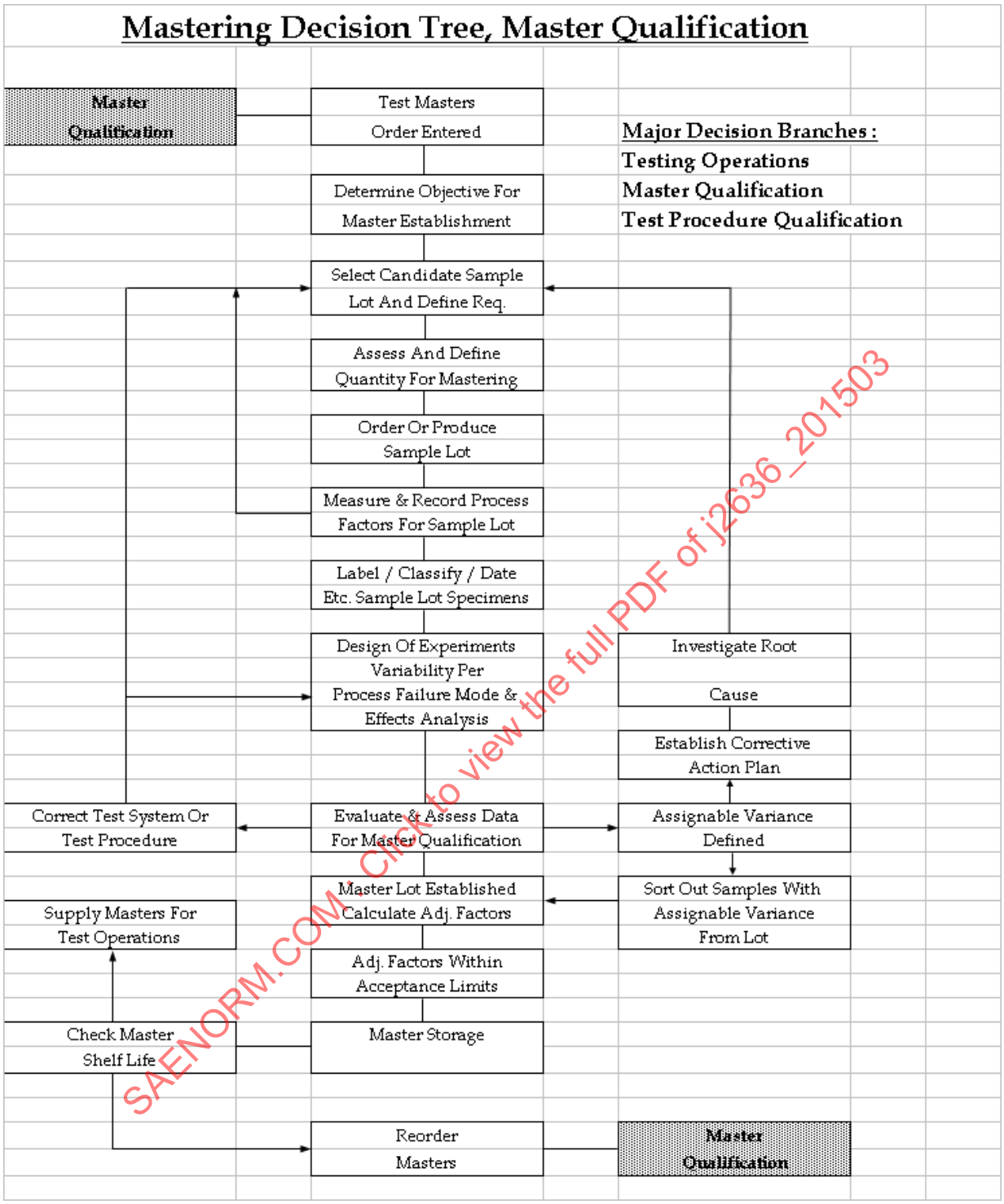

FIGURE 1—MASTERING DECISION TREE, MASTER QUALIFICATION

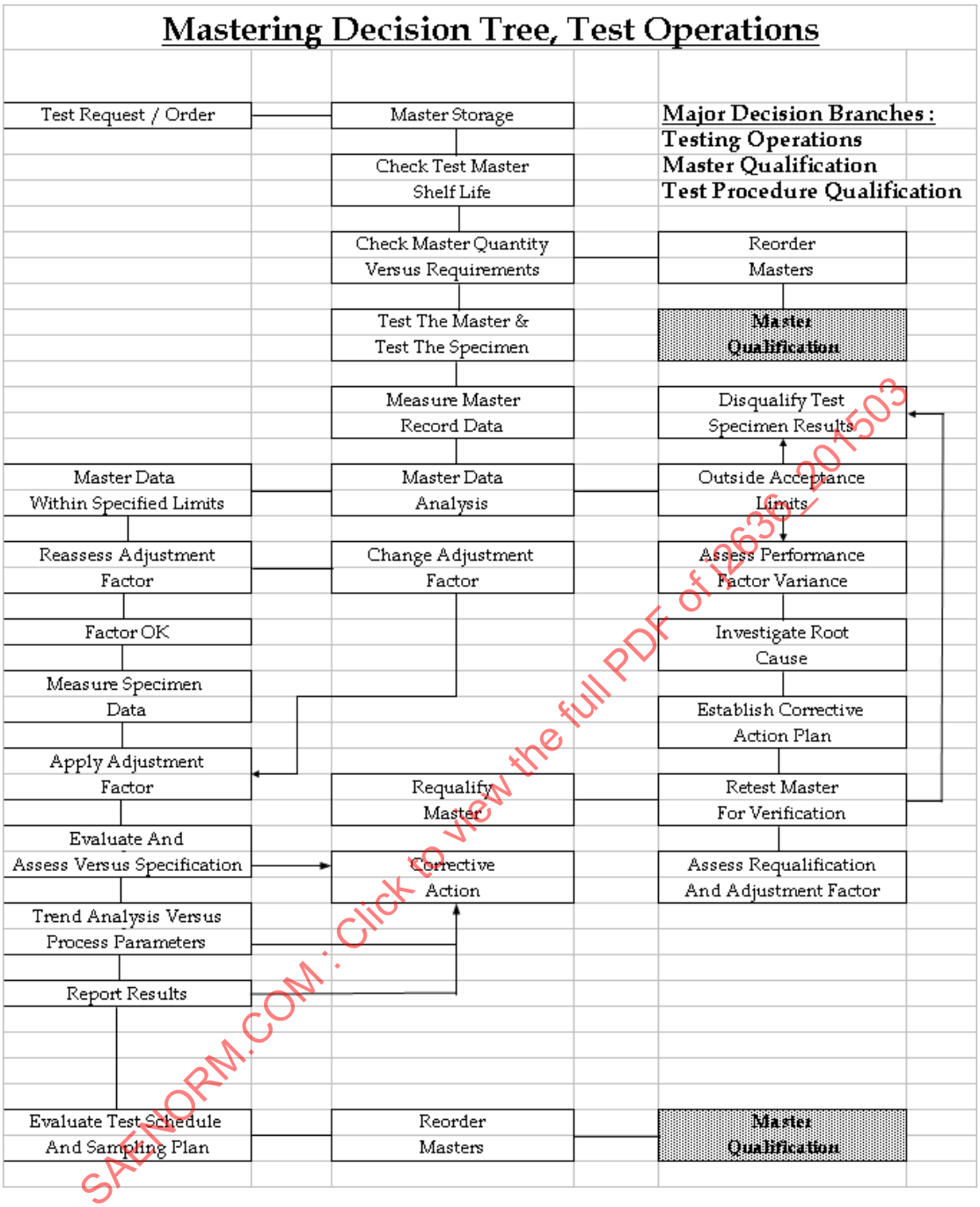

FIGURE 2—MASTERING DECISION TREE, TEST OPERATIONS

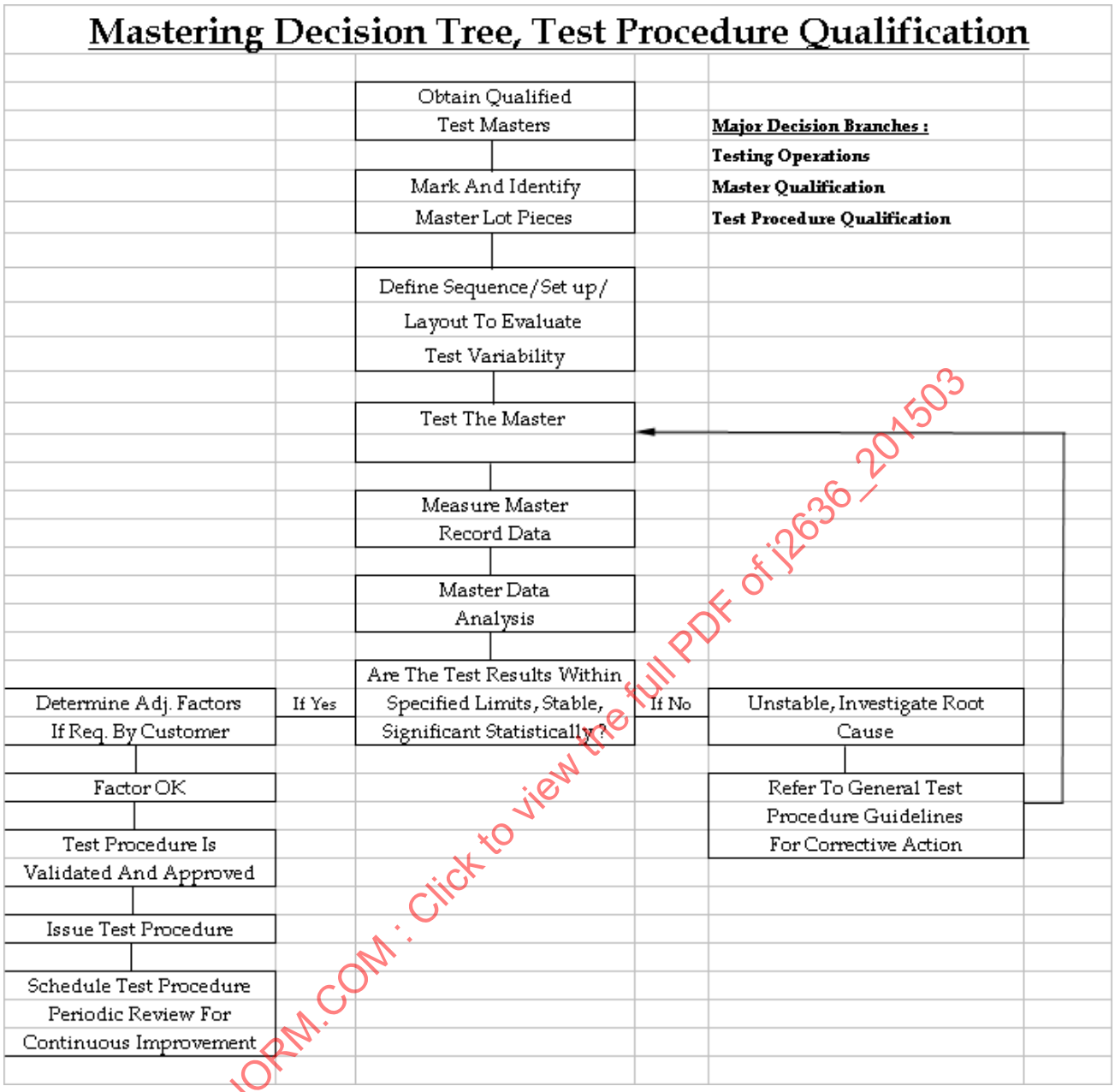

FIGURE 3—MASTERING DECISION TREE, TEST PROCEDURE QUALIFICATION