



# SURFACE VEHICLE INFORMATION REPORT

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## Magnetic Particle Inspection

### RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

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1. **Scope**—The scope of this SAE Information Report is to provide general information relative to the nature and use of magnetic particles for nondestructive testing. The document is not intended to provide detailed technical information, but will serve as an introduction to the theory and capabilities of magnetic particle testing, and as a guide to more extensive references.

## 2. **References**

2.1 **Related Publications**—The following publications are provided for information purposes only and are not a required part of this document.

2.1.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2640—Magnetic Particle Inspection, 1969.

2.1.2 ASM PUBLICATIONS—ATTN: MSC/Book Order, ASM International, PO Box 473, Novelt, OH 44072-9901.

Metals Handbook, Ninth Edition, Vol. 17, Nondestructive Evaluation and Quality Control, 1987.

Metals Handbook, Eighth Edition, Vol. 11, 1976, pp. 44–75.

2.1.3 ASTM PUBLICATIONS—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959

ASTM E 125—Reference Photographs for Magnetic Particle Indications on Ferrous Castings

ASTM E 269—Standard Definitions for Terms Relating to Magnetic Particle Inspection

ASTM E 709—Recommended Practice for Magnetic Particle Examination

2.1.4 OTHER PUBLICATIONS

Nondestructive Testing Handbook, Vol. 6, Magnetic Particle Testing, 1989, American Society for Nondestructive Testing, Columbus, OH 43228

C. E. Betz, "Principles of Magnetic Particle Testing," Magnaflux Corp., Chicago, IL, 1985

MIL-M-6867—Magnetic Inspection Units, Department of Defense

MIL-STD-1949—Inspection, Military Standard, Department of Defense

MIL-STD-410—Qualification of Inspection Personnel, Department of Defense

Programmed Instruction Handbook PI-4-3, Magnetic Particle Testing. Convair Div., General Dynamics Corp., 1967