



**Aerospace  
Systems Division**

MAGNETIC CLEANLINESS GUIDELINES

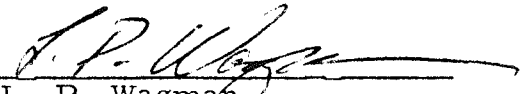
NO. ATM-865	REV. NO.
PAGE <u>1</u> OF <u>3</u>	
DATE 4/6/70	

RECEIVED

APR 13 1970

The purpose of this ATM is to update the ALSEP Magnetic Cleanliness Guidelines as delineated in ATM-294, dated 1 June 1966. This update is necessitated by the new complement of experiments to be flown on the ALSEP Flight 5 (Array D) configuration. For this configuration, the ASE and HFE will be used for the first time in conjunction with the LSM.

Prepared by:

  
L. P. Wagman

Approved by:

  
L. R. Lewis, Manager  
ALSEP SE&I Department



**Aerospace  
Systems Division**

MAGNETIC CLEANLINESS GUIDELINES

NO.	REV. NO.
ATM-865	
PAGE <u>2</u>	OF <u>3</u>
DATE	4/6/70

A review of the ALSEP Magnetic Cleanliness Guidelines, ATM-294, dated 1 June 1966, has revealed that the guidelines delineated in the document are applicable with regard to the Array D design. In particular, all Array D experiments with the exception of the LSM must have a residual magnetic field of less than 10 gamma at 10 feet.

The guideline information given in the referenced ATM is still applicable to the Array D design. However, the addition of the following references will update the ATM and make it more comprehensive:

REFERENCE 1 - "Magnetic Field Restraints for Spacecraft Systems and Subsystems, NASA-X-325-67-70", Charles A. Harris, February 1967.

Abstract - Methods for limiting the magnetic fields generated by spacecraft systems and subsystems are discussed in this report. Accepted practices useful in the design and fabrication of spacecraft systems, actual data related to the fields generated by individual components, and specific examples of field reduction techniques are furnished. Magnetic field magnitudes at a distance of 12 inches from the center of the following objects are given:

1. Batteries
2. Capacitors
3. Connectors
4. Materials and Products
5. Miscellaneous Parts
6. Resistors
7. Relays
8. Transistors
9. Wiring

A copy of the document is available in the ALSEP Systems Engineering Magnetic Cleanliness File.



**Aerospace  
Systems Division**

MAGNETIC CLEANLINESS GUIDELINES

NO.	REV. NO.
ATM-865	
PAGE <u>3</u>	OF <u>3</u>
DATE 4/6/70	

REFERENCE 2 - "Magnetic Characteristics of Spacecraft  
Materials, Boeing No. D2-11445-1", 5 June 1969.

Abstract - The results of magnetic properties tests and a  
literature search is summarized in a series of tables.  
The materials whose properties are listed are as follows:

1. Nickel-base Alloys
2. Cast Austenitic Stainless Steels
3. Stainless Steel Weldments
4. Cold Worked AISI Type 304 Stainless Steel
5. Type 321 Wrought Stainless Steel
6. Precipitating Hardening Stainless Steel
7. Cold Worked Austenitic Stainless Steels

A copy of this document is available in the ALSEP Systems  
Engineering Magnetic Cleanliness File.