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Fuel and Oil Quantity Instruments

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE:

This Aeronautical Standard covers two basic types of instruments as follows:

Type I - Float Instruments

Type II - Capacitance Instruments

1.1 Purpose:

To specify minimum requirements for Fuel and Oil Quantity Instruments for use in aircraft, the operation of which may subject the instruments to the environmental conditions specified in Paragraph 3.3.

2. REFERENCES:

NACA Report 1235

3. GENERAL REQUIREMENTS:

3.1 Material and Workmanship:

3.1.1 Materials: Materials shall be of a quality which experience and/or tests have demonstrated to be suitable and dependable for use in aircraft instruments.

3.1.2 Workmanship: Workmanship shall be consistent with high-grade aircraft instrument manufacturing practice.

3.2 Identification:

The following information shall be legibly and permanently marked on the instrument or attached thereto:

- a. Name of instrument (Fuel or Oil Quantity Instrument)
- b. SAE Aeronautical Standard AS405C
- c. Manufacturer's part number
- d. Manufacturer's serial number or date of manufacture
- e. Manufacturer's name and/or trademark
- f. Range
- g. Rating

3.3 Environmental Conditions:

The following conditions have been established as design requirements only. Tests shall be conducted as specified in Sections 5, 6 and 7.

- 3.3.1 Temperature: When installed in accordance with the instrument manufacturer's instructions, the instruments shall function over the range of ambient temperatures shown in Column A below and shall not be adversely affected by exposure to the temperatures shown in Column B:

TABLE 1

<u>Instrument Location</u>	<u>"A"</u>	<u>"B"</u>
Heated Areas (Temperature Controlled)	-30 to 50 °C	-65 to 70 °C
Unheated Areas (Temperature Uncontrolled)	-55 to 70 °C	-65 to 70 °C

- 3.3.2 Humidity: The instrument shall function and shall not be adversely affected when exposed to any relative humidity in the range from 0 to 95 percent at a temperature of approximately 32 °C.