

AEROSPACE STANDARD

SAE AS20708/25

Issued 2004-04

Synchro, Control Transformer, Type 16CTB4b

FSC 5990

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1. SCOPE:

- 1.1 This specification covers the detail requirements for control transformer synchro, type 16CTB4b, 90 volt, 400 cycle.

2. APPLICABLE DOCUMENTS:

- 2.1 The following specifications, standards, and drawings of the issue in effect on date of invitation for bids form a part of this specification.

SPECIFICATION

MILITARY

MIL-I-16557 Ink, Marking, quick-drying (for non-porous surfaces)

MIL-S-20708 Synchros, 60 and 400 cycles, General Specifications for

DRAWINGS

BUREAU OF ORDNANCE

643019 Clamp Assembly

643090 Washer, Drive

644594 Nut

LD 255268 Stock Material for Precision Instrument Components

SA 2412503 Gage, Spline

(Copies of specifications, standards, and drawings required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.)

3. REQUIREMENTS:

3.1 Qualification:

Except as specified in par. 3.1.1, synchros covered by this specification shall be a product which has been tested and qualified in accordance with Specification MIL-S-20708.

- 3.1.1 Preproduction sample: Pending issuance of a Qualified Products List (Q.P.L.), a sample (see 4.1.1.1) of the synchros to be furnished under this specification shall be subjected to the preproduction tests as specified in Specification MIL-S-20708.

3.2 Requirements:

All requirements shall be in accordance with Specification MIL-S-20708 except as otherwise specified herein.

- 3.2.1 Salt spray requirement: Not applicable.

- 3.2.2 Design and construction: The synchro shall be of the design, construction, and physical dimensions specified in Figure 1, and shall be complete, including all hardware shown and identified thereon.

- 3.2.3 Performance requirements: The values applicable to the synchro shall be as specified in Table I.

TABLE I. - Synchro, Control Transformer, Type 16CTB4b

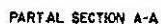
Requirement	Unit	Value
Frequency	Cycles	400
Primary voltage (nominal)	Volts	90
Primary current (maximum)	Milliamps	24
Primary power (maximum)	Watts	0.35
Transformation ratio $\pm 2\%$		0.735
Electrical error (maximum)	Minutes	10
Null voltage total (maximum)	Millivolts	60
Fundamental component of null voltage (maximum)	Millivolts	40
Friction torque (maximum)	Ounce-inches	0.05
Phase shift	Degrees	8.0 (lead)
Primary impedance (Z_p)	Ohms	$\frac{1}{1}$
Secondary impedance (Z_s)	Ohms	$\frac{1}{1}$

$\frac{1}{1}$ As specified by the Bureau of Ordnance (see 6.1).

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GEAR DATA	
TEETH	36
PITCH	72
PITCH DIAMETER	1.3333 ⁰⁰⁰⁰ ₀₀₀₀
OUTSIDE DIAMETER	1.3811 ⁰⁰⁰⁰ ₀₀₀₀
PRESSURE ANGLE	20°
ROOT DIAMETER MAX.	1.2959
TOOTH FORM	FULL DEPTH INVOLUTE

NOTE: O.D. OF GEAR TO BE CONCENTRIC TO 1/320 DIA.
 COLLAR WITHIN ADJUSHT. TO BE LOCKED TO OUTER
 HOUSING SHAFT. MARK TO BE IN LINE WITH OUTER
 HOUSING ARROW.



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON FRACTIONS &
DECIMALS ±.005 ANGLES ±1°

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