

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR  
SIGNAL CONVERTER TEST SET AN/ASM-416

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## SECTION I

## GENERAL

**1. Purpose and Scope.**

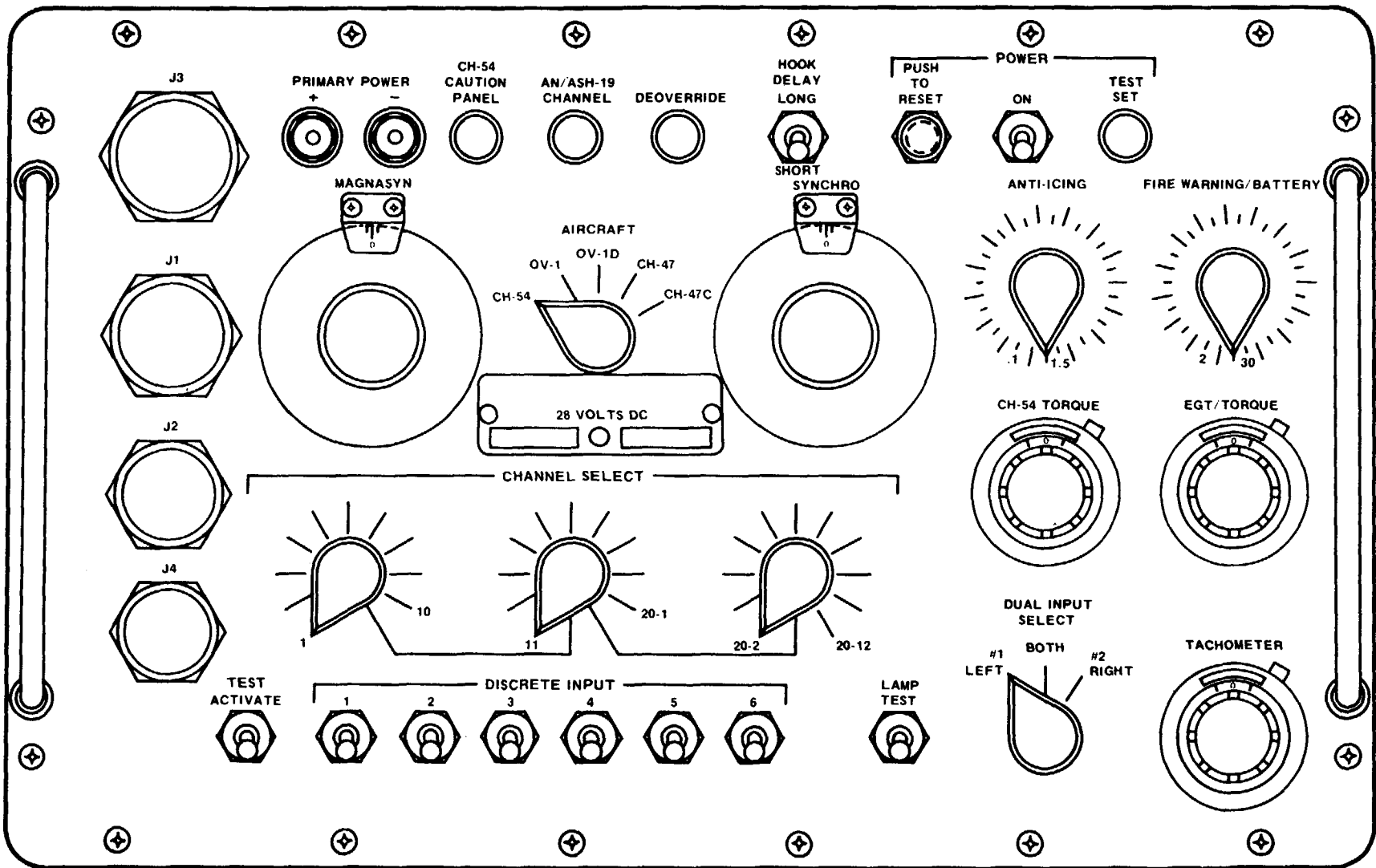
a. This bulletin provides information for the periodic calibration of Test Set Signal Converter AN/ASM-416, (fig. 1), and is used by calibration personnel. Since calibration personnel are trained and qualified in the usage of calibration test and measuring equipment, detailed instructions concerning the operation and use of the standards are not contained in the bulletin.

b. Integrated within this bulletin are illustrations delineating the location of all controls and components

utilized in this calibration procedure, as well as an equipment setup diagram.

**2. Reporting of Technical Bulletin Improvements.-**

Reporting of errors, omissions, and recommendations for improving this bulletin by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to: US Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, NJ 07703.



EL6625-2411-35/1-TB-1

Figure 1. Test Set, Signal Converter AN/ASM-416 front panel view.

**3. Description.** Signal converter test set AN/ ASM-416 is an instrument which provides analog and discrete type signal inputs to signal converters used with specific aircraft types. The signal converters provide signal conditioning for the voice warning system. The discrete signal response from the signal converter is also monitored by the test set under various input signal conditions. Additional data is listed in a through c below.

*a. Identification.*

Nomenclature -----Test Set, Signal Converter  
AN/ASM-416  
Federal Stock Number -----6625-463-4013  
Size -----10½ x 19 x 131/2 in.  
Weight -----38 lb (approx.)  
Reference -----TM 11-6625-2411-12

*b. Specifications.*

(1) *Power input requirements.* 27 ± 2 Vdc, 3 ampere minimum (includes equipment under test), 90 watts.

(2) *Output signals.*

(a) Magnasyn tests, 3 phase, 115 V rms, 400 ±25 Hz excitation, 25-K ohm (excitation and each tap) resistive maximum load, 0 to 360° positioning.

(b) Synchro tests, 3 phase, 26/11.8 V, 400 ±40 Hz excitation, 10-K ohm-rotor, 5-K ohm each stator resistive maximum load, 0 to 360° positioning.

(c) Anti-icing tests, 0 to 1.5 V rms, 400 ±40 Hz, 100-K ohm resistive maximum load, floating return.

(d) Fire warning tests, 0 to 30 V p, 400 ±40 Hz, half sine waveform, 15-K ohm resistive maximum load, ground return.

(e) Battery tests, 0 to +30 Vdc, 15-K ohm resistive maximum load, ground return.

(f) CH-54 torque tests, 500 to 1500 ohms, 1 W floating.

(g) DC torque tests, 0 to 500 mVdc, 10K ohm resistive maximum load, floating return.

(h) Exhaust gas temperature (EGT) tests, 0 to 50 mVdc, 10-K ohm resistive maximum load, floating return.

(i) Tachometer tests. 40 to 90 Hz, symmetrical triangular waveform, 12 V pp, 3-K ohm resistive maximum load, ground return.

(j) Hook Delay tests, two types:

1. *CH-47 Tests.*

Command+ 26 V level  
Released:

Short+ 19 V pulse, 1.45 ± 0.05 seconds duration after leading edge of command level.

Long+19 V pulse, 2.0 ±0.05 seconds duration after leading edge of command level.

2. *CH-54 Tests.*

Command+24 V pulse, 100 milliseconds duration.

Released+ 24 V pulse, 20 milliseconds duration.

Short-0.975 ±0.025 seconds between command and released pulses (leading edges).

Long-1.200 ±0.025 seconds between command and released pulses (leading edges).

(k) Discrete tests, preselected, four types:

open or ground

open or +26 V

+26 V or ground

+26 V or +7.5 V

(3) *Input signals.* Channel and caution indicators preselected singular connection pin application, +22 ±4 volts, 0.13 ampere, ground return for activation. Deoverride indicator, preselected channel input (see above), 30 to 50 ms interruption (±15 V) of +22 ±4 volt level for activation.

*c. Program Data.*

Calibration interval -----In accordance with  
TB 750-236

Time required for calibration -----2 hours (approx.)

Calibration level -----Maintenance

Calibration techniques -----dc, low frequency

**4. General Instructions.**

*a. Calibration Data Card.* During the performance of this procedure, annotate DA Form 2418 in accordance with TM 38-750.

*b. Unit Under Test.* The Signal Converter Test Set AN/ASM-416 will be referred to as the "unit under test".

**5. Difference Among Models.** None.

**SECTION II**

**CALIBRATION**

**6. Equipment Required.** Equipment required for calibration performance checks and adjustments is listed in table 1. When equipment listed in table 1 is not available, equivalent calibrated items may be used

**NOTE**

**It is recommended that personnel familiarize themselves with the entire procedure before commencing calibration.**