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MILITARY SPECIFICATION

PITOT AND STATIC PRESSURE SYSTEMS, INSTALLATION AND INSPECTION OF

1. SCOPE

1.1 This specification covers the requirements for the installation and inspection of pitot-static tubes, pitot tubes, and flush static ports on aircraft and missiles.

* 2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

Federal

TT-A-580	Anti-seize Compound, White Lead Base, General Purpose (for Threaded Fittings)
WW-T-700/4	Tube, Aluminum Alloy, Drawn, Seamless, 5052

Military

MIL-C-5541	Chemical Films and Chemical Film Materials for Aluminum and Aluminum Alloys
MIL-M-7793	Meter, Time Totalizing
MIL-T-8606	Tubing, Steel, Corrosion-Resistant (18-8 Stabilized)
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-S-22473	Sealing, Locking and Retaining Compounds, Single-Component
MIL-H-25579	Hose Assembly, Tetrafluoroethylene, High Temperature, Power Plant
MIL-P-83206	Pitot-Static Tube, L-Shaped, Compensated, General Specification for
MIL-P-83207	Pitot-Static Tube, Nose Boom, Compensated, General Specification for

STANDARDS

Military

MIL-STD-143	Specifications and Standards, Order of Precedence for the Selection of
MIL-STD-454	Standard General Requirements for Electronic Equipment
MIL-STD-1247	Identification of Pipe, Hose, and Tube Lines for Aircraft, Missile, and Space Systems
MS33611	Tube Bend Radii

Air Force-Navy Aeronautical

AN6270	Hose Assembly - Detachable Swivel Fitting, Low Pressure
AND10410	Pitot-Static and Pitot Tube Wiring Diagram for

(Copies of documents required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3 1 Selection of specifications and standards. Specifications and standards for necessary commodities and services not specified herein shall be selected in accordance with MIL-STD-143.

3 2 Materials. Materials that are not specifically designated shall be of the best commercial quality, of the lightest practicable weight, and shall be suitable for the purpose intended

3 2 1 Fungus-proof materials. Materials that are nutrients for fungi shall not be used where it is practical to avoid them. Where used and not hermetically sealed, they shall be treated with a fungicidal agent acceptable to the procuring activity. However, if they will be used in a hermetically sealed inclosure, fungicidal treatment will not be necessary.

3 2.2 Metals. Metals shall be of the corrosion-resistant type or suitably treated to resist corrosion due to fuels, salt spray, or atmospheric conditions likely to be met in storage or normal sercive.

* 3 2 3 Dissimilar metals Unless suitably protected against electrolytic corrosion dissimilar metals shall not be used in intimate contact with each other. Dissimilar metals are defined in MIL-STD-454, requirement 16.

3 3 Design and construction

3 3.1 Total and static pressure sources. Each aircraft shall be fitted with a minimum of either one pitot-static tube or one combination of pitot tube and flush static ports. Unless otherwise specified, when flush static ports or side-mounted pitot static tubes are employed, they shall be provided in manifold pairs. Instruments in accessory equipment, such as photographic altimeters which will be periodically removed, shall not utilize the pilot's total or static pressure source.

* 3.3.1.1 Pitot-Static Tubes. Aircraft pitot-static tubes shall be designed to conform to the requirements as specified in the applicable general specification. Nose-boom mounted pitot-static tubes shall meet or exceed the performance requirements as outlined in MIL-P-83207. Side mounted L-shaped pitot-static tubes shall be designed to meet or exceed the requirements of MIL-P-83206.

3.3.1.2 Pitot tubes. Aircraft pitot tubes shall conform to the specification applicable to the particular pitot-tube design.

3.3.2 Mounting. The selection of mounting arrangements shall be governed by the requirements specified in section 4. The mounting arrangement shall provide the highest order of total and static pressure measurement accuracy consistent with the operational requirements of the aircraft. Mounting arrangements shall be subject to prior approval by the procuring activity. The following mounting arrangements are suggested:

* 3.3.2.1 Pitot-static tube mounting. Unless otherwise specified by the procuring activity, nose-boom mounted pitot-static tubes shall be utilized on high performance aircraft. The approximate recommended length for nose booms shall be within 0.5 to 1.0 times the maximum equivalent fuselage diameter. (Equivalent fuselage diameter is the diameter of a circle having an area equivalent to the maximum cross-sectional area of the aircraft.) If an aerodynamically compensated nose-boom pitot-static tube is utilized, the shortest nose-boom length that is compatible with the aerodynamic compensation available with the tube shall be selected Booms shall be equipped with an aligning device or markings to insure that the boom is always installed with the pitot-static tube mounting holes in the proper position. Booms shall also be provided with a removable sleeve to aid in maintenance of the pitot-static tube and coupling. For aircraft, where the aircraft size or structural limitations makes a nose boom installation impractical, a side-mounted pitot-static tube shall be used. When a requirement exists for noninterchangeable right and left hand tubes, an aligning device shall be provided to insure that the tubes are always installed properly. Also, on aircraft where L-shaped pitot-static tubes are to be used, the airframe manufacturer shall be responsible for providing a mounting plate (doubler) to insure that the tube is securely mounted to the aircraft. It shall

be the responsibility of the manufacturer to provide such information and applicable drawings to the procuring activity for approval and shall also be the responsibility of the airframe contractor to determine a suitable location on the fuselage for installation of the tube Choice of the location shall be submitted to the procuring activity for approval. For applications where both nose-boom and side mounted pitot-static tube installations are impractical, wing booms may be used subject to the approval of the procuring activity

3.3 2.1.1 Alternate sources. For aircraft equipped with a nose boom, L-shaped pitot-static tubes, or wing boom, where the mission requirements dictate a need for added reliability, alternate sources for sensing pitot and static pressures shall be provided.

3.3 2.2 Pitot tubes, L-shaped pitot static tubes, and flush static ports. The pitot tube shall be mounted on the fuselage on either a boom, strut, or mast The L-shaped pitot-static tube and flush static ports shall be mounted on the fuselage in pairs in positions that are essentially diametrically opposite

3 3 3 System anti-icing capability The pitot-static system shall be capable of continuous unaffected operation in an icing atmosphere under the following conditions:

a	Altitude	10,000 feet
b	Mach No	0 60
c	True Outside Air Temperature	-25°C
d	Liquid Water Content	1 [illegible] grams/cubic meter
e	Droplet Size	30 microns

No ice shall form on or in the vicinity of the sensor that will affect the pitot or static sensing accuracy. Icing effects during various angles of attack shall be considered in the initial location of flush static ports.

3 3 3 1 Strut deicing Where a strut or mast is employed for mounting of a pitot tube or pitot-static tube, an electrical heater shall be provided in the leading edge to prevent the accretion of ice. The deicing system shall be suitably connected so that it will operate concurrently with the pitot or pitot-static tube deicing system. The strut or mast shall be tested in an icing wind tunnel under the same conditions and requirements listed in the pitot and pitot-static tube specifications

3 3 3 2 Deicing-circuit monitoring All pitot and pitot-static systems shall be equipped with an elapsed-time indicator (ETI) in parallel with the pitot or pitot-static tube heater. The ETI shall not degradate the heater circuitry reliability, shall be readily accessible to facilitate monitoring by ground maintenance crews, and shall conform to MIL-M-7793.

3.3.4 Location The pitot-static tubes or pitot tubes and flush static ports shall be so located as to provide total pressure and static pressure measurements with a minimum of interference effects from the aircraft. The location selected shall be as free as possible from the effects of boundary layer, angle of sideslip, speed brakes, access doors, gun ports, armament bay doors, landing gear flaps, fluids draining from the aircraft, or similar conditions.

* 3 3.5 Flush Static Port. The flush static port shall consist of a plate having the contour of the fuselage at the point of installation with an integral fitting for connection to the static pressure line. The flush static ports shall be so designed that a minimal amount of water will enter the ports. A drain port shall be provided near the bottom of the chamber behind the static ports so that only water collected in the static chamber will drain to the outside of the aircraft. The static port design shall conform to figure 1 To determine the linear dimensions of the plate, the contractor shall accurately measure the surface within a 20-inch square, centered on the flush port of the first two aircraft of each model aircraft, and calculate the controlled area by the flush static-pressure port calibration method (see 6.2) The analysis and results of the investigation shall be forwarded to the procuring activity for approval within 90 days after completion of the first two aircraft The analysis shall be conducted for the complete mach number range for the particular aircraft and shall include at least four different mach numbers equally spaced within the range. When a multiple flush static port configuration is utilized, all static ports shall be located on the plate with the primary static system centered within the area of the plate No red circle is required around the flush static port in missile applications

3 3.5.1 Structure Design of the structure surrounding the plate shall be such that no distortion of the plate will occur as a result of stresses encountered in operation, service, and maintenance The joint between the flush plate and the fuselage shall be such that the step between the two surfaces will not exceed 0.010 inch.

3 3.5.2 Exterior surface. The exterior surface of the flush static port plate shall have a surface finish of 32 micron inches rms or better and shall not deviate more than 0 0005 inch per inch from the mean shape of the aircraft under consideration The contour of the flush plate shall be dimensionally stable in all flight conditions to insure repeatability of the static source If a compensated static source is used, actual configuration and installation shall be subject to the approval of the procuring activity.

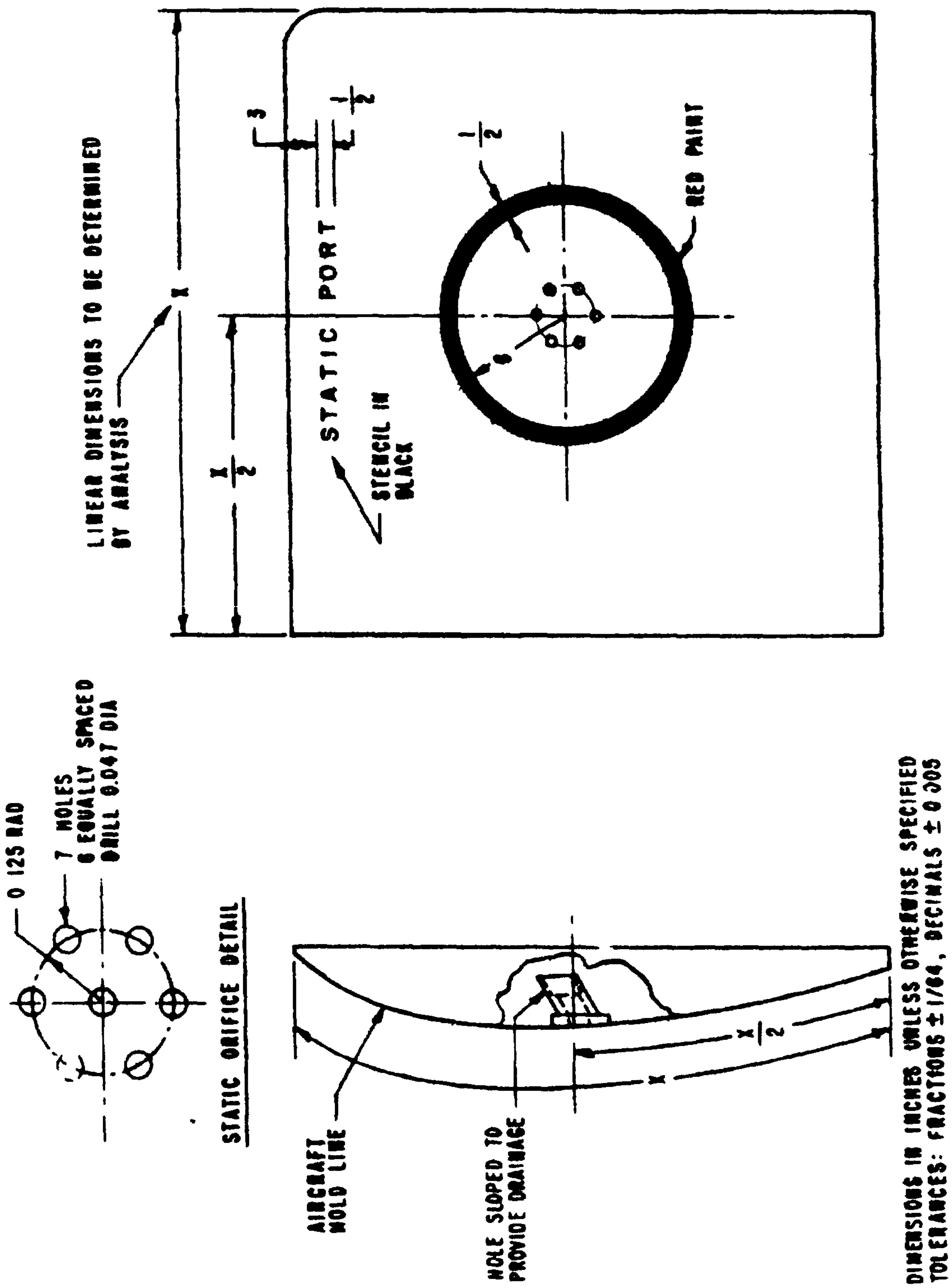


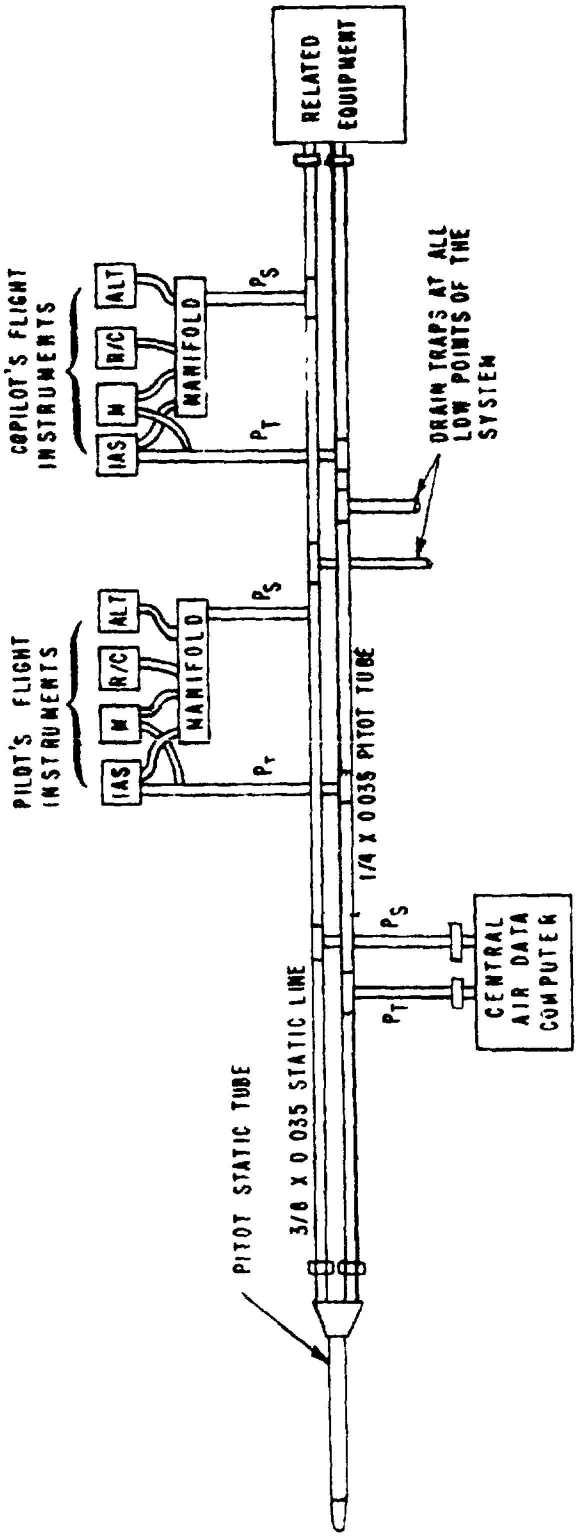
FIGURE 1 Flush Static Port Installation

3.3.6 Connecting lines. Arrangement of pitot and static pressure tubing between sensors, instruments, and computers or related equipment shall be essentially in accordance with figure 2, 3, 4, or 5. The final configuration, including the slopes of the lines and locations of drains, shall be submitted to the procuring activity for approval. For missile applications, the proposed layout of the pitot-static tubing arrangement and the transducer relative positions shall be submitted to the procuring activity for approval prior to production installation.

* 3.3.6.1 Pitot and static lines. Seamless aluminum tubing conforming to WW-T-700/4 shall be utilized for the pitot and static pressure connecting lines for normal aircraft installations. In high temperature applications, stainless steel tubing may be used as a substitute provided it meets the requirements of the weapon system and the conditions specified herein. Except where otherwise required for compliance with 4.5 5, the static pressure line shall have a 3/8-inch diameter with a 0 035-inch wall thickness for aluminum tubing and a 0 020-inch wall thickness for stainless steel tubing. The pitot pressure line shall have a 1/4-inch outside diameter with a wall thickness of 0 035 inch for aluminum tubing and 0.020 inch for stainless steel tubing. Bends shall be uniform and the radius shall be not less than the minimum specified on MS33611 The pitot pressure line shall have a 1/4-inch outside diameter with a wall thickness of 0.035 inch for aluminum tubing and 0.020 inch for stainless steel tubing. All aluminum tubing shall be anodized in accordance with MIL-A-8625 or coated with a chemical film conforming to MIL-C-5541 All stainless steel tubing shall conform to MIL-T-8606. There shall be no unsupported lengths greater than 18 inches. Supports shall not interfere with expansion or other necessary movement of the tubing in flight or on the ground. All pitot and static pressure tubing shall be marked with identifying colors conforming to MIL-STD-1247 The color-coding tape shall specify distinctly which line is pitot pressure and which line is static pressure and markings shall be within 3 inches of connecting fittings.

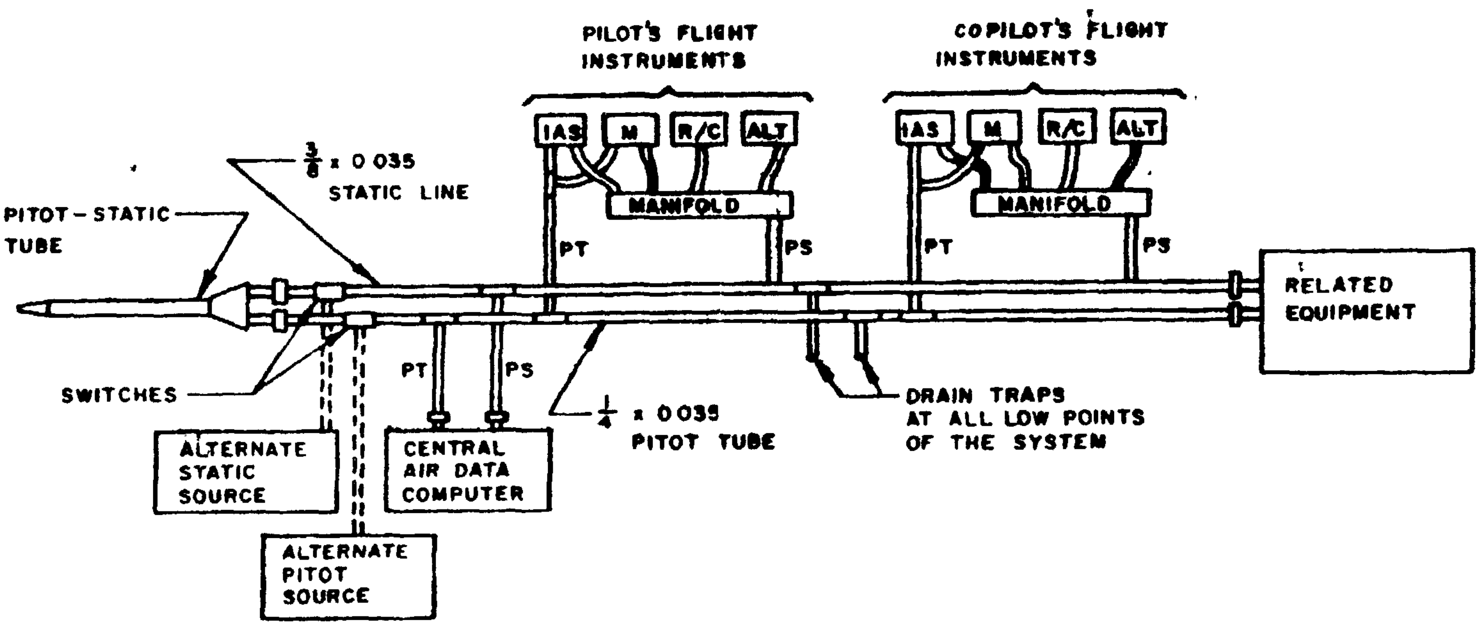
3.3 6 2 Connecting fittings. Connecting fittings used throughout the pitot-static system shall conform to AN or MS standards All threaded parts on all connecting fittings shall be coated with antiseize compound conforming to TT-A-580 For applications in aircraft where high vibration may be a problem, a locking material conforming to MIL-S-22473 shall be used. Each joint in the pitot-static pressure lines shall be readily accessible for inspection and maintenance with a disconnect installed in the pitot and static lines at the attachment points Brazed fittings shall be installed where stainless steel is to be used.

3 3 6 3 Flexible connections. Flexible hose assemblies in accordance with AN6270 or MIL-H-25579 shall be installed between the pitot and static pressure tubing and the panel-mounted instruments in manned aircraft to isolate the



NOTE THIS CONFIGURATION IS APPLICABLE TO THOSE AIRCRAFT EQUIPPED WITH A SINGLE NOSE BOOM OR WING BOOM INSTALLATION

FIGURE 2 Pitot-Static Tube System



NOTE THIS CONFIGURATION IS APPLICABLE TO AIRCRAFT EQUIPPED WITH A NOSE BOOM OR WING BOOM, AND WHICH REQUIRE ALTERNATE PRESSURE SOURCES AS DESCRIBED IN 3.3.2.1.1

FIGURE 3. Pitot-Static Tube System

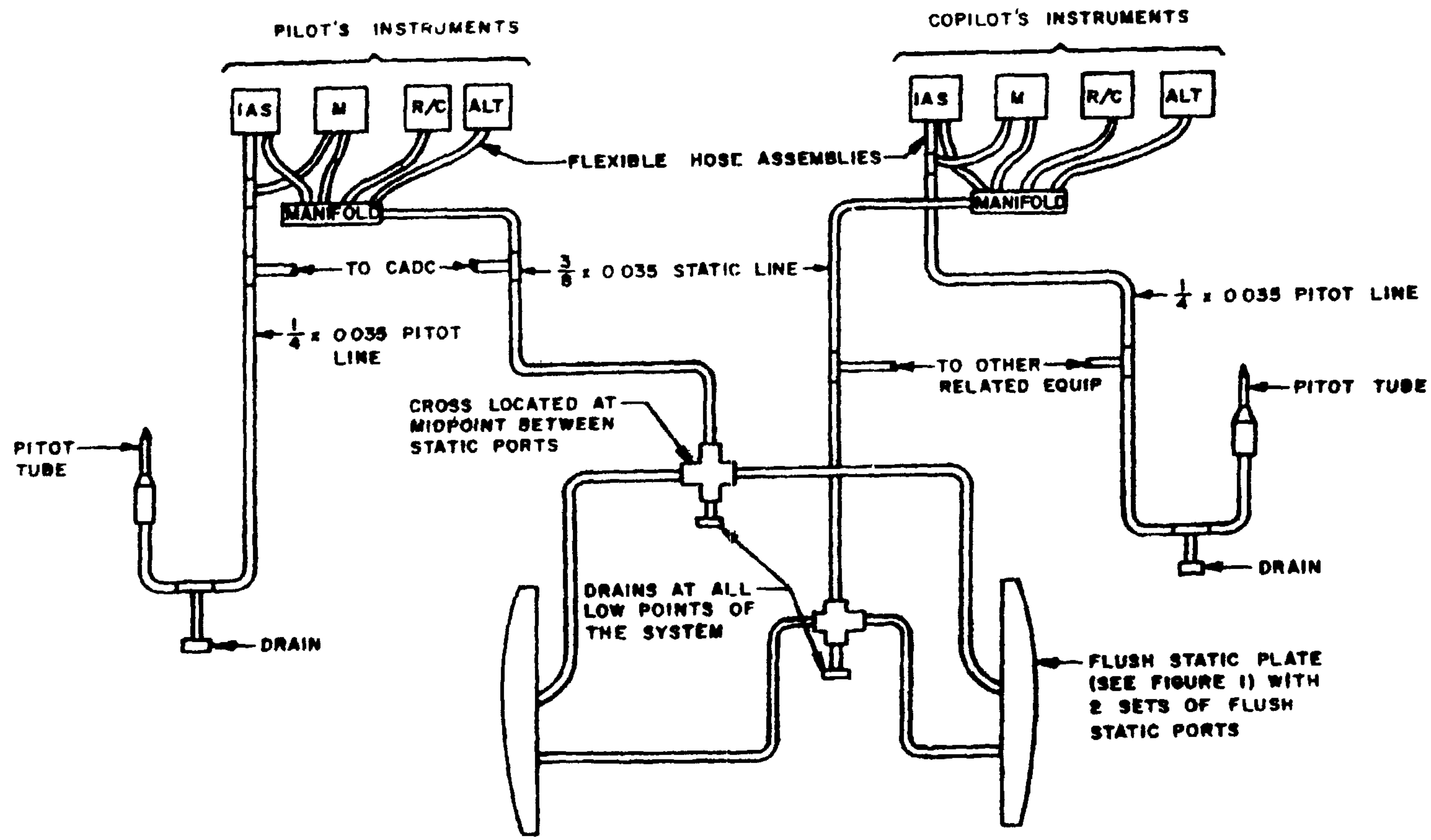


FIGURE 4 Pitot Tube and Flush Static Port System

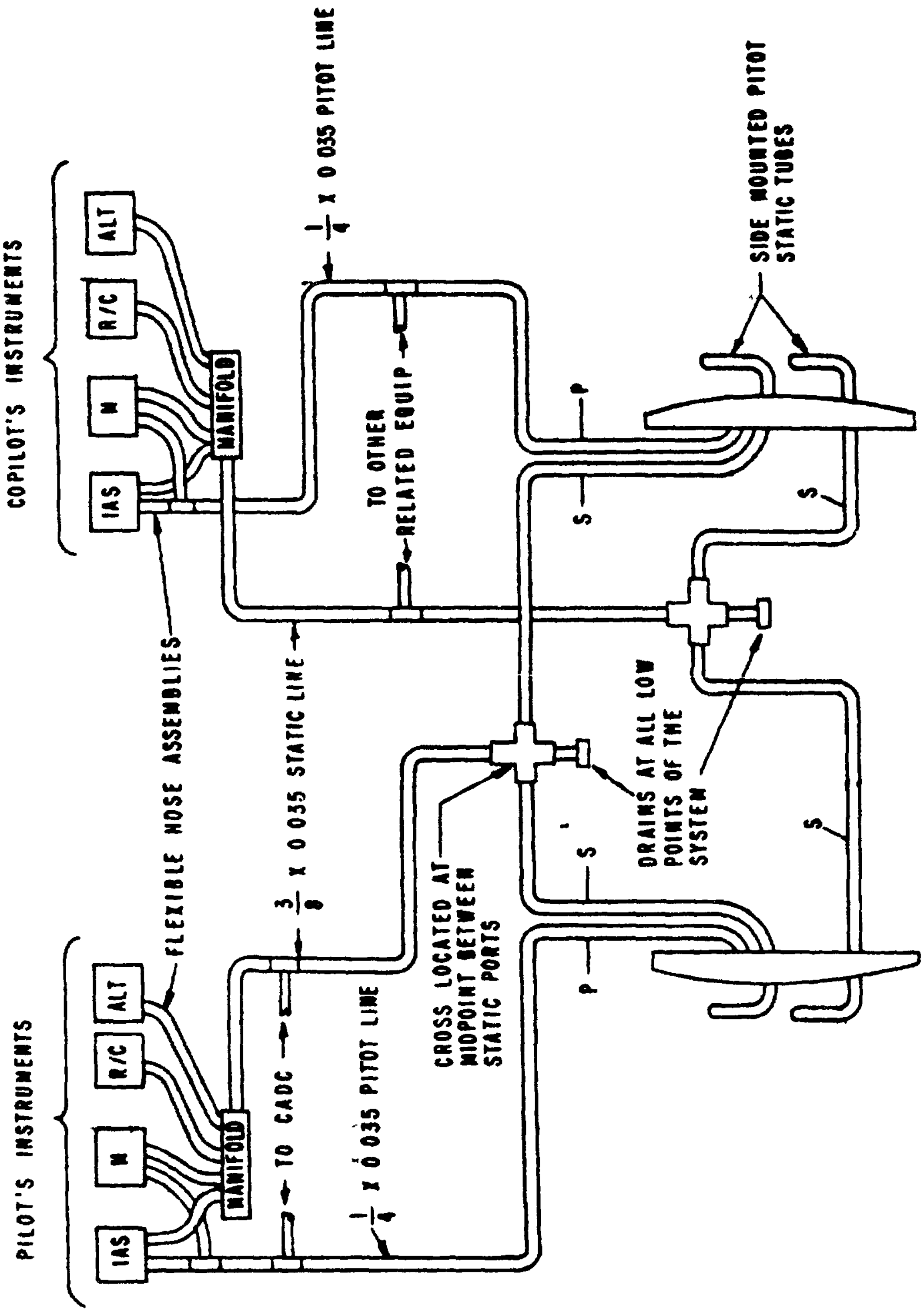


FIGURE 5. Pitot-Static Tube System - Side Mounted

instrument panel from the vibration of the aircraft structure. Flexible connections shall be used where other similar conditions exist in the pitot-static system of either manned aircraft or missiles

3.3.7 Drainage. A drain trap, having a removable drain plug which is easily accessible for inspection, shall be located at the lowest point in each pressure line and at any other low point where water may collect. The capacity of the trap shall be kept to a minimum to limit the pressure lag within the system. Each line shall be designed to drain to one low point, except where structure design necessitates additional low spots

3.3.8 Electrical circuit. The electrical circuit for the pitot-static deicing system shall be in accordance with AND10410 In manned aircraft, circuit breakers shall be located where they can be conveniently reset in flight. The circuit shall be so designed that power can be applied to the pitot-static tube during emergency operations at the option of the pilot

3.3.9 Clearing of lines. The pitot and static lines shall be blown clear with dry, high-pressure air immediately before the pitot-static or pitot tubes are installed in the system All drain plugs shall be removed and all instrument connections shall be vented to the atmosphere while the air is being blown through the lines.

4 QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or order, the supplier is responsible for the performance of all inspection requirements as specified herein Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of tests. The inspection and testing of pitot-static installations shall be classified as quality conformance tests.

4.3 Test condition

4.3.1 Standard atmospheric conditions. Whenever the pressure and temperature existing at the time of the test are not specified definitely, it is understood that the test is to be made at atmospheric pressure (approximately 29.92 inches Hg) and at room temperature (approximately 25°C) When tests are made with atmospheric pressure or room temperature differing materially from the above values, proper allowance shall be made for the difference from the specified condition

4.4 Quality conformance tests. Quality conformance tests shall consist of:

a. Individual tests

b. Sampling tests.

4.4.1 Individual tests. Each pitot-static system installation shall be subjected to the following tests as described under 4.5.

a. Examination of installation

b. Electrical wiring

c. Pressure leakage

d. Flushness and smoothness (flush static port installation).

4.4.2 Sampling tests. The first pitot-static system installation on any aircraft model, and the first installation embodying a system design change shall be subjected to the following tests as described under 4.5:

a. Individual tests

b. Pressure lag

c. Installation error

d. Dynamic flight conditions

e Compass deviation

4.4.2.1 Rejection and retest When one pitot-static system installation fails to meet the specification, no systems still on hand or later produced shall be accepted until the extent and cause of failure are determined.

4.4.2.1.1 Individual tests may continue. For operational reasons, individual tests may be continued pending the investigation of a sampling test failure But final acceptance of systems on hand or later produced shall not be made until it is determined that systems meet all requirements of the specification

4.4.3 Defects in systems already accepted The investigation of a test failure could indicate that defects may exist in systems already accepted. If so, the contractor shall fully advise the procuring activity of all defects likely to be found and methods of correcting them

4.5 Test methods

4.5.1 Examination of installation. A visual examination of the pitot-static system installation shall be conducted to determine conformance to the requirements of this specification.

4.5.2 Electrical wiring. Rated voltage shall be supplied by the primary electrical source. The voltage measured across the terminals of the pitot or pitot-static tube shall be not less than 26V for a 28V primary source and shall be not less than 100V for a 115V primary source when heaters are energized

4.5.3 Pressure leakage

4.5.3.1 Tubing pressure leak. The installed pitot-static tubing shall be individually tested with pneumatic equipment disconnected. The outlets of each tube shall be sealed and a standard altimeter, having a minimum known leak rate, shall be installed on one outlet of the static pressure line. A standard airspeed indicator, having a minimum known leak rate, shall be installed on one outlet of the pitot pressure line. A vacuum sufficient to provide an indication of 50,000 feet on the altimeter shall be applied to the static pressure source (pitot-static tube or flush static port) and then cut off. The leakage, with corrections made for the known indicator leak rate, shall not exceed a 100-foot altitude after a 5-minute period. A pressure equivalent to the total pressure encountered at the maximum speed of the aircraft shall be applied to the total pressure source (pitot-static tube or pitot tube) and then cut off. After a period of 5 minutes, the leakage, with corrections made for the known indicator leak rate, shall not exceed an airspeed of 1.0 knot.

4.5.3.1.1 Alternate test procedure for missiles. The installed pitot-static tubing shall be individually tested with all pneumatic equipment disconnected. The outlets of each tube shall be sealed and an accurate mercury manometer installed on one end of each tube at the position of the major pressure transducer. A vacuum equal to 86.99 mm Hg shall be applied to the static pressure source (pitot-static tube or flush static ports) and then cut off. After a 5-minute period, the pressure measured by the manometer shall not have increased above 87.40 mm Hg. A pressure equivalent to the total pressure encountered at the maximum speed of the aircraft shall be applied to the total pressure source (pitot-static tube or pitot tube) and then cut off. After a 5-minute period, the pressure leakage shall not exceed an amount equivalent to an airspeed of 1.0 knot.

4.5.3.2 Pitot-static system leakage. With the instruments and related equipment properly connected to the pitot and static pressure lines, the entire system shall be tested for leakage. A vacuum sufficient to provide an indication of an altitude of 40,000 feet or three-fourths of full-scale deflection on the production altimeter, whichever is less, shall be applied to the static pressure system and then cut off. After a period of 5 minutes, the leakage shall not exceed an altitude drop of 3,000 feet A pressure equal to that obtained with the aircraft at maximum airspeed shall be applied to the total pressure source and then cut off After a period of 5 minutes, the leakage indicated on the airspeed indicator shall not exceed 10 knots

4.5.3.2.1 Alternate procedure for missiles With the instruments and other related pneumatic equipment properly connected to the pitot and static pressure lines, the entire system shall be tested for leakage The outputs of the major pressure transducer shall be monitored for determination of leakage A vacuum sufficient to provide a signal equivalent to 40,000 feet shall be applied to the static pressure source and then cut off After a period of 5 minutes, the leakage shall not exceed an amount equivalent to 3,000 feet A pressure equal to the maximum airspeed attainable with the vehicle shall be applied to the total pressure source and then cut off After a period of 5 minutes, the leakage as indicated by the transducer output signal shall not exceed an amount equivalent to 10 knots.

4 5 4 Flushness and smoothness (flush static port installation). The flush static plate installation on the aircraft shall be measured with a suitable device and shall not deviate more than 0 0005 inch per inch from the mean shape of the aircraft mold line. The step between the flush plate and the aircraft shall not exceed 0.010 inch. In the case of compensated flush static plates, deviation from the mean shape of the mold line shall be subject to the approval of the procuring activity.

4.5.5 Pressure lag During the design phase, the contractor shall submit to the procuring activity a theoretical lag analysis of the proposed static pressure system. The analysis shall be similar to that explained in the airborne pressure measuring system method (see 6 2), and shall include a schematic of the static pressure system with tubing dimensions and instrument volumes

4 5.5.1 Verification of response characteristics. The contractor shall conduct a test, either on a mockup of the system or on the actual installation on the aircraft, to verify the response characteristics of the production static pressure system. The lag of the system shall be determined at 50,000 feet and shall not exceed the limits shown on figure 6 (The maximum rate of climb shown in the ordinate of figure 6 refers to the maximum rate of climb capability of the aircraft.) The data shall be submitted to the procuring activity prior to production release of the aircraf·

4.5.6 Installation error. For missile applications, the contractor shall submit to the procuring activity for approval (1) applicable accuracy and response requirements based on the required performance of the vehicle (2) a proposed test program to determine the pitot-static pressure installation error

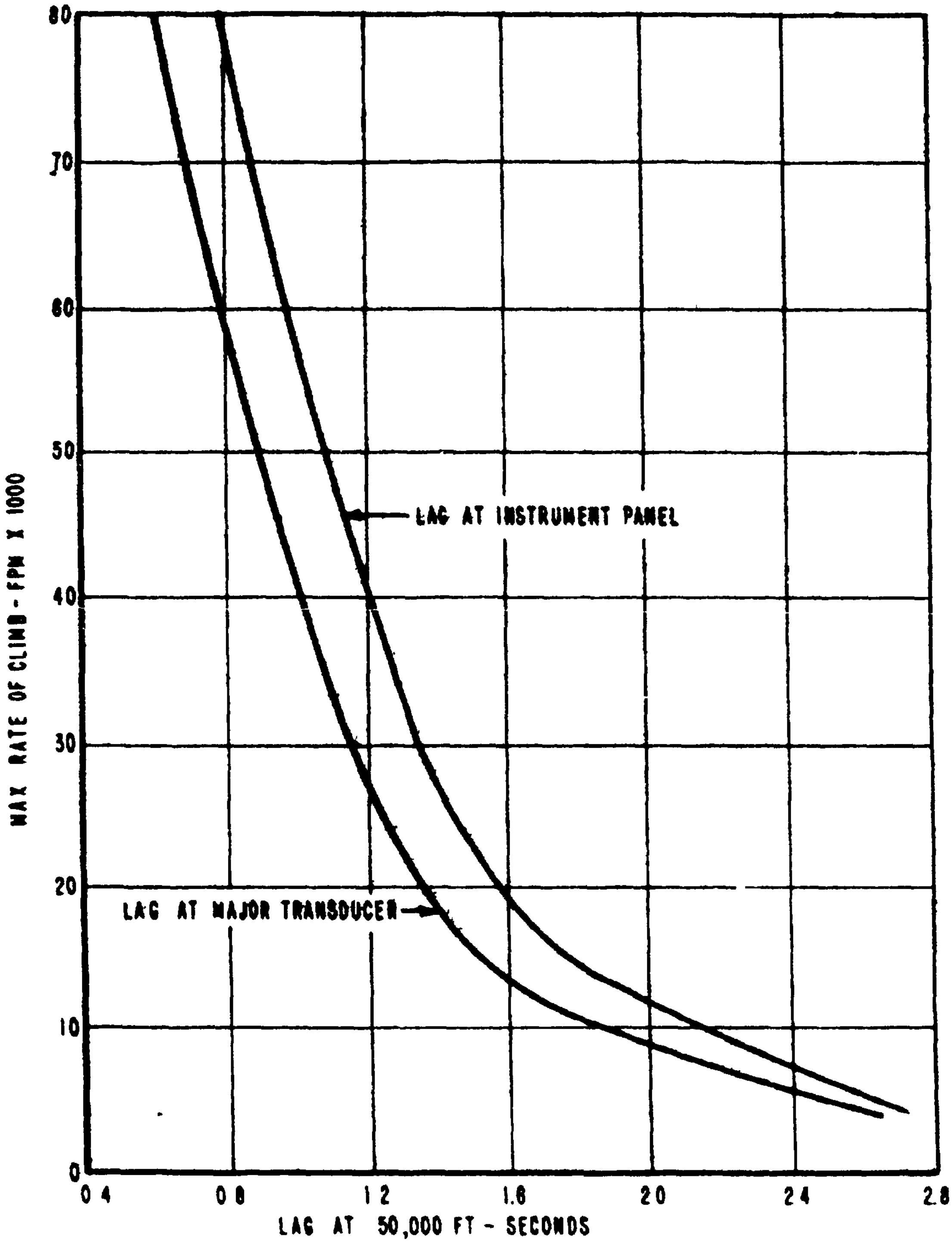


FIGURE 6 Static Pressure System Lag

For manned aircraft, the pitot-static installation error shall be determined by one of the following methods, or by a combination of these methods, or by other methods, upon approval by the procuring activity, capable of producing equal or superior results. Methods used shall be compatible with the performance requirements of the vehicle and as specified herein.

a. Tower fly-by method - The aircraft is flown close to an aircraft control tower and the altitude of the aircraft is measured by photographing its position on a measured grid

b -Radar phototheodolite method - The aircraft is tracked by radar using a boresight camera to correct the azimuth and elevation angles read from the radar scales

c. Pacer technique - The pacer aircraft and the aircraft being calibrated are flown together in close formation while the altitude and airspeed indications are compared

d. Fly-by parallax technique - The pacer aircraft is flown at a constant speed and altitude while the aircraft to be calibrated alternately decelerates and accelerates while keeping the pacer aircraft in line with the horizon

e Trailing cone method - A static port is suspended far enough behind an aircraft so that it is unaffected by the aerodynamic disturbances of the aircraft The altitude readings are then compared with those readings obtained from the trailing cone.

4 5.6 1 Outline An outline of the method and instrumentation to be used for airspeed and altimeter system calibration shall be submitted to the procuring activity and approval obtained 60 days prior to the initiation of tests

* 4 5 6 2 Position error tolerance In the clean configuration and throughout the full weight range of the aircraft, the static pressure position error shall not exceed the envelope of tolerances specified on figure 7. If the position error falls within the envelope of curve B but not in the envelope of curve A, compensation through an air data computer is necessary. If the position error is entirely within the envelope of curve A then no air data computer correction is required The exact tolerance envelope for curve A is as specified in table I. Throughout the entire supersonic range, the position error ($\Delta P/q_c$) shall not exceed ±1.0 percent for flush static port installation nor ±0.4 percent for nose-boom installations In the landing configuration below mach 0.4 with the landing gear and wing flaps down, the altitude tolerance shall be ±30 feet. Operation of speed brakes, fire control doors, gun ports, bomb bay doors, landing gear, flaps, or similar equipment shall not cause the airspeed or altitude calibration to vary by more than ±2 knots or ±15 feet,

whichever is the least from the clean configuration. The limits specified are not intended to include instrument indicator errors. The calibration data shall be submitted in a form substantially as outlined on figures 7 and 8. The altitude calibration system shall include a notation of angle of attack during the various aircraft maneuvers.

TABLE I
Figure 7 Curve A tolerance

Mach Number	Position Error ($\Delta P/q_c$)
0.3	-0 015 to +0.020
0.4	-0.015 to +0.020
0.5	-0.015 to +0.020
0 6	-0.015 to +0.017
0.7	-0.012 to +0.012
0 8	-0.008 to +0.008
0.9	-0.005 to +0.005
1.0	-0.003 to +0 003
1 1	-0.002 to +0.002
1 2	-0 002 to +0.002

4.5.6 3 The measured pitot pressure shall not differ from the true pitot pressure by more than 0 4 percent throughout the entire mach number range of the aircraft

4 5 7 Dynamic flight conditions

4 5 7 1 Yawing While the aircraft is yawed approximately 10° (or full right and left rudder, whichever is less) in both right and left directions during approach conditions, the airspeed indication shall not differ from the straight-flight conditions by more than ±2.0 knots. The altimeter indication shall not differ from the straight-flight conditions by more than a ±20-foot altitude. Effects of yawing conditions shall be demonstrated in the missile test program

4 5 7 2 Pullup A rate-of-climb indicator shall be connected to the static pressure system (the pilot's and copilot's instruments may be used) Variation of the static pressure during pullups from straight and level flight shall be determined at a safe altitude above the ground and at minimum of three widely separated indicated airspeeds During an abrupt pullup from level flight, the rate of climb indicator shall indicate UP without excessive hesitation and shall not indicate DOWN before it indicates UP

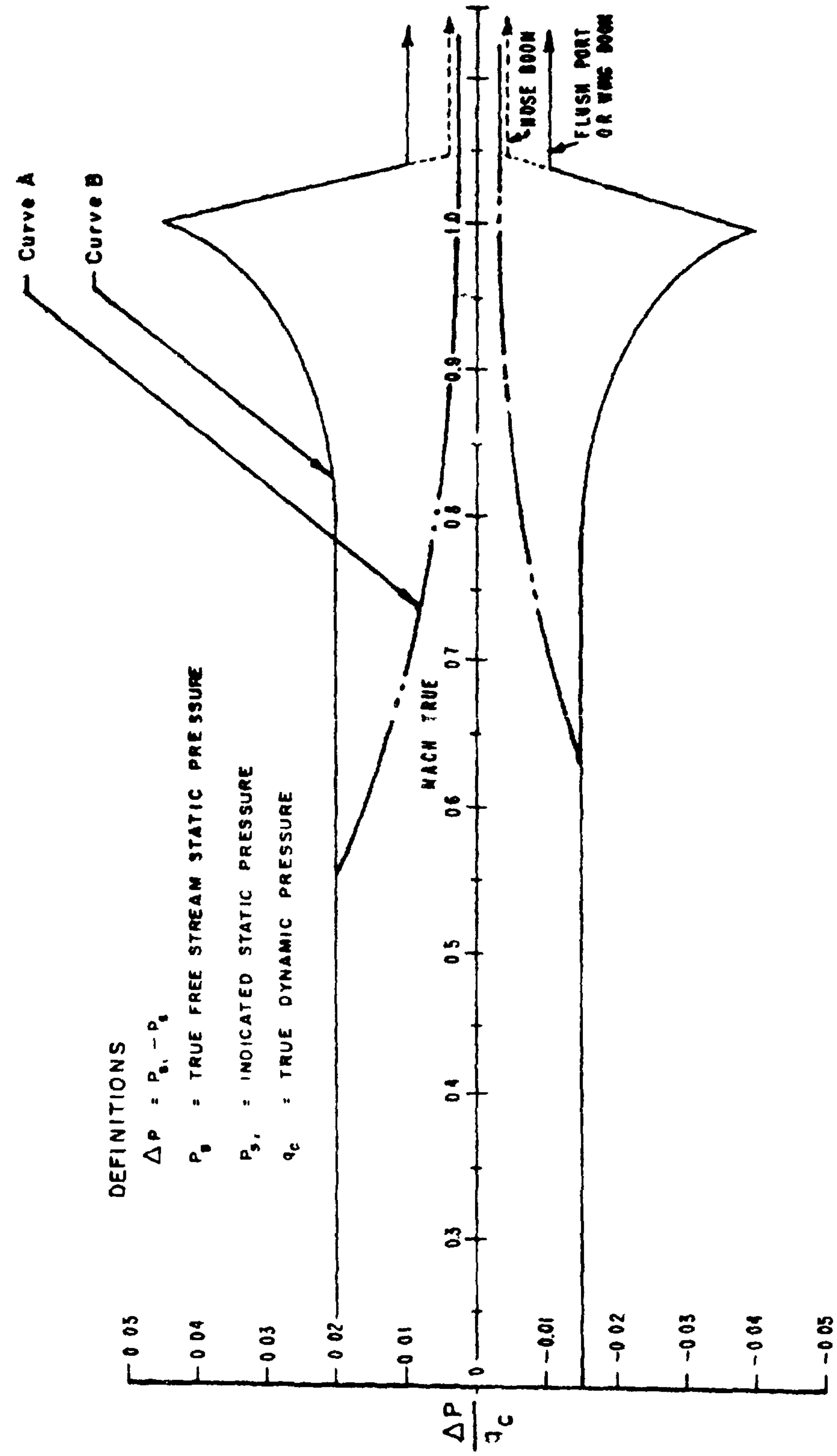


*Figure 7 Position Error Tolerance

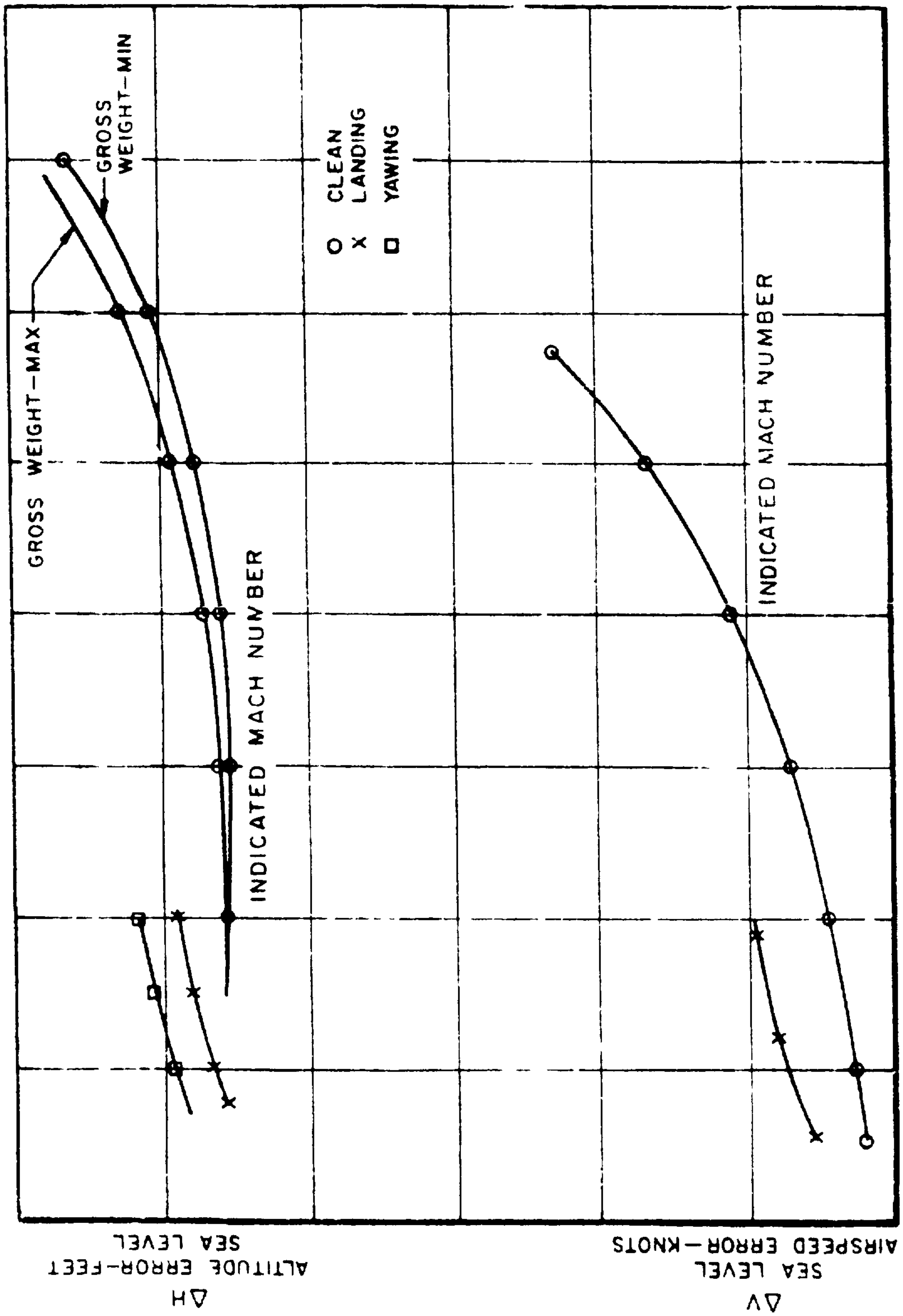


FIGURE 8 Data Presentation

4.5.7.3 Pushover. A rate-of-climb indicator shall be connected to the static pressure system (the pilot's and copilot's instruments may be used) Variation of the static pressure during pushover from straight and level flight shall be determined at a safe altitude above the ground and a minimum of three widely separated indicated airspeeds. During an abrupt pushover from level flight, the rate-of-climb indicator shall indicate DOWN without excessive hesitation and shall not indicate UP before it indicates DOWN

4.5.7.4 Rough air Sufficient maneuvering shall be accomplished in flight to determine that installation of the pitot-static system will produce no objectionable instrument pointer oscillation in rough air. Pointer oscillation of the airspeed indicator shall not exceed 3 knots.

4.5.8 Compass deviation With the airplane pointed to each of the four cardinal headings, the readings of all compasses in the airplane shall be noted with the electrical circuit ON shall not exceed 1°

5 PREPARATION FOR DELIVERY

5.1 This section is not applicable to this specification

6 NOTES

6.1 Intended use This specification is intended to be used as a basis for the installation and inspection of pitot and static pressure systems in aircraft and missiles

6.2 Information Information on [illegible] static pressure port calibrations is contained in [illegible] Report 6[illegible]3 entitled "Evaluation of Factors Affecting the Calibration Accuracy of Aircraft Static Pressure Systems" Information on airborne pressure measuring systems is contained in WADC Technical Report 57-351 entitled "The Influence of Geometry Parameters upon Lag Error in Airborne Pressure Measuring Systems" Contractors having active contracts may obtain these documents from the Defense Documentation Center, Cameron Station, Building 5, 5010 Duke Street, Alexandria, Virginia 22314 Prospective bidders should contact the Aeronautical Systems Division, ASNFI-10, Wright-Patterson Air Force Base, Ohio.

6.3 Marginal indica. The outside margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in those notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodian:
Air Force - 11

Review activity:
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Preparing activity:
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Project No. 6610-F123

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5. PROBLEM AREAS

a. Paragraph Number and Wording

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c. Reason/Rationale for Recommendation

6. REMARKS

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