TM9-1270-219-13&P

TECHNICAL MANUAL

OPERATOR
AVIATION UNIT AND INTERMEDIATE
MAINTENANCE INSTRUCTIONS
WITH REPAIR PARTS AND
SPECIAL TOOL LISTS (RPSTL)
(INCLUDING DEPOT MAINTENANCE REPAIR PARTS
AND SPECIAL TOOL LIST)
FOR

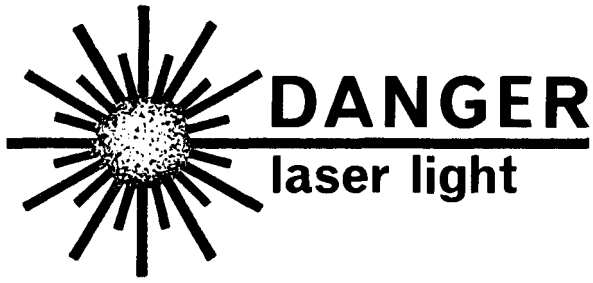
FIRE AND FLIGHT AIR DATA SUBSYSTEM, HELICOPTER ARMAMENT: XM 143 PN 03-004-02 NSN 1270-01-072-4220

PREPARED BY
MARCONI AVIONICS LIMITED

DAAJ01-78-C-0400

HEADQUARTERS, DEPARTMENT OF THE ARMY

01 JUNE 1981



The laser beam is dangerous and can cause blindness if it enters the eye either directly or reflected from a shiny surface. Laser light leakage due to improper mounting of the TSU window cover may cause injury to the eye.

WARNING

HIGH VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

May result if personnel fail to observe safety precautions. Learn the areas containing high voltage in each LRU. Before working on the equipment, always turn power off when removing or replacing LRU or SRU.

CHANGE
NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 29 August 1990

OPERATOR AVIATION UNIT AND INTERMEDIATE MAINTENANCE INSTRUCTIONS WITH REPAIR PARTS AND SPECIAL TOOLS LIST (INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

FIRE AND FLIGHT AIR DATA SUBSYSTEM HELICOPTER ARMAMENT, XM 143

PART NUMBER 03-004-02

NSN 1270-01-072-4220

1. TM 9-1270-219-13&P, May 1981 is changed to incorporate Air Data Subsystem Electronic Circuit Boards, Failure Isolation Shop Set (FISS).

2. Remove old pages and insert new pages indicated below.

3. New or changed material is indicated by vertical bar in the margin of the page.

4. Upon receipt of this change, all references to MOS 68M will be changed to 68J, due to MOS consolidation. Title for 68J is as follows: Aircraft Armament/Missile Systems Repairer.

Remove pages	Insert pages
5-21 and 5-22	5-21 and 5-22
D-3 and D-4	D-3 and D-4
D-5 and D-6	D-5 and D-6
Glossary 1 and Glossary 2	Glossary 1 and Glossary 2
Index 1 and Index 2	Index 1 and Index 2

5. File this change sheet in back of the publication for reference purposes.

By Order of the Secretary of the Army:

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General, United States Army
Chief of Staff

Official:

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The Adjutant General

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TM 9-1270-219-13&P

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY

NO. 9-1270-219-13&P

WASHINGTON, DC, 1 JUNE 1981

Operator Aviation Unit and
Aviation Intermediate Maintenance Manual

FIRE AND FLIGHT AIR DATA SUBSYSTEM. HELICOPTER ARMAMENT, XM 143

NSN 1270-01-072-4220

CURRENT AS OF 1 JUNE 1981

REPORTING OF ERRORS

You can help improve this manual by calling attention to errors and by recommending improvements and stating your reasons for the recommendations. Your letter or DA Form 2028, Recommended Changes to Publications, should be mailed directly to US Army Armament Materiel Readiness Command, Rock Island IL 61299, ATTN: DRSAR-MAS. A reply will be furnished directly to you.

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CHAPTER I
INTRODUCTION

Section I. GENERAL.

1-1. Scope. This manual is for your use in operating and maintaining the AH-1S Cobra Fire and Flight Air Data Subsystem, Helicopter Armament (Air Data Subsystem).

1-2. Maintenance Forms and Records. Maintenance forms and records which you are required to use are listed and explained in TM 38-750.

1-3. Administrative Storage. Instructions for administrative storage are given in TM 740-90-1, Administrative Storage.

1-4. Destruction of Army Materiel to Prevent Enemy Use. Instructions for destruction of Army materiel to prevent enemy use will be prescribed in TM 750-244-2.

1.5. Calibration. Calibration of the transducers in the Electronics Processor Unit (EPU) is carried out at depot level. Alignment check of the ADS LRUs is covered in Chapter 5 of this manual.

1-6. Quality Assurance/Quality Control (QA/QC). To be determined.

1-7. Reporting Equipment Improvement Recommendations (EIR). EIR's will be prepared on SF Form 368, Reporting Quality Deficiencies. Instructions for preparing EIR's are provided in TM 38-750, the Army Maintenance Management System. EIR's should be mailed directly to the US Army Armament Materiel Readiness Command, Rock Island IL 61299 ATTN DRSAR-MAO. A reply will be furnished directly to you.

Section II. DESCRIPTION AND TABULATED DATA.

1-8. Components of the Fire and Flight Air Data Subsystem, Helicopter Armament (Air Data Subsystem). The Air Data Subsystem (ADS), figure 1-1, consists of three LRUs: a Detector. Wind Direction, Speed and Temperature (Airspeed and Direction Sensor), a Processor, Signal, Fire and Flight Air Data Subsystem (Electronics Processor Unit) and an Indicator, Airspeed and Direction (Low Airspeed Indicator). The Sensor Installation is also considered to be part of the Air Data Subsystem. Installation of the LRUs on the helicopter is shown in figure 1-2. For additional detail in locating these components refer to TM-55-1520-236/239-10.

1-9. Function of the Air Data Subsystem (ADS). The ADS provides low airspeed information for two separate functions:

a. To enable the Fire Control Computer to adjust rocket launch angle for the effects of rotor downwash. Dependent on the weight, flight path and airspeed of the AH-1S, the rotor downwash will deflect rockets by about three degrees.

b. To provide information to the pilot on horizontal airspeed in forward, rearward and sideways flight which is accurate to within 4 knots.

c. It is not possible for the conventional air data system, employing a fixed pitot probe and a fixed static vent, to provide the information required for these functions.

1-10. Principles of Operation. The raw data required by the Air Data Subsystem is obtained from a swivelling probe Airspeed and Direction Sensor mounted within the rotor downwash. The AADS senses pitot and static pressure and the angle of the air flow relative to the helicopter fuselage

a. The helicopter rotor produces an induced flow velocity (v), (v, fig. 1-3) perpendicular to the tip path of the blades. If the tip path plane (TPP) is inclined to the horizontal by an angle (i) the helicopter will have a horizontal air velocity (v) and the local flow at a point (P) under the rotor will be of speed (V) and direction ($\propto$) to the horizontal.

b. The swivelling probe Airspeed and Direction Sensor is placed at P and will sense $\overline{V}$ and $\propto$. By resolving $\overline{V}$ in the horizontal plane:

$$\overline{V} \cos \propto = V + v_i \sin i$$

The value of $v_i \sin i$ is a repeatable function of horizontal airspeed irrespective of thrust, weight, vertical speed, sideslip angle, center of gravity position, etc. and depends only on ground proximity.

c. Hence $\overline{V} \cdot \cos \propto \equiv f(V)$, ie. the horizontal component of the airflow under a helicopter rotor is unique, compound function of horizontal aircraft velocity.

d. In the hover the probe senses the induced flow velocity (V) which is greater than 15 knots in all practical flight conditions.

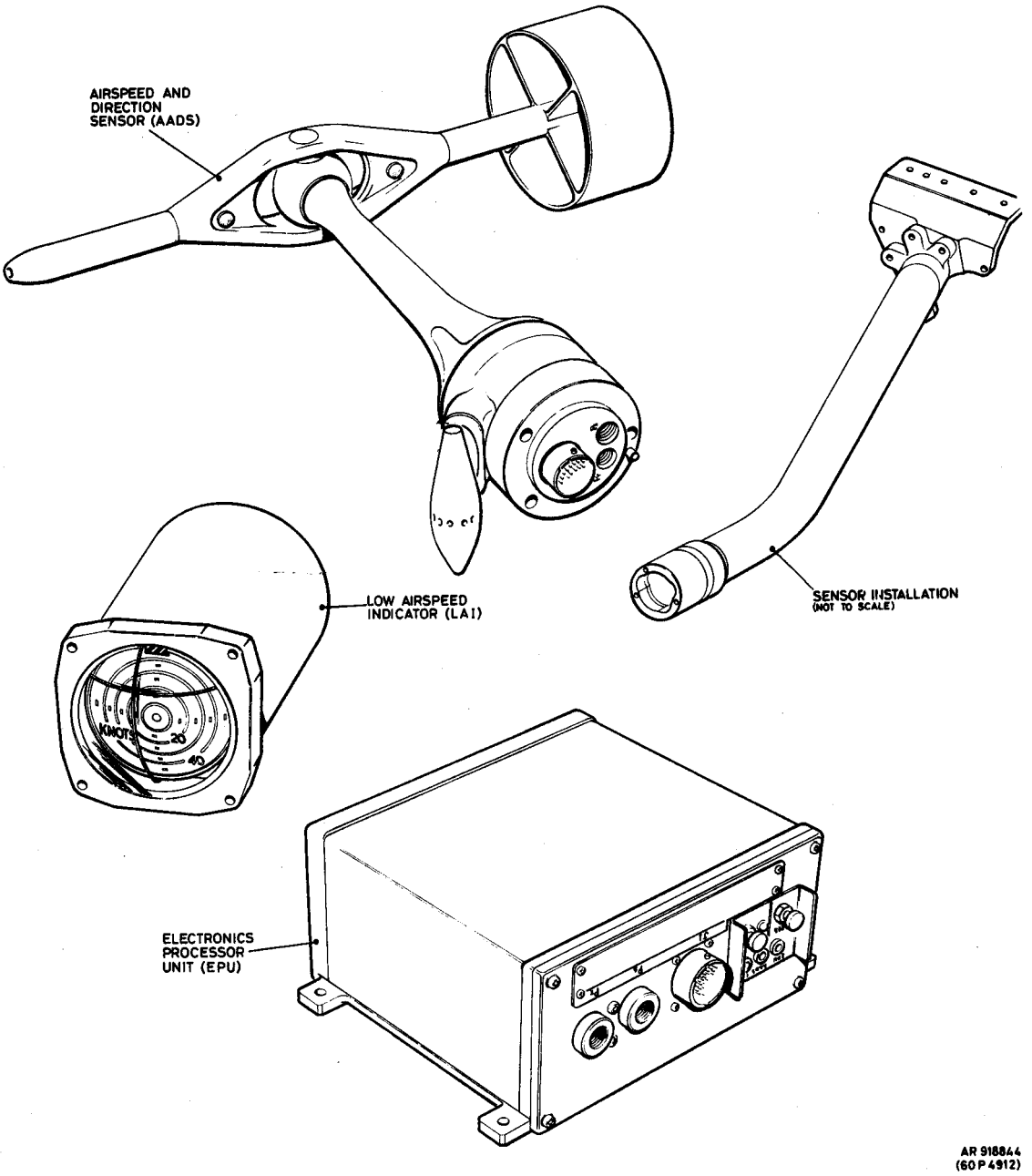


Figure 1-1. Air Data Subsystem LRUs.

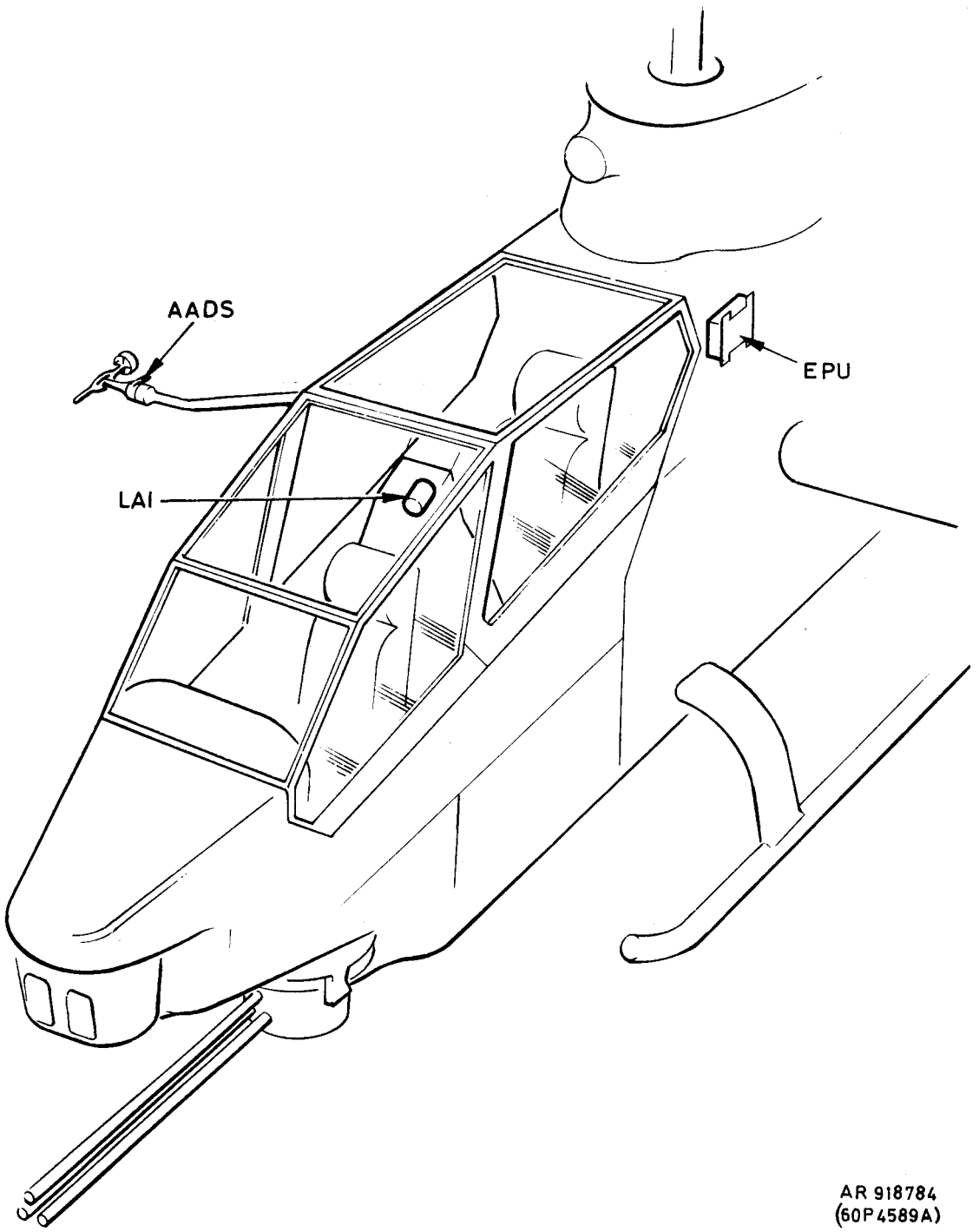


Figure 1-2. Air Data Subsystem Installation.

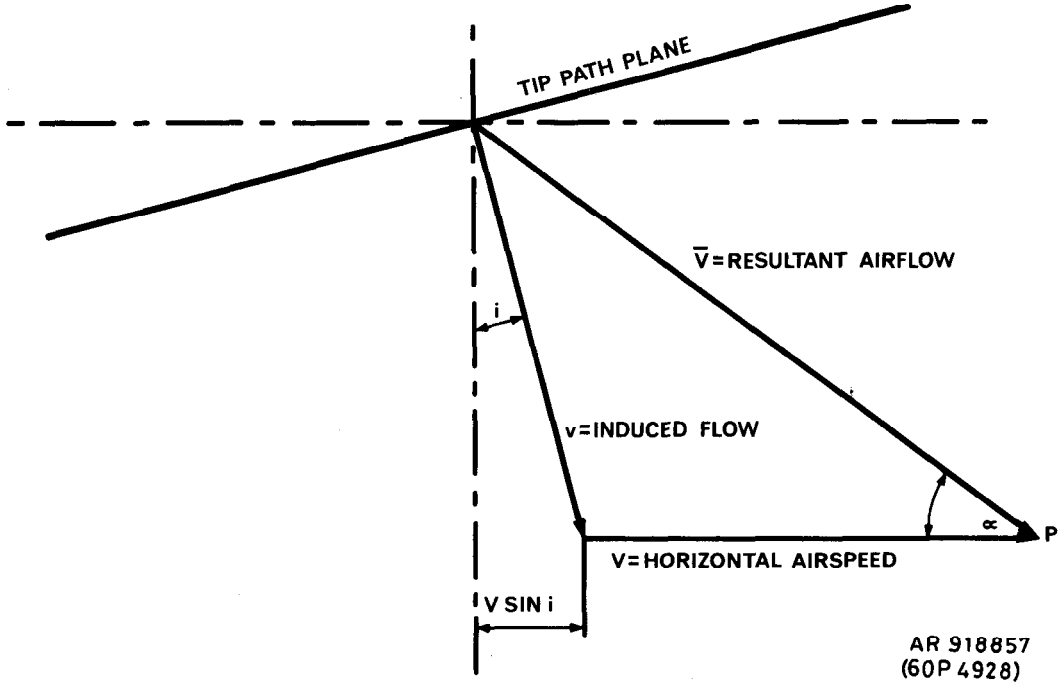


Figure 1-3. Airflow Under the Rotor.

e. Since the probe is always aligned with rotor downwash the static pressure port does not suffer from pressure errors and pressure error/velocity gradients. Having correctly sensed the pitot and static pressures it is then necessary to correct this data for fuselage downwash effects in order to obtain accurate airspeed and airflow direction. These effects are removed by airspeed characterization, to achieve corrections to the forward, lateral and vertical airspeed parameters.

f. Characterization is defined as the correction of the system airspeed outputs for the effects of downwash and airflow distortion around the helicopter fuselage. Characterization is therefore peculiar to any one helicopter type.

g. The Airspeed profile of the AH-1S in forward and rearward flight is shown in figure 1-4. At airspeeds of less than 32 knots forward, the AADS will underread while from 32 knots to 60 knots the AADS will overread, due to the turbulence generated by the tips of the rotor blade. At airspeeds above 60 knots, the AADS is clear of the rotor downwash and no characterization is required. Similar characterization is required for lateral flight, though in this case the AADS always underreads as the helicopter cannot fly sideways at a speed where rotor blade turbulence can be sensed by the AADS. Therefore, the level of the airspeed correction required for combined forward and lateral is determined by the AADS which senses the downwash turbulence under the rotor,

h. Airspeed corrections are applied for any combination of forward and lateral flight. For example, forward errors for all forward airspeeds with zero lateral airspeed are stored in the form of a curve. This discontinuity curve is stored in the Central Processor Unit memory in the Electronics Processor Unit (EPU) as a series of polynomial equations.

i. By using a similar curve for forward airspeeds with a 10 knot lateral component, it is possible to interpolate between the two to give the forward error for all forward airspeeds with lateral components of between 0 to 10 knots. By extending this process, a complete picture of the forward errors for all lateral airspeeds can be constructed. With similar curves for lateral airspeed

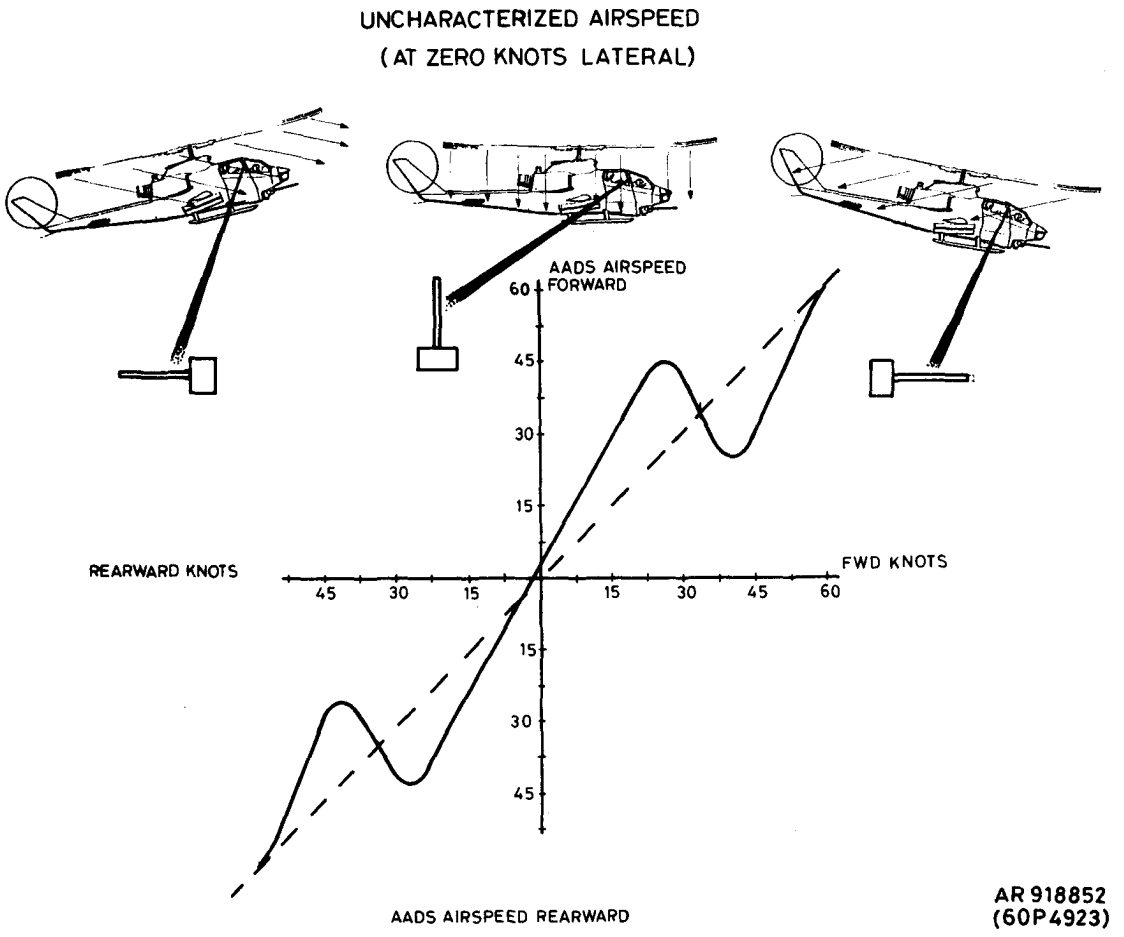


Figure 1-4. AH-1S Low Airspeed Profile.

error against lateral airspeed for discrete forward speeds, a complete picture of lateral errors is obtained.

j. Vertical airspeed errors are corrected in a similar way to the horizontal airspeed errors, using error curves and interpolation techniques.

k. Because downwash is inconsistent when the helicopter is in ground effect, the ADS utilizes the Radar Altitude signal to obtain the corrected airspeed at heights of less than 30 feet.

1-11. System Description of the Air Data Subsystem (ADS). A system block diagram is shown in figure 1-5 and modular breakdown of the ADS is shown in figure 1-6.

a. The AADS is a swiveling pitot-static probe which samples local airflow pitot and static pressures, the angles of that airflow relative to the helicopter and the free stream air temperature. Pneumatic pressure outputs are fed via the helicopter plumbing to transducers in the EPU Electronic signals representing airflow angle and temperature are also fed to the EPU. The pneumatic pressure outputs are converted into analog electronic signals by the electrical force balance transducers in the EPU.

b. Computation to convert the AADS outputs into airspeed components and temperature and pressure output is accomplished by a microprocessor based computing unit in the EPU. The computing unit also controls input and

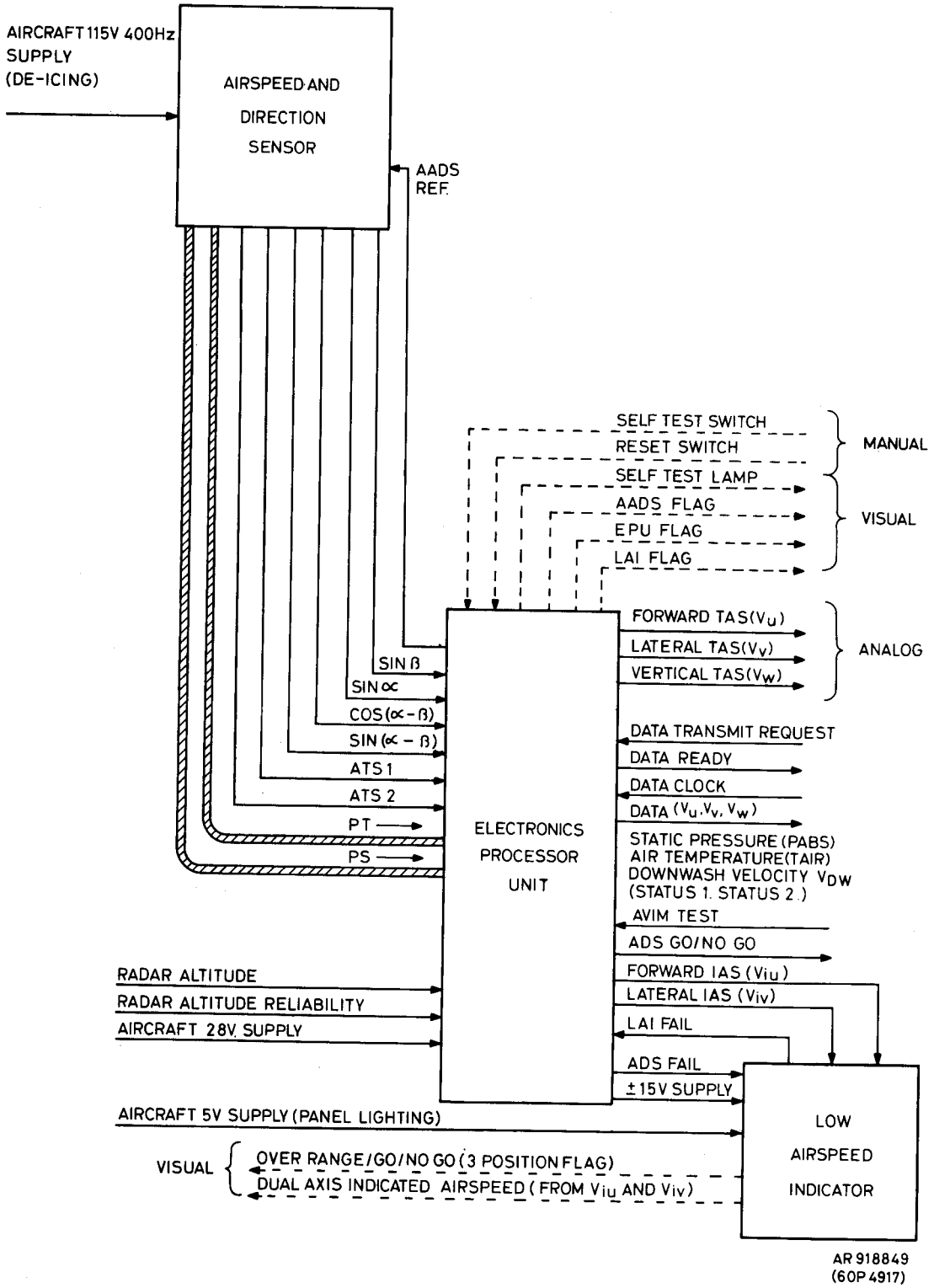


Figure 1-5. Air Data Subsystem Block Diagram.

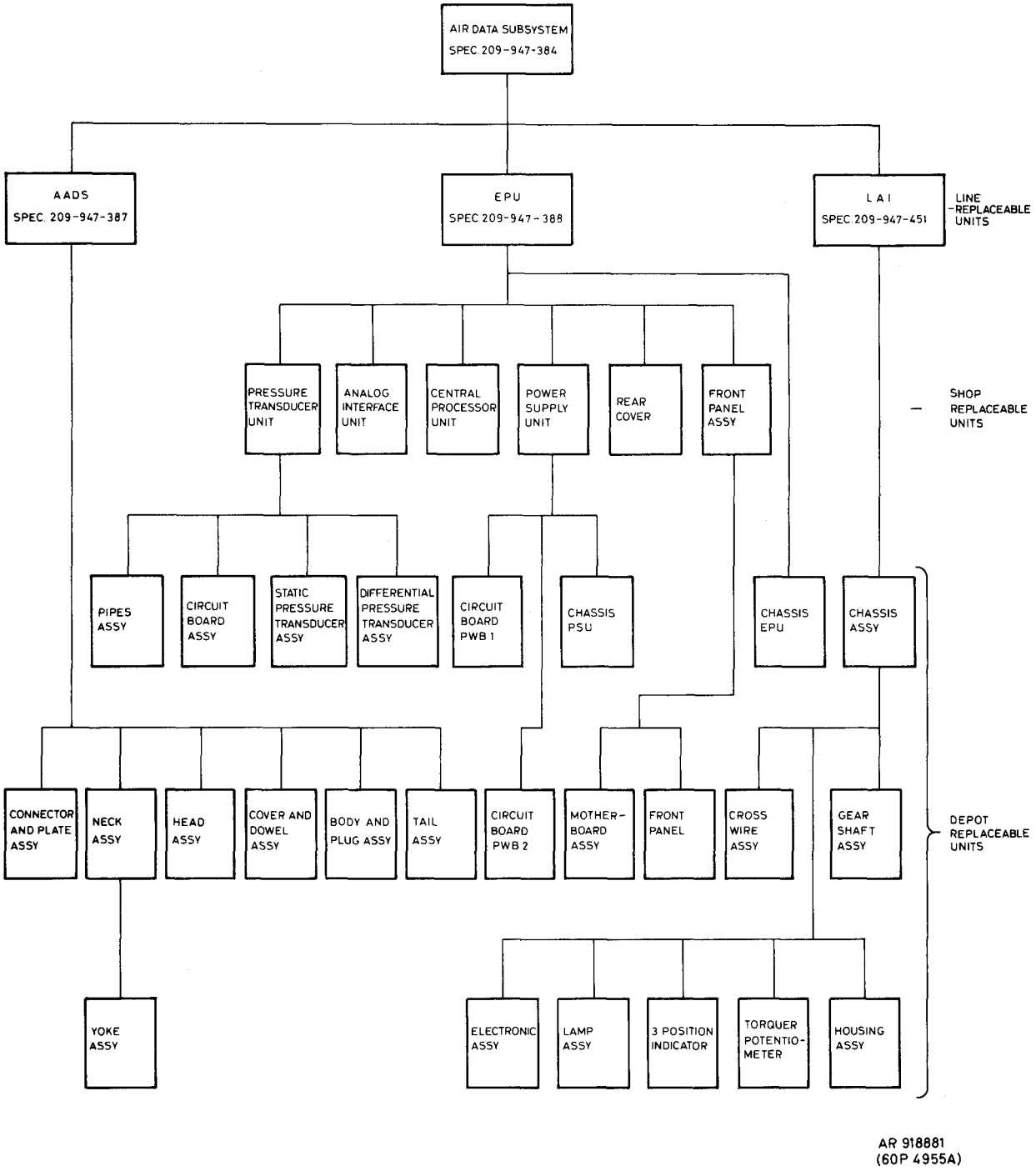


Figure 1-6. Air Data Subsystem Modular Breakdown.

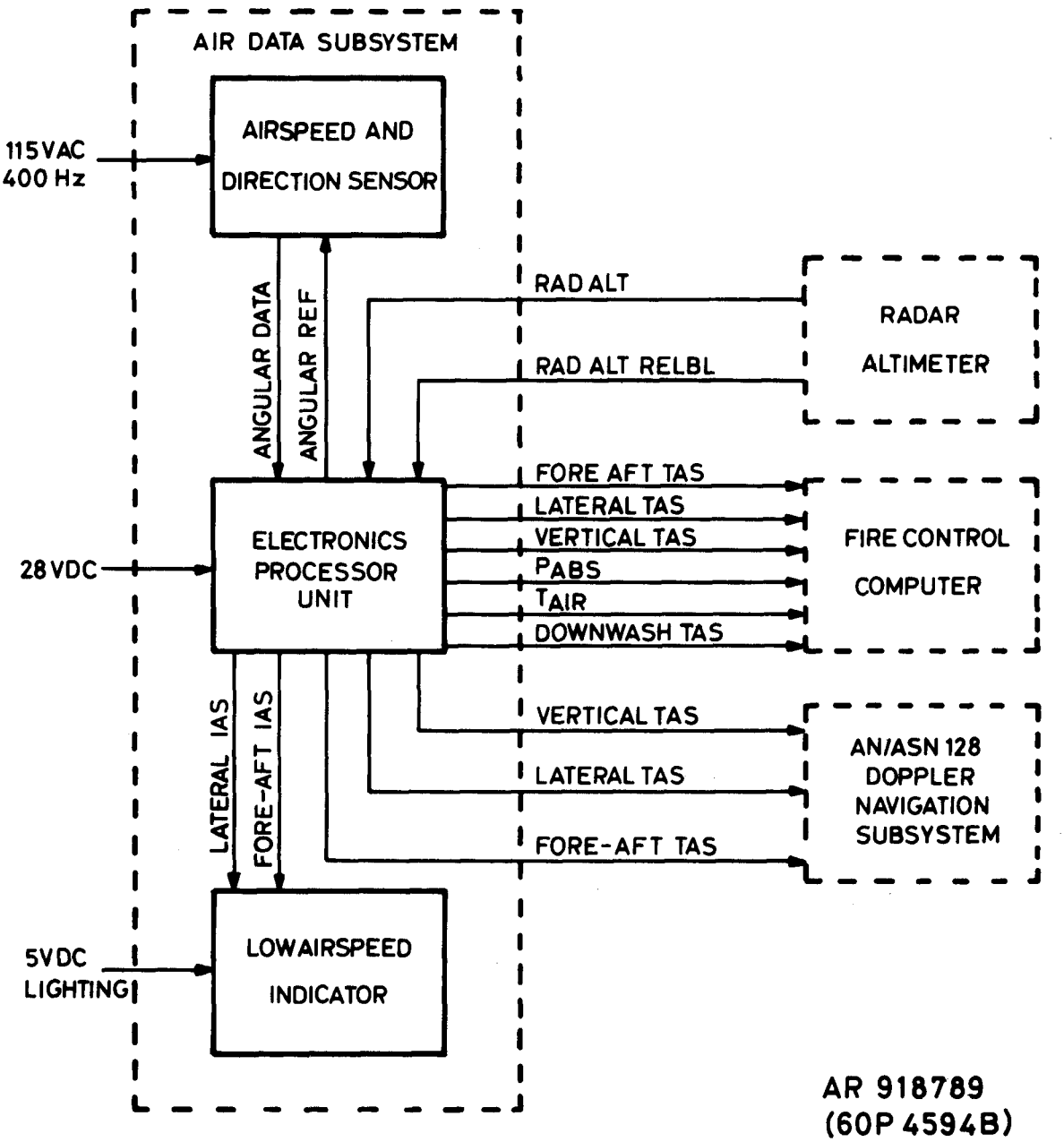


Figure 1-7. System Tie-In.

output interfacing within the EPU. Outputs from the EPU are available in serial digital and dc analog formats to interface with the Fire Control Computer (FCC) and the AN/ASN-128 Doppler Navigation System.

c. Component airspeed outputs from the EPU are displayed on the Low Airspeed Indicator (LAI), a standard 3 inch indicator which displays forward and lateral components of airspeed up to 50 knots in any direction.

1-12. System Tie-in. Connections between the Air Data Subsystem and other helicopter systems are shown in figure 1-7. The Air Data Subsystem supplies digital TAS, P_{ABS} and T_{AIR} signal to the Fire Control Computer and supplies analog TAS signal to the Doppler Navigation Subsystem. An analog radar altitude signal is fed to the Air Data Subsystem from the Radar Altimeter to provide ground effect error correction.

1-13. AADS General Description. The AADS (fig. 1-8) has a pitot-static pressure head which is supported on a gimbal arrangement and is caused to point into the local airflow by a finned tail.

a. Both total and static pressure are sensed by the head which is always aligned with the local resultant airflow and therefore does not suffer from incidence

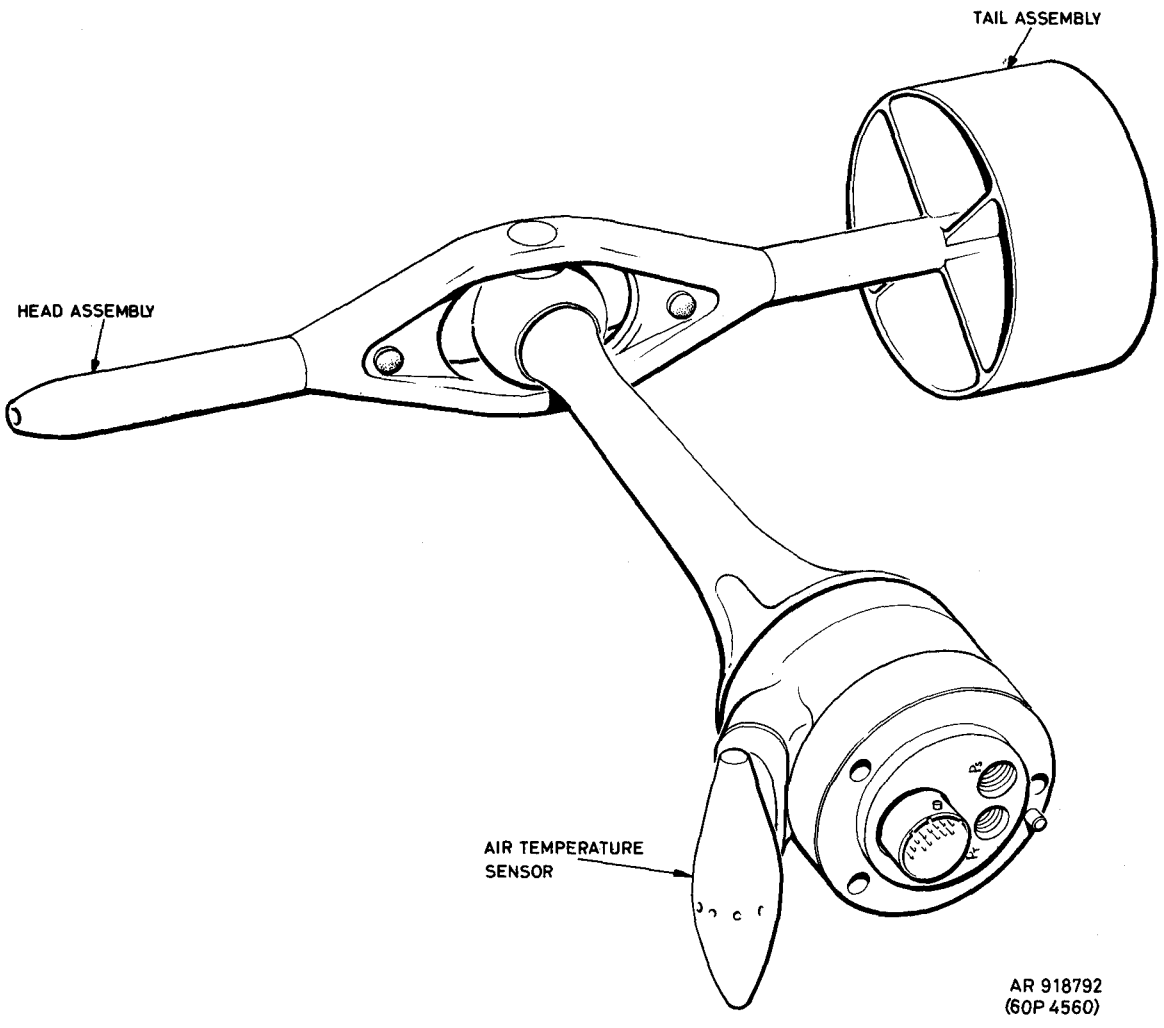


Figure 1-8. Airspeed and Direction Sensor.

errors on either pressure. These pressures are conveyed via the shafts of the gimbal and helicopter plumbing to the EPU.

b. Movement of the gimbal arrangement also causes two angular resolvers to generate electrical signals representing the movement of the head in pitch and yaw axes relation to the helicopter. These signals are transmitted to the EPU where, together with the pressure signals, they are used to compute airspeed and direction. The gimbal arrangement permits total angular freedom in pitch and 120° in yaw (fig. 1-9); this allows the head to sense accurately the local impact and static pressures over an airspeed range of up to 223 knots forward, 32 knots sidewards and 32 knots aft.

c. The pressure head is equipped with a heating element which provides anti-icing capability.

d. An Air Temperature Sensor (ATS) is attached to the body of the AADS, at an angle such that it does not interfere with the airflow over the pressure head or pick up heated air from the flow around the head.

1-14. AADS physical Description. The AADS consists of six main assemblies: a head assembly, a tail assembly, a neck assembly, a body and plug assembly, a cover and dowel assembly and a plate and connector assembly.

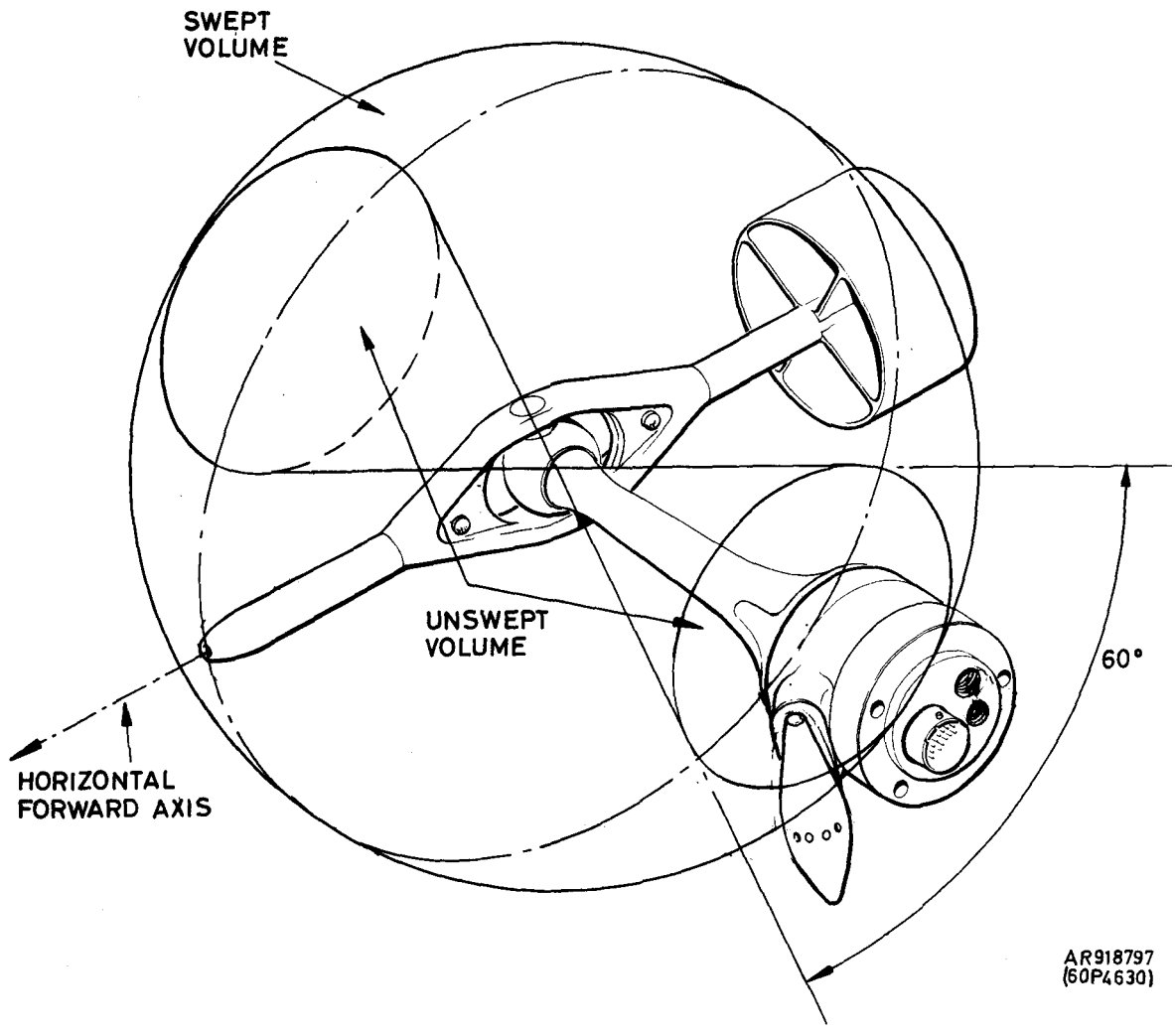


Figure 1-9. AADS Angular Freedom.

a. ***Head Assembly.***

(1) The pitot port at the nose of the head assembly (fig. 1-10) connects to a pitot chamber near the back of which are two diametrically opposite drain holes which ensure the chamber is drained of ingested water with the gimbal in any position. A stand pipe entering the chamber from the rear has an opening near the nose so that pitot pressure is conveyed through the head while water is separated out and flows from the drains.

(2) Two static pressure ports are positioned on the outboard side of the head (fig. 1-11) where the airflow is unaffected by the body; the holes connect to a static chamber from which a pipe conveys static pressure to the neck assembly. The static chamber is self draining via the lower port. A heater element, housed in a mineral-isulated rod, is coiled into the front part of the head near the surface to heat both pitot and static ports. The heater has a pair of flexible leads for connection to the body assembly, and dissipates 150 watts from the 115 Vac 400Hz supply which is connected via two sets of slip rings.

b. ***Tail Assembly.*** The tail assembly keeps the pitot-static head aligned with the air flow and has a stable characteristic in flows of varying direction. The aluminium alloy tail shaft is slightly angled, as shown in figure 1-12, and incorporates two balance weights to statically balance the head, thus allowing accurate alignment with the air flow at less than 15 knots (the minimum downwash in hover), making the AADS stable

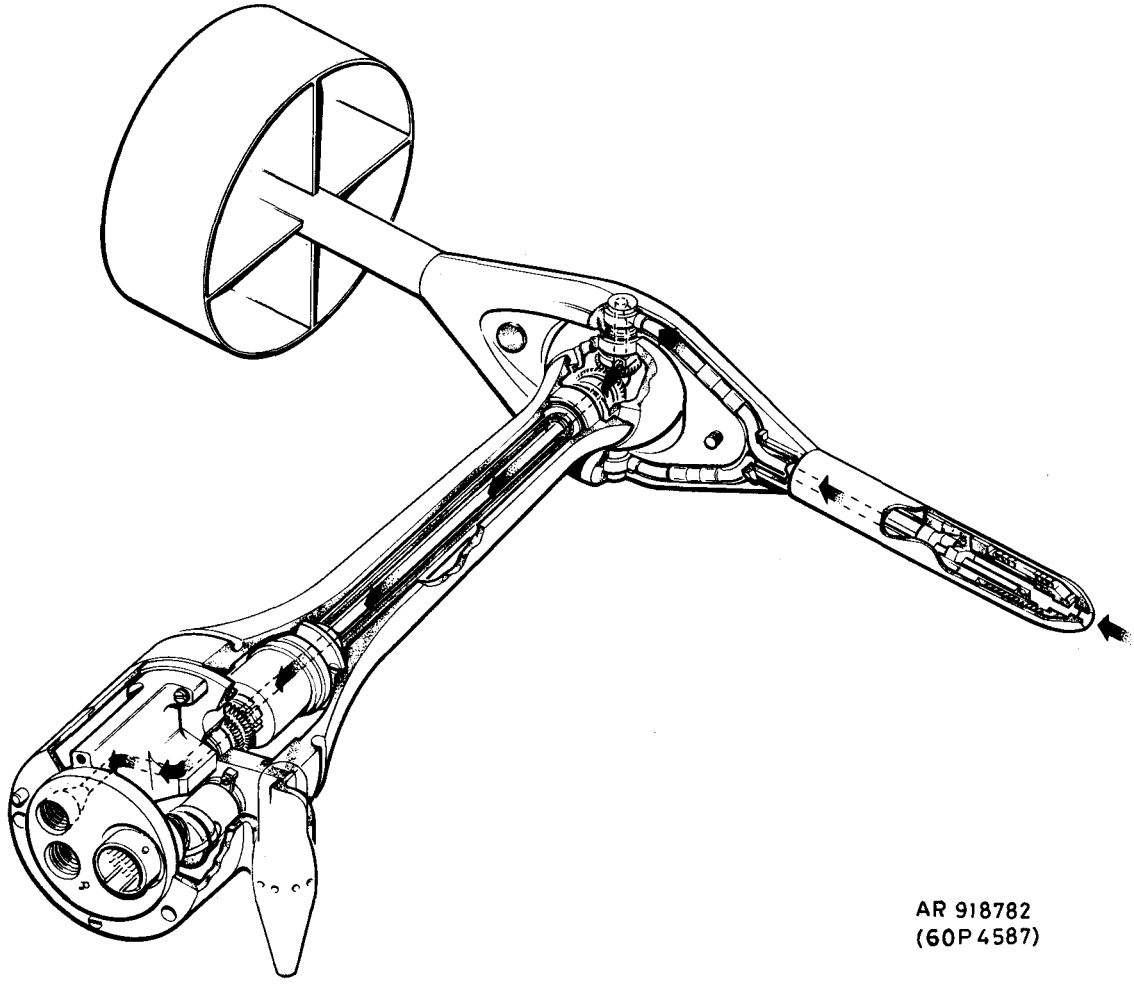


Figure 1-10. AADS Cutaway View showing Pitot Plumbing.

in turbulent airflow. The fins and shroud of the tail are built into the shaft from glass-reinforced polyester to make a light and rugged structure.

c. ***Neck Assembly.*** The neck assembly has a gimbal joint at its outboard end. The free side of the gimbal is a yoke in two halves which, when bolted together, holds the head and tail assemblies and incorporates two nylon stops which limit the gimbal travel to 120° in yaw. Pitot and static lines in the yoke are joined to those emerging from the head at one end and to the gimbal stub axles at the other end.

(1) The pitot pressure is conveyed via a rolling flexible rubber tube in a hollow shaft along the axis of the neck. See figure 1-10. This pressure transmitting technique ensures that air leakage in the AADS pitot line will not cause errors greater than 0.5 knots at the EPU pressure transducer. This hollow shaft also transmits the rotation of the gimbal in the AADS yaw axis to an angular resolver.

(2) Static pressure enters the neck via the other stub axle and is transmitted by a second larger concentric hollow shaft through the neck. See figure 1-11. This second shaft transmits gimbal rotation in the yaw axis to the other angular resolver. The two rotations move the shafts of the angular resolvers mounted in the body to

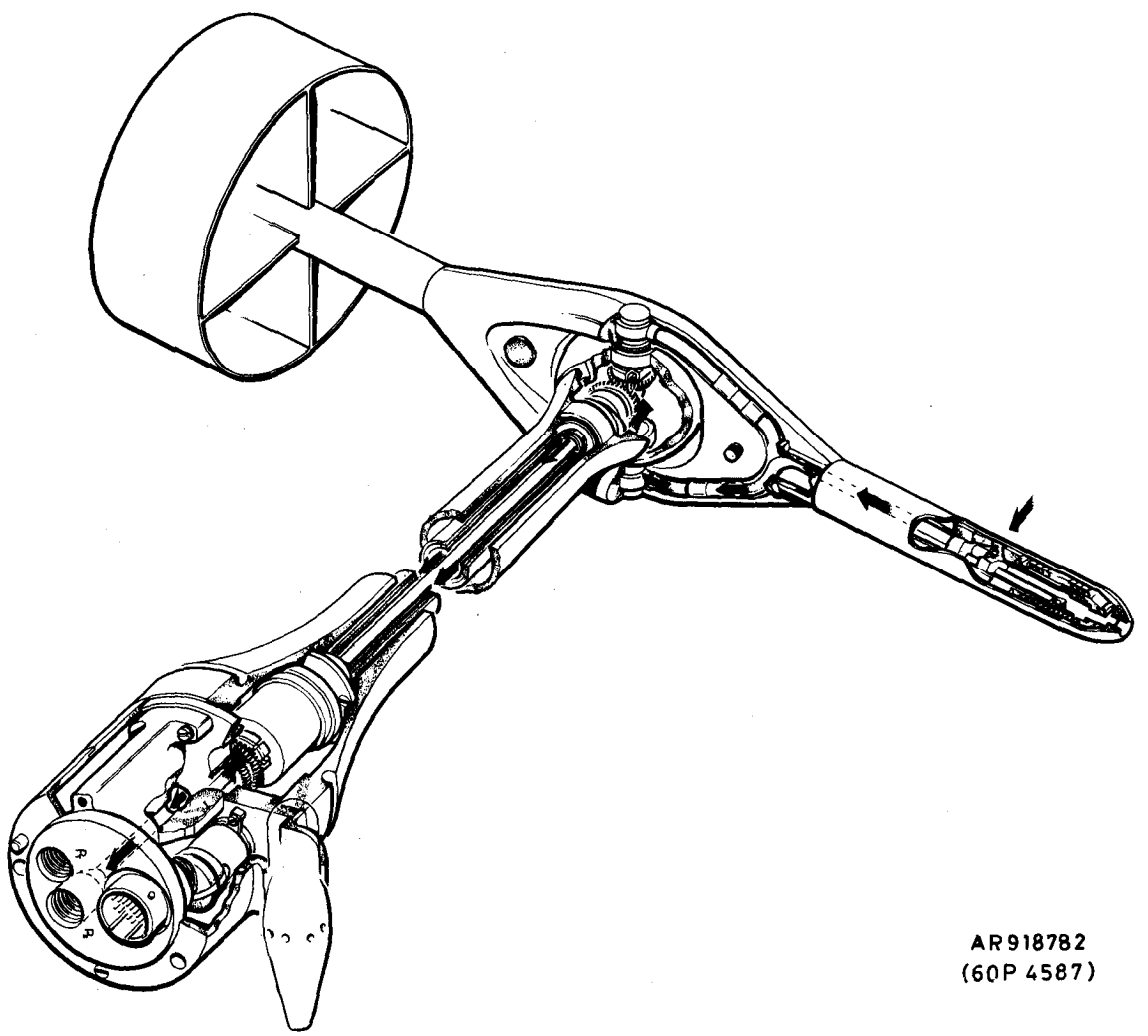


Figure 1-11. AADS Cutaway View showing Static Plumbing.

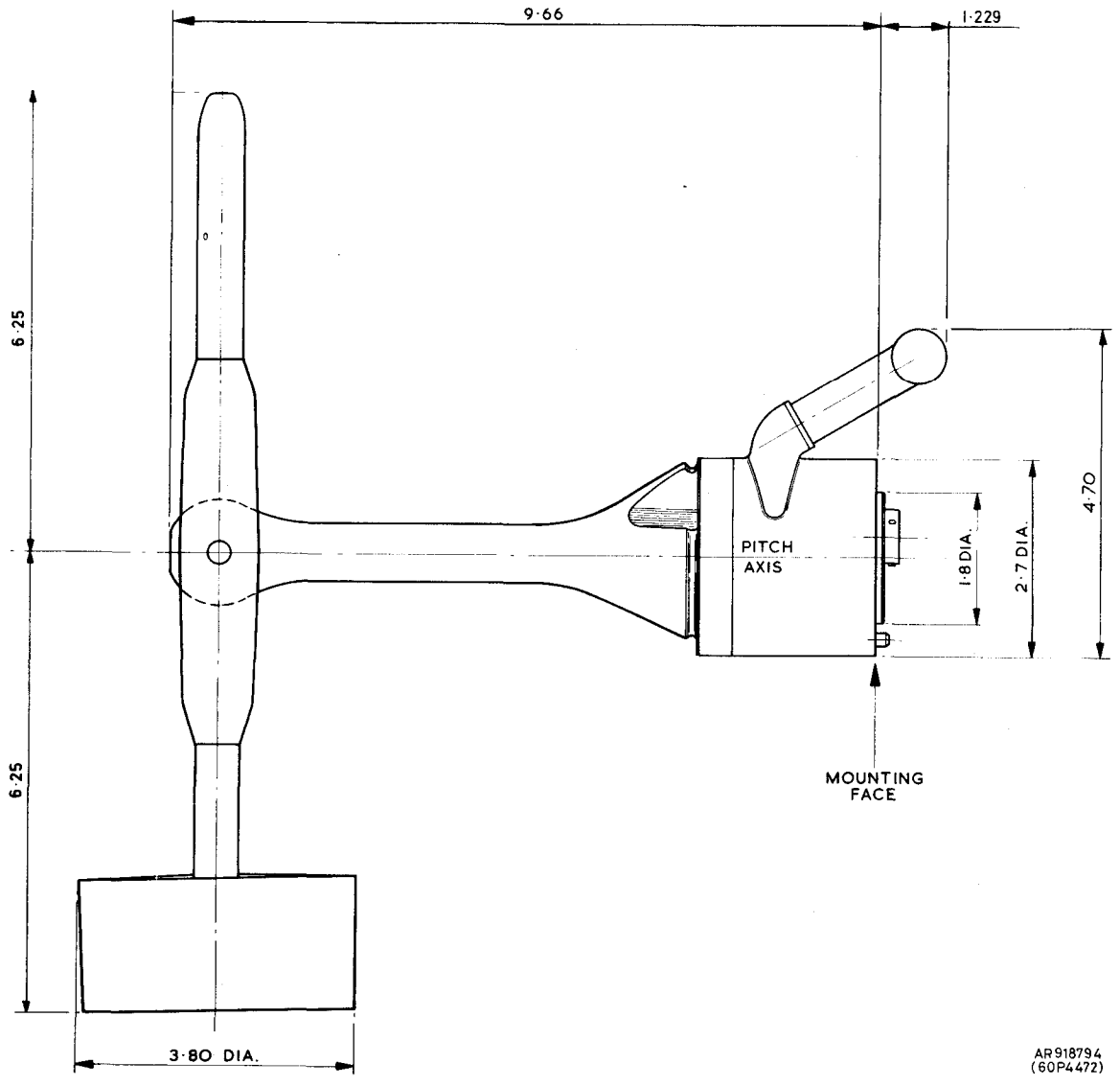


Figure 1-12. AADS Dimensions.

generate electronic analog angle signals. The main internal volume of the neck is maintained at static pressure by the use of sealed bearings at the gimbals.

d. ***AADS Body.*** The AADS body consists of three assemblies, the body and the plug assembly, the cover and dowel assembly, and the plate and connector assembly. Two pressure connectors (part of the body and plug assembly) and a 22-pin electrical connector (part of the plate and connector assembly) interface with the sensor installation. The body has a reference mounting alignment pin against which all AADS alignment is referred. Mechanical alignment of the AADS with the helicopter datums is automatically accomplished by the dowel fitted on the AADS. The AADS is secured to the sensor installation by three bolts.

e. ***Air Temperature Sensor (ATS).*** The ATS, which is attached to the cover and the dowel assembly, draws in air through its trailing edge so that the platinum resistance sensing element is completely protected from impinging water droplets, which are separated from the airflow by the inertial effect. Since water is separated out from the flow of air over the element no ice formation occurs on the element. Ice formation on the leading edge of the shroud has an insignificant effect on sensed temperature

1-15. AADS Functional Description. The angle resolvers which measure the head movement in pitch and yaw are fed with a 400 Hz reference signal from the EPU (fig. 1-13). The resolver outputs are fed to the EPU.

a. Sampling of the resolver output signals is performed in the EPU, where the outputs give sine and cosine values of the AADS yaw and pitch angles with respect to the helicopter.

b. Temperature measurements from the resistive ATS are made in the EPU, where the constant current source and differential amplifier circuits associated with the ATS are located.

c. AADS monitoring is carried out by the EPU and includes out-of-range tests and sine, cosine compatability testing. AADS failures are displayed on the EPU front panel by a ADS BITE indicator.

1-16. EPU Physical Description. The EPU (fig. 1-14) contains seven Shop Replaceable Units, replaceable at AVIM level. The seven units are the Chassis, Front Panel Assembly, Rear Cover, Pressure Transducer Unit (PTU), Analog Interface Unit (AIU), Central Processor Unit (CPU) and Power Supply Unit (PSU). See figure 1-15.

a. An exploded view of the EPU is shown in figure 1-15 and the dimensions of the unit are shown in figure 1-16. The chassis and front and rear covers are of aluminium and the unit is secured in the helicopter by four bolts through cast metal feet. Removal of the rear cover gives accesss to the PTU, AIU, CPU and PSU. These SRUs plug into the motherboard, which is part of the front panel assembly, using two part keyed connectors. When these four SRUs have been removed, the front panel assembly, containing the BITE panel and connectors as well as the motherboard, may be removed.

b. All electrical and pneumatic connections are made via the front panel. Static and pitot lines are connected to standard pneumatic connectors and electrical connections are made by a 66-pin connector. The BITE panel is located on the front panel and contains the LRU BITE indicators, SELF TEST indicator lamp and switch and RESET switch.

c. The Pressure Transducer Unit contains two electrical force balance transducers secured to a support frame by means of grommets and bolts, together with a pneumatic connector, a printed circuit board assembly containing the transducer control electronics and a 54-pin connector.

d. The Analog Interface Unit circuit card is connected to the motherboard on the Chassis by a 54-pin connector, and the Central Processor Unit circuit card is connected with a 90-pin connector.

e. The Power Supply Unit consists of a machined cast chassis which acts as a heat sink for all dissipating components, and supports two printed circuit boards and a 20-pin connector.

1-17. EPU Functional Description. Airflow pressure data are received from the AADS, and converted into electronic data by the Pressure Transducer Unit. Airflow angle and temperature data are demodulated and monitored by the Analog Interface Unit, which also contains the Radar Altitude input interface and the A to D converter. All calculations and system control functions are carried out by the Central Processor Unit, which is a microprocessor based computing system. Input power from the helicopter 28 Vdc supply is converted and regulated into the system voltage requirements by the Power Supply Unit. A block diagram of the EPU is shown in figure FO-1.

a. ***Pressure Transducer Unit (PTU).*** The PTU contains two Electrical Force Balance (EFB) transducers to measure the Static (P_s) and Pitot-Static (P_t- P_s) pressures. A typical transducer is shown in figure 1-17. With their associated control electronics they are capable of measuring very low pressures with great accuracy. The transducers are temperature-sensitive, and each transducer has its temperature characteristic stored in a programmable read only memory (PROM) located on the PTU printed circuit card.

(1) ***Operation of EFB Transducer.*** The low mass beam of each transducer (figure 1-18) is supported by four flexible leaf springs which form a frictionless pivot, whose axis is aligned with and attached to a rotary pick-off. The far end of the beam is connected to both a precision bellows and a forcer coil which sits centrally in a stable

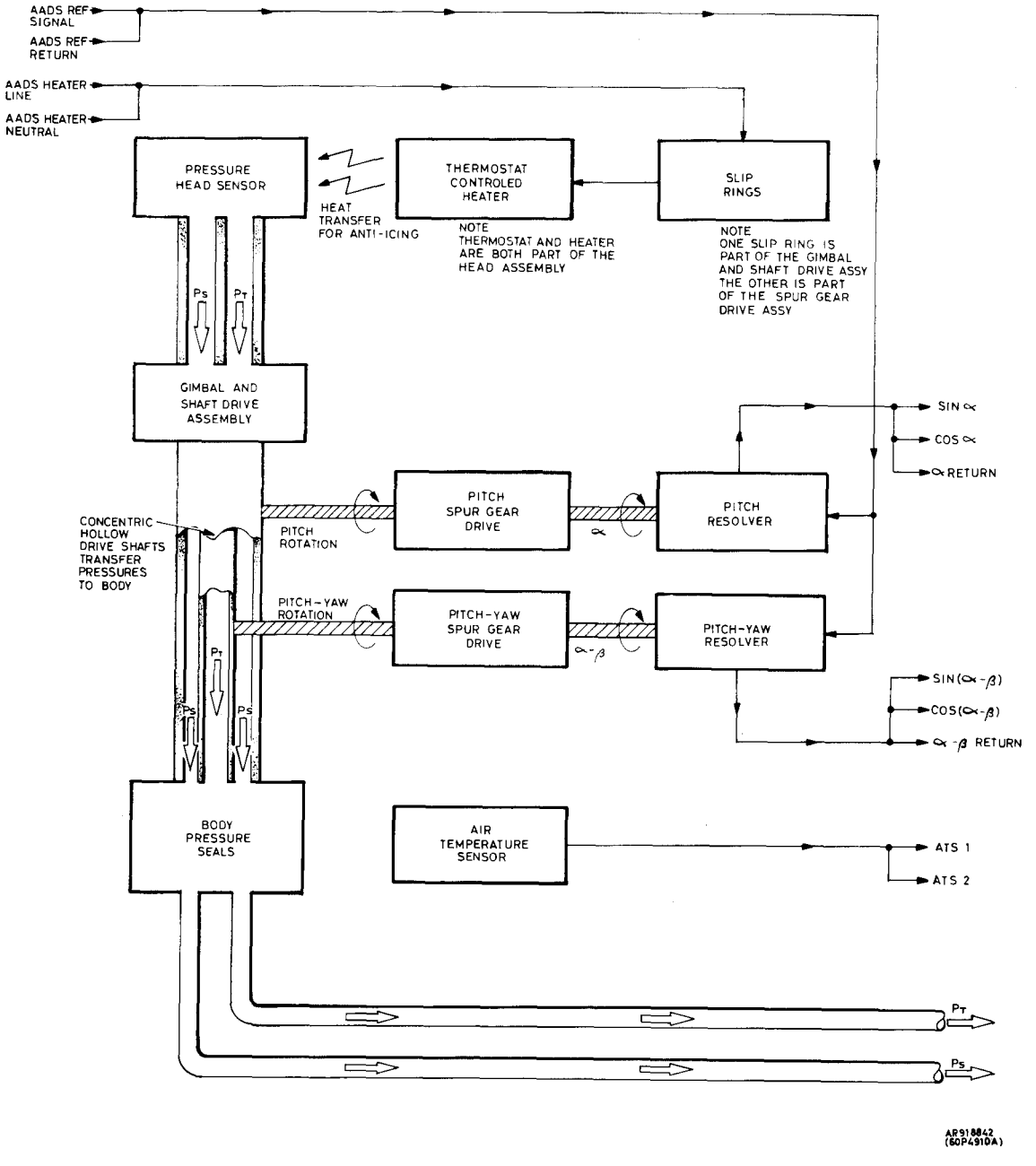


Figure 1-13. AADS Block Diagram.

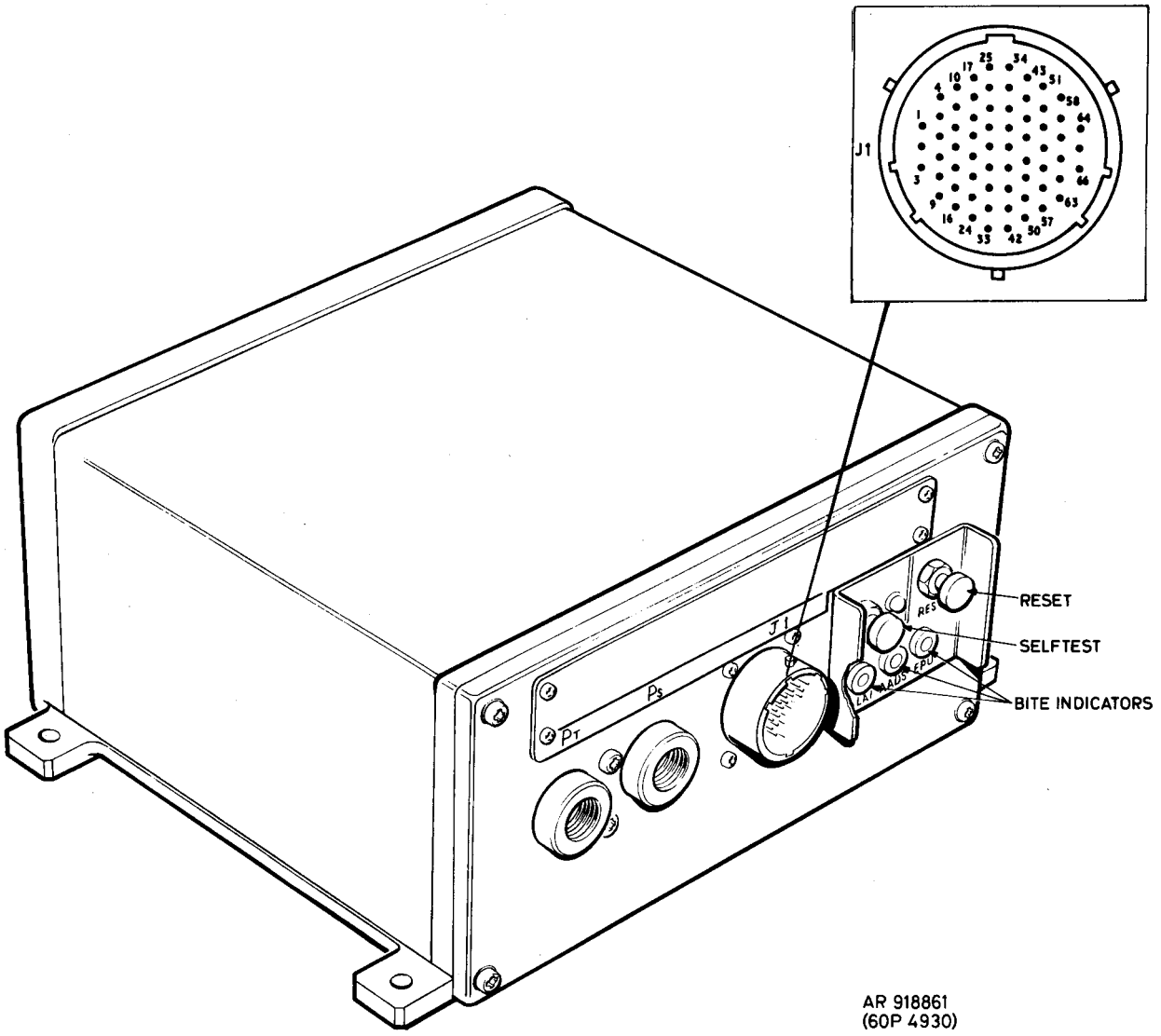


Figure 1-14. Electronics Processor Unit.

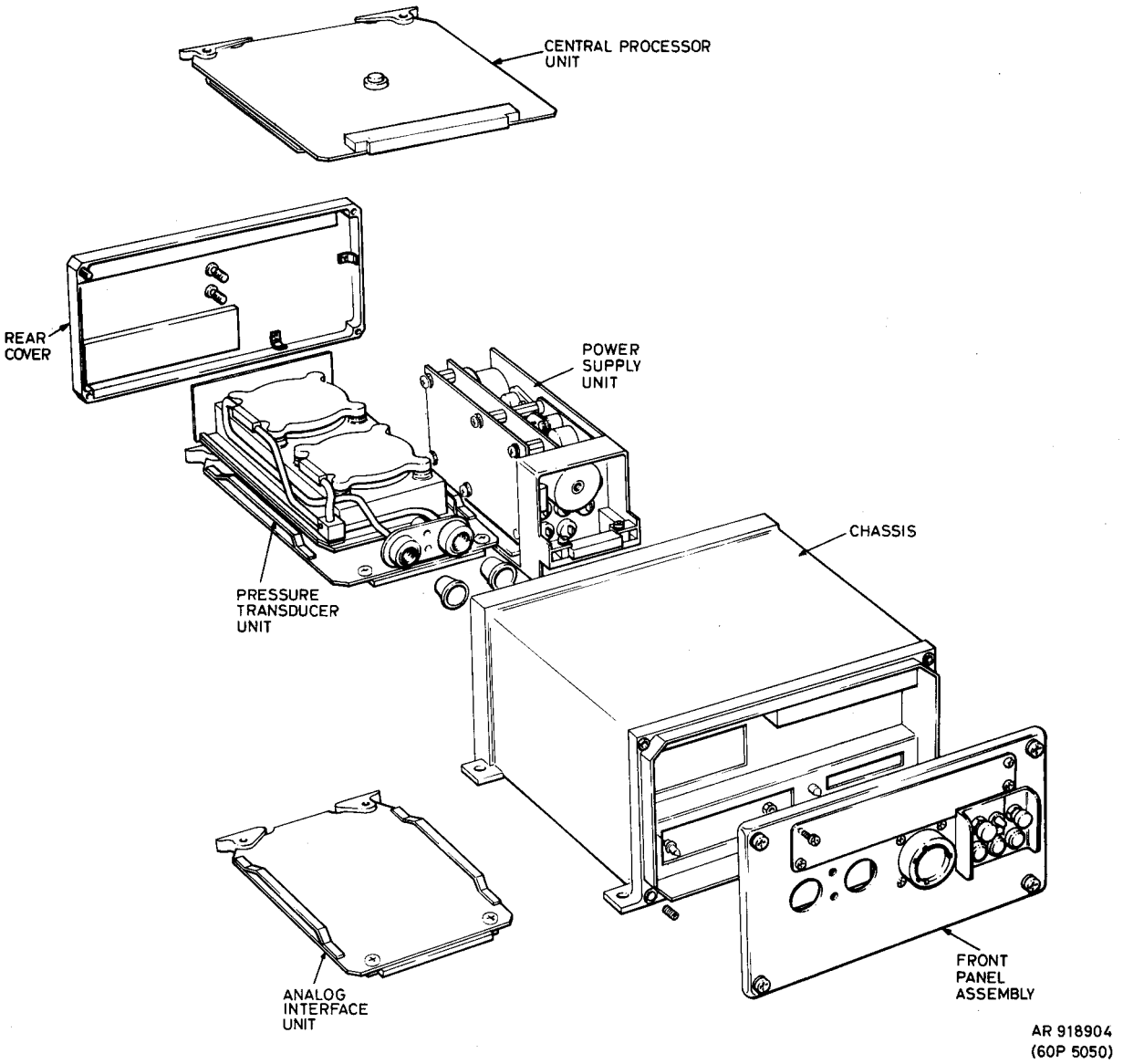


Figure 1-15. EPU Exploded View.

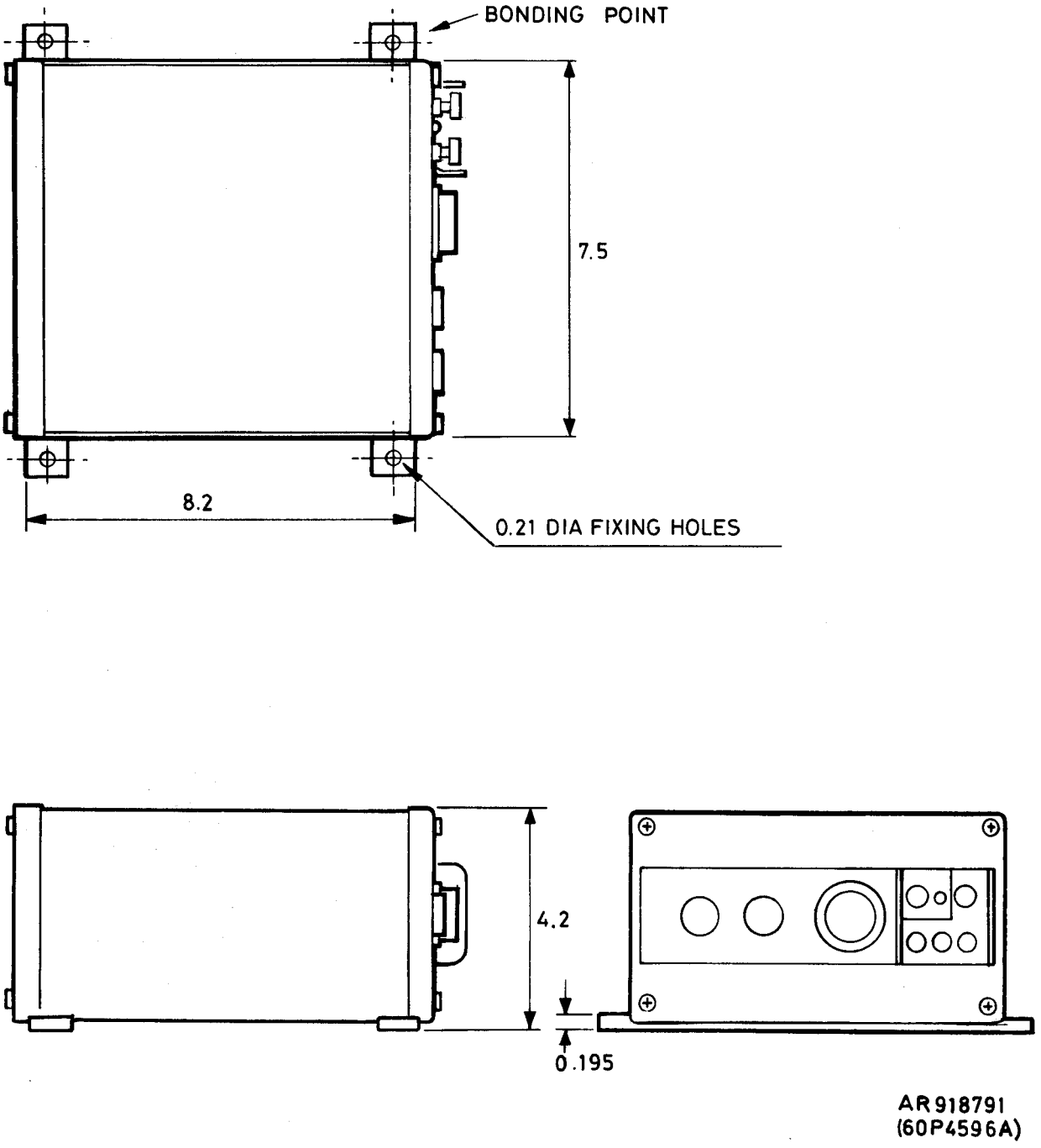


Figure 1-16. EPU Dimensions.

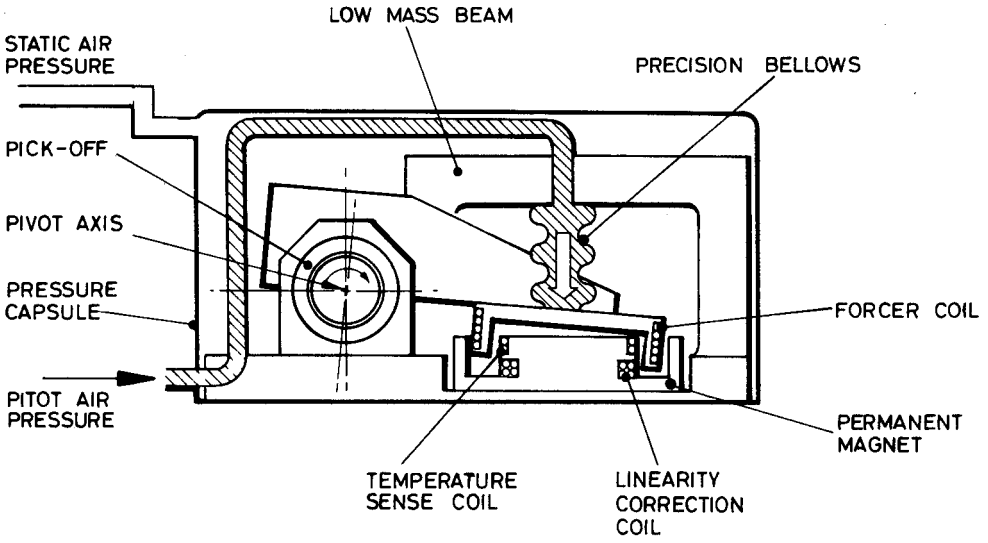


Figure 1-17. Force Balance Transducer.

permanent magnet. For the Pitot-Static transducer, pitot pressure is delivered to the interior of the bellows and static pressure to the interior of pressure capsule. If the Pitot pressure is greater than the Static, the bellows will attempt to expand, and cause the rotary pick-off to turn. This minute rotation is sensed by the pick-off and the resultant signal is detected by the control electronics which supplies feedback current to the forcer coil to return bellows and beam to the original (null) position. A drop in pitot pressure will have the reverse effect (less current will be required by the forcer coil).

(a) The current required to null the pick-off is proportional to the pressure difference, and this current value is monitored by the PTU control loop electronics.

(b) Output linearity of the transducer is improved by supplying the Linearity coil, mounted in the magnet assembly, with a proportion of the forcer coil's current.

(c) The static transducer functions in a similar manner, but differs in that pressure is supplied to the capsule only, with the precision bellows being evacuated and sealed.

(d) Response to pressure changes is very rapid. The bellows range of movement is restricted to less than 0.002 inch total movement, therefore the bellows will not alter in length by any detectable amount under normal operation conditions.

(e) A small temperature-sensing coil is mounted within each transducer so that transducer temperature may be monitored by the CPU.

(2) ***Control Loop Electronics.*** The printed circuit card contains control loops to drive the transducers voltage buffers and Programmable Read Only Memories (PROM), to supply the CPU with information for each transducer's temperature response (fig. 1-19).

(a) A 5kHz oscillator drives the rotary pick-off primary coil. The phase of the induced signal in the secondary alters with respect to the primary as the pick-off turns from its null position. The phase-shift is detected

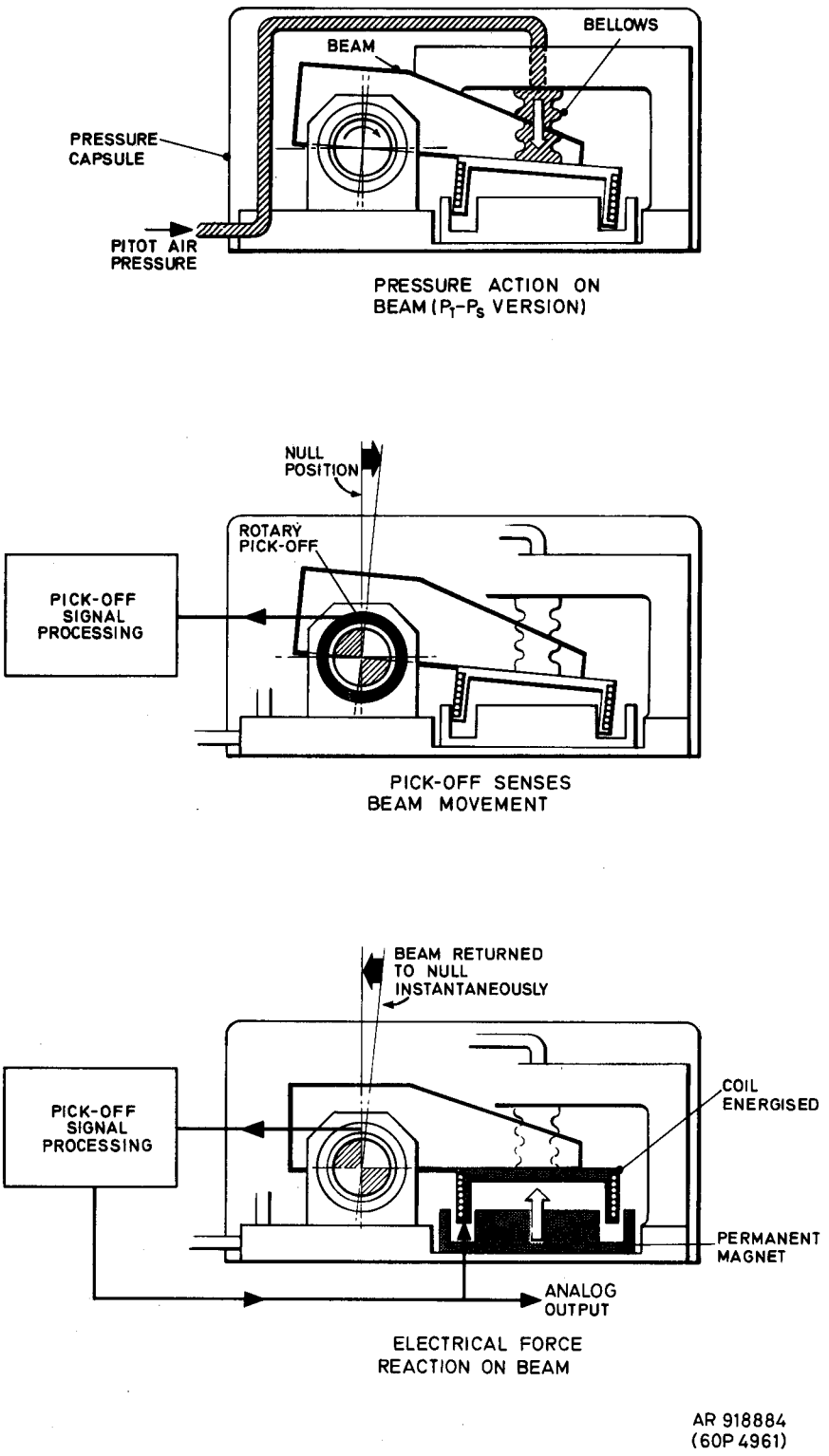


Figure 1-18. Force Balance Transducer Action Sequence.

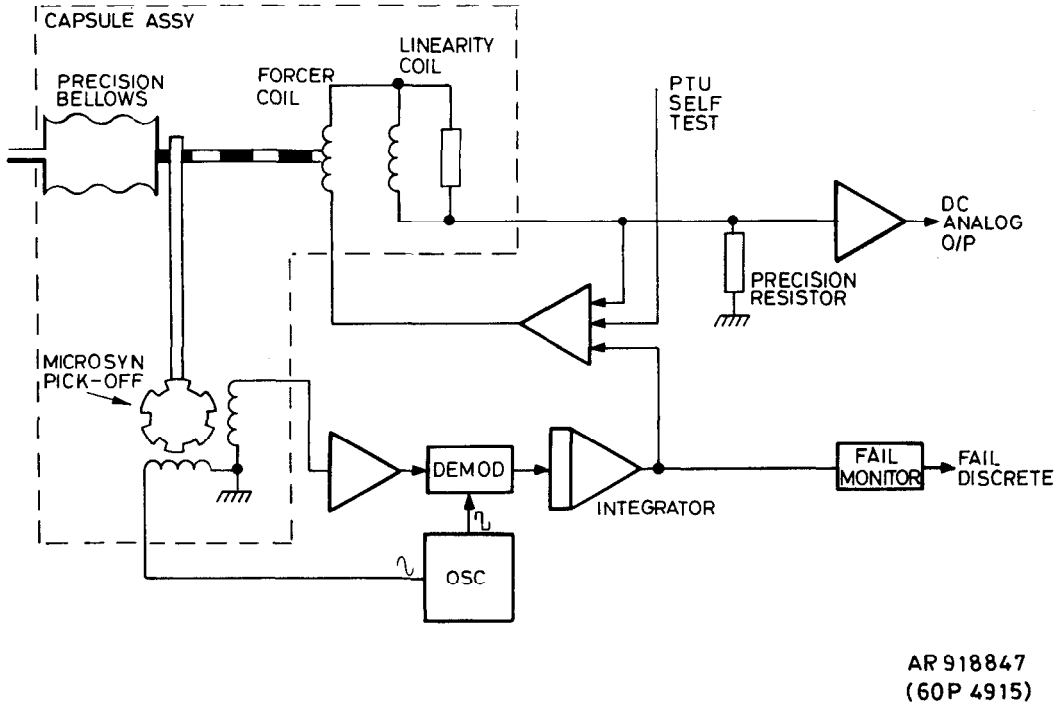


Figure 1-19. Transducer Control Block Diagram.

by the demodulator and the resulting error signal is integrated and used to drive the power transistors. These supply the current for the forcer coil to correct the bellows attempted movement. A precision resistor is used to sense the amount of current required, and the output is buffered before being presented as a dc analog of the pressure sensed by the bellows. The output buffer is also used to sum-in corrections for the transducer's nominal offset and gain.

(3) ***Temperature Correction.*** Both transducers exhibit temperature sensitivity which causes repeatable datum and gain shifts.

(a) Datum shift occurs between the pick-off null relative to the mechanical null, causing repeatable non-linear characteristics in each transducer.

(b) Gain shifts are a function of the permanent magnetic field strength and are repeatable for each transducer.

(c) Temperature correction is effected digitally by the CPU by reference to the temperature-sensing coil in the transducer and the temperature characteristic which is stored in a unique PROM mounted on the PTU circuit board.

b. ***Central Processor Unit (CPU).*** The CPU (fig. 1-20) is based on a 16-bit microprocessor which has separate address and data buses and can interface with standard TTL and MOS components. The CPU also includes a 3K x 16 Programmable Read Only Memory (PROM), 256 x 16 Random Access Memory (RAM), a clock generator, timer, D/A converter, input and output interface ports, and a serial 64-bit buffer for interface to the FCC. Data is transferred between the memory and memory-mapped input/ouput interfaces via a 16-bit data bus, and memory addresses are decoded from a 15-bit address bus. The microprocessor runs at a 2MHz clock rate.

(1) ***Memory.*** Program and fixed data constants are stored in six 1024 x 8 PROMS. Pressure transducer characterization constants are stored in two 32 x 8 Programmable Read Only Memories (PROMS) located on the PTU and linked to the CPU by the 16-bit data bus and five lines of the address bus.

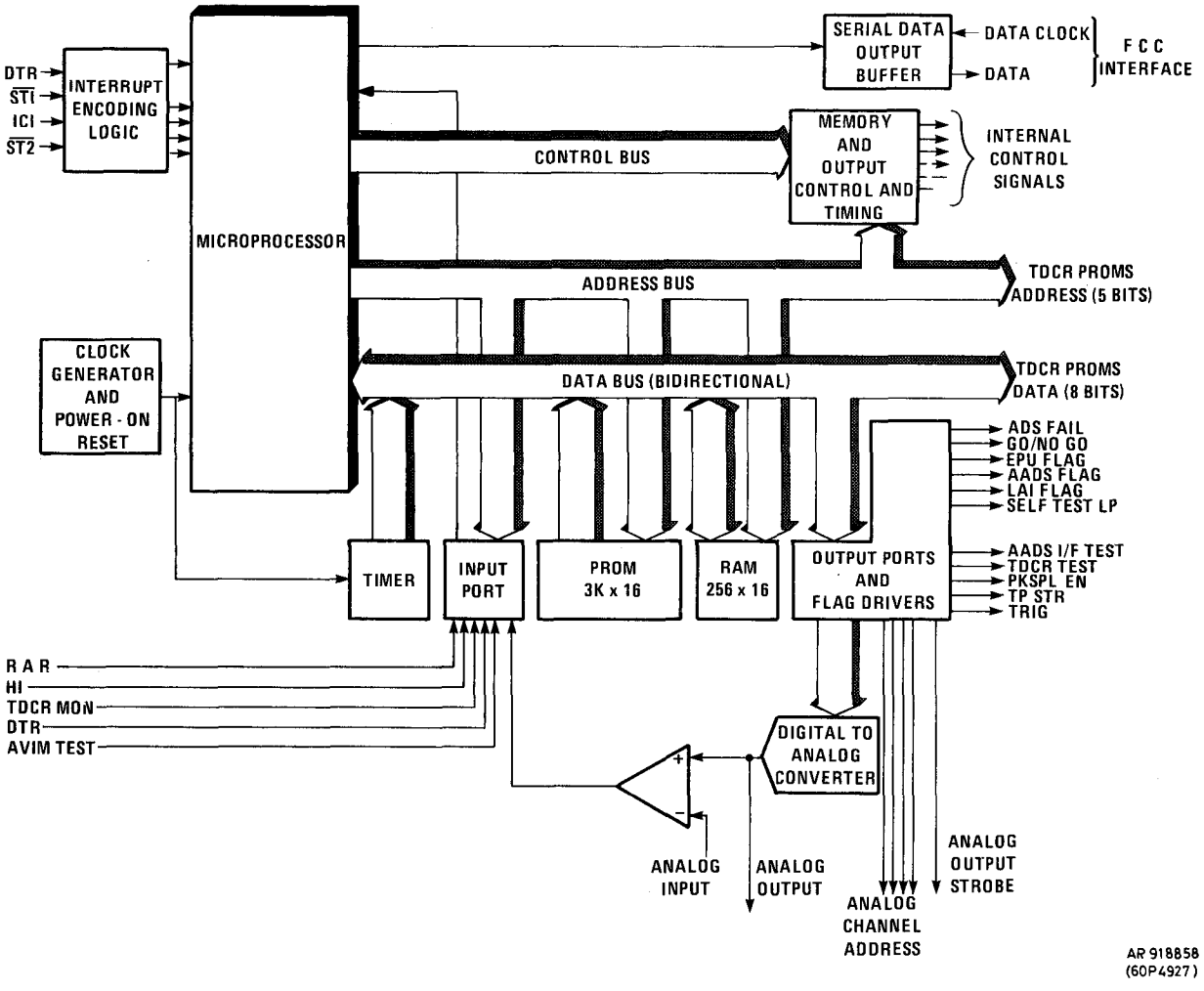


Figure 1-20. Central Processor Unit Block Diagram.

(a) Temporary data storage is performed by four 256 x 4 RAMS.

(b) The memory control circuitry selects either ROM, RAM or a particular memory-mapped function by decoding the microprocessor memory control signals and the five most significant bits from the address bus.

(2) ***Memory-mapped Functions.*** Information is transferred to status indicators and output discretes by writing data words to a memory-mapped output port which retains information until updated. Data and control functions to the D-A converter are also output via memory-mapped ports. Each port has the same address as a particular RAM memory location so data output to the port is simultaneously written into the RAM, allowing the microproccesor to effectively ´read back´ the state of the port.

(a). The timer measures time intervals up to 260mS to a resolution of 32uS under microprocessor control. It is reset by writing into a dedicated memory-mapped location and read by performing a read cycle from the same location. The timer can be stopped by applying a clock interrupt signal from the discrete output port.

(3) ***Serial Inputs and Outputs.*** The microprocessor has a serial input port which is multiplexed with discrete inputs from BIT monitors, A-D conversion return signal, and Data Transmit Request descrete. Any input can be selected for interrogation by setting up the relevant bit address on the three least significant bits of the address bus.

(a) The 64-bit shift register is updated from the serial output of the microprocessor, clocked by a dedicated signal from the processor.

(4) ***Processor Interrupts.*** Normal operation of the ADS requires an interrupt to initiate loading of the output buffer store after a data transmission to the FCC has been terminated. The EPU Self Test switches also use interrupts to instruct the processor to enter the self test routines.

(5) ***Serial Data Transmission.*** Data is transmitted to the FCC along a single dedicated serial line under FCC control (fig. 1-21, 1-22 and 1-23). When the FCC requests data, the Data Transmit Request discrete is enabled, and, provided that the ADS shows a Data Ready discrete, the FCC sends a clock signal. The ADS then responds by outputting the requested data in the form of six consecutive 8-bit words, followed by a single parity bit making a total of 49 bits.

(a) A further 15 bits comprising two 7-bit status words and a total parity bit are accessible at AVIM level test. Each bit of these words is the result of a BIT routine. The ADS buffer store is a 64 bit shift register which is updated after termination of data transmission to the FCC.

(6) ***Analog Outputs.*** A 12-bit binary value held in a portion of the Output Ports is converted to an analog value through the Digital to Analog Converter and presented to all five of the output sample and holds on the AIU card (fig. 1-24). Four more bits in the Output Port are set with a code corresponding to one of the five output sample-and-holds (Analog Channel Select). By setting, and then resetting, the Analog Output Strobe Bit, the One-of-Eight decoder is momentarily enabled and one only of its output lines is also momentarily enabled low, enabling the corresponding sample and hold to latch the analog value.

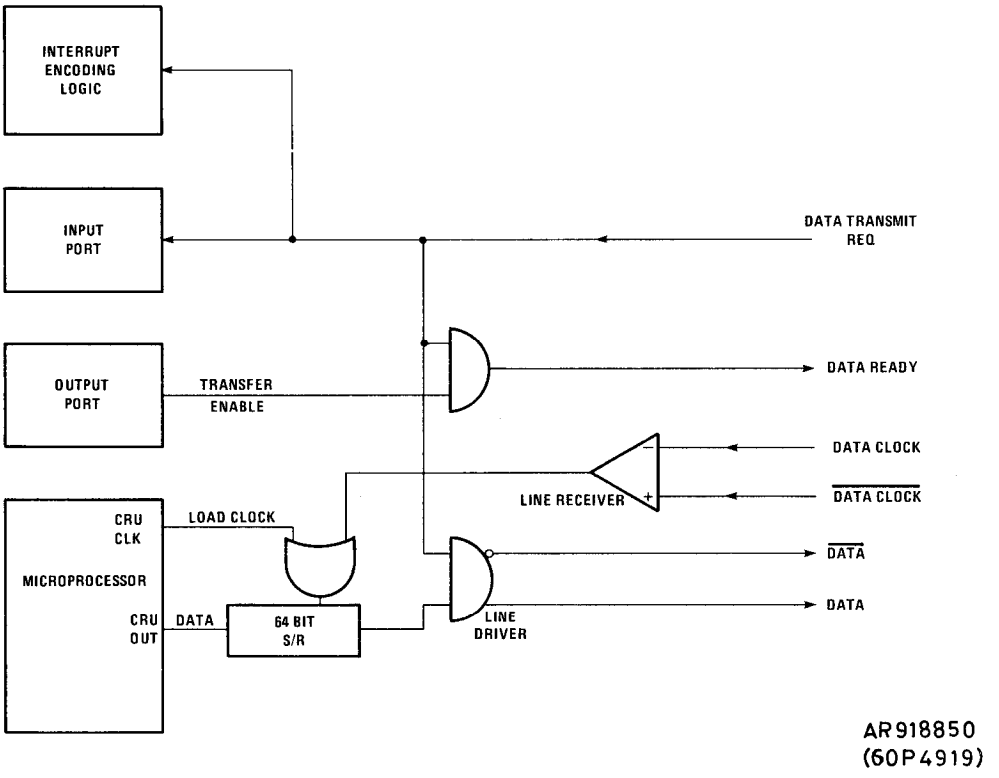


Figure 1-21. ADS to FCC Interface Block Diagram.

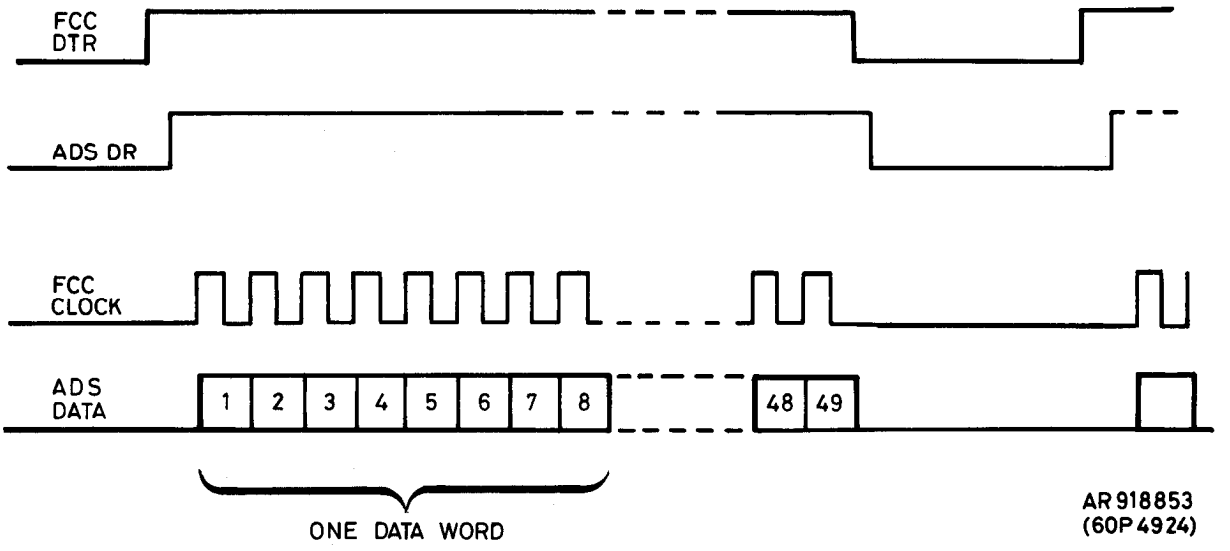


Figure 1-22. ADS/FCC Data Transmission Sequence.

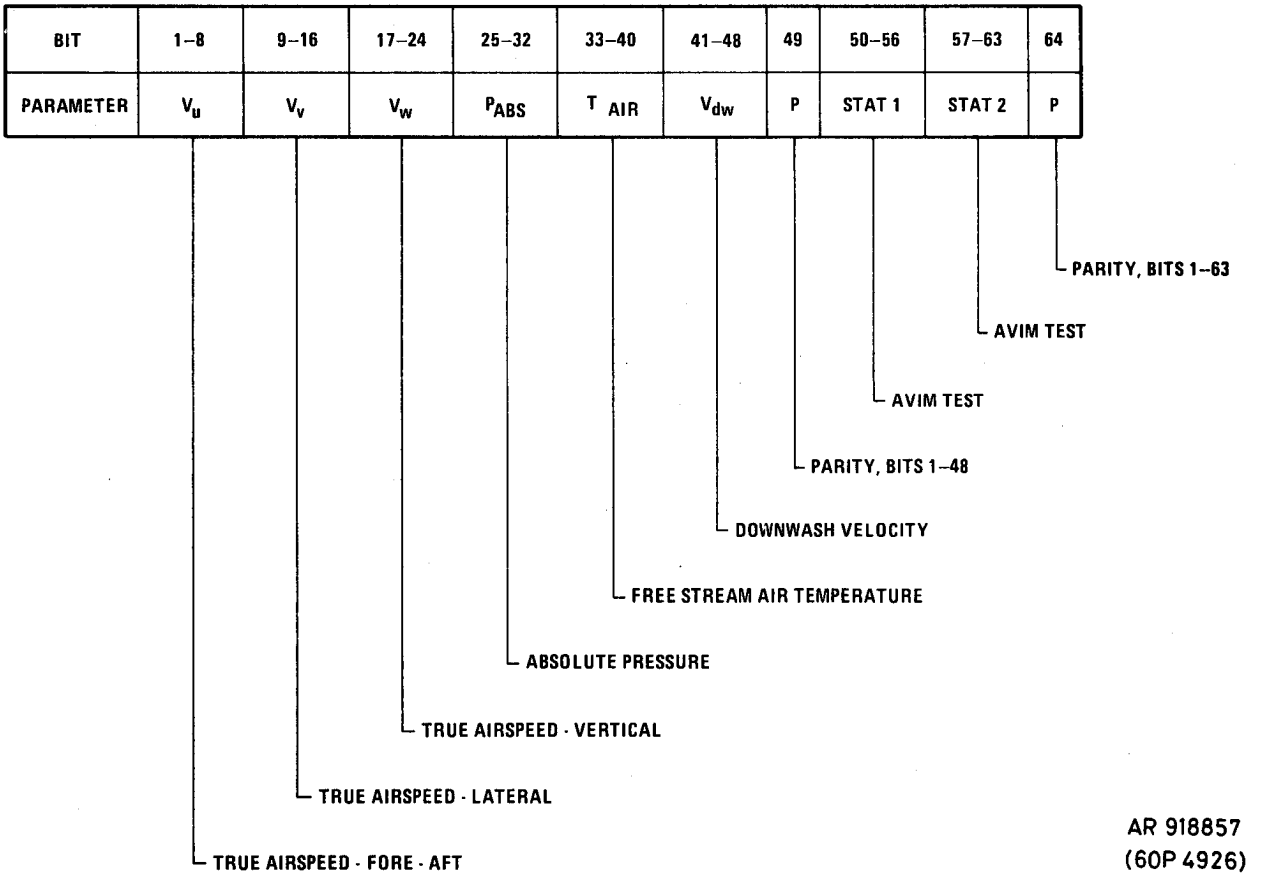


Figure 1-23. Serial Output Word.

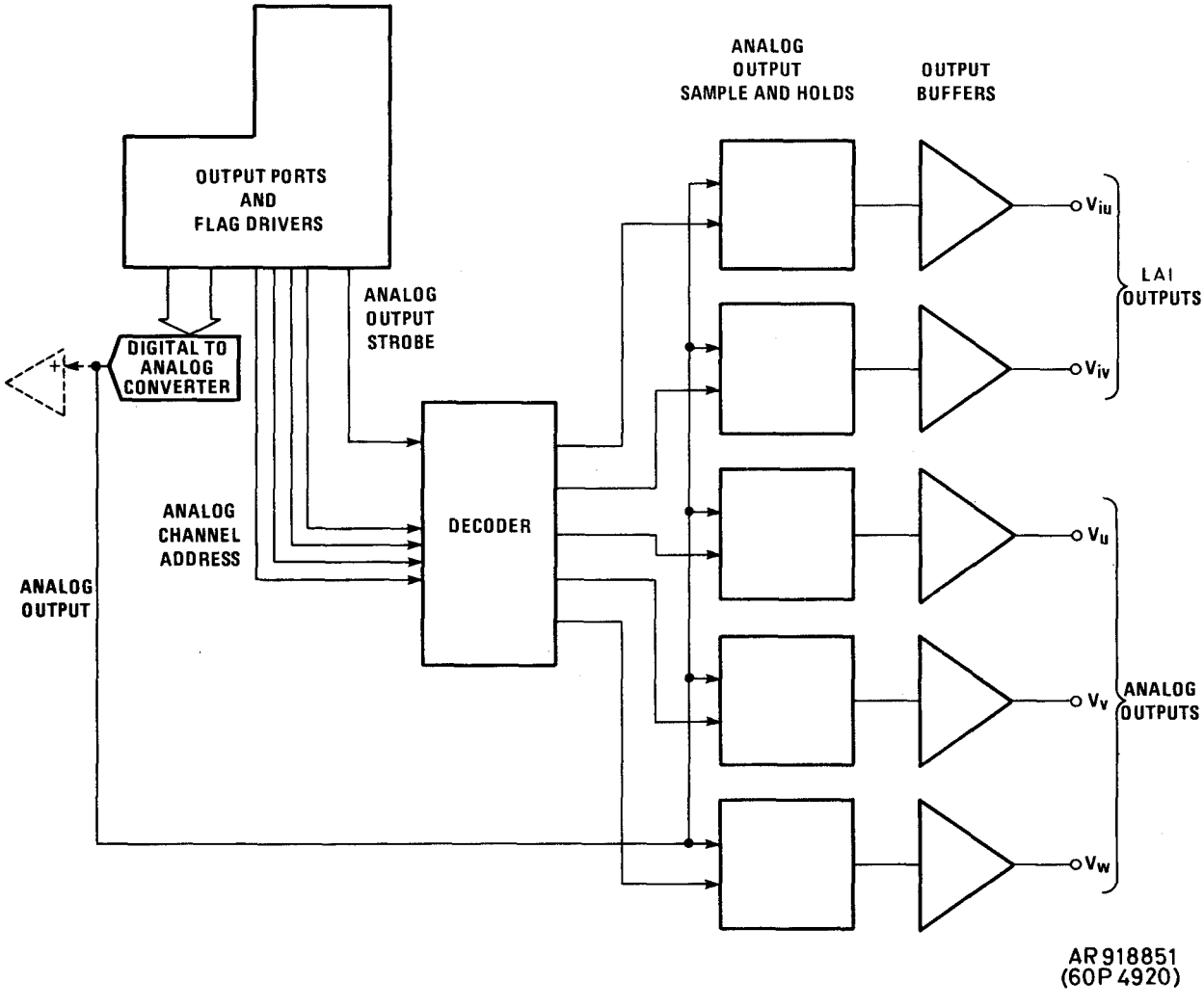


Figure 1-24. Analog Outputs Block Diagram.

(7) ***Analog Inputs.*** The Analog Channel Select sets a code corresponding to one of the analog input channels (fig. 1-25). The input selected is routed to a comparator. The microprocessor outputs an initial guess of the digital value of the analog voltage; this is converted to an analog value by the DAC, and presented to the comparator alongside the input value. The comparator's output is used to indicate whether the guess was high or low. The processor then makes a new approximation, based on the comparator's output. After 12 such approximations the digital value is sufficiently close to the analog input.

(8) ***A-D and D-A Interface.*** Figure 1-25 shows how only one DAC and four analog channel select lines are able to perform all the A-D/D-A conversions. Note also that the analog outputs are fed back through the analog multiplexer to enable further checking of errors. Fixed reference voltages are used to perform calibration checks on the DAC within the EPU.

(9) ***Output Protection.*** Each ADS output signal is short circuit protected. Short circuits to ground will be tolerated indefinitely without damage to the signal output buffer.

(a) Each output is independently buffered so that potential damage caused by helicopter primary power is confined to that signal output only.

c. ***Analog Interface Unit (AIU).*** The analog Interface Unit (AIU) is the analog input and output interface for the ADS LRUs. The signals which are processed include AADS angle resolver signals, Air Temperature Sensor (ATS), raw dc analog signals related to PTU pressure inputs, and outputs to the LAI and to doppler navigation system. A precision 10 Vdc reference is included on this card. Peak sampling circuitry is used to convert AADS resolver signals into dc voltage levels which can be accepted by the A-D converter.

(1) ***AADS Interface.*** The oscillator provides a 400Hz sinusoidal reference signal to the AADS angle resolvers (fig. 1-26). The peak of this reference is detected, and used as a reference against which a peak sampling pulse is generated for the sample and hold circuits. Peak voltages of the resolver outputs are sampled by the sample and hold circuits. The resolver output peak voltages are defined by:

$$Vp1 = V_{REF} \sin \theta$$
$$Vp2 = V_{REF} \cos \theta$$

Where θ represents a pitch or combined pitch-and-yaw angle of the probe. Sampled resolver secondary peak voltages are fed into the CPU via the A-D converter circuit. The sine and cosine of each relevant angle is derived from the digital secondary peak voltages by trigonometric relationships.

(a) An AADS interface test is included to allow the CPU to test the operation of the sample and hold circuitry. During this test analog switches connect the sample and holds directly to the oscillator, bypassing the AADS.

(2) **Air Temperature Sensor Circuit.** The AADS Air Temperature Sensor (ATS) is supplied with constant current from a current source circuit, and the resultant voltage is sensed by a differential amplifier on the analog interface unit. Voltage ouput from the differential amplifier is fed to the A-D conversion circuit and the digital result is then stored in the CPU memory. The ATS constant current source is switched on for a period of 30mS once per second while the A-D conversion is perfomed. This action is controlled by the processor to reduce effects of self heating.

(3) ***Radar Altimeter Input.*** The radar altimeter provides a dc analog output (-7mV/ft) to the EPU to allow correction of altitude outputs for ground effect induced errors. The input voltage is applied to a buffer and scaling amplifier, the output of which is fed to the A-D conversion circuit. The digital result is stored in the CPU memory.

d. ***Power Supply Unit.*** The helicopter 28 Vdc supply is filtered in a self contained EMC filter module (fig. 1-27) and used initially to generate +10 Vdc. Other voltages,-5 Vdc, -6.2 Vdc and -10 Vdc are generated to supply the boost regulator which increases the voltage up to +80 Vdc by the action of a diode booster type circuit. The 80 Vdc voltage is controlled by networks which sense

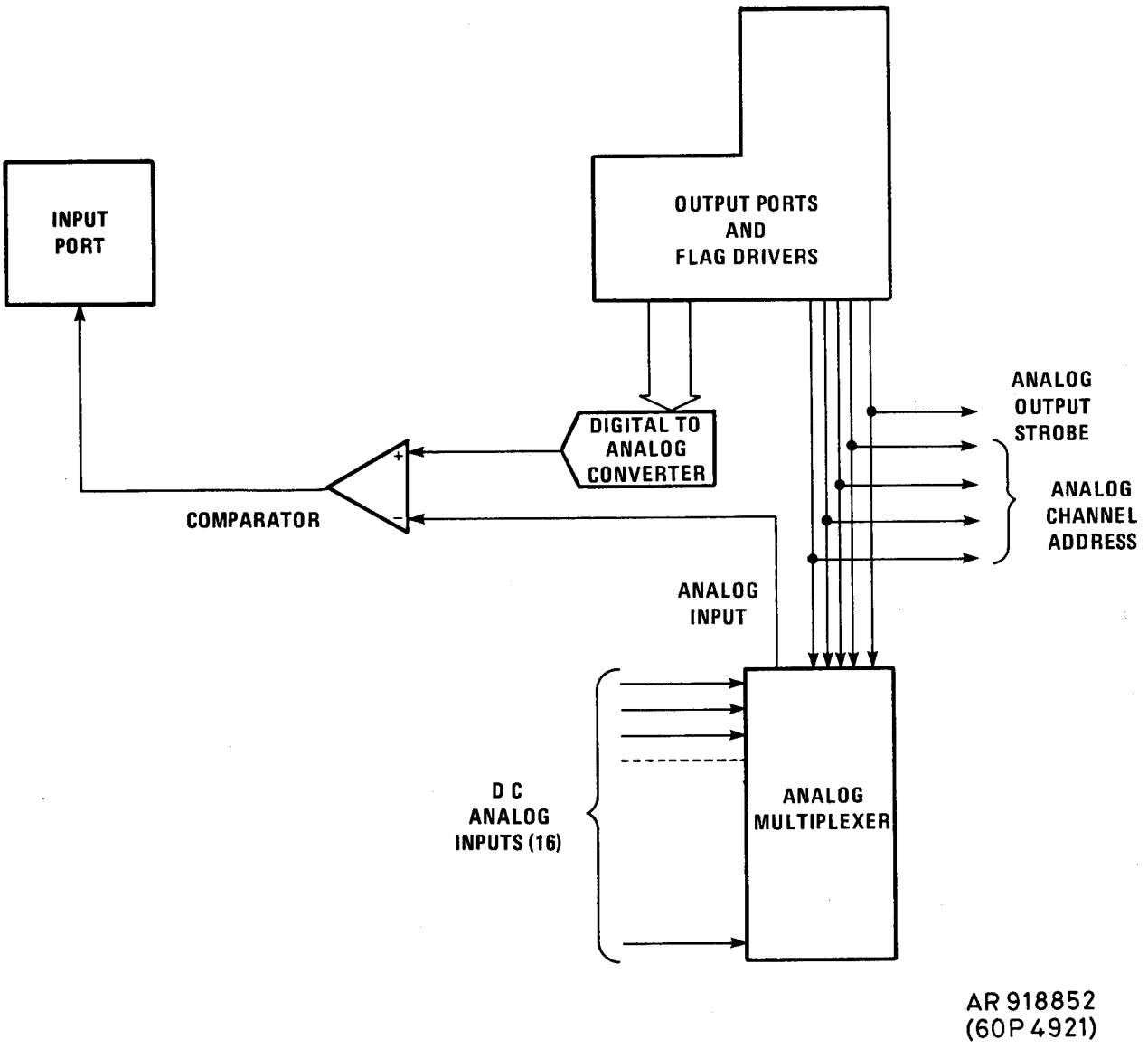


Figure 1-25. Analog Inputs Block Diagram.

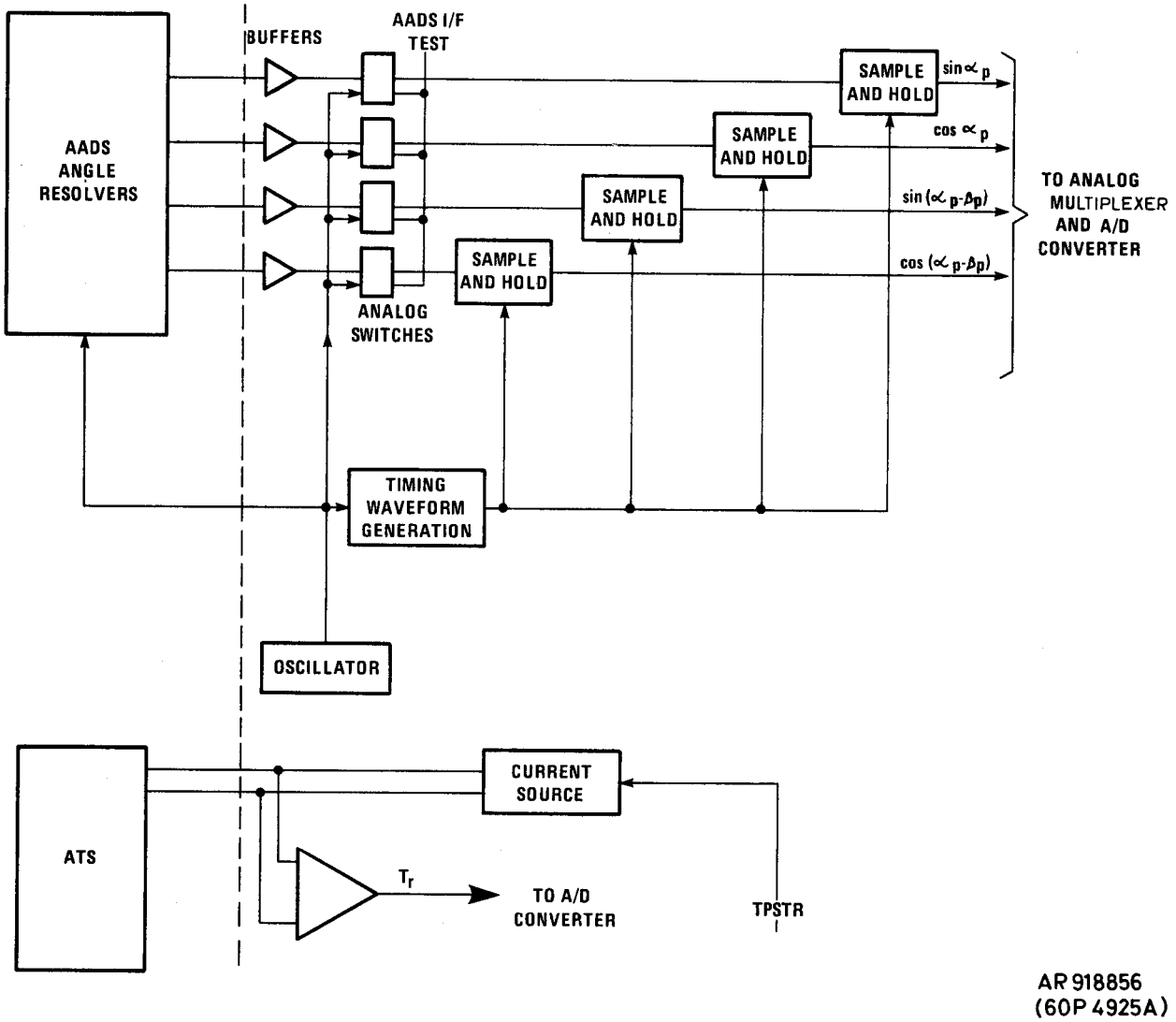


Figure 1-26. AIU Interface with AADS–Block Diagram.

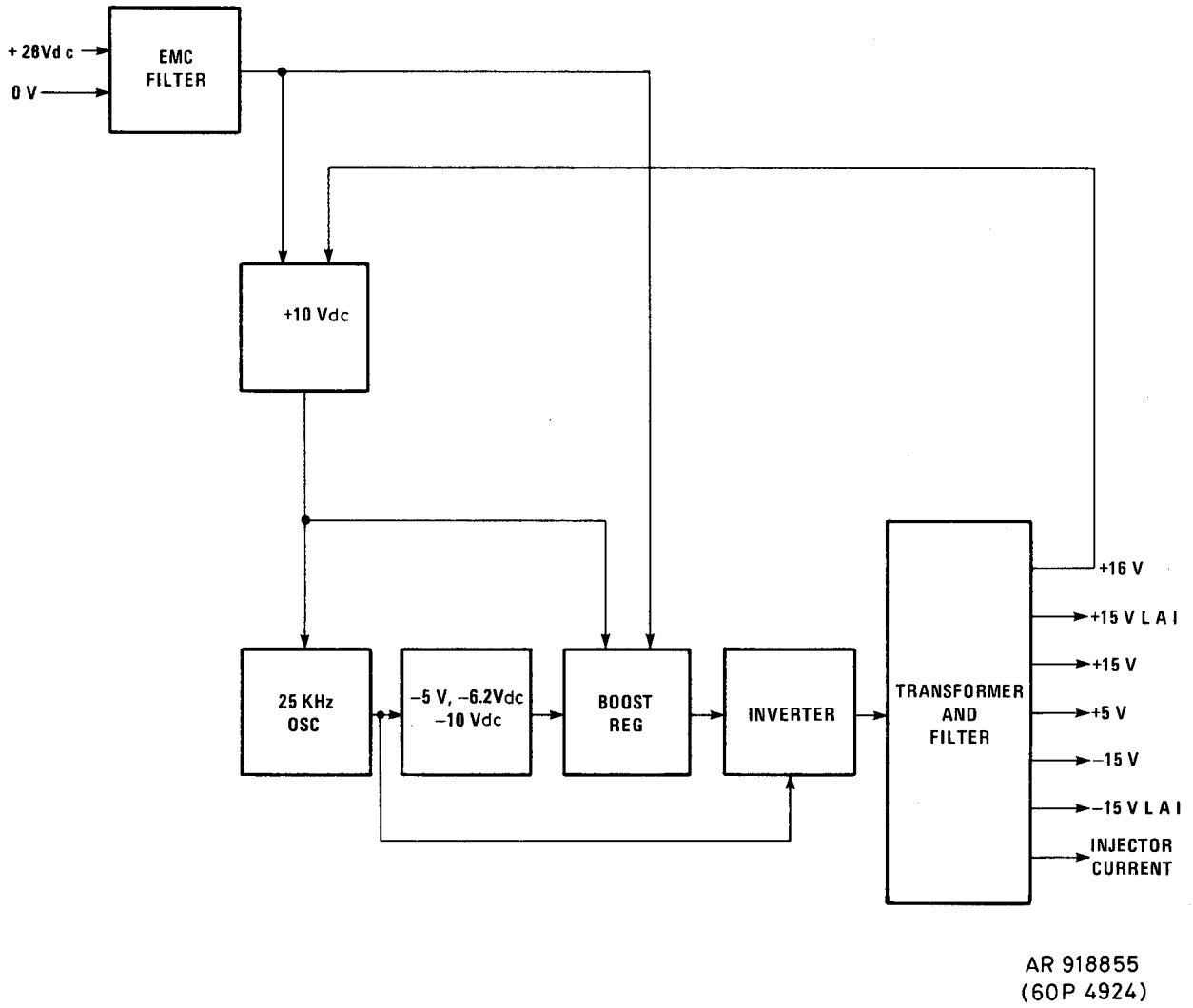


Figure 1-27. Power Supply Unit Block Diagram.

input current and voltage to provide over-current and over-voltage protection. A 25kHz square wave oscillator drives two inverter transistors which provide the output transformer primary with an 80 Vac pk-pk square wave. The ac is next stepped down to required secondary voltages by the output transformer and rectifier assembly.

(1) ***Voltage Outputs.*** After the power supply has started, a relay switches the source of supply for the +10 Vdc from the helicopter 28 Vdc supply to a secondary on the transformer. This allows greater tolerance of helicopter 28 Vdc fluctuations and reduces power consumption. Voltage outputs are as follows:

±15 Vdc analog supply.
±5 Vdc TTL logic supply.
INJ current microprocessor supply
(derived from 5 Vdc supply).
±15 Vdc LAI supply (current limited to 1.0A).

(2) ***Performance.*** Output voltages and currents are maintained to within 2%, with input voltages varying between 10 Vdc and 80 Vdc under steady state conditions.

(a) The main (+80 Vdc) supply is monitored for under-voltage only, as over-voltage and short circuit over-current protection are inherent in the boost regulator design.

(b) This monitoring provides a fail signal to the EPU status indicator.

(3) **Polarity Reversal Protection.** Supply polarity reversal protection is provided by diode protection on the 28 Vdc input to the EPU.

1-18. LAI Physical Description. The LAI (Fig. 1-28) is housed in a standard 3 inch instrument case, fitted at the top center of the pilot's instrument panel. Low airspeed, up to 50 knots, is displayed by lateral and fore-aft direction indicators, each mounted on a single radius arm and driven from a dc torquer motor via a 4:1 reduction gear. The intersection of the two direction indicators is related to the circular scale to obtain total airspeed.

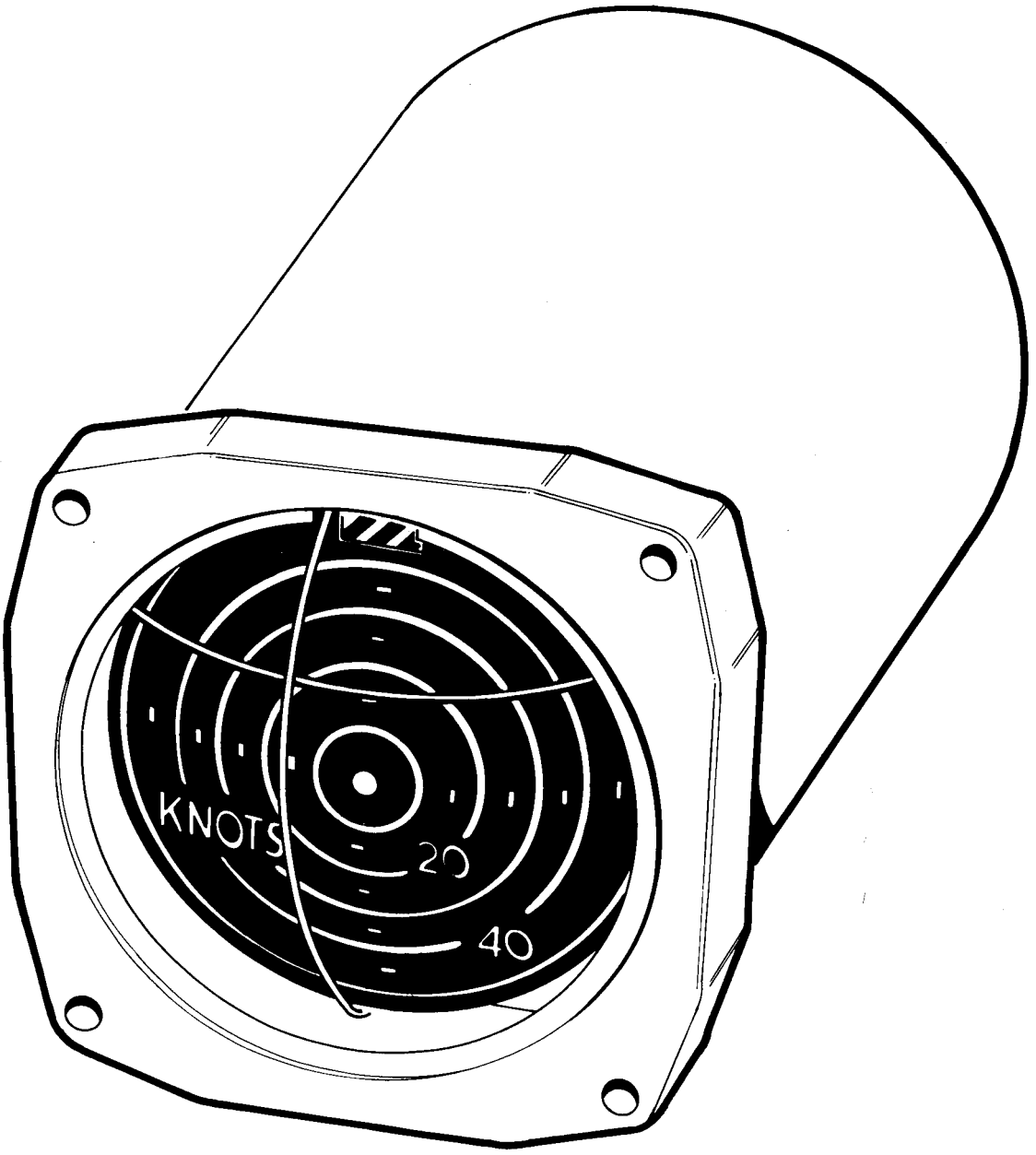
a. A three-position flag motor is used to indicate either status (GOOD) (matt black), status (FAIL) (red and black diagonal stripes) or (OVER-RANGE) (O/R). The display surface is illuminated by miniature 5 Vdc red lamps mounted in a recess behind the front cover. Examples of displayed information for various flight conditions are shown in figure 1-29.

b. The torquer motor is mounted on a pointer drive assembly. A double sided printed circuit board attached to this assembly carries the control electronics. Connections to the LAI are made via a 19-pin socket on the rear of the instrument.

1-19. LAI Functional Description. A block diagram of the LAI is included as figure 1-30. Positional feedback is obtained from a potentiometer which is integral with the torquer-motor. This feedback signal is compared with the input signal and fed to a high gain amplifier. The feedback signal is phase-shifted and used to provide rate damping. This rate damping provides optimum response to large input signal changes (e.g. at switch on) and also improves the low frequency vibration immunity of the indicator.

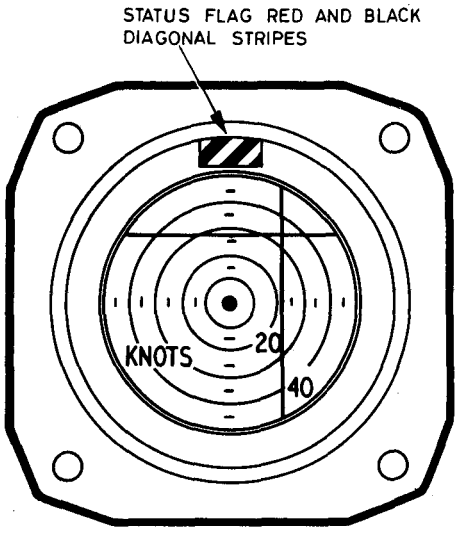
a. The forward channel has an over-range (O/R) indication which is displayed by the three position indicator when the forward airspeed input to the indicator is in excess of 50 knots.

b. The indicator has built-in failure monitor circuits which flag a failure if the indicators fail to respond to an input. This fail signal will be repeated on the EPU, but will not affect the operation of any other LRU in the ADS. In addition the indicator monitors the ADS Fail signal and displays a failure to the pilot if the system shows fail.

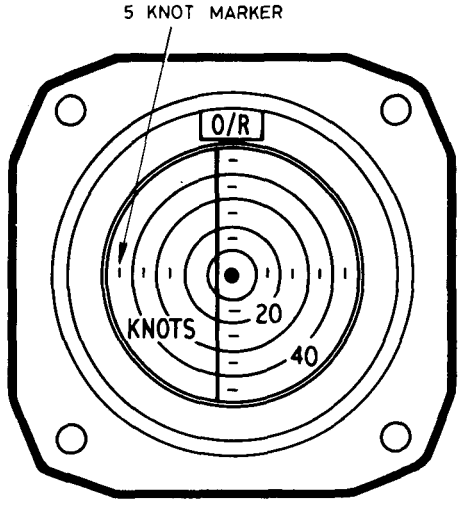


AR918887
(60P4975)

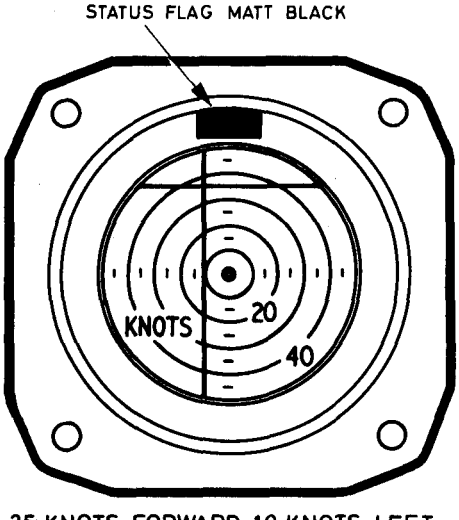
Figure 1-28. Low Airspeed Indicator.



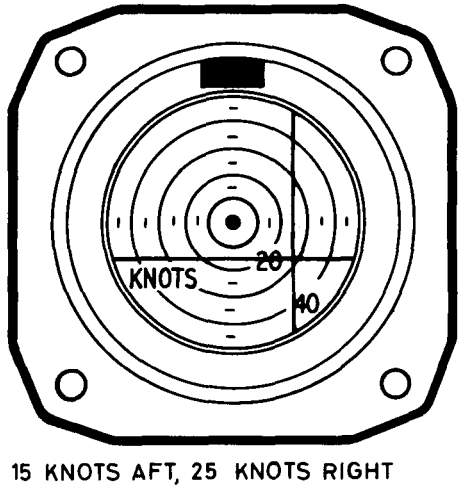
LAI FAILURE



FORWARD AIRSPEED GREATER THAN
50 KNOTS, 5 KNOTS LEFT



35 KNOTS FORWARD, 10 KNOTS LEFT



15 KNOTS AFT, 25 KNOTS RIGHT

AR 918790
(60P4595)

Width of pointers: 1 knot
Width of center spot: 4 knots edge-to-edge

Figure 1-29. LAI Sample Airspeed Indications.

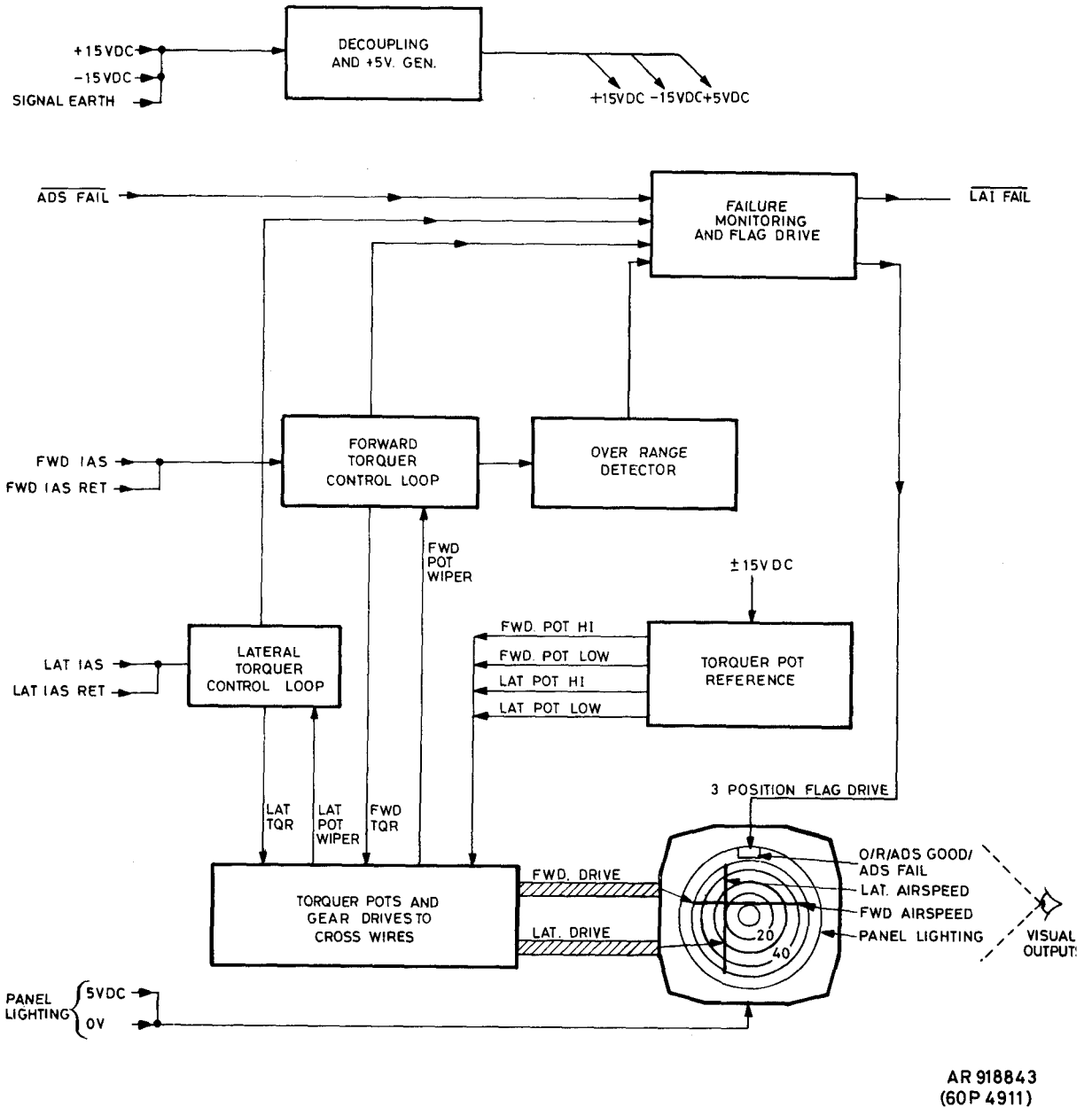


Figure 1-30. LAI Block Diagram.

1-20. Tabulated Data.

Table 1-1. Dimensions, Weight and Power Supply Requirements.

Dimensions:

AADS	Head and Tail Assemblies
	Length 12.5 inches
	Maximum diameter 3.8 inches
AADS	Body Assembly
	Length 9.66 inches
	Maximum diameter 2.7 inches
EPU	Length 8.2 inches
	Width 7.5 inches
	Height 4.2 inches
LAI	Length 6.0 inches
	Width 3.5 inches
	Height 3.5 inches

Weight:

AADS:	2 pounds 7 ounces
EPU:	7 pounds 8 ounces
LAI :	1 pound 7 ounces

Power Supply Requirements

28+0.5-2 Vdc, 25W

115+3-7 Vac 400±20Hz, 1PH, 200VA

Table 1-2. ADS Outputs.

EPU Pin No.	Nomenclature	Function
51	ADS GO/NO GO	Discrete signal to FCC
47	$\overline{\text{Data Xmit Request}}$	Data Request from FCC
48	Data Xmit Request	
56	$\overline{\text{Data Ready}}$	Ready signal to FCC
62	Data Ready	
61	$\overline{\text{Data Clock}}$	Serial Data Clock from FCC
65	Data Clock	
46	$\overline{\text{Data}}$	Serial Digital Data to FCC
53	Data	
12	Fore-Aft TAS signal (V_u)	DC Analog Airspeed signal to Doppler
13	Fore-Aft TAS return	
2	Lateral TAS signal (V_v)	DC Analog Airspeed signal to Doppler
3	Lateral TAS return	
14	Vertical TAS signal (V_w)	DC Analog Airspeed signal to Doppler
21	Vertical TAS return	

Table 1-3. Serial Digital Data ADS Outputs to FCC.

Parameter	Range	Scaling		Accuracy (2σ)
		LSB	MSB	
Fore-Aft TAS (V_u)	-32 to 223 KNOTS	1 KNOT	128 KNOTS	±4 KNOTS
Lateral TAS (V_v)	-32 to 31.75 KNOTS	0.25 KNOTS	32 KNOTS	±3 KNOTS

Table 1-3. Serial Digital Data ADS Outputs to FCC - continued.

Parameters	Range	Scaling		Accuracy (2σ)
		LSB	MSB	
Vertical TAS (V_w)	-40 to 23.75 KNOTS	0.25 KNOTS	32 KNOTS	±3 KNOTS
Air Pressure (P_{ABS})	9.625 to 16 PSIA	0.025 PSIA	3.2 PSIA	±0.6 PSIA
Air Temp (T_{AIR})	-55 to 72.5 °C	0.5 °C	64 °C	±3°C
Downwash Velocity (V_{dw})	0 to 63.75 KNOTS	0.25 KNOTS	32 KNOTS	±3 KNOTS

Table 1-4. Discrete Outputs to FCC.

Parameter	Range	DC Voltage Range	Scaling
Data Ready (DR)	True/False	TTL Level	High = True Low = False
ADS GO/NO GO	GO/NO GO	+28 Vdc 0 Vdc	GO = 28 Vdc NO GO = 0 Vdc

Table 1-5. Analog ADS Outputs to Doppler.

Parameter	Raange	DC Voltage Range	Scaling
Fore-Aft TAS (Vu)	-35 to 200 KNOTS	-1.75 to 10	50m V/KNOT
Lateral TAS (V_v)	-50 to 50 KNOTS	-2.5 to 2.5	50m V/KNOT
Vertical TAS (V_w)	-40 to 20 KNOTS	-2.0 to 1.0	50m V/KNOT

Table 1-6. ADS Inputs.

Pin No.	Nomenclature	Function
EPU 17 EPU 25 EPU 26	28 Vdc	Helicopter 28 Vdc Supply
EPU 34 EPU 35 EPU 43	28 Vdc Return	
EPU 1	RDR ALT Signal	Radar Altitude Signal
EPU 5	RDR ALT Return	Radar Altitude Signal Return
EPU 54	RDR ALT Reliability Signal	Radar Altitude Status Signal
EPU 55	RDR ALT Reliability Return	Radar Altitude Status Return
AADS 12	AADS Heater Line AADS Heater Neutral	Helicopter 115 Vdc Supply

Table 1-7. Air Data Subsystem Interface.

Airspeed and Direction Sensor (18A2J1).

J5 Pin	Signal	J5 Pin	Signal
12	AADS HTR LINE	16	ALPHA RTN
9	AADS HTR NEUT	6	Sin (Alpha-Beta) Signal
1	AADS REF SIG	5	Cos (Alpha-Beta) Signal
2	AADS REF RTN	17	ALPHA-BETA RTN
3	SIN ALPHA SIG	22	ATS H
4	COS ALPHA SIG	15	ATS L

Electronics Processor Unit (18A1J1).

J4 Pin	Signal	J4 Pin	Signal
49	AADS REF SIG	62	DATA RDY BAR
50	AADS REF RTN	28	LAI+15V
30	SIN ALPHA SIG	37	LAI-15V
31	COS ALPHA SIG	64	ADS FLR BAR
39	ALPHA RETURN	12	V_u SIG
32	SIN (ALPHA-BETA) SIG	13	V_u RTN
33	COS (ALPHA-BETA) SIG	2	V_v SIG
41	(ALPHA-BETA) RTN	3	V_v RTN
4	ATS H	14	V_w SIG

Table 1-7. Air Data Subsystem Interface – continued.

Electronics Processor Unit (18A1J1) - continued

J4 Pin	Signal	J4 Pin	Signal
10	ATS L	21	V_w R T N
51	ADS GO/NO GO	45	TRIG
61	DATA CLK	6	ANLG IN
65	DATA CLK BAR	7	ANLG OUT
47	DATA XMT REQ	19	ANLG RTN
48	DATA XMT REQ BAR	36	SYSTEM GND
1	RDR ALT SIG	20	P_s
5	RDR ALT RTN	22	P_T- P_S
54	RDR ALT RELBL SIG	29	EPU+15V
55	RDR ALT RELBL RTN	38	EPU-15V
8	V_{Iu} SIG	27	SIG GND
9	V_{Iu} R T N		
16	V_{Iv} SIG		
23	V_{Iv} R T N	17	28 VDC
60	LAI FLR BAR	25	28 VDC
52	INJ V	26	28 VDC
18	EPU +5 V	34	28 V RTN
46	DATA	35	28 V RTN
53	DATA BAR	43	28 V RTN
56	DATA RDY		

Low Airspeed Indicator (18A3J1).

J3 Pin	Pin	Signal	J3 Pin	Pin	Signal
7	F	V_{Iu} SIG	2	B	LAI-15V
8	G	V_{Iu} R T N	13	L	ADS FLR BAR
9	H	V_{Iv} SIG	1	A	SIG GND
10	J	V_{Iv} R T N	4	D	PNL LTG+5V
12	K	LAI FLR BAR	3	C	PNL LTG OV
14	M	LAI+15V			

Table 1-8. Helicopter Installation Details.

LRU/ Control	Helicopter Installation			
	Location	Box No/ Switch No.	Connector	Cable
EPU	Rear of Cockpit Bulkhead	18A1	18A1J1	18A1P1

Table 1-8. Helicopter Installation Details – continued.

	Helicopter Installation			
LRU/ Control	Location	Box No/ Switch No.	Connector	Cable
AADS	Sensor Installation Right Hand Side of Cockpit	18A2	18A2J1	18A2P1
LAI	Pilots Panel	18A3	18A3J1	18A3P1
AADS Heater	ECS Control Panel	10S1	—	—

1-21. Special Tools and Equipment.

Table 1-9. AVUM Test Equipment.

Nomenclature	Part Number	NSN	Function
Tester, Pitot Static Systems	MB-1A	4920-00-580-2303	To leak test ADS pitot-static plumbing after installation.
Kit, Pneumatic	901488		Provides the necessary pitot static adapters to accomplish interface between either the EPU or AADS and the CGSE tester, Pitot Static Systems.

Table 1-10. AVIM Tools and Test Equipment.

Nomenclature	Part Number	NSN	Function
Test Station, ADS (LRU) Consisting of:	95-112-02	4931-01-074-3322	
(1) Test Set, ADS (LRU) See Figures 1-31, 1-32	95-109-02		Performance verification of the ADS LRUs and isolating faults in the EPU to SRU Level.
(2) Fixture, AADS (Checking)	99-265-02		Provides a fixed datum and mechanical reference to facilitate AADS angle resolver output alignment checks.
(3) Pneumatic Assembly	99-245-01		Connects EPU under test to Pressure Test Set. Provides the necessary pitot static adapters to accomplish interface between either the EPU or AADS and the CGSE Tester, Pitot Static Systems.
Multimeter	AN/USM 223	6625-00-999-7465	For current measurement.

Table 1-10. AVIM Tools and Test Equipment.

Nomenclature	Part Number	NSN	Function
Volmeter Digital	8125A	1430-00-366-8753	For resistance and voltage measurements.
Oscilloscope Dual Trace	AN/USM 281C	6625-00-106-9622	Waveform checks.
Watch, Stop		6645-00-250-4680	To monitor leak and flow rate periods during EPU and AADS testing.
Capacity Tank, Dual Purpose (1 cubic ft volume)	Local Manufacture (see fig. 1-35 and fig. F0-3)		To increase volume of pitot or static plumbing so that relistic leak rates can be monitored.
Manometer, Inclined Tube		6685-00 983-5326	Used in conjuction with Tester, Pitot Static System to facilitate low airspeed testing on the EPU.
Tester, Pitot Static Systems	MB-1A	4920-00-580-2303	Provides altitude and airspeed pressures to facilitate calibration of EPU and leak tests on the EPU and AADS.

1-22. Spares and Repair Parts. Spares and repair parts are listed and illustrated in Appendix E of this manual.

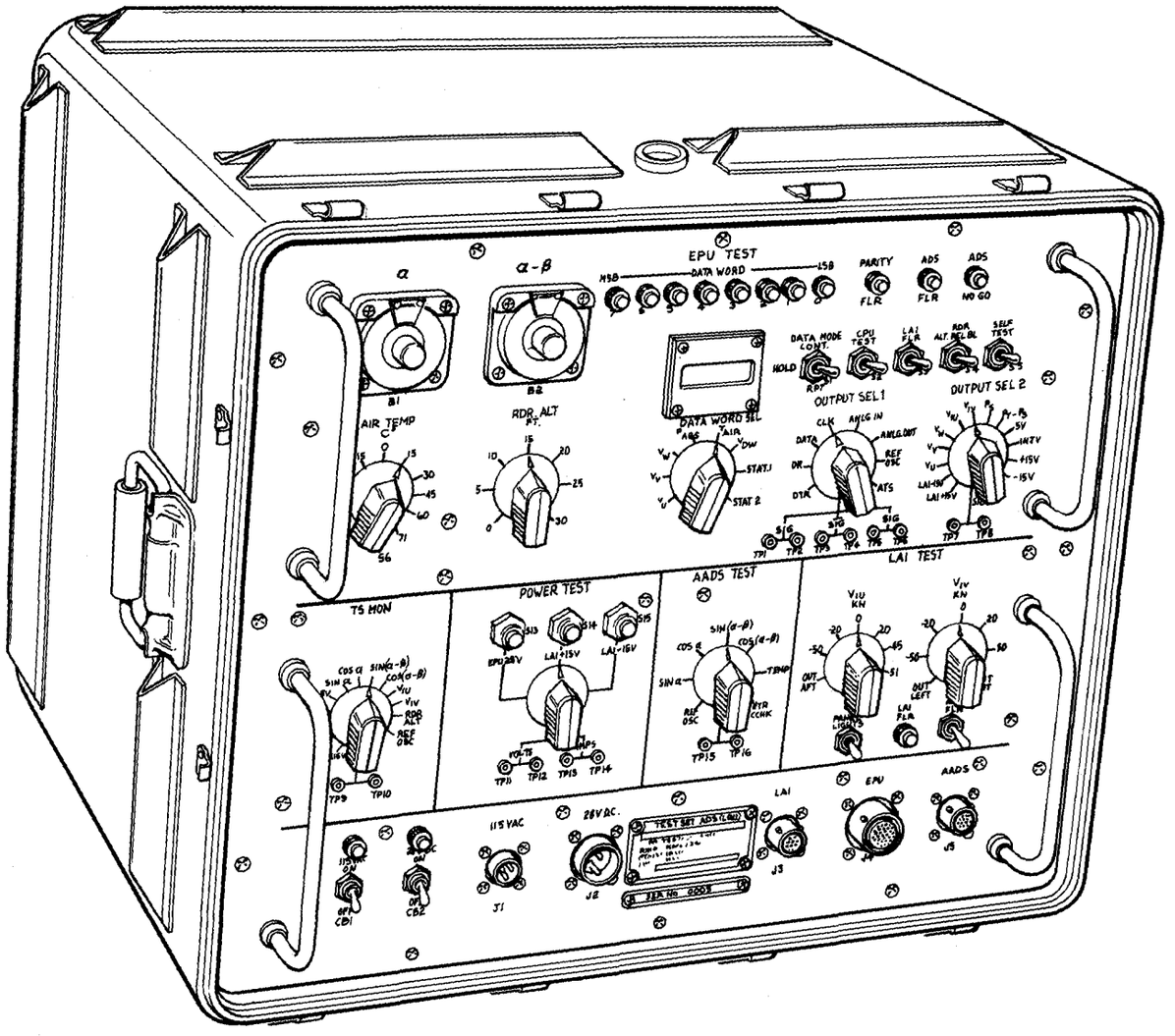


Figure 1-31. Test Set (General View).

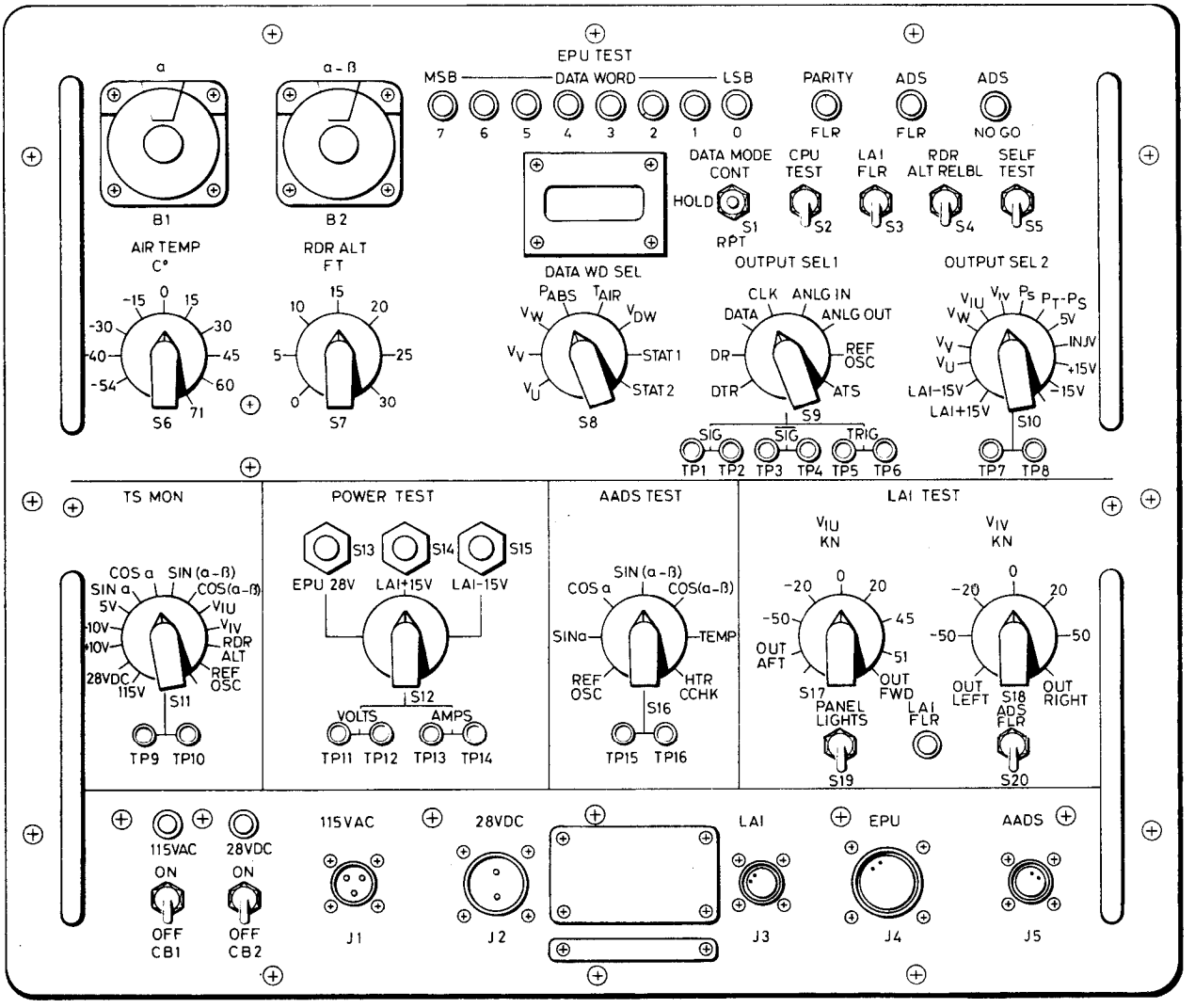


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Figure 1-32. Test Set (Front Panel).

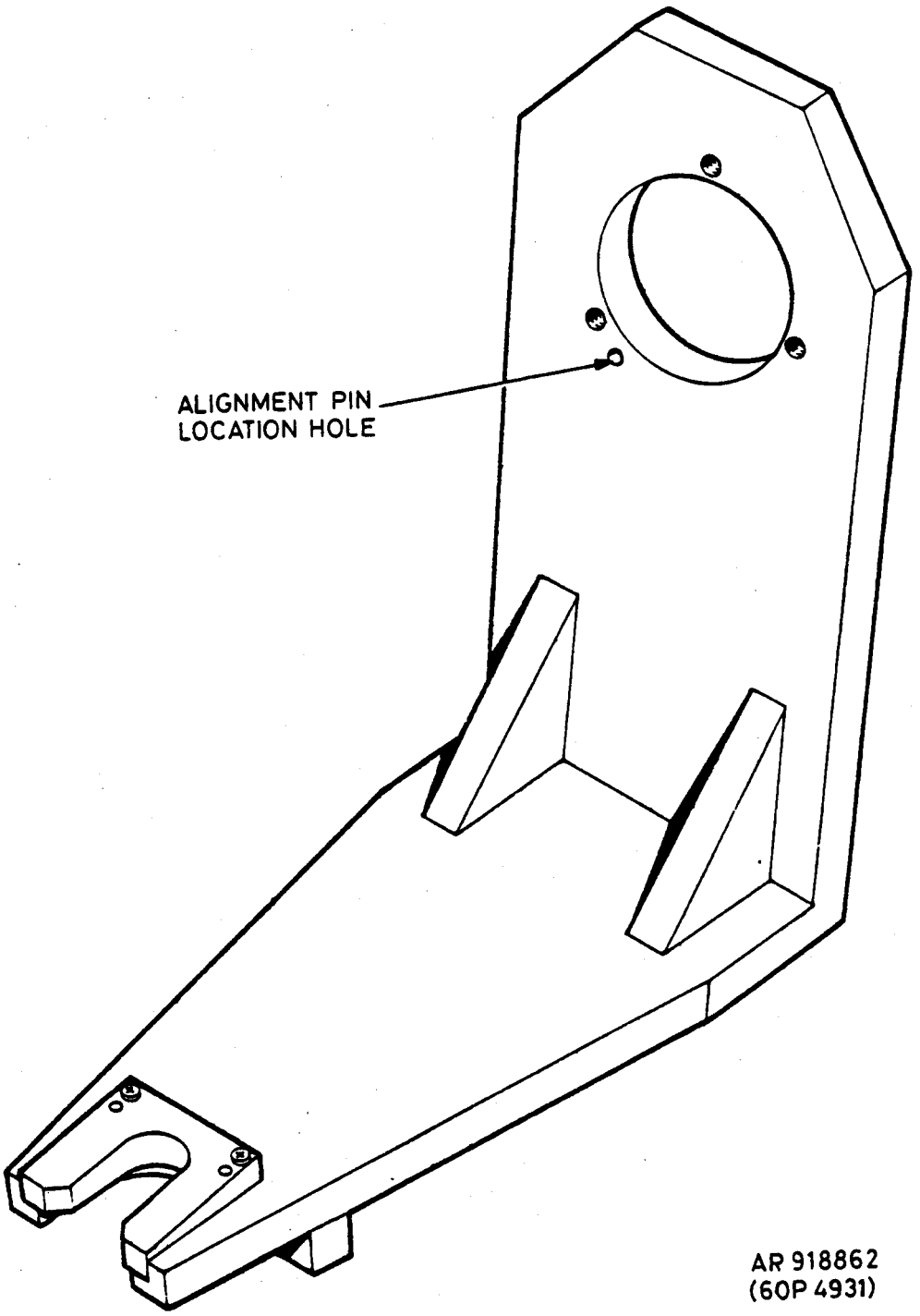
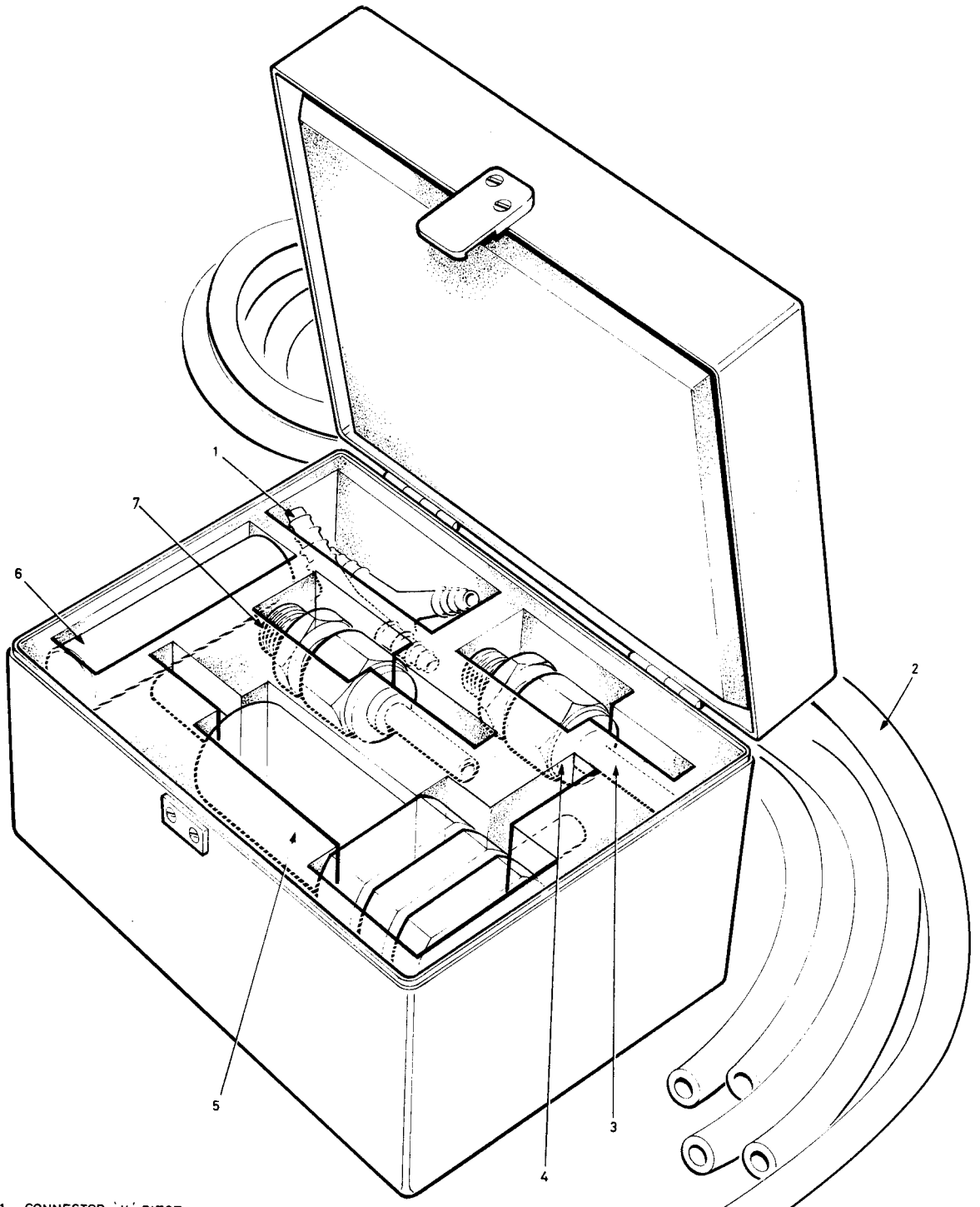


Figure 1-33. Fixture AADS Checking.



1 CONNECTOR 'Y' PIECE
2 TUBING SILICONE RUBBER
3 ADAPTER TUBE
4 ADAPTER
5 ADAPTER PITOT HEAD
6 BLANK ASSEMBLY
7 ADAPTER

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Figure 1-34. Pneumatic Assembly.

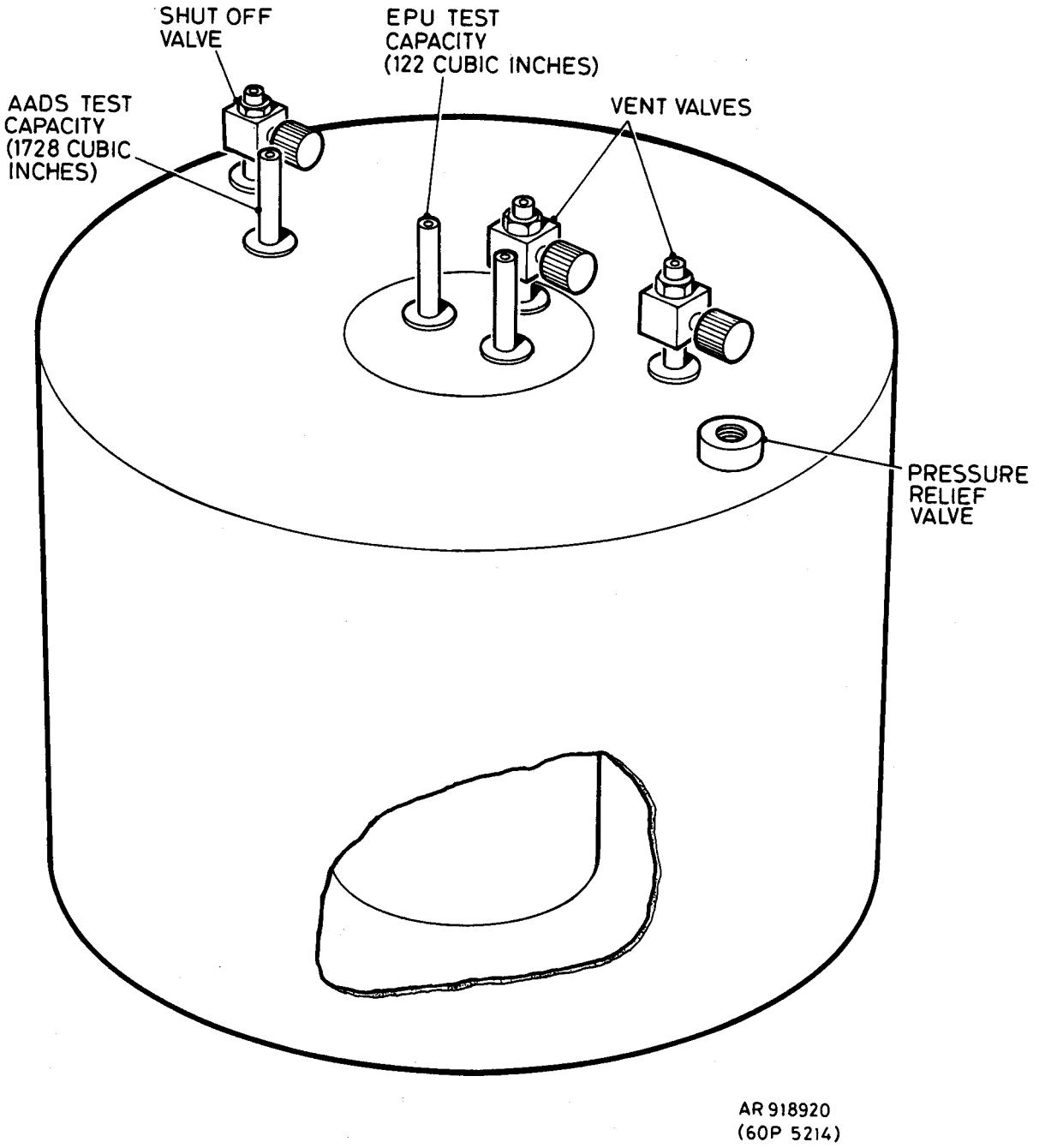
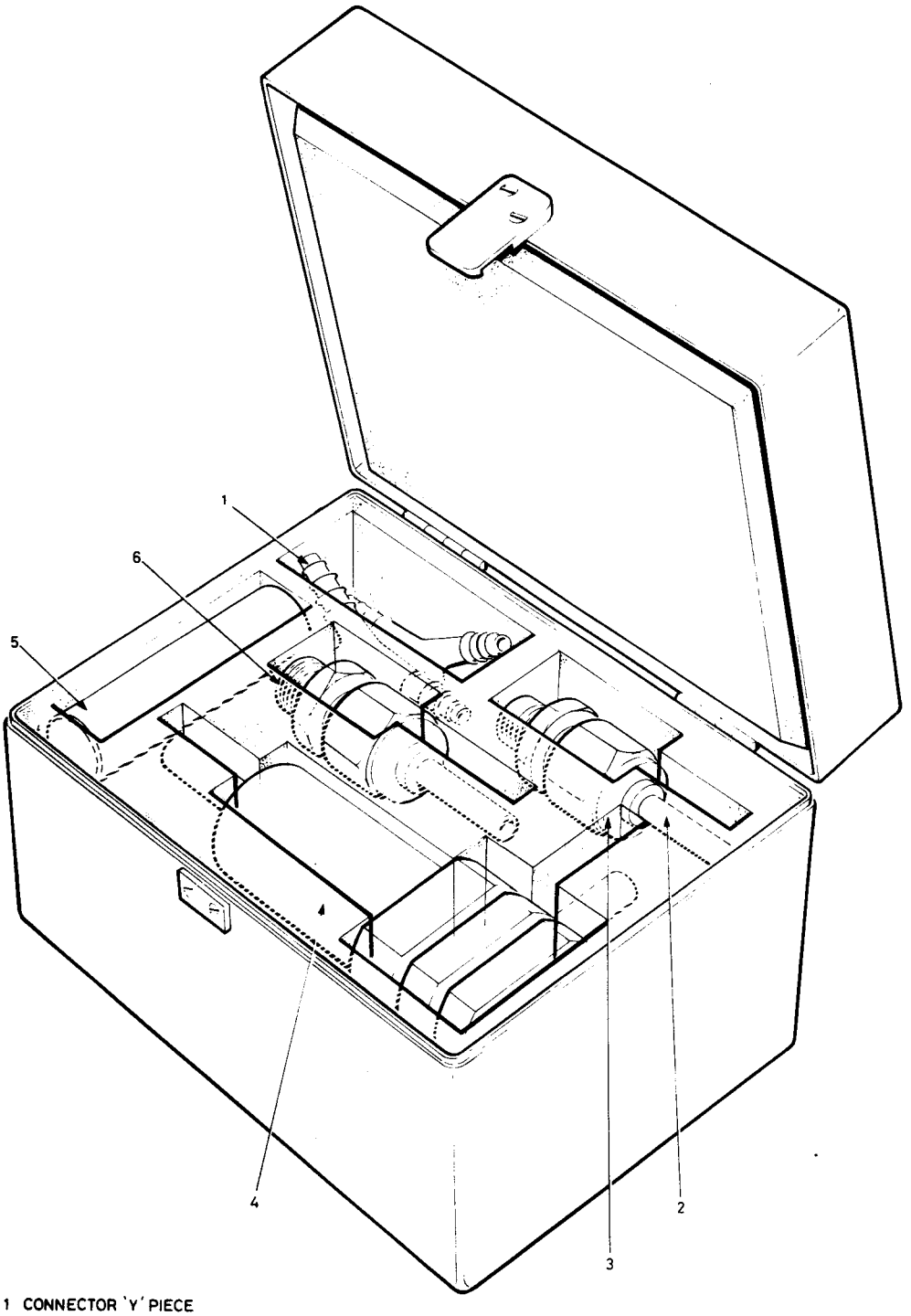


Figure 1-35. Dual Purpose Capacity Tank.



1 CONNECTOR 'Y' PIECE
2 ADAPTER TUBE
3 ADAPTER
4 ADAPTER PITOT HEAD
5 BLANK ASSEMBLY
6 ADAPTER

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Figure 1-36. Kit, Pneumatic.

CHAPTER 2

OPERATING INSTRUCTIONS

For operating instructions see TM 55-1520-236-10 or TM 55-1520-239-10 Operators Manual.

CHAPTER 3

OPERATING/CREW MAINTENANCE INSTRUCTIONS

There are no authorized Operator/Crew maintenance instruction requirements.

CHAPTER 4
AVIATION UNIT MAINTENANCE INSTRUCTIONS

Section 1. SERVICE UPON RECEIPT OF MATERIEL

4-1. Inspecting Instructions.

a. ***Visually Inspecting the AADS.***

(1) Inspect the AADS for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces which would impair the operation of the AADS. Inspect for loose or missing screws, illegible or obliterated markings, and broken or missing safety wire.

(2) Inspect the electrical connector J1 for broken, loose, bent, corroded or missing pins.

(3) Check that the pitot hole, the two static holes and the two drain holes in the head are unobstructed.

(4) Check that the pitot and static union connectors on the body are unobstructed and have undamaged threads.

(5) Check that the swivelling probe rotates freely through 360° in pitch and approximately 120° in yaw (fig. 1-9).

b. ***Visually Inspecting the Sensor Installation***

(1) Inspect the sensor installation support assemblies (9, fig. 4-1) for loose or missing bolts, screws and threaded inserts. Inspect for loose rivets securing support assembly to tube assembly (8).

(2) Inspect the tube assembly (8) and mounting bracket (7) for cracks. Inspect mounting bracket for loose rivets.

(3) Inspect canopy channel support (5) for cracks and loose or missing screws.

(4) From inside the pilots compartment, inspect pitot and static lines for chafing, breaks and loose connectors.

(5) Inspect clamps for proper installation to ensure pitot and static lines are not crimped.

c. ***Visually Inspecting the EPU.***

(1) Inspect the EPU for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces, loose or missing screws and illegible or obliterated markings.

(2) Inspect the electrical connector J1 for broken, loose, bent, corroded or missing pins.

(3) Check that the pitot and static connectors P_s and P_T on the front panel are unobstructed and have undamaged threads.

d. ***Visually Inspecting the LAI.***

(1) Inspect the LAI for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces, and loose or damaged screws.

(2) Inspect the electrical connector for broken, loose, bent, corroded or missing pins.

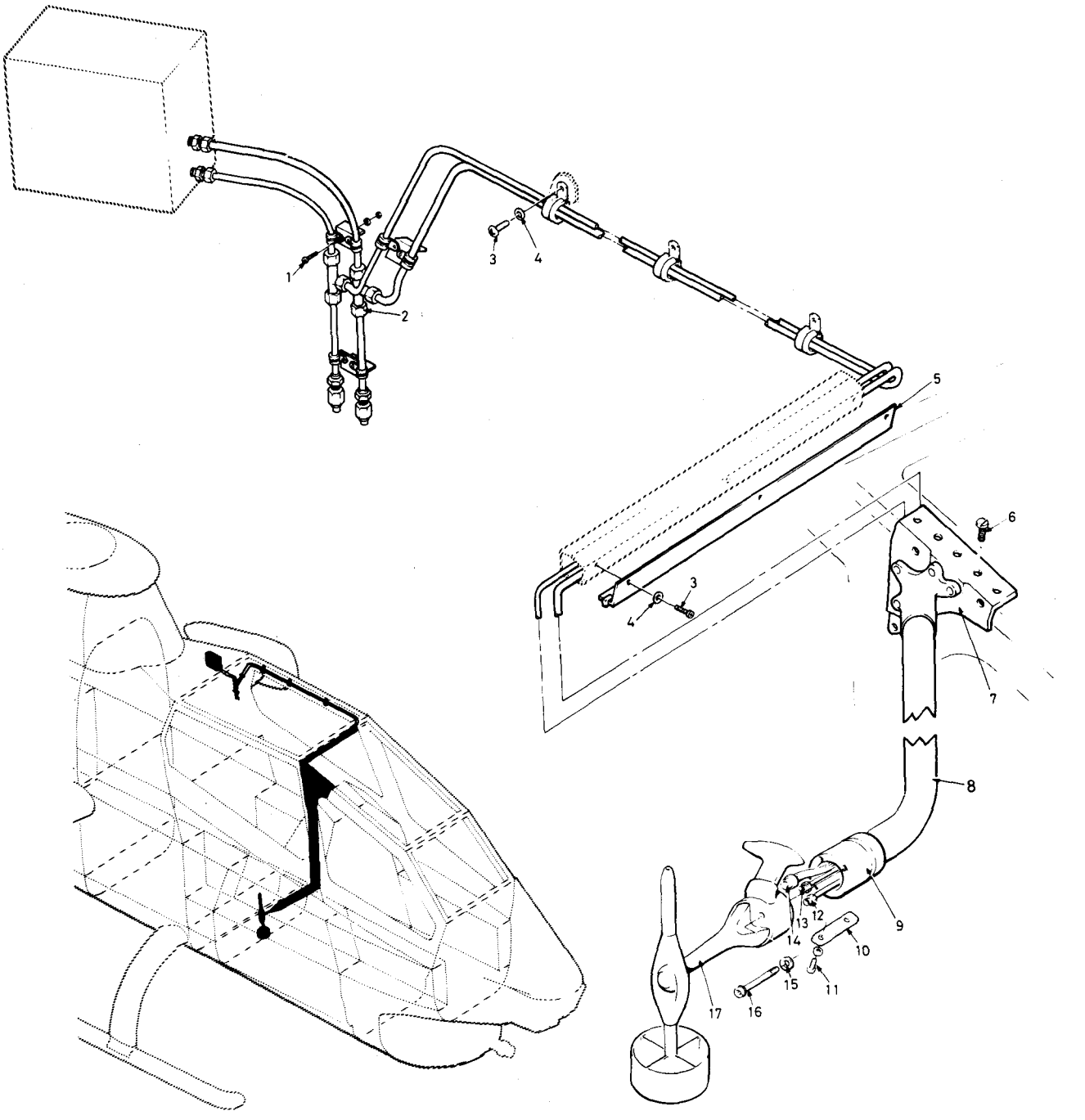
(3) Inspect the front of the LAI for damaged glass and illegible or obliterated dial markings.

4-2. Installing the AADS.

a. Secure the helicopter pitot and static union connectors (12 and 13, fig. 4-1) to the AADS. If necessary loosen helicopter plumbing securing clips to allow movement of the pitot and static plumbing. Tighten securing clips after the helicopter pitot and static connectors have been secured to the AADS.

b. Connect the helicopter electrical connector 18A2J1 (14) to the AADS.

c. Apply a thin film of sealant (item 1, Appendix F) to the sensor installation support assembly (9) mat surface.



1 PITOT UNION TEE
2 STATIC UNION TEE
3 SCREW
4 WASHER
5 CANOPY CHANNEL SUPPORT
6 SCREW
7 MOUNTING BRACKET
8 TUBE ASSEMBLY
9 SUPPORT ASSEMBLY
10 GROUNDING STRAP
11 SCREW
12 PITOT UNION CONNECTOR
13 STATIC UNION CONNECTOR
14 ELECTRICAL CONNECTOR 18A2J1
15 WASHER
16 BOLT
17 AADS

Figure 4-1. Sensor Installation and Helicopter Plumbing

d. Position the AADS on the sensor installation support assembly (9) so that the alignment pin on the AADS engages the hole on the support assembly.

e. Secure the AADS with three bolts (16) and washers (15). Torque bolts to 35 + 5 in-lb.

f. Safety wire (item 2, Appendix F) the three bolts.

g. Secure grounding strap (1 O) to the AADS and the sensor installation support assembly with attaching screws (11).

h. Perform leak tests as specified in paragraph 4-13.

4-3. Removing the AADS

a. Remove sensor installation grounding strap (10, fig. 4-1) and attaching screws (11) from the AADS.

b. Break and remove the safety wire securing the three mounting bolts.

c. Remove the three bolts (16) and washers (15) securing the AADS to the sensor installation support assembly (9).

d. Remove the AADS from the sensor installation support assembly.

e. Disconnect the electrical connector 18A2J1 (14) from the AADS.

f. Disconnect the pitot and static union connectors (12 and 13) from the AADS. If necessary, loosen helicopter plumbing securing clips to allow movement of the pitot and static plumbing (fig. 4-1). Tighten securing clips after the pitot and static connectors have been disconnected from the AADS.

g. Remove all traces of sealant from mating surfaces of the helicopter boom mounting support assembly and the AADS.

44. Installing the Sensor Installation.

a. Route electrical connector 18A2J1 and cable, and union assembly ends of pitot and static lines through canopy channel (fig. 4-1).

b. Position tube assembly bracket near canopy side rail. Insert electrical connector in mounting bracket (7) and guide through tube assembly (8) and out through support assemblies (9).

c. Insert pitot and static lines through mounting bracket and guide through tube assembly (8) and out through support assemblies (9).

d. Position mounting bracket (7) in place on canopy side rail and secure with screws (6).

e. Connect pitot and static lines to the EPU and fittings, as necessary. Route and secure lines with clamps, as required.

f. Install canopy channel support (5) with three screws (3) and washers (4).

g. Conduct PMCS (B) Chapter 4, Section II and perform troubleshooting functional test, Chapter 4, Section III. For alignment and boresighting procedures, refer to AVIM maintenance.

4-5. Removing the Sensor Installation.

a. Remove canopy channel support (5, fig. 4-1) b removing three screws (3) and washers (4) to gain access t pitot and static lines.

b. Guide the pitot and static lines through the sensor installation and canopy channel. Disconnect pitot and static lines from union tees (1 and 2) and remove clamps, as necessary.

c. Guide the electrical cable and connector through the sensor installation and canopy channel.

Screws securing bracket to canopy side rail must be installed in same order of removal due to length differences.

d. Remove screws (6) securing mounting bracket (7) to the canopy side rail.

e. Remove sensor installation.

f. Disconnect pitot and static lines from EPU. Disconnect fittings and clamps, as necessary, and remove pitot and static lines.

4-6. Installing the EPU.

a. Secure the EPU to the helicopter bulkhead with four screws (1, fig. 4-2) and washers (2).

b. Connect the helicopter electrical connector 18A1J1 (3) to the EPU.

c. Connect helicopter pitot plumbing (5) to the EPU P_T pneumatic union connector.

d. Connect helicopter static plumbing (4) to the EPU P_S pneumatic union connector.

e. Perform leak tests as specified in paragraph 4-13.

4-7. Removing the EPU.

a. Disconnect the helicopter pitot (P_T) pneumatic union connector (5, fig 4-2) from the EPU.

b. Disconnect the helicopter static (P_S) pneumatic union connector (4) from the EPU.

c. Disconnect the electrical connector 18A1J1 (3) from the EPU.

d. Remove the four screws (1) and washers (2) securing the EPU to the helicopter bulkhead.

4-8. Installing the LAI.

a. Connect the aircraft electrical connector 18A3J1 to the LAI.

CAUTION

Ensure that screws are not dropped in the cockpit. Loose articles are a potential hazard to helicopter safety.

b. Fit LAI into Pilots Instrument Panel (fig. 4-3) and secure with four screws.

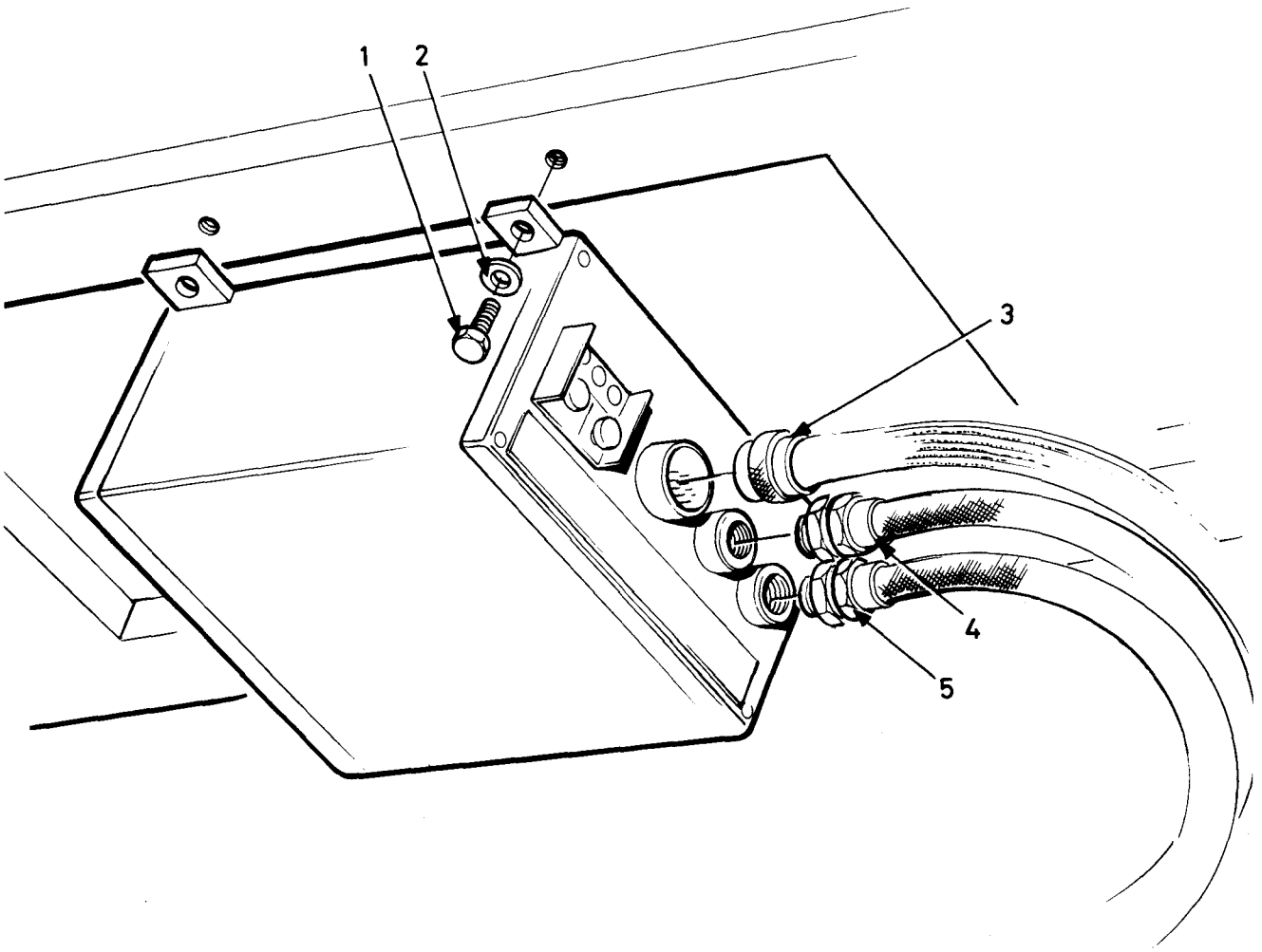
4-9. Removing the LAI.

CAUTION

Ensure that screws are not dropped in the cockpit. Loose articles are a potential hazard to helicopter safety.

a. Remove four screws securing LAI to Pilots Instrument Panel (fig. 4-3).

b. Pull the LAI clear of the Pilots Instrument Panel and disconnect the electrical connector 18A3J1 from the LAI.



1 SCREW
2 WASHER
3 ELECTRICAL CONNECTOR 18A1J1
4 STATIC PLUMBING CONNECTOR
5 PITOT PLUMBING CONNECTOR

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Figure 4-2. EPU on Helicopter Bulkhead.

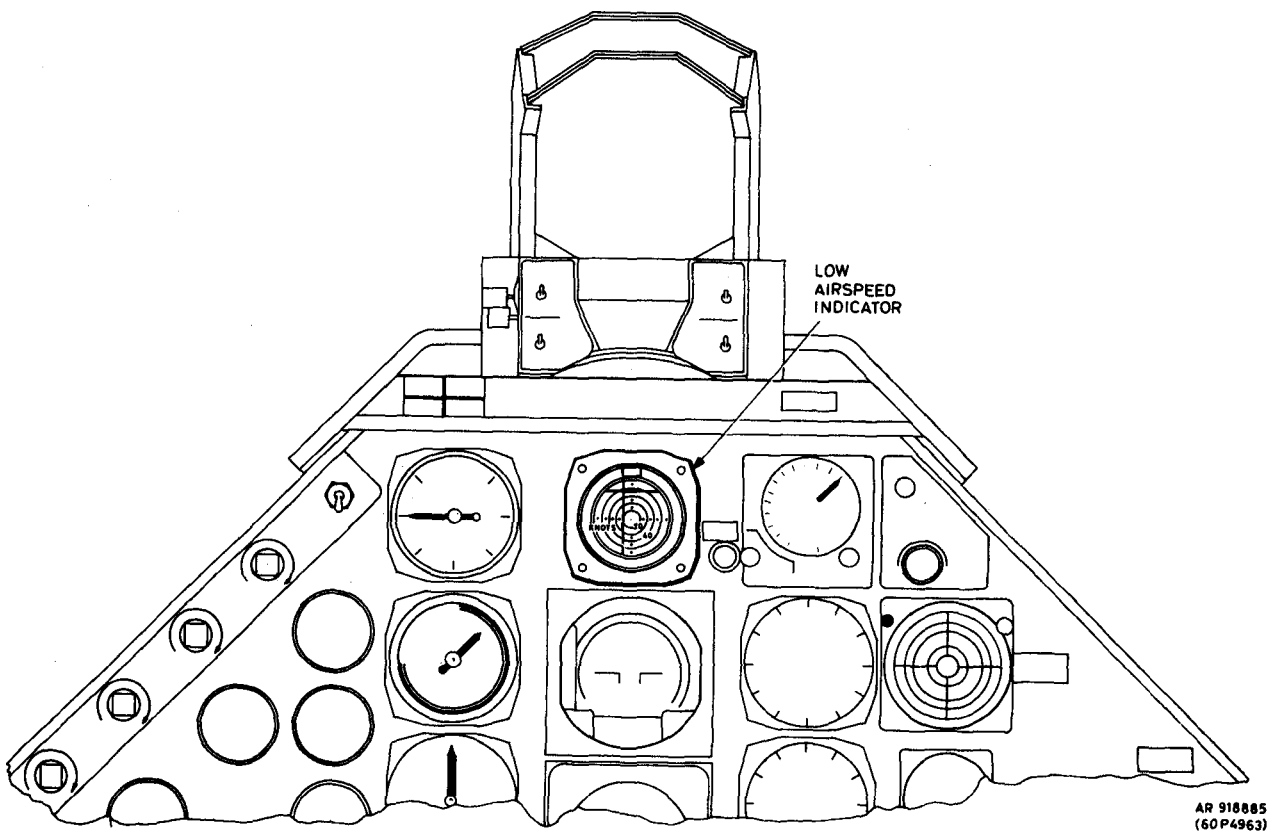


Figure 4-3. LAI in Pilots Instrument Panel

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-10. General. Table 4-1 contains the procedures for PMCS.

a. *Before operation.* Perform your 'before' (B) PMCS.

b. ***After operation.*** Be sure to perform your ´after´ (A) PMCS.

c. ***If your equipment fails to operate.*** Troubleshoot as described in Section III. Report any deficiencies using the proper forms (see TM 38-750).

d. The Item No. column of Table 4-1 will be used as source of item numbers for the ´TM Number´ column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording the results of PMCS.

Table 4-1. Preventive Maintenance Checks and Services

B - Before A - After

Item No.	B	A	Items to be Inspected	Procedures	Equipment will be Reported not ready/ Available if:
1	●	●	AADS	Inspect for any sign of damage	AADS damaged
2	●	●	Sensor Installation	Inspect for any sign of damage	Sensor Installation damaged
3	●		AADS gimbal	Check that swivelling probe rotates freely	Swivelling rotation restricted
4	●		AADS mounting bolts and securing safety wire	Check that electrical and pressure connectors are undamaged	Mounting bolts or safety wire damaged
5	●		EPU Front Panel	Check that switches, lamps, electrical and pressure connectors are undamaged	Front panel components damaged
6	●		LAI Front Panel	Check that glass is undamaged	Front panel glass damaged

Section III. TROUBLESHOOTING

4-11. Air Data Subsystem Troubleshooting Procedure.

a. The ADS will be subjected to the troubleshooting procedures listed in Table 4-2 whenever a fault in the system is reported. For complete wiring interface refer TM 55-1520-236-23 or TM 55-1520-239-23.

Table 4-2 ADS Troubleshooting

Malfunction Test or Inspection Corrective Action

1. Fault Suspected in Air Data Subsystem

Step 1. Apply power to the aircraft in accordance with TM 55-1520-236-23 or TM 55-1520-239-23 and switch on the power supplies to the Air Data Subsystem.

Step 2. Press the EPU SELF TEST switch. Check that the EPU SELF TEST lamp illuminates and that the BITE indicators on the EPU show white.

If the SELF TEST lamp fails to illuminate or any BITE indicator fails to show white, turn off power to the ADS and the helicopter, then replace the EPU as detailed in Chapter 4, Section 1.

Step 3. While observing the LRU BITE indicators press the RESET switch. Verify that each LRU BITE indicator changes from white to black and the SELF TEST lamp extinguishes after a period of 15 ± 5 seconds.

If the BITE indicators on the EPU do not change to black immediately after pressing the RESET switch, or the SELF TEST lamp fails to extinguish after 20 seconds, turn off power to the ADS and the helicopter, then replace the EPU as detailed in Chapter 4, Section I.

Step 4. After the SELF TEST lamp has extinguished check that the BITE indicators on the EPU all indicate black.

If any BITE indicators show white replace the associated LRU as detailed in Chapter 4, Section I.

Step 5. Note the approximate position of the LAI pointers.

Step 6. Press the EPU SELF TEST switch. The EPU SELF TEST lamp will illuminate and the BITE indicators will show white, as checked in Step 2. While observing the LAI press the EPU reset switch. Verify that during the 15 +5 seconds test period, the LAI pointers move to indicate 40KN forward and 10KN right and that the three position indicator indicates red/black.

If the LAI does not show 40KN forward and 10KN right or the three position indicator does not show red/black, turn off power to the ADS and the helicopter, then replace the LAI as detailed in Chapter 4, Section 1.

Step 7. After completion of the test period in Step 6, the SELF TEST lamp will extinguish as checked in Step 3, the LAI pointers will return to the position noted in Step 5, and the three position indicator will change to black. After the SELF TEST lamp has extinguished check that the three position indicator on the LAI has changed to black and that the LA I pointers have returned to their original position.

If the three position indicator on the LAI shows red/black, or the LAI pointers do not return to their original position, replace the LAI, as detailed in Chapter 4, Section 1.

Step 8. Perform the pitot and static leak tests specified in paragraph 4-12.

Step 9. Switch off power to the ADS.

Step 10. Switch off power to the helicopter.

4-12. Pitot Static Leak Tests. A flow chart of the procedure is given in figure 4-4.

a. ***Test Equipment Required***

Table 4-3 Test Equipment for Pitot Static Leak Tests

Nomenclature	Part No.	NSN
Tester, Pitot Static Systems	MB-1	4920-00-580-2303
Tank, Capacity	Local manufacture (see fig. 1-35 and F0-3)	
Kit, Pneumatic	901488	
Y Piece	901661	
Adapter	901651	

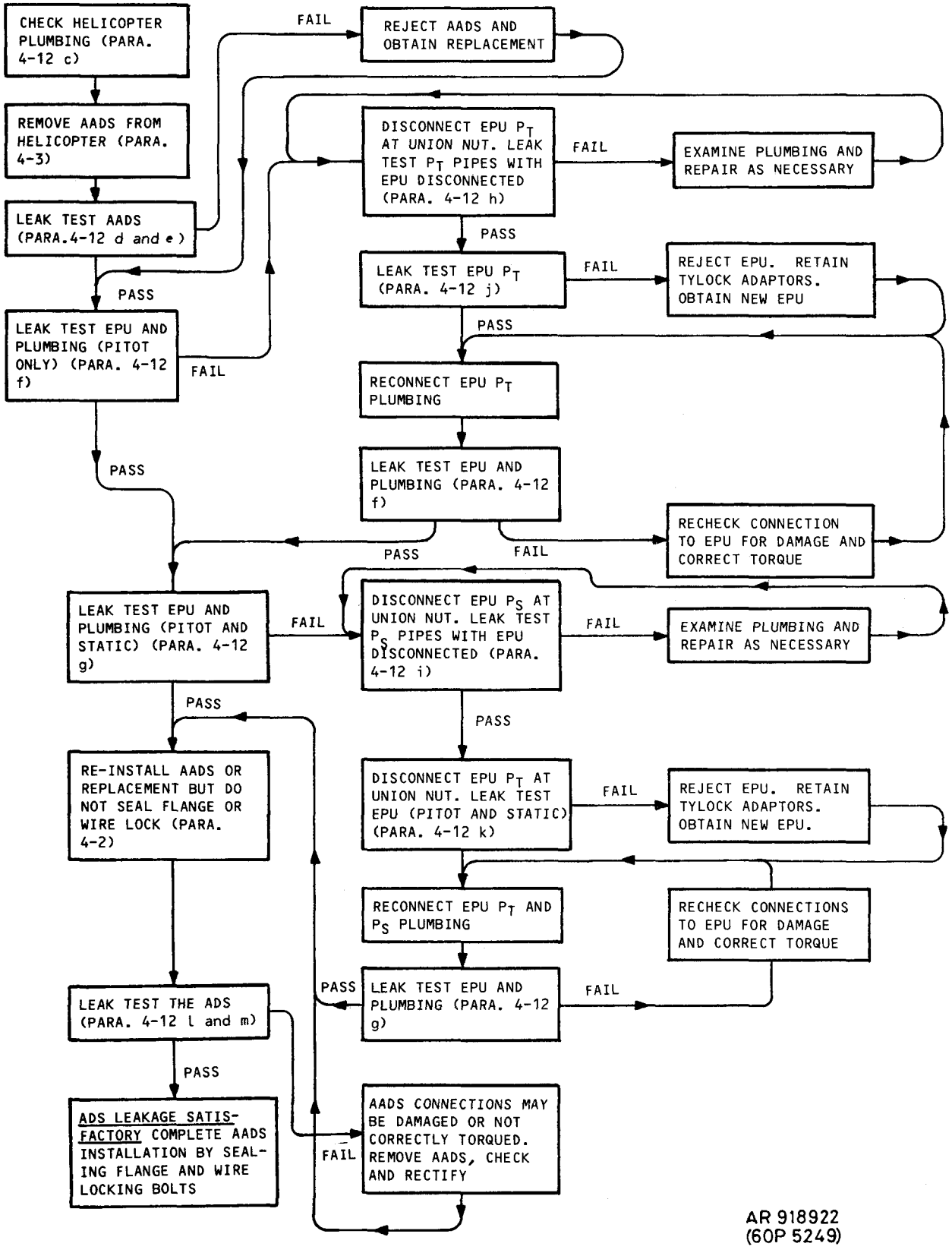


Figure 4-4. Diagnostic Flow Chart for ADS Leak Test.

b. ***Equipment Setting-Up***

(1) Verify the performance of the tester, pitot static systems in accordance with TO 33D-2-6-9-11.

(2) Apply power to the helicopter in accordance with TM 55-1520-236-23 or TM 55-1520-239-23 and switch on the power supplies to the Air Data Subsystem.

(3) Remove the AADS cover.

NOTE

All threaded test connections are to be sealed by using 1½ to 2½ turns of teflon plumbers tape.

c. ***Helicopter Plumbing Check.***

(1) Check that all connections are tight.

(2) Check that there are no visible signs of damage to the plumbing.

d. ***AADS Pitot Leak Test.***

Do not exceed the pressures stated or permanent damage may result to the AADS seals or the EPU pressure transducers.

(1) Remove the AADS from the helicopter as specified in paragraph 4-3.

(2) Fix the adapter to the AADS pitot head.

(3) Connect the pneumatic circuit shown in figure 4-5.

(4) Close the vent and shut-off valves on the capacity tank. Close the vent valve on the tester. Open the pressure source valve on the tester and raise the pitot pressure at the tester to 255 knots.

(5) Open the tank shut-off valve and observe the airspeed indicator on the tester. Start the stopwatch when the indication falls to 250 knots.

(6) After 60 seconds the indication shall not be lower than 220 knots.

(7) Open the vent valve on the capacity tank to release the pressure.

e. ***AADS Static Leak Test.***

(1) Change the pneumatic circuit to that shown in figure 4-6.

(2) Close the static vent valve on the tester and adjust the baro-set to make the altimeter read zero feet.

(3) Close the vent valve on the tank. Close the shut-off valve on the tank. Reduce the static pressure at the tester to 3200 feet.

(4) Open the shut-off valve on the tank. Observe the altimeter on the tester. Start the stop watch when the indication falls to 3000 feet.

(5) After 60 seconds the indication shall not be lower than 500 feet.

(6) Open the tank vent valve to release the pressure.

(7) Disconnect the pneumatic circuit and remove the AADS adapter.

f. ***EPU and Plumbing Pitot Leak Test.***

(1) Connect the pneumatic circuit as shown in figure 4-7.

(2) Close the pitot vent valve on the tester. Close the vent valve on the capacity tank. Raise the pitot pressure at the tester to 175 knots and observe the airspeed indicator.

(3) Over a period of 120 seconds, the indication shall not fall below 168 knots.

(4) Open the tank vent valve to release the pressure.

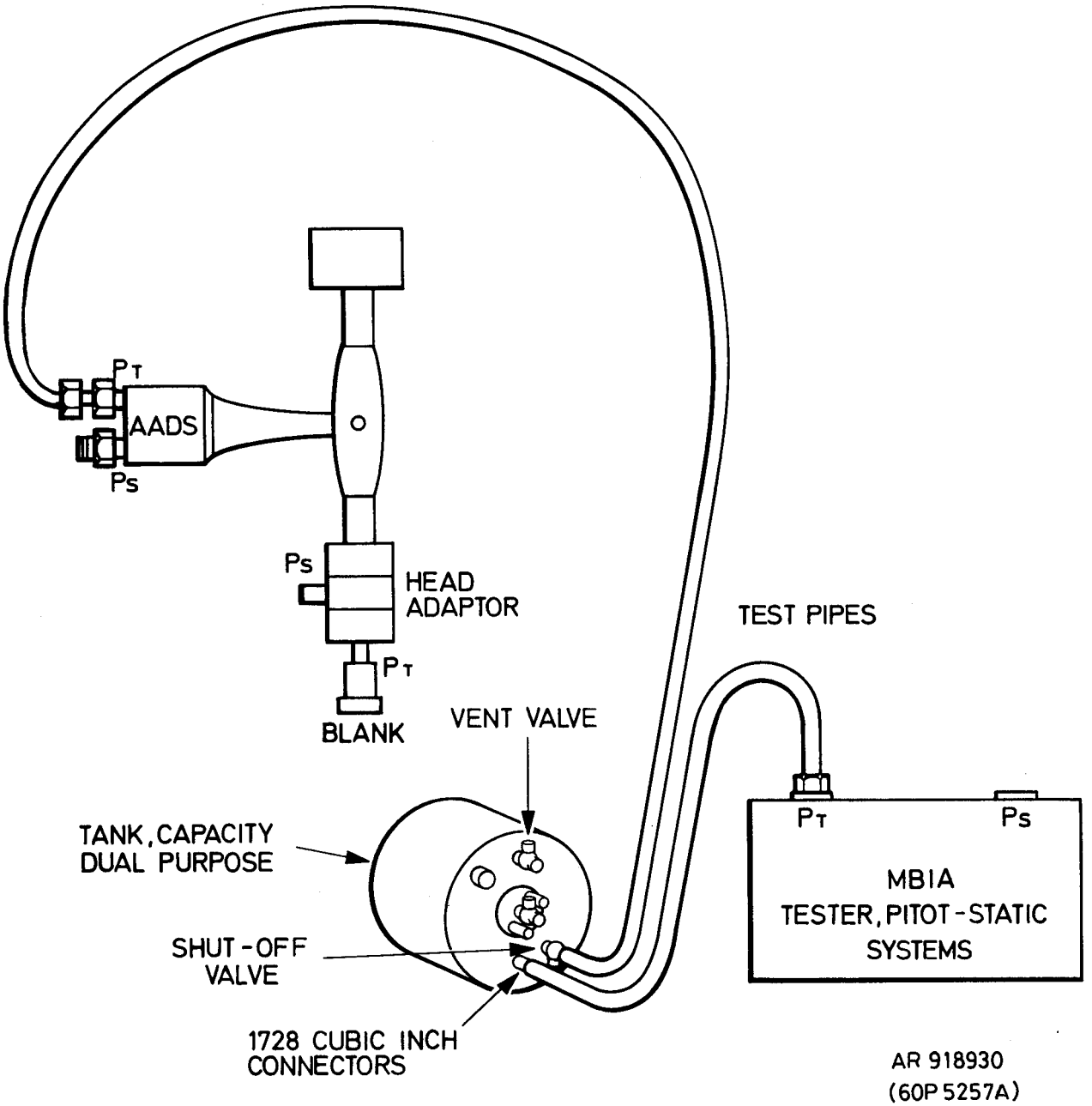


Figure 4-5. Pneumatic Circuit for AADS Pitot Leak Test.

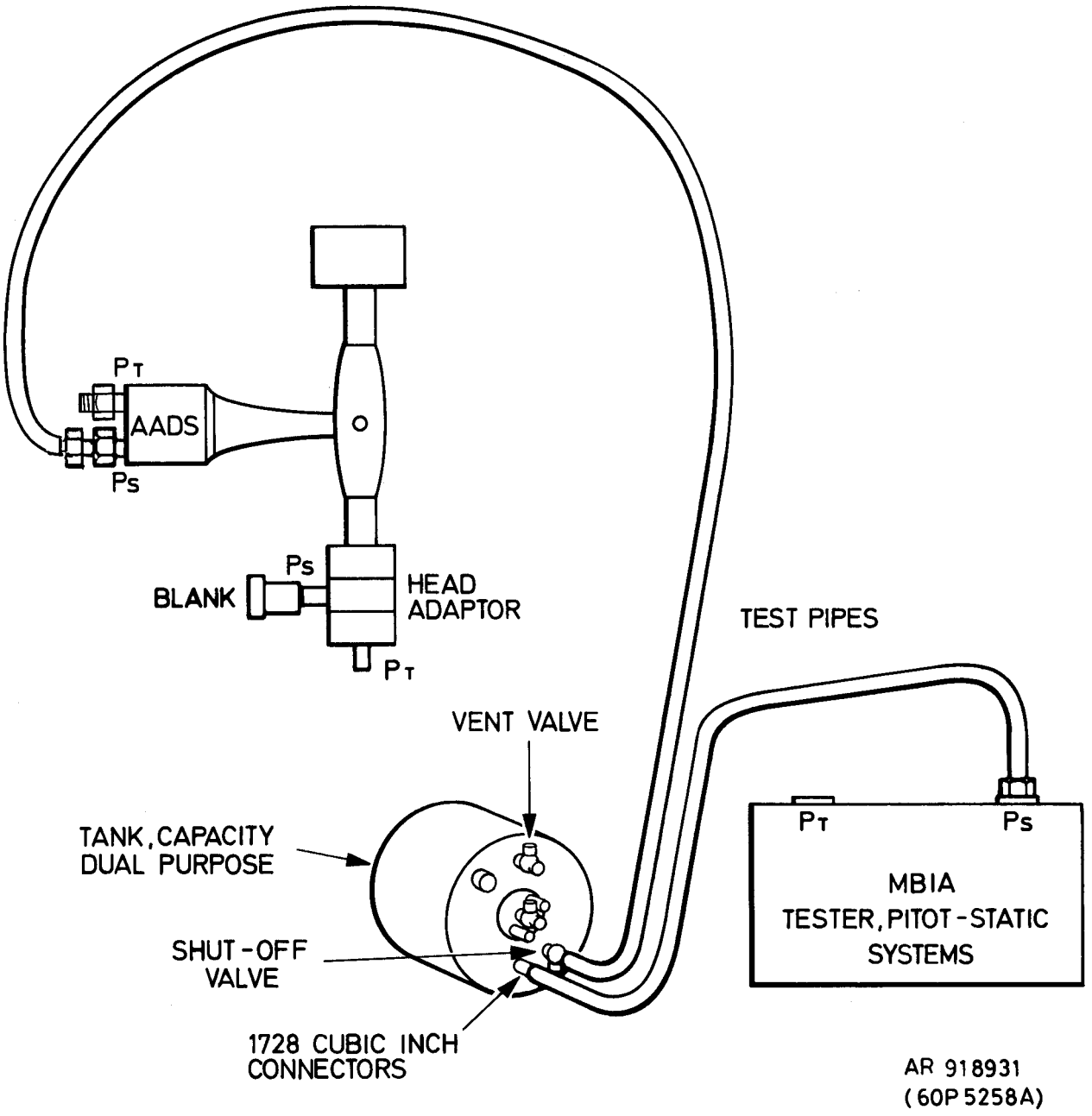


Figure 4-6. Pneumatic Circuit for AADS Static Leak Test.

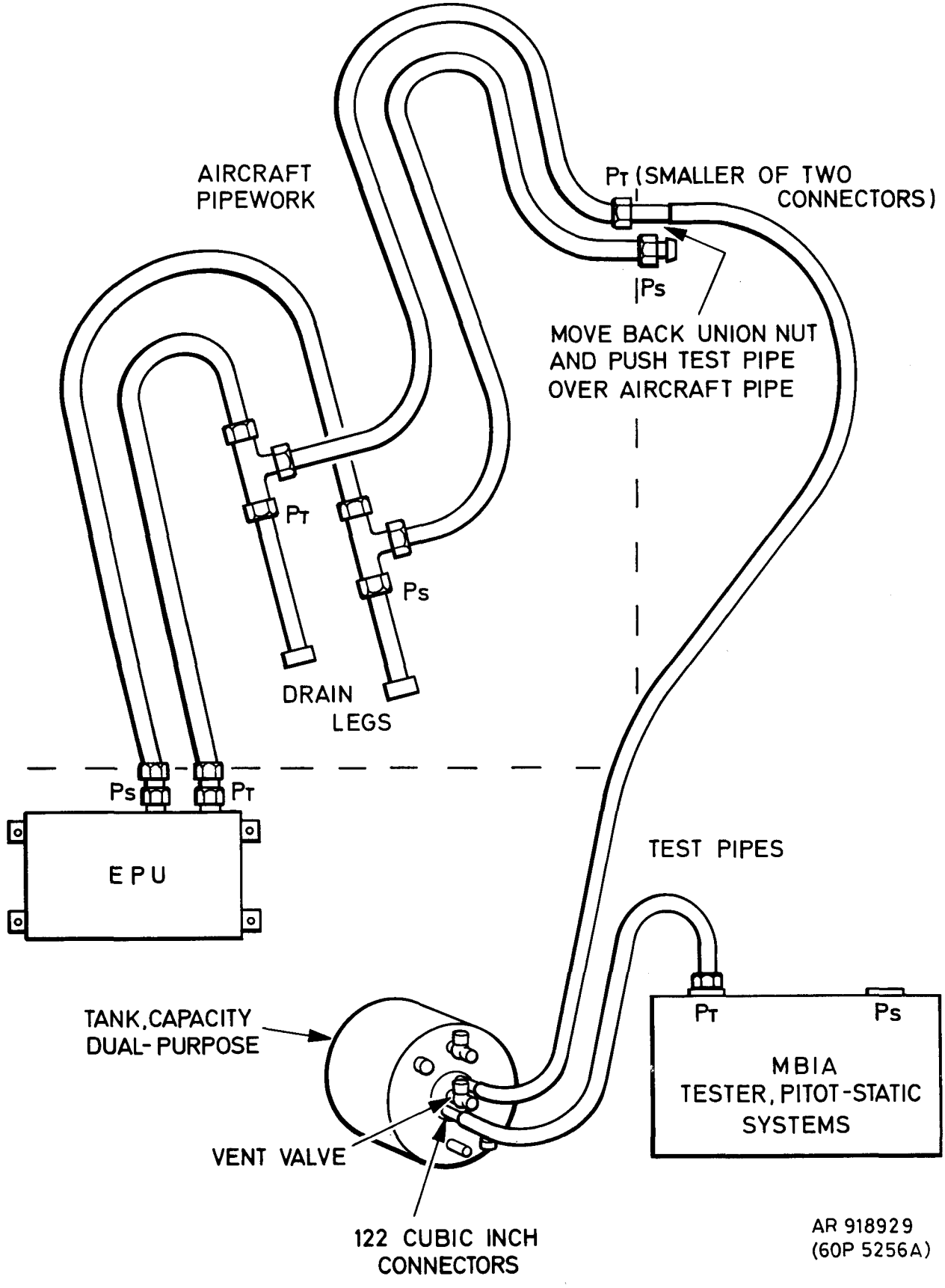


Figure 4-7. Pneumatic Circuit for EPU and Plumbing Pitot Leak Test.

g. ***EPU and Plumbing Pitot Static Leak Test.***

(1) Connect the pneumatic circuit as shown in figure 4-8.

CAUTION

It is essential that pitot and static lines are teed together as shown to avoid damage to the EPU.

(2) With the tester static vent open and the altimeter baro-set adjusted to 29.92 in. Hg. note the tester altimeter reading (approx. airfield elevation).

(3) Close the static vent valve on the tester. Reduce the static pressure at the tester to 10,000 feet.

(4) Observe the altimeter and note the loss of altitude over a period of 120 seconds.

(5) Check on figure 4-9 that the altitude loss is acceptable at the appropriate airfield elevation.

(6) Open the tank vent valve to release the pressure.

(7) Disconnect the pneumatic circuit.

h. ***Pitot Plumbing Leak Test.***

(1) Disconnect the union nuts on the Pt and Ps connectors at the EPU. Leave the Pt and Ps adapters installed in the EPU.

(2) Connect the pneumatic circuit as shown in figure 4-11.

(3) Close the pitot vent valve on the tester. Close the vent valve on the tank. Raise the pitot pressure at the tester to 175 knots and observe the airspeed indicator.

(4) Over a period of 120 seconds the indication shall not fall below 171 knots.

(5) Open the tank vent valve to release the pressure.

i. **Static Plumbing Leak Test.**

(1) Connect the pneumatic circuit as shown in figure 4-12.

(2) Close the static vent valve on the tester. Close the vent valve on the tank.

(3) With the tester static vent open and the altimeter baro-set adjusted to 29.92 in. Hg. note the tester altimeter reading (approx. airfield elevation).

(4) Close the static valve on the tester. Reduce the static pressure at the tester to 10,000 feet.

(5) Observe the altimeter and note the loss of altitude over a period of 120 seconds.

(6) Check on figure 4-10 that the altitude loss is acceptable at the appropriate airfield elevation.

(7) Open the tank vent valve to release the pressure.

(8) Disconnect the pneumatic circuit.

j. ***EPU Pitot Leak Test.***

(1) Connect the pneumatic circuit as shown in figure 4-13.

(2) Repeat the leak test given in sub-para. h. (3) through (5).

k. ***EPU Pitot and Static Leak Test.***

(1) Connect the pneumatic circuit as shown in figure 4-14.

CAUTION

It is essential that pitot static lines are teed together as shown to avoid damage to the EPU.

(2) Repeat the leakage test of sub-para i. (2) through (8).

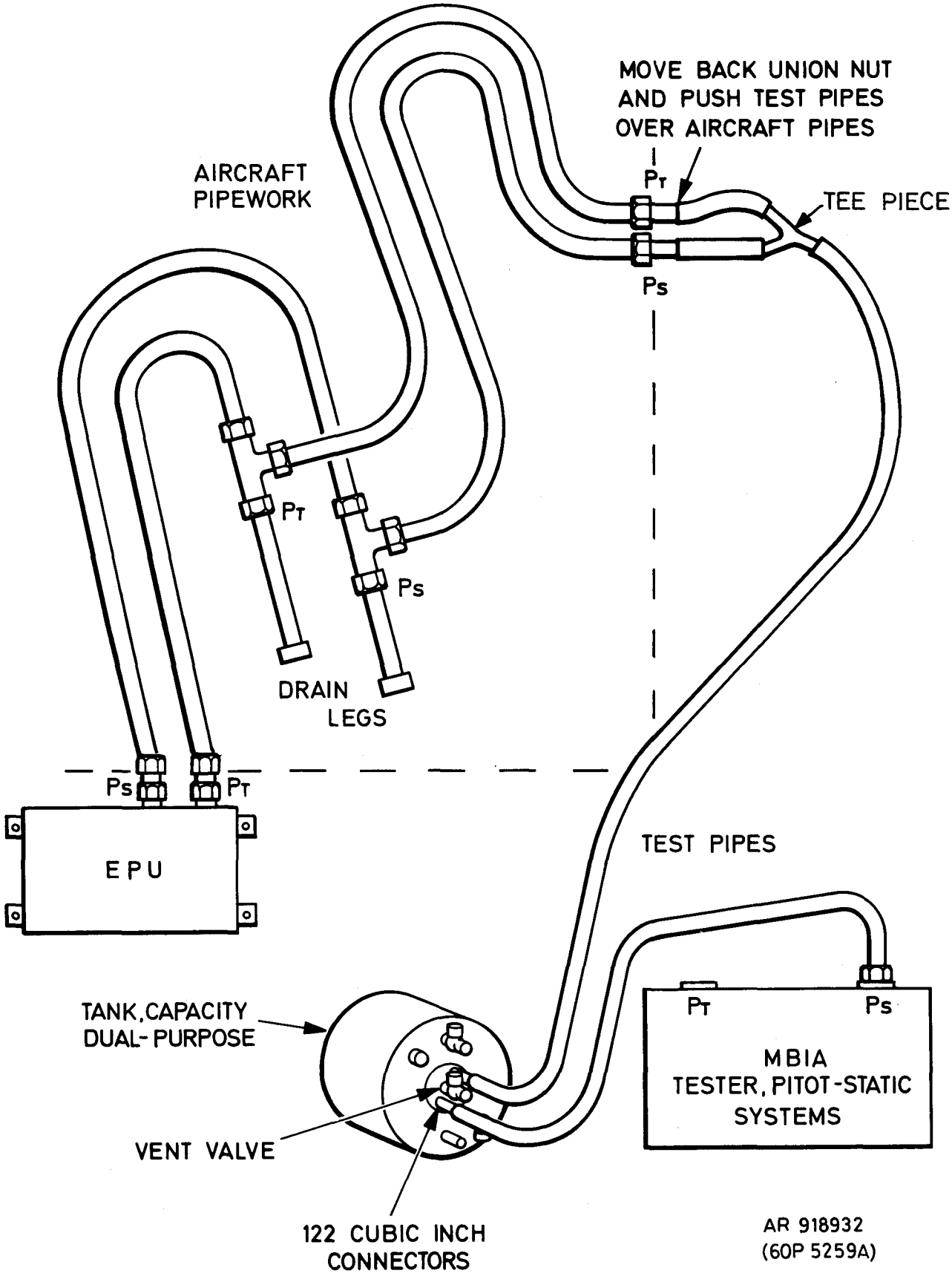


Figure 4-8. Pneumatic Circuit for EPU and Plumbing Pitot and Static Leak Test.

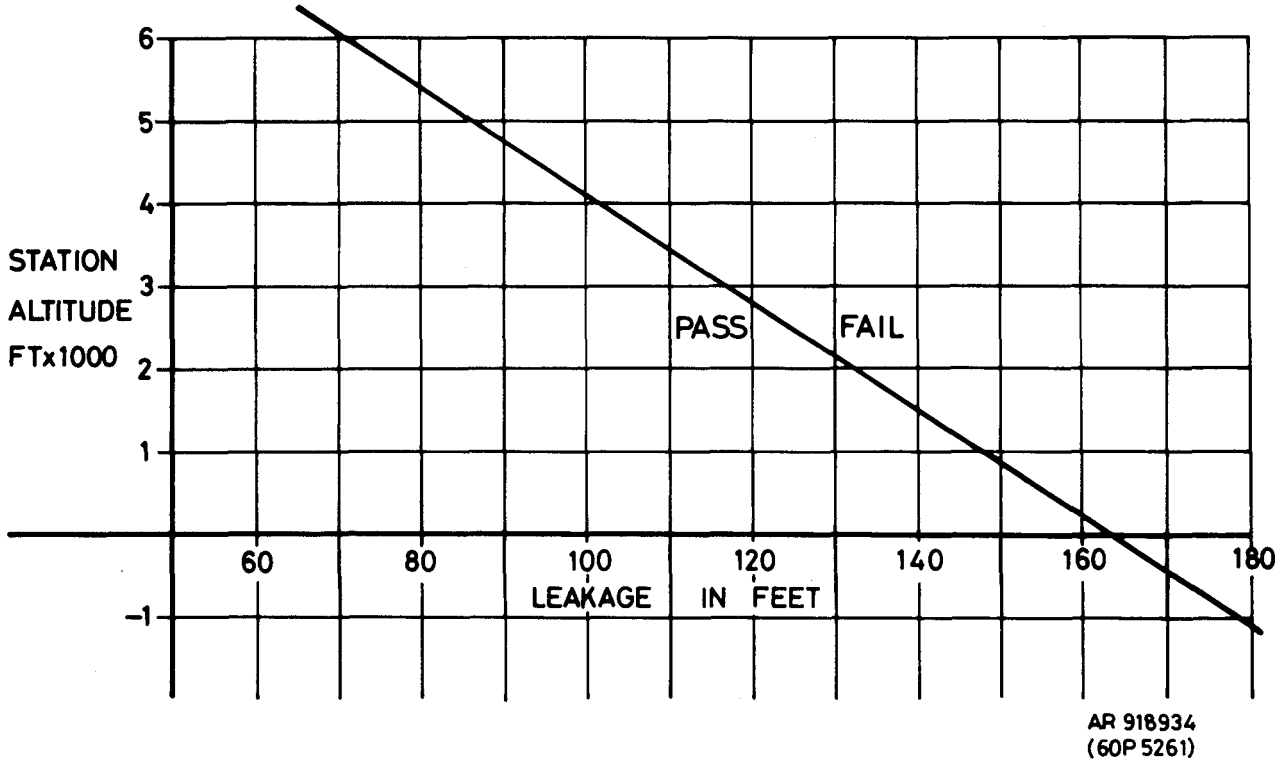


Figure 4-9. EPU and Plumbing Pitot and Static Leak Rate.

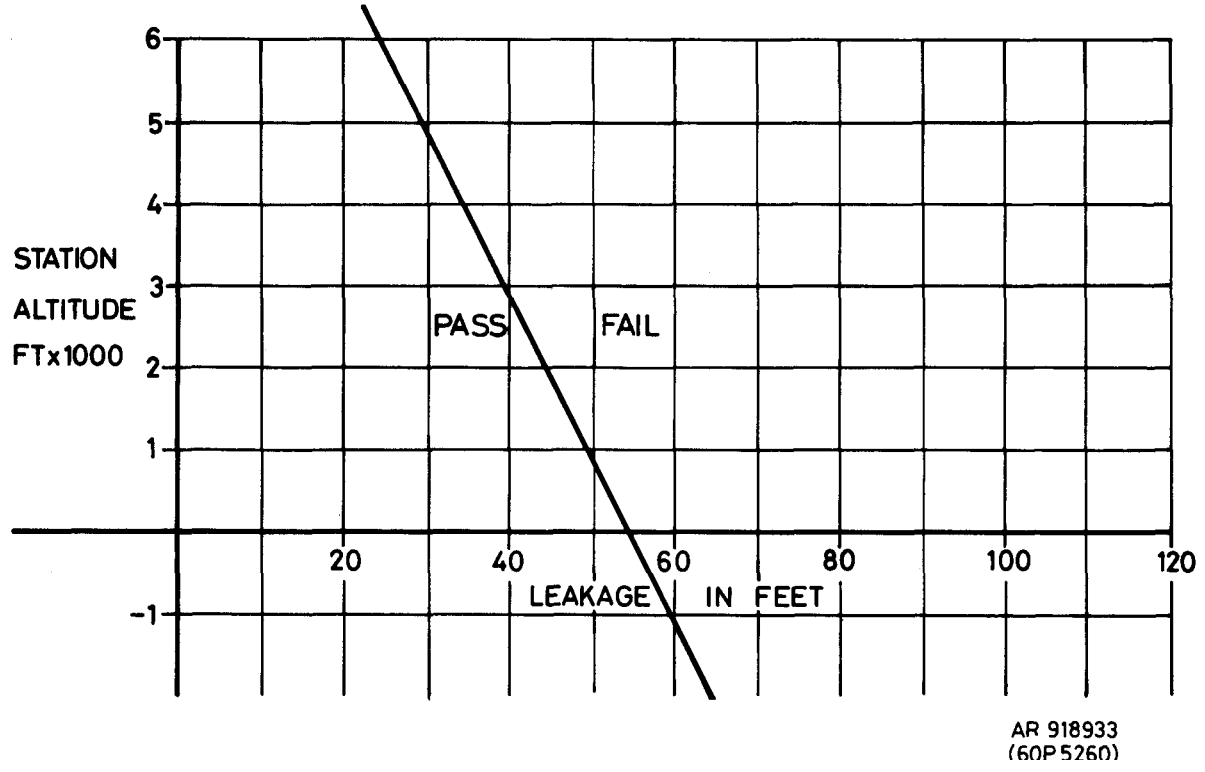


Figure 4-10. Static Plumbing Leak Rate.

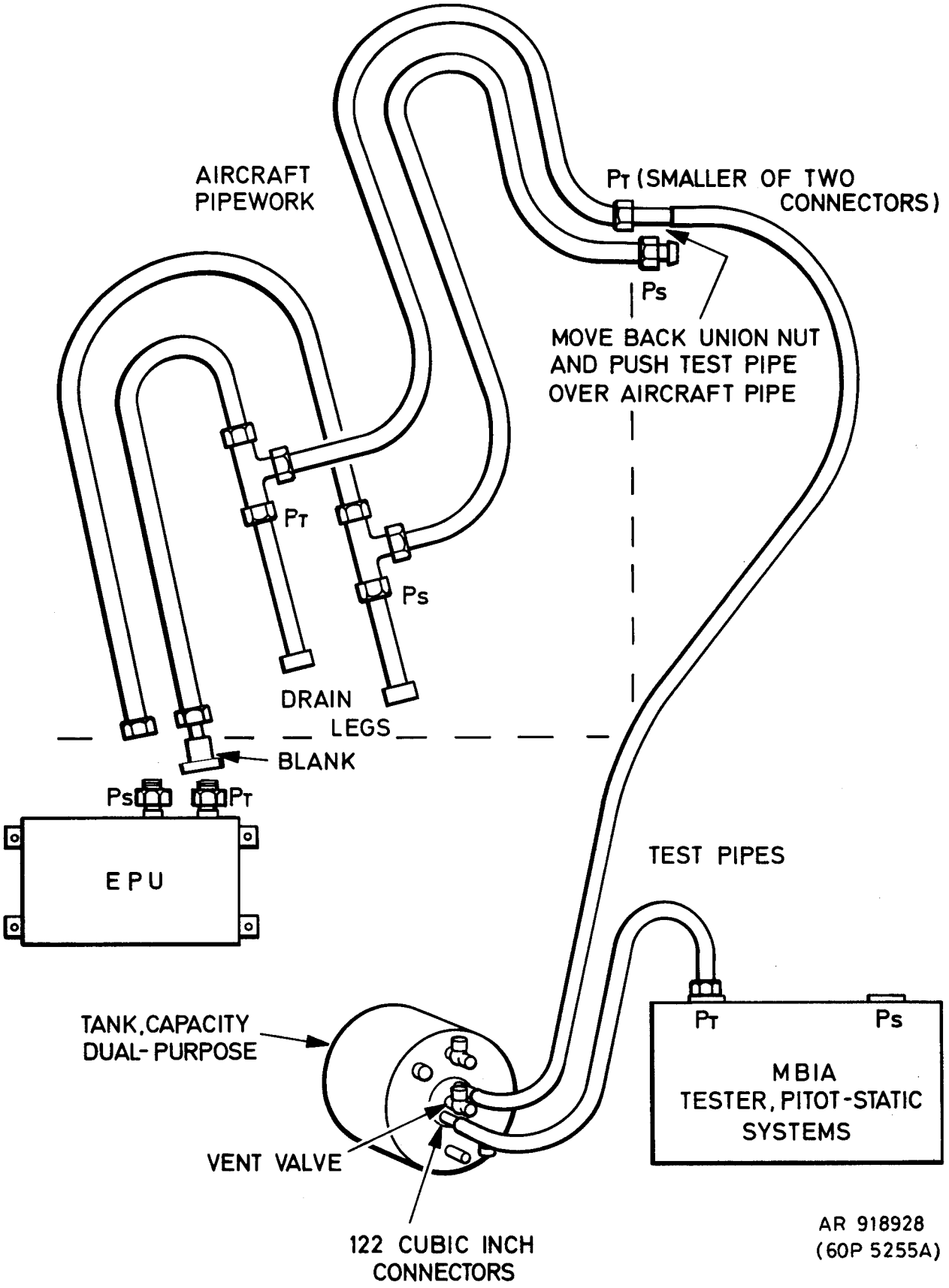


Figure 4-11. Pneumatic Circuit for Pitot Plumbing Leak Test.

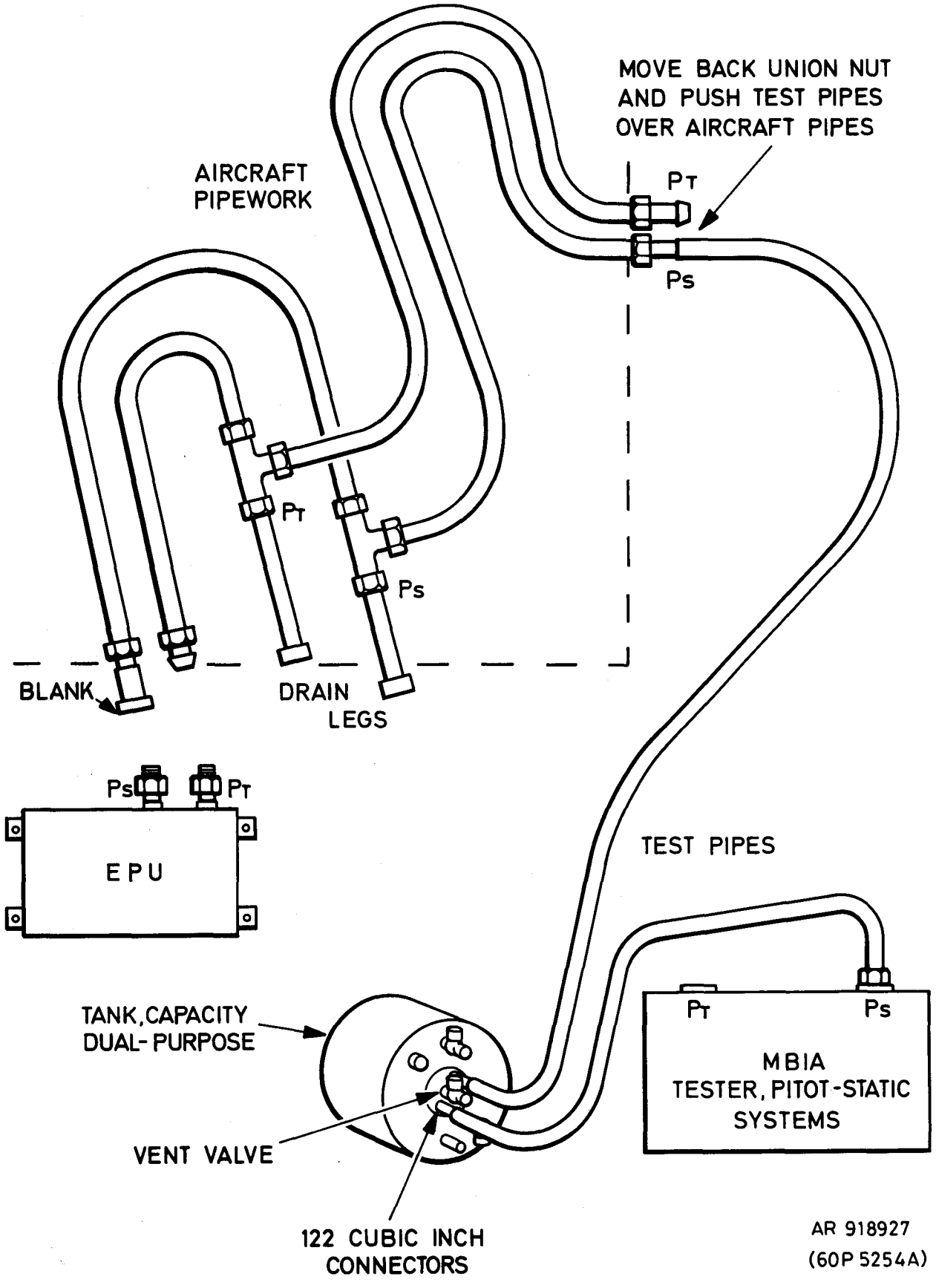


Figure 4-12. Pneumatic Circuit for Static Plumbing Leak Test.

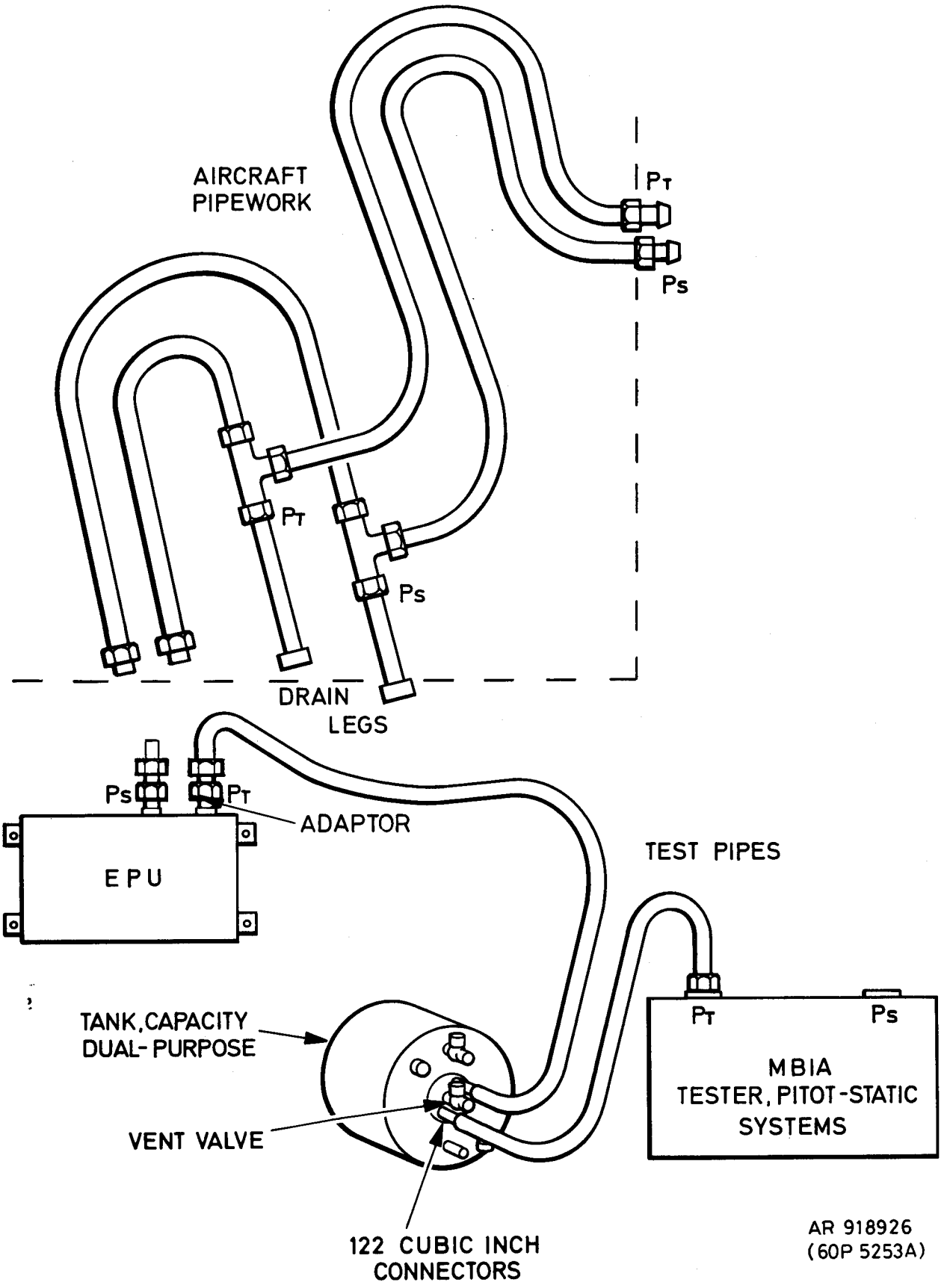


Figure 4-13. Pneumatic Circuit for EPU Pitot Leak Test.

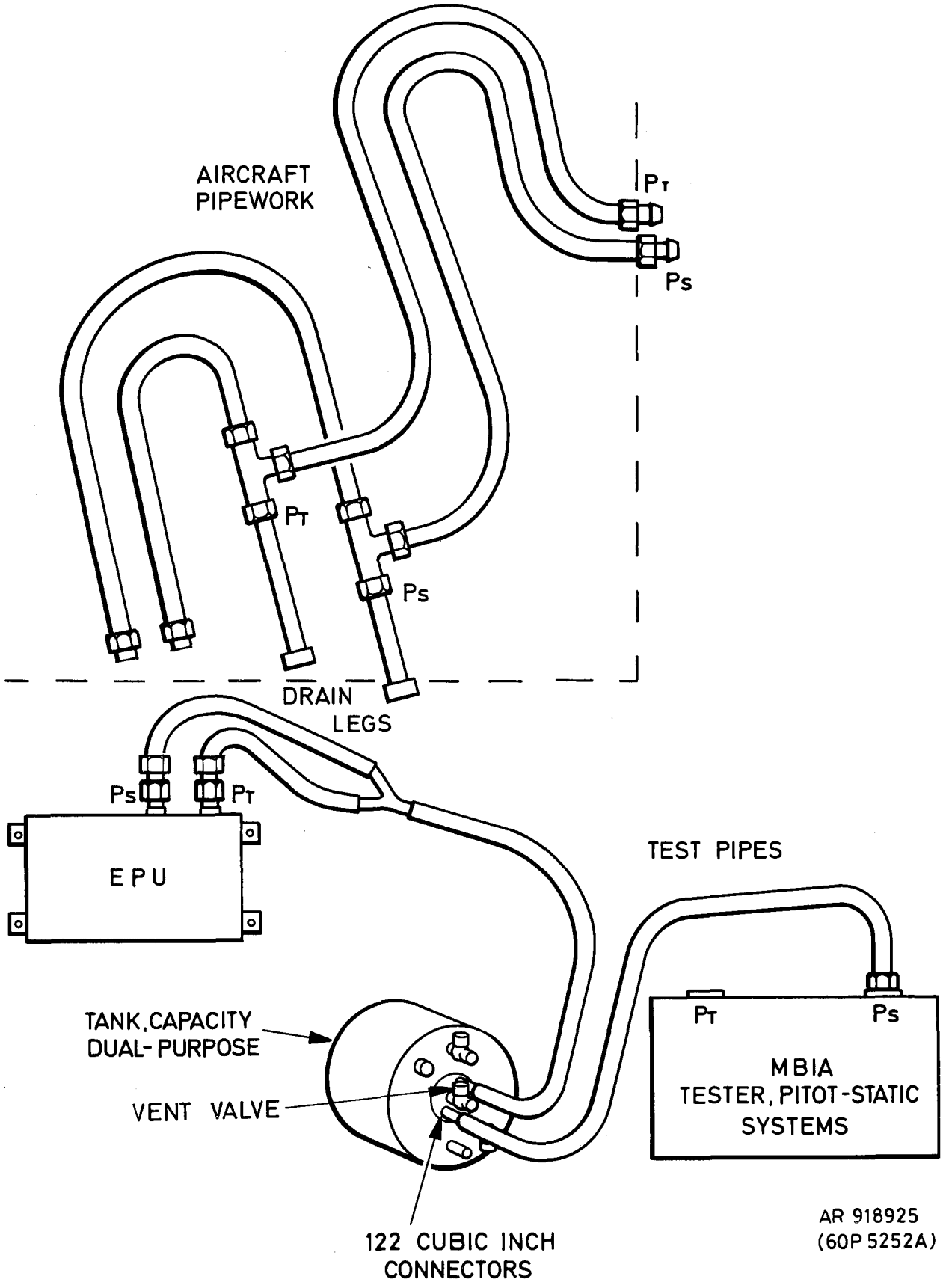


Figure 4-14. Pneumatic Circuit for EPU Pitot and Static Leak Test.

l. ***Subsystem Pitot Leak Test.***

(1) Connect the pneumatic circuit as shown in figure 4-15.

(2) Repeat the leakage test given in sub-para d. (4) through (7).

m. ***Subsystem Pitot and Static Leak Test.***

(1) Connect the pneumatic circuit as depicted in figure 4-16.

It is essential that pitot and static lines are teed together as shown to avoid damage to the EPU.

(2) Repeat the leakage test of sub-para. e. (2) through (7).

4-13 Leak Tests When Replacing LRUs. Leak tests must be performed on the EPU and the AADS after installation. No leak tests are necessary after installation of the LAI. In order to leak test the installed EPU, it is necessary to remove the AADS.

a. ***Leak Tests When Replacing the AADS.***

(1) Perform the EPU and plumbing leak tests (paragraph 4-12 f. and g.).

(2) Install the AADS.

(3) Perform the subsystem leak tests (paragraph 4-12 l. and m.).

b. ***Leak Tests When Replacing the EPU.***

(1) Install the EPU (paragraph 4-6).

(2) Remove the AADS (paragraph 4-3)

(3) Perform the EPU and plumbing leak tests (paragraph 4-12 f. and g.).

(4) Install the AADS (paragraph 4-2).

(5) Perform the subsystem leak tests (paragraph 4-12 l. and m.).

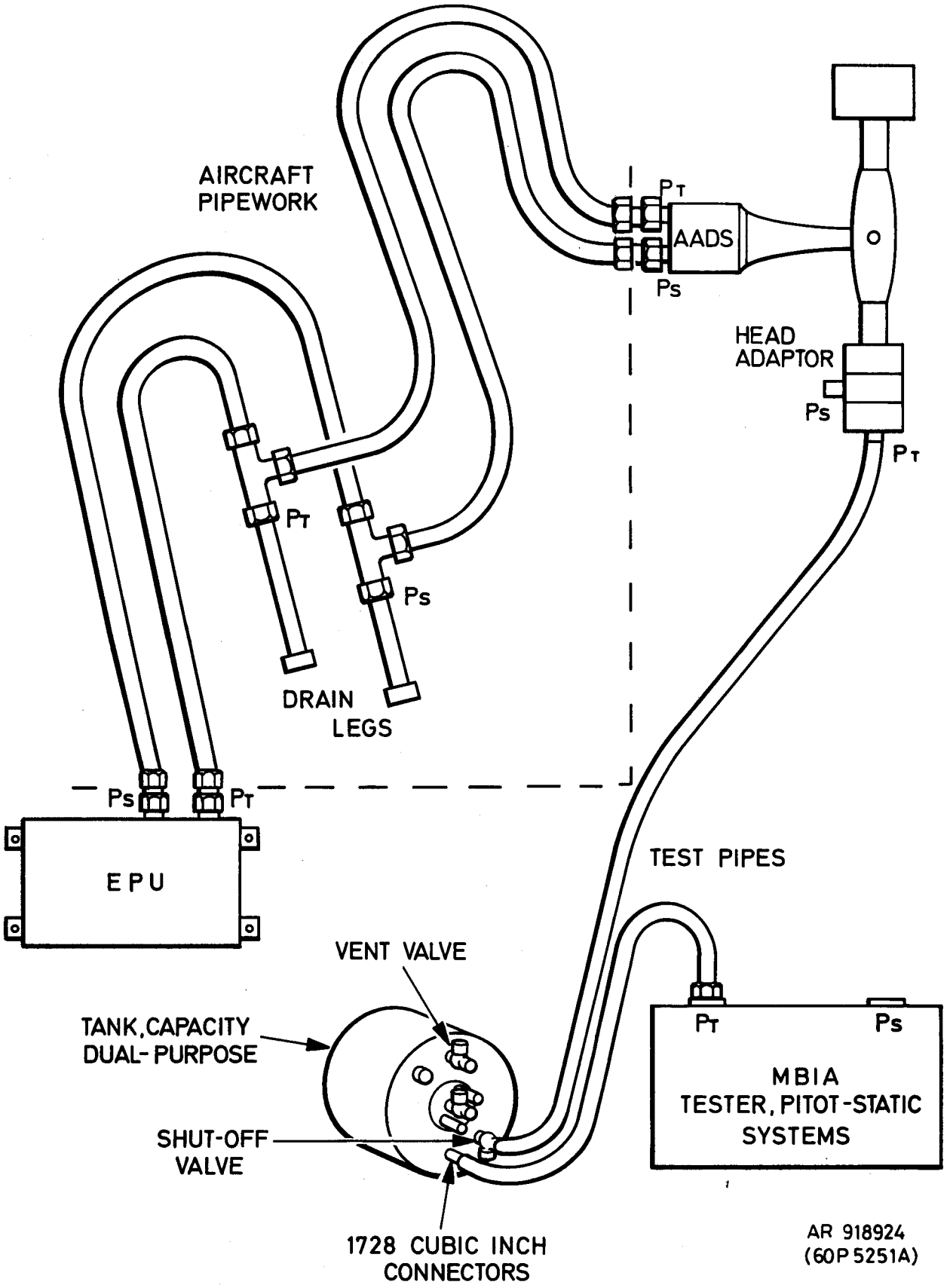


Figure 4-15. Pneumatic Circuit for ADS Pitot Leak Test.

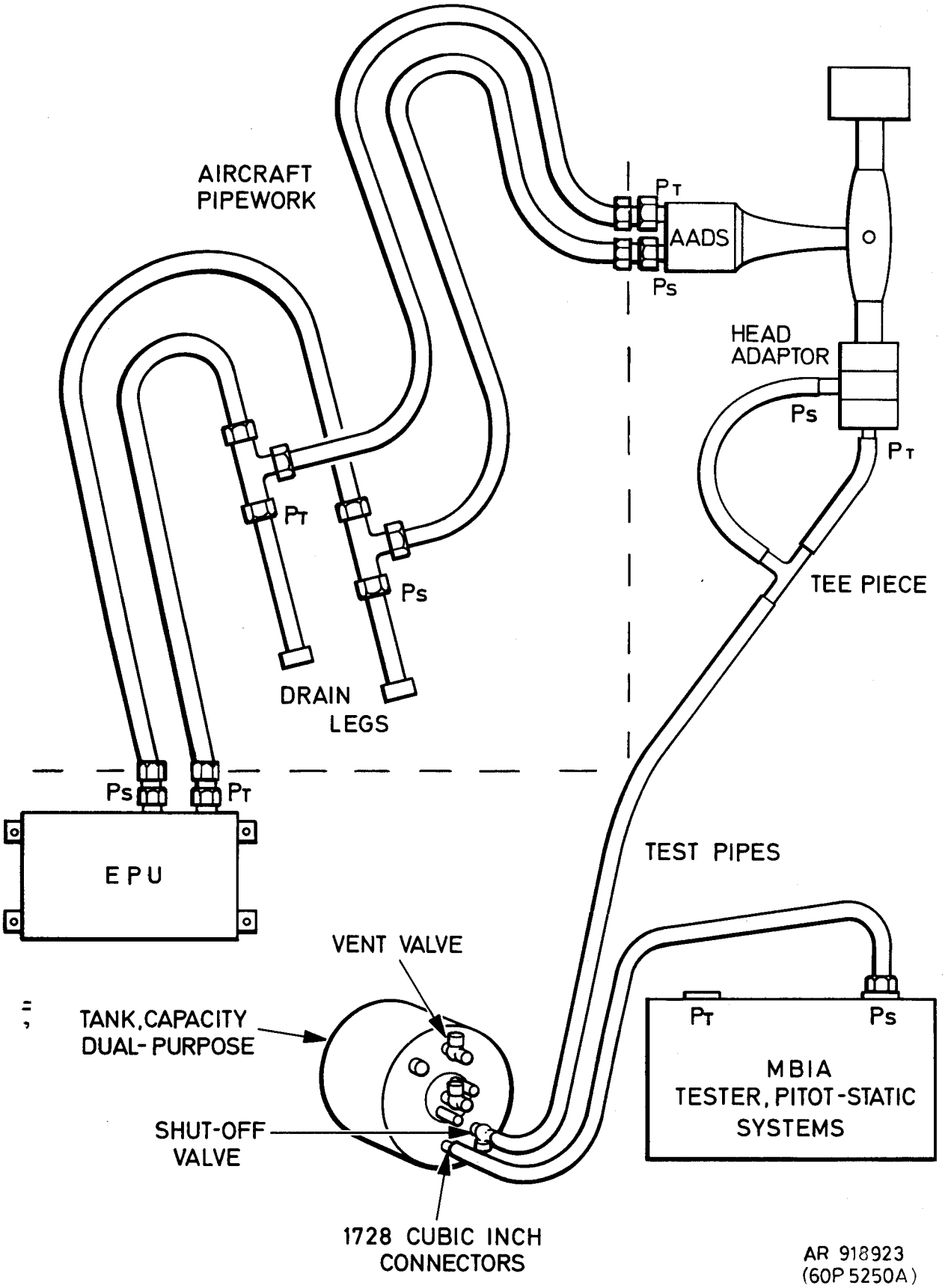


Figure 4-16. Pneumatic Circuit for ADS Pitot and Static Leak Test.

CHAPTER 5

AVIATION INTERMEDIATE MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

5-1. Inspecting Instructions.

a. ***Visually Inspecting the AADS.***

(1) Inspect the AADS for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces which would impair the operation of the AADS. Inspect for loose or missing screws, illegible or obliterated markings and broken or missing wire locks.

(2) Inspect the electrical connector for broken, loose, bent, corroded or missing pins.

(3) Check that the pitot hole, the two static holes and the two drain holes in the head are unobstructed.

(4) Check that the pitot and static connectors on the body are unobstructed and have undamaged threads.

(5) Check that the swivelling probe rotates freely through 360° in pitch and approximately 120° in yaw (fig. 1-9).

b. ***Visually Inspecting the Sensor Installation.***

(1) Inspect the sensor installation for loose or missing bolts, screws and threaded inserts. Inspect for loose rivets securing support assembly to boom tube assembly.

(2) Inspect the boom tube assembly and mounting bracket for cracks. Inspect mounting bracket for loose rivets.

c. ***Visually Inspecting the EPU.***

(1) Inspect the EPU for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces, loose or missing screws, and illegible or obliterated markings.

(2) Inspect the electrical connector J1 for broken, loose, bent, corroded or missing pins.

(3) Check that the pitot and static connectors Ps and Pt on the front panel are unobstructed, and have undamaged threads.

d. ***Visually Inspecting the LAI.***

(1) Inspect the LAI for dust, dirt, lint, grease, oil or other foreign matter, scratched or damaged surfaces, loose or damaged screws.

(2) Inspect the electrical connector for broken, loose, bent, corroded or missing pins.

(3) Inspect the front of the LAI for damaged glass or illegible or obliterated dial markings.

Section II. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT

5-2. General.

a ***Inspection*** This inspection is conducted on materiel in alerted units scheduled for overseas duty to ensure that such materiel will not become unserviceable in a relatively short time. The inspection prescribes a higher percentage of remaining useable life in serviceable materiel to meet a specific need beyond minimum serviceability.

b. ***Inspection Points.***

(1) Screw heads must be in serviceable condition, and threads must not be stripped. Internal threads must not be stripped.

(2) Cable assemblies must not have loose or damaged connections, cut or worn

insulation, broken wires, kinks, or sharp bends.

(3) Materiel must be free of burrs, particularly those on functional surfaces.

(4) Parts must not be cracked, bent, distorted, or damaged, and must be free of detrimental wear.

(5) Rivets must be tight.

(6) Painted surfaces must be free of bare spots.

(7) Operating controls must function smoothly.

(8) Identification plates must be present and secure.

(9) Inspect electrical components for improper functions, physical damage, and missing parts.

Section III. FUNCTIONAL TESTS

5-3. Functional tests as specified in this section will be performed on the AADS or LAI to confirm a fault reported by AVUM level and on the EPU as a final inspection after troubleshooting. An EPU failing any test will be subjected to the troubleshooting procedure specified in Section IV. An AADS or an LAI failing any test will be returned to Depot. Before starting the test procedure, verify the performance of the tester, Pitot Static Systems, in accordance with TO 33D-2-6-9-11.

5-4. Testing of the Airspeed and Direction Sensor.

a. ***Test Requirements.*** To confirm a fault reported by AVUM the AADS will be subjected to the following tests. Any AADS which fails any test will be returned to Depot for repair.

(1) Preliminary Tests

(a) Bonding Resistance Test

(2) Functional Tests

(a) Angular Outputs Accuracy Test

(b) Heater Test

(c) Temperature Sensor Initial Check

(d) Static Pressure Leak Test

(e) Static Pressure-path Flow Test

(f) Pitot Pressure Leak Test

(g) Pitot Pressure-path Flow Test

(h) Temperature Sensor Resistance Test

b. ***Test Equipment Required***

Table 5-1. Test Equipment For AADS Testing.

Nomenclature	Part No.	NSN
Test Station ADS (LRU)	95-112-02	4931-01-074-3322
Tester, Pitot Static Systems	MB-1A	4920-00-580-2303
Voltmeter, Digital	8125A	1430-00-366-8753
Multimeter	AN/USM 233	6625-00-999-7465
Stopwatch	CG-S-764-T1-C2	6645-00-250-4680
Capacity Tank (Local Manufacture)	60SK6240 (fig. 1-35 and fig. F0-3)	

5-5. AADS Preliminary Test. Perform a Bonding Resistance Test, as shown in figure 5-1, using the Multimeter set to the lowest resistance range. Check that the resistance between the pitot head and the helicopter bonding point on the AADS body is less than 0.2 ohm.

5-6. AADS Functional Tests.

a. ***Angular Outputs Accuracy Test.***

(1) Connect the AADS for test as shown in figure 5-2. Set test set switches CB1 and CB2 to ON and check that the associated indicator lamps illuminate.

(2) Locate pitot head in clamped position in checking fixture as shown in figure 5-3.

(3) Set S16 to Sin $\propto$ and using the DVM set to dc volts measure and record the voltage across test points TP 15 (positive lead) and TP 16 (negative lead) on the Test Set. (See fig. 1-32).

(4) Set S16 to Cos $\propto$ and using the DVM set to dc volts measure and record the voltage across test points 15 (+ve) and 16 on the Test Set.

(5) Verify that the combination plot of the values obtained at (3) and (4) above lies within the specified pass band of figure 5-4.

(6) Set S16 to Sin $(\alpha - \beta)$ and using the DVM set to dc volts measure and record the voltage between test points 15 (+ve) and 16 on the Test Set.

(7) Set S16 to Cos $(\alpha - \beta)$ and using the DVM set to dc volts measure and record the voltage between test points 15 (+ve) and 16 on the Test Set.

(8) Verify that the combination plot of the values obtained at tests (6) and (7) above lies within the specified pass band of figure 5-5.

b. ***Heater Test.*** Set S16 to HTR CCHK and with the Digital Voltmeter (DVM) set to ohms check that the resistance between test points 15 (+ve) and 16 on the Test Set is 87 ohms + 10 ohms.

c. ***Temperature Sensor Initial Check.***

(1) Set S16 to TEMP and with the Digital Voltmeter set to Ohms check that the resistance between test points 15 (+ve) and 16 on the test set is 500 ± 200 ohms.

d. ***Static Pressure Leak Test.***

(1) Set test set switches CB1 and CB2 to OFF. Remove the interconnection harness from the AADS and release the pitot head from the clamped position.

(2) Loosen the two threaded joints of the pitot head adaptor (fig. 1-34) by turning the components of the adapter through 1 turn counterclockwise.

(3) Push the pitot head adapter over the pitot head until resistance is felt and tighten the adapter handtight. See figure 5-6.

(4) Screw the adapters into the P_T and P_S connectors on the body of the AADS.

(5) Connect the pneumatic circuit shown in figure 5-6.

(6) Close the capacity tank vent and shut-off valves. Close the tester vent valve and open the pressure source valve. Apply a pressure of 255 - 265 Kn (3.2-3.5 in. Hg).

(7) Open the capacity tank shut-off valve.

(8) Start the stopwatch when the pressure falls to 250 kn (3.1 in. Hg) and check that after 110 seconds the pressure is more than 50 kn (0.12 in. Hg).

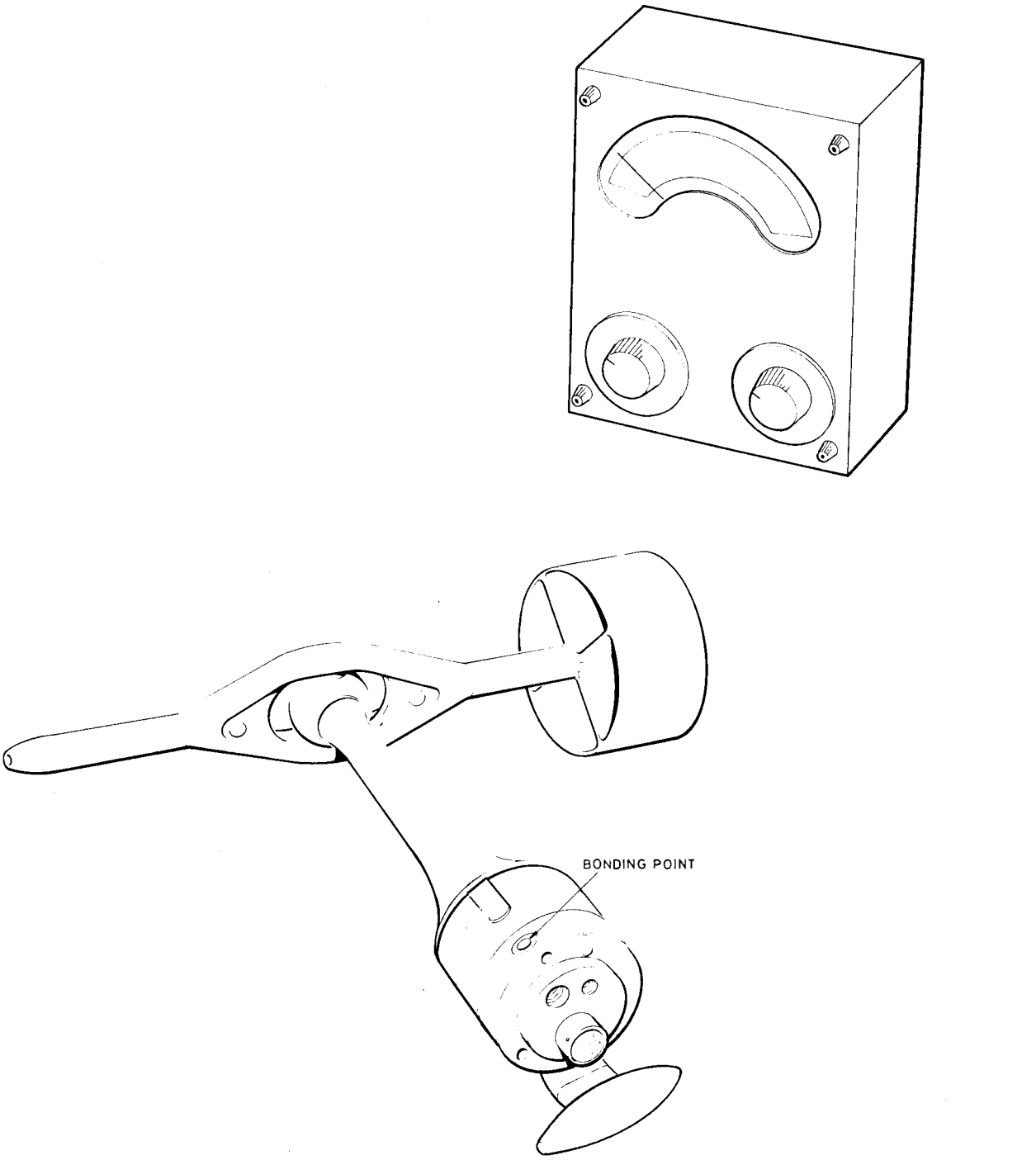


Figure 5-1. AADS Bonding Resistance Test.

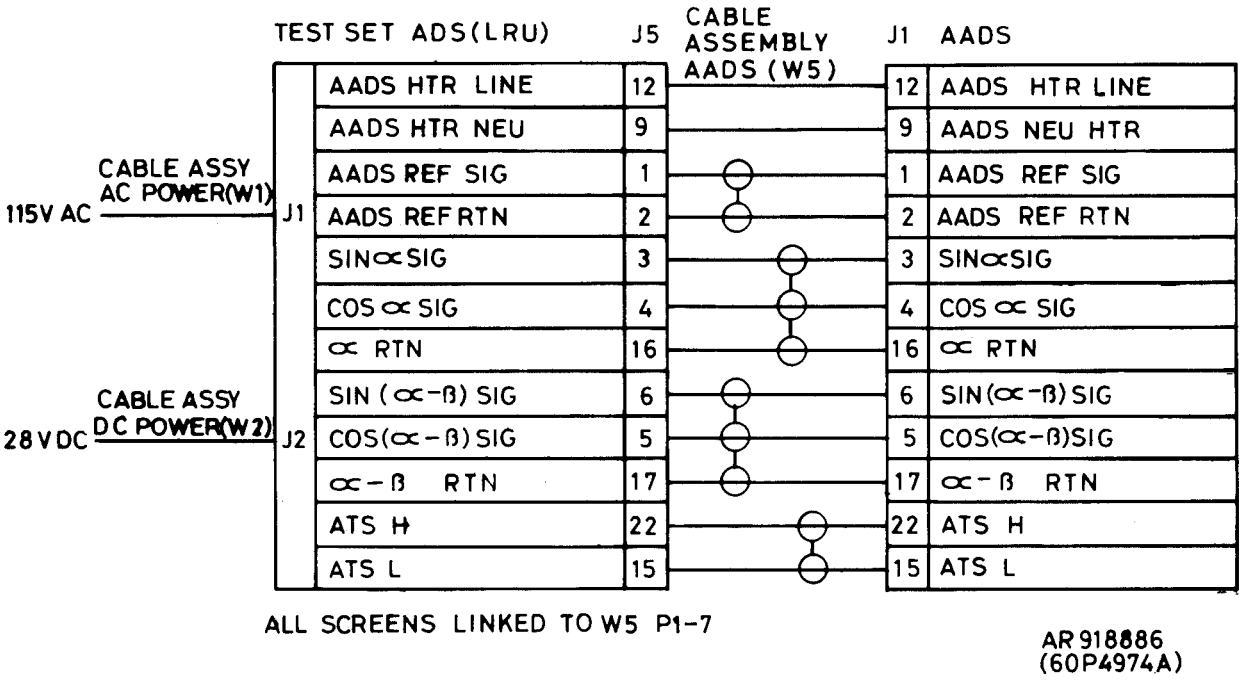


Figure 5-2. AADS Test Electrical Connections.

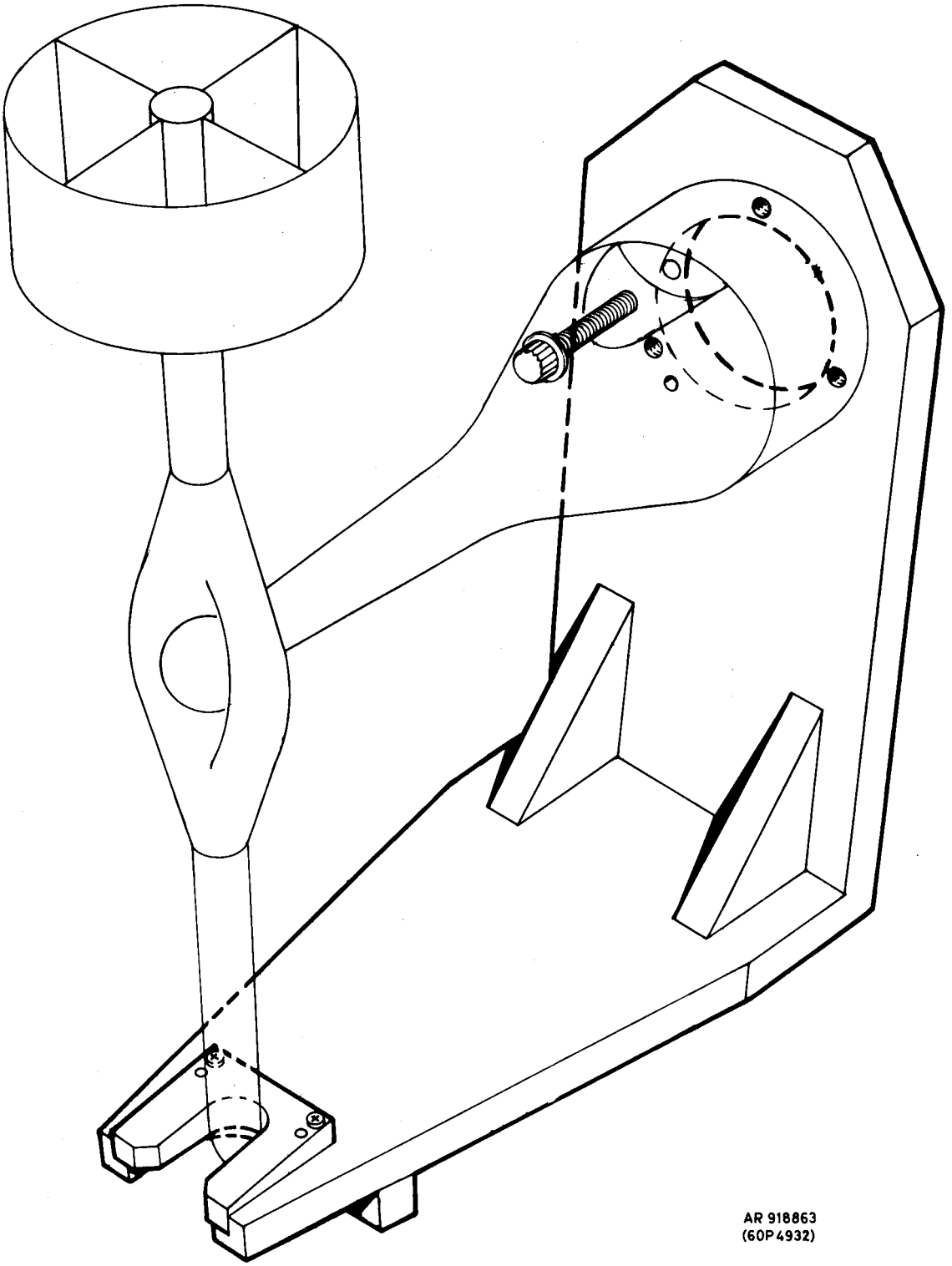


Figure 5-3. AADS Installed in AADS Fixture.

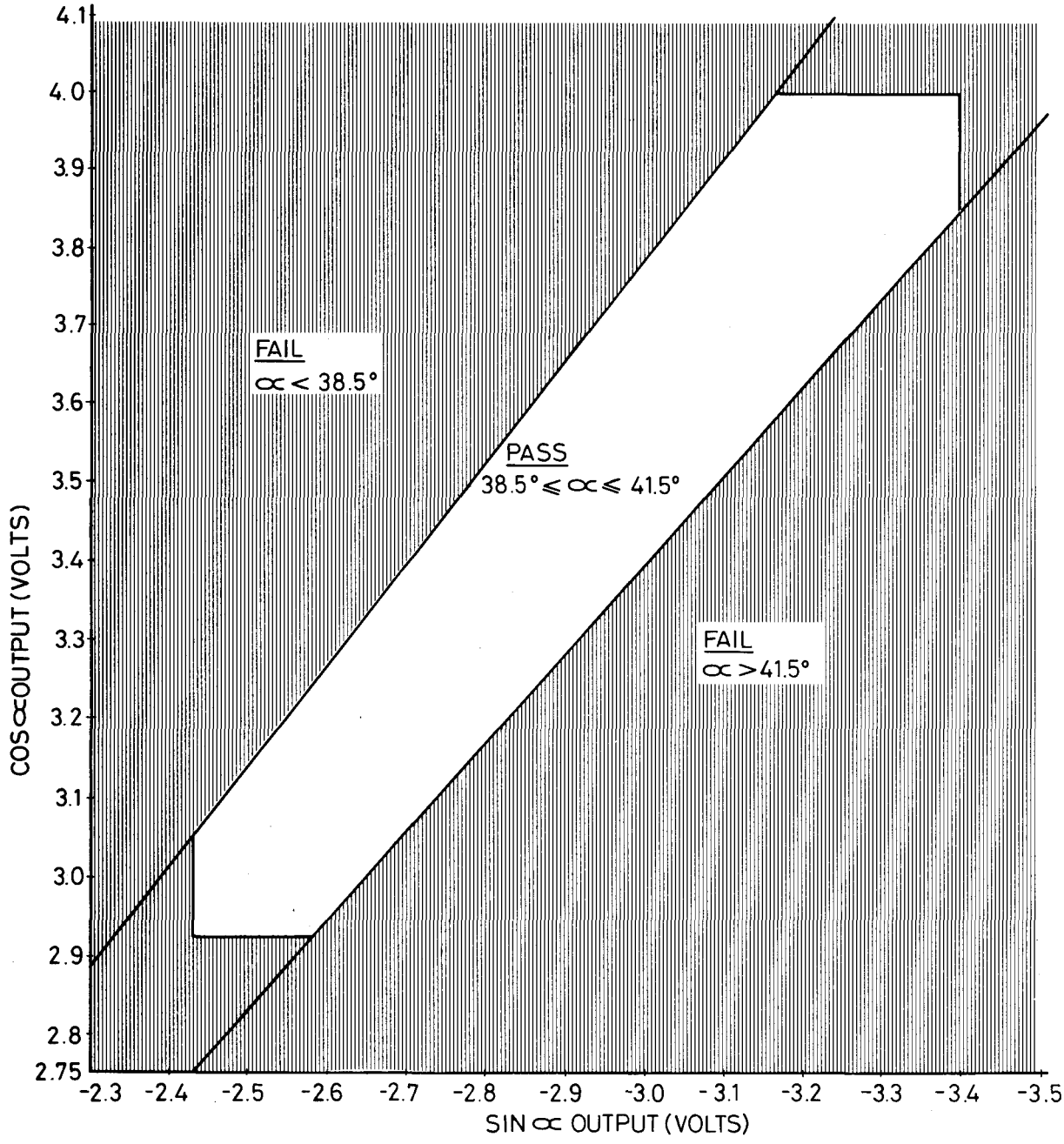


Figure 5-4. Angular Outputs Accuracy Test - Sin∝ Cos∝ Output.

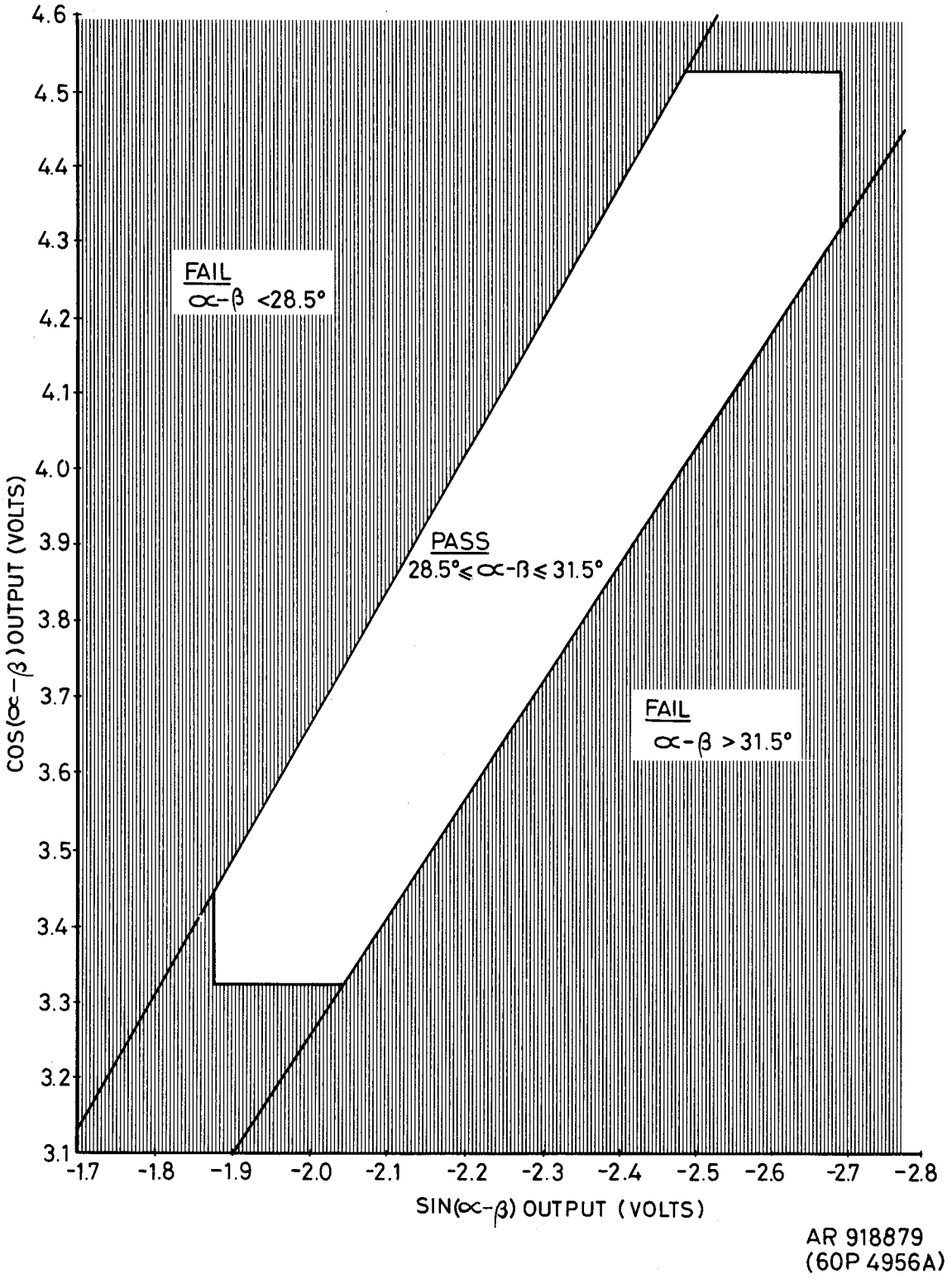


Figure 5-5. Angular Outputs Accuracy Test - Sin (α−β) Cos (∝- B) Output.

e. ***Static Pressure Path Flow Test.***

(1) Close the tank shut-off valve and reapply a pressure of 255 - 265 kn (3.2 - 3.5 in. Hg) and isolate the supply.

(2) Open the tank shut-off valve.

(3) When the pressure falls to 250 kn (3.1 in. Hg) remove the blank assembly from the pitot head adapter and start the stopwatch. Check that after 45 seconds the pressure is less than 50 kn (0.12 in. Hg).

(4) Open the tank vent valve.

f. ***Pitot Pressure Leak Test.***

(1) Disconnect the pressure tube from the P_s connector of the AADS and connect to the P_T connector of the AADS. Connect the blank assembly to the pitot head adapter as shown in figure 5-7.

(2) Close the tank shut-off and tank vent valves and reapply a pressure of 255 - 265 kn (3.2 - 3.5 in. Hg) and isolate the supply.

(3) Open the tank shut-off valve.

(4) Start the stopwatch when the pressure falls to 250 kn (3.1 in. Hg) and check that after 180 seconds the pressure is more than 175 kn (1.49 in. Hg).

g. ***Pitot Pressure Path Flow Test.***

(1) Close the tank shut-off valve and reapply a pressure of 255 - 265 kn (3.2 - 3.5 in. Hg) and isolate the supply.

(2) Open the tank shut-off valve.

(3) When the pressure falls to 250 kn (3.1 in. Hg) remove the blank assembly from the pitot head adapter and start the stopwatch. Check that after 80 seconds the pressure is less than 50 kn (0.12 in. Hg).

(4) Open the tank vent valve to return the applied pressure to ambient and disconnect the pressure equipment.

(5) Release and remove the pitot head adapter from the pitot head and remove the adapters from the P_T and P_s connectors on the AADS body.

h. ***Temperature Sensor Resistance Test.***

(1) Reconnect the interconnection harness to the AADS as shown in figure 5-2.

(2) Select TEMP on S16 and with the Digital Voltmeter (DVM) set to ohms measure the resistance between test points 15 (+ve) and 16 on the Test Set. The resistance displayed shall be within the limits of Table 5-2 at the appropriate ambient temperature indicated by the thermometer located in the tester, pitot static systems.

(3) Disconnect the interconnection harness and remove the AADS from the fixture by removing the three bolts while supporting the AADS.

Table 5-2. Air Temperature Sensor Resistance Tests.

Ambient Temperature degrees F		Nominal Resistance (ohms)	Tolerance (ohms)
26	35	475	±15
36	45	486	±15
46	55	496	±15
56	65	506	±15
66	75	517	±15
76	85	527	±15
86	95	538	±15

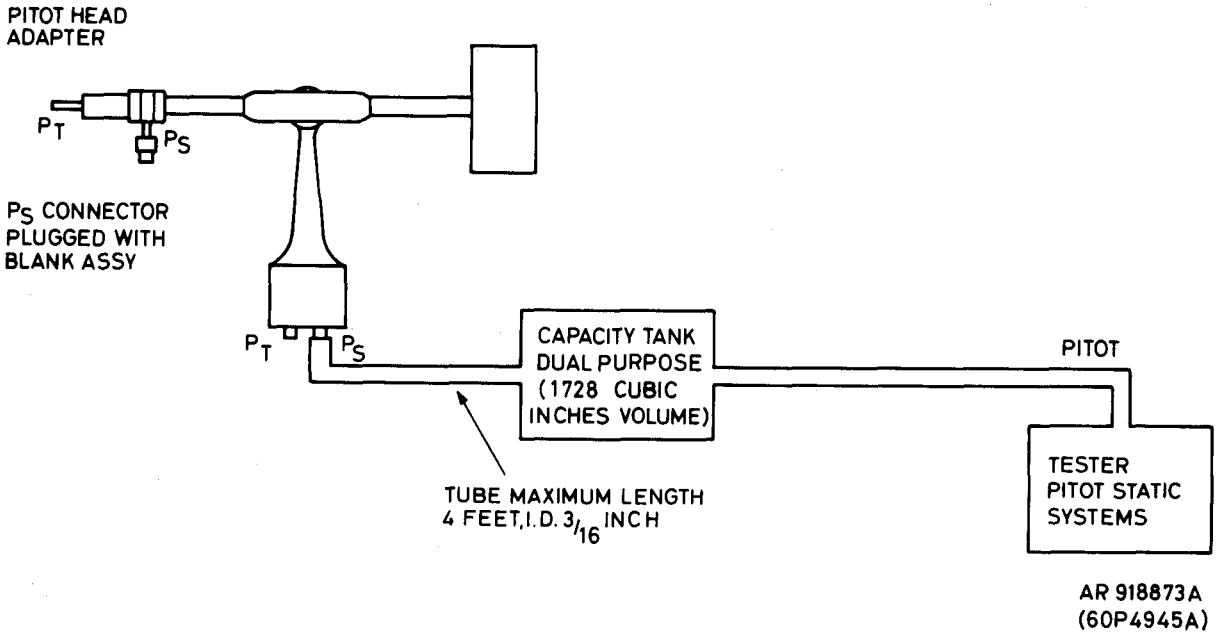


Figure 5-6. Pneumatic Circuit-Static Pressure Leak Test and Static Pressure-Path Flow Test.

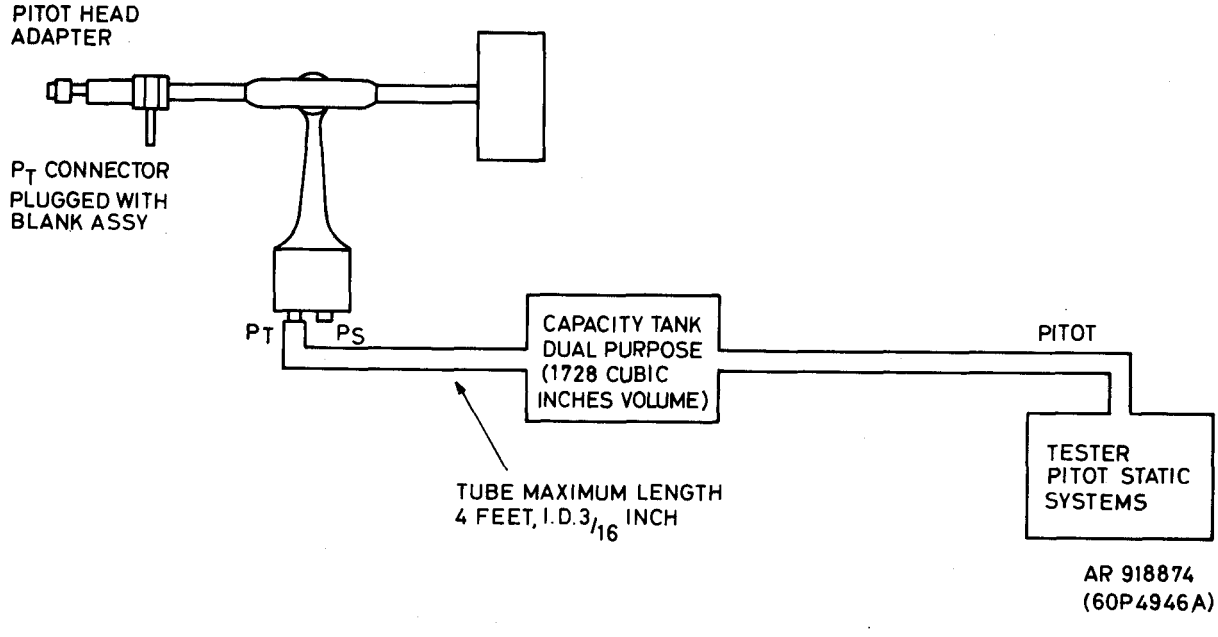


Figure 5-7. Pneumatic Circuit-Pitot Pressure Leak Test and Pitot Pressure-Path Flow Test.

5-7. Testing of the Electronics Processor Unit.

a. ***Test Requirements.*** As a final inspection, the EPU will be subjected to the following tests. Any LRU which fails any test will be subjected to Troubleshooting, Section IV.

(1) Preliminary Tests

(a) Bonding Resistance Test

(b) Current Consumption Test

(2) Functional Tests

(a) Self Test

(b) True Airspeed Calibration Check

(c) Monitoring Check

(d) Air Temperature Calibration Check

(e) LAI Power Supply Test

(f) Pitot Pressure Leak Tests

(g) Indicated Airspeed Calibration Check

(h) Static Pressure Leak Tests

(i) Altitude Calibration Check

b. ***Test Equipment Required.***

Table 5-3. Test Equipment for EPU Testing.

Nomenclature	Part No.	NSN
Test Station ADS (LRU)	95-112-02	4931-01-074-3322
Voltmeter Digital	8125A	1430-00-366-8753
Multimeter	AN/USM 233	6625-00-999-7465
Stopwatch	GC-S-764-T1-C2	6645-00-250-4680
Tester Pitot Static Systems	MB-1A	4920-00-580-2303
Manometer, Inclined Tube		6685-00-983-5326
Capacity Tank Dual Purpose	60SK6240	

5-8. EPU Preliminary Tests.

a. ***Bonding Resistance Test.*** Using the Multimeter set to the lowest resistance range, check that the resistance between the EPU bonding point (fig. 1-16) and any exposed metal surface of the EPU is less than 0.1 ohms.

b. ***Current Consumption Test.***

(1) Connect the EPU for test as shown in figure 5-8.

(2) Switch on power to test set by setting CB1 and CB2 to ON. (See fig. 1-32).

(3) Set test set switch S12 to EPU 28V, and using the Multimeter set to dc current, check that the current between test points 13 and 14 on the Test Set is 1.4A ± 0.2A when test set switch S13 is depressed.

5-9. EPU Functional Tests (See Fig. 1-14 and 1-32).

NOTE

Unless otherwise specified the Angle Resolver Dials B1 and B2 on the Test Set should always be set such that the difference between their settings never exceeds 65 degrees. If the difference does exceed 65 degrees an ADS FLR and ADS NO GO light will illuminate on the Test Set and an ADS failure will be displayed on the EPU. This condition can be cancelled by setting the difference between the

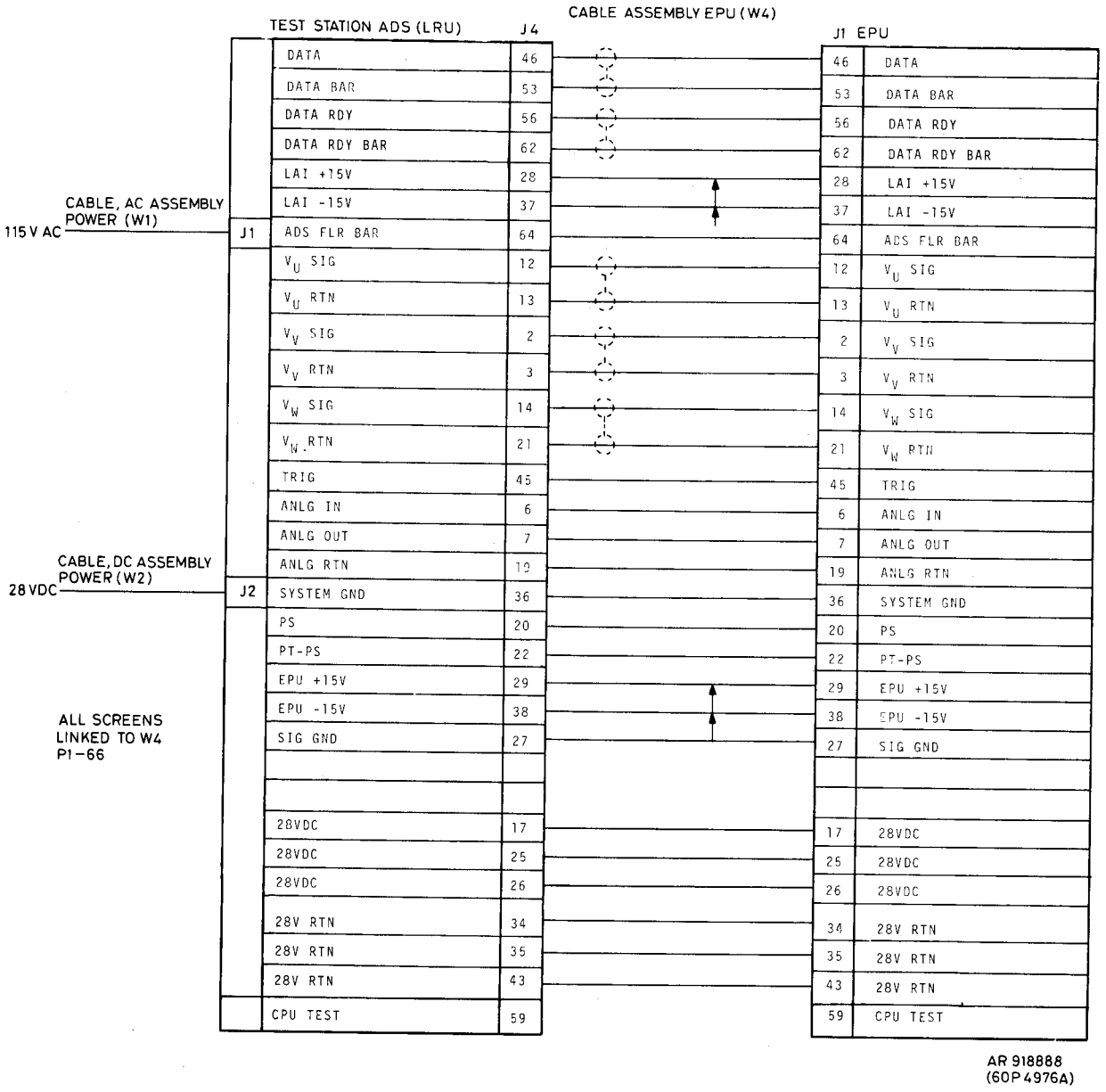


Figure 5-8. EPU Test Electrical Connections (Sheet 1 of 2).

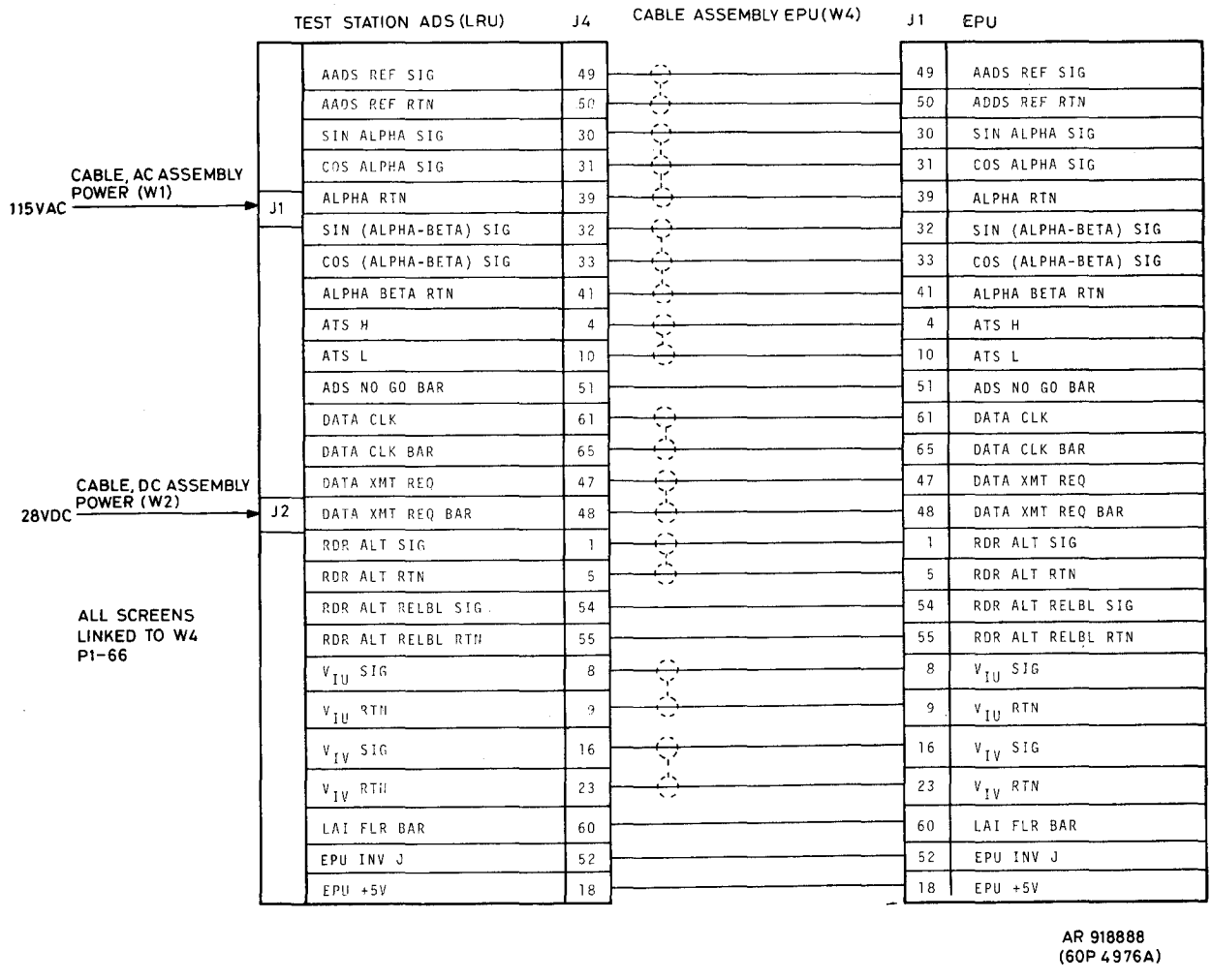


Figure 5-8. EPU Test Electrical Connections (Sheet 2 of 2).

resolvers to less than 65 degrees, switching test set switch CB2 OFF then ON again and pressing the RESET switch on the EPU. Unless otherwise specified test set switch S1 DATA MODE will be set to CONT.

a. ***Self Test.***

(1) Connect the EPU for test as shown in figure 5-8.

(2) Set test set switch S2 CPU TEST to down (See fig. 1-32). The SELF TEST and RESET switches on the EPU shall be operated as specified in Table 5-4. Check the resultant Test Set and EPU displays as specified in Table 5-4 and figure 1-14.

Table 5-4. Self Test.

Step No.	Action		Resultant Display					
	EPU Buttons		EPU				Test Set ADS (LRU)	
			Self Test Lamp	BITE Indicators			ADS FLR	ADS NO GO
	Self Test	Reset		EPU	AADS	LAI		
1		Press & Release	Off	Black	Black	Black	Off	Off
2	Press		On	White	White	White	On	On
3	Release		On	White	White	White	Off	Off
4		Press & Release	On	Black	Black	Black	On	On
*5			Off	Black	Black	Black	Off	Off
	* The change from step 4 to step 5 will occur approximately 15 seconds after initiating step 4.							

b ***True Airspeed Check.***

(1) Connect the EPU for test as shown in figure 5-8.

(2) Set test set switch S2 CPU TEST to up. (See fig. 1-32). Operate the SELF TEST and RESET switches on the EPU (See fig. 1-14) as specified in Table 5-5. Using the Digital Voltmeter set to dc volts check the voltage on TP7 (+ve) and 8 on the test set is as shown in Table 5-5 for the position of test set switch S10 specified in Table 5-5.

(3) Return test set switch S2 to down, verify that ADS FLR, ADS NO GO and EPU Self Test lamps are extinguished.

c. ***Monitoring Check.***

(1) Connect the EPU for test as shown in fig. 5-8.

(2) Set test set switch S8 DATA WD SEL to STAT 1. Check that the DATA WORD display READS 000 or 001 (see fig. 1-32).

(3) Set test set switch S8 DATA WD SEL to V_{DW}. Check that the test set lamp PARITY FLR is extinguished.

(4) Set test set switch S8 DATA WD SEL to STAT 2. Check that the DATA WORD display reads 000 and the test set lamp PARITY FLR is extinguished.

Table 5-5. True Airspeed Check.

Action			Resultant Display				
EPU Buttons		EPU Self Test Lamp	DVM Reading of True Airspeed Voltage			Test Set ADS (LRU)	
			S10			ADS FLR	ADS NO GO
Self Test	Reset		V_u	V_v	V_w		
Press		On	—	—	—	On	On
Release		On	—	—	—	Off	Off
	Press & Release	On	10.00 ± 0.05	–10.00 ± 0.05	3.33 ± 0.05	On	On

(5) Set test set switch S3 LAI FLR to up. After at least two seconds set S3 to down. Check that the LAI BITE indicator on the EPU (fig. 1-14) changes from black to white and stays white.

(6) Set test set Angle Resolver Dial B1 to 0. Set test set Angle Resolver Dial B2 to 60 degrees. Check that the AADS BITE indicator (fig. 1-14) on the EPU is black and the ADS NO GO and ADS FLR lamps on the test set are extinguished.

(7) Set test set Angle Resolver Dial B2 to 70 degrees. Check that the AADS BITE indicator (fig. 1-14) on the EPU is white and the ADS NO GO and ADS FLR lamps on the test set are illuminated.

(8) Set test set switch CB2 to OFF. Set test set Angle Resolver Dial B2 to 0. Set test set switch CB2 to ON. After at least 5 seconds press and release the RESET switch (fig. 1-14) on the EPU. Check that the AADS and LAI BITE indicators on the EPU show black. Check that the ADS NO GO and ADS FLR lamps on the test set are extinguished.

d. ***Air Temperature Check (See Figure 1-32).***

(1) Connect the EPU for test as shown in figure 5-8.

(2) Set test set switch S8 DATA WD SEL to T_{AIR}.

(3) Set test set switch S6 AIR TEMP C° to the position shown in Table 5-6. Set S1 to CONT. Set test set switches CB1 and CB2 OFF and then to ON after selection of each of the three positions. Check that the DATA WORD display on the test set is as detailed in Table 5-6 for the corresponding position of S6.

Table 5-6. Air Temperature Calibration Check.

Air Temperature Setting S6	Data Word Display	
°C	Nominal	Tol
–40	30	±6
+15	140	±6
+60	230	±6

e. ***LAI Power Supply Test (see Fig. 1-32).***

(1) Connect the EPU for test as shown in figure 5-8.

(2) Set test set switch S10 OUTPUT SEL 2 to LAI +15V. Using the Digital Voltmeter set to dc volts check that the voltage between test points 7 (+ve) and 8 on the Test Set is +15V ± 1.0V.

(3) Set test set switch S10 OUTPUT SEL 2 to LAI -15V. Using the Digital Voltmeter set to dc volts check that the voltage between test points 7 (+ve) and 8 on the Test Set is −15v±1.0.

f. ***Pitot Pressure Leak Test.***

NOTE

Leak tests for the EPU are perfomed by monitoring leak rates on the Test Set DATA WORD display, therefore it is essential that the pressure source (Tester, Pitot Static Systems) is isolated prior to monitoring the leak rate.

(1) Connect the EPU for test as shown in figures 5-8 and 5-9.

(2) Set test set resolver dials B1 and B2 to 0. Set test set switch S8 DATA WD SEL TO V_u. Set S6 AIR TEMP. to 0.

(3) Close the tester pitot vent valve and open the tester pressure source valve. Close the tank vent valve. Apply sufficient pitot pressure to generate a Test Set numeric readout value of 207 units (equivalent pressure of 175 knots) and isolate the EPU under test from the Tester, Pitot Static Systems. Start the stopwatch and check that the DATA WORD display on the Test Set does not change by more than 5 units in 3 minutes.

(4) Open the tank vent valve to relieve the pressure and disconnect the pressure equipment.

(5) Disconnect pitot pressure leak test equipment.

g. ***Indicated Airspeed Calibration Check.***

(1) Connect the EPU for test as shown in figures 5-8 and 5-11.

(2) Set test set switch S7 RDR ALT FT to 30.

(3) Using the Digital Voltmeter set to dc volts, check the voltage between test points 7 (+ve) and 8 on the Test Set for the positions of the test set switches and the manometer pressure settings as detailed in Table 5-7.

(4) Return the applied pressure slowly to ambient and disconnect the pressure equipment.

CAUTION

Resolvers B1 and B2 must be positioned to 0 via the shortest route to prevent an ADS fail being generated.

(5) On completion of the test, set test set resolvers B1 and B2 to 0.

Table 5-7. Indicated Airspeed Calibration Check.

Pressure Input			Test Set Resolver Dial Setting		Analog IAS Outputs S10			
			B1	B2	V_{IU} Volts		V_{IU} Volts	
Knots	IN H_2O	IN Hg	Deg.	Deg.	Nominal	Tol.	Nominal	Tol.
30	0.6	0.04	80	60	+0.61	±0.40	+0.70	±0.30
35	0.8	0.06	130	120	−1.81	±0.40	+0.72	±0.30
35	0.8	0.06	70	100	+0.16	±0.40	−1.35	±0.30
40	1.0	0.08	40	50	+1.74	±0.40	−1.11	±0.30
55	2.0	0.15	20	25	+5.00	±0.40	−0.84	±0.30

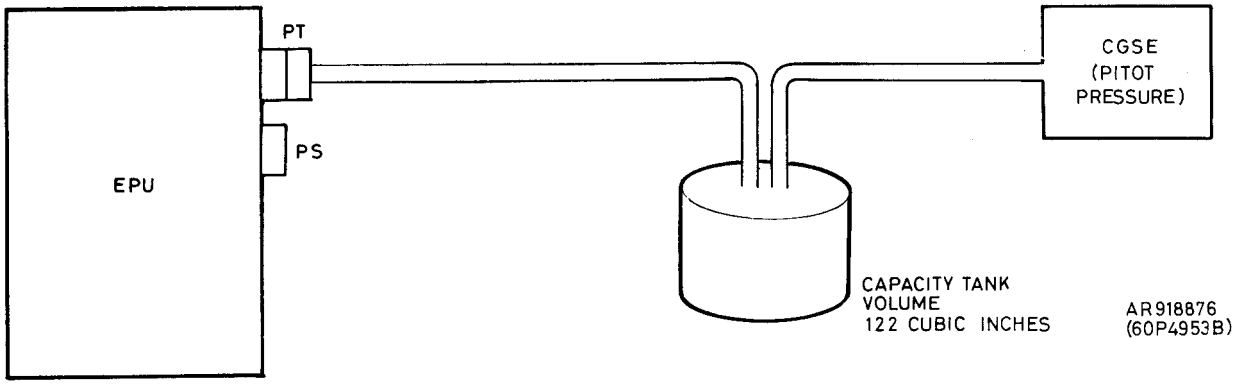


Figure 5-9. Pneumatic Circuit–Pitot Pressure Leak Tests.

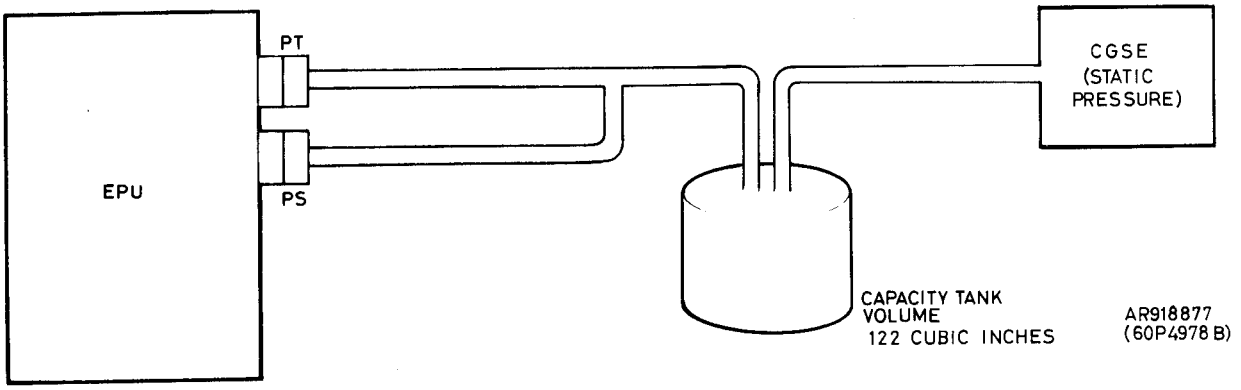


Figure 5-10. Pneumatic Circuit–Static Pressure Leak Test and Altitude Calibration Check.

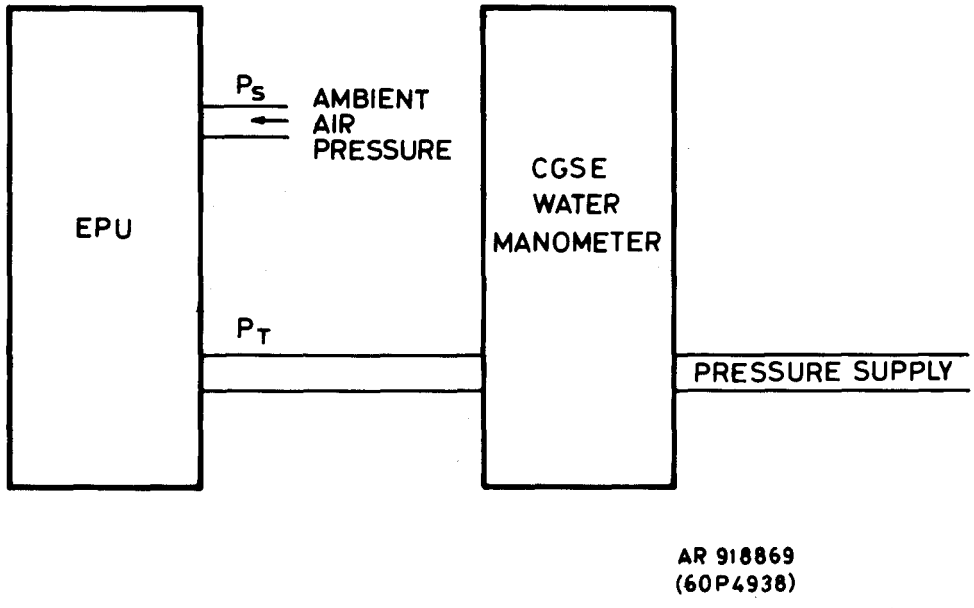


Figure 5-11. Pneumatic Connection to Water Manometer.

h. ***Static Pressure Leak Test.***

NOTE

Leak tests for the EPU are performed by monitoring leak rates on the Test Set DATA WORD display, therefore it is essential that the pressure source (Tester, Pitot Static Systems) is isolated prior to monitoring the leak rate.

(1) Connect the EPU for test as shown in figures 5-8 and 5-10.

(2) Set test set switch S8 DATA WD SEL to P_{ABS} and record the DATA WORD display. Close the tester vent valve and open the tester pressure source valve. Open the tank vent valve.

(3) Apply sufficient static pressure to reduce the test set numeric readout value to 018 units (equivalent to a pressure of 10,000 ft above prevailing ambient pressure). Start the stopwatch and check that the DATA WORD display on the Test Set does not change by more than 2 units in 3½ minutes.

(4) Open the tank vent valve to return the pressure to ambient.

i. ***Altitude Calibration Check.***

(1) Connect the EPU for test as shown in figures 5-8 and 5-10.

(2) Set test set switch S8 DATA WD SEL TO P_{ABS}. Set test set switch S7 RDR ALT FT to 30. Close the tester vent valve and open the tester pressure source valve. Close the tank vent valve. Set the Tester, Pitot Static Systems to the values detailed in Table 5-8. Check that the DATA WORD display on the test set reads the values detailed in Table 5-8.

(3) Open the tank vent valve to return the pressure to ambient and disconnect the pressure equipment.

(4) Switch off power to the test set by setting test set switches CB1 and CB2 to OFF and disconnect the EPU under test from the test set.

Table 5-8. Altitude Calibration Check.

Test Point	Pressure Input		Data Word Display	
	Ft.	mb	Nominal	Tol.
1	–1000	1050.41	224	± 2
2	– 0	1013.25	203	± 2
3	+4000	875.10	123	± 2
4	+8000	752.62	52	± 2

5-10. Testing of the Low Airspeed Indicator (LAI).

a. ***Test Requirements.*** To confirm a fault reported by AVUM level, the LAI will be subjected to the following tests. Any LAI which fails any test will be returned to Depot for repair.

(1) Preliminary Tests
  (a) Bonding Resistance Test
  (b) Current Consumption Test

(2) Functional Tests
  (a) Calibration and Status Flag Operation
  (b) Panel Lighting

b. ***Test Equipment Required.***

Table 5-9. Test Equipment for LAI Testing.

Nomenclature	Part No.	NSN
Test Station ADS (LRU)	95-112-02	4931-01-074-3322
Voltmeter, Digital	8125A	1430-00-366-8753
Multimeter	AN/USM 233	6625-00-999-7465

5-11. LAI Preliminary Tests.

a. ***Bonding Resistance Test.*** Using the Multimeter set to the lowest ohms range, check that the resistance between the bonding point on the instrument bezel and any exposed metal work on the rear connector is less than 0.1 ohms.

b. ***Current Consumption Test.***

(1) Connect the LAI to the test equipment as shown in figure 5-12.

(2) Set test set switch CB1 and CB2 to ON (see fig. 1-32) and check that the associated lamps illuminate.

(3) Set test set switch S12 to LAI + 15V and set the Multimeter to dc current. Check the current between test points 13 (+ve) and 14 indicated on the Multimeter, when test set switch S14 is depressed, is less than 0.3 amperes.

(4) Set test set switch S12 to LAI–15V and set the Multimeter to dc current. Check that the current between test points 13 (+ve) and 14 indicated on the Multimeter, when test set switch S15 is depressed, is less than 0.3 amperes.

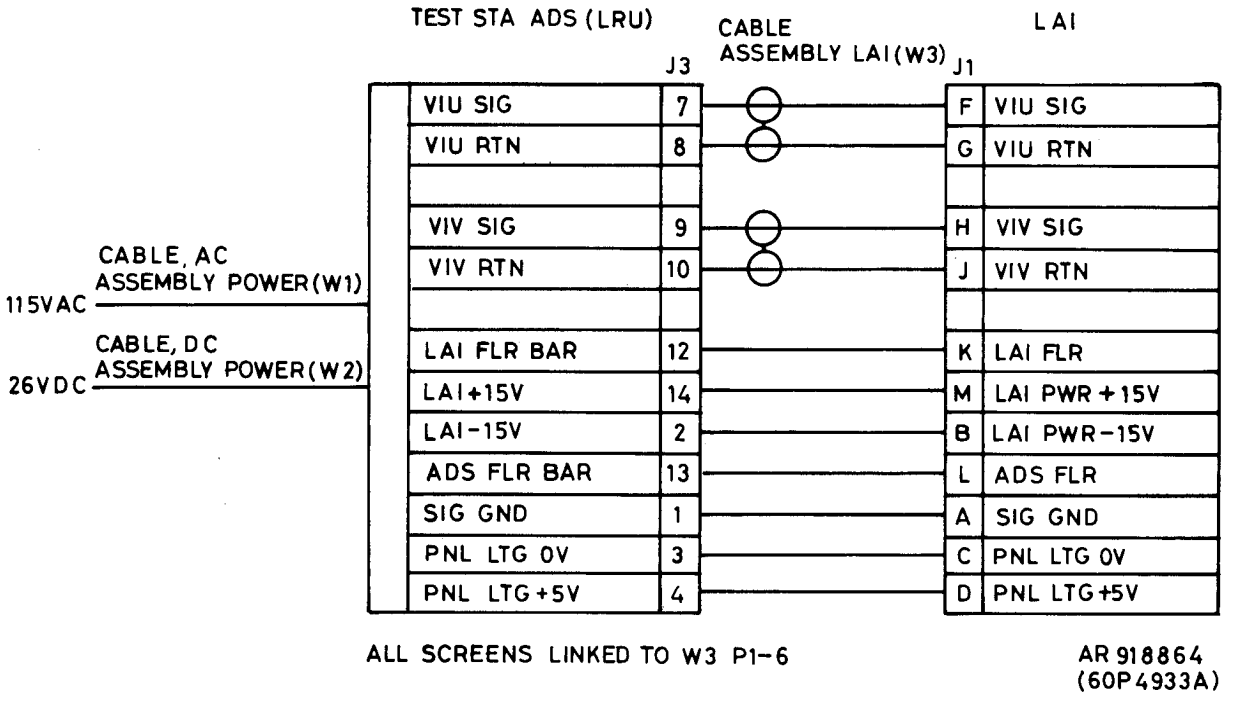


Figure 5-12. LAI Test Connections.

5-12. LAI Functional Tests.

a. ***Calibration and Status Flag Operation.***

(1) Set switches on the LAI section of the test set as follows; switches S17 V_{lu} KN and S18 $V_{l\,v}$ KN to 0 and switches S19 PANEL LIGHTS and S20 ADS FLR down.

NOTE

All readings taken from the LAI must be viewed head-on at a minimum distance of 18 inches from the instrument face.

(2) Check that the LAI pointers indicate Okn ±2kn for both lateral and fore-aft movements. (see fig. 1-29). The pointers will be within the diameter of the center spot on the LAI face.

(3) Set test set switch S17 V_{lu} KN (see fig. 1-32) to OUT AFT. Check that the LAI status flag shows the fail condition (red and black diagonal stripes) and the LAI FLR lamp on the test set is illuminated.

(4) Set test set switch S17 V_{lu} KN (see fig. 1-32) to –50. Check that the fore-aft pointer on the LAI indicates 50kn ±3kn down. Check that the LAI status flag shows good (all black) and the LAI FLR lamp on the test set is extinguished.

(5) Set test set switch S17 V_{lu} KN to –20. Check that the fore-aft pointer on the LAI indicates 20kn ±2kn down. Check that the status flag on the LAI shows good and the LAI FLR lamp on the test is extinguished.

(6) Set test set switch S17 V_{lu} KN to +20. Check that the fore-aft pointer on the LAI indicates 20kn ±2kn up. Check that the status flag on the LAI shows good and the LAI FLR lamp on the test set is extinguished.

(7) Set test set switch S17 V_{lu} KN to +45. Check that the fore-aft pointer indicates 45kn ±3kn up. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(8) Set test set switch S17 V_{lu} KN to +51 to test LAI overrange (O/R) function. Check

that the LAI status flag shows an overrange (O/R) indication.

(9) Set test set switch S17 V_{lu} KN (see Fig. 1-32) to OUT FWD. Check that the LAI status flag shows red and black stripes and the ADS FLR lamp on the test set is illuminated.

(10) Set test set switch S17 V_{lu} KN to 0. Check that the fore-aft pointer of the LAI indicates 0kn ±2kn. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(11) Set test set switch S18 V_{lv} KN to OUT LEFT. Check that the LAI status flag shows a failure condition and the LAI FLR lamp on the test set is illuminated.

(12) Set test set switch S18 V_{lv} KN to –50. Check that the lateral pointer on the LAI indicates 50kn ±3kn left. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(13) Set test set switch S18 V_{lv} KN to –20. Check that the lateral pointer on the LAI indicates 20kn ±2kn left. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(14) Set test set switch S18 V_{lv} KN (see Fig. 1-32) to +20. Check that the lateral pointer on the LAI indicates 20kn ±2kn right. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(15) Set test set switch S18 V_{lv} KN to +50. Check that the lateral pointer on the LAI indicates 50kn ±3kn right. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(16) Set test set switch S18 V_{lv} KN to OUT RIGHT. Check that the LAI status flag shows the failure condition and the LAI FLR lamp on the test set is illuminated.

(17) Set test set switch S18 V_{lv} KN to 0. Check the fore-aft and lateral pointers of the LAI indicate 0kn ± 2kn. Check that the LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(18) Set test set switches CB1 and CB2 to OFF. Check that the LAI status flag shows the failure condition.

(19) Set test set switch CB1 and CB2 to ON and check the associated indicator lamps illuminate. Check LAI status flag shows good and the LAI FLR lamp on the test set is extinguished.

(20) Set test set switch S20 ADS FLR up. Check that the LAI status flag shows the failed condition. Set test set switch S20 ADS FLR down and check that the LAI status flag shows good.

(b) ***Panel Lighting***

(1) Set test set switch S19 PANEL LIGHTS up. Check that the four quadrants of the lighting ring are illuminated and the face of the LAI is evenly illuminated over the whole of the display area.

(2) Set test set switch S19 PANEL LIGHTS down and check that the panel lights extinguish.

(3) Set test set switches CB1 and CB2 to OFF and disconnect the Low Airspeed Indicator under test from the test set W3 cable.

Section IV. TROUBLESHOOTING

5-13. Electronics Processor Unit Troubleshooting Procedure.

a. Any EPU which is suspected to be unserviceable will be subjected to the troubleshooting procedures listed in Table 5-11 to confirm the reported fault.

b. Using Failure Isolation Shop Set (FISS), fault, isolate the defective SRU and replace in accordance with the removal and installation procedures listed in Section V.

c. The Air Data Subsystems Failure isolation Shop Set (FISS) provides slave boards for use during troubleshooting to aid in the identification of faulty circuit board assemblies within the EPU, once the faulty circuit board has been identified, the slave board is returned to the shop set for future use and a replacement board is requisitioned for the EPU.

d. When any EPU SRU is replaced in accordance with Section V the step of the troubleshooting procedure (Section IV) at which the unit failed will be repeated prior to functional testing. (Section III). Should the same failure conditions be observed the Front Panel Assembly will be replaced in accordance with Section V.

e. After the defective SRU has been replaced the EPU will be subjected to the functional tests listed in Section III.

f. Test Equipment Required.

Table 5-10. Test Equipment for EPU Troubleshooting.

Nomenclature	Part No.	NSN
Test Station	95-112-02	4931-01-074-3322
Digital Voltmeter	8125A	1430-00-366-8753
Multimeter	BA352/BU	6625-00-999-7465
Oscilloscope	AN/USM 281C	6625-00-106-9622
Tester, Pitot Static Systems	MB-1A	4920-00-580-2303
Shop Set, Failure Isolation, Electronic Circuit Boards: Air Data Subsystem	11838719	4933-01-229-0616

Table 5-11. Troubleshooting.

Malfunction	NOTE
Test or Inspection Corrective Action	Failure isolation shop set will help identify failed circuit card assemblies.

Fault Suspected In Electronics Processor Unit.

Step 1 Carry out the test set preliminary starting procedure as detailed in TM 9-4931-378-13&P, Chapter 2, Section II.

Step 2 Verify the test set performance by carrying out the test set operating procedure as detailed in TM 9-4931-378-13&P, Chapter 2, Section II.

Step 3 Connect the EPU to the Test Set as shown in figure 5-8.

Step 4 Test the Test Set switches as follows:

S1 to CONT (UP)	S4 to DOWN	S7 to 30
S2 to DOWN	S5 to DOWN	B1 to 0°
S3 to DOWN	S6 to 15	B2 to 0°

Switch on power to the EPU by operating CB1 and CB2.

Step 5 Using the Multimeter, measure the current at test points 13 (+ve) and 14 on the test set, ADS (LRU), with S12 set to EPU 28V and S13 depressed. The result should be 1.4A ± 0.2A. Remove the Multimeter from TP13 and TP14.

If current is out of tolerance replace the Power Supply Unit as specified in Section V.

Table 5-11. Troubleshooting - continued.

Malfunction	Test or Inspection	Corrective Action
Step 6 Using the Digital Voltmeter, measure the voltage on test points 7 (+ve) and 8 with S10 set to 5V. The result should be 5V ± 0.2V (Table 5-12).		If the voltage is out of tolerance replace Power Supply Unit as specified in Section V.
Step 7 Measure voltage on test points 7 (+ve) and 8 with S10 set to +15V. The result should be +15V + 0.5V.		If the result is out of tolerance replace the Power Supply Unit as specified in Section V.
Step 8 Measure the voltage on test points 7 (+ve) and 8 with S10 set to –15V. The result should be –15 ± 0.5V.		If the result is out of tolerance replace the Power Supply Unit as specified in Section V.
Step 9 Measure voltage on test points 7 (+ve) and 8 with S10 set to LAI –15V. The voltage should be –15V + 1.0V.		If the result is out of tolerance replace the Power Supply Unit as specified in Section V.
Step 10 Measure voltage on test points 7 (+ve) and 8 with S10 set to LAI +15V. The voltage should be +15V ± 1.0V.		If the result is out of tolerance replace the Power Supply Unit as specified in Section V.
Step 11 Check the ADS FLR and ADS NO Go lamps on the Test Set.		If only one is on replace the Central Processor Unit as specified in Section V. If both lamps are OFF go to Step 12 If both lamps are ON go to Step 16
Step 12 Press and hold SELF TEST on the EPU. The BITE indicators on the EPU should show white and the SELF TEST lamp on the EPU should illuminate. The ADS FLR and ADS NO GO lamps on the test set should illuminate.		If the EPU BITE indicators do not all show white or if the SELF TEST lamp does not illuminate, replace the Front Panel Assembly as specified in Section V. If the ADS FLR and ADS NO GO lamps on the test set do not illuminate replace the Central Processor Unit as specified in Section V.
Step 13 Release SELF TEST on the EPU. The BITE indicators on the EPU should stay white and the SELF TEST lamp should remain illuminated. The ADS FLR and ADS NO GO lamps on the test set should extinguish.		If the EPU BITE indicators do not stay white, the SELF TEST lamp fails to stay illuminated or the ADS FLR and ADS NO GO lamps on the test set fail to extinguish, replace the Central Processor Unit as specified in Section V.
Step 14 While observing the EPU BITE indicators, press and release the EPU RESET Switch. The BITE indicators on the EPU should show black, the EPU SELF TEST lamp should remain illuminated and the ADS FLR and ADS NO GO lamps on the test set should be illuminated.		If any EPU BITE indicator stays white replace the Front Panel Assembly as specified in Section V. If the EPU SELF TEST lamp or the ADS FLR and ADS NO GO lamps on the test set are not illuminated, replace the Central Processor Unit, as specified in Section V.

Table 5-11. Troubleshooting - continued.

Malfunction	Test or Inspection	Corrective Action
Step 15 After 15 ± 5 seconds the EPU SELF TEST lamp and the test set ADS FLR and ADS NO GO lamps should extinguish. EPU BITE indicators are to be ignored.		If the SELF TEST lamp, ADS FLR and ADS NO GO lamps all remain illuminated after 30 seconds, replace the Front Panel Assembly as specified in Section V. If the SELF TEST lamp only remains illuminated after 30 seconds, replace the Central Processor Unit as specified in Section V. If the ADS FLR and ADS NO GO lamps only remain illuminated after 30 seconds go to Step 16. If all the lamps extinguish correctly go to Step 20.
Step 16 Press and hold SELF TEST on the EPU. The BITE indicators on the EPU should show white and the SELF TEST lamp on the EPU should illuminate.		If the EPU SELF TEST lamp does not illuminate or the BITE indicators on the EPU fail to show white replace the Central Processor Unit as specified in Section V.
Step 17 Release SELF TEST on the EPU. The BITE indicators on the EPU should stay white. The SELF TEST lamp on the EPU should remain illuminated.		If the BITE indicators do not stay white or the SELF TEST lamp fails to stay illuminated replace the CPU as specified in Section V.
Step 18 While observing the EPU BITE indicators press and release the EPU RESET switch. The BITE indicators on the EPU should show black and the EPU SELF TEST lamp should remain illuminated.		If any EPU BITE indicator stays white or the SELF TEST lamp fails to remain illuminated immediately after release of the EPU RESET switch replace the Central Processor Unit as specified in Section V.
Step 19 After approximately 15±5 seconds the EPU SELF TEST lamp should extinguish.		EPU BITE indicators are to be ignored. If the EPU SELF TEST lamp remains illuminated replace the CPU as specified in Section V.
Step 20 Set test set switch 8 to STAT 1 and observe the lamps of the DATA WORD display.		If lamps 1, 2, 3, or 4 of the DATA WORD display are illuminated replace the Central Processor Unit as specified in Section V. If lamps 5, 6, or 7 of the DATA WORD display are illuminated replace the Pressure Transducer Unit as specified in Section V.
Step 21 Set test set switch S8 to STAT 2 and observe the lamps of the DATA WORD display.		If lamps 0, 1, 2, 3, 4 or 5 are illuminated replace the Analog Interface Unit as specified in Section V. If lamp 6 is illuminated replace the Power Supply Unit as specified in Section V.
Step 22 Set S10 to P_T - P_s and measure the voltage at TP7 (+ve) and 8. The result should be 0V ± 100mV.		If the result is out of tolerance replace the Pressure Transducer Unit as specified in Section V.

Table 5-11. Troubleshooting - continued.

Malfunction	Test or Inspection	Corrective Action

Step 23 Connect the test equipment to the EPU as shown in figure 5-9. Apply a pressure of 220KN to P_T only and isolate pressure. After a period of 4 minutes the pitot pressure will be greeter than 215KN.

If the result is out of tolerance replace the Pressure Transducer Unit as specified in Section V.

Step 24 Reset pressure to 220KN. Measure the voltage at TP7 and TP8. The result should be 7.60V ± 50mV. Release the P_T pressure and disconnect plumbing.

If the result is out of tolerance replace the Pressure Transducer Unit as specified in Section V.

Step 25 Connect the test equipment to the EPU as shown in figure 5-10. Apply a pressure of 10,000 ft to P_S and P_T and isolate pressure. After a period of 2 minutes the static pressure will be greater than 9,950´.

If the result is out of tolerance replace the Pressure Transducer Unit as specified in Section V.

Step 26 Reset the static pressure to zero feet. Set S10 to P_S and measure the voltage at TP7 (+ve) and TP8. The result should be 5.065V ± 100mV.

If the result is out of tolerance disconnect the pressure source from EPU P_S and P_T connectors and replace the PTU as specified in Section V.

Step 27 With the pressure still applied to P_T and P_S, connect an oscilloscope trace to TP1 and TP2, the oscilloscope trigger to TP5 and TP6. Set the oscilloscope to 2V/division and 1 mS per division. Set up test set controls B1, B2, S1, S2, S6, S7 and S9 as shown in Table 5-13. Press SELF TEST then RESET on the EPU. Verify that the waveform shown is as in figure 5-13, to within ± 0.5V.

If waveform is not as shown replace the Analog interface Unit as specified in Section V.

Step 28 Set S9 to ANLG OUT and verify waveform is as shown in figure 5-14, to within ± 0.5V.

If waveform is not as shown replace the Central Processor Unit as specified in Section V.

Step 29 Slowly rotate B1 and verify that the Sin α and Cos α portions of the waveform change smoothly throughout their range. Reset B1 to 20.

If the waveform does not vary as described replace the Analog Interface Unit as specified in Section V.

Step 30 Slowly rotate B2 and verify that the Sin $(\alpha - \beta)$ and Cos $(\alpha - \beta)$ portions of the waveform or display change smoothly throughout their range. Reset B2 to 15° and disconnect oscilloscope.

If the waveform does not vary as described, replace the Analog Interface Unit as specified in Section V.

Step 31 Set S10 to Vu and measure the voltage across TP7 (+ve) and TP8 on the test set. The result should be +10.000V±100mV.

If the result is out of tolerance, replace the Analog Interface Unit as specified in Section V.

Table 5-11. Troubleshooting - continued.

Malfunction	Test or Inspection	Corrective Action
Step 32 Set S10 to V_v and measure the voltage at TP7 and TP8. The result should be –10.000V ± 100mV.		If the result is out of tolerance, replace the Analog Interface Unit as specified in Section V.
Step 33 Set S10 to V_w and measure the voltage at TP7 and TP8. The result should be +3.333V ± 100mV.		If the result is out of tolerance replace the Analog Interface Unit as specified in Section V.
Step 34 Set S10 to V_{iu} and measure the voltage at TP7 and TP8. The result should be +5.000V ± 100mV.		If the result is out of tolerance replace the Analog Interface Unit as specified in Section V. If replacing the Analog Interface Unit does not correct the failure, replace the front panel assembly.
Step 35 Set S10 to V_{iv} and measure the voltage at TP7 and TP8. The result should be –3.333V ± 100mV.		If the result is out of tolerance replace the Analog Interface Unit as specified in Section V. If replacing the Analog Interface Unit does not correct the failure, replace the front panel assembly.
Step 36 Set S2 to CPU TEST down. Set S8 to V_u and observe the DATA WORD display. The display should read 042 ± 4.		If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 37 Set S8 to V_v and observe the DATA WORD display. The display should read 142 ±12.		If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 38 Set S8 to V_w and observe the DATA WORD display. The display should read 178 ± 12.		If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 39 Set S8 to P_{ABS} and observe the DATA WORD display. The display should read 203 ± 3.		If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 40 Set S8 to T_{AIR} and S6 to +15. Observe the DATA WORD display. The display should read 140 ± 6.		If display is incorrect replace the Analog Interface Unit as specified in Section V.
Step 41 Set S8 to V_{DW} and observe the DATA WORD display. The display should read 000 ±12.		If the display is incorrect replace the Central Processor Unit as specified in Section V.
Step 42 Set S7 to 10, S4 to up, B1 to 60°, B2 to 55° and vent P_s and P_T to atmosphere. Set S8 to V_u and observe the DATA WORD display. The display should read 031 ± 12.		If display is incorrect replace the Central Processor Unit as specified in Section V.

Table 5-11. Troubleshooting - continued.

Malfunction Test or Inspection Corrective Action
Step 43 Set S8 to V_v and observe the DATA WORD display. The display should read 114 ± 12. If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 44 Set S4 to RDR ALT RLBL to down. Set S8 to V_v and observe the DATA WORD display. The display should read 048 ± 4. If display is incorrect replace the Central Processor Unit as specified in Section V.
Step 45 Set S8 to V_v and observe the DATA WORD display. The display should read 155 ± 12. If display is incorrect replace Central Processor Unit as specified in Section V.

Table 5-12. TP7, TP8 Outputs.

S10 Position	Output TP7, 8
5V	5V ± 0.2V
+15V	+15v ± 0.5V
–15V	–15V ± 0.5V
LAI + 15V	+15V ± 1..0V
LAI –15V	–15V ± 1.0V

Table 5-13. Inputs for Analog In and Analog Out Waveform Checks.

Input	Setting
B1 ∝	20
B 2(∝ – β)	15
S6 Air Temp	15
S7 Rad. Alt	30
S1 Data Mode	CONT.
S2 CPU Test	Up
S9 OUTPUT SELECT 1	ANLG. IN.

Section V. REMOVAL AND INSTALLATION OF MAJOR COMPONENTS.

5-14 This section contains the procedures for the removal and installation of the SRUs in the EPU. No removal and installation procedures will be carried out on the AADS or LAI at AVIM level. Fig. 5-12 illustrates the SRU removal and installation procedures.

a. ***Special Tools.***

No special tools are required for removal or installation of any major component in the EPU.

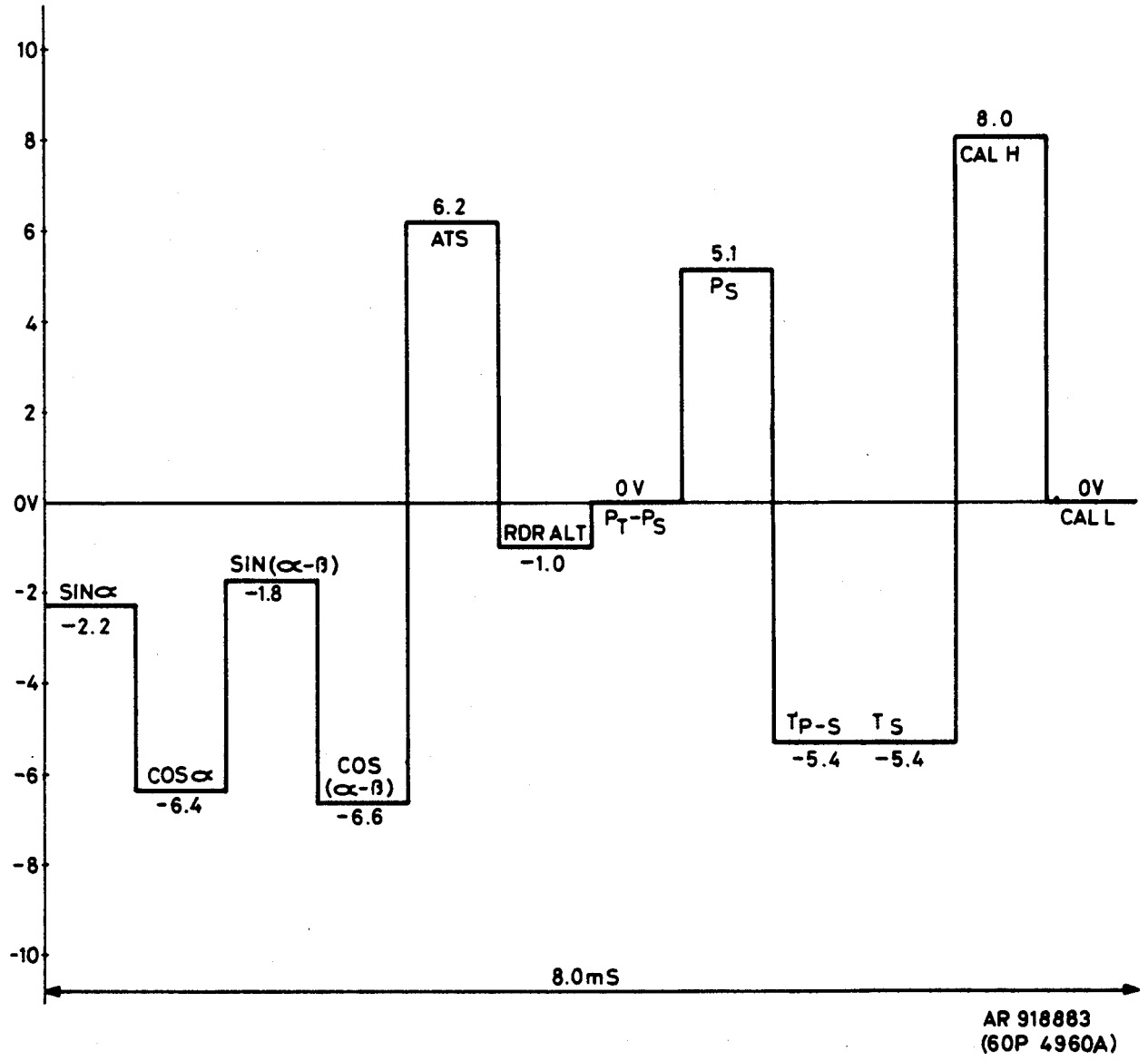


Figure 5-13. ANLG IN Waveform.

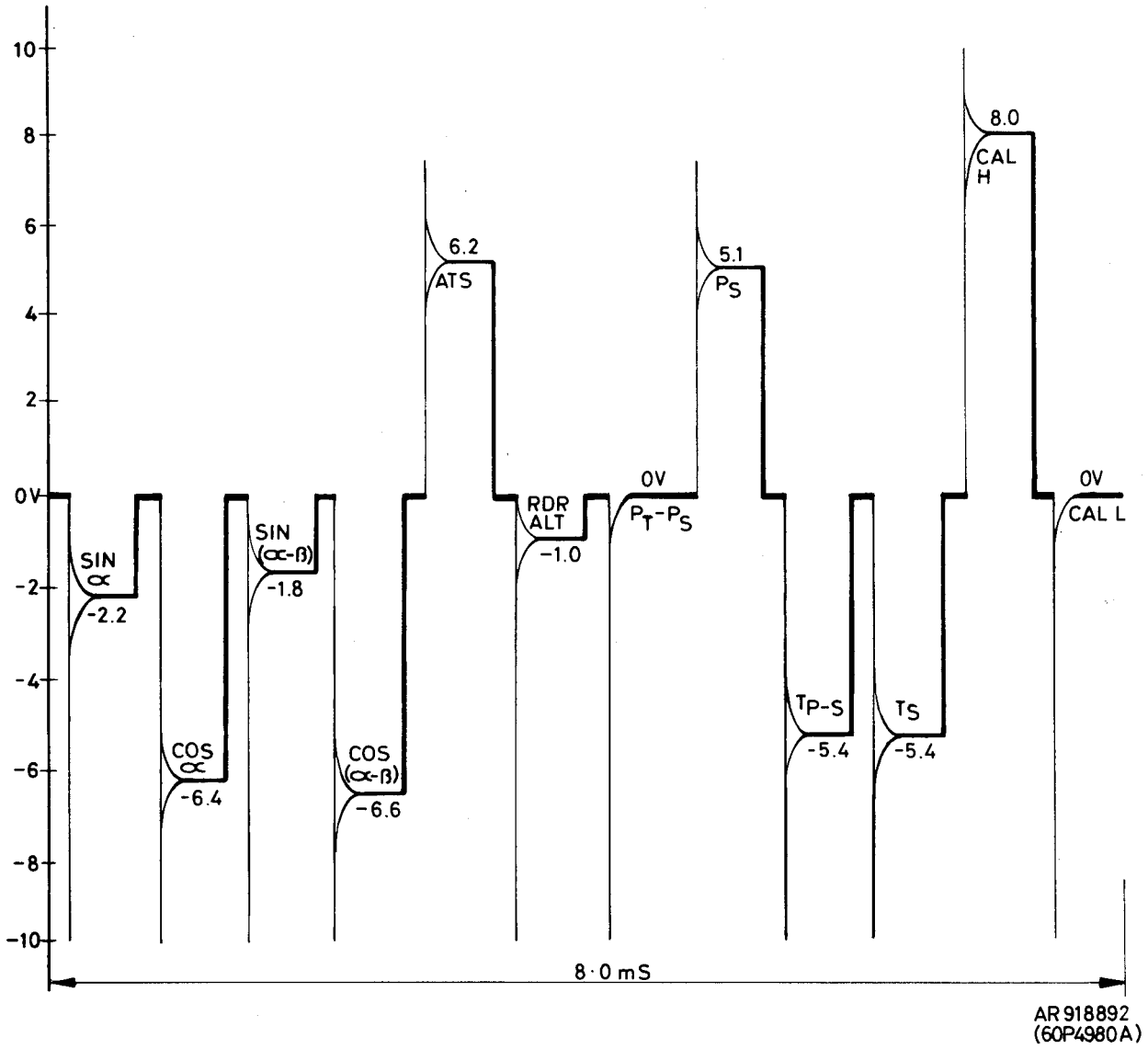


Figure 5-14. ANLG OUT Waveform.

b. ***Unpacking.***

The EPU should be received in a special transit pack for protection. This pack should not be destroyed unless damaged.

WARNING

ADS Test Set must be switched off and cables disconnected before removing and installing major components. Removal or installation of SRUs with power on will result in damage to the EPU.

c. ***Rear Cover Removal.***

(1) To remove rear cover (11, fig. 5-15) release six captive screws (10) located on rear of cover and withdraw cover from EPU.

d. ***Analog Interface Unit Removal.***

(1) Remove rear cover as detailed in paragraph 5-14c.

(2) Remove AIU (8) using card ejectors (9) located on edge of card.

e. ***Central Processor Unit Removal.***

(1) Remove rear cover as detailed in paragraph 5-14c.

(2) Remove CPU (14) using card ejectors (15) located on edge of card.

f. ***Pressure Transducer Unit Removal.***

(1) Remove rear cover as detailed in paragraph 5-14c.

(2) Release two captive screws (3) securing pneumatic connectors to front panel (2).

(3) Release two captive screws (6) located at rear of PTU (5).

(4) Remove PTU using card ejectors (7) located on rear edge of card.

g. ***Power Supply Unit Removal.***

(1) Remove rear cover as detailed in paragraph 5-14c.

(2) Release jacking screw (13) located at rear of PSU (12).

(3) Withdraw PSU from chassis.

h. ***Front Panel Assembly Removal.***

(1) Remove rear cover as detailed in paragraph 5-14c.

(2) Remove AIU as detailed in paragraph 5-14d.

(3) Remove CPU as detailed in paragraph 5-14e.

(4) Remove PTU as detailed in paragraph 5-14f.

(5) Remove PSU as detailed in paragraph 5-14g.

(6) Release four captive screws (1) on front panel assembly.

(7) Remove front panel assembly (2) from chassis (4).

i ***Rear Cover Installation.***

(1) Install rear cover (11) on chassis (14) with six captive screws (10).

(2) Check calibration of EPU detailed in Section III.

j ***Analog Interface Unit Installation.***

(1) Install AIU (8) into chassis (4) ensuring connector mates firmly and correctly with front panel assembly (2).

(2) Install rear cover as detailed in paragraph 5-14i.

(3) Check calibration of EPU as detailed in Section III.

k. ***Central Processor Unit Installation.***

(1) Install CPU (14) into chassis (4) ensuring connector mates firmly and correctly with the front panel assembly (2).

(2) Install rear cover as detailed in paragraph 5-14i.

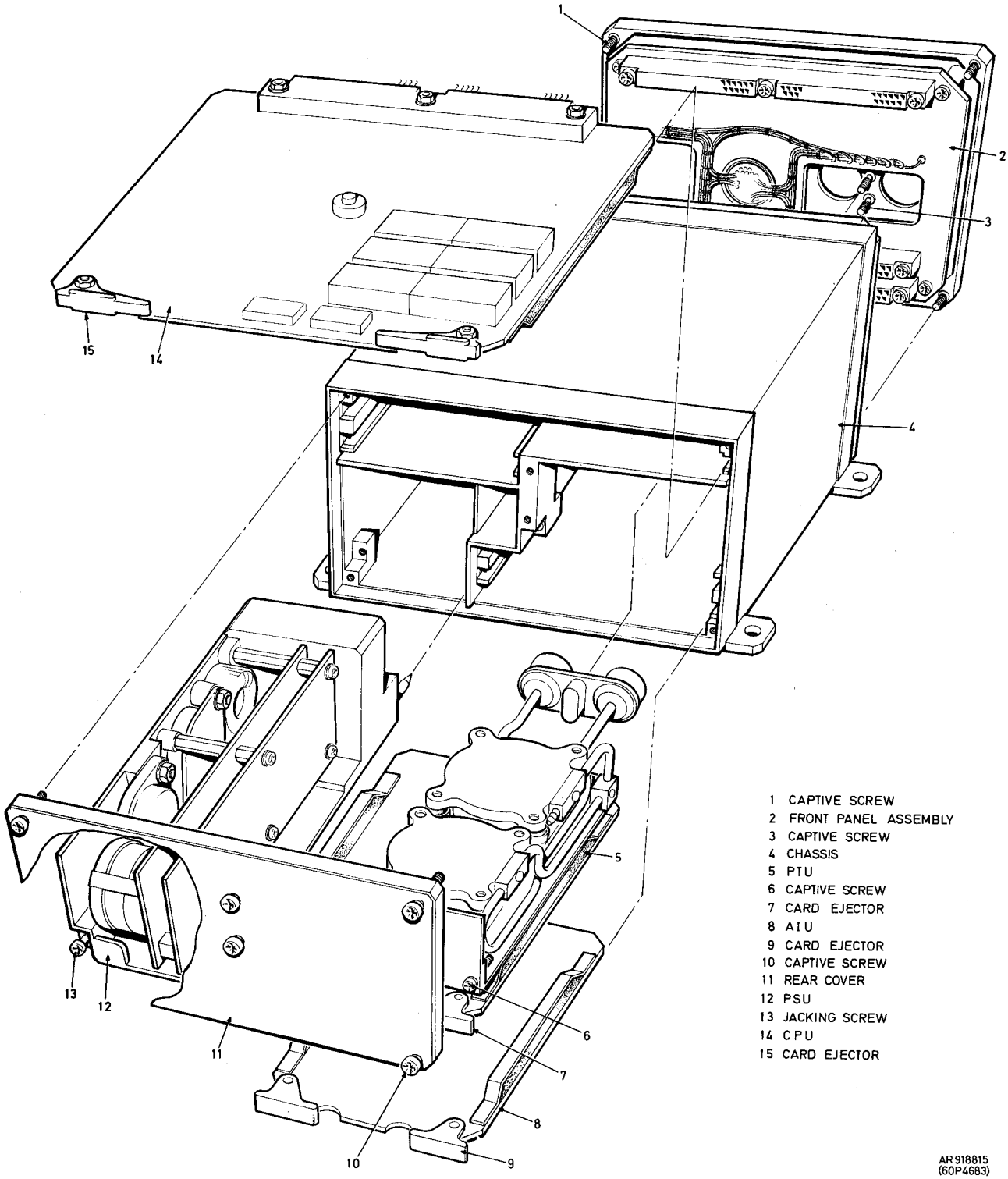


Figure 5-15. Removal and Installation of EPU SRUs.

(3) Check calibration of EPU as detailed in Section III.

l. ***Pressure Transducer Unit Installation.***

(1) Install PTU (5) into chassis (4) ensuring connectors mate firmly and correctly with front panel assembly (2).

(2) Tighten two captive screws (3) on the front panel between the pneumatic connectors and two captive screws (6) on the rear of the module.

(3) Install rear cover as detailed in paragraph 5-14i.

(4) Check calibration as detailed in Section III.

m. ***Power Supply Unit Installation.***

(1) Install PSU (12) into chassis (4) with jacking screw (13) ensuring the connector mates firmly and correctly with the front panel.

(2) Install rear cover as detailed in paragraph 5-14i.

(3) Check calibration of EPU as detailed in Section III.

n. ***Front Panel Assembly Installation.***

(1) Install front panel assembly (2) to chassis (4) with four captive screws (1).

(2) Install PSU as detailed in paragraph 5-14m.

(3) Install PTU as detailed in paragraph 5-14l.

(4) Install CPU as detailed in paragraph 5-14k.

(5) Install AIU as detailed in paragraph 5-14j.

(6) Install rear cover as detailed in paragraph 5-14i.

(7) Check calibration of EPU as detailed in Section III.

Section VI. DISASSEMBLING AND ASSEMBLING THE SENSOR INSTALLATION

5-15. Disassembling the Sensor Installation.

a. Remove boom grounding strap (9, fig. 5-16) from support assembly (6) by removing screw (8) and three washers (7).

b. Remove the three bolts (4) and washers (3) securing support assembly (1) to support assembly (6).

c. Remove support assembly (1) and gasket (2) from support assembly (6).

5-16. Assembling the Sensor Installation.

a. Install gasket (2, fig. 5-16) and support assembly (1) on support assembly (6) using bolts (4) and washers (3).

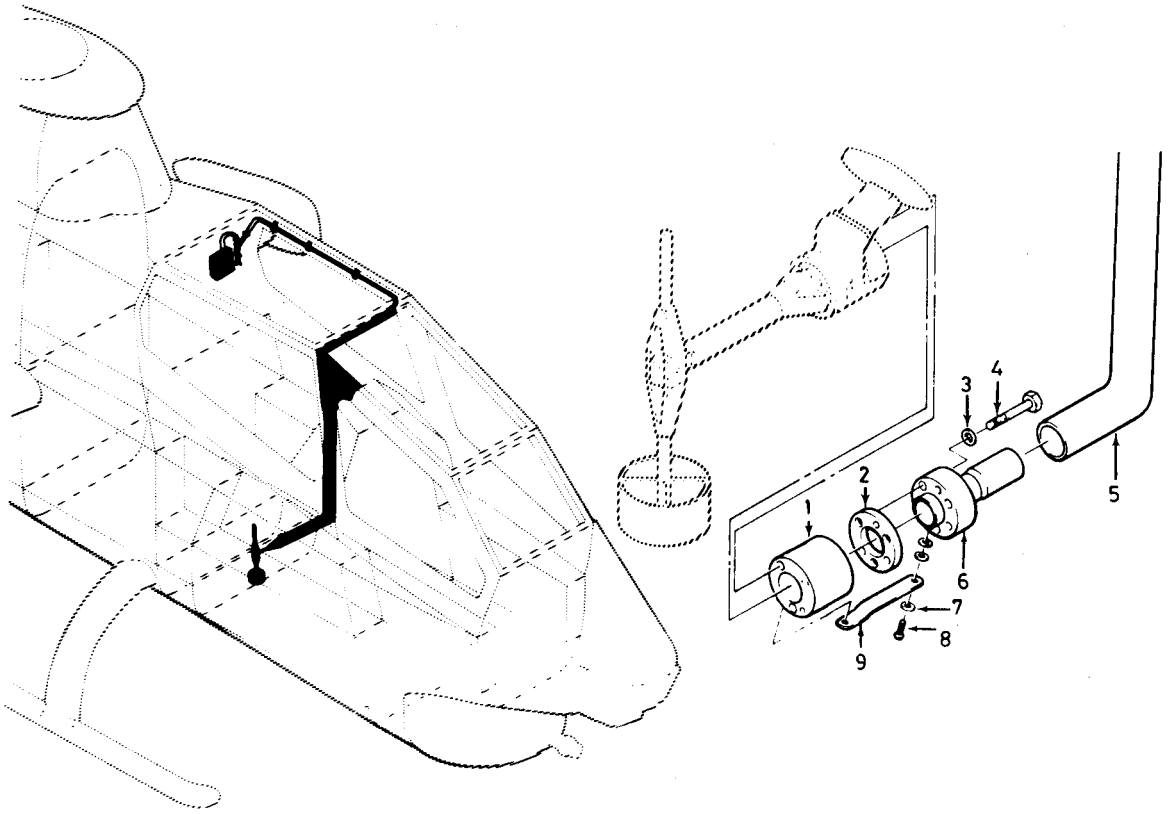
NOTE

Bolts (4) securing support assemblies (6 and 1) are torqued only during alignment and boresighting.

b. Tighten, but do not torque, bolts (4).

c. Install boom grounding strap (9) on support assembly (6) using screw (8) and three washers (7).

d. Perform alignment and boresighting procedures (Refer to TM 9-1090-206-30).



1 SUPPORT ASSEMBLY
2 GASKET
3 WASHER
4 BOLT
5 BOOM
6 SUPPORT ASSEMBLY
7 WASHER
8 SCREW
9 GROUNDING STRAP

AR 918936
(60P 5276)

Figure 5-16. Sensor Installation

CHAPTER 6
REPAIR INSTRUCTIONS

6-1. AVUM Repair. No repairs are carried out on the Air Data Subsystem LRUs at AVUM.

6-2. AVIM Repair. No repairs are carried out on the AADS or LAI at AVIM level. Repair of the EPU is limited to the replacement of SRUs as detailed in Chapter 5. No repairs to these SRUs are carried out at AVIM level. Repair of AADS boom mount assembly is restricted to replacement except for scratches, nicks and dents which would not impair operation of the ADS (TM 55-1500-204-25/1).

CHAPTER 7
MAINTENANCE OF AUXILIARY EQUIPMENT

Repair procedures for the Test Station, ADS (LRU) are detailed in TM 9-4931-378-13&P.

CHAPTER 8
FINAL INSPECTION

8-1. Final Inspection Procedure.

a. Visually inspect the LRU in accordance with the procedures of Section 1, Chapter 5.

b. Perform the functional tests in accordance with the procedures of Section III, Chapter 5.

APPENDIX A

REFERENCES

A-1. Technical Manuals.

TM 11-5841-284-23&P	Operator´s, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List): Altimeter Set, Electronic, AN/APN-209(V), and AN/APN-209(V)Z.
TM 9-4931-378-13&P	Operator Aviation Unit and Intermediate Maintenance Instructions with Repair Parts and Special Tool Lists (RPSTL) (including Depot Maintenance Repair Parts and Special Tool List) for Test Set, Fire and Flight Air Data Subsytems: XM 142.
TM 9-1090-206-12	Aviation Unit Maintenance Manual for Armament Subsystem, Helicopter: 20 -mm Automatic Gun: XM97E1.
TM 9-1090-206-30	Aviation Intermediate Maintenance Manual for Armament Subsystem, Helicopter: 20 -mm Automatic Gun: XM97E1.
TM 9-1090-207-13&P	Aviation Unit and Intermediate Maintenance Manual with Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Stores Management.
TM 9-1270-212-14&P	Operator, Organizational, Direct and General Support Maintenance Manual for M 128 and M 136 Helmet Sight Subsystem (HSS) (Including Depot Maintenance Repair Parts and Special Tools List).
TM 9-1270-218-13&P	Aviation. Unit and Aviation Intermediate Maintenance Manual for Fire Control Computer Subsystem XM22.
TM 9-1270-220-13&P	Aviation Unit and Aviation Intermediate Maintenance for Head-Up Display Subsystem XM76.
TM 9-1425-473-20	Organizational Maintenance Instructions Armament Subsystem, Helicopter, TOW Guided Missile M 65.
TM 11-5841-281-12	Operator´s and Organizational Maintenance Manual: Doppler Navigation Set, AN/ASN-128.
TM 11-5841-281-20&P	Organizational Maintenance Manual (Including Repair Parts and Special Tools List): Doppler Navigation Set, AN/ASN-128.
TM 94933-211-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Portable Hydraulic/Electric Power Supply.
TM 55-1520-236-CL	Operator and Crewmembers Checklist - AH-IS Helicopter.
TM 55-1520-236-10	Operators Manual - Army AH-IS Helicopter.
TM 55-1520-236-23	Aviation Unit and Intermediate Maintenance Instructions, Army Model AH-IS Helicopter.
TM 55-1520-239-CL	Operator and Crewmembers Checklist - AH-IS (MC) Helicopter
TM 55-1520-239-10	Operators Instructions - AH-IS (MC) Helicopter.
TM 55-1520-239-23	Aviation Unit and Intermediate Maintenance Instructions AH-IS (MC) Helicopter.

A-2. Repair Parts and Special Tools Lists.

TM 9-1090-206-20P	Aviation Unit Maintenance Repair Parts and Special Tools List for Armament Subsystem,

	Helicopter; 20 -mm Automatic Gun: XM97E1.
TM9-I090-206-30P	Aviation Intermediate Maintenance Repair Parts and Special Tools List for Armament Subsystem, Helicopter; 20 -mm Automatic Gun; XM97E1.
TM 55-1520-236-23P	Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List - Army Model AH-1S Helicopter.
TM 55-1520-239-23P	Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List - Army Model AH-1S (MC) Helicopter.

A-3. General Type Publications.

FM 5-20	Camouflage, Basic Principles, and Field Camouflage.
FM 5-25	Explosives and Demolitions.
FM 21-40	Chemical, Biological and Nuclear Defense.
TM 3-220	Chemical, Biological and Radiological (CBR) Decontamination.
TM 9-1300-206	Care, Handling, Preservation and Destruction of Ammunition.
TM 9-1900	Ammunition, General
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.
TM 743-200-1	Storage and Materiel Handling.
TM 750-244-1-5	Procedures for Destruction of Aircraft and Associated Equipment to Prevent Enemy Use.
TM 750-244-2	Procedures for Destruction of Army Materiel to prevent Enemy Use.
TM 9-207	Operation and Maintenance of Army Materiel in Extreme Cold Weather.
TM 55-1500-204-25/1	General Aircraft Maintenance Manual.

APPENDIX B

COMPONENTS OF END ITEM LIST.

Not Applicable

APPENDIX C

ADDITIONAL AUTHORIZATION LIST.

Not Applicable

APPENDIX D

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

D-1 General

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

D-2. Maintenance Functions

a. ***Inspect.*** To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

b. ***Test.*** To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. ***Service.*** Operations required periodically to keep an item in proper operating condition, ie to clean (decontaminate), to preserve, to paint, or to replenish lubricants.

d. ***Adjust.*** To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. ***Align.*** To adjust specified variable elements of an item to bring about optimum or desired performance.

f. ***Calibrate.*** To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. ***Install.*** The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. ***Replace.*** The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

j. ***Repair.*** The application of maintenance services or other manitenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly) end item, or system.

k. ***Overhaul.*** That maintenance effort (service/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (ie,, DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

l. ***Rebuild.*** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/weeks, etc) considered in classifying Army equipments/components.

D-3. Explanation of Columns in the MAC, Section II

a. ***Column 1, Group Number.*** Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. ***Column 2, Component/Assembly.*** Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. ***Column 3, Maintenance Functions.*** Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see paragraph D-2).

d. ***Column 4, Maintenance Level.*** Column 4 specifies by the listing of a ´work time´ figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate ´work time´ figures will be shown for each level. The number of manhours specified by the ´work time´ figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

O . . . . . Aviation Unit maintenance.
F . . . Aviation intermediate support maintenance.
D . . . . . Depot maintenance.

e. ***Column 5, Tools and Equipment.*** Column 5 specifies, by code,those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. ***Column 6, Remarks.*** This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

D-4. Explanation of Columns in Tool and Test Equipment Requirements, Section III.

a. ***Column 1, Reference Code.*** The tool and TMDE reference code correlates with a code used in the MAC, Section II, Column 5.

b. ***Column 2, Maintenance Level.*** The lowest level of maintenance authorized to use the tool or test equipment.

c. ***Column 3, Nomenclature.*** Name or identification of the tool or test equipment.

d. ***Column 4, National Stock Number.*** The National stock number of the tool or TMDE.

e. Column 5, Tool Part Number. The manufacturer's part number.

D-5. Explanation of Columns in Remarks Section IV.

a. ***Reference Code,*** The code recorded in Column 6, Section II.

b. ***Remarks.*** This column lists information pertinent to the maintence function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) Group Number	(2) Component/ Assembly	(3) Maintenance	(4) Maintenance Level			(5) Tools and Equipment	(6) Remarks
			AVUM	AVIM	DEPOT		
00	ADS	Inspect	0.2				
	(System Level)	Test	5.0			2,6,14	A B F
		Service	—				
		Adjust	—				
		Align	—				C
		Replace	1.2			8,9	D
		Repair	—	—	—		K
01	Electronics	Inspect		0.1			
	Processor	Test		0.6		2,3,5,6,18	G B I L
	Unit					7,11,12,13	
	(LRU Level)	Service		—			
		Adjust		—			
		Replace	0.2	—		8,9	
		Repair		0.3		2,3,5,	
						6,7,12,13	
0101	Pressure	Inspect		—	0.1		
	Transducer	Test		—	2.0	3,5,6,7,	H
	Unit					11,12,13	
	(SRU Level)	Service		—	—		
		Adjust		—	2.0		
		Replace		0.1	—	8,9	
		Repair		—	1.0	4	
0102	Analog	Inspect		—	0.1		
	Interface Unit	Test		—	0.5	3,5,7,10,12	
	(SRU Level)	Service		—	—		
		Replace		0.1	—	8,9	
		Repair		—	2.0	4	
0103	Central	Inspect		—	0.1		
	Processor	Test		—	0.5	3,5,7,10,12	H
	Unit	Service		—	—		
	(SRU Level)	Replace		0.1	—	8,9	
		Repair		—	2.0	4	
0104	Power	Inspect		—	0.1		
	Supply	Test		—	0.5	3,5,7,10,12	H
	Unit	Service		—	—		
	(SRU Level)	Replace		0.1	—	8,9	
		Repair		—	2.0	4	
0105	Front Panel	Inspect		—	0.1		
	Assembly	Test		—	1.0	3,5,7,12	H
	(SRU Level)	Service		—	—		
		Replace		0.1	—	8,9	
		Repair		—	2.0	4	

(1) Group Number	(2) Component/ Assembly	(3) Maintenance	(4) Maintenance Level			(5) Tools and Equipment	(6) Remarks
			AVUM	AVIM	DEPOT		
0107	Rear Cover	Inspect		–	0.1		
		Test		–	–		
		Service		–	–		
		Replace		0.1	–	8,9	
		Repair		–	–		
02	Low Airspeed Indicator (LRU Level)	Inspect		0.1	0.1		
		Test		0.4	0.4	3,5,7,12	G
		Service		–	–		
		Replace	0.3	–	–	8,9	
		Repair		–	2.0	4	
03	Airspeed and Direction Sensor (LRU Level)	Inspect		0.1	0.1	3,5,7,11, 15	G
		Test		0.4	0.4		
		Service		–	–		
		Replace	0.7	–	–	8,9	E
		Repair		–	4.0	4	
04	Sensor Installation	Inspect	0.1	–			
		Service	–	–			
		Align	–	0.1		1,8,9	J
		Replace	0.1	–			
		Repair	–	–		1,8,9	

Section III.TOOL AND TEST EQUIPMENT REQUIREMENTS.

(1) Ref. Code	(2) Maintenance Level	(3) Nomenclature	(4) National Stock Number	(5) Tool Part Number
1	F	BORESIGHT EQUIPMENT	4931-01-084-3750	
2	O,F,D	CAPACITY TANK	FABRICATED	60SK6240
3	F	DIGITAL VOLTMETER	1430-00-366-8753	8125A
4	D	DEPOT TEST EQUIPMENT		99-228-01
5	F	DISTRIBUTION PANEL, 115V POWER SUPPLY 28VDC	4933-00-916-9582 6130-00-542-6385	B5382CREVA PP1104
6	O,F,D	TESTER,PITOT STATIC SYSTEMS	4290-00-580-2303	MB-1A
7	F,D	TEST STATION ADS(LRU)	4931-01-074-3322	95-112-02
8	O,F,D	TOOL SET,AIRCRAFT ARMAMENT REPAIRMAN (BASIC)	4933-00-987-9816	SC4933-95-CL-A13
9	O,F,D	TOOL SET,AIRCRAFT ARMAMENT REPAIRMAN (SUPPLEMENTAL)	4933-00-994-9242	SC4933-95-CL-A14
10	F,D	OSCILLOSCOPE	6625-00-106-9622	AN/USM 281C
11	F,D	STOP WATCH	6645-00-250-4680	GC-S-764-T1-C2
12	F,D	MULIMETER	6625-00-999-7465	AN/USM 223
13	F,D	MANOMETER,INCLINED TUBE	6685-00-983-5326	
14	F,D	PNEUMATIC ASSEMBLY		99-245-01
15	O	KIT,PNUEMATIC		901488
16	D	SUPPORT STAND	6640-00-290-6717	
17	D	CLAMP,HOLDING	6640-00-962-9821	
18	F	SHOP SET,FAILURE ISOLATION, ELECTRONIC CIRCUIT BOARDS: AIR DATA SUBSYSTEM	4933-01-229-0616	11838719

Section IV. REMARKS

Ref. Code	Remarks
A	Test is performed using built-in-test (BIT) to determine system operation by checking each LRU.
B	There are no special service actions, however, a pressure check is required after either the EPU or AADS is replaced.
C	The air data LRUs do not require boresight alignment. The probe mount will be aligned during system boresight
D	The subsystem is repaired by replacement of LRUs found defective during BIT operation.
E	Air data probe does not require intermediate maintenance, however, the probe failure will be verified by AVIM before unserviceable unit is returned to depot.
F	System Level.
G	LRU Level.
H	SRU Level.
I	The chassis assembly is not field separable but will be examined by depot maintenance to determine serviceability.
J	To be agreed with BHT.
K	Repair of LRUs at AVIM level is limited to replacement of SRUs in the EPU only, and the Sensor Installation is also repairable at AVIM. The AADS and LAI LRUs are non-repairable at AVIM. Failure of these units will be verified at AVIM before unserviceable unit is returned to depot.
L	Refer to TM 9-4933-270-30 for description and use of failure isolation shop set (FISS).

APPENDIX E

REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

E-1. Scope. This appendix lists repair parts and special tools required for the operation and performance of aviation unit maintenance, Aviation intermediate maintenance and Depot maintenance. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

E-2. General. This repair parts and special tools list is divided into the following sections:

a. ***Section II. Repair Parts List.*** A list of repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. ***Section III. Special Tools List.*** Not applicable

c. ***Section IV. National Stock Number (NSN) and Part Number Index.*** A list in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence (e.g., MS will precede M1) of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

E-3. Explanation of Columns. The following provides an explanation of columns found in the tabular listings:

a. ***Illustration.*** This column is divided as follows:

(1) ***Figure number.*** Indicates the figure number of the illustration in which the item is shown.

(2) ***Item number.*** The number used to identify each item called out in the illustration.

b. ***Source, Maintenance, and Recoverability Codes (SMR).***

(1) **Source Code.** Source codes are assigned to support items to indicate the manner of acquiring support items for maintenance, repair or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code	Definition
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply systems.
PC	Item procured and stocked which otherwise would be coded PA except that it is deteriorative in nature.
PD	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfitting. Not subject to automatic replenishment.
PE	Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.
PG	Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.
KD	An item of a depot overhaul/repair kit and not purchased separately. Depot kit is defined as a kit that provides items required at the time of overhaul or repair.
KF	An item of a maintenance kit and not purchased separately. Maintenance kit is defined as a kit that provides an item that can be replaced at aviation unit or intermediate levels of maintenance.
KB	Item included in both a depot overhaul/repair kit and a maintenance kit.
MO	Item to be manufactured or fabricated at aviation unit level.
MF	Item to be manufactured or fabricated at aviation intermediate maintenance level.
MD	Item to be manufactured or fabricated at depot maintenance level.
AO	Item to be assembled at aviation unit level.
AF	Item to be assembled at aviation intermediate maintenance level.
AD	Item to be assembled at depot maintenance level.
XA	item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.

XD	A support item that is not stocked. When required, item will be procured through normal supply channels.

NOTE

Cannibalization or salvage may be used as a source of supply for any item source coded above except those coded XA and aircraft support items as restricted by AR 700-42.

(2) ***Maintenance code.*** Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance.

Code	Application/Explanation
O	Support items is removed, replaced, used at aviation unit support level.
F	Support item is removed, replaced, used at the aviation intermediate support level.
D	Support item is removed, replaced, used at depot, mobile depot, specialized repair activity only.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code	Application/Explanation
O	The lowest maintenance level capable of complete repair of the support item is the aviation unit support level.
F	The lowest maintenance level capable of complete repair of the support item is the aviation intermediate support level.
D	The lowest maintenance level capable of complete repair of the support item is the depot level, performed by depot, mobile depot, or specialized repair activity.
z	Nonreparable. No repair is authorized.

(3) ***Recoverability code.*** Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Code	Definition
z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.
O	Reparable item. When uneconomically reparable, condemn and dispose at aviation unit level.
F	Reparable item. When uneconomically reparable, condemn and dispose at aviation intermediate level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical or hazardous material). Refer to appropriate manual/directives for specific instructions.

c. ***National Stock Number.*** Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

d. ***Part Number.*** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements, to identify as an item or range of items.

NOTE

When a stock numbered item is requisitioned, the repair part received may have a different part number than the part being replaced.

e. ***Federal Supply Code for Manufacturer (FSCM).*** The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

f. **Description.** Indicates the Federal item name and, if required, a minumum description to identify the item.

g. ***Unit of Measure (U/M).*** Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. ***Quanity Incorporated in Unit.*** Indicated the quantity of the item used in the breakdown shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly.

E-4. Special Information. Not applicable.

E-5. How to Locate Repair Parts.

a. ***When National Stock Number or Part Number is Unknown.***

(1) ***First.*** Using the table of contents, determine the group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups and listings are divided into the same groups.

(2) ***Second.*** Find the illustration covering the functional group to which the repair part belongs.

(3) ***Third.*** Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) ***Fourth.*** Using the repair parts list, find the assembly or subassembly to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. ***When National Stock Number or Part Number is Known.***

(1) ***First.*** Using the index of National stock numbers and part numbers, find the pertinent National stock number or part number. This index is in ascending NIIN sequence, followed by a list of part numbers in ascending alphanumeric sequence (e.g., MS will preced MI) cross-referenced to the illustration figure number and item number.

(2) ***Second.*** After finding the figure and item number, locate the figure and item number in the repair parts list.

E-6. Abbreviations. Not applicable.

Section II. REPAIR PARTS LIST

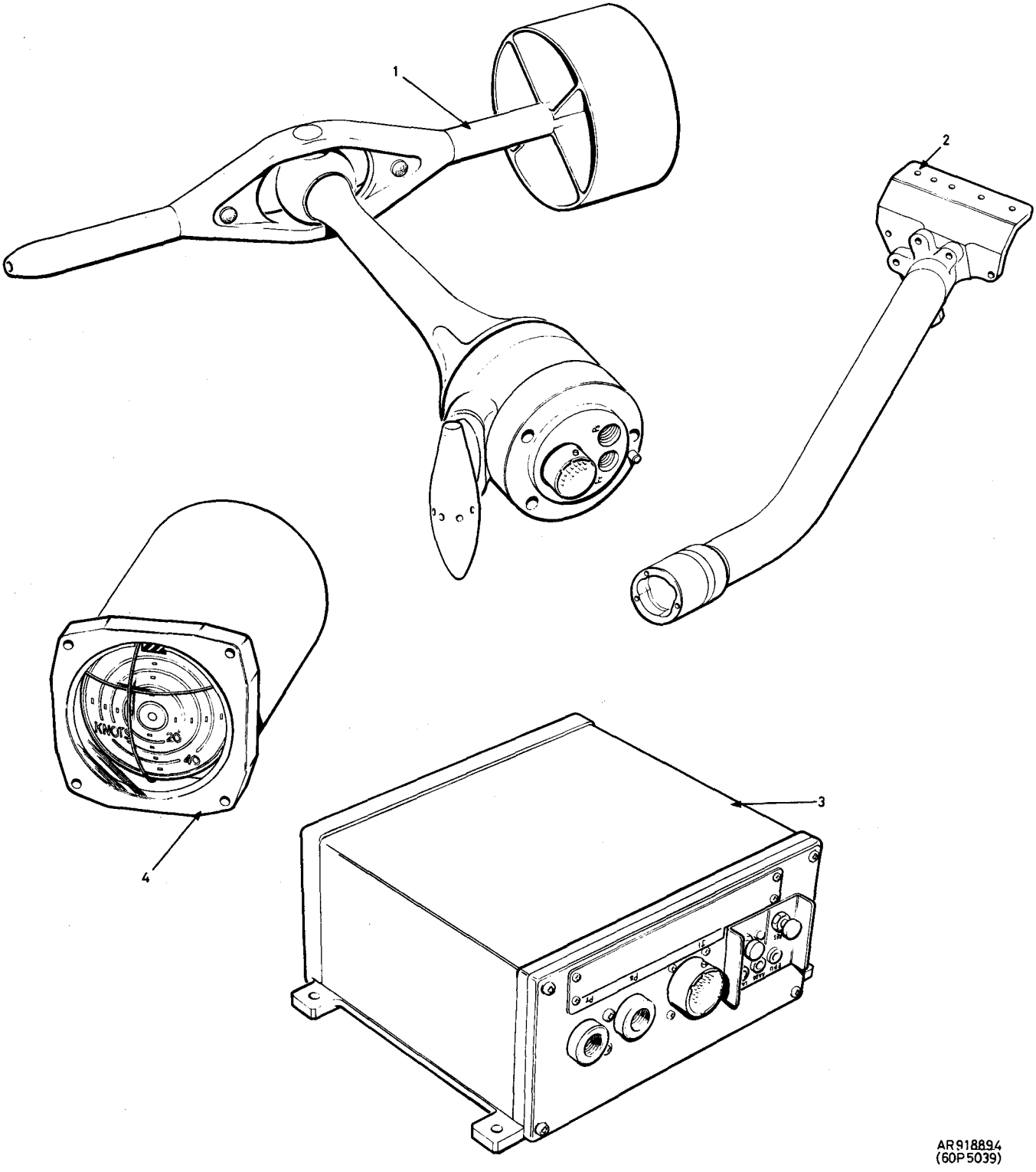


Figure E-1. Air Data Subsystem, 03-004-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 00 AIR DATA SUBSYSTEM			
				03-004-02					
E-1	1	PAODD	1090-01-073-7284	05-010-02	K0656	AIRSPEED AND DIRECTION SENSOR		EA	1
E-1	2	XCFZZ		209-071-363-101	97499	SENSOR INSTALLATION		EA	1
E-1	3	PAOFD	1270-01-071-9277	50-042-02	K0656	PROCESSOR UNIT,ELECTRONICS		EA	1
E-1	4	PAODD	1090-01-074-4313	79-056-02	K0656	INDICATOR,LOW AIRSPEED		EA	1

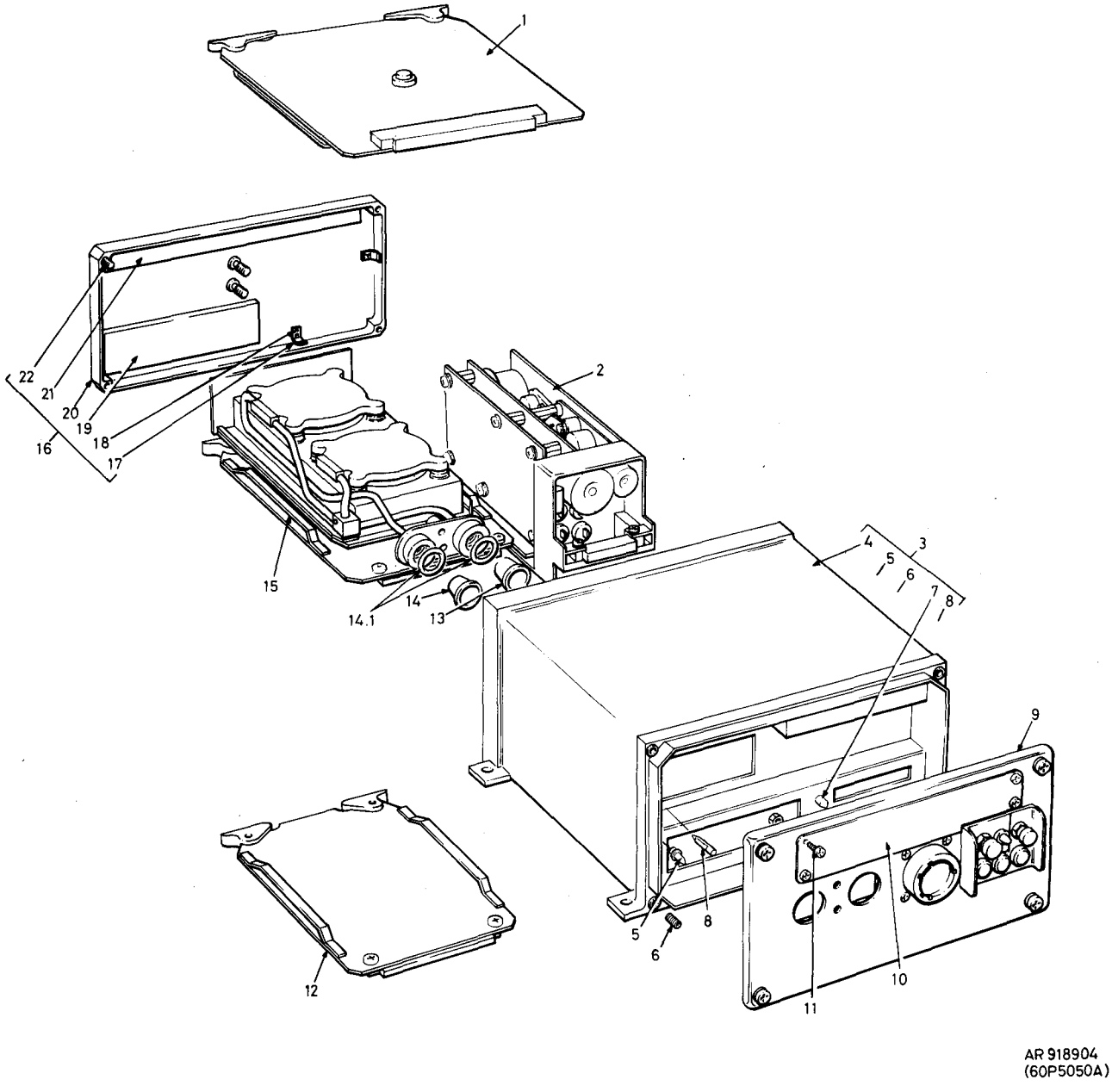


Figure E-2. Electronics Processor Unit, 50-042-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 01 ELECTRONICS PROCESSOR UNIT 50-042-02		
E-2	1	PAFDD	1090-01-077-9064	60082-005-02	K0656	CIRCUIT CARD	EA	1
E-2	2	PAFDD	1090-01-073-7303	60082-111-02	K0656	POWER SUPPLY UNIT	EA	1
E-2	3	XDDDD		60082-238	K0656	CHASSIS EPU MACHINING	EA	1
E-2	4	XADDD		60082-237	K0656	CHASSIS EPU CASTING	EA	1
E-2	5	PADZZ		60082-291	K0656	LOCATION PIN	EA	1
E-2	6	PADZZ	5340-00-825-4826	MS122158	K1012	HELICOIL INSERT	EA	13
E-2	7	PADZZ		60082-282	K0656	LOCATION PIN	EA	1
E-2	8	PADZZ		60082-295	K0656	LOCATION PIN	EA	2
E-2	9	PAFDD	1090-01-073-5574	60082-022-02	K0656	PANEL,FRONT, ASSEMBLY	EA	1
E-2	10	PADZZ	9905-01-075-3001	60082-075	K0656	PLATE,IDENTIFICATION	EA	1
E-2	11	PAFZZ	5305-00-054-5636	MS51957-2	96906	SCREW	EA	4
E-2	12	PAFDD	1090-01-073-7374	60082-011-02	K0656	CIRCUIT CARD	EA	1
E-2	13	PADZZ		5600-1344-002	K0656	CAP,PROTECTIVE	EA	1
E-2	14	PADZZ		5600-1344-001	K0656	CAP,PROTECTIVE	EA	1
E-2	14.1	PAFZZ		60082-311	K0656	RING SEALING,PRESSURE	EA	2
E-2	15	PAFDD	1090-01-073-7283	60082-025-02	K0656	TRANSDUCER UNIT	EA	1
E-2	16	PAFDD	1090-01-075-4979	60082-250	K0656	COVER,ACCESS	EA	1
E-2	17	PADZZ		60082-290	K0656	RETAINING CLIP,PSU	EA	2
E-2	18	PADZZ	5320-00-543-3431	MS2042692-3	96906	RIVET	EA	4
E-2	19	PAFZZ	9320-01-074-0537	60082-061	K0656	RUBBER STRIP	EA	1
E-2	20	XAFZZ		60082-249	K0656	REAR COVER	EA	1
E-2	21	PAFZZ	9320-01-074-0538	60082-062	K0656	RUBBER STRIP	EA	1
E-2	22	PAFZZ		3908-00041	K0656	SCREW,CAPTIVE	EA	6

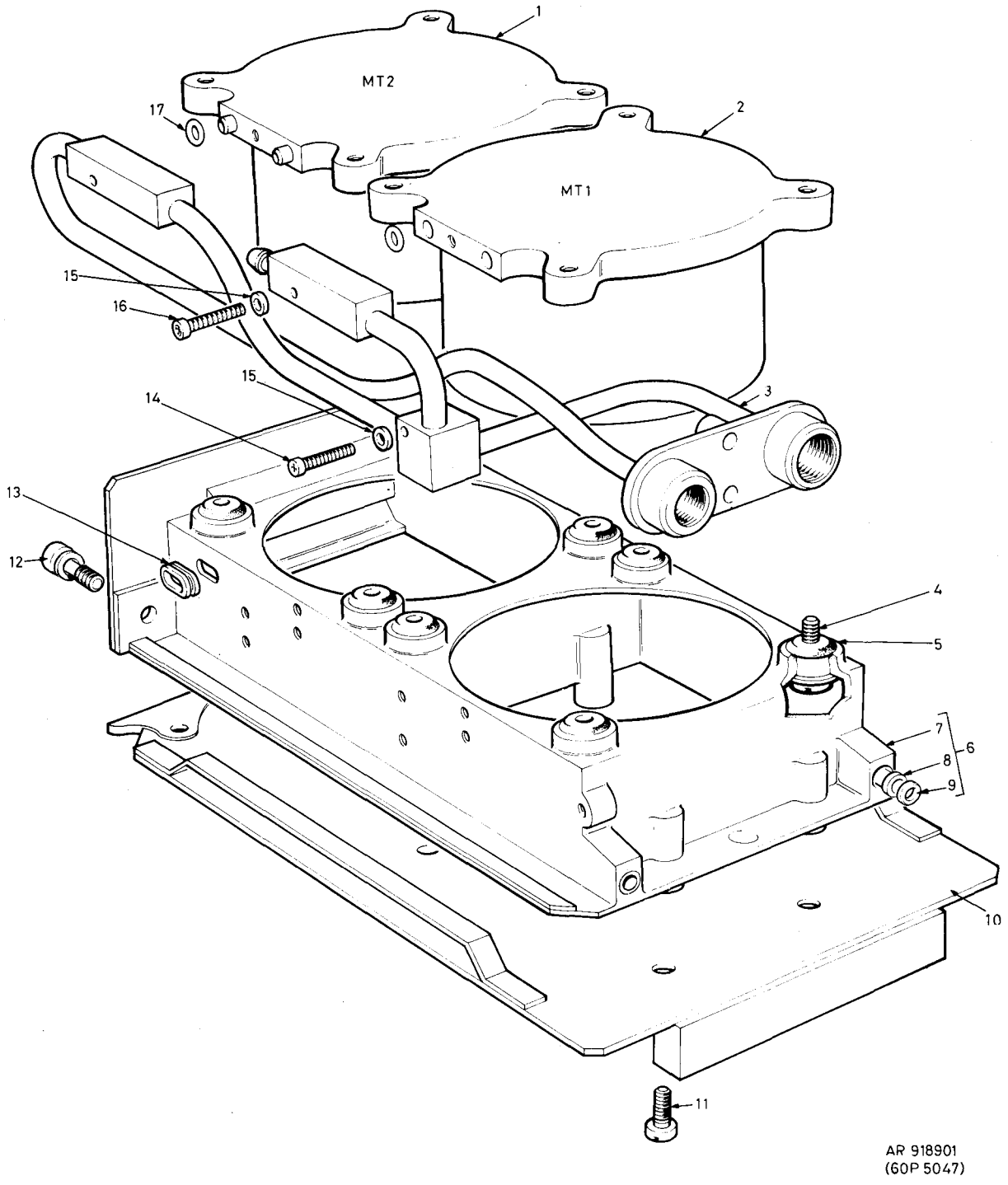


Figure E-3. Pressure Transducer Unit, 60082-025-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0101 PRESSURE TRANSDUCER UNIT 60082-025-02		
E-3	1	PADLL		60082-027-02	K0656	DIFFERENTIAL PRESSURE TRANSDUCER ASSEMBLY	EA	1
E-3	2	PADLL		60082-026-02	K0656	STATIC PRESSURE TRANSDUCER ASSEMBLY	EA	1
E-3	3	PADZZ	1090-01-075-2782	60082-288	K0656	TRANSDUCER,PIPE ASSEMBLY	EA	1
E-3	4	PADZZ	5305-01-074-6018	60082-066	K0656	SCREW,SHOULDER	EA	8
E-3	5	PADZZ		BS-SP-93/F06	K0656	GROMMET	EA	8
E-3	6	PADZZ		60082-244	K0656	CHASSIS,PRESSURE TRANSDUCER UNIT	EA	1
E-3	7	XADZZ		60082-243	K0656	CHASSIS PTU CASTING	EA	1
E-3	8	PADZZ		60082-294	K0656	RETAINING RING	EA	2
E-3	9	PADZZ		B-1447	K0656	PTFE BUSH	EA	2
E-3	10	PADDD	1090-01-075-4986	60082-225	K0656	CIRCUIT CARD PTU	EA	1
E-3	11	PADZZ		60082-031	K0656	SCREW,SHOULDER	EA	4
E-3	12	PADZZ		3908-00041	K0656	SCREW,CAPTIVE	EA	2
E-3	13	PADZZ		BP-SP-93/A10	K0656	GROMMET	EA	1
E-3	14	PADZZ	5305-00-054-5642	MS51957-8	96906	SCREW,MACHINE	EA	1
E-3	15	PADZZ	5310-00-183-4354	AN960-C3L	88044	WASHER,FLAT	EA	3
E-3	16	PADZZ	5305-00-054-5640	MS51957-6	96906	SCREW	EA	2
E-3	17	PADZZ	5330-01-085-5768	5605-0817-001	K0656	SEAL,PLAIN	EA	4

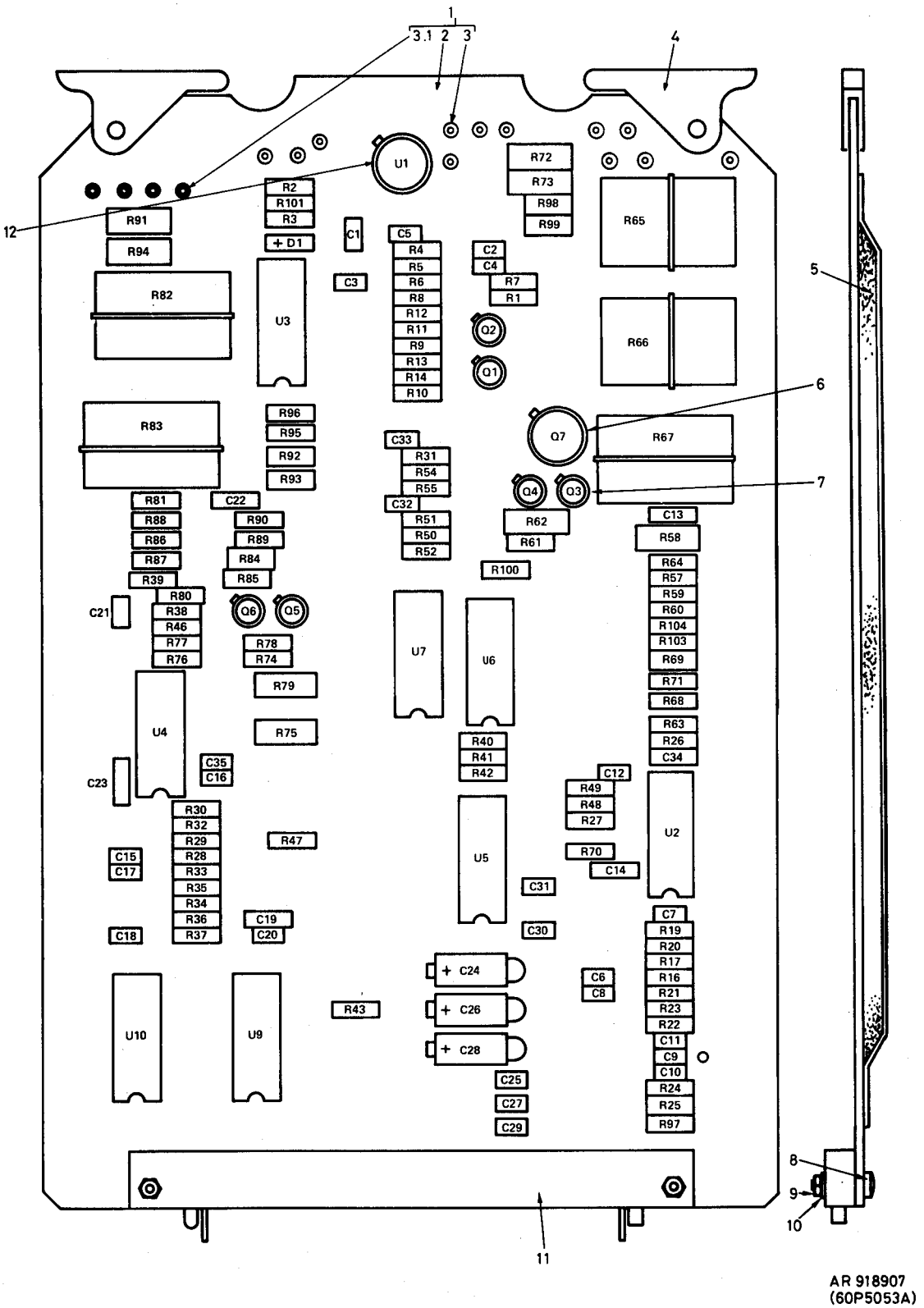


Figure E-4. Pressure Tranducer Unit, Printed Wiring Board Assembly, 60082-225.

Legend For Figure E-4

REF DES	ITEM NO
C1	13
C2	14
C3	14
C4	15
C5	15
C6	16
C7	14
C8	13
C9	17
C10	18
C11	19
C12	15
C13	20
C14	18
C15	16
C16	14
C17	13
C18	17
C19	18
C20	19
C21	15
C22	20
C23	18
C24	21
C25	13
C26	21
C27	13
C28	21
C29	13
C30	13
C31	13
C32	13

REF DES	ITEM NO
C33	13
C34	22
C35	15
D1	24
Q1	24
Q2	25
Q3	24
Q4	25
Q5	24
Q6	25
Q7	26
R1	27
R2	27
R3	28
R4	29
R5	29
R6	30
R7	27
R8	30
R9	31
R10	32
R11	32
R12	32
R13	31
R14	32
R16	33
R17	34
R19	28
R20	27

REF DES	ITEM NO
R21	35
R22	36
R23	37
R24	37
R25	38
R26	27
R27	35
R28	33
R29	34
R30	28
R31	39
R32	27
R33	35
R34	36
R35	37
R36	37
R37	54
R38	27
R39	35
R40	28
R41	27
R42	34
R43	27
R46	40
R47	27
R48	27
R49	40
R50	27
R51	41
R52	28
R54	42
R55	34

REF DES	ITEM NO
R57	27
R58	43
R59	32
R60	32
R61	27
R62	43
R63	38
R64	44
R65	45
R66	45
R67	45
R68	46
R69	47
R69	48
R69	49
R69	50
R69	51
R69	52
R69	53
R69	54
R69	55
R69	56
R69	57
R69	58
R69	59
R69	60
R69	61
R69	62
R69	63
R70	64
R71	65
R74	27

LEGEND FOR FIGURE E-4 (CONTINUED)

REF DES	ITEM NO
R75	43
R76	32
R77	32
R78	27
R79	43
R80	38
R81	44
R82	45
R83	45
R84	66
R84	67
R84	68
R84	69
R84	70
R84	71
R84	72
R84	73
R84	74
R84	75
R84	76
R84	77
R84	78
R84	79
R84	80
R84	81
R84	82
R84	83
R84	84
R84	85
R84	86
R84	87
R84	88

REF DES	ITEM NO
R84	89
R84	90
R84	91
R84	92
R84	93
R85	94
R85	95
R85	96
R85	97
R85	98
R85	99
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R85	107
R86	108
R87	109
R88	110
R89	111
R90	112
R92	113
R92	114
R92	115
R92	116
R92	117
R92	118
R92	119
R92	120

REF DES	ITEM NO
R92	121
R92	122
R92	123
R93	124
R93	125
R93	126
R93	127
R93	128
R93	129
R93	130
R93	131
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R98	143
R98	144
R98	145
R98	146
R98	147
R98	148
R98	149
R98	150
R98	151

REF DES	ITEM NO
R98	152
R98	153
R98	154
R98	155
R98	156
R98	157
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R98	159
R98	160
R98	161
R99	162
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R99	174
R99	175
R99	176
R99	177
R99	178
R99	179
R99	180
R99	181
R99	182
R99	183

LEGEND FOR FIGURE E-4 (CONTINUED)

REF DES	ITEM NO
R99	184
R99	185
R99	186
R99	187
R99	188
R99	189
R99	190
R99	191
R99	192
R99	193
R99	194
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R100	206
R100	207
R100	208
R100	209
R100	210
R100	211
R100	212
R100	213
R100	214
R101	35

REF DES	ITEM NO
R102	215
R102	216
R102	217
R102	218
R102	219
R102	220
R102	221
R102	222
R102	223
R102	224
R102	225
R102	226
R102	227
R102	228
R102	229
R103	230
R104	230
U1	231
U2	232
U3	233
U4	232
U5	234
U6	235
U7	234
U9	236
U10	237

REF DES	ITEM NO

REF DES	ITEM NO

ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD A SSY 60082-225		
E-4	1	XADDZZ	5940-01-082-3169	60082-226	K0656	TERMINAL ASSEMBLY,PRESSURE TRANSDUCER UNIT	EA	1
E-4	2	XADDZZ	1090-01-075-4986	60082-227	K0656	PRINTED WIRING BOARD,PRESSURE TRANSDUCER UNIT	EA	1
E-4	3	PADZZ	5940-01-074-4478	3801-3129-001	K0656	TERMINAL STUD	EA	47
E-4	3.1	PADZZ		50082-310	K0656	TERMINAL POST (STAND OFF)	EA	4
E-4	4	PADZZ	1090-01-077-0860	4305-4352-002	K0656	CARD EJECTOR	EA	2
E-4	5	PADZZ	1090-01-075-8756	60001-210	K0656	BUMPER ASSEMBLY	EA	2
E-4	6	PADZZ		3831-4435-001	K0656	INSULATOR DISC	EA	1
E-4	7	PADZZ		3831-2445-001	K0656	INSULATOR DISC	EA	6
E-4	8	PADZZ	5305-00-054-5649	MS51957-15	96906	SCREW,MACHINE	EA	2
E-4	9	PADZZ		3326-5001-010	K0656	WASHER,SPRING	EA	2
E-4	10	PADZZ		BSA 105AP	K0656	NUT	EA	2
E-4	11	PADZZ		M55302/57-B54Y	81349	CONNECTOR (A3P1)	EA	1
E-4	12	PADZZ	5970-01-082-3325	3831-4495-001	K0656	INSULATOR DISC	EA	1
E-4	13	PADZZ	5910-00-010-8717	M39014-01-1593	81349	CAPACITOR, FIXED (C1,C8,C17,C25,C27,C29-C33)	EA	10
E-4	14	PADZZ	5910-00-012-0659	M39014-01-1575	81349	CAPACITOR,FIXED (C2,C3,C7,C16)	EA	4
E-4	15	PADZZ	5910-00-010-8666	M39014-01-1237	81349	CAPACITOR, FIXED (C4,C5,C12,C21,C35)	EA	5
E-4	16	PADZZ		M39014-01-1360	81349	CAPACITOR, FIXED (C6,C15)	EA	2
E-4	17	PADZZ		M39014-01-1566	81349	CAPACITOR, FIXED (C9,C18)	EA	2
E-4	18	PADZZ		M39014-02-1419	81349	CAPACITOR, FIXED (C10,C14,C19,C23)	EA	4
E-4	19	PADZZ		M39014-01-1586	81349	CAPACITOR, FIXED (C11,C20)	EA	2
E-4	20	PADZZ	5910-00-113-5465	CK06BX474K	81349	CAPACITOR, FIXED (C13,C22)	EA	2
E-4	21	PADZZ		M39003/01-2368	81349	CAPACITOR, FIXED (C24,C26,C28)	EA	3
E-4	22	PADZZ		M39014-02-1321	81349	CAPACITOR, FIXED (C34)	EA	1
E-4	23	PADZZ		JANTX1N914	81349	DIODE (D1)	EA	1
E-4	24	PADZZ	5961-00-858-3826	JANTX2N2222A	81349	TRANSISTOR (Q1,Q3,Q5)	EA	3
E-4	25	PADZZ	5961-00-925-3777	JANTX2N2907A	81249	TRANSISTOR (Q2,Q4,Q6)	EA	3
E-4	26	PADZZ	5961-00-005-2929	JANTX2N3420	81349	TRANSISTOR (Q7)	EA	1
E-4	27	PADZZ	5905-00-240-2728	RLR07C103GR	81349	RESISTOR, FIXED (R1,R2,R7,R20,R26,R32,R38,R41,R43,R47,R48, R50,R57,R61,R74,R78)	EA	16
E-4	28	PADZZ	5905-00-116-8554	RCR07G105JS	81349	RESISTOR, FIXED (R3,R19,R30,R40,R52)	EA	5
E-4	29	PADZZ	5905-00-240-2746	RLR07C332GR	81349	RESISTOR, FIXED (R4,R5)	EA	2
E-4	30	PADZZ	5905-00-240-7958	RLR07C223GR	81349	RESISTOR,FIXED (R6,R8)	EA	2
E-4	31	PADZZ		RLR07C6801GR	81349	RESISTOR, FIXED (R9,R13)	EA	2
E-4	32	PADZZ		RLR07C2200GS	81349	RESISTOR, FIXED (R10-12,R14,R59,R60,R76,R77)	EA	8
E-4	33	PADZZ	5905-00-240-2748	RLR07C562GR	81349	RESISTOR,FIXED (R16,R28)	EA	2
E-4	34	PADZZ	5905-00-563-1595	RLR07C4701GR	81349	RESISTOR,FIXED (R17,R29,R42,R55)	EA	4
E-4	35	PADZZ		RLR07C5602GR	81349	RESISTOR, FIXED (R21,E27,R33,R39,R101)	EA	5
E-4	36	PADZZ	5905-00-240-7954	RLR07C152GR	81349	RESISTOR, FIXED (R22,R34)	EA	2
E-4	37	PADZZ		RLR07C4702GR	81349	RESISTOR, FIXED (R23,R24,R35,R36)	EA	4
E-4	38	PADZZ		RLR07C1003GR	81349	RESISTOR, FIXED (R25,R37,R63,R80)	EA	4
E-4	39	PADZZ		RWR815180FM	81349	RESISTOR, FIXED (R31)	EA	1

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD ASSY 60082-225 (CONTINUED)		
E-4	40	PADZZ		RLR07C7502GR	81349	RESISTOR, FIXED (R46,R49)	EA	2
E-4	41	PADZZ	5905-00-490-0246	RLR07C123GR	81349	RESISTOR, FIXED (R51)	EA	1
E-4	42	PADZZ	5905-00-240-2740	RLR07C203GR	81349	RESISTOR, FIXED (R54)	EA	1
E-4	43	PADZZ		RLR20C270GR	81349	RESISTOR, FIXED (R58,R62,R75,R79)	EA	4
E-4	44	PADZZ	5905-00-240-7979	RLR07C4700GR	81349	RESISTOR, FIXED (R64,R81)	EA	2
E-4	45	PADZZ		6138-0000-005	K0656	RESISTOR, FIXED (R65-R67,R82,R83)	EA	5
E-4	46	PADZZ		EE2K32B	K0656	RESISTOR, FIXED (R68)	EA	1
E-4	47	PADZZ		6149-0001-032	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	48	PADZZ		6149-0001-033	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	49	PADZZ		6149-0001-034	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	50	PADZZ		6149-0001-035	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	51	PADZZ		6149-0001-036	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	52	PADZZ		6149-0001-037	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	53	PADZZ		6149-0001-038	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	54	PADZZ		6149-0001-039	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	55	PADZZ		6149-0001-040	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	56	PADZZ		6149-0001-041	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	57	PADZZ		6149-0001-042	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	58	PADZZ		6149-0001-043	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	59	PADZZ		6149-0001-044	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	60	PADZZ		6149-0001-045	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	61	PADZZ		6149-0001-046	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	62	PADZZ		6149-0001-047	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	63	PADZZ		6149-0001-048	K0656	RESISTOR, FIXED (R69) SELECT ON TEST	EA	V
E-4	64	PADZZ	5905-00-548-1297	RNR55C2002BS	81349	RESISTOR, FIXED (R70)	EA	1
E-4	65	PADZZ		EE20K00B	K0656	RESISTOR, FIXED (R71)	EA	1
E-4	66	PADZZ	5905-00-419-5253	RNR55E1740FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	67	PADZZ	5905-00-430-8626	RNR55E1780FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	68	PADZZ	5905-00-457-8084	RNR55E1820FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	69	PADZZ	5905-00-419-5254	RNR55E1870FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	70	PADZZ	5905-00-419-5255	RNR55E1910FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	71	PADZZ	5905-00-419-7408	RNR55E1960FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	72	PADZZ	5905-00-445-1563	RNR55E2000FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	73	PADZZ	5905-00-419-7410	RNR55E2050FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	74	PADZZ	5905-00-419-5256	RNR55E2100FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	75	PADZZ	5905-00-270-1353	RNR55E2150FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	76	PADZZ	5905-00-419-5257	RNR55E2210FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	77	PADZZ	5905-00-419-3892	RNR55E2260FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	78	PADZZ	5905-00-457-8142	RNR55E2320FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	79	PADZZ	5905-00-445-1565	RNR55E2370FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD ASSY 60082-225 (CONTINUED)		
E-4	80	PADZZ	5905-00-419-7412	RNR55E2430FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	81	PADZZ	5905-00-419-7413	RNR55E2490FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	82	PADZZ	5905-00-262-0791	RNR55E2610FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	83	PADZZ	5905-00-432-9307	RNR55E2740FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	84	PADZZ	5905-00-481-1386	RNR55E2870FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	85	PADZZ	5905-00-432-9308	RNR55E3010FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	86	PADZZ	5905-01-026-0716	RNR55E3240FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	87	PADZZ	5905-00-432-9313	RNR55E3570FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	88	PADZZ	5905-00-784-3392	RNR55E3740FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	89	PADZZ	5905-00-784-3209	RNR55E4020FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	90	PADZZ	5905-00-419-7417	RNR55E4320FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	91	PADZZ	5905-00-419-3893	RNR55E4640FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	92	PADZZ	5905-00-419-3895	RNR55E4990FS	81349	RESISTOR,FIXED (R84) SELECT ON TEST	EA	V
E-4	93	PADZZ	5905-00-421-6054	RNR55E5490FS	81349	RESISTOR, FIXED (R84) SELECT ON TEST	EA	V
E-4	94	PADZZ	5905-00-180-2948	RNR55E8061FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	95	PADZZ	5905-00-457-3990	RNR55E8661FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	96	PADZZ	5905-00-405-7861	RNR55E9091FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	97	PADZZ	5905-00-463-8155	RNR55E1002FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	98	PADZZ	5905-00-482-0603	RNR55E1102FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	99	PADZZ		RNR55E1212FS	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	100	PADZZ	5905-00-496-5786	RLR07C133GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	101	PADZZ	5905-01-064-8329	RLR07C153GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	102	PADZZ	5905-00-240-2736	RLR07C183GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	103	PADZZ	5905-00-240-7958	RLR07C223GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	104	PADZZ		RLR07C273GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	105	PADZZ		RLR07C303GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	106	PADZZ		RLR07C473GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	107	PADZZ		RLR07C823GR	81349	RESISTOR, FIXED (R85) SELECT ON TEST	EA	V
E-4	108	PADZZ		EE10K00B	K0656	RESISTOR, FIXED (R86)	EA	1
E-4	109	PADZZ	5905-00-461-8994	RNR55E7501FS	81349	RESISTOR, FIXED (R87)	EA	1
E-4	110	PADZZ		EE30K00B	K0656	RESISTOR, FIXED (R88)	EA	1
E-4	111	PADZZ	5905-00-463-8149	RNR55E1000FS	81349	RESISTOR, FIXED (R89)	EA	1
E-4	112	PADZZ	5905-00-463-8155	RNR55E1002FS	81349	RESISTOR, FIXED (R86,R90)	EA	2
E-4	113	PADZZ		RLR07C303GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	114	PADZZ		RLR07C333GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	115	PADZZ		RLR07C363GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	116	PADZZ		RLR07C433GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	117	PADZZ		RLR07C473GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	118	PADZZ		RLR07C563GR	81349	RESISTOR,FIXED (R92) SELECT ON TEST	EA	V
E-4	119	PADZZ		RLR07C753GR	81349	RESISTOR, FIXED (R92 SELECT ON TEST	EA	V

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD ASSY 60082-225 (CONTINUED)		
E-4	120	PADZZ		RLR07C913GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	121	PADZZ		RCR07G154GR	81349	RESITOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	122	PADZZ		RCR07G224GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	123	PADZZ		RCR07G394GR	81349	RESISTOR, FIXED (R92) SELECT ON TEST	EA	V
E-4	124	PADZZ	5905-00-015-7765	RCR07G224JS	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	125	PADZZ	5905-00-115-3562	RCR07G394JS	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	126	PADZZ	5905-01-064-8329	RLR07C153GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	127	PADZZ	5905-00-240-2736	RLR07C183GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	128	PADZZ	5905-00-240-2740	RLR07C203GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	129	PADZZ	5905-00-240-7958	RLR07C223GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	130	PADZZ		RLR07G243GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	131	PADZZ		RCR07G2702GR	81349	REISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	132	PADZZ		RCR07G3002GR	81349	RESISTOR,FIXED (R93) SELECT ON TEST	EA	V
E-4	133	PADZZ		RCR07G3302GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	134	PADZZ	5905-00-240-7978	RLR07C3602GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	135	PADZZ	5905-00-415-0992	RLR07C4302GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	136	PADZZ		RLR07C4702GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	137	PADZZ		RLR07C5602GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	138	PADZZ		RLR07C7502GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	139	PADZZ		RLR07C9102GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	140	PADZZ		RLR07C154GR	81349	RESISTOR, FIXED (R93) SELECT ON TEST	EA	V
E-4	141	PADZZ	5905-00-419-2865	RNR55C2001FS	81349	RESISTOR, FIXED (R95,R97)	EA	2
E-4	142	PADZZ	5905-00-240-2749	RLR07C681GR	81349	RESISTOR, FIXED (R96)	EA	1
E-4	143	PADZZ	5905-00-150-0993	RNR55C5761FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	144	PADZZ	5905-00-112-1259	RNR55C6191FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	145	PADZZ	5905-00-008-6822	RNR55C6651FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	146	PADZZ	5905-00-431-4864	RNR55C7151FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	147	PADZZ	5905-00-180-2948	RNR55C8061FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	148	PADZZ	5905-00-447-3990	RNR55C8661FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	149	PADZZ	5905-00-405-7861	RNR55C9091FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	150	PADZZ	5905-00-463-8155	RNR55C1002FS	81349	RESISTOR,FIXED (R98) SELECT ON TEST	EA	V
E-4	151	PADZZ	5905-00-482-0603	RNR55C1102FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	152	PADZZ		RNR55C1212FS	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	153	PADZZ		RLR07C133GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	154	PADZZ	5905-01-064-8329	RLR07C153GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	155	PADZZ	5905-00-240-2736	RLR07C183GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	156	PADZZ	5905-00-240-7598	RLR07C233GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	157	PADZZ		RLR07C263GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	158	PADZZ		RLR07C333GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	159	PADZZ		RLR07C473GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD ASSY 60082-225 (CONTINUED)		
E-4	160	PADZZ		RLR07C623GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	161	PADZZ		RLR07C823GR	81349	RESISTOR, FIXED (R98) SELECT ON TEST	EA	V
E-4	162	PADZZ	5905-00-419-5253	RNR55C1740FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	163	PADZZ	5905-00-430-8626	RNR55C1780FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	164	PADZZ	5905-00-457-8084	RNR55C1820FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	165	PADZZ	5905-00-419-5254	RNR55C1870FS	81349	RESISTOR,FIXED (R99) SELECT ON TEST	EA	V
E-4	166	PADZZ	5905-00-419-5255	RNR55C1910FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	167	PADZZ	5905-00-419-7408	RNR55C1960FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	168	PADZZ	5905-00-445-1563	RNR55C2000FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	169	PADZZ	5905-00-419-7410	RNR55C2050FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	170	PADZZ	5905-00-419-5256	RNR55C2100FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	171	PADZZ	5905-00-270-1353	RNR55C2150FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	172	PADZZ	5905-00-419-5257	RNR55C2210FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	173	PADZZ	5905-00-419-3892	RNR55C2260FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	174	PADZZ	5905-00-457-8142	RNR55C2320FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	175	PADZZ	5905-00-445-1565	RNR55C2370FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	176	PADZZ	5905-00-419-7412	RNR55C2430FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	177	PADZZ	5905-00-419-7413	RNR55C2490FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	178	PADZZ	5905-00-262-0791	RNR55C2610FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	179	PADZZ	5905-00-432-9307	RNR55C2740FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	180	PADZZ	5905-00-481-1386	RNR55C2870FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	181	PADZZ	5905-00-432-9308	RNR55C3010FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	182	PADZZ	5905-01-026-0716	RNR55C3240FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	183	PADZZ	5905-00-432-9313	RNR55C3570FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	184	PADZZ	5905-00-784-3392	RNR55C3740FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	185	PADZZ	5905-00-784-3209	RNR55C4020FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	186	PADZZ	5905-00-419-7417	RNR55C4320FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	187	PADZZ	5905-00-419-3893	RNR55C4640FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	188	PADZZ	5905-00-419-3895	RNR55C4990FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	189	PADZZ	5905-00-421-6054	RNR55C5490FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	190	PADZZ	5905-00-137-4825	RNR55C5900FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	191	PADZZ	5905-00-489-0685	RNR55C6340FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	192	PADZZ	5905-00-468-2842	RNR55C6810FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	193	PADZZ	5905-01-038-0632	RNR55C7320FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	194	PADZZ	5905-00-759-8373	RNR55C8450FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	195	PADZZ	5905-00-444-0295	RNR55C9090FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	196	PADZZ	5905-00-509-3784	RNR55C1001BS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	197	PADZZ		RNR55C1131FS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	198	PADZZ	5905-01-037-8107	RNR55C1301BS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V
E-4	199	PADZZ	5905-01-014-9794	RNR55C1501BS	81349	RESISTOR, FIXED (R99) SELECT ON TEST	EA	V

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010101 PRESSURE TRANSDUCER UNIT PRINTED WIRING BOARD ASSY 60082-225 (CONTINUED)		
E-4	200	PADZZ	5905-01-013-8234	RNR55C1621BS	81349	"RESISTOR, FIXED (R99) SELECT ON TEST"	EA	V
E-4	201	PADZZ	5905-00-419-2864	RNR55C1871FS	81349	"RESISTOR, FIXED (R99) SELECT ON TEST"	EA	V
E-4	202	PADZZ	5905-00-240-2728	RLR07C103GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	203	PADZZ	5905-00-240-2740	RLR07C203GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	204	PADZZ		RLR07C363GR	81349	"RESISTOR,FIXED (R100) SELECT ON TEST"	EA	V
E-4	205	PADZZ		RLR07C513GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	206	PADZZ		RLR07C683GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	207	PADZZ		RLR07C913GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	208	PADZZ		RLR07C124GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	209	PADZZ		RLR07C154GR	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	210	PADZZ	5905-00-136-7103	RCR07G204JS	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	211	PADZZ	5905-00-485-4648	RCR07G244JS	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	212	PADZZ	5905-00-120-9152	RCR07G274JS	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	213	PADZZ	5905-00-115-3562	RCR07G394JS	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	214	PADZZ	5905-00-246-8690	RCR07G514JS	81349	"RESISTOR, FIXED (R100) SELECT ON TEST"	EA	V
E-4	215	PADZZ		EE11K00B	K0656	"RESISTOR, FIXED (R102)"	EA	V
E-4	216	PADZZ		EE12K10B	K0656	"RESISTOR, FIXED (R102)"	EA	V
E-4	217	PADZZ		RNR55C1302BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	218	PADZZ		RNR55C1502BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	219	PADZZ		RNR55C1822BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	220	PADZZ		RNR55C2212BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	221	PADZZ		RNR55C2742BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	222	PADZZ		RNR55C3322BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	223	PADZZ		RNR55C4752BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	224	PADZZ		RNR55C6192BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	225	PADZZ		RNR55C8062BS	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	226	PADZZ		RLR07C104GR	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	227	PADZZ		RLR07C134GR	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	228	PADZZ		RLR07C154GR	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	229	PADZZ		RLR07C184GR	81349	"RESISTOR, FIXED (R102)"	EA	V
E-4	230	PADZZ		RCR07G474JS	81349	"RESISTOR, FIXED (R103,R104)"	EA	2
E-4	231	PADZZ		M38510/10102BHX	81349	INTEGRATED CIRCUIT (U1)	EA	1
E-4	232	PADZZ		9400-00168	K0656	"INTEGRATED CIRCUIT (U2,U4)"	EA	2
E-4	233	PADZZ		9490-00041	K0656	INTEGRATED CIRCUIT (U3)	EA	1
E-4	234	PADZZ		M38510/10305BEX	81349	"INTEGRATED CIRCUIT (U5,U7)"	EA	2
E-4	235	PADZZ		9490-00038	K0656	INTEGRATED CIRCUIT (U6)	EA	1
E-4	236	XDDZZ		9936-F***	K0656	INTEGRATED CIRCUIT (U9)	EA	1
E-4	237	XDDZZ		9936-F***	K0656	INTEGRATED CIRCUIT (U10) NOTE: *ASTERISK DENOTES ALPHA SERIAL NO. TO BE FOUND ON THE ASSOCIATED TRANSDUCER AS PART OF THE IDENTIFICATION LABEL. COMPLETE PART NUMBER (BY ADDING SERIAL NUMBER) WHEN REQUISITIONING THESE ITEMS.	EA	1

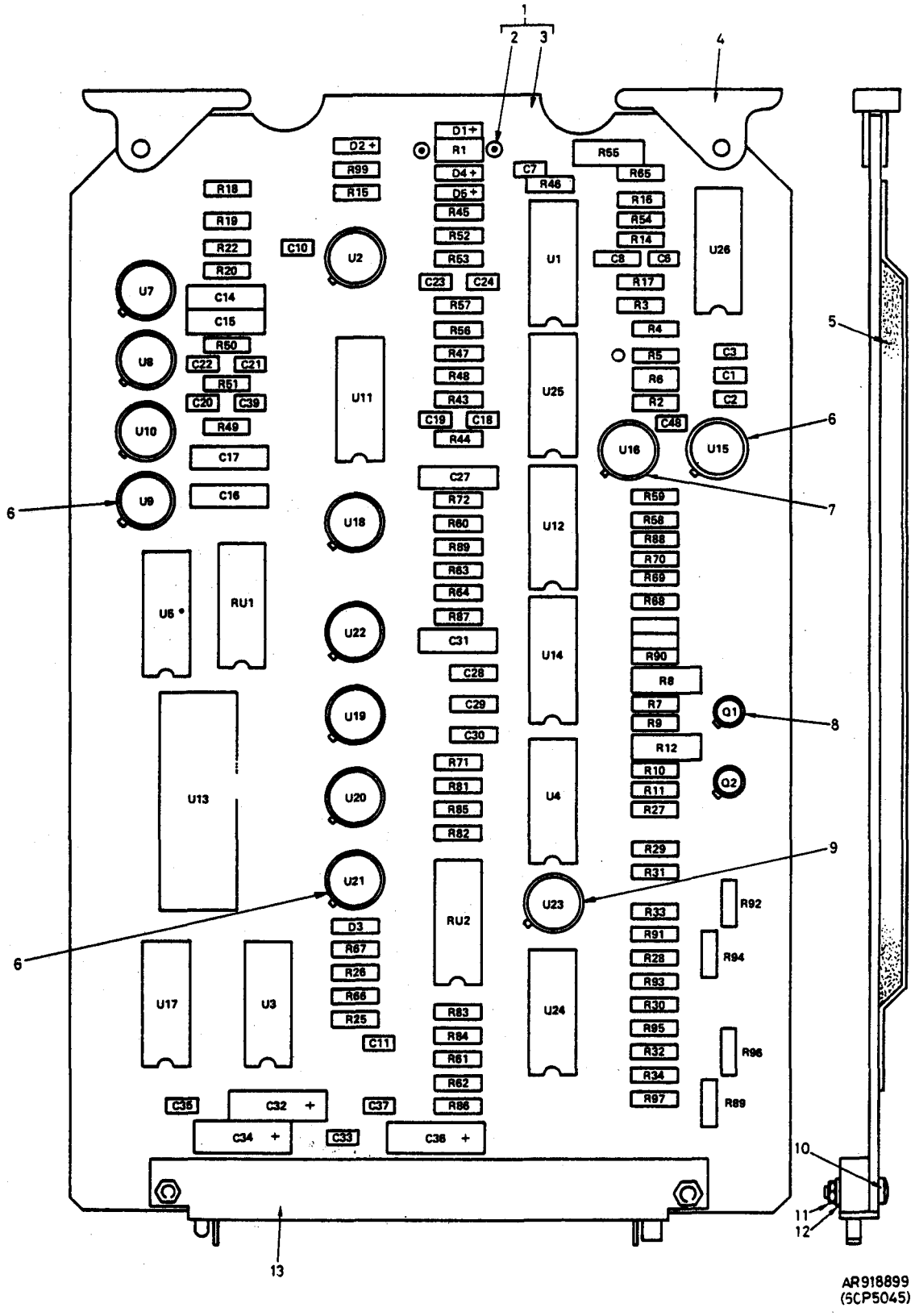


Figure E-5. Analog Interface Unit, Printed Wiring Board Assembly, 60082-011-02.

LEGEND FOR FIGURE E-5

REF DES	ITEM NO
C1	14
C2	14
C3	14
C6	15
C7	15
C8	16
C10	17
C11	18
C14	19
C15	19
C16	19
C17	19
C18	20
C19	21
C20	20
C21	21
C22	20
C23	20
C24	20
C27	19
C28	22
C29	22
C30	22
C31	19
C32	23
C33	20
C34	23
C35	20
C36	23
C37	20
C39	20
C48	21

REF DES	ITEM NO
D1	24
D2	24
D3	25
D4	26
D5	26
Q1	27
Q2	28
R1	29
R1	30
R1	31
R1	32
R1	33
R1	34
R1	35
R1	36
R1	37
R2	38
R3	39
R4	39
R5	40
R5	41
R5	42
R5	43
R5	44
R5	45
R5	46
R5	47
R5	48
R5	49
R5	50

REF DES	ITEM NO
R5	51
R5	52
R6	53
R6	54
R6	55
R6	56
R6	57
R6	58
R6	59
R6	60
R6	61
R6	62
R6	63
R7	64
R8	65
R9	66
R10	66
R11	64
R12	65
R14	67
R15	68
R16	67
R17	69
R18	70
R19	70
R20	71
R22	72
R25	73
R26	74
R27	75
R28	76
R29	75

REF DES	ITEM NO
R30	76
R31	75
R32	76
R33	75
R34	76
R43	77
R44	77
R45	80
R46	64
R47	76
R48	76
R49	81
R50	81
R51	82
R52	83
R53	84
R54	64
R55	85
R56	84
R57	83
R58	80
R59	85
R60	83
R61	87
R62	87
R63	80
R64	84
R65	64
R66	88
R67	88
R68	76
R69	76

LEGEND FOR FIGURE E-5 (CONTINUED)

REF DES	ITEM NO
R70	89
R71	64
R72	64
R81	66
R82	66
R83	66
R84	66
R85	66
R86	87
R87	80
R88	80
R89	83
R90	90
R91	76
R92	75
R93	76
R94	75
R95	76
R96	75
R97	76
R98	75
R99	89
RU1	91
RU2	91
U1	92
U2	93
U3	94
U4	92
U5	92

REF DES	ITEM NO
U7	95
U9	95
U10	95
U11	96
U12	92
U13	97
U14	98
U15	99
U16	100
U17	101
U18	95
U19	95
U20	95
U21	95
U22	95
U23	102
U24	92
U25	98
U26	103

REF DES	ITEM NO

REF DES	ITEM NO

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0102 ANALOG INTERFACE UNIT PRINTED WIRING BOARD		
						60082-011-02		
E-5	1	XADZZ		60082-215	K0656	TERMINAL ASSEMBLY	EA	1
E-5	2	PADZZ	5490-01-074-4478	3801-3129-001	K0656	TERMINAL STUD	EA	32
E-5	3	XADZZ		60082-216	K0656	PRINTED CIRCUIT BOARD,DRILLING	EA	1
E-5	4	PADZZ	1090-01-077-0860	4305-4352-002	K0656	CARD EJECTOR	EA	2
E-5	5	PADZZ	1090-01-075-8756	60001-210	K0656	BUMPER ASSY	EA	2
E-5	6	PADZZ		3831-4495-001	K0656	INSULATOR DISC	EA	1
E-5	7	PADZZ	5970-01-079-1649	3831-2445-001	K0656	INSULATOR DISC	EA	2
E-5	8	PADZZ		3831-4435-001	K0656	INSULATOR DISC	EA	1
E-5	9	PADZZ		3831-4715-001	K0656	INSULATOR DISC	EA	11
E-5	10	PADZZ	5305-00-054-5649	MS51957-15	K0656	SCREW, MACHINE	EA	2
E-5	11	PADZZ		BSA105AP	K0656	NUT, PLAIN	EA	2
E-5	12	PADZZ		3326-5001-010	K0656	WASHER, SPRING	EA	2
E-5	13	PADZZ		M55302/57-B54Y	81349	CONNECTOR (A4P1)	EA	1
E-5	14	PADZZ		M39014-01-1581	81349	CAPACITOR, FIXED (C1-C3)	EA	3
E-5	15	PADZZ	5910-00-124-0659	CK05BX103K	81349	CAPACITOR, FIXED (C6,C7)	EA	2
E-5	16	PADZZ		M39014-01-1236	81349	CAPACITOR, FIXED (C8)	EA	1
E-5	17	PADZZ		M39014-01-1327	81349	CAPACITOR, FIXED (C10)	EA	1
E-5	18	PADZZ	5910-00-010-8666	CK05BX102K	81349	CAPACITOR, FIXED (C11)	EA	1
E-5	19	PADZZ		CFR04ARSA103KM	81349	CAPACITOR, FIXED (C14-C17,C27,C31)	EA	6
E-5	20	PADZZ	5910-00-010-8717	M39014-01-1593	81349	CAPACITOR, FIXED (C18,C20,C22-C24,C33,C35,C37,C39)	EA	9
E-5	21	PADZZ		M39014-01-1330	81349	CAPACITOR, FIXED (C19,C21,C48)	EA	3
E-5	22	PADZZ		M39014-02-1419	81349	CAPACITOR, FIXED (C28-C30)	EA	3
E-5	23	PADZZ		M39003/01-2368	81349	CAPACITOR, FIXED (C32,C34,C36)	EA	3
E-5	24	PADZZ	5961-00-938-4977	JANTX1N758A	81349	DIODE (D1,D2)	EA	2
E-5	25	PADZZ	5901-00-022-5664	JANTX1N914	91349	DIODE (D3)	EA	1
E-5	26	PADZZ	5961-00-104-1398	JANTX1N751A	81349	DIODE (D4,D5)	EA	2
E-5	27	PADZZ	5961-00-858-3826	JANTX2N2222A	81349	TRANSISTOR (Q1)	EA	1
E-5	28	PADZZ	5961-00-925-3777	JANTX2N2907A	81349	TRANSISTOR (Q2)	EA	1
E-5	29	PADZZ	5905-00-461-2218	RNR55C4642FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	30	PADZZ	5905-00-419-3894	RNR55C4752FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	31	PADZZ	5905-00-509-3785	RNR55C4872FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	32	PADZZ	5905-01-026-0706	RNR55C4992FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	33	PADZZ	5905-00-482-0604	RNR55C5112FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	34	PADZZ		RNR55C5232FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	35	PADZZ	5905-00-240-2050	RNR55C5362FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	36	PADZZ	5905-00-456-3808	RNR55C5492FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	37	PADZZ	5905-00-147-0129	RNR55C5622FS	81349	RESISTOR, FIXED (R1) SELECT ON TEST	EA	V
E-5	38	PADZZ	5905-00-419-3890	RNR55C1822FS	81349	RESISTOR, FIXED (R2)	EA	1
E-5	39	PADZZ		RNR55C8002FS	81349	RESISTOR, FIXED (R3,R4)	EA	2
E-5	40	PADZZ		RLR07C182GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	41	PADZZ	5905-01-059-9696	RLR07C202GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0102 ANALOG INTERFACE UNIT PRINTED WIRING BOARD ASSEMBLY 60082-011-02 (CONTINUED)		
E-5	42	PADZZ	5905-00-184-7705	RLR07C222GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	43	PADZZ		RLR07C2401GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	44	PADZZ		RLR07C2601GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	45	PADZZ		RLR07C2901GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	46	PADZZ		RLR07C3201GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	47	PADZZ		RLR07C3501GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	48	PADZZ	5905-00-150-5256	RLR07C3901GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	49	PADZZ	5905-00-415-0942	RLR07C4301GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	50	PADZZ	5905-00-563-1595	RLR07C4701GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	51	PADZZ	5905-00-409-0277	RLR07C512GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	52	PADZZ	5905-00-240-2748	RLR07C5601GR	81349	RESISTOR, FIXED (R5) SELECT ON TEST	EA	V
E-5	53	PADZZ	5905-01-050-6468	RNR55C2102FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	54	PADZZ	5905-00-457-3121	RNR55C2212FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	55	PADZZ	5905-00-520-9549	RNR55C2322FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	56	PADZ	5905-00-456-3751	RNR55C2432FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	57	PADZZ	5905-00-429-2008	RNR55C2552FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	58	PADZZ	5905-00-242-2438	RNR55C2672FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	59	PADZZ	5905-00-285-2162	RNR55C2802FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	60	PADZZ		RNR55C2942FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	61	PADZZ	5905-01-065-8140	RNR55C3092FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	62	PADZZ	5905-00-456-3761	RNR55C3242FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	63	PADZZ	5905-00-456-3784	RNR55C3402FS	81349	RESISTOR, FIXED (R6) SELECT ON TEST	EA	V
E-5	64	PADZZ	5905-00-240-2738	RLR07C103GR	81349	RESISTOR, FIXED (R7,R11,R46,R54,R71,R72)	EA	7
E-5	65	PADZZ		RLR20C390GR	81349	RESISTOR, FIXED (R8,R12)	EA	2
E-5	66	PADZZ		RLR07C2200GR	81349	RESISTOR, FIXED (R9,R10,R81-R85)	EA	7
E-5	67	PADZZ		RLR07C3902GR	81349	RESISTOR, FIXED (R14,R16)	EA	2
E-5	68	PADZZ	5905-00-419-2822	RLR07C202GR	81349	RESISTOR, FIXED (R15)	EA	1
E-5	69	PADZZ	5905-01-017-5837	RNR55C7503FS	81349	RESISTOR, FIXED (R17)	EA	1
E-5	70	PADZZ	5905-00-434-1869	RNR55C1003FS	81349	RESISTOR, FIXED (R18,R19)	EA	2
E-5	71	PADZZ		RLR07C2203GR	81349	RESISTOR, FIXED (R20)	EA	1
E-5	72	PADZZ		RLR07C1003GR	81349	RESISTOR, FIXED (R22)	EA	1
E-5	73	PADZZ		RLR07C823GR	81349	RESISTOR, FIXED (R25)	EA	1
E-5	74	PADZZ		RLR07C7502GR	81349	RESISTOR, FIXED (R26)	EA	1
E-5	75	PADZZ		RNR55C1802FS	81349	RESISTOR, FIXED (R27,R29,R31,R33,R92,R96,R98)	EA	8
E-5	76	PADZZ	5905-00-429-5712	RNR55C1002FS	81349	RESISTOR, FIXED (R28,R30,R32,R34,R47,R48,R68,R69,R91,R93,R95 ,R97)	EA	12
E-5	77	PADZZ		RMR55C5000BM	81349	RESISTOR, FIXED (R43, R44)	EA	2
E-5	78					ITEM DELETED		
E-5	79					ITEM DELETED		
E-5	80	PADZZ	5905-00-419-2865	RNR55C2001BM	81349	RESISTOR, FIXED (R45, R58, R63, R87)	EA	4
E-5	81	PADZZ	5905-00-548-1297	RNR55C2002FS	81349	RESISTOR, FIXED (R49,R50)	EA	2

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0102 ANALOG INTERFACE UNIT PRINTED WIRING BOARD ASSEMBLY 60082-011-02 (CONTINUED)		
E-5	82	PADZZ		RLR07C9100GR	81349	RESISTOR, FIXED (R51)	EA	1
E-5	83	PADZZ		RNR55C4002FS	81349	RESISTOR, FIXED (R52,R57,R60,R89)	EA	4
E-5	84	PADZZ		RNR55C8001FS	81349	RESISTOR, FIXED (R53,R56,R64)	EA	3
E-5	85	PADZZ		RLR07C6803GR	81349	RESISTOR, FIXED (R55)	EA	1
E-5	86	PADZZ		RLR07C182GR	81349	RESISTOR, FIXED (R59,R88)	EA	2
E-5	87	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R61,R62,R86)	EA	3
E-5	88	PADZZ	5905-00-240-2745	RLR07C2701GR	81349	RESISTOR, FIXED (R66,R67)	EA	2
E-5	89	PADZZ	5905-00-409-0277	RLR07C5101GR	81349	RESISTOR, FIXED (R70,R99)	EA	2
E-5	90	PADZZ	5905-00-436-8557	RLR07C123GR	81349	RESISTOR, FIXED (R90)	EA	1
E-5	91	PADZZ	5905-01-033-0709	M83401/02-M-1002-G-A	81349	RESISTOR NETWORK (RU1,RU2)	EA	2
E-5	92	PADZZ		M38510/10305BEA	K0656	INTERGRATED CIRCUIT (U1,U4,U5,U12,U24)	EA	5
E-5	93	PADZZ		9407-00016	81349	INTERGRATED CIRCUIT (U2)	EA	1
E-5	94	PADZZ	5962-01-091-1126	9480-00498	K0656	INTEGRATED CIRCUIT (U3)	EA	1
E-5	95	PADZZ	5962-01-075-3184	9407-00016	K0656	INTEGRATED CIRCUIT (U7-U10,U18-U22)	EA	9
E-5	96	PADZZ		M38510/10105BEX	81349	INTEGRATED CIRCUIT (U11)	EA	1
E-5	97	PADZZ	5962-01-091-1127	9490-00013	K0656	INTEGRATED CIRCUIT (U13)	EA	1
E-5	98	PADZZ		9490-00038	K0656	INTEGRATED CIRCUIT (U14,U25)	EA	2
E-5	99	PADZZ	5962-01-014-0499	M38510/10104BGX	81349	INTEGRATED CIRCUIT (U15)	EA	1
E-5	100	PADZZ		LH0070/2H/883B	K0656	INTEGRATED CIRCUIT (U16)	EA	1
E-5	101	PADZZ	5962-01-050-0918	M38510/30701BEX	81349	INTEGRATED CIRCUIT (U17)	EA	1
E-5	102	PADZZ		M38510/10102BHX	81349	INTEGRATED CIRCUIT (U23)	EA	1
E-5	103	PADZZ		9490-00041	K0656	INTEGRATED CIRCUIT (U26)	EA	1

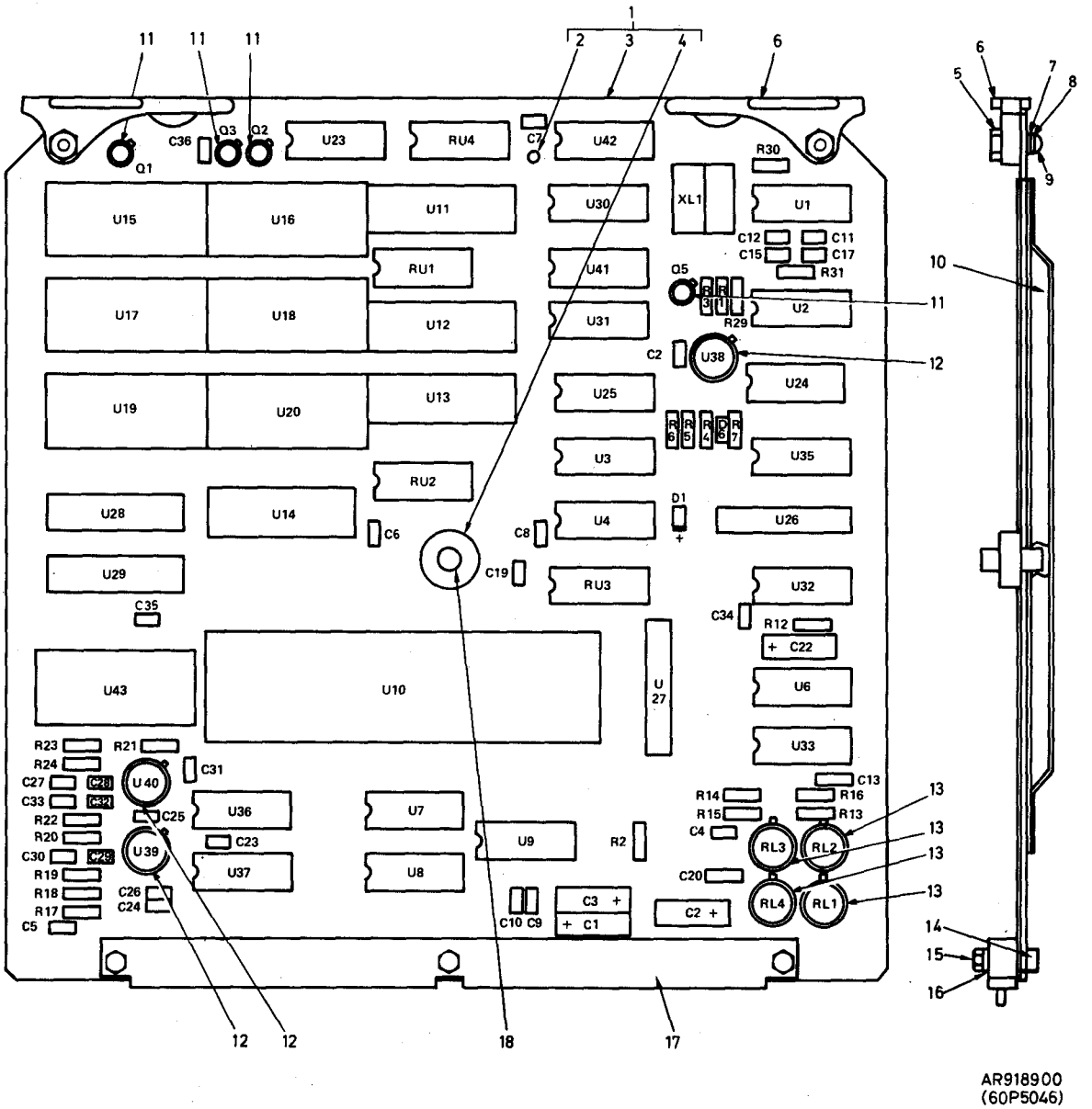


Figure E-6. Central Processor Unit, Printed Wiring Board Assembly, 60082-005-02.

LEGEND FOR FIGURE E-6

REF DES	ITEM NO
C1	19
C2	19
C3	19
C4	20
C5	20
C6	20
C7	20
C8	20
C9	20
C10	20
C11	21
C12	21
C13	22
C15	20
C17	23
C19	20
C20	24
C21	25
C23	26
C24	26
C25	27
C26	27
C27	28
C28	29
C29	29
C30	29
C31	30
C32	26
C33	20
C35	20
C36	20

REF DES	ITEM NO
D1	31
D2	32
K1	33
K2	33
K3	33
K4	33
Q1	34
Q2	34
Q3	34
Q5	35
R1	36
R2	37
R3	38
R4	39
R5	39
R6	39
R7	39
R12	40
R13	41
R14	41
R15	41
R16	41
R17	42
R18	42
R19	42
R20	42
R21	43
R22	44
R23	45

REF DES	ITEM NO
R24	45
R29	46
R30	47
R31	47
RU1	48
RU2	48
RU3	48
RU4	48
U1	49
U2	50
U3	51
U4	52
U6	53
U7	54
U8	54
U9	55
U10	56
U11	57
U12	57
U13	57
U14	57
U15	58
U16	59
U17	60
U18	61
U19	62
U20	63
U23	64
U24	65
U25	66

REF DES	ITEM NO
U26	67
U27	67
U28	67
U29	67
U30	68
U31	68
U32	69
U33	70
U35	71
U36	72
U37	73
U38	74
U39	75
U40	74
U41	76
U42	77
U43	78
XL1	79

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0103 CENTRAL PROCESSOR UNIT 60082-005-02		
E-6	1	XADZZ		60082-201	K0656	TERMINAL ASSEMBLY	EA	1
E-6	2	PADZZ	5940-01-074-4478	3801-3129-001	K0656	TERMINAL STUD	EA	20
E-6	3	XADZZ		60082-203	K0656	CENTRAL PROCESSOR UNIT PRINGED WIRING BOARD	EA	1
E-6	4	XADZZ		PSM-10-32-16-A	K0656	ANCHOR RIVET BUSH	EA	1
E-6	5	PADZZ		60082-292	K0656	BUSH	EA	2
E-6	6	PADZZ	5340-01-076-3531	60082-293	K0656	CARD EJECTOR	EA	2
E-6	7	PADZZ	5310-00-183-4354	AN960-C3L	88044	WASHER, FLAT	EA	2
E-6	8	PADZZ		3326-3001-010	K0656	WASHER, SPRING TENSION	EA	2
E-6	9	PADZZ	5305-00-054-5640	MS51957-5	96906	SCREW, MACHINE	EA	2
E-6	10	PADZZ	1090-01-075-8756	60001-210	K0656	BUMPER ASSEMBLY	EA	2
E-6	11	PADZZ	5970-01-079-1649	3831-2445-001	K0656	INSULATOR DISC	EA	4
E-6	12	PADZZ		3831-4715-001	K0656	INSULATOR DISC	EA	3
E-6	13	PADZZ		60-02-05-719	K0656	INSULATOR DISC	EA	4
E-6	14	PADZZ	5305-00-054-5649	MS51957-15	96906	SCREW, MACHINE	EA	3
E-6	15	PADZZ		BSA105AP	K0656	NUT, HEX PLAIN	EA	3
E-6	16	PADZZ		3326-5001-010	K0656	WASHER SPRING TENSION	EA	3
E-6	17	PADZZ		M55302/59-B90Y	81349	CONNECTOR (A1P1)	EA	1
E-6	18	PADZZ		MS18066-44	96906	HEX SKT GRUB SCREW	EA	1
E-6	19	PADZZ	5910-00-007-2004	M39003-01-2368	81349	CAPACITOR, FIXED (C1-C3,C22)	EA	4
E-6	20	PADZZ	5910-00-010-8717	M39014-01-1473	81349	CAPACITOR, FIXED (C4-C10,C15,C19,C33-C36)	EA	13
E-6	21	PADZZ	5910-00-114-0225	CK05BX220K	81349	CAPACITOR, FIXED (C11-C12)	EA	2
E-6	22	PADZZ		CK06BX105K	81349	CAPACITOR, FIXED (C13)	EA	1
E-6	23	PADZZ	5910-00-113-5278	CK05BX473K	81349	CAPACITOR, FIXED (C17)	EA	1
E-6	24	PADZZ	5910-00-113-5465	CK06BX474K	81349	CAPACITOR, FIXED (C20)	EA	1
E-6	25	PADZZ	5910-00-096-4644	MS39014-01-1330	81349	CAPACITOR, FIXED (C21)	EA	1
E-6	26	PADZZ	5910-00-124-0659	CK05BX103K	81349	CAPACITOR, FIXED (C23,C24,C32)	EA	3
E-6	27	PADZZ		M39014-01-1330	81349	CAPACITOR, FIXED (C25,C26)	EA	2
E-6	28	PADZZ		CC09-CH-4R7-B	81349	CAPACITOR, FIXED (C27)	EA	1
E-6	29	PADZZ		M39014-01-1351	81349	CAPACITOR, FIXED (C28-C30)	EA	3
E-6	30	PADZZ		M39014-01-1321	81349	CAPACITOR, FIXED (C31)	EA	1
E-6	31	PADZZ	5961-00-494-4915	JANTX1N4148	81349	DIODE (D1)	EA	1
E-6	32	PADZZ	5961-00-104-1398	JANTX1N751A	81349	DIODE (D6)	EA	1
E-6	33	PADZZ		M28776/5-001M	81349	RELAY (K1-K4)	EA	4
E-6	34	PADZZ	5961-00-925-3777	JANTX2N2907A	81349	TRANSISTOR (Q1-Q3)	EA	3
E-6	35	PADZZ	5961-00-858-3826	JANTX2N2222A	81349	TRANSISTOR (Q5)	EA	1
E-6	36	PADZZ	5905-00-240-7982	RLR07C6800GR	81349	RESISTOR, FIXED (R1)	EA	1
E-6	37	PADZZ	5905-00-240-2745	RLR07C272GR	81349	RESISTOR, FIXED (R2)	EA	1
E-6	38	PADZZ	5905-00-249-1286	RLR07C682GR	81349	RESISTOR, FIXED (R3)	EA	1
E-6	39	PADZZ	5905-00-240-2728	RLR07C103GR	81349	RESISTOR, FIXED (R4-R7)	EA	4
E-6	40	PADZZ	5905-00-409-0277	RLR07C5102GR	81349	RESISTOR, FIXED (R12)	EA	1
E-6	41	PADZZ	5905-00-240-7954	RLR07C152GR	81349	RESISTOR, FIXED (R13-R16)	EA	4

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0103 CENTRAL PROCESSOR UNIT		
						60082-005-02		
						(CONTINUED)		
E-6	42	PADZZ	5905-00-240-2726	RLR07C102GR	81349	RESISTOR, FIXED (R17-R20)	EA	4
E-6	43	PADZZ	5905-00-422-5186	RLR07C3302GR	81349	RESISTOR, FIXED (R21)	EA	1
E-6	44	PADZZ	5905-00-405-1107	RLR07C1102GR	81349	RESISTOR, FIXED (R22)	EA	1
E-6	45	PADZZ		RNC55J24R9B	81349	RESISTOR, FIXED (R23,R24)	EA	2
E-6	46	PADZZ	5905-00-240-7958	RLR07C223GR	81349	RESISTOR, FIXED (R29)	EA	1
E-6	47	PADZZ	5905-00-184-7705	RLR07C222GR	81349	RESISTOR, FIXED (R30,R31)	EA	2
E-6	48	PADZZ	5905-01-071-1740	M834012-M-1001-G-8	81349	RESISTOR PACK (RU1-RU4)	EA	4
E-6	49	PADZZ		9429-00006	K0656	INTEGRATED CIRCUIT (U1)	EA	1
E-6	50	PADZZ		9414-00174	K0656	INTEGRATED CIRCUIT (U2)	EA	1
E-6	51	PADZZ	5962-01-031-1918	M38510/30501BCX	81349	MICROCIRCUIT (U3)	EA	1
E-6	52	PADZZ	5962-01-034-9832	M38510/31004BCX	81349	MICROCIRCUIT (U4)	EA	1
E-6	53	PADZZ	5962-01-040-0008	M38510/15102BEX	81349	MICROCIRCUIT (U6)	EA	1
E-6	54	PADZZ	5962-01-050-0918	M38510/30701BEX	81349	MICROCIRCUIT (U7,U8)	EA	2
E-6	55	PADZZ	5962-01-091-1128	9480-00494	K0656	MICROCIRCUIT (U9)	EA	1
E-6	56	PADZZ		SBP9900 AMJ	K0656	MICROCIRCUIT (U10)	EA	1
E-6	57	PADZZ		9402-00153	K0656	MICROCIRCUIT (U11-U14)	EA	4
E-6	58	PADZZ		9936-CBFS	K0656	INTEGRATED CIRCUIT (U15)	EA	1
E-6	59	PADZZ		9936-CBFT	K0656	INTEGRATED CIRCUIT (U16)	EA	1
E-6	60	PADZZ		9936-CBFV	K0656	INTEGRATED CIRCUIT (U17)	EA	1
E-6	61	PADZZ		9936-CBFW	K0656	INTEGRATED CIRCUIT (U18)	EA	1
E-6	62	PADZZ		9936-CBFX	K0656	INTEGRATED CIRCUIT (U19)	EA	1
E-6	63	PADZZ		9936-CBFY	K0656	INTEGRATED CIRCUIT (U20)	EA	1
E-6	64	PADZZ	5962-00-369-9839	M38510/00803BCX	81349	MICROCIRCUIT (U23)	EA	1
E-6	65	PADZZ		9480-00421	K0656	INTEGRATED CIRCUIT (U24)	EA	1
E-6	66	PADZZ	5962-01-058-1539	M38510/30102BCX	81349	MICROCIRCUIT (U25)	EA	1
E-6	67	PADZZ	5962-01-091-1123	9414-00161	K0656	MICROCIRCUIT (U26-U29)	EA	4
E-6	68	PADZZ		M38510/32203BEA	81349	INTEGRATED CIRCUIT (U30,U31)	EA	2
E-6	69	PADZZ		M38510/31403BCX	81349	INTEGRATED CIRCUIT (U32)	EA	1
E-6	70	PADZZ	5962-01-091-1124	9429-00121	K0656	MICROCIRCUIT (U33)	EA	1
E-6	71	PADZZ		M38510/07003BCX	81349	MICROCIRCUIT (U35)	EA	1
E-6	72	PADZZ		9406-00003	K0656	MICROCIRCUIT (U36)	EA	1
E-6	73	PADZZ		9406-00001	K0656	INTEGRATED CIRCUIT (U37)	EA	1
E-6	74	PADZZ	5962-01-024-9518	M38510/10103BGX	81349	MICROCIRCUIT (U38,U40)	EA	2
E-6	75	PDAZZ	5962-01-045-4652	M38510/10304BGX	81349	MICROCIRCUIT (U39)	EA	1
E-6	76	PADZZ	5962-01-092-6480	9480-00074	K0656	MICROCIRCUIT (U41)	EA	1
E-6	77	PADZZ		9414-00170	K0656	MICROCIRCUIT (U42)	EA	1
E-6	78	PADZZ	1920-01-177-6702	9409-00011	K0656	INTEGRATED CIRCUIT (U43)	EA	1
E-6	79	PADZZ		CR-64U 6M HZ	K0656	CRYSTAL (XL1)	EA	1

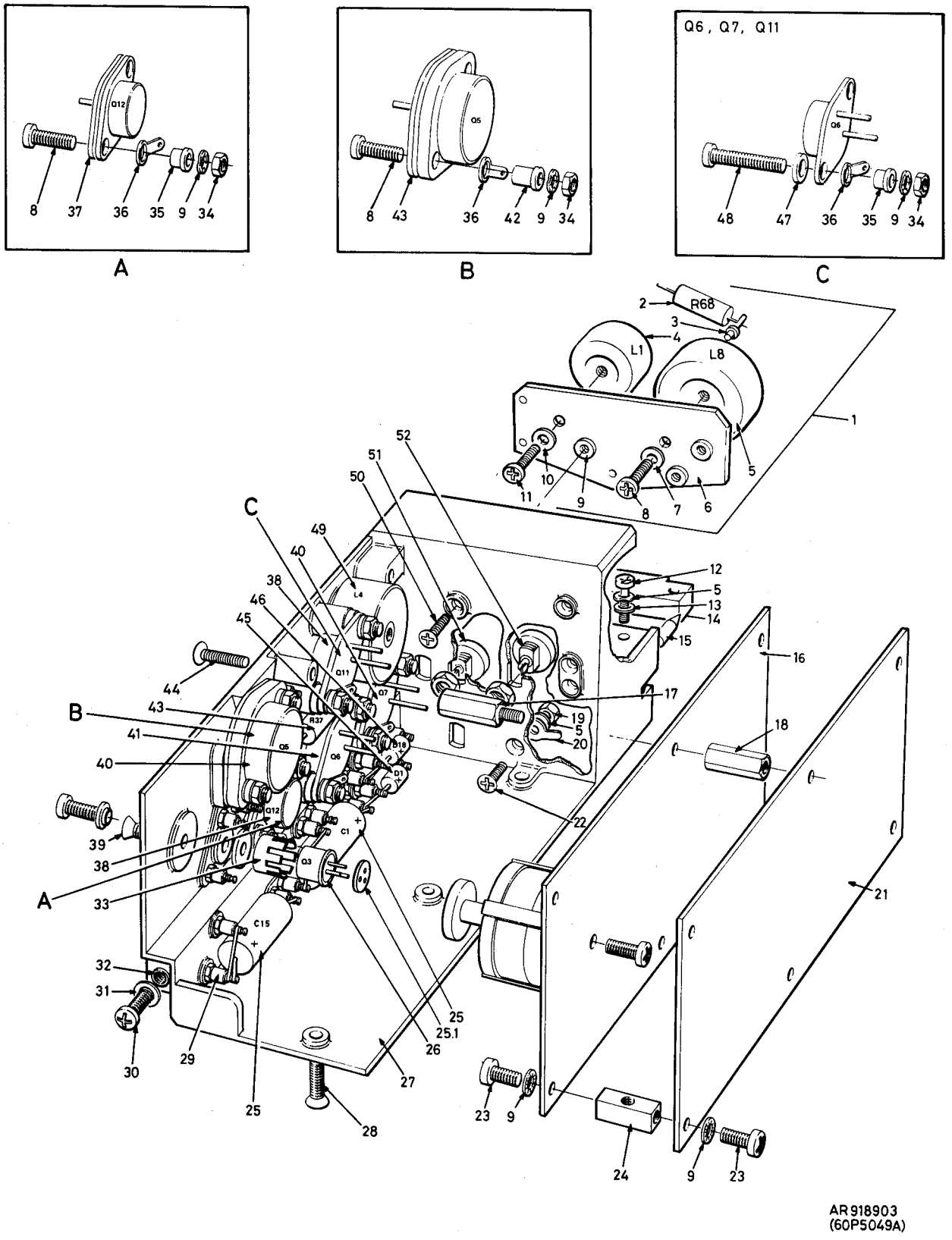


Figure E-7. Power Supply Unit, 60082-111-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0104 POWER SUPPLY UNIT		
						60082-111-02		
E-7	1	PADDD		60082-298	K0656	PLATE,SUBASSY	EA	1
E-7	2	PADZZ		RW80U12R0F	81349	RESISTOR, FIXED (R68)	EA	1
E-7	3	PADZZ		3828-2301-001	K0656	TERMINAL, STUD	EA	4
E-7	4	PADZZ		7120-00164	K0656	INDUCTOR (L1)	EA	1
E-7	5	PADZZ		7120-00165	K0656	INDUCTOR (L8)	EA	1
E-7	6	PADZZ		60082-297	K0656	PLATE	EA	1
E-7	7	PADZZ		3326-5001-001	K0656	WASHER,SPRING	EA	21
E-7	8	PADZZ	5305-00-054-5649	MS51957-15	96906	SCREW,MACHINE	EA	5
E-7	9	PADZZ		M45938/1-2C	96906	BUSH, MINIATURE ANCHOR RIVET	EA	3
E-7	10	PADZZ	5310-00-463-8248	3326-3001-001	K0656	WASHER,SPRING	EA	6
E-7	11	PADZZ		MS51957-5	96906	SCREW,MACHINE	EA	1
E-7	12	PADZZ	5305-00-054-5641	MS51957-7	96906	SCREW,MACHINE	EA	2
E-7	13	PADZZ	5310-00-595-6761	MS15795-802	96906	WASHER	EA	2
E-7	14	PADZZ	5905-01-067-7906	M55302/57B-20Y	81349	CONNECTOR	EA	1
E-7	15	PADZZ	1090-01-074-5953	60082-282	K0656	LOCATION PIN	EA	2
E-7	16	PADDD	1090-01-075-4985	60082-252	K0656	POWER SUPPLY UNIT PRINTED WIRINGE BOARD 1 ASSEMBLY	EA	1
E-7	17	PADZZ	5340-01-075-1993	60082-095	K0656	POST, ELECTRICAL	EA	2
E-7	18	PADZZ	5310-01-083-4110	60082-098	K0656	NUT, HEXAGON	EA	3
E-7	19	PADZZ		MS35649-224	96906	NUT	EA	3
E-7	20	PADZZ		3800-5674-001	K0656	TERMINAL, TAG	EA	1
E-7	21	PADDD	1090-01-075-4984	60082-261	K0656	POWER SUPPLY UNIT PRINTED WIRING BOARD 2 ASSEMBLY	EA	1
E-7	22	PADZZ	5305-00-727-8833	MS51957-3	96906	SCREW,MACHINE	EA	3
E-7	23	PADZZ	5305-00-054-5647	MS51957-13	96906	SCREW,MACHINE	EA	10
E-7	24	PADZZ		60082-281	K0656	POST ELECTRICAL	EA	3
E-7	25	PADZZ		M39006/09-8392	81349	CAPACITOR,FIXED (C1,C15)	EA	2
E-7	25.1	PADZZ		10030	K0656	TRANSIPAD TO5	EA	1
E-7	26	PADZZ		9307-6104-005	K0656	TRANSISTOR (Q3)	EA	1
E-7	27	PADDD	1090-01-076-2263	60082-241	K0656	CHASSIS, ELECTRICAL	EA	1
E-7	28	PADZZ		MS51959-13	96906	SCREW,MACHINE	EA	3
E-7	29	PADZZ		3820-1106-006	K0656	TERMINAL, INSULATED	EA	26
E-7	30	PADZZ		MS51957-32	96906	SCREW,MACHINE	EA	1
E-7	31	PADZZ		3303-1233-002	K0656	SHIM	EA	2
E-7	32	PADZZ		60082-284	K0656	JACKSCREW BUSH	EA	1
E-7	33	PADZZ		9800-00019	K0656	ADAPTOR, HEATSINK	EA	1
E-7	34	PADZZ		MS35649-244	96906	NUT	EA	10
E-7	35	PADZZ		60082-283	K0656	BUSH, INSULATOR	EA	8
E-7	36	PADZZ		3800-7670-001	K0656	TERMINAL, TAG	EA	5
E-7	37	PADZZ		3830-5504-003	K0656	INSULATOR PLATE	EA	1
E-7	8	PADZZ		9307-1104-004	K0656	TRANSISTOR (Q11, Q12)	EA	2
E-7	39	PADZZ	5305-00-770-2579	MS51959-15	96906	SCREW,MACHINE	EA	3

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0104 POWER SUPPLY UNIT		
						60082-111-02		
						(CONTINUED)		
E-7	40	PADZZ		9319-6102-001	K0656	TRANSISTOR (Q5)	EA	1
E-7	41	PADZZ	5961-01-023-1681	JANTX2N5664	81349	TRANSISTOR (Q6,Q7)	EA	1
E-7	42	PADZZ		4114-3372-003	K0656	BUSH, INSULATOR	EA	2
E-7	43	PADZZ		3830-6704-009	K0656	PLATE, INSULATOR	EA	1
E-7	44	PADZZ		RWR79UR1FM	81349	RESISTOR, FIXED (R37)	EA	1
E-7	45	PADZZ		MS51959-18	96906	SCREW,MACHINE	EA	2
E-7	46	PADZZ	5961-01-058-6633	JANTX1N5811	81349	DIODE, SEMI-CONDUCTOR (D1,D18)	EA	2
E-7	47	PADZZ		9804-1012-001	K0656	WASHER, INSULATOR	EA	6
E-7	48	PADZZ	5305-00-054-5652	MS51957-18	96906	SCREW,MACHINE	EA	6
E-7	49	PADZZ		7120-00143	K0656	TRANSFORMER (L4)	EA	1
E-7	50	PADZZ	5305-00-764-2966	MS51959-2	96906	SCREW,MACHINE	EA	29
E-7	51	PADZZ		9051-100-0000	K0656	FILTER (FL5,FL6,FL7,FL8,FL9)	EA	5
E-7	52	PADZZ		7803-00025	K0656	FILTER (FL1,FL2,FL3,FL4)	EA	4

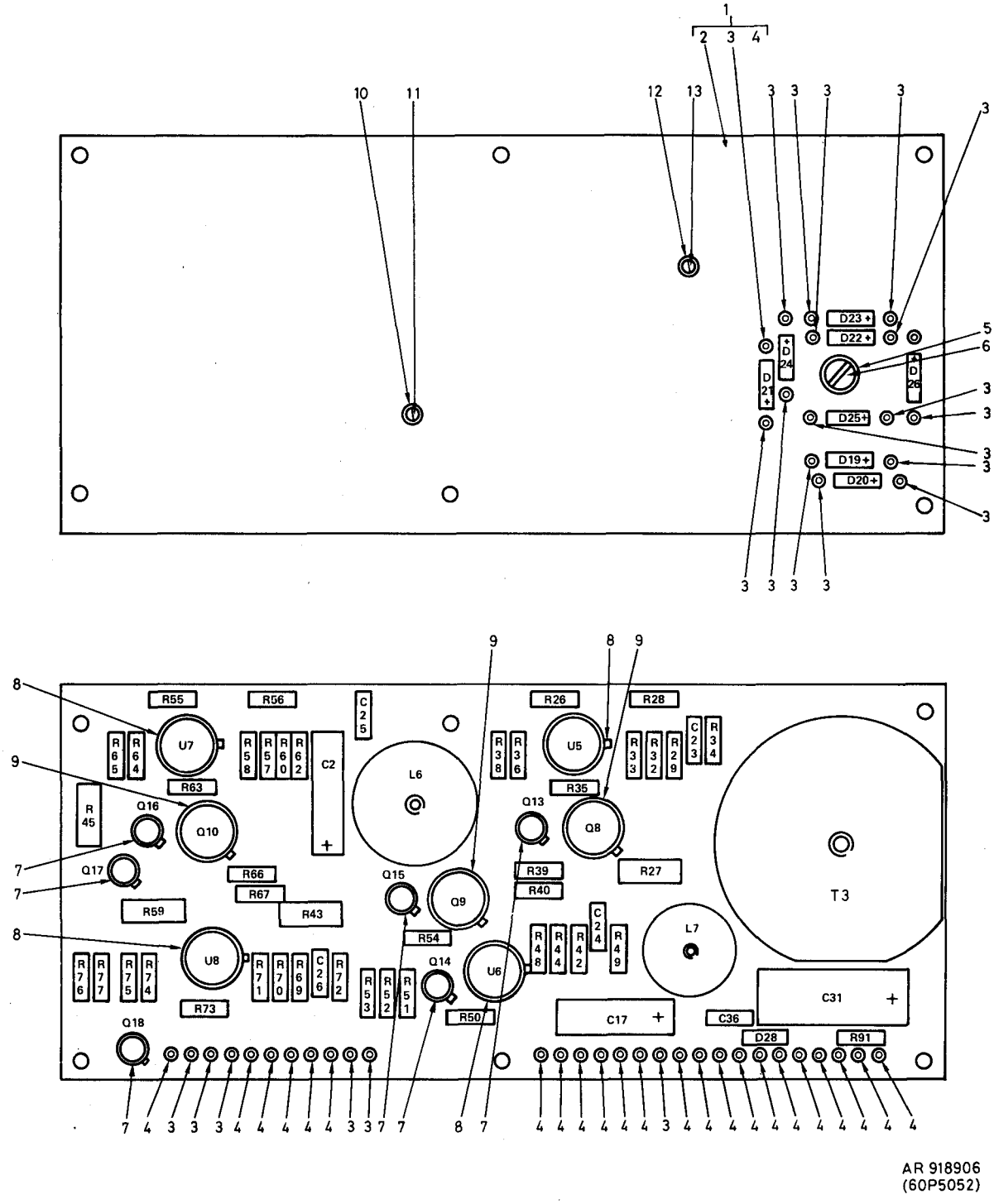


Figure E-8. Power Supply Unit, Printed Wiring Board 1 Assembly, 60082-252.

LEGEND FOR FIGURE E-8

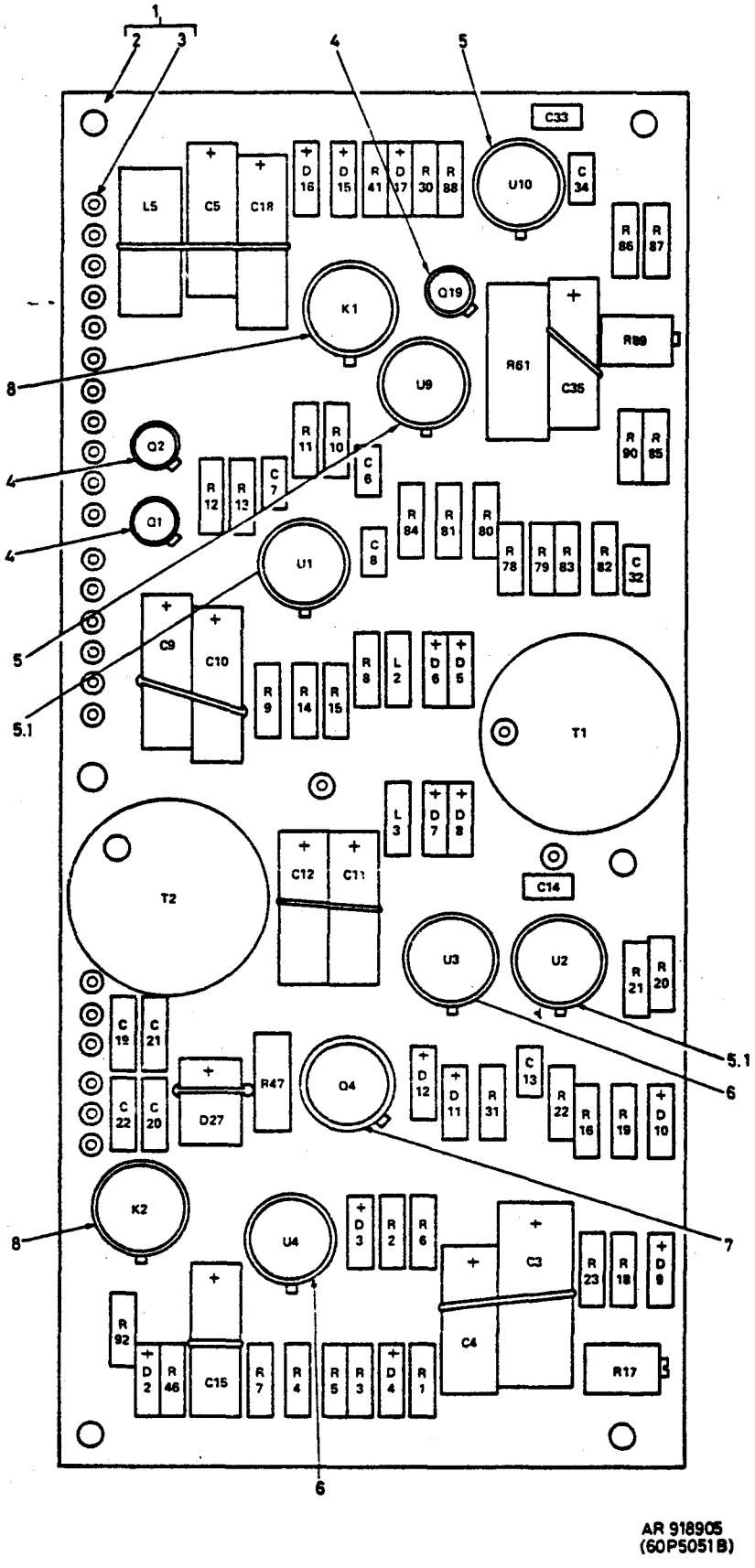
REF DES	ITEM NO
C2	14
C17	14
C23	15
C24	15
C25	15
C26	15
C31	16
C36	15
D19	17
D20	17
D21	17
D22	17
D23	17
D24	17
D25	17
D26	17
D28	18
L6	19
L7	20
Q8	21
Q9	21
Q10	21
Q13	22
Q14	22
Q15	23
Q16	22
Q17	22
Q18	23

REF DES	ITEM NO
R26	24
R27	25
R28	26
R29	24
R32	27
R33	28
R34	28
R35	27
R36	29
R38	24
R39	24
R40	26
R42	24
R43	25
R44	27
R45	25
R48	28
R49	28
R50	27
R51	29
R52	24
R53	26
R54	24
R55	24
R56	26
R57	27
R58	28
R59	25
R60	24
R62	28
R63	27
R64	29

REF DES	ITEM NO
R65	24
R66	24
R67	26
R69	24
R70	27
R71	28
R72	28
R73	27
R74	29
R75	24
R76	26
R77	24
R91	30
T3	31
U5	32
U6	32
U7	32
U8	32

REF DES	ITEM NO

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 01041 POWER SUPPLY UNIT PRINTED WIRING BOARD 1 ASSEMBL		
						60082-252		
E-8	1	XADZZ		60082-253	K0656	TERMINAL ASSEMBLY	EA	1
E-8	2	XADZZ		60082-254	K0656	PRINTED CIRCUIT BOARD 1 DRILLING	EA	1
E-8	3	PADZZ	5940-01-074-4478	3801-3129-001	K0656	TERMINAL, STUD	EA	22
E-8	4	PADZZ		3801-3326-001	K0656	TERMINAL, POST	EA	23
E-8	5	PADZZ		BS SP 122A	K0656	WASHER	EA	1
E-8	6	PADZZ	5305-00-054-5650	MS51957-16	96906	SCREW,MACHINE	EA	1
E-8	7	PADZZ		7802-12064	K0656	INSULATOR DISC	EA	6
E-8	8	PADZZ		3831-4495-001	K0656	INSULATOR DISC	EA	4
E-8	9	PADZZ		7802-12092	K0656	INSULATOR DISC	EA	3
E-8	10	PADZZ		BS SP 23/Z	K0656	WASHER	EA	1
E-8	11	PADZZ	5305-00-054-5641	MS 51957-7	96906	SCREW,MACHINE	EA	1
E-8	12	PADZZ		BS SP 23/Y	K0656	WASHER	EA	1
E-8	13	PADZZ		3111-1236-001	K0656	SCREW	EA	1
E-8	14	PADZZ		6400-3370-031	K0656	CAPACITOR, FIXED (C2, C17)	EA	2
E-8	15	PADZZ		CK058X105K	81349	CAPACITOR, FIXED (C23-C26, C36)	EA	5
E-8	16	PADZZ		6400-5670-631	K0656	CAPACITOR, FIXED (C31)	EA	1
E-8	17	PADZZ	5961-01-012-6693	JANTX1N5804	81349	DIODE (D19-D26)	EA	8
E-8	18	PADZZ		M19500/159	81349	DIODE (D28)	EA	1
E-8	19	PADZZ	1090-01-075-2781	7120-00145	K0656	INDUCTOR (L6)	EA	1
E-8	20	PADZZ		7120-00125	K0656	INDUCTOR (L7)	EA	1
E-8	21	PADZZ	5961-00-005-2920	JANTX2N3420	81349	TRANSISTOR (Q8-Q10)	EA	3
E-8	22	PADZZ	5961-00-925-3777	JANTX2N2907A	81349	TRANSISTOR (Q13,Q14,Q16,Q17)	EA	4
E-8	23	PADZZ	5961-00-858-3826	JANTX2N2222A	81349	TRANSISTOR (Q15,Q16)	EA	2
E-8	24	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R26,R29,R38,R39,R42,R52,R54,R55,R60,R65,R66 R69,R75,R77)	EA	14
E-8	25	PADZZ	5905-01-056-2148	RCR20GIR0JS	81349	RESISTOR, FIXED (R27, R43, R45, R59)	EA	4
E-8	26	PADZZ	5905-01-064-8329	RLR07C153GR	81349	RESISTOR, FIXED (R28, R40, R53, R56, R67, R76)	EA	6
E-8	27	PADZZ		RCR07C1503GR	81349	RESISTOR, FIXED (R32, R35, R44, R50, R57, R63, R70, R73)	EA	8
E-8	28	PADZZ		RLR07C273GR	81349	RESISTOR, FIXED (R33, R34, R48, R49, R58, R62, R71, R72)	EA	8
E-8	29	PADZZ	5905-00-404-8838	RLR07C752GR	81349	RESISTOR, FIXED (R36, R51, R64, R74)	EA	4
E-8	30	PADZZ	5905-00-240-2747	RLR07C391GR	81349	RESISTOR, FIXED (R91)	EA	1
E-8	31	PADZZ	1090-01-075-2779	7126-00082	K0656	TRANSFORMER (T3)	EA	1
E-8	32	PADZZ		9403-00041	K0656	INTEGRATED CIRCUIT (U5-U8)	EA	4



AR 918905
(60P5051B)

Figure E-9. Power Supply Unit, Printed Wiring Board 2 Assembly, 60082-261.

LEGEND FOR FIGURE E-9

REF DES	ITEM NO
C3	9
C4	9
C5	10
C6	11
C7	12
C8	13
C9	10
C10	10
C11	10
C12	10
C13	14
C14	15
C18	16
C19	17
C20	17
C21	17
C22	17
C32	17
C33	11
C34	12
C35	18
D5	19
D6	19
D7	19
D8	19
D9	21
D10	19
D15	22
D16	22

REF DES	ITEM NO
D27	23
K1	24
L2	25
L3	25
L5	26
Q1	27
Q2	28
Q4	29
Q19	28
R2	30
R6	31
R8	32
R9	33
R10	34
R11	35
R12	35
R13	34
R14	36
R15	36
R16	37
R17	38
R18	39
R19	40

REF DES	ITEM NO
R20	32
R21	41
R22	35
R23	32
R30	42
R31	34
R41	43
R47	44
R61	45
R78	32
R79	31
R80	32
R81	46
R82	47
R83	47
R84	46
R85	42
R86	48
R87	49
R88	35
R89	38
R90	42
T1	50
T2	51
U1	52
U2	53
U3	54
U4	53
U9	55
U10	56

REF DES	ITEM NO

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010402 POWER SUPPLY UNIT PRINTED WIRING BOARD 2 ASSEMBLY		
						60082-261		
E-9	1	XADZZ		60082-262	K0656	TERMINAL ASSY	EA	1
E-9	2	XADZZ		60082-263	K0656	PRINTED CIRCUIT BOARD * DRILLING	EA	1
E-9	3	PADZZ	5940-01-074-4478	3801-3129-001	K0656	TERMINAL	EA	25
E-9	4	PADZZ		7802-12064	K0656	INSULATOR DISC	EA	3
E-9	5	PADZZ		3831-4495-001	K0656	INSULATOR DISC	EA	2
E-9	5.1	PADZZ		10309	K0656	INSULATOR DISC	EA	2
E-9	6	PADZZ		3831-4585-002	K0656	INSULATOR DISC	EA	2
E-9	7	PADZZ		7802-12092	K0656	INSULATOR DISC	EA	1
E-9	8	PADZZ		10343	K0656	INSULATOR DISC	EA	2
E-9	9	PADZZ		M39003/01-2289	81349	CAPACITOR, FIXED (C3,C4)	EA	2
E-9	10	PADZZ		M39003/01-2271	81349	CAPACITOR, FIXED (C5,C9-C12)	EA	5
E-9	11	PADZZ	5910-00-010-8717	M39014-01-1473	81349	CAPACITOR, FIXED (C6,C33)	EA	2
E-9	12	PADZZ	5910-00-124-0659	M39014-01-1575	81349	CAPACITOR, FIXED (C7,C34)	EA	2
E-9	13	PADZZ		M39014-01-1226	81349	CAPACITOR, FIXED (C8)	EA	1
E-9	14	PADZZ		CK05BX472K	81349	CAPACITOR, FIXED (C13)	EA	1
E-9	15	PADZZ		M39014-01-1351	81349	CAPACITOR, FIXED (C14)	EA	1
E-9	16	PADZZ		M39014-01-1569	K0656	CAPACITOR, FIXED (C18)	EA	1
E-9	17	PADZZ		M39014-01-1407	81349	CAPACITOR, FIXED (C19-C22,C32)	EA	5
E-9	18	PADZZ		M39003/01-2254	81349	CAPACITOR, FIXED (C35)	EA	1
E-9	19	PADZZ	5961-00-494-4915	JANTX1N4148	81349	DIODE (D5-D8,D10)	EA	5
E-9	20	PADZZ	5961-01-012-6693	JANTX1N5804	81349	DIODE (D11,D12,D17)	EA	3
E-9	21	PADZZ		JANTX1N825	81349	DIODE (D9)	EA	1
E-9	22	PADZZ		JANTX1N752A	81349	DIODE (D15,D16)	EA	2
E-9	23	PADZZ	5961-01-069-7214	JANTX1N5656A	81349	DIODE (D27)	EA	1
E-9	24	PADZZ		M28776/5-005M	81394	RELAY HYBRID ER (KI)	EA	1
E-9	25	PADZZ		7120-00158	K0656	CHOKE (L2,L3)	EA	2
E-9	26	PADZZ		MS14047-5	81349	CHOKE (L5)	EA	1
E-9	27	PADZZ	5961-00-925-3777	JANTX2N2907A	81349	TRANSISTOR (Q1)	EA	1
E-9	28	PADZZ	5961-00-858-3226	JANTX2N2222A	81349	TRANSISTOR (Q2,Q19)	EA	2
E-9	29	PADZZ		JANTX2N5682	81349	TRANSISTOR (Q4)	EA	1
E-9	30	PADZZ	5905-00-240-2740	RLR07C203GR	81349	RESISTOR, FIXED (R2)	EA	1
E-9	31	PADZZ	5905-01-064-8328	RLR07C103GR	81349	RESISTOR, FIXED (R6,R79)	EA	2
E-9	32	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R8,R23,R78,R80)	EA	5
E-9	33	PADZZ		RLR07C124GR	81349	RESISTOR, FIXED (R9)	EA	1
E-9	34	PADZZ		RLR07C6800GR	81349	RESISTOR, FIXED (R10,R13,R31)	EA	3
E-9	35	PADZZ	5905-00-184-7705	RLR07C222GR	81349	RESISTOR, FIXED (R11,R12,R22,R88)	EA	4
E-9	36	PADZZ	5905-00-482-0505	RLR07C100GR	81349	RESISTOR, FIXED (R14, R15)	EA	2
E-9	37	PADZZ	5905-00-563-1595	RLR07C4701GR	81349	RESISTOR,FIXED (R16)	EA	1
E-9	38	PADZZ	5905-00-758-1586	RT26C2X102	81349	RESISTOR, FIXED (R17,R89)	EA	2
E-9	39	PADZZ	5905-00-240-7981	RLR07C621GR	81349	RESISTOR, FIXED (R18)	EA	1
E-9	40	PADZZ		RLR07C6802GR	81349	RESISTOR, FIXED (R19)	EA	1

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 010402 POWER SUPPLY UNIT PRINTED WIRING BOARD 2 ASSEMBLY		
						60082-261		
						(CONTINUED)		
E-9	41	PADZZ		RLR07C154GR	81349	RESISTOR, FIXED (R21)	EA	1
E-9	42	PADZZ	5905-01-064-8329	RLR07C153GR	81349	RESISTOR, FIXED (R30,R85,R90)	EA	3
E-9	43	PADZZ	5905-00-438-0505	RLR07C471GR	81349	RESISTOR, FIXED (R41)	EA	1
E-9	44	PADZZ	5905-01-056-2148	RCR20G1R0JS	81349	RESISTOR, FIXED (R47)	EA	1
E-9	45	PADZZ		RW79UR270F	81349	RESISTOR, FIXED (R61)	EA	1
E-9	46	PADZZ		RLR07C104GR	81349	RESISTOR, FIXED (R81,R84)	EA	2
E-9	47	PADZZ		RLR07C273GM	81349	RESISTOR, FIXED (R82,R83)	EA	2
E-9	48	PADZZ	5905-00-419-3949	RLR07C8200GR	81349	RESISTOR, FIXED (R86)	EA	1
E-9	49	PADZZ	5905-00-240-7954	RLR07C152GR	81349	RESISTOR, FIXED (R87)	EA	1
E-9	50	PADZZ	1090-01-075-1884	7126-00074	K0656	TRANSFORMER (T1)	EA	1
E-9	51	PADZZ	1090-01-075-2778	7126-00083	K0656	TRANSFORMER (T2)	EA	1
E-9	52	PADZZ	5962-01-058-7937	M38510/10901BGX	81349	MICROCIRCUIT (U1)	EA	1
E-9	53	PADZZ	5962-01-045-4652	M38510/10304BGX	81349	MICROCIRCUIT (U2,U4)	EA	2
E-9	54	PADZZ	5961-00-501-1730	JANTX2N4854	81349	INTEGRATED CIRCUIT (U3)	EA	1
E-9	55	PADZZ		9403-00041	K0656	INTEGRATED CIRCUIT (U9)	EA	1
E-9	56	PADZZ		M38510/10201BHX	81349	INTEGRATED CIRCUIT (U10)	EA	1

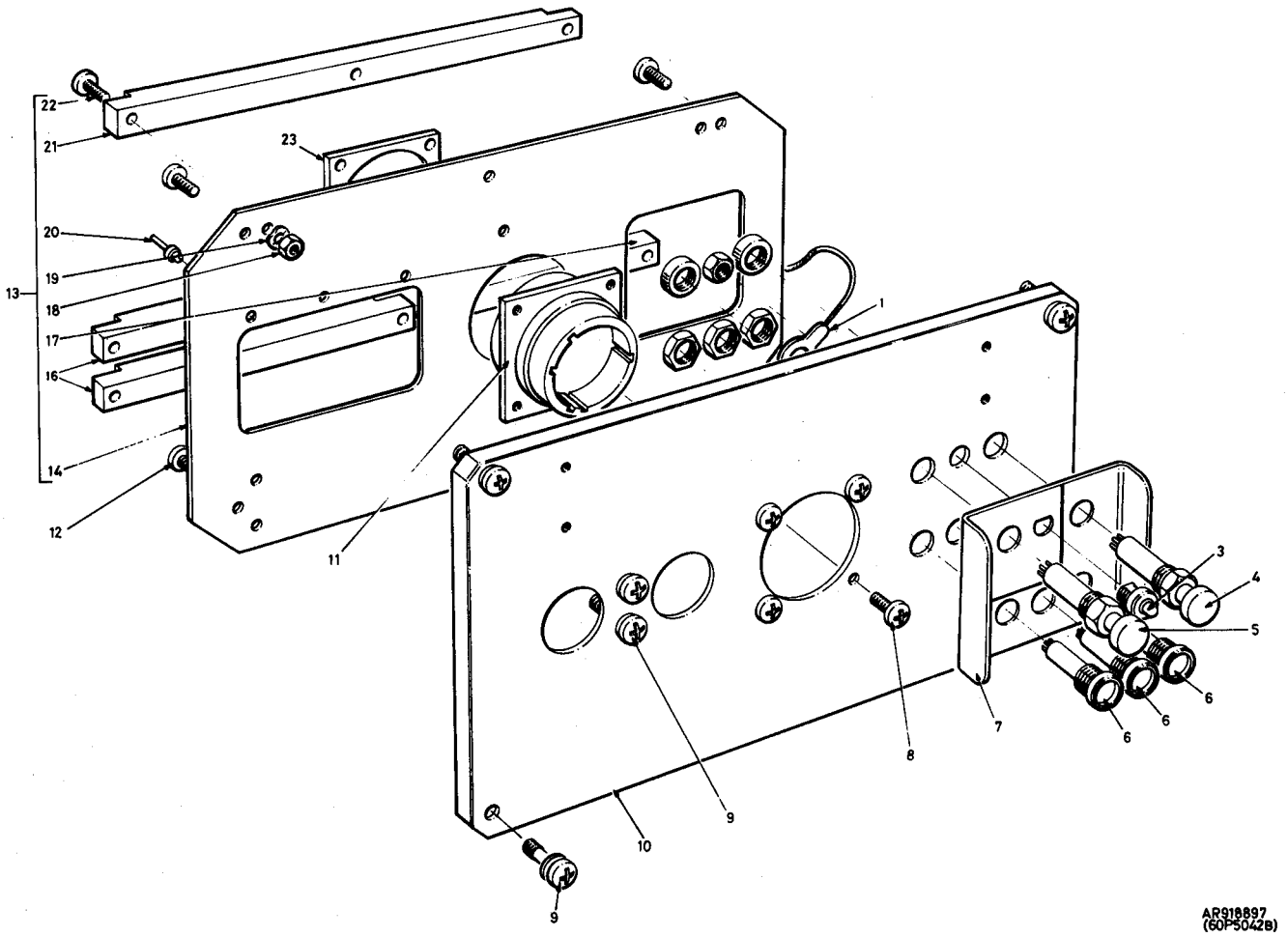


Figure E-10. Front Panel Assembly, 60082-022-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0105 FRONT PANEL ASSEMBLY		
						60082-022-02		
E-10	1	PADZZ		MS0035431-7	96906	SOLDER TAG		
E-10	2					ITEM DELETED	EA	1
E-10	3	PAFZZ		LHC82/2WT2	96906	LAMP, INDICATOR (DSI)	EA	1
E-10	4	PAFZZ	5930-01-074-4536	8600-00004	K0656	SWITCH, PUSH BUTTON (SI)	EA	1
E-10	5	PAFZZ	5930-01-074-3925	8600-00005	K0656	SWITCH, PUSH BUTTON (S2)	EA	1
E-10	6	PAFZZ	6625-01-076-8364	8700-00014	K0656	INDICATOR, BITE (DS2, DS3, DS4)	EA	3
E-10	7	PAFZZ	1090-01-073-5573	60082-048	K0656	BRACKET, PANEL	EA	1
E-10	8	PADZZ	5305-00-054-5649	MS51957-15	96906	SCREW,MACHINE	EA	4
E-10	9	PADZZ		3908-00041	K0656	SCREW, CAPTIVE	EA	6
E-10	10	XADZZ		60082-246	K0656	FRONT PANEL	EA	1
E-10	11	PADZZ	5935-00-520-9495	MS27508-E18B35P	96906	CONNECTOR (J1) RECEPTACLE	EA	1
E-10	12	PAFZZ	5305-00-054-5646	MS51957-12	96906	SCREW,	EA	6
E-10	13	PADDD	1090-01-074-9661	60082-270	K0656	MOTHERBOARD ASSEMBLY	EA	1
E-10	14	XADZZ		60082-271	K0656	CIRCUIT CARD, DRILLING	EA	1
E-10	15	PADZZ				ITEM DELETED		
E-10	16	PADZZ		M55302/58-B54Y	81349	CONNECTOR (XA3, XA4)	EA	2
E-10	17	PADZZ		M55302/58-B20Y	81349	CONNECTOR (XA2)	EA	1
E-10	18	PADZZ	5310-00-934-9748	MS35649/244	96906	NUT, PLAIN HEX	EA	9
E-10	19	PADZZ	5310-00-486-5342	3326-5001-001	K0656	WASHER, SPRING	EA	9
E-10	20	PADZZ		3801-3129-001	K0656	TERMINAL INSULATED	EA	3
E-10	21	PADZZ	5935-01-076-6416	M55302/60-B90Y	81349	CONNECTOR (XA1)	EA	1
E-10	22	PADZZ	5305-00-054-5651	MS51957-17	96906	SCREW,MACHINE	EA	9
E-10	23	XADZZ		60082-078	K0656	PLATE NUT	EA	1

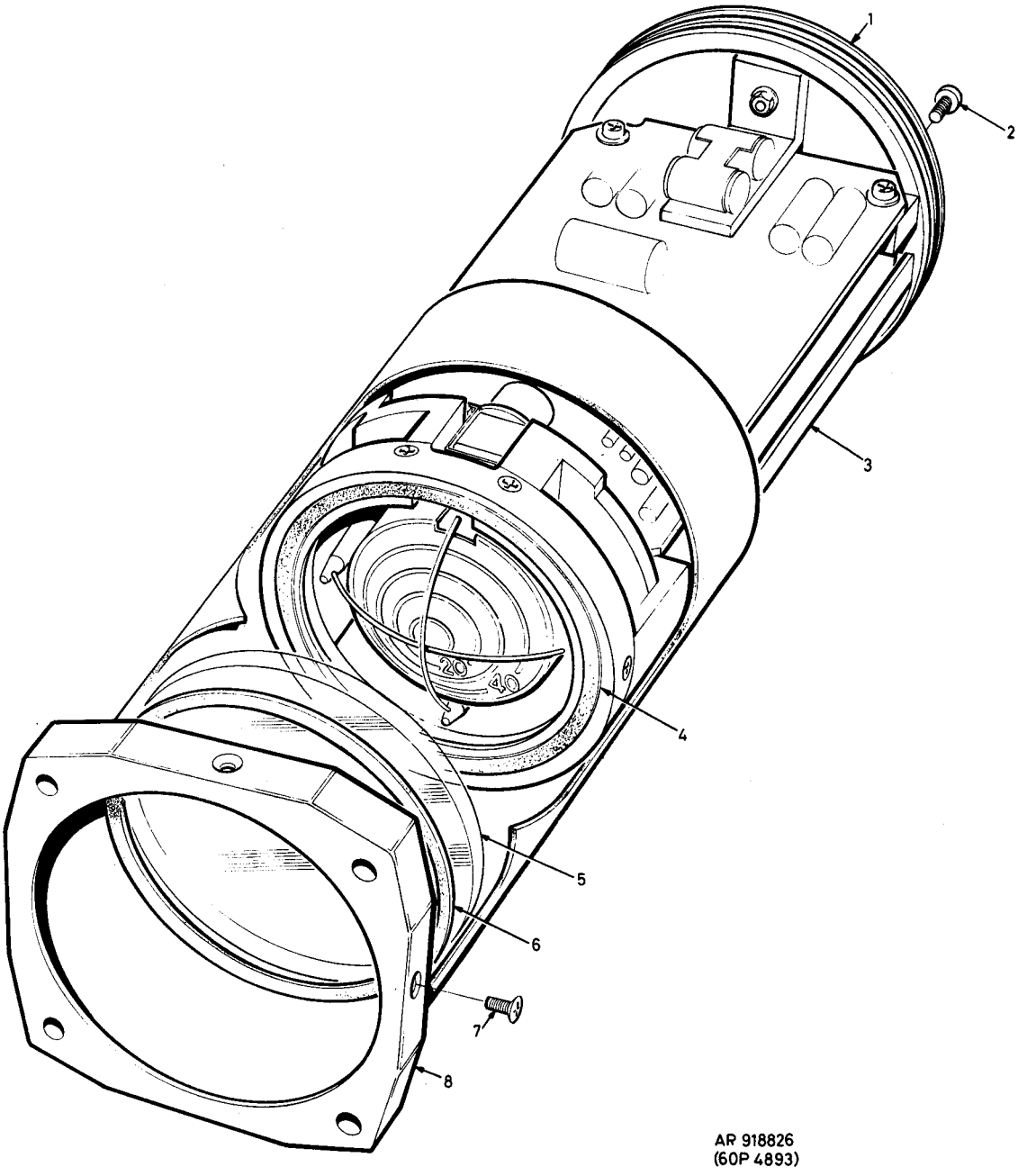


Figure E-11. Low Airspeed Indicator, 79-056-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 02 LOW AIRSPEED INDICATOR		
						79-056-02		
E-11	1	PADZZ		60087-037	K0656	PLATE, IDENTIFICATION	EA	1
E-11	2	PADZZ	5305-00-057-0497	MS51958-1	96906	SCREW,MACHINE	EA	4
E-11	3	PADDD	1090-01-074-4315	60087-001-02	K0656	CHASSIS ASSEMBLY	EA	1
E-11	4	PADZZ	1090-01-073-5573	60087-126	K0656	GASKET	EA	1
E-11	5	PADZZ		60087-009	K0656	WINDOW, DIAL	EA	1
E-11	6	PADZZ	5330-01-081-1293	60087-047	K0656	GASKET	EA	1
E-11	7	PADZZ	5305-00-774-9704	MS51960-7	96906	SCREW	EA	4
E-11	8	PADZZ	1090-01-074-4314	60087-045	K0656	CASE, INSTRUMENT	EA	1

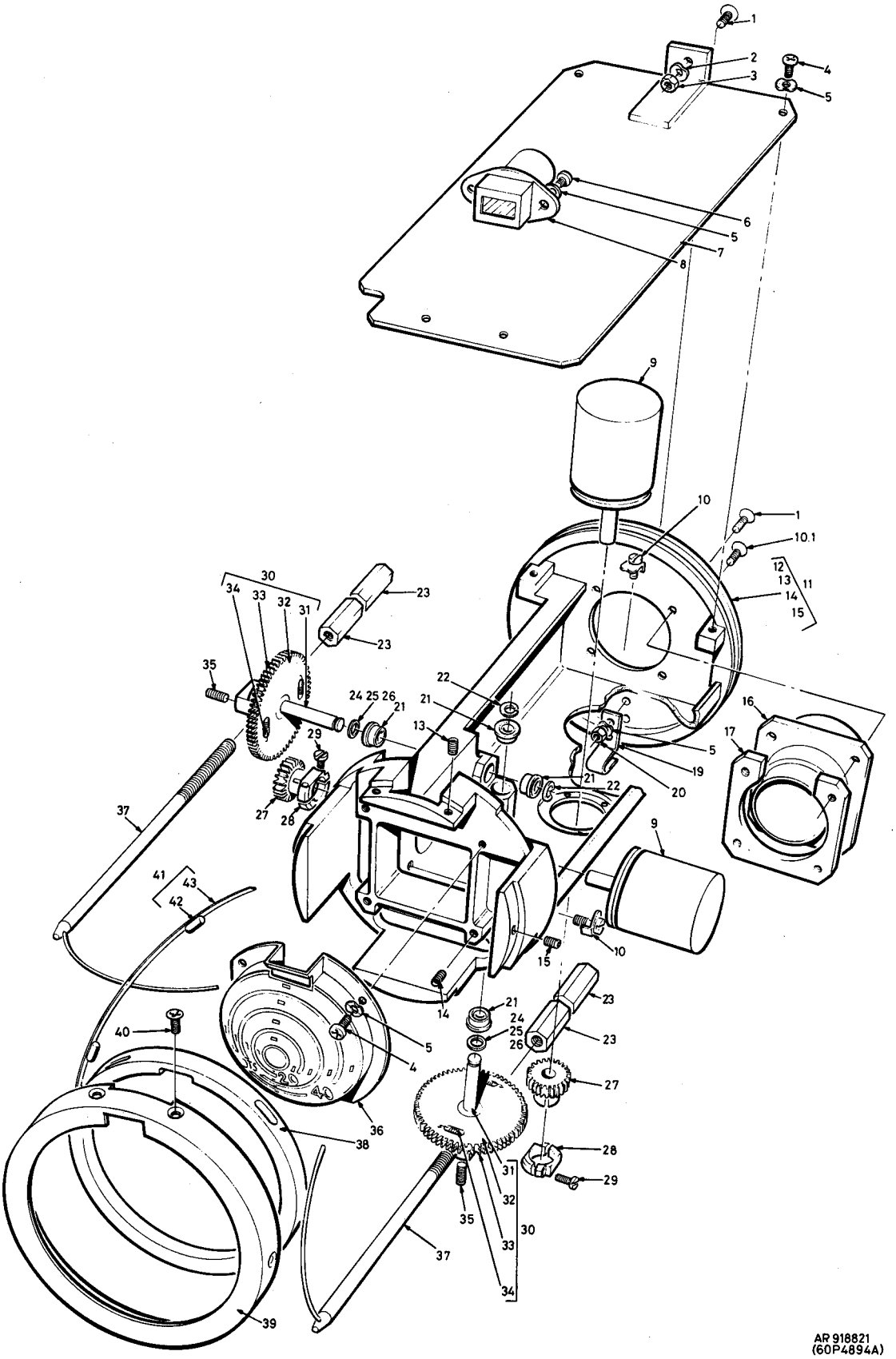


Figure E-12. Low Airspeed Indicator, Chassis Assembly, 60087-001-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0201 LOW AIRSPEED INDICATOR CHASSIS ASSEMBLY		
						60087-001-02		
E-12	1	PADZZ		MS24693-C3	96906	SCREW, MACHINE	EA	5
E-12	2	PADZZ	5310-00-486-5342	3326-5001-010	K0656	WASHER, SPRING	EA	1
E-12	3	PADZZ		MS35649-244	96906	NUT, PLAIN HEX	EA	1
E-12	4	PADZZ	5305-00-057-0499	MS51958-3	96906	SCREW, MACHINE	EA	8
E-12	5	PADZZ	5310-01-076-8135	3326-3001-010	K0656	WASHER, SPRING	EA	12
E-12	6	PADZZ	5305-00-057-0497	MS51958-1	96906	SCREW, MACHINE	EA	2
E-12	7	PADDD	1090-01-075-2876	60087-110	K0656	CIRCUIT CARD	EA	1
E-12	8	PADZZ	1090-01-074-9594	8700-00016	K0656	INDICATOR (L1)	EA	1
E-12	9	PADZZ	1090-01-075-2772	8010-00005	K0656	POTENTIOMETER (B1,B2)	EA	2
E-12	10	PADZZ		3737-00006	K0656	CLAMP, RIM CLEANING	EA	6
E-12	10.1	PADZZ	5305-00-727-8833	MS51959-3	96906	SCREW, MACHINE	EA	2
E-12	11	PADDD		60087-101	K0656	CHASSIS, MACHINING	EA	1
E-12	12	XADZZ	1090-01-074-5951	60087-100	K0656	CHASSIS, CASTING	EA	1
E-12	13	PADZZ	1090-01-074-5950	1191-02-CNX1-5D	K1012	THREAD INSERT	EA	4
E-12	14	PADZZ		1191-02-CNX2-0D	K1012	THREAD INSERT	EA	17
E-12	15	PADZZ		1191-02-CNX2-5D	K1012	THREAD INSERT	EA	4
E-12	16	PADZZ		MS3122-E14-19P	96906	CONNECTOR RECEPTACLE	EA	1
E-12	17	PADZZ	1090-01-075-6656	60087-033	K0656	PLATE	EA	1
E-12	18					ITEM DELETED		
E-12	19	PADZZ		60087-123	K0656	SPRING CONTACT	EA	1
E-12	20	PADZZ		MS35649-224	96906	NUT, PLAIN HEX	EA	2
E-12	21	PADZZ	3110-01-074-9177	4107-1245-006	K0656	BEARING BALL	EA	4
E-12	22	PADZZ	5365-00-866-1471	MS16632-4012	96906	RING RETAINING	EA	2
E-12	23	PADZZ		2121-3032-001	K0656	POST, ELECTRICAL	EA	4
E-12	24	PADZZ		81SPS1500/2	K0656	SHIM 0.003"	EA	V
E-12	25	PADZZ		81SPS1500/3	K0656	SHIM 0.005"	EA	V
E-12	26	PADZZ		81SPS1500/4	K0656	SHIM 0.010"	EA	V
E-12	27	PADZZ	3020-01-075-9770	60087-022	K0656	GEAR SPUR	EA	2
E-12	28	PADZZ	3040-00-443-2331	3723-2302-002	K0656	CLAMP HUB	EA	2
E-12	29	PADZZ	5305-01-075-1904	3104-0836-003	K0656	SCREW, MACHINE	EA	4
E-12	30	PADZZ	3040-01-078-4738	60087-105	K0656	GEAR AND SHAFT ASSEMBLY	EA	2
E-12	31	XADZZ		60087-104	K0656	SHAFT	EA	2
E-12	32	XADZZ		4203-4431-004	K0656	GEAR SPUR, 120 TEETH	EA	2
E-12	33	XADZZ		60087-103	K0656	GEAR SPUR, 120 TEETH	EA	2
E-12	34	XADZZ		4801-6111-001	K0656	SPRING HELICAL	EA	4
E-12	35	XADZZ	5305-00-717-6950	MS51021-10	96906	SCREW, GRUB	EA	4
E-12	36	PADZZ		60087-108	K0656	DIAL, AND FLAG MASK	EA	1
E-12	37	PADZZ	1090-01-074-5952	60087-120	K0656	CROSS WIRE ASSEMBLY	EA	2
E-12	38	PADZZ	1090-01-074-5946	60087-106	K0656	RING, ILLUMINATION	EA	1
E-12	39	PADZZ	1090-01-074-5947	60087-102	K0656	RETAINER, SUB ASSEMBLY	EA	1
E-12	40	PADZZ	5305-00-774-9704	MS51960-8	96906	SCREW, MACHINE	EA	5

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0201 LAI CHASSIS ASSEMBLY		
						60087-001-02 (CONTINUED)		
E-12	41	ADDZZ	1090-01-074-5948	60087-121	K0656	LAMP ASSEMBLY	EA	1
E-12	42	PADZZ	6240-00-926-4462	MS24367-715	96906	LAMP INCANDESCENT	EA	4
E-12	43	PADZZ		1026-7002-003	K0656	LEAD, ELECTRICAL, FLEXIBLE	EA	1

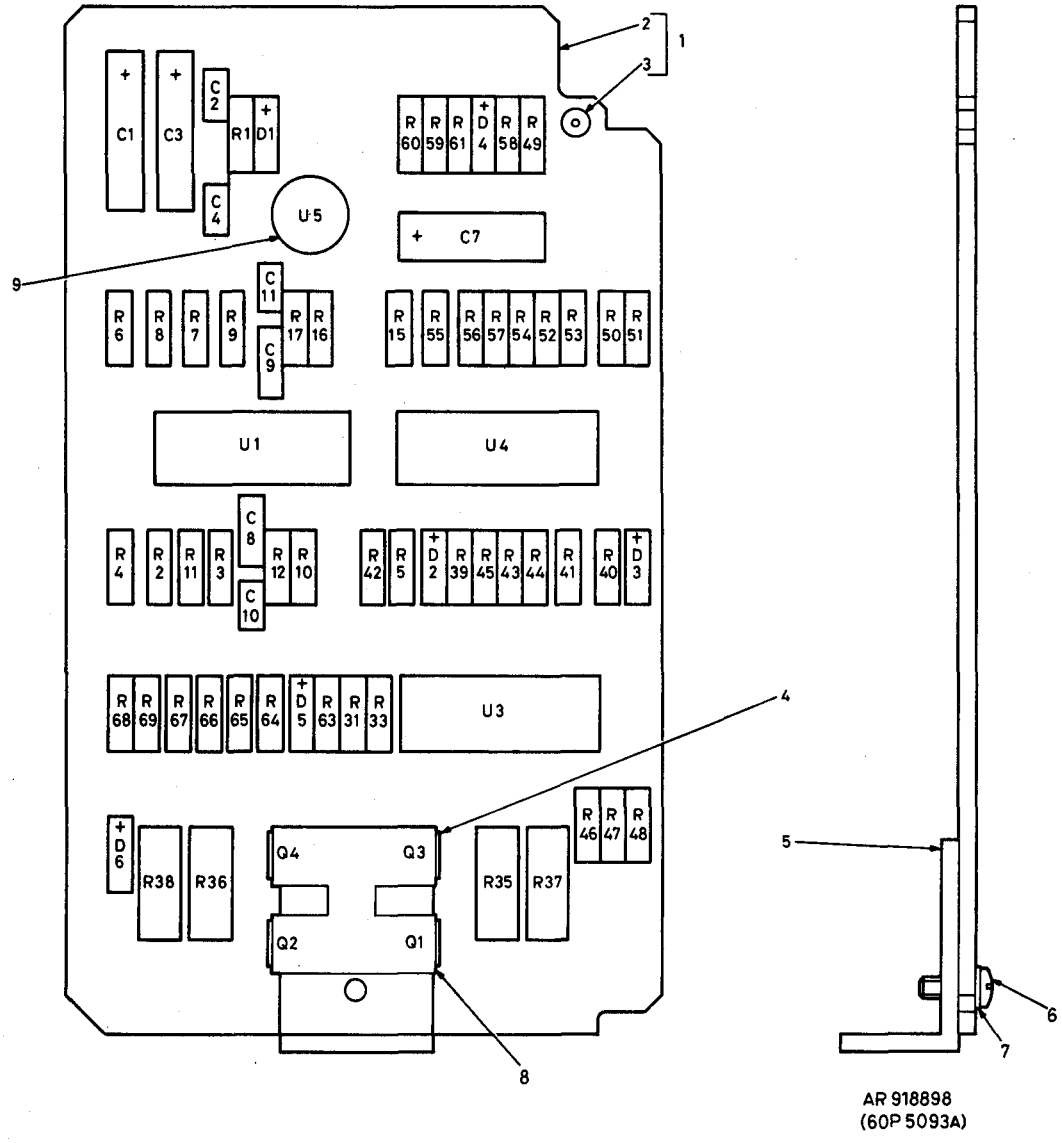


Figure E-13. Low Airspeed Indicator, Printed Wiring Board Assembly, 60087-110.

LEGEND FOR FIGURE E-13

REF DES	ITEM NO
C1	10
C2	11
C3	10
C4	11
C7	12
C8	13
C9	13
C10	14
C11	14
D1	15
D2	16
D3	17
D4	16
D5	17
D6	17
Q1	18
Q2	19
Q3	18
Q4	19
R1	20
R2	21
R3	21
R4	21
R5	21
R6	21
R7	21
R8	21

REF DES	ITEM NO
R9	21
R10	22
R11	23
R12	23
R16	23
R17	23
R31	24
R33	24
R35	25
R38	25
R39	26
R40	27
R40	28
R40	29
R41	30
R42	31
R43	32
R44	23
R45	33
R46	34
R47	35
R48	34
R49	36
R50	37
R51	38
R52	36
R54	40
R55	35
R56	41
R57	35
R58	31

REF DES	ITEM NO
R59	31
R60	31
R61	31
R63	42
R64	43
R64	44
R64	45
R64	46
R64	47
R64	48
R64	49
R65	50
R65	51
R65	52
R65	53
R65	54
R65	55
R65	56
R65	57
R66	58
R67	59
R67	60
R67	61
R67	62
R67	63
R68	64
R69	39
U1	65
U3	66
U4	66

REF DES	ITEM NO
U5	67

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 020101 LOW AIRSPEED INDICATOR PRINTED WIRING BOARD ASSEMBLY		
						60087-110		
E-13	1	XADZZ		60087-112	K0656	TERMINAL ASSEMBLY	EA	1
E-13	2	XADZZ		60087-111	K0656	PRINTED CIRCUIT BOARD, DRILLING	EA	1
E-13	3	PADZZ	5940-01-074-4478	3801-3129-001	K0656	TERMINAL POST	EA	40
E-13	4	PADZZ		3831-2445-001	K0656	INSULATOR DISC	EA	4
E-13	5	PADZZ		60087-122	K0656	BRACKET	EA	1
E-13	6	PADZZ		9800-00020	K0656	HEAT SINK	EA	1
E-13	7	PADZZ	5305-00-054-5648	MS51957-14	96906	SCREW, MACHINE	EA	2
E-13	8	PADZZ		3326-5001-001	K0656	WASHER, SPRING	EA	1
E-13	9	PADZZ	5970-01-074-4480	3831-4585-002	K0656	INSULATOR DISC	EA	1
E-13	10	PADZZ		M39003/01-2368	81349	CAPACITOR, FIXED (C1,C3)	EA	2
E-13	11	PADZZ	5910-00-010-8717	M39014-01-1473	81349	CAPACITOR, FIXED (C2,C4)	EA	2
E-13	12	PADZZ	5910-00-144-4381	M39003/01-2304	81349	CAPACITOR, FIXED (C7)	EA	1
E-13	13	PADZZ		CK06BX105K	81349	CAPACITOR, FIXD (C8,C9)	EA	2
E-13	14	PADZZ	5910-00-124-0659	CK05BX103K	81349	CAPACITOR, FIXED (C10,C11)	EA	1
E-13	15	PADZZ	5961-00-104-1398	JANTX1N751A	81349	DIODE (D1)	EA	1
E-13	16	PADZZ	5961-00-494-4915	JANTX1N4148	81349	DIODE (D2,D4)	EA	2
E-13	17	PADZZ	5961-00-938-4977	JANTX1N758A	81349	DIODE (D3,D5,D6)	EA	3
E-13	18	PADZZ	5961-00-858-3826	JANTX2N2222A	81349	TRANSISTOR, (Q1,Q3)	EA	2
E-13	19	PADZZ	5961-00-925-3777	JANTX2N2907A	81349	TRANSISTOR, (Q2,Q4)	EA	2
E-13	20	PADZZ		RWR81S1200FM	81349	RESISTOR, FIXED (R1)	EA	1
E-13	21	PADZZ	5905-00-429-5712	RNR55C1002BS	81349	RESISTOR, FIXED (R2-R9)	EA	8
E-13	22	PADZZ		RCR0C184JS	81349	RESISTOR, FIXED (R10,R15)	EA	2
E-13	23	PADZZ	5905-00-240-2728	RLR07C103GR	81349	RESISTOR, FIXED (R11,R12,R16,R17,R44)	EA	5
E-13	24	PADZZ	5905-00-240-2726	RLR07C102GR	81349	RESISTOR, FIXED (R31,R33)	EA	2
E-13	25	PADZZ	5905-00-436-8565	RLR20C220GR	81349	RESISTOR, FIXED (R35-R38)	EA	4
E-13	26	PADZZ		RCR07C274JS	81349	RESISTOR, FIXED (R39)	EA	1
E-13	27	PADZZ	5905-00-405-2740	RLR07C113GR	81349	RESISTOR, FIXED (R40) SELECT ON TEST	EA	V
E-13	28	PADZZ	5905-00-490-0246	RLR07C123GR	81349	RESISTOR, FIXED (R40) SELECT ON TEST	EA	V
E-13	29	PADZZ	5905-00-496-5786	RLR07C133GR	81349	RESISTOR, FIXED (R40) SELECT ON TEST	EA	V
E-13	30	PADZZ	5905-00-120-9152	RCR07C274JS	81349	RESISTOR, FIXED (R41) SELECT ON TEST	EA	V
E-13	31	PADZZ	5905-00-491-2639	RLR07C302GR	81349	RESISTOR, FIXED (R42,R58-R61)	EA	5
E-13	32	PADZZ	5905-00-240-2748	RLR07C562GR	81349	RESISTOR, FIXED (R43)	EA	1
E-13	33	PADZZ		RLR07C154GR	81349	RESISTOR, FIXED (R45)	EA	1
E-13	34	PADZZ		RLR07C563GR	81349	RESISTOR, FIXED (R46,R48)	EA	2
E-13	35	PADZZ		RLR07C104GR	81349	RESISTOR, FIXED (R47,R55,R57)	EA	3
E-13	36	PADZZ	5905-00-240-2745	RLR07C272GR	81349	RESISTOR, FIXED (R49,R53)	EA	2
E-13	37	PADZZ		RLR07C363GR	81349	RESISTOR, FIXED (R50)	EA	1
E-13	38	PADZZ		RLR07C182GR	81349	RESISTOR, FIXED (R51)	EA	1
E-13	39	PADZZ	5905-00-438-0506	RLR07C511GR	81349	RESISTOR, RIXED (R52,R69)	EA	1
E-13	40	PADZZ		RLR07C114GR	81349	RESISTOR, FIXED (R54)	EA	1
E-13	41	PADZZ		RLR07C911GR	81349	RESISTOR, FIXED (R56)	EA	1

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 020101 LOW AIRSPEED INDICATOR PRINTED WIRING BOARD ASSEMBLY		
						60087-110 (CONTINUED)		
E-13	2	PADZZ	5905-00-438-0505	RLR07C471GR	81349	RESISTOR, FIXED (R63)	EA	1
E-13	43	PADZZ		RLR07C201GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	44	PADZZ	5905-00-758-2918	RLR07C621GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	45	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	46	PADZZ	5905-00-404-8837	RLR07C132GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	47	PADZZ		RLR07C153GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	48	PADZZ		RLR07C182GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	49	PADZZ	5905-00-419-2822	RLR07C202GR	81349	RESISTOR, FIXED (R64) SELECT ON TEST	EA	V
E-13	50	PADZZ		RLR07C201GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	51	PADZZ	5905-00-758-2918	RLR07C621GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	52	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	53	PADZZ	5905-00-240-7954	RLR07C152GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	54	PADZZ		RLR07C182GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	55	PADZZ	5905-00-419-2822	RLR07C202GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	56	PADZZ	5905-00-240-2736	RLR07C183GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	57	PADZZ		RLR07C303GR	81349	RESISTOR, FIXED (R65) SELECT ON TEST	EA	V
E-13	58	PADZZ	5905-00-240-2747	RLR07C391GR	81349	RESISTOR, FIXED (R66) SELECT ON TEST	EA	V
E-13	59	PADZZ	5905-00-400-9612	RLR07C561GR	81349	RESISTOR, FIXED (R67) SELECT ON TEST	EA	V
E-13	60	PADZZ	5905-00-240-2759	RLR07C681GR	81349	RESISTOR, FIXED (R67) SELECT ON TEST	EA	V
E-13	61	PADZZ	5905-00-419-2823	RLR07C751GR	81349	RESISTOR, FIXED (R67) SELECT ON TEST	EA	V
E-13	62	PADZZ	5905-00-419-3949	RLR07C821GR	81349	RESISTOR, FIXED (R67) SELECT ON TEST	EA	V
E-13	63	PADZZ	5905-01-047-1531	RLR07C102GR	81349	RESISTOR, FIXED (R67) SELECT ON TEST	EA	V
E-13	61	PADZZ	5905-00-240-7954	RLR07C152GR	81349	RESISTOR, FIXED (R68)	EA	1
E-13	65	PADZZ	5962-01-091-1121	9400-00170	K0656	INTEGRATED CIRCUIT (U1)	EA	1
E-13	66	PADZZ		9403-00024	K0656	INTEGRATED CIRCUIT (U3,U4)	EA	2
E-13	67	PADZZ		9406-00060	K0656	INTEGRATED CIRCUIT (U5)	EA	1

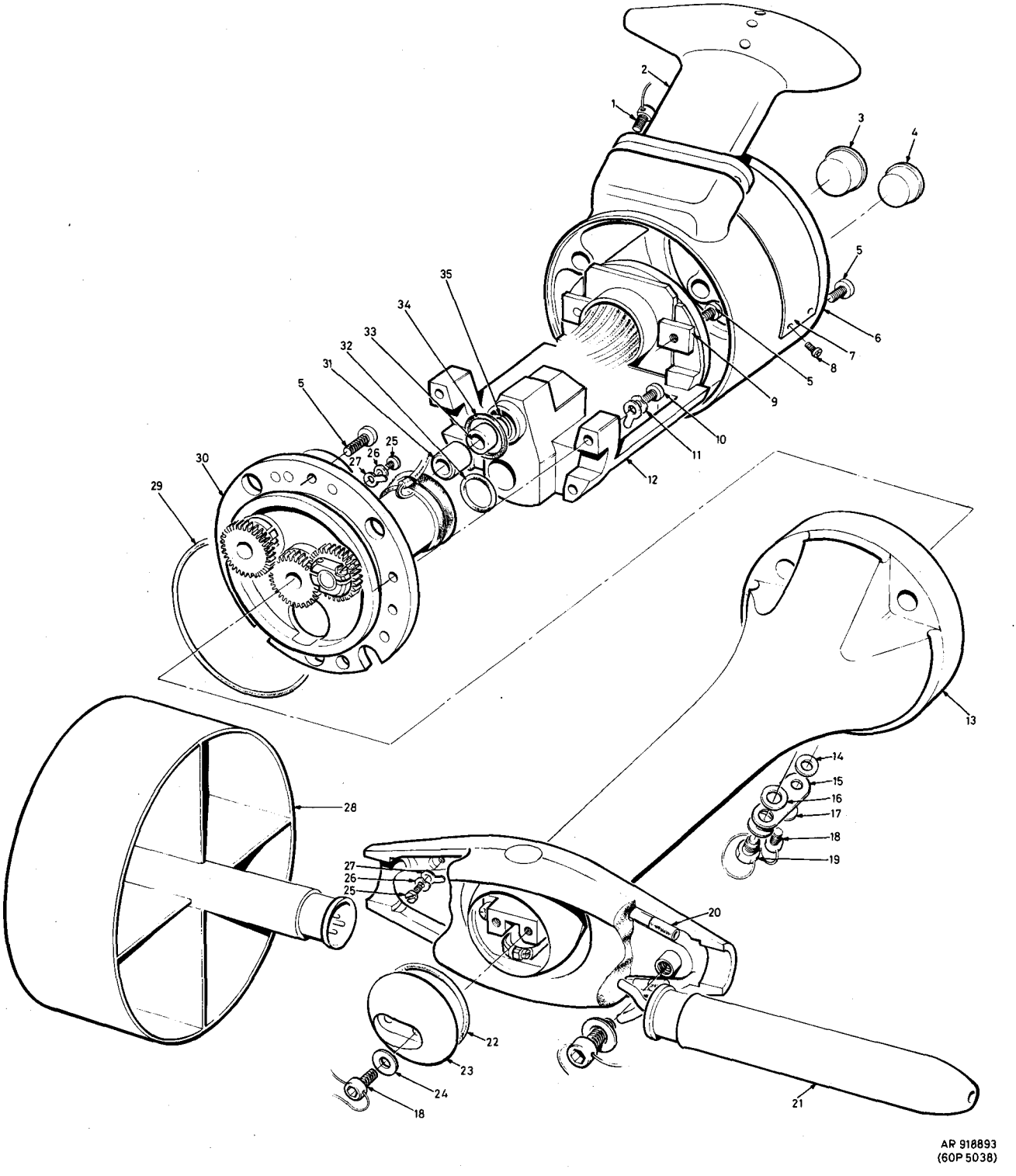


Figure E-14. Airspeed and Direction Sensor, 05-010-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 03 AIRSPEED AND DIRECTION SENSOR		
						05-010-02		
E-14	1	PADZZ	5305-00-056-9961	MS24677-2	96906	SCREW,	EA	2
E-14	2	PADZZ	1090-01-076-2412	9611-00003	K0656	THERMOMETER, ELECTRONIC	EA	1
E-14	3	PADZZ		5600-1344-002	K0656	CAP, PROTECTIVE	EA	1
E-14	4	PADZZ		5600-1344-001	K0656	CAP, PROTECTIVE	EA	1
E-14	5	PADZZ	5305-00-054-5648	MS51957-14	96906	SCREW MACHINE	EA	7
E-14	6	PADDD	1090-01-085-6142	60093-067-02	K0656	COVER AND DOWEL ASSEMBLY	EA	1
E-14	7	PADZZ	9905-01-075-9112	60093-100	K0656	PLATE, IDENTIFICATION	EA	1
E-14	8	PADZZ	5305-00-054-5635	MS51957-1	96906	SCREW,	EA	4
E-14	9	PADZZ		60093-220	K0656	CLAMP	EA	1
E-14	10	PADZZ	5305-00-054-5653	MS51957-19	96906	SCREW, MACHINE	EA	4
E-14	11	PADZZ	5310-00-486-5342	3326-5001-001	K0656	WASHER	EA	4
E-14	12	PADDD	1090-01-076-6074	60093-077-02	K0656	BODY AND PLUG ASSEMBLY	EA	1
E-14	13	PADDD	1090-01-075-2774	60093-012-02	K0656	NECK ASSEMBLY	EA	1
E-14	14	PADZZ	5310-00-167-0738	AN-960-D6	88044	WASHER	EA	1
E-14	15	PADZZ		60093-097	K0656	EARTH STRAP	EA	1
E-14	16	PADZZ		60093-111	K0656	WASHER, BONDING	EA	2
E-14	17	PADZZ		AN-960-C6	88044	WASHER	EA	1
E-14	18	PADZZ	5305-00-957-2690	MS24674-1	96906	SCREW, HEX SKT	EA	3
E-14	19	PADZZ	1090-01-076-1992	60093-105	K0656	DRAIN PLUG ASSEMBLY	EA	1
E-14	20	XADZZ		60093-094	K0656	TUBE	EA	2
E-14	21	PADZZ	1090-01-075-2790	60093-081-01	K0656	HEAD ASSEMBLY	EA	1
E-14	22	PADZZ		5605-2415-001	K0656	RING, SEALING, TOROIDAL	EA	1
E-14	23	PADZZ		60093-028	K0656	END CAP	EA	1
E-14	24	PADZZ		3331-2001-002	K0656	SEAL,PLAIN	EA	2
E-14	25	PADZZ	5305-00-057-0497	MS51958-1	96906	SCREW, MACHINE	EA	3
E-14	26	PADZZ	5310-00-463-8248	3326-3001-001	K0656	WASHER, SPRING	EA	3
E-14	27	PADZZ		3AQC28/303	K0656	TERMINAL, TAG	EA	2
E-14	28	PADDD	1090-01-075-2775	60093-001-02	K0656	TAIL ASSEMBLY (PREFERRED) S/NO 00029 AND SUB	EA	1
E-14	28	XDDZZ		60093-001-01	K0656	TAIL ASSEMBLY (ALTERNATIVE)S/NO 0012 - 0028	EA	1
E-14	29	PADZZ		5605-3615-001	K0656	RING,	EA	1
E-14	30	PADDD	1090-01-075-8760	60093-080-02	K0656	PLATE AND CONNECTOR ASSEMBLY	EA	1
E-14	31	PADZZ	1090-01-080-6413	60093-072	K0656	NUT, SPECIAL	EA	1
E-14	32	PADZZ		5605-1615-001	K0656	SEAL PLAIN	EA	1
E-14	33	PADZZ		60093-075	K0656	COLLAR	EA	1
E-14	34	PADZZ		60093-011	K0656	SEAL, PLAIN	EA	1
E-14	35	PADZZ		5605-0815-002	K0656	SEAL, PLAIN	EA	1

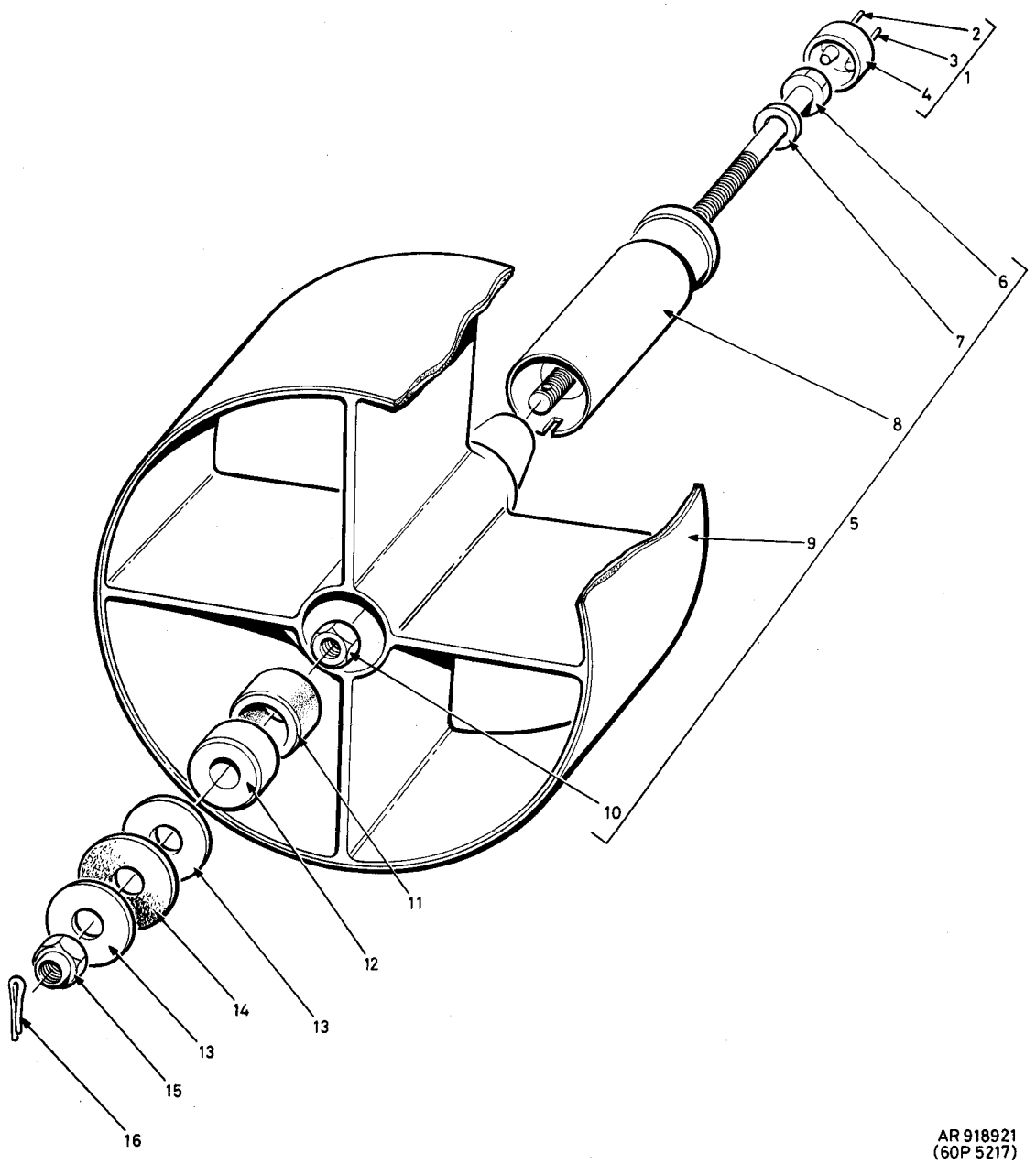


Figure E-15. Tail Assembly, 60093-001-02

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0301 TAIL ASSEMBLY		
						60093-001-02		
E-15	1	PADZZ		60093-226	K0656	BODY TERMINAL ASSY	EA	1
E-15	2	XADZZ		3801-4314-002	K0656	TERMINAL INSULATED	EA	1
E-15	3	XADZZ		3828-2301-001	K0656	TERMINAL STUD	EA	2
E-15	4	XADZZ		60093-219	K0656	BODY	EA	1
E-15	5	PADDD		60093-221	K0656	TAIL SUB ASSY	EA	1
E-15	6	PADZZ		60093-229	K0656	SPECIAL BOLT	EA	1
E-15	7	PADZZ		PIC YW-1	K0656	WASHER	EA	1
E-15	8	PADZZ		60093-222	K0656	STEM TAIL	EA	1
E-15	9	PADZZ		60093-223	K0656	TAIL	EA	1
E-15	10	PADZZ		MS35649-244	96906	NUT	EA	1
E-15	11	PADZZ		60093-096	K0656	SPACER (6 MAXIMUM)	EA	V
E-15	12	PADZZ		60093-225	K0656	WEIGHT BALANCE (3 MAXIMUM)	EA	V
E-15	13	PADZZ		60093-227	K0656	DISC	EA	2
E-15	14	PADZZ		60093-228	K0656	SILICONE RUBBER DISC	EA	1
E-15	15	PADZZ		MS21046-C04	96906	NUT,SELF-LOCKING	EA	1
E-15	16	PADZZ		MS24665-18	96906	PIN COTTER	EA	1

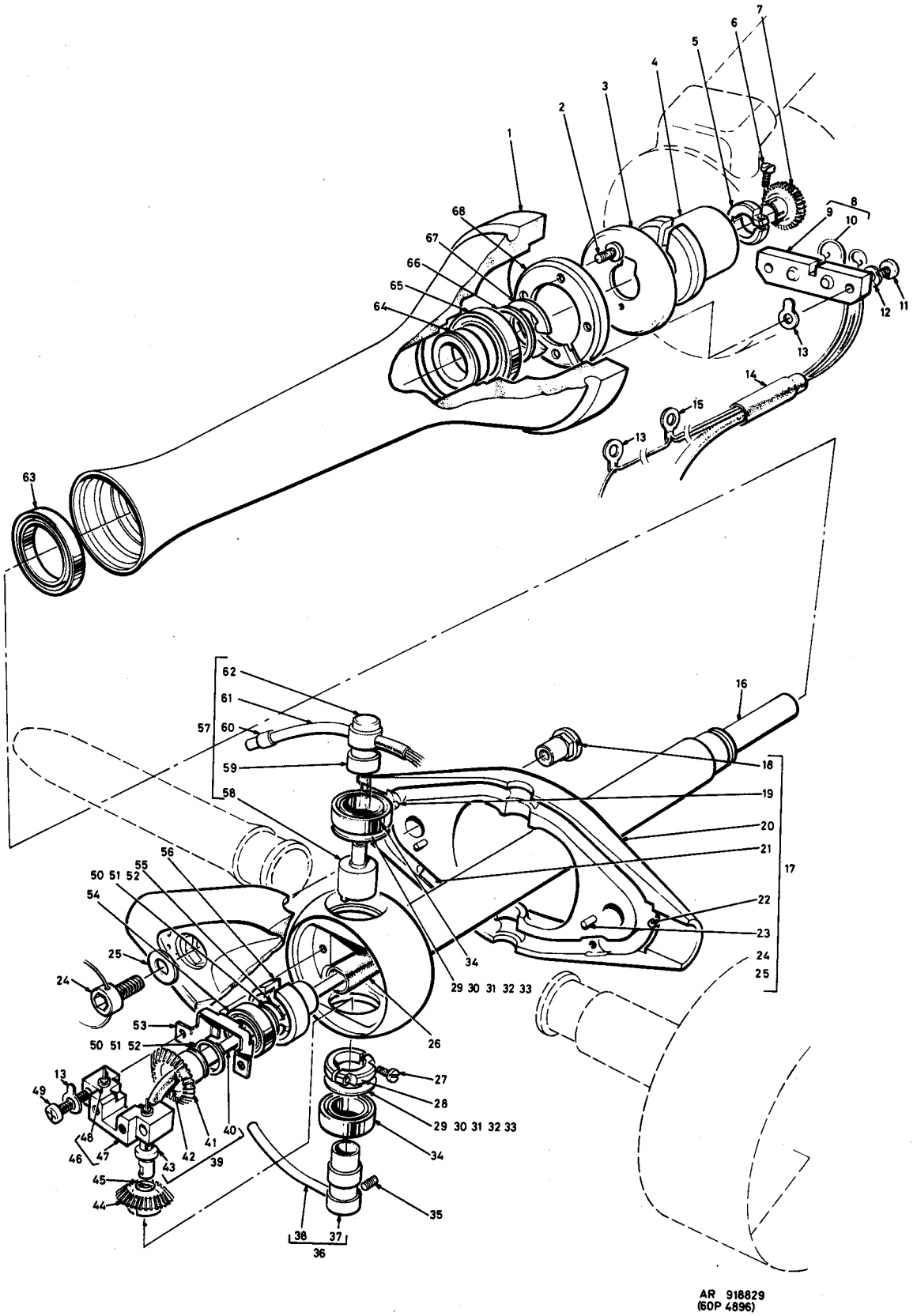


Figure E-16. Neck Assembly, 60093-012-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0302 NECK ASSEMBLY		
						60093-012-02		
E-16	1	XADZZ		60093-218	K0656	CASTING SHAFT, AXIAL	EA	1
E-16	2	PADZZ		MS35275-202	96906	SCREW, MACHINE	EA	4
E-16	3	PADZZ		60093-037	K0656	PLATE, ELECTRICAL	EA	1
E-16	4	PADZZ	1090-01-075-9165	7937-00020	K0656	RING ASSEMBLY (SR1)	EA	1
E-16	5	PADZZ	1090-01-081-8600	60093-046	K0656	CLAMP HUB	EA	1
E-16	6	PADZZ	5305-00-959-1910	MS16996-3	96906	SCREW, MACHINE	EA	1
E-16	7	PADZZ	3020-01-076-2621	60093-047	K0656	GEAR, SPUR	EA	1
E-16	8	PADDD	1090-01-075-2785	60093-050	K0656	SEGMENT TERMINAL	EA	1
E-16	9	PADZZ	5940-01-080-0686	3828-2301-001	K0656	TERMINAL, STUD	EA	2
E-16	10	XADZZ		60093-049	K0656	SEGMENT	EA	1
E-16	11	PADZZ	5305-00-054-5638	MS51957-4	96906	SCREW, MACHINE	EA	2
E-16	12	PADZZ	5310-00-463-8248	3326-3001-001	K0656	WASHER, SPRING	EA	2
E-16	13	PADZZ		3AQC28/303	K0656	TERMINAL TAG	EA	4
E-16	14	PADZZ		1423-3210-001	K0656	SLEEVING	EA	1
E-16	15	PADZZ		3AQC28/207	K0656	TERMINAL TAG	EA	1
E-16	16	XADZZ	1090-01-075-9164	60093-030	K0656	SHAFT, AXIAL	EA	1
E-16	17	PADDD	1090-01-075-2786	60093-206	K0656	YOKE ASSEMBLY	EA	1
E-16	18	PADZZ	1090-01-075-2787	60093-060	K0656	BUFFER ASSEMBLY	EA	2
E-16	19	MDDZZ	5515-01-076-8220	60093-068	K0656	PIN, SHOULDER, HEADLESS	EA	1
E-16	20	XADZZ		60093-205	K0656	YOKE SUB ASSEMBLY	EA	1
E-16	21	PADZZ		60093-207	K0656	PAD	EA	2
E-16	22	PADZZ	5315-00-282-1187	AN122676	88044	PIN, STRAIGHT	EA	1
E-16	23	PADZZ		AN122677	88044	PIN, STRAIGHT	EA	2
E-16	24	PADZZ	5305-00-543-4517	MS24673-2	96906	SCREW, CAP SOCKET	EA	2
E-16	25	PADZZ		AN960-C10L	88044	WASHER, FLAT	EA	2
E-16	26	PADZZ	4710-01-077-1133	60093-045	K0656	TUBE, NON METALIC	EA	1
E-16	27	PADZZ		3104-0836-100	K0656	SCREW, MACHINE	EA	2
E-16	28	PADZZ	3460-01-079-0022	60093-040	K0656	COLLET, MACHINE	EA	1
E-16	29	PADZZ		3303-1671-001	K0656	SHIM 0.003"	EA	V
E-16	30	PADZZ		3303-1673-001	K0656	SHIM 0.005"	EA	V
E-16	31	PADZZ		3303-1675-001	K0656	SHIM 0.007"	EA	V
E-16	32	PADZZ		3303-1676-001	K0656	SHIM 0.010"	EA	V
E-16	33	PADZZ		3303-1679-001	K0656	SHIM 0.020"	EA	V
E-16	34	PADZZ		60093-110	K0656	BEARING, BALL	EA	2
E-16	35	PADZZ	5305-00-717-6950	MS51963-9	96906	SCREW, GRUB	EA	1
E-16	36	PADZZ	1090-01-075-8755	60093-013	K0656	SHAFT ASSEMBLY	EA	1
E-16	37	XADZZ		60093-019	K0656	STUB SHAFT	EA	1
E-16	38	XADZZ		60093-022	K0656	TUBE	EA	1
E-16	39	PADDD	1090-01-075-2776	60093-211	K0656	GEAR AND TUBE ASSEMBLY	EA	1
E-16	40	XADZZ		60093-024	K0656	TUBE	EA	1

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0302 NECK ASSEMBLY		
						60093-012-02 (CONTINUED)		
E-16	41	PADZZ		60093-210	K0656	GEAR, BEVEL	EA	1
E-16	42	XADZZ		60093-025	K0656	TUBE	EA	1
E-16	43	XADZZ		60093-026	K0656	TUBE CONNECTOR	EA	1
E-16	44	PADZZ	3020-01-075-5003	60093-043	K0656	GEAR, BEVEL	EA	1
E-16	45	PADZZ		5605-0185-002	K0656	RING, SEALING, TOROIDAL	EA	1
E-16	46	PADZZ	1090-01-075-2777	60093-016	K0656	BLOCK, TERMINAL	EA	1
E-16	47	XADZZ		60093-027	K0656	BLOCK	EA	1
E-16	48	PADZZ	5940-01-080-0686	3828-2301-001	K0656	TERMINAL, STUD	EA	2
E-16	49	PADZZ	5305-00-054-5641	MS51957-7	96906	SCREW, MACHINE	EA	2
E-16	50	PADZZ		3303-1433-001	K0656	SHIM 0.006	EA	V
E-16	51	PADZZ		3303-1435-001	K0656	SHIM 0.007	EA	V
E-16	52	PADZZ		3303-1435-002	K0656	SHIM 0.008	EA	V
E-16	53	PADZZ	3110-01-075-4993	60093-032	K0656	RETAINER, BALL	EA	1
E-16	54	PADZZ	3110-01-076-2342	4123-5555-002	K0656	BEARING, BALL	EA	1
E-16	55	PADZZ		3711-5020-002	K0656	RING, RETAINING	EA	1
E-16	56	PADZZ	3120-01-075-4994	60093-034	K0656	BEARING, SLEEVE	EA	1
E-16	57	PADZZ	1090-01-075-8758	60093-018	K0656	SHAFT AND SLIP RING ASSEMBLY	EA	1
E-16	58	XADZZ		7937-00021	K0656	RING ASSEMBLY	EA	1
E-16	59	XADZZ		60093-041	K0656	BUSHING	EA	1
E-16	60	XADZZ		60093-010	K0656	TUBE, EXTENDER	EA	1
E-16	61	XADZZ		60093-022	K0656	TUBE	EA	1
E-16	62	XADZZ		60093-021	K0656	STUB SHAFT	EA	1
E-16	63	PADZZ		60093-109	K0656	BEARING, BALL	EA	1
E-16	64	PADZZ	3120-01-075-4995	60093-038	K0656	BUSHING SLEEVE	EA	1
E-16	65	PADZZ	3110-01-077-2670	4123-7755-008	K0656	BEARING, BALL	EA	1
E-16	66	PADZZ		60093-215	K0656	SHIM STACK	EA	1
E-16	67	PADZZ	5365-00-818-0872	MS16624-4043	96906	RING, RETAINING	EA	1
E-16	68	PADZZ	3110-01-076-2704	60093-214	K0656	PLATE, RETAINING	EA	1

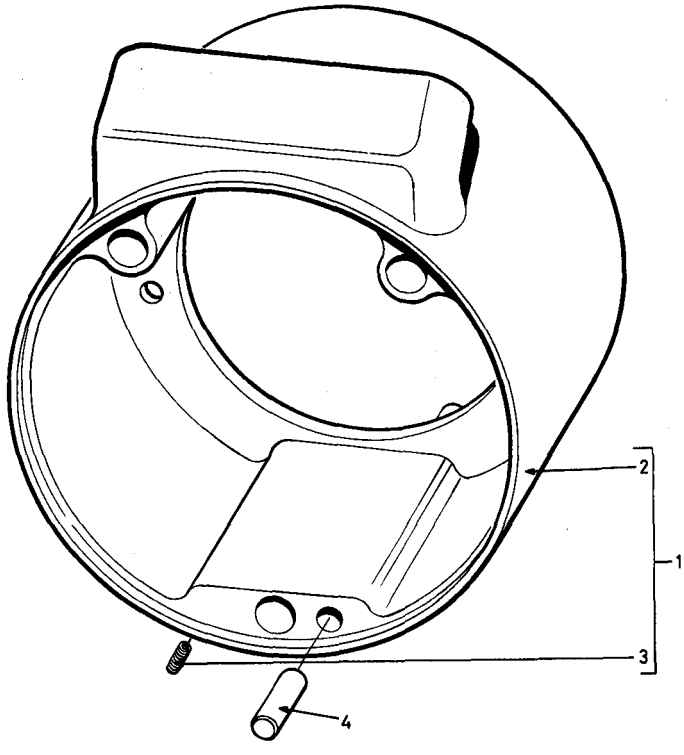


Figure E-17. Cover and Dowel Assembly, 60093-067-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0303 COVER AND DOWEL ASSEMBLY		
						60093-067-02		
E-17	1	XADZZ		60093-209	K0656	COVER, SUB ASSEMBLY MACHINING	EA	1
E-17	2	XADZZ		60093-208	K0656	COVER, CASTIN	EA	1
E-17	3	PADZZ		MS122158	K1012	HELICOIL INSERT	EA	2
E-17	4	PADZZ	5315-01-077-2751	60093-093	K0656	PIN STRAIGHT	EA	2

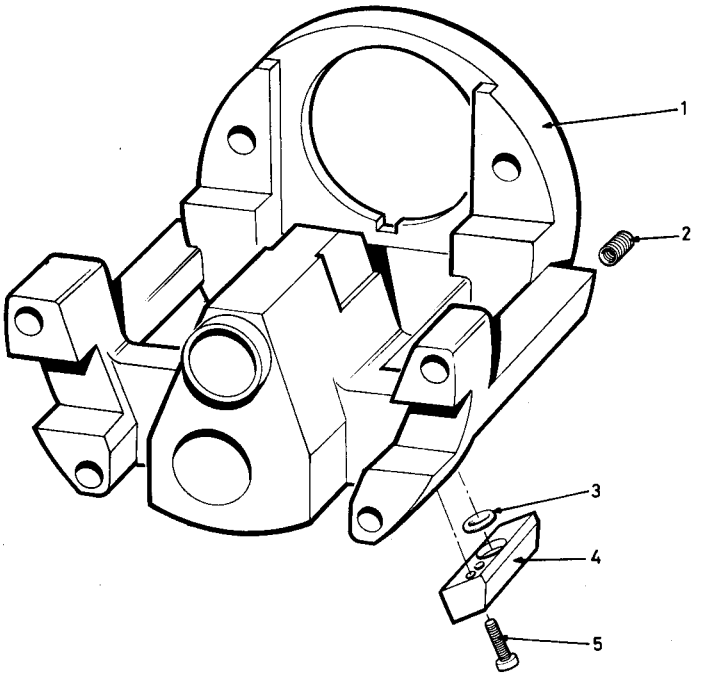


Figure E-18. Body and Plug Assembly, 60093-077-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0304 BODY AND PLUG ASSEMBLY		
						60093-077-02		
E-18	1	XADZZ		60093-201	K0656	BODY	EA	1
E-18	2	PADZZ		1185-04-X2D	K1012	HELICOIL INSERT	EA	2
E-18	3	PADZZ		5605-0815-002	K0656	SEAL, PLAIN	EA	1
E-18	4	PADZZ	1090-01-075-8759	60093-107	K0656	DRAIN PLUG ASSEMBLY	EA	1
E-18	5	PADZZ	5305-00-054-5640	MS51957-6	96906	SCREW, MACHINE	EA	2

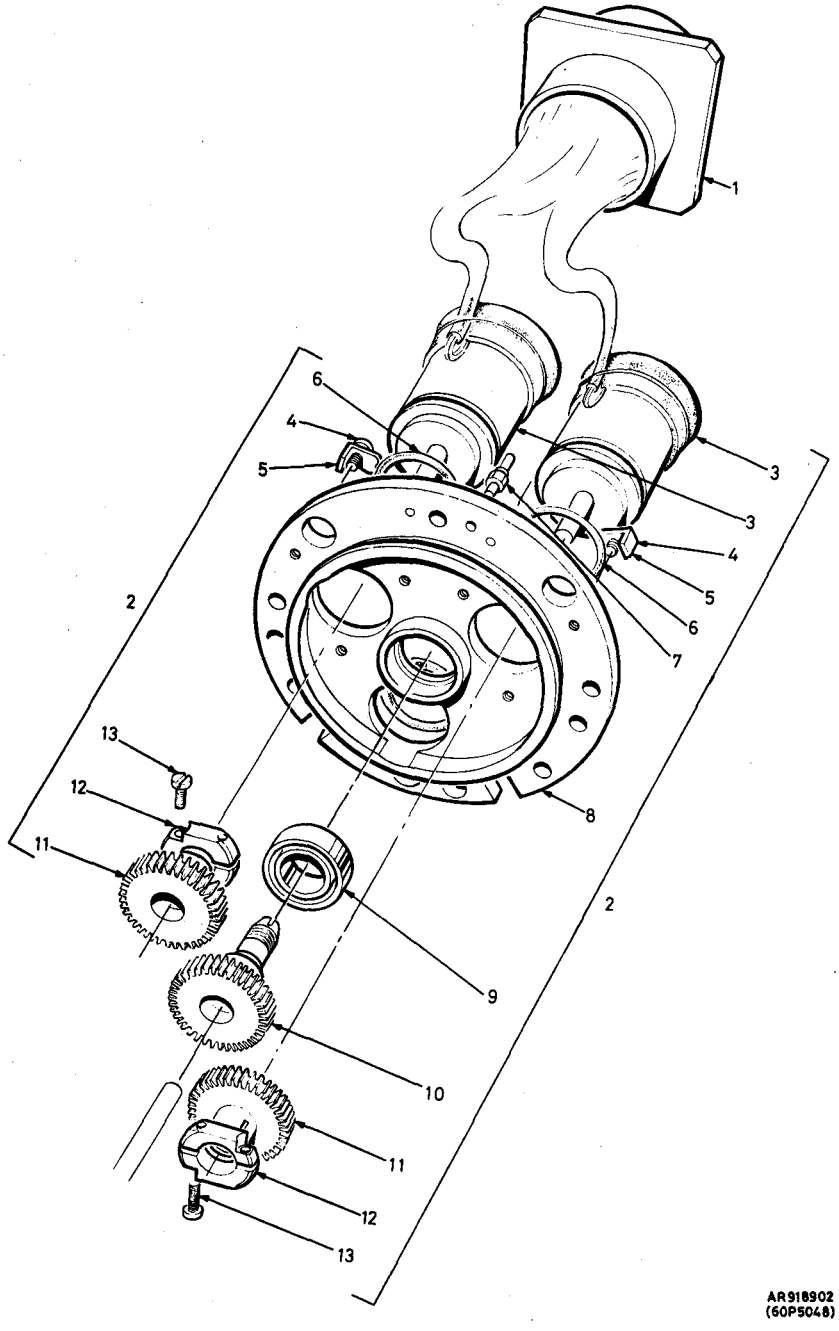


Figure E-19. Plate and Connector Assembly, 60093-080-02.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0305 PLATE AND CONNECTOR ASSEMBLY		
						60093-080-02		
E-19	1	PADZZ		MS27058-E12-B35-A	96906	CONNECTOR	EA	1
E-19	2	PADDD	1090-01-075-2788	60093-213	K0656	PLATE, ASSEMBLY	EA	1
E-19	3	PADZZ	1090-01-075-2789	60093-004	K0656	RESOLVER, SUB ASSEMBLY	EA	2
E-19	4	PADZZ		BS-SP-47/Z	K0656	WASHER, SPRING	EA	6
E-19	5	PADZZ		3737-00006	K0656	CLAMP, RIM, CLENCHING	EA	6
E-19	6	PADZZ		5605-1615-001	K0656	SEAL	EA	2
E-19	7	PADZZ	5940-01-080-0686	3828-2301-001	K0656	TERMINAL STUD	EA	3
E-19	8	XADZZ		60093-069	K0656	PLATE, LOCATION	EA	3
E-19	9	PADZZ	3110-01-076-2342	4123-5555-002	K0656	BEARING, BALL	EA	1
E-19	10	PADZZ	3020-01-075-9204	60093-212	K0656	GEAR, SPUR	EA	1
E-19	11	PADZZ	3020-01-076-8375	60093-073	K0656	GEAR, SPUR	EA	2
E-19	12	PADZZ		3723-2302-002	K0656	CLAMP, HUB	EA	2
E-19	13	PADZZ		3104-0836-002	K0656	SCREW, MACHINE	EA	4

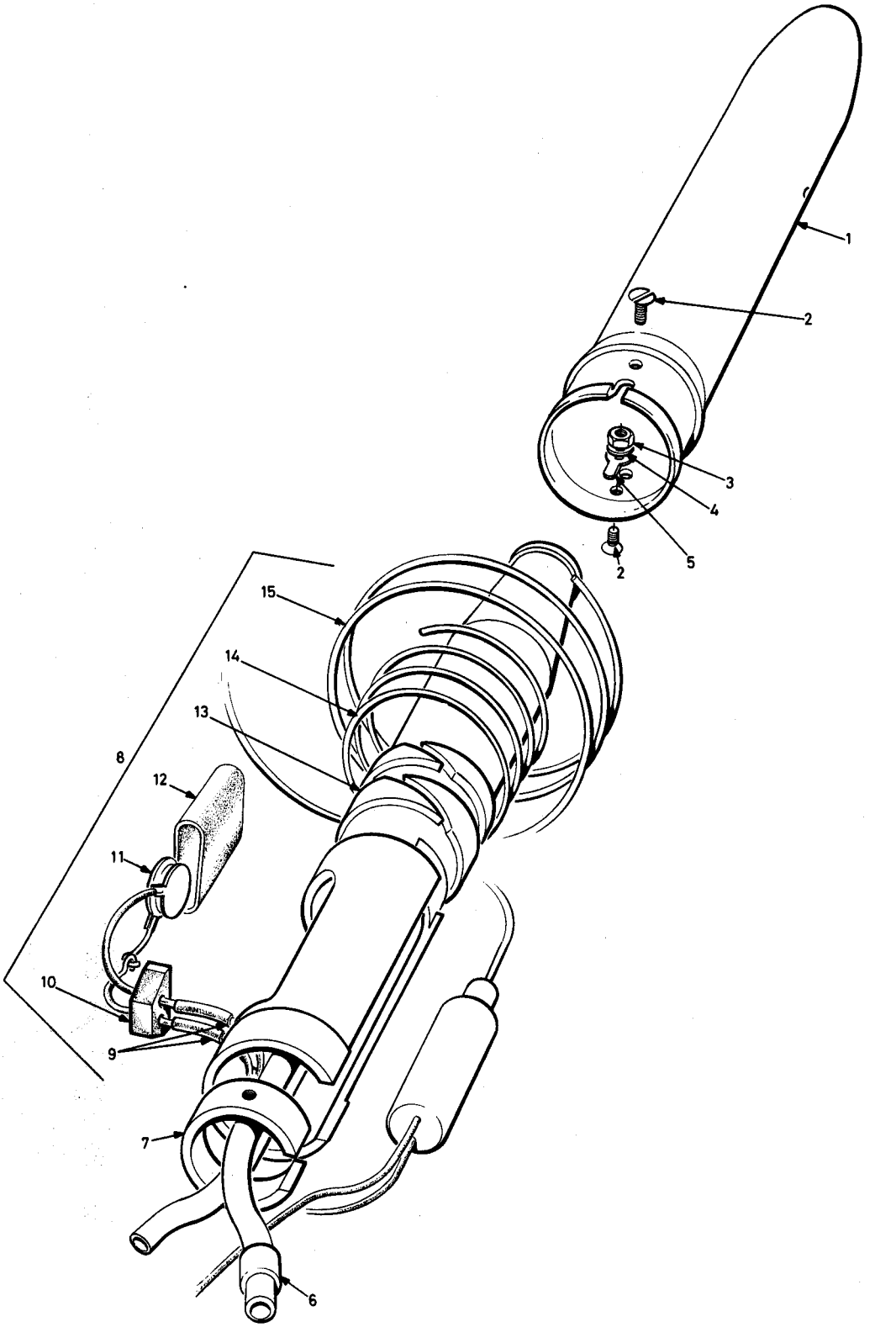


Figure E-20. Head Assembly, 60093-081-01.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 0306 HEAD ASSEMBLY			
						60092-081-01			
E-20	1	XADZZ		60093-084	K0656	SLEEVE, OUTER		EA	1
E-20	2	PADZZ		3131-0436-100	K0656	SCREW		EA	3
E-20	3	PADDZ		3200-4036-001	K0656	NUT, PLAIN		EA	1
E-20	4	PADZZ		3326-1000-001	K0656	WASHER, SPRING		EA	1
E-20	5	PADZZ		3AQC28/473	K0656	TERMINAL TAG		EA	1
E-20	6	XADZZ		60093-010	K0656	TUBE, EXTENDER		EA	1
E-20	7	XADZZ		60093-087	K0656	CLAMP		EA	1
E-20	8	XADZZ		60093-082	K0656	SLEEVE AND HEATER ASSEMBLY		EA	1
E-20	9	XADZZ		60093-231	K0656	SLEEVE, SILICONE		EA	2
E-20	10	XADZZ		60093-083	K0656	BLOCK		EA	1
E-20	11	XADZZ		M24236/13-CJC	81349	THERMOSTAT		EA	1
E-20	12	XADZZ		60093-230	K0656	SLEEVE, SILICONE		EA	1
E-20	13	XADZZ		60093-085	K0656	SLEEVE, ASSEMBLY		EA	1
E-20	14	XADZZ		BS4109-20SWG	K0656	TINNED COPPER WIRE		EA	V
E-20	15	XADZZ		7926-00007	K0656	HEATING ELEMENT		EA	1

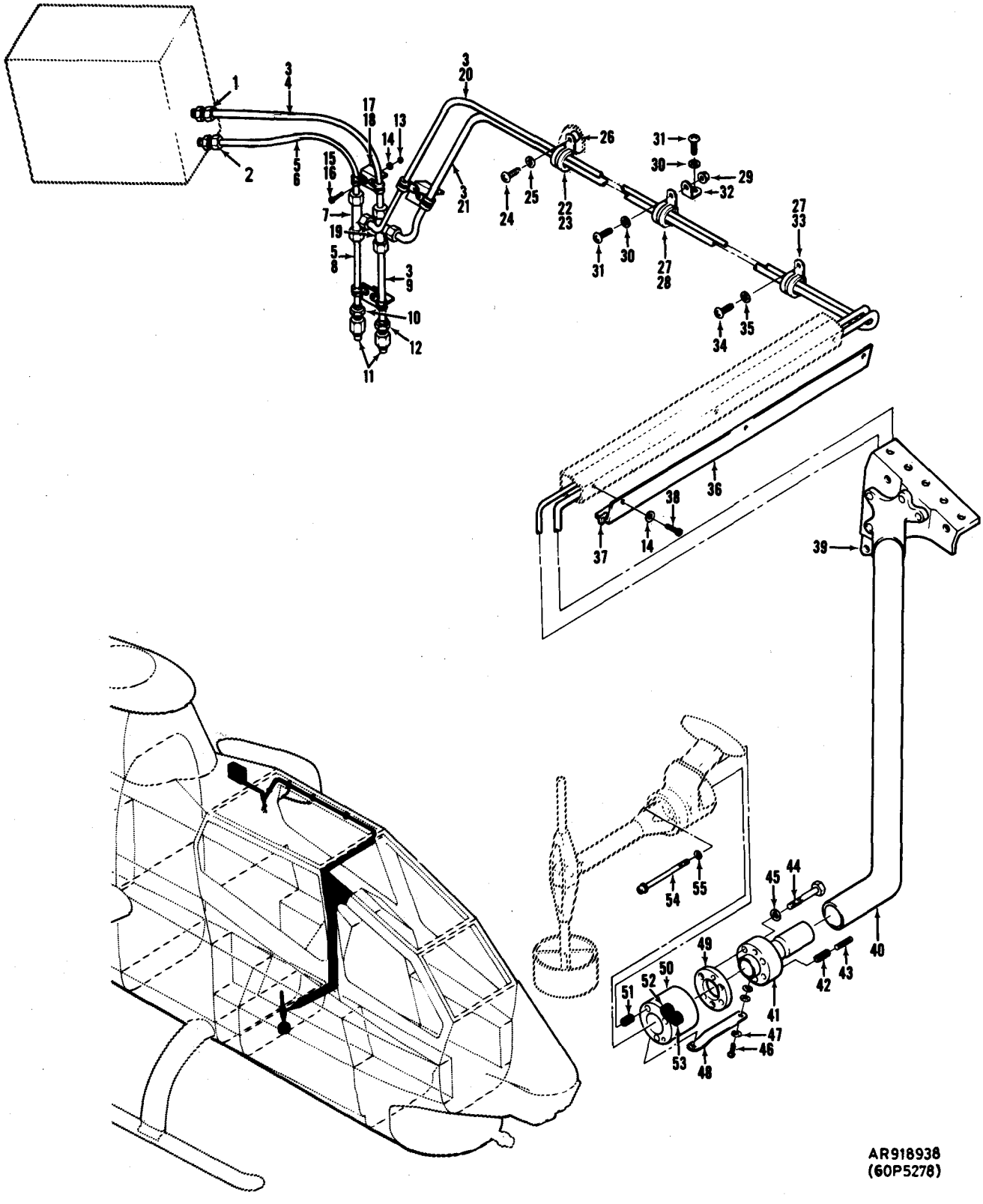


Figure E-21. Sensor Installation, 209-071-363-101.

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 04 SENSOR INSTALLATION		
						209-071-363-101		
E-21	1	PAFZZ		50-012-10NB502	97499	UNION ASSEMBLY	EA	1
E-21	2	PAFZZ	4730-01-028-8229	50-012-10NB402	97499	UNION ASSEMBLY	EA	1
E-21	3	PAFZZ		50-012-01N504	97499	INSERT	EA	8
E-21	4	PAFZZ	4710-01-089-4033	130-011-5B160	97499	TUBING	EA	1
E-21	5	PAFZZ	4730-01-030-5574	50-012-01N404	97499	INSERT	EA	4
E-21	6	PAFZZ	4710-01-089-4035	130-011-4B160	97499	TUBING	EA	1
E-21	7	PAFZZ	4730-01-028-8228	50-012-15NB400	97499	UNION-TEE ASSEMBLY	EA	1
E-21	8	APFZZ		130-011-4B12	97499	TUBING	EA	1
E-21	9	PAFZZ		130-011-5B12	97499	TUBING	EA	1
E-21	10	PAFZZ		50-012-09NB404	97499	UNION ASSEMBLY	EA	1
E-21	11	PAFZZ	4730-00-223-9268	MS20913-2D	96906	PLUG	EA	2
E-21	12	PAFZZ		50-012-09NB504	97499	UNION ASSEMBLY	EA	1
E-21	13	PAFZZ	5310-00-807-1474	MS21042L3	96906	NUT	EA	2
E-21	14	PAFZZ	5310-00-167-0753	AN960PD10L	88044	WASHER, FLAT	EA	5
E-21	15	PAFZZ	5305-00-936-0044	MS27039-1-27	96906	SCREW, MACHINE	EA	2
E-21	16	PAFZZ	5365-00-662-3100	NAS43DD3-64	80205	SPACER, SLEEVE	EA	2
E-21	17	PAFZZ	5340-00-988-3210	MS25281-4	96906	CLAMP	EA	2
E-21	18	PAFZZ	5340-00-721-5315	MS25281-5	96906	CLAMP	EA	2
E-21	19	PAFZZ		50-012-15NB500	97499	UNION, TEE	EA	1
E-21	20	PAFZZ	4710-01-089-4031	130-011-4B840	97499	TUBING	EA	1
E-21	21	PAFZZ	4710-01-089-4034	130-011-5B840	97499	TUBING	EA	1
E-21	22	PAFZZ	5340-00-020-0383	MS21919DG9	96906	CLAMP	EA	1
E-21	23	XCFZZ		33-001-106-4	97499	SUPPORT INSTALLATION	EA	1
E-21	24	PAFZZ	5305-00-914-9000	MS27039-1-18	96906	SCREW, MACHINE	EA	1
E-21	25	PAFZZ	5310-00-167-0753	AN960PD10L	88044	WASHER	EA	1
E-21	26	PAFZZ	5365-00-808-2527	NAS43DD3-40	80205	SPACER	EA	1
E-21	27	PAFZZ	5340-00-565-0004	MS21919DG10	96906	CLAMP, LOOP	EA	2
E-21	28	XCFZZ		33-001-109-2	97499	SUPPORT INSTALLATION	EA	1
E-21	29	PAFZZ	5310-00-807-1474	MS21042L3	96906	NUT, SELF LOCKING	EA	1
E-21	30	PAFZZ	5310-00-167-0753	AN960PD10L	88044	WASHER, FLAT	EA	2
E-21	31	PAFZZ	5305-00-781-9057	MS27409-1-08	96906	SCREW, MACHINE	EA	2
E-21	32	PAFZZ	5340-00-598-8251	AN743-12	88044	BRACKET	EA	1
E-21	33	XCFZZ		33-001-105-1	97499	SUPPORT INSTALLATION	EA	1
E-21	34	PAFZZ	5305-00-912-7307	MS27039-1-06	96906	SCREW, MACHINE	EA	1
E-21	35	PAFZZ	5310-00-167-0753	AN960PD10L	88044	WASHER, FLAT	EA	1
E-21	36	PAFZZ	1090-01-090-4795	209-071-373-101	97499	SUPPORT ASSEMBLY	EA	1
E-21	37	PAFZZ	9390-01-090-0489	110-076-1-0-4	97499	EXTRUSION, RUBBER	EA	2
E-21	38	PAFZZ	5305-00-781-9057	MS27039-1-08	96906	SCREW, MACHINE	EA	3
E-21	39	PAFZZ		209-071-374-101	97499	SHIM	EA	2

(1) ILLUSTRATION (a) Fig No.	(b) Item No.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION Usable on code	(7) U/M	(8) Qty Inc IN UNIT
						GROUP 04 SENSOR INSTALLATION		
						209-071-363-101		
						(CONTINUED)		
E-21	40	PAFZZ		209-071-363-103	97499	TUBE ASSEMBLY	EA	1
E-21	41	PADZZ		209-071-361-101	97499	SUPPORT ASSEMBLY	EA	1
E-21	42	PAFZZ	5340-00-544-3129	MS21209F4-25L	96906	INSERT, THREADED	EA	3
E-21	43	PAFZZ		NAS1081C4D20	80205	SCREW	EA	3
E-21	44	PAFZZ	5306-00-685-3269	MS20073-04-13	96906	BOLT	EA	3
E-21	45	PAFZZ	5950-00-702-3434	C1-145	99862	WASHER	EA	3
E-21	46	PAFZZ	5305-00-281-8526	AN525-832R6	88044	SCREW, MACHINE	EA	1
E-21	47	PAFZZ	5310-00-184-8966	AN960PD8	88044	WASHER, FLAT	EA	3
E-21	48	PAFZZ		30-006-2-104	97499	CONNECTOR	EA	1
E-21	49	PAFZZ	5330-01-090-0461	209-071-364-101	97499	GASKET SUPPORT	EA	1
E-21	50	PAFZZ	1090-01-090-4794	209-071-360-101	97499	SUPPORT ASSEMBLY	EA	1
E-21	51	PAFZZ	5340-01-014-4623	MS21209F4-30L	96906	INSERT	EA	3
E-21	52	PAFZZ		50-012-21B502	97499	UNION ASSEMBLY	EA	1
E-21	53	PAFZZ		50-012-21B402	97499	UNION ASSEMBLY	EA	1
E-21	54	PAFZZ		MS9089-38	96906	BOLT, MACHINE	EA	3
E-21	55	PAFZZ	5310-00-187-2354	AN960PD416	88044	WASHER, FLAT	EA	3

Section III. SPECIAL TOOLS LIST

Not Applicable

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NSN	FIG NO	ITEM NO	NSN	FIG NO	ITEM NO
5961-00-005-2920	8	21	5905-00-115-3562	4	213
5961-00-005-2929	4	26	5905-00-116-8554	4	28
5910-00-007-2004	6	19	5905-00-120-9152	4	212
5905-00-008-6822	4	145	5905-00-120-9152	13	30
5910-00-010-8666	4	15	5905-00-124-0659	5	15
5910-00-010-8666	5	18	5910-00-124-0659	6	26
5910-00-010-8717	4	13	5910-00-124-0659	9	12
5910-00-010-8717	5	20	5910-00-124-0659	13	14
5910-00-010-8717	6	20	5905-00-136-7103	4	210
5910-00-010-8717	9	11	5905-00-137-4825	4	190
5910-00-010-8717	13	11	5910-00-144-4381	13	12
5910-00-012-0659	4	14	5905-00-147-0129	5	37
5910-00-022-5664	5	25	5905-00-150-0993	4	143
5961-00-022-5666	4	25	5905-00-150-5256	5	48
5305-00-054-5635	14	8	5310-00-167-0738	14	14
5305-00-054-5636	2	11	5310-00-167-0753	21	15
5305-00-054-5638	16	11	5310-00-167-0753	21	23
5305-00-054-5640	3	16	5905-00-180-2948	4	94
5305-00-054-5640	6	9	5905-00-180-2948	4	147
5305-00-054-5640	13	7	5310-00-183-4354	3	15
5305-00-054-5640	18	5	5905-00-184-7705	6	7
5305-00-054-5641	7	12	5905-00-184-7705	6	47
5305-00-054-5641	8	11	5905-00-184-7705	9	35
5305-00-054-5641	16	49	5310-00-184-8966	21	33
5305-00-054-5642	3	14	5310-00-187-2354	21	39
5305-00-054-5646	10	12	4730-00-223-9268	21	11
5305-00-054-5648	7	23	5905-00-240-2050	5	35
5305-00-054-5648	14	5	5905-00-240-2726	6	42
5305-00-054-5649	4	8	5905-00-240-2726	13	24
5305-00-054-5649	5	10	5905-00-240-2728	4	27
5305-00-054-5649	6	14	5905-00-240-2728	4	202
5305-00-054-5649	7	8	5905-00-240-2728	6	39
5305-00-054-5649	10	8	5905-00-240-2728	13	23
5305-00-054-5650	8	6	5905-00-240-2736	4	102
5305-00-054-5651	10	22	5905-00-240-2736	4	127
5305-00-054-5652	7	48	5905-00-240-2736	4	155
5305-00-054-5653	14	10	5905-00-240-2736	13	56
5305-00-057-0497	11	2	5905-00-240-2738	5	64
5305-00-057-0497	12	6	5905-00-240-2740	4	42
5305-00-057-0497	14	25	5905-00-240-2740	4	128
5305-00-057-0499	12	4	5905-00-240-2740	4	203
6240-00-060-2941	10	3	5905-00-240-2740	9	30
5910-00-096-4644	6	25	5905-00-240-2745	5	86
5961-00-104-1398	5	26	5905-00-240-2745	6	37
5961-00-104-1398	6	32	5905-00-240-2745	13	36
5961-00-104-1398	13	15	5905-00-240-2746	4	29
5905-00-105-7765	4	124	5905-00-240-2747	8	30
5905-00-112-1259	4	144	5905-00-240-2747	13	58
5910-00-113-5278	6	23	5905-00-240-2748	4	33
5910-00-113-5465	6	24	5905-00-240-2748	5	52
5910-00-114-0225	6	21	5905-00-240-2748	13	32
5905-00-115-3562	4	125	5905-00-240-2749	4	142
			5905-00-240-2749	13	60

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NSN	FIG NO	ITEM NO	NSN	FIG NO	ITEM NO
5905-00-240-7954	4	36	5905-00-419-3893	4	90
5905-00-240-7954	6	41	5905-00-419-3893	4	185
5905-00-240-7954	9	49	5905-00-419-3894	5	30
5905-00-240-7954	13	53	5905-00-419-3895	4	91
5905-00-240-7954	13	64	5905-00-419-3895	4	186
5905-00-240-7958	4	30	5905-00-419-3949	9	48
5905-00-240-7958	4	103	5965-00-419-3949	13	62
5905-00-240-7958	4	129	5905-00-419-5253	4	66
5905-00-240-7958	4	156	5905-00-419-5253	4	162
5905-00-240-7958	6	46	5905-00-419-5254	4	69
5905-00-240-7958	4	134	5905-00-419-5254	4	165
5905-00-240-7979	4	44	5905-00-419-5255	4	70
5905-00-240-7981	9	39	5905-00-419-5255	4	164
5905-00-240-7982	6	36	5905-00-419-5256	4	74
5905-00-242-2438	5	58	5905-00-419-5256	4	170
5905-00-246-8690	4	214	5905-00-419-5257	4	76
5905-00-249-1286	6	38	5905-00-419-5257	4	172
5905-00-262-0791	4	82	5905-00-419-7408	4	71
5905-00-262-0791	4	178	5905-00-419-7408	4	167
5905-00-270-1353	4	75	5905-00-419-7410	4	73
5905-00-270-1353	4	171	5905-00-419-7410	4	169
5315-00-282-1187	16	22	5905-00-419-7412	4	80
5905-00-285-2162	5	59	5905-00-419-7412	4	176
5962-00-369-9839	6	64	5905-00-419-7413	4	81
5905-00-400-9612	13	59	5905-00-419-7413	4	177
5905-00-404-8837	13	46	5905-00-419-7417	4	90
5905-00-404-8838	8	29	5905-00-419-7417	4	186
5905-00-405-1128	6	44	5905-00-421-6054	4	93
5905-00-405-2740	13	27	5905-00-421-6054	4	189
5905-00-405-7861	4	96	5905-00-422-5186	6	43
5905-00-405-7861	4	149	5905-00-429-2008	5	57
5905-00-409-0277	5	51	5905-00-429-5712	5	76
5905-00-409-0277	5	89	5905-00-429-5712	13	21
5905-00-409-0277	6	40	5905-00-430-8626	4	67
5905-00-415-0942	5	49	5905-00-430-8626	4	163
5905-00-415-0992	4	135	5905-00-431-4864	4	146
5905-00-419-2822	5	68	5905-00-432-9307	4	83
5905-00-419-2822	13	49	5905-00-432-9307	4	179
5905-00-419-2822	13	55	5905-00-432-9308	4	85
5905-00-419-2823	13	61	5905-00-432-9308	4	181
5905-00-419-2864	4	201	5905-00-432-9313	4	87
5905-00-419-2865	4	141	5905-00-432-9313	4	183
5905-00-419-2865	5	80	5905-00-434-1869	5	70
5905-00-419-3890	5	38	5905-00-436-8557	5	90
5905-00-419-3892	4	76	5905-00-436-8565	13	25
5905-00-419-3892	4	171	5905-00-438-0505	9	43
			5905-00-438-0505	13	42

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NSN	FIG NO	ITEM NO	NSN	FIG NO	ITEM NO
5905-00-438-0506	13	39	5305-00-543-4517	16	24
3040-00-433-2331	12	28	5340-00-544-3129	21	31
5905-00-444-0295	4	195	5905-00-548-1297	4	64
5905-00-445-1563	4	72	5905-00-548-1297	5	81
5905-00-445-1563	4	168	5905-00-563-1595	4	34
5905-00-445-1565	4	80	5905-00-563-1595	5	50
5905-00-445-1565	4	175	5905-00-563-1595	9	37
5905-00-456-3808	5	36	5319-00-595-6761	7	13
5905-00-456-3751	5	56	5306-00-685-3269	21	28
5905-00-456-3761	5	62	5305-00-717-6950	12	35
5905-00-456-3784	5	63	5305-00-717-6950	16	35
5905-00-457-3121	5	54	5305-00-727-8833	7	22
5905-00-457-3990	4	95	5305-00-727-8833	12	18
5905-00-457-3990	4	148	5905-00-758-1586	9	38
5905-00-457-8084	4	68	5905-00-758-2918	13	44
5905-00-457-8084	4	164	5905-00-758-2918	13	51
5905-00-457-8142	4	78	5905-00-759-8373	4	194
5905-00-457-8142	4	174	5305-00-764-2966	7	50
5905-00-461-2218	5	29	5305-00-770-2579	7	39
5905-00-461-8994	4	109	5305-00-774-9704	7	11
5905-00-463-8149	4	112	5305-00-774-9704	12	40
5905-00-463-8155	4	9	5305-00-781-9057	21	22
5905-00-463-8155	4	108	5905-00-784-3209	4	89
5905-00-463-8155	4	150	5905-00-784-3209	4	185
5310-00-463-8248	7	10	5905-00-784-3392	4	88
5310-00-463-8248	14	26	5905-00-784-3392	4	184
5310-00-463-8248	16	12	5365-00-818-0872	16	67
5905-00-468-2842	4	192	5310-00-807-1474	21	14
5905-00-481-1386	4	84	5340-00-825-4820	2	6
5905-00-481-1386	4	180	5961-00-858-3826	4	24
5905-00-482-0505	9	36	5961-00-858-3826	5	27
5905-00-482-0603	4	98	5961-00-858-3826	6	35
5905-00-482-0603	4	151	5961-00-858-3826	8	23
5905-00-482-0604	5	33	5961-00-858-3826	9	28
5905-00-485-4648	4	211	5961-00-858-3826	13	18
5310-00-486-5342	10	19	5365-00-866-1471	12	22
5310-00-486-5342	12	2	5961-00-925-3777	4	25
5310-00-486-5342	14	11	5961-00-925-3777	5	28
5905-00-489-0685	4	191	5961-00-925-3777	6	34
5905-00-490-0246	4	41	5961-00-925-3777	8	22
5905-00-490-0246	13	28	5961-00-925-3777	9	27
5905-00-491-2739	13	31	5961-00-925-3777	13	19
5961-00-494-4915	6	31	5300-00-925-7857	21	16
5961-00-494-4915	9	19	6240-00-926-4462	12	42
5961-00-494-4915	13	16	5310-00-934-9748	10	18
5905-00-496-5786	4	100	5961-00-938-4977	5	24
5905-00-496-5786	13	29	5961-00-938-4977	13	17
5961-00-501-1730	9	54	5305-00-957-2690	14	18
5905-00-509-3784	4	196	5305-00-959-1910	16	6
5905-00-509-3785	5	31	5961-01-012-6693	8	17
5905-00-520-9549	5	55	5905-01-013-8234	9	20
5935-00-520-9495	10	11	5962-01-014-0499	5	99
5320-00-543-3431	2	18	5340-01-014-4623	21	38

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NSN	FIG NO	ITEM NO	NSN	FIG NO	ITEM NO
5905-01-014-9794	4	199	5930-01-074-3925	10	5
5905-01-017-5837	5	69	1090-01-074-4313	1	4
5961-01-023-1681	7	41	1090-01-074-4314	11	8
5962-01-024-9518	6	74	1090-01-074-4315	11	3
5905-01-026-0706	5	32	5940-01-074-4478	4	3
5905-01-026-0716	4	86	5940-01-074-4478	5	2
5905-01-026-0716	4	182	5940-01-074-4478	6	2
4730-01-028-8228	21	7	5940-01-074-4478	9	3
4730-01-028-8229	21	2	5940-01-074-4478	8	3
4730-01-030-5574	21	5	5940-01-074-4478	10	20
5962-01-031-1918	6	51	5940-01-074-4478	13	3
5962-01-034-9832	6	52	5940-01-074-4480	13	9
5905-01-037-8107	4	198	5930-01-074-4536	10	4
5905-01-038-0632	4	193	1090-01-074-5946	12	38
5962-01-040-0008	6	53	1090-01-074-5947	12	39
5962-01-045-4652	6	75	1090-01-074-5948	12	41
5962-01-045-4652	9	53	1090-01-074-5950	12	13
5905-01-047-1531	5	85	1090-01-074-5951	12	12
5905-01-047-1531	8	24	1090-01-074-5952	12	37
5905-01-047-1531	9	32	1090-01-074-5953	7	15
5905-01-047-1531	13	45	5305-01-074-6018	3	4
5905-01-047-1531	13	52	3110-01-074-9177	12	21
5905-01-047-1531	13	63	1090-01-074-9594	12	8
5962-01-050-0918	5	101	7090-01-074-9661	10	13
5962-01-050-0918	6	54	1090-01-075-1884	9	50
5905-01-050-6468	5	53	5305-01-075-1904	12	29
5905-01-056-2148	8	25	5340-01-075-1993	7	17
5905-01-056-2148	9	44	1090-01-075-2772	12	9
5962-01-058-1539	6	66	1090-01-075-2774	14	13
5961-01-058-6633	7	46	1090-01-075-2775	14	28
5962-01-058-7937	9	52	1090-01-075-2776	16	39
5905-01-059-9696	5	41	1090-01-075-2777	16	46
5905-01-064-8328	4	27	1090-01-075-2778	9	51
5905-01-064-8328	9	31	1090-01-075-2779	8	31
5905-01-064-8329	4	101	1090-01-075-2781	8	19
5905-01-064-8329	4	126	1090-01-075-2782	3	3
5905-01-064-8329	4	154	1090-01-075-2785	16	8
5905-01-064-8329	8	26	1090-01-075-2786	16	17
5905-01-064-8329	9	42	1090-01-075-2787	16	18
5905-01-065-8140	5	61	1090-01-075-2788	19	2
5905-01-067-7906	7	14	1090-01-075-2789	19	3
5961-01-069-7214	9	23	1090-01-075-2790	14	21
1270-01-071-9277	1	3	1090-01-075-2876	12	7
1090-01-073-5573	10	7	9905-01-075-3001	2	10
1090-01-073-5573	11	4	5692-01-075-3184	5	95
1090-01-073-5574	2	9	1090-01-075-4979	2	16
1090-01-073-7283	2	15	1090-01-075-4984	7	21
1090-01-073-7284	1	1	1090-01-075-4985	7	16
1090-01-073-7303	2	2	1090-01-075-4986	3	10
1090-01-073-7374	2	12	1090-01-075-4986	4	2
9320-01-074-0537	2	19	3110-01-075-4993	16	53
9320-01-074-0538	2	21			

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3120-01-075-4994	16	59	1090-01-085-6142	14	6
3120-01-075-4995	16	64	4710-01-089-4031	21	6
3020-01-075-5003	16	44	4710-01-089-4031	21	20
1090-01-075-6656	12	17	4710-01-089-4033	21	4
1090-01-075-8755	16	36	4710-01-089-4034	21	21
1090-01-075-8756	4	5	5330-01-090-0461	21	35
1090-01-075-8756	5	5	9390-01-090-0489	21	26
1090-01-075-8756	6	10	1090-01-090-4793	21	32
1090-01-075-8758	16	57	1090-01-090-4794	21	37
1090-01-075-8759	18	4	1090-01-090-4795	21	25
1090-01-075-8760	14	30	5962-01-091-1121	13	65
9905-01-075-9112	14	7	5962-01-091-1123	6	67
1090-01-075-9164	16	16	5962-01-091-1124	6	70
1090-01-075-9165	16	4	5962-01-091-1126	5	94
3020-01-075-9204	19	10	5962-01-091-1127	5	97
3020-01-075-9970	12	27	5962-01-091-1128	6	55
1090-01-076-1992	14	19	5962-01-092-6480	6	76
1090-01-076-2263	7	27	6150-01-093-2898	21	36
1090-01-076-2412	14	2	1920-01-177-6702	6	78
3110-01-076-2342	16	54			
3110-01-076-2341	19	9			
3020-01-076-2621	16	7			
3110-01-076-2704	16	68			
5340-01-076-3531	6	6			
1090-01-076-6074	14	12			
5935-01-076-6416	10	21			
5310-01-076-8135	12	5			
5515-01-076-8220	16	19			
6625-01-076-8364	10	6			
3020-01-026-3875	19	11			
1090-01-077-0860	4	4			
1090-01-077-0860	5	4			
4710-01-077-1133	16	26			
3110-01-077-2670	16	65			
5315-01-077-2751	17	4			
1090-01-077-9064	2	1			
3040-01-078-4738	12	30			
3460-01-079-0022	16	28			
5970-01-079-1649	5	7			
5970-01-079-1649	6	11			
5940-01-080-0686	16	9			
5940-01-080-0686	16	14			
5940-01-080-0686	19	7			
1090-01-080-6413	14	31			
5330-01-081-1293	11	6			
1090-01-081-8600	16	5			
5940-01-082-3169	4	1			
5970-01-082-3325	4	12			
5310-01-083-4110	7	18			
5330-01-085-5768	3	17			

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AN122676	88044	16	22	JANTX1N5804	81349	9	20
AN122677	88044	16	23	JANTX1N5811	81349	7	46
AN525-832-6	88044	21	34	JANTX1N751A	81349	5	26
AN960-C10L	88044	16	25	JANTX1N751A	81349	6	32
AN960-C3L	88044	3	15	JANTX1N751A	81349	13	15
AN960-C3L	88044	6	7	JANTX1N752A	81349	9	22
AN960-C6	88044	14	17	JANTX1N758A	81349	5	24
AN960-D6	88044	14	14	JANTX1N758A	81349	13	17
AN960PD10L	88044	21	15	JANTX1N825	81349	9	20
AN960PD10L	88044	21	23	JANTX1N914	81349	4	23
AN960PD416	88044	21	39	JANTX1N914	81349	5	25
AN960PD8	88044	21	33	JANTX2N2222A	81349	4	24
BSA105AP	K0656	4	10	JANTX2N2222A	81349	5	27
BSA1=5AP	K0656	5	11	JANTX2N2222A	81349	6	35
BSA105AP	K0656	6	15	JANTX2N2222A	81349	8	23
BS SP 122A	K0656	8	5	JANTX2N2222A	81349	9	28
BS SP 23/Y	K0656	8	12	JANTX2N2222A	81349	13	18
BS SP 23/Z	K0656	8	10	JANTX2N2907A	81349	4	25
BS SP 47/Z	K0656	19	4	JANTX2N2907A	81349	5	28
BS SP 93/A10	K0656	3	13	JANTX2N2907A	81349	6	34
BS SP 93/F06	K0656	3	5	JANTX2N2907A	81349	8	22
BS4109-20SWG	K0656	20	14	JANTX2N2907A	81349	9	27
B-1447	K0656	3	9	JANTX2N2907A	81349	13	19
CC09-CH-4R7-B	81349	6	28	JANTX2N3420	81349	4	26
CFR04ARSA103KM	81349	5	19	JANTX2N3420	81349	8	21
CK06BX102K	81349	5	18	JANTX2N3766	81349	7	38
CK05BX103K	81349	5	15	JANTX2N5664	81349	7	41
CK05BS103K	81349	6	26	JANTX2N4854	81349	9	54
CK05BX103K	81349	13	14	JANTX2N5682	81349	9	29
CK05BX105K	81349	8	15	LHC82/2WT2	96906	10	3
CK05BX220K	81349	6	21	LH0070/2H/883B	K0656	5	100
CK05BX221K	81349	9	13	MS0035431-7	96906	10	1
CK05BX471K	81349	9	29	MS122158	96906	2	6
CK05BX472K	81349	9	14	MS122158	96906	17	3
CK05BX473K	81349	6	23	MS14047-5	96906	9	26
CK06BX105K	81349	4	18	MS15975-802	96906	7	13
CK06BX105K	81349	6	22	MS16624-4043	96906	16	67
CK06BX105K	81349	13	13	MS16632-4012	96906	12	22
CK06BX474K	81349	4	20	MS16996-3	96906	16	6
CK06BX474K	81349	6	24	MS18066-44	96906	6	18
CL145	96906	21	29	MS20073-04-013	96906	21	28
CR-64U	K0656	6	79	MS2046B2-3	96906	2	18
DS1612H/883B	K0656	13	67	MS20913-2D	96906	21	11
EE10K00B	K0656	4	108	MS2104263	96906	21	14
EE11K00B	K0656	4	215	MS21046-C04	96906	15	15
EE12K00B	K0656	4	216	MS21209F4-25L	96906	21	31
EE2K32B	K0656	4	46	MS21209F4-30L	96906	21	38
EE20K00B	K0656	4	65	MS21919-4	96906	21	19
EE30K00B	K0656	4	110	MS21919-5	96906	21	18
JANTX1N4148	81349	6	31	MS21919-9	96906	21	24
JANTX1N4148	81349	9	19	MS24367-715	96906	12	41
JANTX1N4148	81349	13	16	MS24665-187	96906	15	16
JANTX1N5656A	81349	9	23	MS24673-2	96906	16	24
JANTX1N5804	81349	8	17	MS24674-1	96906	14	18

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MS24677-2	96906	14	1
MS24693-C3	96906	12	1
MS27039-1-08	96906	21	22
MS27039-1-09	96906	21	16
MS27058-E12-B35-P	96906	19	1
MS27058-E18-B35-P	96906	10	11
MS3122-E14-19P	96906	12	16
MS35275-202	96906	16	2
MS35649-224	96906	7	19
MS35649-224	96906	12	20
MS35649-244	96906	7	34
MS35649-244	96906	10	18
MS35469-244	96906	12	3
MS35649-244	96906	15	10
MS51021-10	96906	12	35
MS51957-1	96906	14	8
MS51957-2	96906	2	11
MS51957-4	96906	16	11
MS51957-5	96906	6	9
MS51957-5	96906	7	11
MS51957-6	96906	3	16
MS51957-6	96906	18	5
MS51957-7	96906	7	12
MS51957-7	96906	8	11
MS51957-7	96906	16	49
MS51957-8	96906	3	14
MS51957-12	96906	10	12
MS51957-13	906	7	23
MS51957-14	96906	3	7
MS51957-14	96906	14	5
MS51957-15	96906	4	8
MS51957-15	96906	5	10
MS51957-15	96906	6	14
MS51957-15	96906	7	8
MS51957-15	96906	10	8
MS51957-16	96906	8	6
MS51957-17	96906	10	22
MS51957-18	96906	7	48
MS51957-19	96906	14	10
MS51957-32	96906	7	30
MS51958-1	96906	11	2
MS51958-1	96906	12	6
MS51958-1	96906	14	25
MS51958-3	96906	12	4
MS51959-2	96906	7	50
MS51959-3	96906	7	22
MS51959-3	96906	12	10.1
MS51959-13	96906	7	28
MS51959-15	96906	7	39
MS51960-7	96906	11	7
MS51960-8	96906	12	40
MS51963-9	96906	16	35
MS9089-38	96906	21	40
M19500-159	81349	8	18
M2436/12-CJC	81349	21	11
M28766/5-005M	81349	9	24
M28776/5-005M	81349	6	33
M38510/00803BCX	81349	6	64
M38510/07003BCX	81349	6	71
M38510/10102BHX	81349	4	231
M38510/10102BHX	81349	5	102
M38510/10103BGX	81349	6	74
M38510/10104BGX	81349	5	99
M38510/10105BEX	81349	5	96
M38510/10201BHX	81349	9	56
M38510/10304BGX	81349	6	75
M38510/10304BGX	81349	9	53
M38510/10305BEX	81349	4	234
M38510/10305BEA	81349	5	93
M38510/10901BGX	81349	9	52
M38510/15102BCX	81349	6	53
M38510/30102BCX	81349	6	66
M38510/30501BCX	81349	6	51
M38510/30701BEX	81349	6	54
M38510/31004BCX	81349	6	52
M38510/32203BEA	81349	6	68
M38510/31403BCX	81349	6	69
M39003/01-2254	81349	9	18
M39003/01-2771	81349	9	10
M39003/01-2289	81349	9	9
M39003/01-2304	81349	13	12
M39003/01-2368	81349	4	21
M39003/01-2368	81349	5	23
M39003/01-2368	81349	13	10
M39003/01-2368	81349	6	19
M39003/01-8392	81349	7	25
M39014-01-1226	81349	9	13
M39014-01-1236	81349	5	16
M39014-01-1237	81349	4	15
M39014-01-1327	81349	5	17
M39014-01-1330	81349	5	21
M39014-01-1330	81349	6	25
M39014-01-1339	81340	6	27
M39014-01-1351	81349	6	30
M39014-01-1351	81349	9	15
M39014-01-1360	81349	4	16
M39014-01-1407	81349	9	17
M39014-01-1419	81349	5	22
M39014-01-1473	81349	6	20
M39014-01-1473	81349	9	11
M39014-01-1473	81349	13	11
M39014-01-1566	81349	4	17
M39014-01-1569	81349	9	16
M39014-01-1575	81349	4	14
M39014-01-1575	81349	9	12

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M39014-01-1581	81349	5	14
M39014-01-1586	81349	4	19
M39014-01-1593	81349	4	13
M39014-01-1593	81349	5	20
M39014-02-1321	81349	4	22
M39014-02-1419	81349	4	18
M45938/1-2C	81349	7	9
M55302/57-B20Y	81349	7	14
M55302/57-B54Y	81349	4	11
M55302/57-B54Y	81349	5	13
M55302/58-B20Y	81349	10	17
M55302/58-B54Y	81349	10	16
M55302/59-B90Y	81349	6	17
M55302/60-B90Y	81349	10	21
M83401/02M1002GA	81349	5	91
M834012-M-1002-G-B	81349	6	48
NAS1081C4D20	80205	21	27
PICYW-1	K0656	15	7
PSM-10-32-16-A	K0656	6	4
RCR07G105JS	81349	4	28
RCR07G154GR	81349	4	121
RCR07G1503GR	81349	8	27
RCR07G184JS	81349	13	22
RCR07G204JS	81349	4	210
RCR07G224GR	81349	4	122
RCR07G224JS	81349	4	124
RCR07G244JS	81349	4	211
RCR07G2702GR	81349	4	131
RCR07G274JS	81349	4	212
RCR07G274JS	81349	13	26
RCR07G274JS	81349	13	30
RCR07G3002GR	81349	4	132
RCR07G3302GR	81349	4	133
RCR07G394GR	81349	4	123
RCR07G394JS	81349	4	125
RCR07G394JS	81349	4	213
RCR07G474JS	81349	4	230
RCR07G514JS	81349	4	214
RCR20G1R0JS	81349	9	44
RCR20G1R0JS	81349	8	28
RLR07C100GR	81349	9	36
RLR07C102GR	81349	5	87
RLR07C102GR	81349	6	42
RLR07C102GR	81349	8	24
RLR07C102GR	81349	9	32
RLR07C102GR	81349	13	24
RLR07C102GR	81349	13	45
RLR07C102GR	81349	13	52
RLR07C102GR	81349	13	63
RLR07C103GR	81349	4	27
RLR07C103GR	81349	4	202
RLR07C103GR	81349	5	64
RLR07C103GR	81349	6	39
RLR07C103GR	81349	9	31
RLR07C103GR	81349	13	23
RLR07C1003GR	81349	4	38
RLR07C104GR	81349	4	226
RLR07C10403GR	81349	5	72
RLR07C104GR	81349	9	46
RLR07C104GR	81349	13	35
RLR07C1102GR	81349	6	44
RLR07C113GR	81349	13	27
RLR07C114GR	81349	13	40
RLR07C123GR	81349	4	41
RLR07C123GR	81349	5	90
RLR07C123GR	81349	13	28
RLR07C124GR	81349	4	208
RLR07C124GR	81349	9	33
RLR07C132GR	81349	13	46
RLR07C133GR	81349	4	100
RLR07C133GR	81349	4	153
RLR07C133GR	81349	13	29
RLR07C134GR	81349	4	227
RLR07C152GR	81349	4	36
RLR07C152GR	81349	6	41
RLR07C152GR	81349	9	49
RLR07C152GR	81349	13	53
RLR07C152GR	81349	13	64
RLR07C153GR	81349	4	101
RLR07C153GR	81349	4	126
RLR07C153GR	81349	4	154
RLR07C153GR	81349	8	26
RLR07C153GR	81349	9	42
RLR07C153GR	81349	13	47
RLR07C154GR	81349	4	140
RLR07C154GR	81349	4	209
RLR07C154GR	81349	4	228
RLR07C154GR	81349	9	41
RLR07C154GR	81349	13	33
RLR07C182GR	81349	5	40
RLR07C182GR	81349	5	86
RLR07C182GR	81349	13	38
RLR07C182GR	81349	13	48
RLR07C182GR	81349	13	54
RLR07C183GR	81349	4	102
RLR07C183GR	81349	4	127
RLR07C183GR	81349	4	155
RLR07C183GR	81349	13	56
RLR07C184GR	81349	4	229
RLR07C201GR	81349	13	43
RLR07C201GR	81349	13	50
RLR07C202GR	81349	5	41
RLR07C202GR	81349	5	68
RLR07C202GR	81349	13	49
RLR07C202GR	81349	13	55

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RLR07C203GR	81349	4	42	RLR07C4701GR	81349	9	37
RLR07C203GR	81349	4	128	RLR07C4702GR	81349	4	37
RLR07C203GR	81349	4	203	RLR07C473GR	81349	4	106
RLR07C203GR	81349	9	30	RLR07C473GR	81349	4	117
RLR07C2200GS	81349	4	32	RLR07C4702GR	81349	4	136
RLR07C2200GR	81349	5	66	RLR07C473GR	81349	4	159
RLR07C222GR	81349	5	42	RLR07C511GR	81349	13	39
RLR07C222GR	81349	6	47	RLR07C512GR	81349	5	51
RLR07C222GR	81349	9	35	RLR07C5101GR	81349	5	89
RLR07C223GR	81349	4	30	RLR07C513GR	81349	4	205
RLR07C223GR	81349	4	103	RLR07C513GR	81349	6	40
RLR07C223GR	81349	4	129	RLR07C561GR	81349	13	59
RLR07C223GR	81349	4	156	RLR07C562GR	81349	4	33
RLR07C223GR	81349	6	46	RLR07C5601GR	81349	5	52
RLR07C2203GR	81349	5	43	RLR07C562GR	81349	13	32
RLR07C2401GR	81349	5	71	RLR07C5602GR	81349	4	35
RLR07C243GR	81349	4	130	RLR07C563GR	81349	4	118
RLR07C2601GR	81349	5	44	RLR07C5602GR	81349	4	135
RLR07C2601GR	81349	5	8	RLR07C563GR	81349	13	34
RLR07C272GR	81349	6	37	RLR07C621GR	81349	9	39
RLR07C272GR	81349	13	36	RLR07C621GR	81349	13	44
RLR07C273GR	81349	4	104	RLR07C621GR	81349	13	51
RLR07C273GR	81349	4	157	RLR07C623GR	81349	4	160
RLR07C273GR	81349	8	28	RLR07C681GR	81349	4	142
RLR07C273GR	81349	9	47	RLR07C6800GR	81349	6	36
RLR07C201GR	81349	5	45	RLR07C6800GR	81349	9	34
RLR07C302GR	81349	13	31	RLR07C681GR	81349	13	60
RLR07C303GR	81349	4	113	RLR07C682GR	81349	6	38
RLR07C303GR	81349	4	105	RLR07C6801GR	81349	4	31
RLR07C303GR	81349	13	57	RLR07C683GR	81349	4	206
RLR07C3201GR	81349	5	46	RLR07C6802GR	81349	9	40
RLR07C332GR	81349	4	29	RLR07C6803GR	81349	5	85
RLR07C333GR	81349	4	114	RLR07C751GR	81349	13	61
RLR07C333GR	81349	4	158	RLR07C752GR	81349	8	29
RLR07C3302GR	81349	6	43	RLR07C7502GR	81349	4	40
RLR07C501GR	81349	5	47	RLR07C501GR	81349	4	119
RLR07C363GR	81349	4	115	RLR07C7502GR	81349	4	138
RLR07C3602GR	81349	4	134	RLR07C27502GR	81349	5	74
RLR07C363GR	81349	4	204	RLR07C8200GR	81349	9	48
RLR07C363GR	81349	13	37	RLR07C821GR	81349	13	62
RLR07C391GR	81349	8	30	RLR07C823GR	81349	4	107
RLR07C391GR	81349	13	58	RLR07C823GR	81349	4	161
RLR07C3901GR	81349	5	48	RLR07C823GR	81349	5	73
RLR07C3902GR	81349	5	67	RLR07C9100GR	81349	5	82
RLR07C4302GR	81349	5	49	RLR07C911GR	81349	13	41
RLR07C433GR	81349	4	116	RLR07C913GR	81349	4	120
RLR07C433GR	81349	4	135	RLR07C9102GR	81349	4	139
RLR07C471GR	81349	9	43	RLR07C913GR	81349	4	207
RLR07C471GR	81349	13	42	RLR20C220GR	81349	13	25
RLR07C4700GR	81349	4	44	RLR20C270GR	81349	4	43
RLR07C4701GR	81349	4	34	RLR20C390GR	81349	5	65
RLR07C4701GR	81349	5	50	RNC55H7503FS	81349	5	69

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RNC55J24R9B	81349	6	45
RNR55C1000FS	81349	4	111
RNR55C1001BS	81349	4	196
RNR55C1002FS	81349	4	108
RNR55C1002FS	81349	4	150
RNR55E1002FS	81349	4	97
RNR55C1C02FS	81349	5	76
RNR55C1002BS	81349	13	21
RNR55C1003FS	81349	5	70
RNR55E1102FS	81349	4	98
RNR55C1102FS	81349	4	151
RNR55C1131FS	81349	4	197
RNR55E1212FS	81349	4	99
RNR55C1212FS	81349	4	152
RNR55C1301BS	81349	4	98
RNR55C1302BS	81349	4	217
RNR55C1501BS	81349	4	199
RNR55C1502BS	81349	4	218
RNR55C1621BS	81349	4	200
RNR5CC1740FS	81349	4	66
RMR55C1740FS	1349	4	162
RNR55C1780FS	81349	4	67
RNR55C1780FS	81349	4	163
RNR55C1802FS	81349	5	75
RNR55C1820FS	81349	4	68
RNR55C1820FS	81349	4	164
RNR55C1822BS	81349	4	219
RNR55C1822FS	81349	5	38
RNR55C1870FS	81349	4	69
RNR55C1870FS	81349	4	165
RNR55C1871FS	81349	4	201
RNR55C1910FS	81349	4	70
RNR55C1910FS	81349	4	166
RNR55C1960FS	81349	4	71
RNR55C1960FS	81349	4	197
RNR55C2000FS	81349	4	72
RNR55C2000FS	81349	4	168
RNR55C2001FS	81349	4	141
RNR55C2001BM	81349	5	80
RNR55C2002BS	81349	4	64
RNR55C2002FS	81349	5	81
RNR55C2050FS	81349	4	73
RNR55C2050FS	81349	4	169
RNR55C2100FS	81349	4	74
RNR55C2100FS	81349	4	170
RNR55C2102FS	81349	5	53
RNR55C2150FS	81349	4	75
RNR55C2150FS	81349	4	171
RNR55C2210FS	81349	4	76
RNR55C2210FS	81349	4	172
RNR55C2212FS	81349	4	220
RNR55C2212FS	81349	5	54
RNR55E2260FS	81349	4	77
RNR55C2260FS	81349	4	173
RNR55E2320FS	81349	4	78
RNR55C2320FS	81349	4	174
RNR55C2322FS	81349	5	55
RNR55E2370FS	81349	4	79
RNR55C2370FS	81349	4	175
RNR55E2430FS	81349	4	80
RNR55C2430FS	81349	4	176
RNR55C2432FS	81349	5	56
RNR55E2490FS	81349	4	81
RNR55C2490FS	81349	4	177
RNR55C2552FS	81349	5	57
RNR55E2610FS	81349	4	82
RNR55C2610FS	81349	4	178
RNR55E2740FS	81349	4	33
RNR55C2742FS	81349	4	221
RNR55C2672FS	81349	5	58
RNR55C2740FS	81349	4	179
RNR55C2802FS	81349	5	59
RNR55C2870FS	81349	4	84
RNR55C2870FS	81349	4	180
RNR55C2942FS	81349	5	60
RNR55C3002FS	81349	4	110
RNR55C3010FS	81349	4	85
RNR55C3010FS	81349	4	181
RNR55C3092FS	81349	5	61
RNR55C3240FS	81349	4	182
RNR55C3240FS	81349	4	86
RNR55C3242FS	81349	5	62
RNR55C3322FS	81349	4	222
RNR55C3402FS	81349	5	63
RNR55C3570FS	81349	4	87
RNR55C3570FS	81349	4	183
RNR55C3740FS	81349	4	88
RNR55C3740FS	81349	4	184
RNR55C4002FS	81349	5	83
RNR55C4020FS	81349	4	185
RNR55C4020FS	81349	4	89
RNR55C4320FS	81349	4	90
RNR55C4320FS	81349	4	186
RNR55C4640FS	81349	4	91
RNR55C4640FS	81349	4	187
RNR55C4642FS	81349	5	29
RNR55C4752FS	81349	5	30
RNR55C4752FS	81349	4	223
RNR55C4872FS	81349	5	31
RNR55C4990FS	81349	4	92
RNR55C4990FS	81349	4	188
RNR55C4992FS	81349	5	32
RNR55C5000BM	81349	5	77

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PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
RNR55C5112FS	81349	5	33	1423-3210-001	K0656	16	14
RNR55C5232FS	81349	5	34	209-071-363-101	97499	1	2
RNR5CC5362FS	81349	5	35	209-071-360-101	97499	21	37
RNR55E5490FS	81349	4	93	209-071-361-101	97499	21	32
RNR55C5490FS	81349	4	189	209-071-363-103	97499	21	30
RNR55C5492FS	81349	5	36	209-071-364-101	97499	21	35
RNR55C5622FS	81349	5	37	209-071-373-101	97499	21	25
RNR55C5761FS	81349	4	143	2121-3032-001	K0656	12	23
RNR55C5900FS	81349	4	190	3AQC28/207	K0656	16	15
RNR55C6191FS	81349	4	144	3AQC28/303	K0656	14	27
RNR55C6192FS	81349	4	224	3AQC28/303	K0656	16	13
RNR55C6340FS	81349	4	191	3AQC28/473	K0656	20	5
RNR55C6651FS	81349	4	145	30-006-2-104	97499	21	36
RNR55C6810FS	81349	4	192	3104-0836-001	K0656	19	13
RNR55C7151FS	81349	4	146	3104-0836-003	K0656	12	29
RNR55C7320FS	81349	4	193	3104-0836-100	K0656	16	27
RNR55C7501FS	81349	4	110	3111-1236-001	K0656	8	13
RNR55C8001FS	81349	5	84	3131-0436-100	K0656	20	2
RNR55C8002FS	81349	5	39	3200-4036-001	K0656	20	3
RNR55C8061FS	81349	4	94	33-001-101-2	97499	21	13
RNR55C8061FS	81349	4	147	3303-1233-002	K0656	7	31
RNR55C8062FS	81349	4	225	3303-1433-001	K0656	16	50
RNR55C8450FS	81349	4	194	3303-1435-001	K0656	16	51
RNR55C8661FS	81349	4	95	3303-1435-002	K0656	16	52
RNR55C8661FS	81349	4	148	3303-1671-001	K0656	16	29
RNR55C9090FS	81349	4	195	3303-1673-001	K0656	16	30
RNR55C9091FS	81349	4	96	3303-1675-001	K0656	16	31
RNR55C9091FS	81349	4	149	3303-1676-001	K0656	16	32
RT262X102	81349	9	38	3303-1679-001	K0656	16	33
RWR79UR1FM	81349	7	44	3331-2001-002	K0656	14	24
RWR79UR270F	81349	9	5	3326-1000-001	K0656	20	4
RW80U12R0F	81349	7	2	3326-3001-001	K0656	7	10
RWR81S180FM	81349	4	39	3326-3001-001	K0656	14	26
RWR81S1200FM	81349	13	20	3326-2001-002	K0656	14	24
SBP9900AMH	K0656	6	56	3326-3001-010	K0656	6	8
05-010-02	K0656	1	1	3326-3001-010	K0656	12	5
10030	K0656	7	25.1	3326-5001-001	K0656	12	2
1026-7002-003	K0656	12	43	3326-5001-001	K0656	13	8
10309	K0656	9	5A	3326-5001-001	K0656	7	7
10343	K0656	9	8	3326-5001-001	K0656	10	19
110-076-1-0-4	97499	21	26	3326-5001-001	K0656	14	11
1185-04-X2D	K1012	18	2	3326-5001-010	K0656	4	9
1191-02-CNX1-5D	K1012	12	13	3326-5001-010	K0656	5	12
1191-02-CNX2.0D	K1012	12	14	3326-5001-010	K0656	6	16
1191-02-CNX2.5D	K1012	12	15	3711-5020-002	K0656	16	55
130-011-4B28	97499	21	8	3723-2302-002	K0656	12	28
130-011-4B840	97499	21	20	3723-2302-002	K0656	19	12
130-011-4B160	97499	21	6	3737-00006	K0656	12	10
130-011-5B28	97499	21	9	737-00006	K0656	19	5
130-011-5B846	97499	21	21	3800-5674-001	K0656	7	20
130-011-5B160	97499	21	4	3800-7670-001	K0656	7	36

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PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
3801-3129-001	K0656	4	3	5600-1344-002	K0656	2	13
3801-3129-001	K0656	5	2	5600-1344-002	K0656	14	3
3801-3129-001	K0656	6	2	5605-0815-002	K0656	14	35
3801-3129-001	K0656	8	3	5605-0815-002	K0656	18	3
3801-3129-001	K0656	9	3	5605-0817-001	K0656	3	17
3801-3129-001	K0656	13	3	5605-0815-002	K0656	16	45
3801-3326-001	K0656	8	4	5605-1615-001	K0656	14	32
3801-3639-001	K0656	10	20	5605-1615-001	K0656	19	6
3801-4314-002	K0656	15	2	5605-2415-001	K0656	14	22
3820-1106-006	K0656	7	29	5605-3615-001	K0656	14	29
3828-2301-001	K0656	7	3	60001-210	K0656	4	5
3828-2301-001	K0656	15	3	60001-210	K0656	5	5
3828-2301-001	K0656	16	9	60001-210	K0656	6	10
3828-2301-001	K0656	16	48	60-02-05-719	K0656	6	13
3828-2301-001	K0656	19	7	60082-005-02	K0656	2	1
3830-5504-003	K0656	7	37	60082-011-02	K0656	2	12
3830-6704-009	K0656	7	43	60082-022-02	K0656	2	9
3831-2445-001	K0656	4	7	60082-025-02	K0656	2	15
3831-2445-001	K0656	5	7	60082-026-02	K0656	3	2
3831-2445-001	K0656	6	11	60082-027-02	K0656	3	1
3831-2445-001	K0656	13	4	60082-031	K0656	3	11
3831-4435-001	K0656	4	6	60082-048	K0656	10	7
3831-4435-001	K0656	5	8	60082-061	K0656	2	19
3831-4585-002	K0656	13	9	60082-062	K0656	2	21
3831-4715-001	K0656	5	9	60082-066	K0656	3	4
3831-4715-001	K0656	6	12	60082-075	K0656	2	10
3831-4495-001	K0656	4	12	60082-078	K0656	10	23
3831-4495-001	K0656	5	6	60082-095	K0656	7	17
3831-4495-001	K0656	8	8	60082-098	K0656	7	18
3831-4585-002	K0656	9	5	60082-111-02	K0656	2	2
3908-00041	K0656	2	22	60082-201	K0656	6	1
3908-00041	K0656	3	12	60082-203	K0656	6	3
3908-00041	K0656	10	9	60082-215	K0656	5	1
4107-1245-006	K0656	12	21	60082-216	K0656	5	3
4203-4431-004	K0656	12	32	60082-225	K0656	3	10
4114-3312-003	K0656	7	42	60082-226	K0656	4	1
4123-5555-002	K0656	16	54	60082-227	K0656	4	2
4123-5555-002	K0656	19	9	60082-237	K0656	2	4
4123-7755-008	K0656	16	65	60082-238	K0656	2	3
4305-4352-002	K0656	4	4	60082-241	K0656	7	27
4602-4352-002	K0656	5	4	60082-243	K0656	3	7
4801-6111-001	K0656	12	34	60082-244	K0656	3	6
50-012-01N404	97499	21	5	60082-249	K0656	2	20
50-012-01N504	97499	21	3	60082-246	K0656	10	10
50-012-09N404	97499	21	10	60082-250	K0656	2	16
50-012-09N504	97499	21	12	60082-252	K0656	7	16
50-012-10N402	97499	21	2	60082-253	K0656	8	1
50-012-10N502	97499	21	1	60082-254	K0656	8	2
50-012-15N400	97499	21	7	60082-261	K0656	7	21
50-012-15N500	97499	21	17	60082-262	K0656	9	1
50-042-02	K0656	1	3	60082-263	K0656	9	2
5600-1344-001	K0656	2	14	60082-270	K0656	10	13
5600-1344-001	K0656	14	4	60087-271	K0656	10	14

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60082-281	K0656	7	24
60082-282	K0656	2	7
60082-282	K0656	7	15
60082-283	K0656	7	35
60082-284	K0656	7	32
60082-288	K0656	3	3
60082-290-	K0656	2	17
60082-291	K0656	2	5
60082-292	K0656	6	5
60082-293	K0656	6	6
60082-294	K0656	3	8
60082-295	K0656	2	8
60082-297	K0656	7	6
60082-298	K0656	7	1
60082-310	K0656	4	3.1
60082-311	K0656	2	14.1
60087-001-02	K0656	11	3
60087-009	K0656	11	5
60087-022	K0656	12	27
60087-033	K0656	12	17
60087-037	K0656	11	1
60087-045	K0656	11	8
60087-047	K0656	11	6
60087-100	K0656	12	12
60087-101	K0656	12	11
60087-102	K0656	12	39
60087-103	K0656	12	33
60087-104	K0656	12	31
60087-105	K0656	12	30
60087-106	K0656	12	38
60087-108	K0656	12	36
60087-110	K0656	12	7
60087-111	K0656	13	2
60087-112	K0656	13	1
60087-120	K0656	12	37
60087-121	K0656	12	41
60087-122	K0656	13	5
60087-123	K0656	12	19
60087-126	K0656	11	4
60093-001-01	K0656	14	28
60093-001	K0656	14	28
60093-004	K0656	19	3
60093-010	K0656	16	60
60093-010	K0656	20	6
60093-011	K0656	14	34
60093-012-02	K0656	14	13
60093-013	K0656	16	36
60093-016	K0656	16	46
60093-018	K0656	16	57
60093-019	K0656	16	37
60093-021	K0656	16	62
60093-022	K0656	16	61
60093-022	K0656	16	38
60093-024	K0656	16	40
60093-025	K0656	16	42
60093-026	K0656	16	43
60093-027	K0656	16	47
60093-028	K0656	14	23
60093-030	K0656	16	16
60093-032	K0656	16	53
60093-034	K0656	16	56
60093-037	K0656	16	3
60093-038	K0656	16	64
60093-040	K0656	16	28
60093-041	K0656	16	59
60093-043	K0656	16	44
60093-045	K0656	16	26
60093-046	K0656	16	5
60093-047	K0656	16	7
60093-049	K0656	16	10
60093-050	K0656	16	8
60093-060	K0656	16	18
60093-067-02	K0656	14	6
60093-068	K0656	16	19
60093-069	K0656	19	8
60093-072	K0656	14	31
60093-073	K0656	19	11
60093-075	K0656	14	33
60093-077-02	K0656	14	12
60093-080-02	K0656	14	30
60093-081-01	K0656	14	21
60093-082	K0656	20	8
60093-083	K0656	20	10
60093-084	K0656	20	1
60093-085	K0656	20	13
60093-087	K0656	20	7
60093-093	K0656	17	4
60093-094	K0656	14	20
60093-096	K0656	15	11
60093-097	K0656	14	15
60093-098	15	8	
60093-100	K0656	14	7
60093-105	K0656	14	19
60093-107	K0656	18	4
60093-109	K0656	16	63
60093-110	K0656	16	34
60093-111	K0656	14	16
60093-201	K0656	18	1
60093-205	K0656	16	20
60093-206	K0656	16	17
60093-207	K0656	16	21

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60093-208	K0656	17	2	7802-12092	K0656	9	7
60093-209	K0656	17	1	7803-00025	K0656	7	52
60093-210	K0656	16	41	79-056-02	K0656	1	4
60093-211	K0656	16	39	7926-00007	K0656	20	15
60093-121	K0656	19	10	7937-00020	K0656	16	4
60093-213	K0656	19	2	7937-00021	K0656	16	58
60093-214	K0656	16	68	8010-00005	K0656	12	9
60093-215	K0656	16	66	81SPS 1500/2	K0656	12	24
60093-218	K0656	16	1	81SPS 1500/3	K0656	12	25
60093-219	K0656	15	4	81SPS 1500/4	K0656	12	26
60093-220	K0656	14	9	8600-00004	K0656	10	4
60093-221	K0656	15	5	8600-00005	K0656	10	5
60093-222	K0656	15	8	8700-00014	K0656	10	6
60093-223	K0656	15	9	8700-00016	K0656	12	8
60093-225	K0656	15	12	9307-6104-005	K0656	7	26
60093-226	K0656	15	1	9501-100-0000	K0656	7	51
60093-227	K0656	15	13	9307-1104-004	K0656	7	38
60093-228	K0656	15	14	9400-00168	K0656	4	232
60093-229	K0656	15	6	9400-00170	K0656	5	92
60093-230	K0656	20	12	9400-00170	K0656	13	65
60093-231	K0656	20	9	9402-00153	K0656	6	57
6138-0000-005	K0656	4	45	9403-00024	K0656	13	66
6149-0001-032	K0656	4	47	9403-00041	K0656	8	32
6149-0001-033	K0656	4	48	9403-00041	K0656	9	55
6149-0001-034	K0656	4	49	9406-00003	K0656	6	72
6149-0001-035	K0656	4	50	9406-00001	K0656	6	73
6149-0001-036	K0656	4	51	9407-00016	K0656	5	25
6149-0001-037	K0656	4	52	9409-00011	K0656	6	78
6149-0001-038	K0656	4	53	9414-00161	K0656	6	67
6149-0001-039	K0656	4	54	9319-6102-001	K0656	7	40
6149-0001-040	K0656	4	55	9414-00170	K0656	6	77
6149-0001-041	K0656	4	56	9414-00174	K0656	6	50
6149-0001-042	K0656	4	57	9429-00006	K0656	6	49
6149-0001-043	K0656	4	58	9429-00121	K0656	6	70
6149-0001-044	K0656	4	59	9480-00074	K0656	6	76
6149-0001-045	K0656	4	60	9480-00421	K0656	6	65
6149-0001-046	K0656	4	61	9480-00494	K0656	6	55
6149-0001-047	K0656	4	62	9480-00498	K0656	5	94
6149-0001-048	K0656	4	63	9490-00013	K0656	5	97
6400-3370-031	K0656	8	14	9490-00038	K0656	4	235
6400-5670-031	K0656	8	16	9490-00038	K0656	5	98
7120-00125	K0656	8	20	9490-00041	K0656	5	103
7120-00143	K0656	7	49	9490-00041	K0656	4	233
7120-00145	K0656	8	19	9490-00041	K0656	5	101
7120-00158	K0656	9	25	9611-00003	K0656	14	2
7120-00164	K0656	7	4	9800-00019	K0656	7	33
7120-00165	K0656	7	5	9800-00020	K0656	13	6
7126-00074	K0656	9	50	9804-1012-001	K0656	7	47
7126-00082	K0656	8	31	9804-1053-002	K0656	7	33
7126-00083	K0656	9	51	9936-CBFS	K0656	6	58
7802-12064	K0656	8	7	9936-CBFT	K0656	6	59
7802-12064	K0656	9	4	9936-CBFV	K0656	6	60
7802-12092	K0656	8	9	9936-CBFW	K0656	6	61

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
9936-CBFX	K0656	6	62				
9936-CBFY	K0656	6	63				
9936-F***	K0656	4	236				
9936-F***	K0656	4	237				

NOTE: Asterisk denotes Alpha Serial No. to be found on the associated transducer as part of the identification label. Complete part number (by adding Serial No.) when requisitioning these items.

APPENDIX F

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section 1. INTRODUCTION.

F-1. Scope. This appendix lists expendable supplies and materials you will need to operate and maintain the air data subsystem. These Items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

F-2. Explanation of Columns

a. ***Column 1, Item Number.*** This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (eg ´Use cleaning compound, item 5, App. F´).

b. ***Column 2, Level.*** This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Aviation Unit Maintenance
F - Aviation Intermediate Maintenance

c. ***Column 3, National Stock Number.*** This is the National stock number assigned to the item; use it to request or requisition the item.

d. ***Column 4, Description.*** Indicates the Federal name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. ***Column 5, Unit of Measure (U/M).*** Indicates the measure used in performing actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (eg ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II. EXPENDABLE SUPPLIES AND MATERIELS

(1)	(2)	(3) NATIONAL STOCK	(4)	(5)
NUMBER	LEVEL	NUMBER	DESCRIPTION	U/M
1	0	8030-00-833-9563	SEALANT 732 RTV (K7750)	CN
2	0	9505-00-847-1663	SAFETY WIRE MS 20995-C32 (96906)	RL

GLOSSARY

AADS	Airspeed and Direction Sensor
A-D	Analog to Digital
ADS	Air Data System
AIN	Analog Input
AIU	Analog Interface Unit
ANLG	Analog
^{A}OUT	Analog Output
ATS	Air Temperature Sensor
AVIM	Aviation Intermediate Maintenance
AVUM	Aviation Unit Maintenance
BIT	Built in Test
BITE	Built in Test Equipment
CAL HI	High Calibration Voltage
CAL LO	Low Calibration Voltage
CCHK	Continuity Check
CPU	Central Processor Unit
D-A	Digital to Analog
DAC	Digital to Analog Converter
DR	Data Ready
DTR	Data Transmit Request
DVM	Digital Volt Meter
EFB	Electrical Force Balance
EMC	Electro-magnetic Comparability
EPU	Electronics Processor Unit
FCC	Fire Control Computer
FISS	Failure Isolation Shop Sets
FLR	Failure
GND	Ground
h	Altitude Rate
Hg	Mercury
Hp	Pressure Altitude
^{H}RAD	Radar Altitude
HTR	Heater
IAS	Indicated Airspeed
INJ	Injection
I/P	Input
KN	Knots
LAI	Low Airspeed Indicator
LRU	Line Replaceable Unit
LSB	Least Significant Bit
MOS	Metal Oxide Semi-conductor
mS	Milli-seconds
MSB	Most Significant Bit
O/P	Output
O/R	Over-range
PGSE	Peculiar Ground Support Equipment
PROM	Programmable Read Only Memory
PSIA	Pounds per Square Inch Absolute

P_S	Static Pressure
P_{So}	Standard Atmospheric Pressure at Sea Level
PSU	Power Supply Unit
P_T	Total (Pitot) Pressure
PTU	Pressure Transducer Unit
RAM	Random Access Memory
RDR	Radar
REF	Oscillator Voltage
RELBL	Reliability
ROM	Read Only Memory
RPT	Repeat
RTN	Return
SEL	Select
SIG	Signal
SRU	Shop Replaceable Unit
STAT	Status
T_{AIR}	Free Steam Air Temperature
TAS	True Airspeed
TMDE	Test Measurement and Diagnostic Equipment
TP	Test Point
TPP	Tip Path Plane
TTL	Transistor - Transistor Logic
T_r	Temperate Probe Resistance
TRIG	Trigger
Tt	Absolute temperature (°K)
µ S	Micro-seconds
Vac	Volts Alternating Current
Vdc	Volts Direct Current
V_{DW}	Downwash Velocity
V_I	AADS Indicated Resultant Airspeed
V_{IF}	Fore-Aft Indicated Airspeed (uncorrected)
V_{IU}	Fore-Aft Indicated Airspeed
V_{IV}	Lateral Indicatad Airspeed
V_{IL}	Lateral Indicated Airspeed (uncorrected)
V_{REF}	Voltage Reference
V_T	AADS True Resultant Airspeed
V_{TF}	Fore Aft True Airspeed (uncorrected)
V_{TL}	Lateral True Airspeed (uncorrected)
V_{TN}	Normal True Airspeed (uncorrected)
V_u	Forward True Airspeed
V_v	Lateral True Airspeed
V_w	Vertical True Airspeed
WD	Word
Δp	Differential Pressure
$\propto p$	AADS Pitch Angle
βp	AADS yaw Angle

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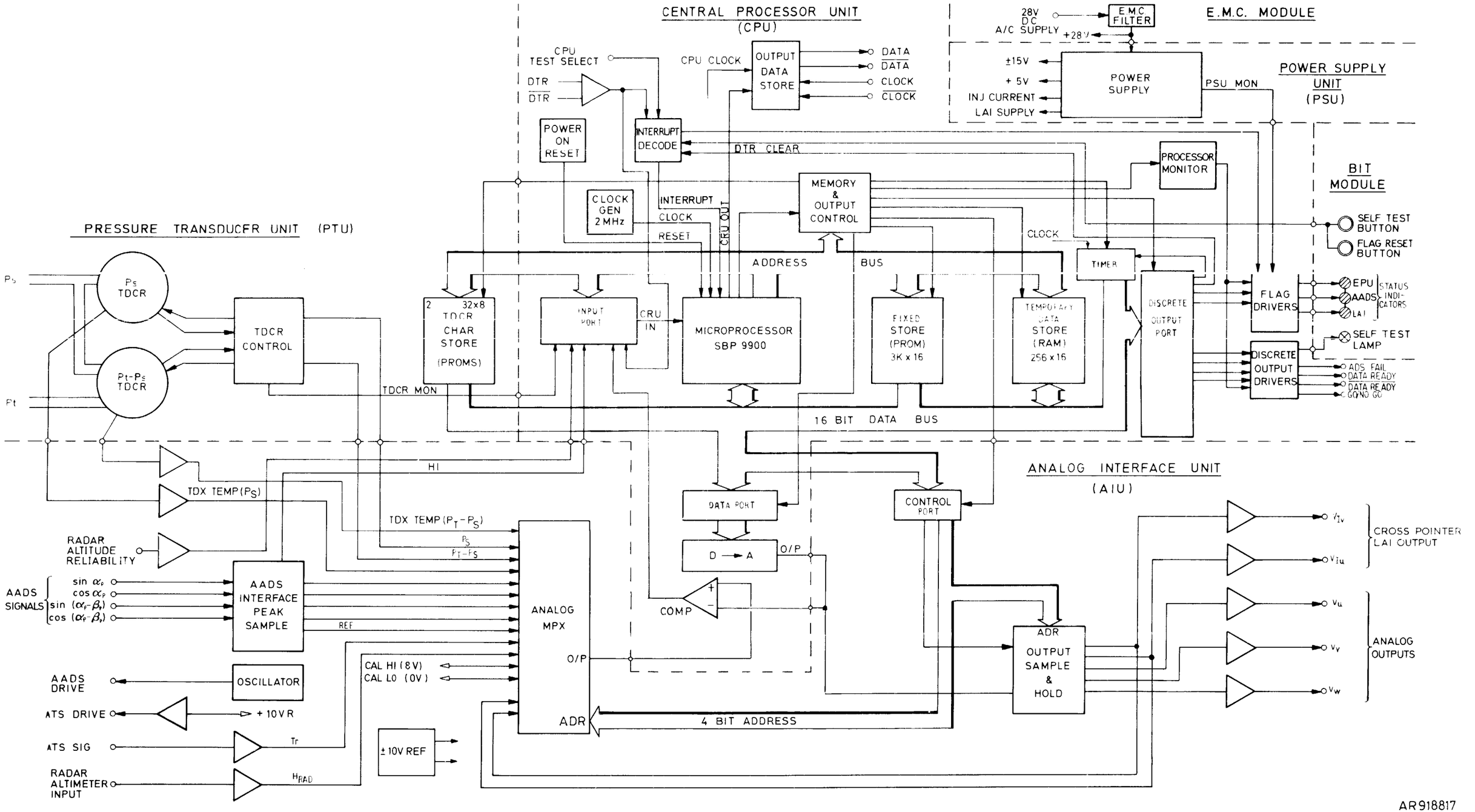

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Figure F0-1. EPU Block Diagram.

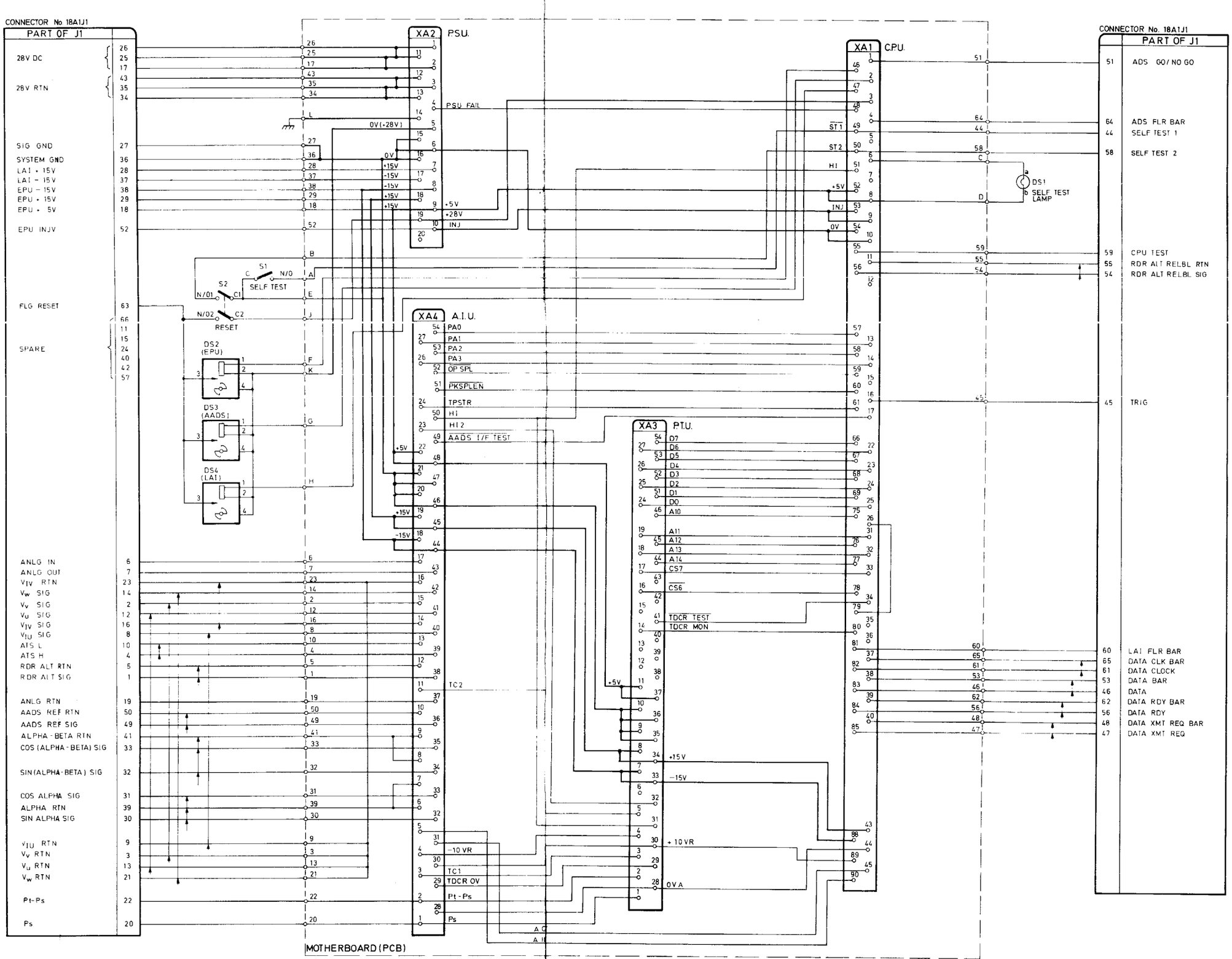

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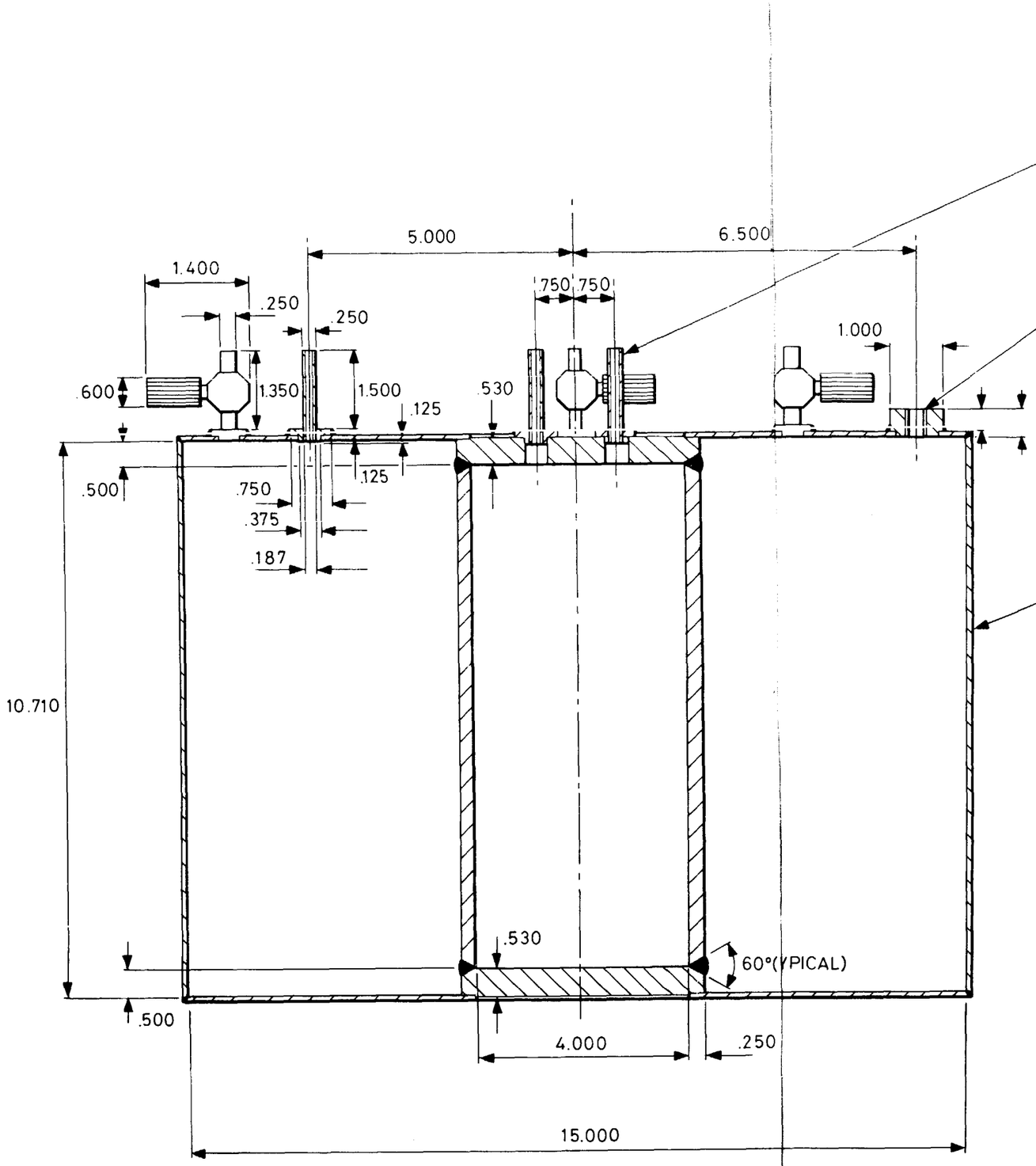
Figure F0-2. EPU Wiring Diagram.



4 CONNECTION PIPES

MATERIAL - ALUMINIUM ALLOY (Si Mg Mn TYPE)
BRITISH BS 1474/H30-TF USA AAA 6082

¼ NPT THREADED BOSS FOR MOUNTING PRESSURE RELIEF VALVE

VALVE TO BE SET AT 5 PSI

INNER TANK CAPACITY-122 IN^3

OUTER TANK CAPACITY-1728 IN^3

THESE VALUES TO BE MARKED CLEARLY ON TOP OF TANK

OUTER TANK TO BE MADE FROM SHEET MATERIAL .06 - .08 THICK

THE OUTER CYLINDER TO BE SEAM WELDED

ALL WELDING TO BE BY AN INERT-GAS SHIELDED-ARC PROCESS (ARGON ARC)

MATERIAL (TANKS) - ALUMINIUM ALLOY (1.7 - 2.4 Mg TYPE)
BRITISH BS1470 - 1474/N4
USA AAA 5251 OR 5052

LEAKAGE - OUTER TANK-<0.2MB/MIN AT 100MB
INNER TANK-LEAK FREE AT 700MB

AR 918919
(60P5206)

Figure F0-3. Construction of Dual Purpose Capacity Tank.

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TEAR ALONG PERFORATED LINE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

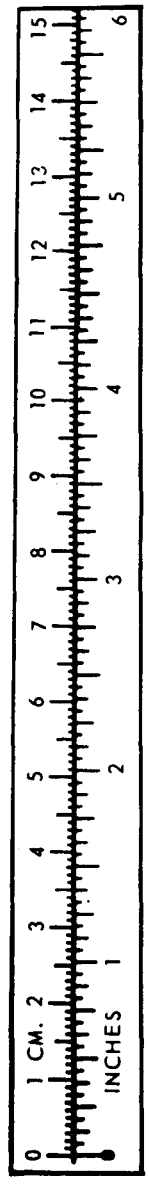
TEMPERATURE

$5/9\ (^0F - 32) = {}^0C$
212^0 Fahrenheit is equivalent to 100^0 Celsius
90^0 Fahrenheit is equivalent to 32.2^0 Celsius
32^0 Fahrenheit is equivalent to 0^0 Celsius
$9/5\ C^0 + 32 = F^0$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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