TM 11-6625-820-45

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

GS AND DEPOT MAINTENANCE MANUAL

TEST SET, RADIO AN/ARM-92

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1966

WARNING

Be careful when working on the 115-volt, 400-cps circuit. Serious injury or death may result from contact with this circuit.

DON'T TAKE CHANCES!

CAUTION

Do not make resistance measurements with power applied to the test set. Do not make resistance measurements that would place the ohmeter across a microampere meter in the test set.

CHANGE
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *21 January 1972*

General Support and Depot Maintenance Manual
Including Repair Parts and Special Tool Lists
TEST SETS, RADIO AN/ARM-92 AND AN/ARM-92A

TM 11–6625–820–45, 22 September 1966, is changed as follows:

1. Remove and insert pages as indicated below.

Insert pages	*Remove pages*
i and ii	i and ii
1-1 and 1-2	1-1 and 1-2
	1-2.1 and 1-2.2
1-3and 1-4	1-3 and 1-4
	1-4.1 /(1.4.2 blank)
1-5 through 1-8	1-5 through 1–8
2-1 through 2–4	2-1 through 2-4
	2-4.1 and 2-4-2
2-5 and 2-6	2-5 and 2-6
	2–6.1 and 2-6.2
2-11 and 2-12	2–11 and 2-12
2-17 through 2-20	2-17 through 2-22
3-1 through 3-6	3-1 through 3–8
4-1 and 4-2	4-1 and 4-2
	4-2.1 (4-2.2 blank)
4-3 and 4-4	4-3 and 4-4
4-7 and 4-8	4-7 and 4-8
4-11 through 4-14	4-11 through 4-14
4-15 through 4-24	4-15 through 4–24
	4–24.1/(4.24.2 blank)
	Figure 4-9.1 (Sheet 1 of 2)
	Figure 4–9.1 (Sheet 2 of 2)
Appendix A-1 and A-2	Appendix A-1 and A-2
Index I-1 and I-2	Index I-1 and I–2

2. File this change sheet in front of the manual for future reference.

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *3 December 1968*

G5 and Depot Maintenance Manual

Including Repair Parts and Special Tools List

TEST SET, RADIO AN/ARM-92

TM 11-6625-820-45, 22 September 1966, is changed as follows:

1. The title of the manual is changed as shown above.

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

Remove pages	Insert pages
1-1 and 1-2	1-1 and 1-2
A-1	A-1
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No. 11–6625–820-45

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 22 September 1966.

GS AND DEPOT MAINTENANCE MANUAL

TEST SETS, RADIO AN/ARM-92 AND AN/ARM-92A

*This manual supersedes TM 11-6625-820-45, 15 February 1966.

CHAPTER 1

FUNCTIONING

Section I. GENERAL FUNCTIONING OF TEST SETS, RADIO AN/ARM-92 AND AN/ARM-92A

1-1. Scope

a. General. This manual contains general support and depot maintenance instructions for Test Sets, Radio AN/ARM-92 and AN/ARM-92A. It includes instructions appropriate to these categories of maintenance for troubleshooting, testing, aligning, and repairing the equipment. The manual also lists tools, materials, and test equipment for maintenance. Detailed functions of the equipment are also covered.

b. Reporting of Equipment Manual Improvements. The direct reporting of errors, omissions, and recommendations for improving this equipment manual by the individual user is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvements. This form may be completed using pencil, pen, or typewriter and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-MR-NMP-AD, Fort Monmouth, N, J. 07703.

Note: For other applicable forms and records, see paragraph 1-3, TM 11-6625-820-12.

c. Index of Equipment Publication. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes or additional publications pertaining to the equipment. DA Pam 310-4 is a current index of technical bulletins, supply bulletins, lubrication orders, and modification work orders available through publications channels. The index lists the individual parts (-10, -20, -35P, etc) and the latest changes and revisions of each equipment publications.

1-2. Block Diagram Functioning of Test Set, Radio AN/ARM-92

a. General. Test Set Radio, AN/ARM-92 provides for the complete testing of Radio Receiving Set AN/ARN-82 (receiving set) when used with external test equipment. The test set can also be used to test a glide-slope receiver, and provides for flag and deviation loading. The glide-slope test requires a special cable that is not supplied with this unit. The functions of Test Set, Radio AN/ARM-92 are:

(1) Power distribution.
(2) Phase shifting.
(3) Current measuring.
(4) Compass simulation.
(5) Self-test of control unit and functions of the test set.

b. Power Distribution Circuits. Control, Radio Set C–6873/ARM-82 (control unit), power relay K1, and power transformer T1 comprise the power distribution circuits. The test set connects 27.5 volts direct current (dc) from an external power source to the control unit which applies or removes the 27.5 volts dc from the remaining power circuits. When the control unit applies this voltage to the remaining power circuits, 27.5 volts dc is applied to Radio Receiver R–1388/ARN-82 (radio receiver), or to the glide-slope receiver, and to power relay K1. The relay then energizes and connects 115 volts, 400 cycles per second (cps) to power transformer T1. Transformer T1 steps the voltage down to 26 volts, 400 cps, which is applied to the radio receiver. The control unit also supplies the tuning information required by the radio receiver, or the glide-slope receiver.

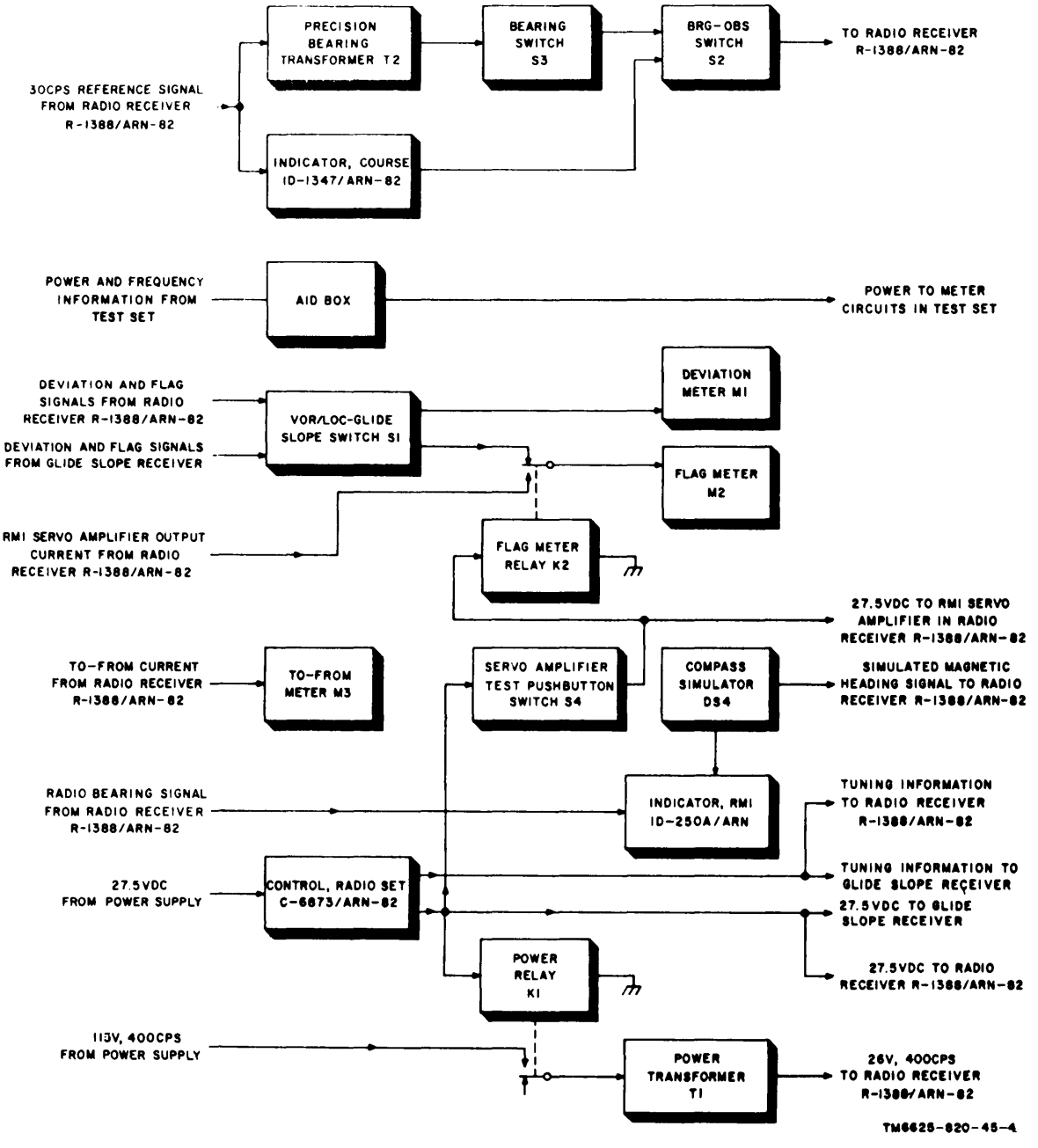


Figure 1-1. Test Set, Radio AN/ARM-92, block diagram.

c. Phase Shifting Circuits. The phase shifting circuits (comprised of precision bearing transformer T2; Indicator, Course ID-1347/ARN–82, OBS (omni bearing switch) indicator; BEARING switch S3; and BRG-OBS switch S2) are used to shift the phase of the 30-cycle refererence signal obtained from the radio receiver. Either the OBS resolver or precision bearing transformer T2 performs the phase shifting, and BRG–OBS switch S2 selects the one to be used. The OBS resolver shifts the phase of the 30-cycle reference signal

anywhere from 0 to 360°, but precision bearing transformer T2 shifts the phase of the signal in precise 30° increments. The exact 30° increment is selected by BEARING switch S3.

d. Current Measuring Circuits. TO-FROM meter M3 connects directly to the radio receiver and measures its to-from current. DEVIATION meter M1 and FLAG meter M2 are connected either to the radio receiver or to the glide-slope receiver, depending on the position of VOR/LOC-GLIDE SLOPE switch S1. These two meters measure the deviation current and flag current from either receiver. The FLAG meter also measures the output of the RMI servoamplifier in the radio receiver. When SERVO AMP TEST pushbutton switch S4 is pressed, it connects 27.5 volts dc to the RMI servoamplifier and to flag meter relay K2. The flag meter relay energizes and connects FLAG meter M2 to the RMI servoamplifier output of the radio receiver.

e. Compass Simulator Circuit. COMPASS SIMULATOR DS4 simulates a magnetic heading signal which is applied to the radio receiver. The simulated magnetic heading signal is also applied to Indicator, RMI ID–250A/ARN on the test set to drive the RMI card.

f. Aid Box. The aid box checks the wiring harness in an aircraft installation of Radio Receiving Set AN/ARN-82, and checks the control unit installed in the test set or aircraft. It also provides a quick check of the accuracy of the meters in the test set. The aid box receives frequency information from the control unit in the test set or aircraft. This frequency information lights the lamps on the aid box in specific combinations. The aid box also receives 26 volts, 400 cps from the test set or from the aircraft. A portion of this voltage is rectified, and then divided to specific levels. Specific levels of dc voltage are applied to the meter circuits in the test set or to the aircraft indicators. A portion of the 26 volts, 400 cps is also used to check the audio wiring.

1-2.1. Block Diagram Functioning of Test Set, Radio AN/ARM-92A (fig 1-1.1)

a. General. Test Set Radio, AN/ARM-92A provides for the complete testing of Radio Receiving Sets AN/ARN-82 and AN/ARN-82A (receiving set) when used with external test equipment. The test set can also be used to test a glide-slope receiver, and provides for flag and deviation loading. The glide-slope test requires a special cable that is not supplied with this unit. The functions of Test Set, Radio AN/ARM-92A are:

(1) Power distribution.
(2) Phase shifting.
(3) Resolver signal transmission.
(4) Current measuring.
(5) Compass simulation.
(6) Self-test of control unit and functions of the test set.

b. Power Distribution Circuits. Control, Radio Set C-6873/ARM-82 (control unit), power relay K1, and power transformer T1 comprise the power distribution circuits. The test set connects 27.5 volts direct current (dc) from an external power source to the control unit which applies or removes the 27.5 volts dc from the remaining power circuits. When the control unit applies this voltage to the remaining power circuits, 27.5 volts dc is applied to Radio Receiver R-1388/ARN-82 (radio receiver), or to the glide-slope receiver, and to power relay K1. The relay then energizes and connects 115 volts, 400 Hz to power transformer T1. Transformer T1 steps the voltage down to 26 volts, 400 Hz, which is applied to the radio receiver. The control unit also supplies the tuning information required by the radio receiver, or the glide-slope receiver.

c. Phase Shifting Circuits. The phase shifting circuits (consists of precision bearing transformers T2 and T3; Indicator, Course ID-1347/ARN-82 (OBS); RECEIVER MODEL switch S5; BEARING switch S3; and BRG-OBS switch S2. These circuits are used to shift the phase of the 30-Hz reference signal obtained from Radio Receiver R-1388/ARN-82. Either the OBS resolver or precision bearing transformer T2 performs the phase shifting; BRG-OBS switch S2 selects the one to be used. The OBS resolver shifts the phase of the 30-Hz reference signal anywhere from 0 to 360°, precision bearing transformer T2 shifts the phase of the signal in precise 30° increments. The

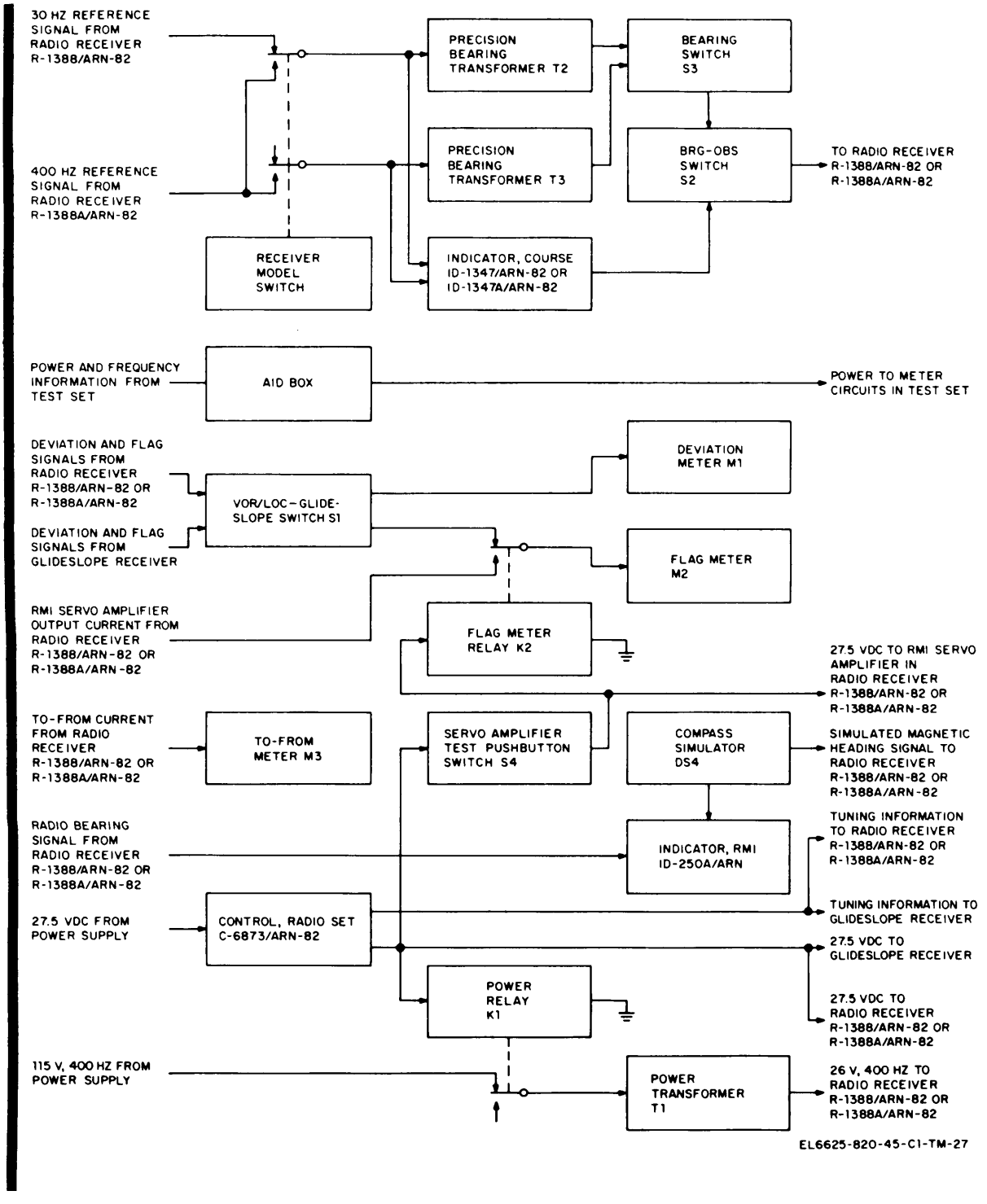


Figure 1-1.1. Test Set, Radio AN/ARM-92A, block diagram.

exact 30° increment is selected by BEARING switch S3. RECEIVER MODEL switch S5 removes transformer T3 from the circuit and adjusts the remaining circuits for phase shifting.

d. Resolver Transmitter Circuit. The resolver transmitter circuit consists of precision bearing transformers T2 and T3; Indicator, Course ID-1347A/ARN-82 (OBS); RECEIVER MODEL switch S5; BEARING switch S3; and BRG-OBS switch S2. This circuit supplies 400-Hz bearing information to Radio Receiver R-1388A/ARN-82. BRG-OBS switch S2 selects either the OBS resolver or the simulated resolver comprised of transformers T2 and T3. RECEIVER MODEL switch S5 connects transformers T2 and T3 to form a simulated resolver and switches the input to 400-Hz input. BEARING switch S3 selects the 30° increment equivalent to the OBS resolver position.

e. Current Measuring Circuits. TO-FROM meter M3 connects directly to the radio receiver and measures its to-from current. DEVIATION meter M1 and FLAG meter M2 are connected either to the radio receiver or to the glide-slope receiver, depending on the position of VOR/LOC-GLIDE SLOPE switch S1. These two meters measure the deviation current and flag current from either receiver. The FLAG meter also measures the output of the RMI servoamplifier in the radio receiver. When SERVO AMP TEST pushbutton switch S4 is pressed, it connects 27.5 volts dc to the RMI servoamplifier and to flag meter relay K2. The flag meter relay energizes and connects FLAG meter M2 to the RMI servoamplifier output of the radio receiver.

f. Compass Simulator Circuit. COMPASS SIMULATOR DS4 simulates a magnetic heading signal that is applied to the radio receiver. The simulated magnetic heading signal is also applied to Indicator, RMI ID-250A/ARN on the test set to drive the RMI card.

g. Aid Box. The aid box checks the wiring harness in an aircraft installation of Radio Receiving Set AN/ARN-82 or AN/ARN-82A and checks the control unit installed in the test set or aircraft. It also provides a quick check of the accuracy of the meters in the test set. The aid box receives frequency information from the control unit in the test set or aircraft. This frequency information lights the lamps on the aid box in specific combinations. The aid box also receives 26 volts, 400 Hz from the test set or from the aircraft. A portion of this voltage is rectified, and then divided to specific levels. Specific levels of dc voltage are applied to the meter circuits in the test set or to the aircraft indicators. A portion of the 26 volts, 400 Hz is also used to check the audio wiring.

Section II. DETAILED CIRCUIT FUNTIONING

1-3. Power Distribution Circuits

The test set supplies all the necessary power connections for the operation of Radio Receivers R-1388/ARN-82 or R-1388A/ARN-82 or a glide-slope receiver. The operation of these power circuits is described below. Refer to test set schematic diagram (fig. 4-9 or 4-9.1) while reading the description in *a, b,* and *c* below.

a. The external sources of power are connected to J5 by Cable Assembly, Power, Electrical CX–11568/ARM–92 (power cable) (fig. 1-2). The 27.5 volts dc is applied between pins A and B, the positive side to pin A, ground to pin B. The 115 volts, 400 cps is applied with the low side to pin C and the high side to pin D. The connection from pin A of J5 is made through fuse F1 to pin Z of connector P5 of the control unit (fig. 4-9). When the control unit power switch is in the PWR or TEST position, the 27.5-volt dc circuit is completed in pin M or H of P5. The 27.5 volts is then routed to TB1, tie point 18. From tie point 18, the voltage is routed to relay K1. This voltage energizes the relay K1, and the cir-

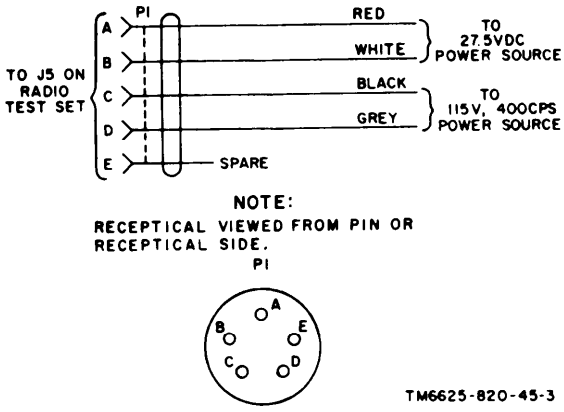


Figure 1–2. Cable Assembly, Power, Electrical CX-11568/ARM-92, schematic diagram.

cuits is completed for the 115 volts, 400 cps from pin D of J5 through fuse F3 to transformer T1. Transformer T1 steps down the 115 (volts, 400 cps to 26 volts, 400 cps. The 26 volts, 400 cps is routed to RMI connector P4, the compass simulator connector P1, and to connector P3 of the radio receiver. The RMI servoamplifier input is supplied with 26 volts, 400 cps from transformer T1 through resistors R6 and R7.

b. From tie point 18 of TB1, the 27.5 volts dc is routed to connector P2 of the radio receiver, and also through fuse F2 to connector J4 of the glide-slope receiver.

c. Tuning information from the control unit is routed to TB1, and branches off to both connectors P2 and J4, For further information on the control unit, refer to TM 11–5826-226-35 for Radio Receiving Set AN/ARN-82. A schematic diagram of the control unit is in figure 4-10.

1-4. Phase Shifting Circuits

(fig. 4-9 and 4-9.1)

In the test set the two circuits that shift the phase of the 30-cycle reference signal are the OBS resolver and precision bearing transformer T2. Their operation is described below. In Test Set, Radio TS-2500A/ARM-92, RECEIVER MODEL switch S5 disables precision bearing transformer T3 and adjusts the circuit of transformer T2 whenever the phase shifting mode is needed (switch position A).

a. BRG–OBS switch S2 determines which phase shifting circuit is used. When switch S2 is in the OBS position, the OBS resolver is used to produce the desired phase shift. The OBS indicator is the same type as used in an aircraft installation. The 30-cycle reference signal is applied to the rotor of the resolver in the OBS indicator. When the rotor is turned, the phase of the signal at stator output is shifted. A compass card is attached to the rotor, providing an indication of the number of degrees of phase shift. This voltage is routed to the radio receiver. For more information on the OBS indicator, refer to TM 11-5826-226-35 for Radio Receiving Sets AN/ARN-82 and AN/ARN-82A. A schematic diagram of the OBS indicator is shown in figure 1-3.

b. A resolver has the same electrical characteristics as a transformer. Therefore, a transformer can be used to simulate a resolver. When switch S2 is in the BRG position, precision bearing transformer T2 and its switching circuits are used to produce the desired phase shift. The 30–cycle reference signal from the radio receiver is applied through switch S2 to the primary of transformer T2. This primary winding and resistor R3 simulate the rotor of a resolver. The phase shift through the secondary winding of the transformer must be the same as the phase shift in the stator windings of the resolver. This phase shift through transformer T2 is adjusted to 83° at a dial setting of 300° by the loading on the tertiary winding. The design of the transformer is such that the phase shift it produces is stable with variations in alternating current (ac) or direct current through the primary winding. The combination of the precisely tapped secondary windings of transformer T2 and the switching arrangement (S3) produces the various voltage ratios that correspond to the stator output of a standard resolver. Each clockwise position of switch S3 simulates a clockwise rotation of a resolver rotor in precise 30° increments. With switch S2 in the BRG position, the output voltage path from transformer T2 is through switch S3, through switch S5 in Test Set, Radio TS-2500A/ARM-92, through switch S2,

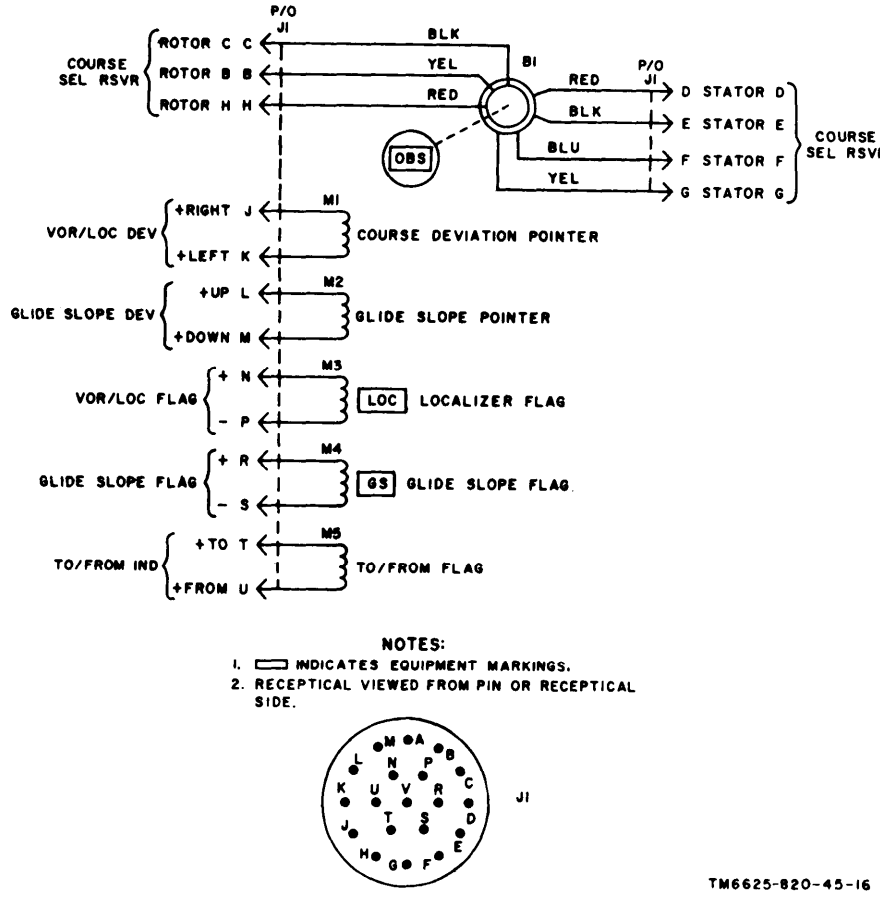


Figure 1-3. Indicator, Course ID-1347/ARN-82 or ID-1347A/ARN-82, schematic diagram.

and out to the radio receiver through pins F and D of connector P2. In Test Set, Radio TS-2500A/ARM-92, terminals 8 and 9 (stators E and G) of transformer T2 are common and connect to E of P6 and E of P2. In Test Set, Radio TS-2500A/ARM-92, stators E and G connect to P2, pins E and G, through switches S3, S5, and S2.

1-4.1. Resolver Transmitter Circuit

(Contained in Test Set, Radio TS-2500A/ARM-92 only, fig. 4-9.1.)

Radio Receiver R-1388A/ARN-82 requires 400-Hz resolver signals to derive course deviation and to-from outputs. The test set produces these signals either by energizing the OBS resolver or by energizing the precision bearing transformers.

a. BRG-OBS switch S2 determines which resolver circuit is used. When switch S2 is in the OBS position, the OBS resolver is used to produce the desired course. The OBS indicator is the same type as used in an aircraft installation. The 400-Hz reference signal is applied to the rotor of the resolver in the OBS indicator. When the rotor is turned, the voltage of the signal at stator output is varied. A compass card is attached to the rotor, providing an indication of the course selected. The voltage is routed to the radio receiver. For more information on the OBS indicator, refer to TM 11-5826-

226-35 for Radio Receiving Sets AN/ARN-82 and AN/ARN-82A. A schematic diagram of the OBS indicator is shown in figure 1-3.

b. A resolver has the same electrical characteristics as a transformer. Therefore, a transformer can be used to simulate a resolver. When switch S2 is in the BRG position and RECEIVER MODEL switch S5 is in the B position, precision bearing transformers T2 and T3 and their switching circuits are used to produce the desired stator voltages. The 400-Hz reference signal from the radio receiver is applied through switches S2, S5, and S3 to the primaries of transformers T2 and T3. These primary windings simulate the rotor of a resolver.

The combination of the precisely tapped secondary windings of transformers T2 and T3 and the switching arrangement (S3) produces the various voltage ratios that correspond to the stator output of a standard resolver. Each clockwise position of switch S3 simulates a clockwise rotation of a resolver rotor in precise 30° increments. With switch S2 in the BRG position, the output voltage path from transformers T2 and T3 is through switches S5 and S2 to the radio receiver on pins D, E, F, and G of connector P2.

1-5. Current Measuring Circuits
(fig. 4-9 and 4-9.1)

The outputs of four circuits in the radio receiver are measured in the test set. These measuring circuits are described below.

a. To-from current from the radio receiver is read on meter M3. TO–FROM meter M3 indicates the direction and amplitude of the current. Resistor R8 is a shunt resistor to extend the range of the meter.

b. Deviation current from either the radio receiver or the glide-slope receiver is read on meter M1. With the switch S1 in the VOR/LOC position, pins P, B, and M of connector P2 connect through switch S1 to the DEVIATION meter. The return path from meter M1 is through stitch S1 back to connector P2. When switch S1 is in the GLIDE SLOPE position, meter M1 connects through switch S1 to pin T of GLIDE SLOPE connector J4. The completed path of meter M1 is through switch S1 to pin V of J4.

c. Flag current from either the radio receiver or the glide-slope receiver is read on FLAG meter M2. When switch S1 is in the VOR/LOC (very high-frequency omni-directional radio range/localizer) position, meter M2 is connected through switch S1 to pin b of P2 by the contacts of relay K2. The completed path from the meter is through the other set of contacts of relay K2, through switch S1 to pins c and a of P2. With the switch S1 in the GLIDE SLOPE position, meter M2 is connected to pin v of J4 by switch S1 through the contacts of relay K2. The completed path of meter M2 is through the other contacts of relay K2, through switch S1 to pin J on J4. FLAG meter M2 can also be used to measure the output current of the RMI servoamplifier in the radio receiver. When the SERVO AMP TEST switch S4 is pressed, 27.5 volts dc from tie point 18 of TB1 is routed to the RMI (radio magnetic indicator) servoamplifier of the radio receiver and relay K2. When relay K2 is energized, FLAG meter M2 is placed across RMI servoamplifier load resistor R5. Resistor R4 is a current-limiting resistor and diode CR1 rectifies the RMI servoamplifier output current that is applied to meter M2. Diode CR2 is used to short out any voltage caused by the collapsing field of relay K2 when switch S4 is opened.

1-6. Compass Simulator Circuits
(fig. 4-9 and 4-9.1)

The COMPASS SIMULATOR indicator contains a synchro transmitter of the same type used with the compass in an aircraft installation. As the dial is turned, the synchro generates a varying voltage from the 26 volts, 400 Hz that is applied to the COMPASS SIMULATOR indicator. The output voltage from the synchro transmitter is routed to the radio receiver and the RMI card to simulate a magnetic heading. The pointer simulates the pointer of the compass in the aircraft.

1-7. RMI Circuits

The RMI card gives an indication of simulati ed magnetic heading. The simulated magnetic

heading signal originates in the compass simulator, and is routed to the RMI card. The RMI needles give an indication of the direction of a very high-frequency omnirange (vor) station. In the test set, two needles are electrically jumpered together. This makes the two needles track together. The vor signals are routed from the radio receiver to the needle connections on P4. If the RMI card rotates to indicate a magnetic heading, the needles will follow the card rotation to keep in the direction of the vor station. For more information on the RMI refer to TM 11–5826-211-50 for Indicator, Course ID–250A/ARN. The RMI is shown in figure 1–4.

1-8. Aid Box

(fig. 1-5)

The aid box is primarily intended for testing a new AN/ARN-82 or AN/ARN-82A installation wiring harness, but it can be used for a quick check on the test set. The main circuits are as follows:

a. Light Circuitry. The light circuitry is provided to indicated when a circuit is made complete or when it is energized. Frequency control information is given in a code by the lamps. The lamps that check the power circuits glow when a current flows through them, indicating an energized circuit.

b. Meter Circuitry. The 26 volts, 400 cps is applied to pin G of J1 and is routed to Zener diode CR1. Resistor R8 and Zener diode CR1 form the 10-volt dc power supply for the meter circuits. Resistor R6 is a current-limiting resistor for the TO-FROM meter. Resistor R5 is a current-limiting resistor for the DEVIATION meter. Resistor R3 (a 51l-ohm load) and resistor R4 (a 1,000-ohm load) are the loading resistors for the DEVIATION meter. Resistor

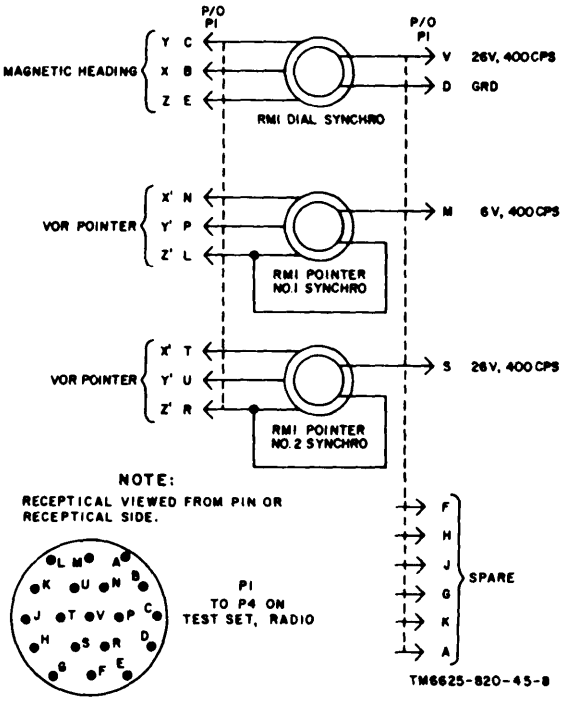


Figure 1-4. Indicator, Course ID-250A/ARN, schematic diagram.

R2 is the current-limiting resistor for the FLAG meter, and resistor R1 is a 1,000-ohm load for the FLAG meter.

c. Audio Circuit. Resistor R7 drops the 26 volts, 400 cps to the voltage level desired, and this 400-cycle tone is fed to pin L of J2.

d. Compass RMI circuit. The signal from the compass simulator at pins C and D of J1 is connected to the RMI needle circuit through pins H and K of J1. This makes needle number 1 (needle number 2 is not used) of the RMI follow the rotation of the RMI card when the aid box is used to check the test set.

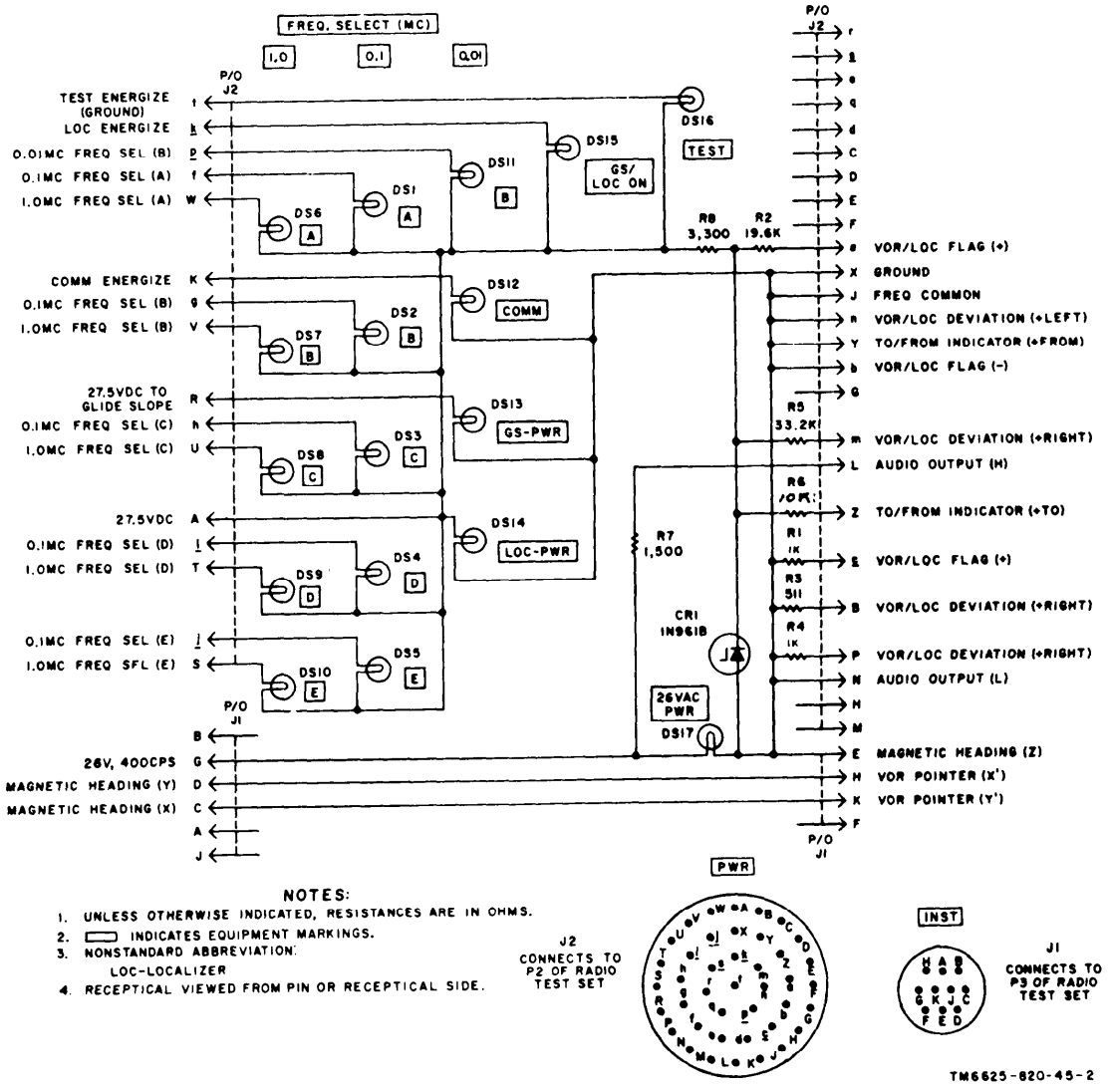


Figure 1-5. Test Set, Wiring Harness, Aircraft TS-2501/ARM-92, schematic diagram.

CHAPTER 2

TROUBLESHOOTING

Section I. GENERAL TROUBLESHOOTING TECHNIQUES

Warning: **Be careful when working on the 115-volt, 400-cps circuit. Serious injury or death may result from contact with this circuit.**

2–1. General

The general support and depot maintenance procedures in this manual supplement the procedures in the organizational maintenance manual. The systematic troubleshooting procedure, which begins with the operational and sectionalization checks that can be performed at an organizational category, is carried to a higher category in this manual. Sectionalizing, localizing, and isolating techniques used in the troubleshooting procedures are more advanced.

2-2. Organization of Troubleshooting Procedures

a. General. The first step in servicing a malfunctioning test set is to sectionalize the fault. Sectionalization means tracing the fault to a unit or circuit. The second step is to localize the fault. Localization means tracing the fault to a defective part responsible for the abnormal condition. Some faults, such as burned-out resistors and arcing and shorted transformers can often be located by sight, smell, and hearing. The majority of faults, however, must be isolated by checking voltages and resistance.

b. Sectionalization. Listed below is a group of tests arranged to reduce unnecessary work and to aid in tracing trouble in a malfunctioning test set. Test Sets, Radio AN/ARM-92 and AN/ARM-92A consist of five units; the test set, the control unit, the RMI the OBS indicator and the aid box. The first step is to locate the unit or units at fault by the following methods:

(1) *Visual inspection.* The purpose of visual inspection is to locate faults without testing or measuring circuits. Indications on the RMI meters, or other visual signs should be observed during all operating modes, and an attempt should be made to sectionalize the fault to a particular unit.

(2) *Operational tests.* Operational tests frequently indicate the general location of trouble. In many instances, the tests will help in determining the exact nature of the fault. The intermediate preventive maintenance checks and services chart (TM 11-6625-820-12) contains a list of operational checks which helps to sectionalize troubles to a unit.

c. Localization. After the trouble has been sectionalized (b above), the methods listed below will aid in localizing the trouble to a circuit in the suspected unit. See the troubleshooting chart for help in finding the trouble. RMI and meter indications or lack of indications and operational checks provides a systematic method of localizing trouble to a circuit. The procedures provided in the troubleshooting charts (para 2–5 through 2–9) will provide additional information for localizing trouble.

d. Isolation. After the trouble has been localized (c above), the methods in (1) through (4) below will help in isolating the trouble to a defective circuit element.

(1) *Resistance measurements.* Resistance measurements are used to

check for continuity and to check the value of resistance in a circuit. For these checks, use Multimeter ME-26 (*) /U, or equivalent.

Caution: **Be sure that the multimeter is not placed across a meter in the test set. The current from the ohmmeter might damage the microampere movement of a meter of the test set.**

(2) *Voltage measurements.* Voltage measurements are used to check to see if the proper amount of voltage is being routed through the test set and aid box. For these measurements, use Multimeter ME–26(*)/U, or equivalent.

(3) *Intermittent troubles.* In all these tests, the possibility of intermittent troubles should not be overlooked. If present, this type of trouble may often be made to appear by tapping or jarring the equipment. Make a visual inspection of the wiring and connections.

(4) *Resistor color code.* The resistor color code diagram (fig. 4–8) is provided to aid maintenance personnel in determining the value and tolerance of resistors.

2-3. Test Equipment Required

The following chart lists equipment required for troubleshooting Test Set, Radio AN/ARM-92 or AN/ARM-92A. It also lists the associated technical manuals.

a. Make test equipment connections with care so that shorts will not be caused by exposed test equipment connectors. Tape or sleeve (spaghetti) test prods or clips as necessary to leave as little exposed metal as needed to make contact to the circuit under test.

b. Observe polarity; a negative ground is required on the 27.5-volt dc line. The low side of the ac line is also grounded.

c. The following test equipment is required:

Test Equipment	Technical manual	Common name
Modulator MD-83A/ARN	TM 11-6625-588-15	Vor modulator
Output Meter TS-585(*)/U[a]	TM 11-5017	Output meter
Multimeter ME-26(*)/U[b]	TM 11-6625-200-12	Multimeter
Oscilloscope AN/USM-140A	TM 11-6625-535-15	Oscilloscope
Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30(*)/U[c]	TM 11-6625-320-12	Vtvm
Test Set, Resolver AN/ASM-101	TM 11-6625-492-12	Resolver test set
Test Set, Indicator Course AN/ASM-110		Indicator test set
Meter Test Set TS-682A/GSM-l	TM 11-2535B	Meter calibrator
Bridge, Resolver, Gertsch model RB-4C-4R; Singer Company, Los Angeles, California		Resolver bridge

a Indicates Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and Audio Level Meter TS-585D/U.
b Indicates Multimeter ME-26A/U, ME-26B/U, and ME-26C/U.
c Indicates Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U and ME-30C/U.

Section II. TROUBLESHOOTING PROCEDURES

2-4. General

The troubleshooting procedures are divided into two parts. The first part (paras 2–5 and 2-6) gives procedures to troubleshoot the aid box. The second part (paras 2-7 through 2-9) gives procedures to troubleshoot the control unit, the RMI the OBS indicator, and the test set.

2-5. Troubleshooting Aid Box

Because of the simplicity of the aid box circuitry, any trouble may be quickly isolated by the following checks:

a. Remove the bottom of the aid box by removing the six screws on the bottom of the aid box.

b. Connect P2 and P3 of the test set to the aid box.

c. Connect the test set to a 27.5 volt dc power source, and a 115-volt, 400-cps power source.

d. Set the power switch on the control unit to PWR.

e. Connect the dc lead of the multimeter to the junction of Zener diode CR1 and resistor R8. Connect the COMMON lead to the anode of Zener diode CR1.

f. The multimeter should indicate 10 volts dc ±0.05. If the indication is improper, replace the defective Zener diode CR1.

g. All other circuits in the aid box may be checked by using the resistance chart in paragraph 2–6. Remove all equipment connected to the aid box before attempting resistance measurements. When an improper resistance reading is obtained, refer to the schematic diagram in figure 1–5 to isolate the trouble.

2-6. Resistance Chart for Aid Box

Multimeter connection		Proper indication (ohms)
From	To	
A of J2	a of J2	22,900 ± 2,290
J of J2	X of J2	0
J of J2	n of J2	0
J of J2	Y of J2	0
J of J2	b of J2	0
J of J2	C of J2	1,000 ± 100
J of J2	B of J2	511 ±51
J of J2	P of J2	1,000 ± 100
J of J2	N of J2	0
J of J2	E of J2	0
A of J2	m of J2	36,500 ± 3,650
A of J2	Z of J2	42,500 ± 4,250
L of J2	G of J1	1,500 ± 160
D of J1	H of J1	0
C of J1	K of J1	0
A of J2	t of J2	160 ±20
A of J2	k of J2	160 ±20
A of J2	p of J2	160 ±20
A of J2	f of J2	160 ±20
A of J2	W of J2	160 ±20
A of J2	g of J2	160 ±20
A of J2	V of J2	160 ±20
A of J2	h of J2	160 ±20
A of J2	U of J2	160 ±20
A of J2	i of J2	160 ±20
A of J2	T of J2	160 ±20
A of J2	j of J2	160 ±20
A of J2	S of J2	160 ±20
A of J2	X of J2	160 ±20
R of J2	X of J2	160 ±20
K of J2	X of J2	160 ±20
G of J1	E of J1	160 ±20

2-7. Troubleshooting Control Unit, RMI OBS Indicator, and Test Set

a. Perform the general support testing procedures for the aid box in paragraph 4–7. If the general support testing procedures indicate trouble, perform the troubleshooting procedures described in paragraph 2-5.

b. Connect the test set to the aid box and external power as shown in figure 2-1.

c. Set the power switch on the test set control unit to OFF.

d. Set the VOR/LOC-GLIDE SLOPE switch on the test set to VOR/LOC. (All other switches and controls may be set in any position.)

e. Perform the procedures in the troubleshooting chart in paragraph 2-8. This chart gives various operational procedures for the test set. The proper indication for each operational procedure is then given. If the equipment produces an improper indication, the chart lists the probable trouble and, in the *Correction* column, suggests how to isolate the trouble.

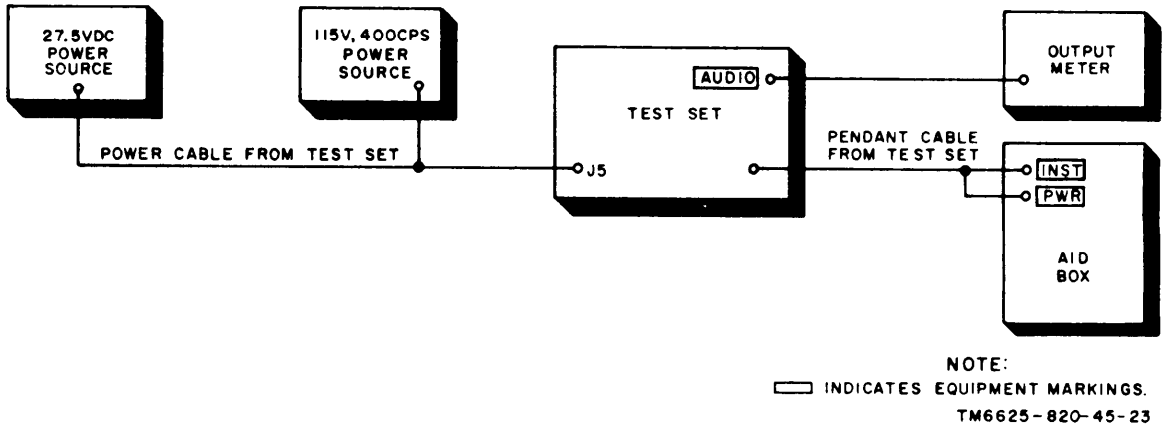


Figure 9-1. Equipment setup to test control unit, RMI OBS indicator, and test set.

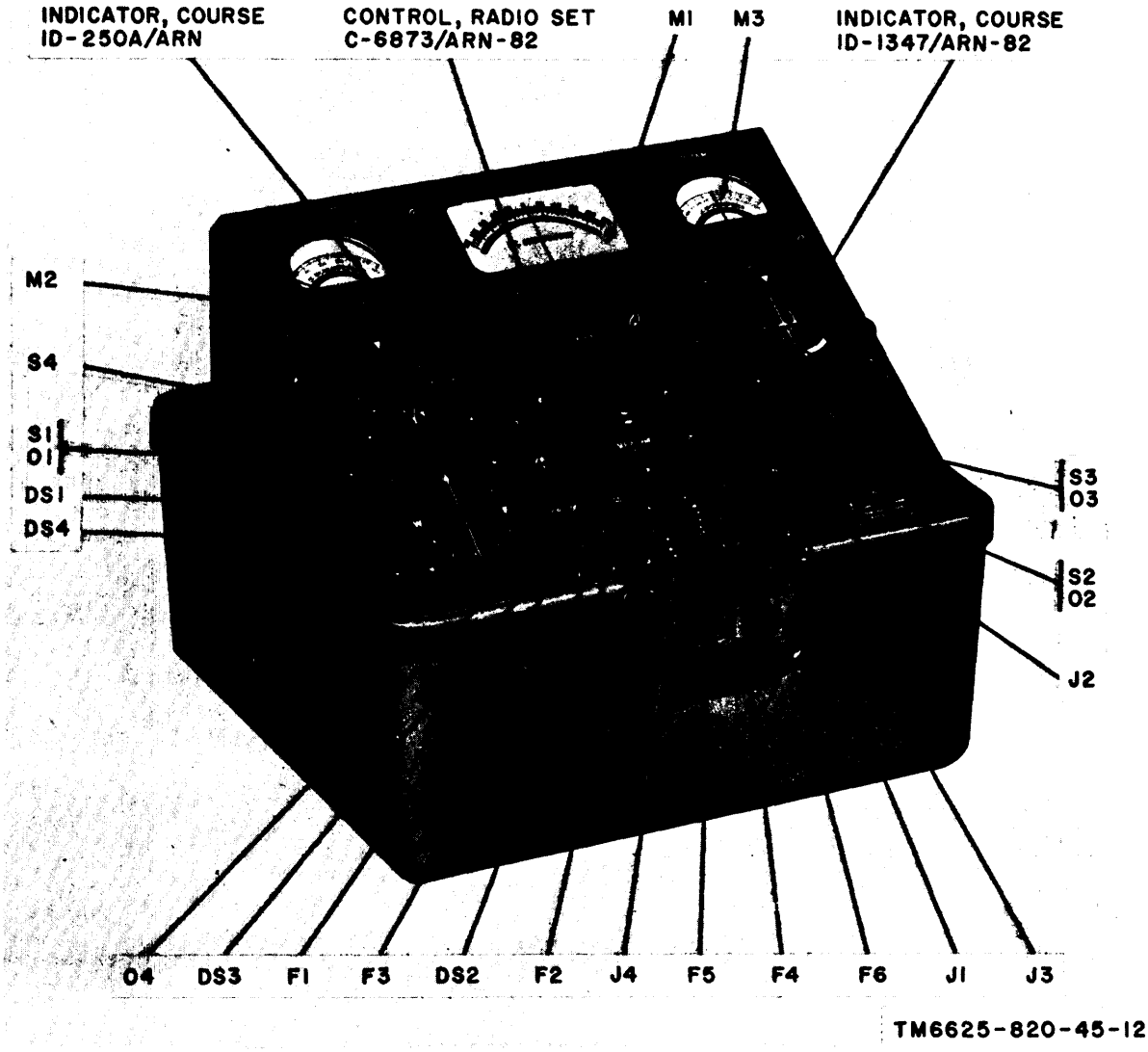


Figure 2–2. Test Set, Radio TS–2500/ARM–92, front panel.

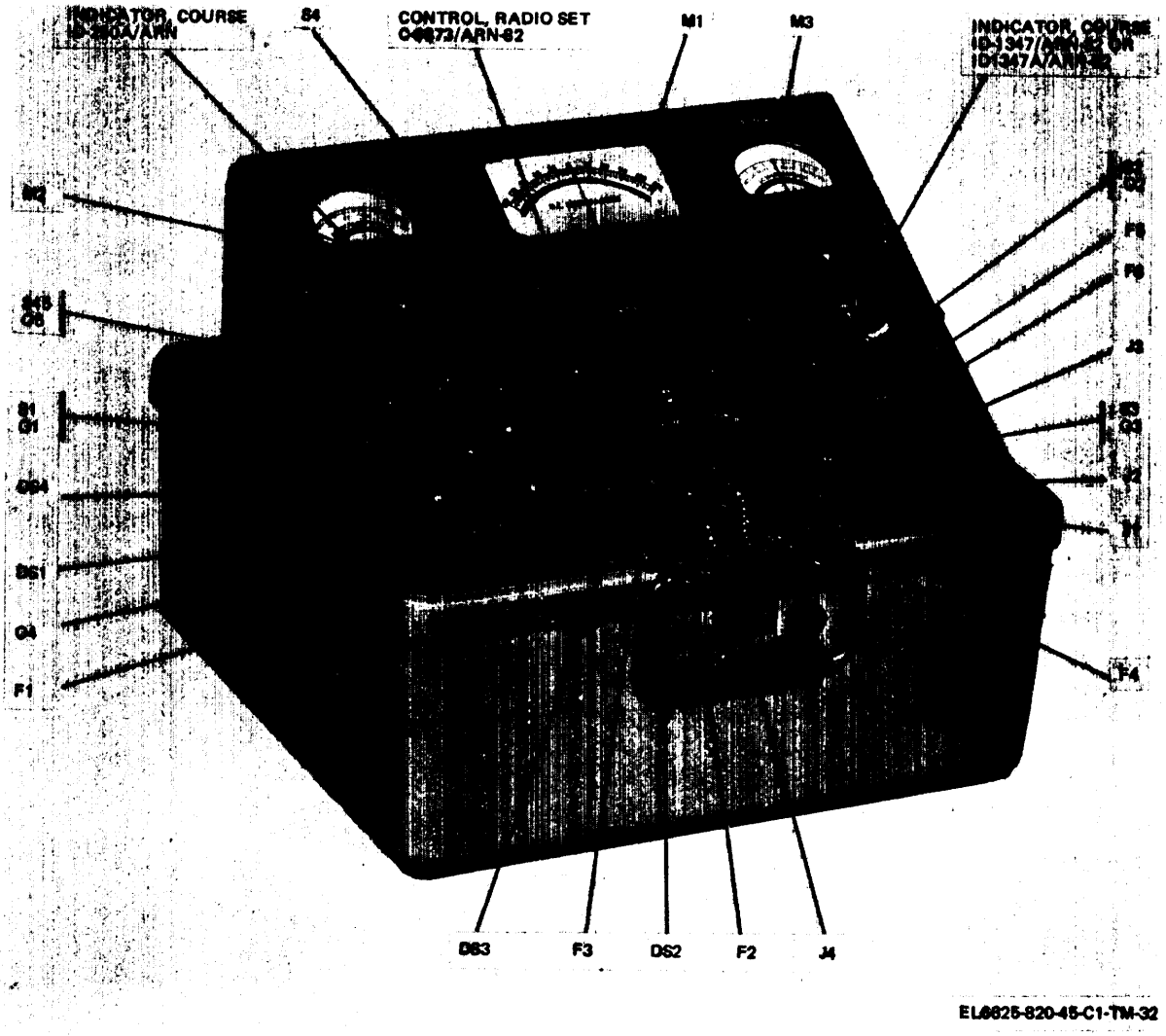


Figure 2–2.1 Test Set, Radio TS-2500A/ARM–92, front panel.

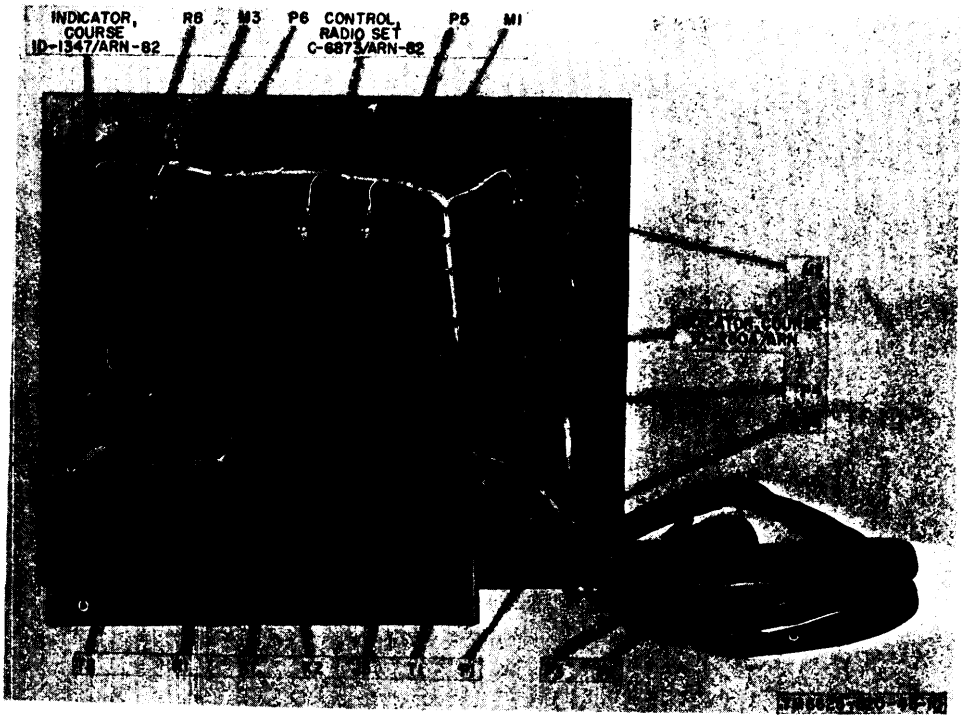


Figure 2-3. Rear side of Test Set, Radio TS–2500/ARM-92, front panel.

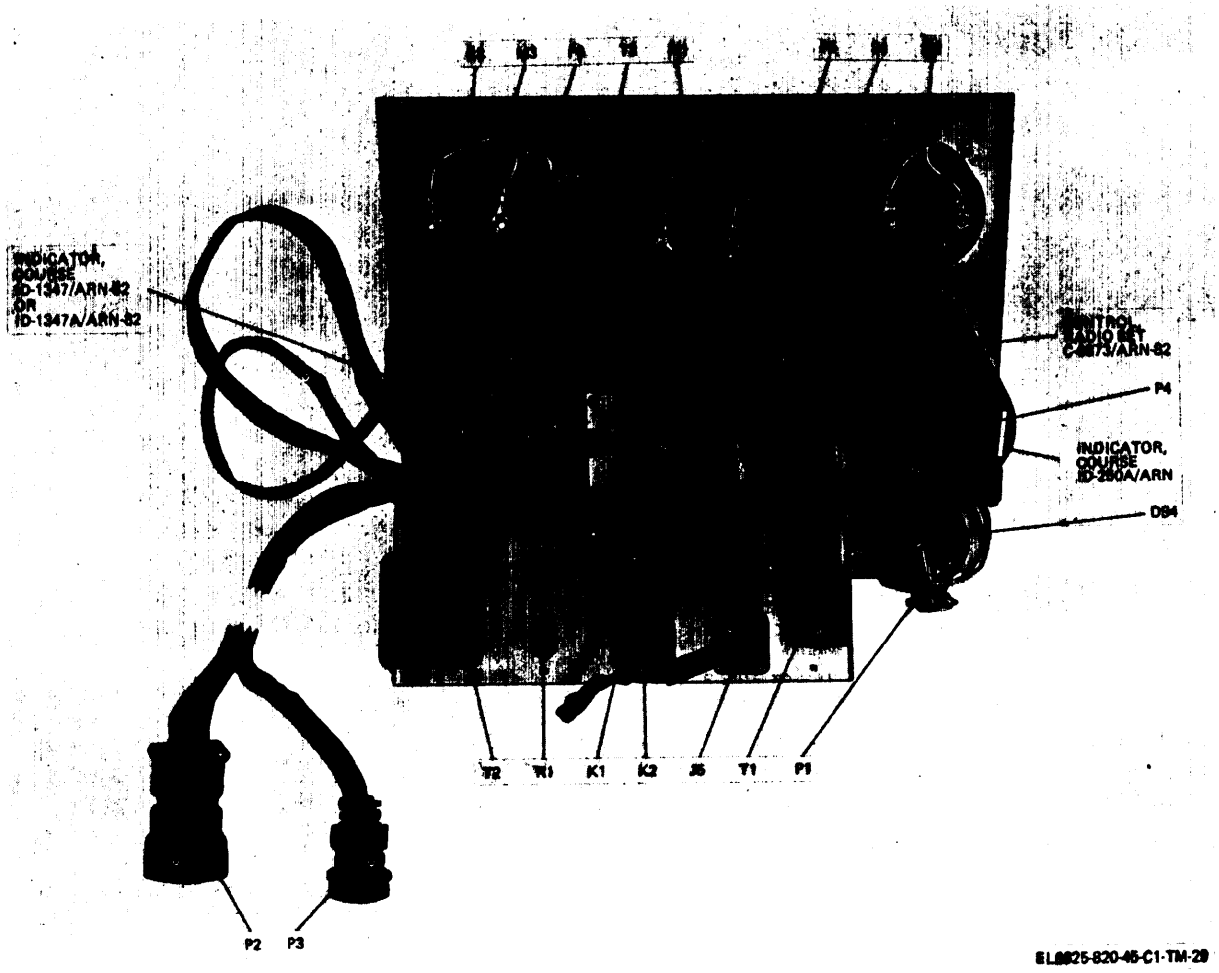


Figure 2–3.1 Rear side of Test Set, Radio TS–2500A/ARM–92, front panel.

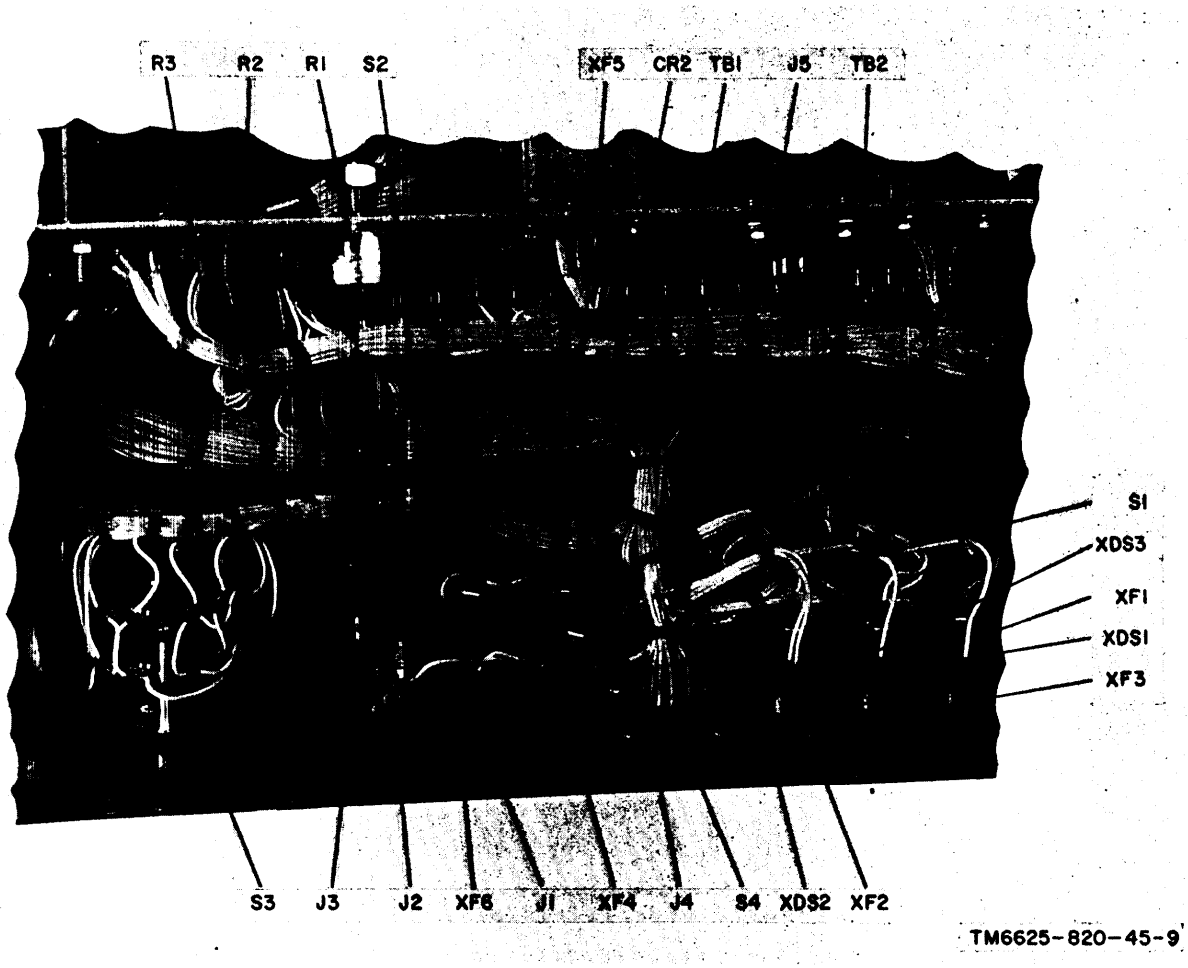


Figure 2–4. Bottom view of Test Set, Radio TS-2500/ARM-92, front panel.

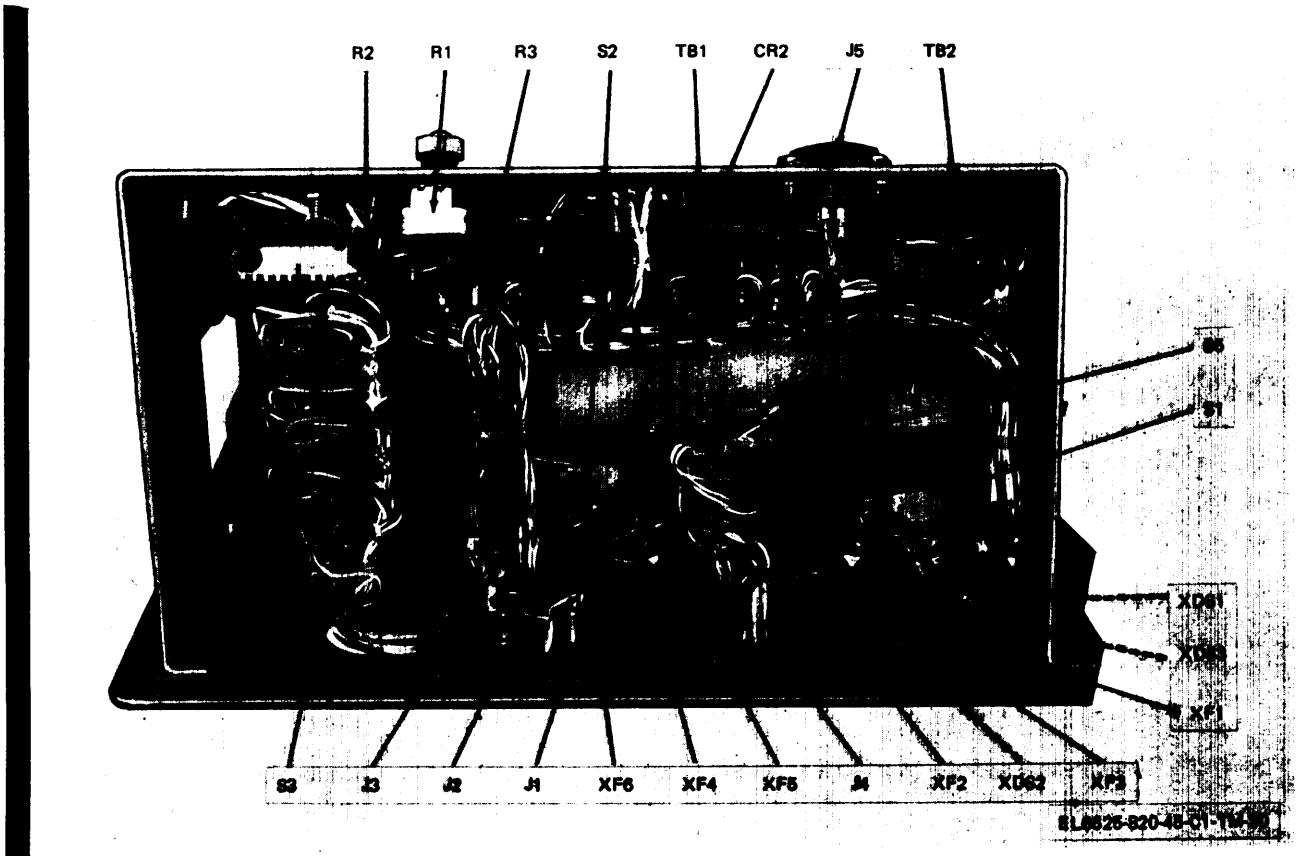


Figure 2–4.1 Bottom view of Test Set, Radio TS–2500A/ARM-92, front panel.

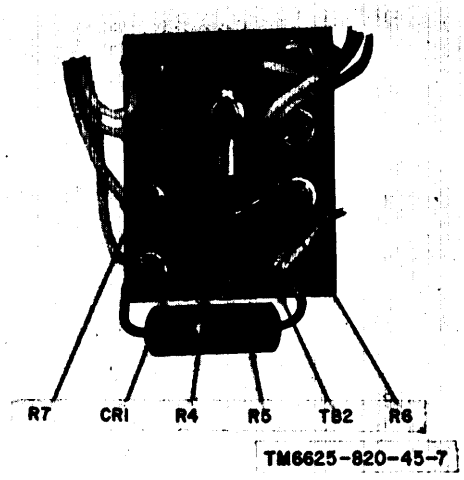


Figure 2-5. Terminal board number 2 (TB2).

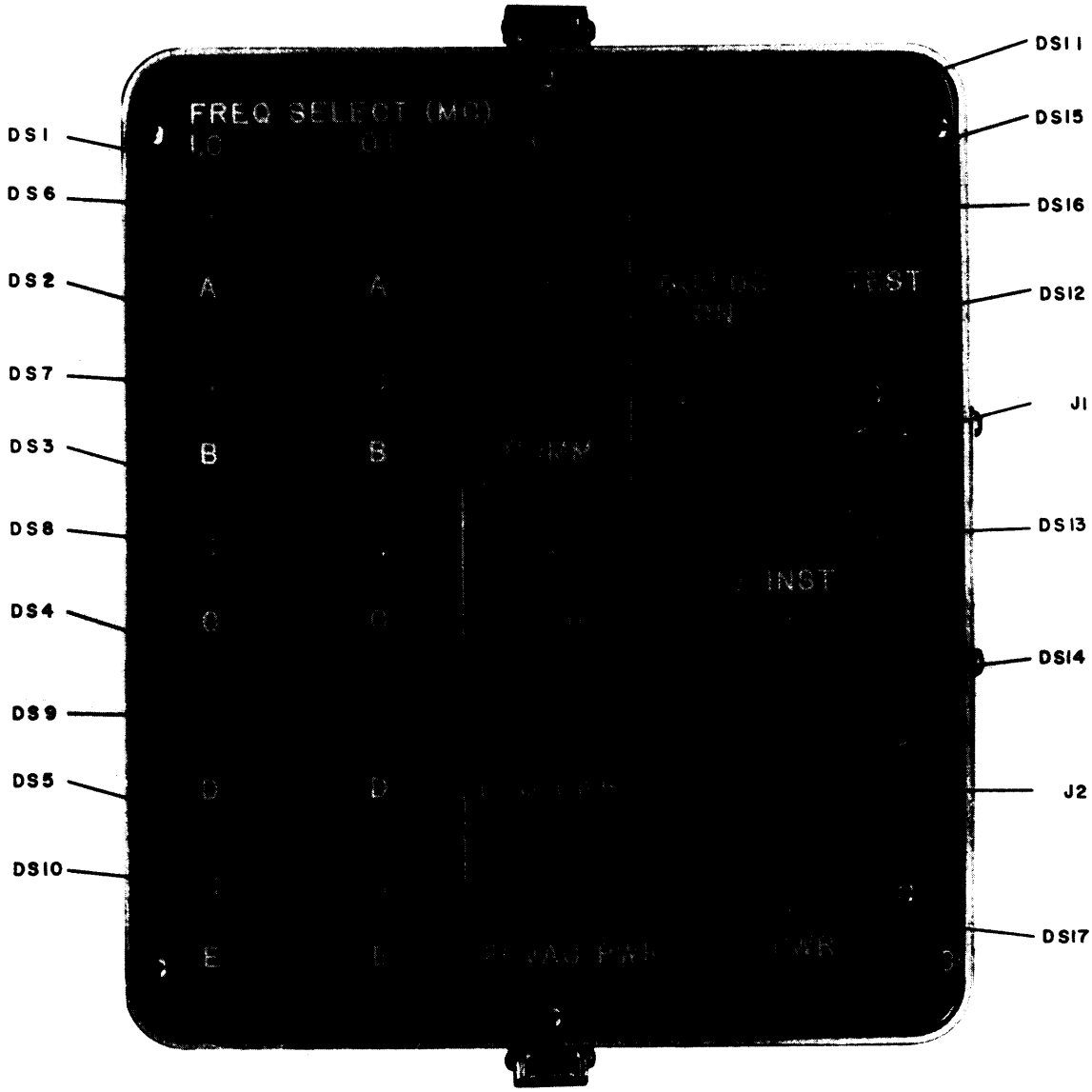


Figure 2-6. Aid box, front panel.

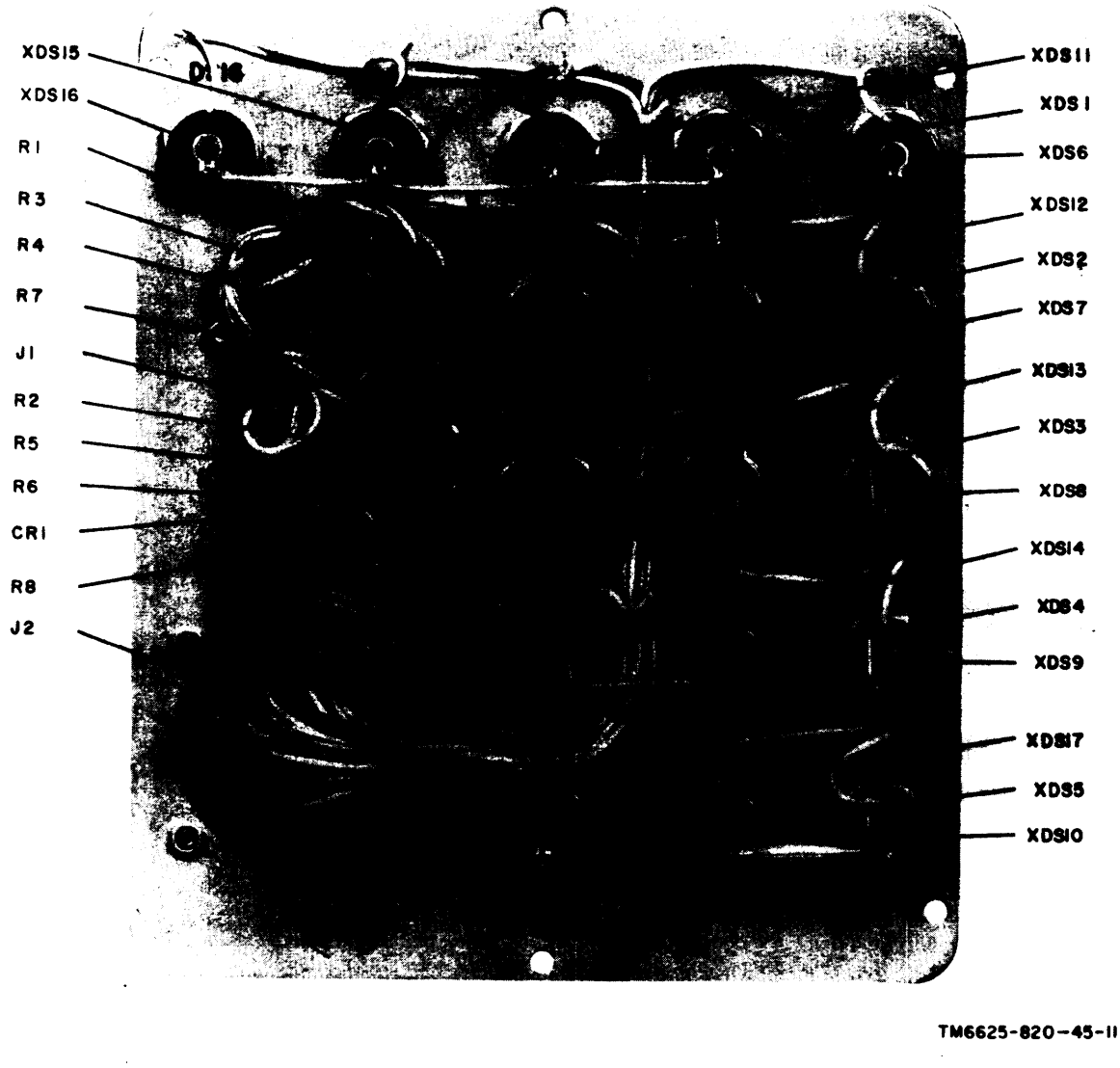


Figure 2–7. Parts location of aid box.

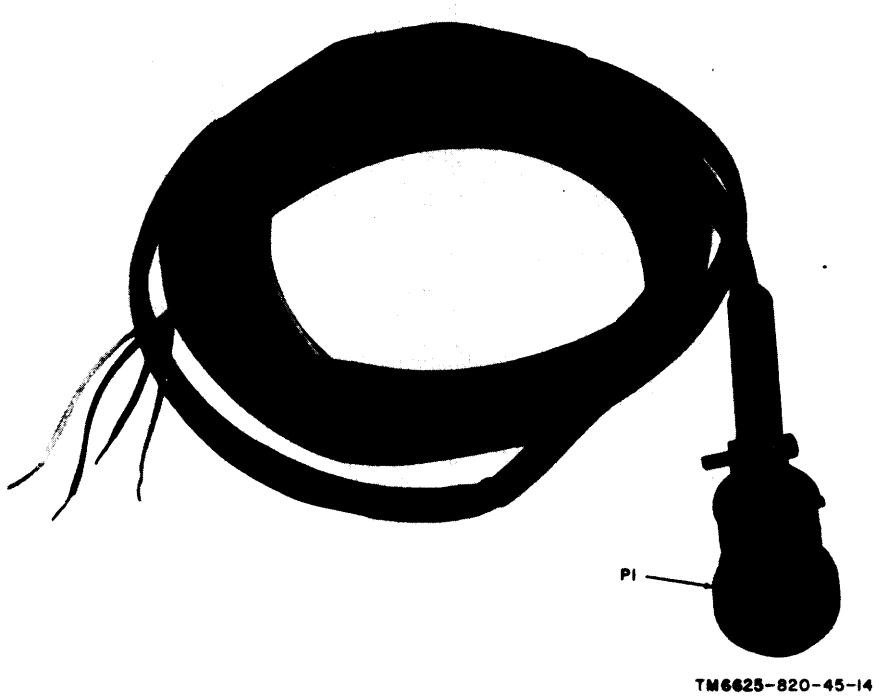


Figure 2-8. Power cable.

2–8. Troubleshooting Chart

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
1	Connect the multimeter to the test point located in the center of the VOR/LOC 2A fuse cap.	The multimeter should indicate 27.5 volts dc.	VOR/LOC 2A fuse (F1) is blown.	Replace F1 with a 2-ampere fuse.
2	Set the megacycle and kilocycle selectors on the control unit to 108.00. Set the power switch on the control unit to PWR.	The following lamps should light:		
		a. The LOC PWR lamp on the aid box.	*a.* If the LOC PWR lamp on the aid box does not light, either a break in the circuit is present between M of P5 and A of P2, or switch S6A in the control unit is defective.	*a.* If a break in the circuit is present between M of P5 and A of P2, make resistance measurements to find the break. If no breaks are present, troubleshoot the control unit as described in TM 11-5826-226-35.
		b. The VOR/LOC DC lamp on the test set.	*b.* If the VOR/LOC DC lamp on the test set does not light, DS1 is faulty.	*b.* Replace DS1.
		c. The 26. VAC PWR lamp on the aid box.	*c.* If the 26 VAC PWR lamp on the aid box does not light, VOR/LOC 1A fuse is brown, relay K1 is defective, or transformer T1 is defective.	*c.* Measure the ac voltage at the test point located at the center of the VOR/LOC 1A fusecap. If 26 volts ac is not present, replace fuse F3. If 26 volts ac is present, check for a defective relay K1 by measuring its coil resistance (para 2–9). If defective, replace relay K1. Check for a defective transformer by measuring its resistances (para 2–9). Replace if defective.
		d. The VOR/LOC AC lamp on the test set.	*d.* If the VOR/LOC AC lamp on the test set does not light, DS3 is faulty.	*d.* Replace DS3.
		e. The GS DC lamp on the test set.	*e.* If the GS DC lamp on the test set does not light, either GS 1A fuse (F2) is blown or GS DC lamp (DS2) is burned out.	*e.* Measure the dc voltage at the test point located at the center of the GS 1A fusecap. If 27.5 volts dc is not present, replace fuse F2. If 27.5 volts dc is present, replace lamp DS2.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
		f. The 1.0 FREQ SELECT (MC) lamp A on the aid box.	*f.* If 1.0 FREQ SELECT (MC) lamp A does not light, either a break in the circuit is present between W of P2 and V of P5, or the megacycle selector in the control unit is defective.	*f.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
		g. The 1.0 FREQ SELECT (MC) lamp D on the aid box.	*g.* If 1.0 FREQ SELECT (MC) lamp D does not light, either –a break in the circuit is present between T of P2 and F of P5, or the megacycle selector in the control unit is defective.	*g.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
		h. The 0.1 FREQ SELECT (MC) lamp B on the aid box.	*h.* If 0.1 FREQ SELECT (MC) lamp B does not light, either a break in the circuit is present between g of P2 and D of P5, or the kilocycle selector in the control unit is defective.	*h.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in T M11–5826–266–35.
		i. The 0.1 FREQ SELECT (MC) lamp E on the aid box.	*i.* If 0.1 FREQ SELECT (MC) lamp E does not light, either a break in the circuit is present between j of P2 and B of P5, or the kilocycle selector in the control unit is defective.	*i.* If a break in the cricuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–266–35.
		j. The 0.01 FREQ SELECT (MC) lamp B on the aid box.	*j.* If 0.01 FREQ SELECT (MC) lamp B does not light, either a break in the circuit is present between p of P2 and g of P5, or the kilocycle selector in the control unit is defective.	*j.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–266–35.
		k. The FLAG meter should indicate 250 microamperes ±15.0.	*k.* If the FLAG meter does not indicate 250 microamperes ±15.0, switch S1, relay K2, or FLAG meter M2 is defective.	*k.* Refer to figure 4-9 or 4-9.1 and make continuity checks on the circuit comprised of S1, K2, and M2 to isolate the trouble.
		l. The DEVIATION meter should indicate 75 microamperes ±5.0 to the right of 0.	*l.* If the DEVIATION meter does not indicate 75 microamperes ±5.0 to the right of 0, switch S1 or DEVIATION meter M1 is defective.	*l.* Refer to figure 4-9 or 4-9.1 and make continuity checks on the circuit comprised of S1 and M1 to isolate the trouble.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
		m. The TO-FROM meter should indicate 500 microamperes ±25.0 to the left of 0.	*m.* If the TO-FROM meter does not indicate 500 microamperes ±25.0 to the left of zero, resistor R8 or TO-FROM meter M3 is defective.	*m.* Disconnect resistor R8 from meter M3, and measure the resistance of R8. If the value of R8 is not between 180 and 220 ohms, replace R8. If the value is between 180 and 220 ohms, replace meter M3.
3	Set the power switch on the control unit to TEST.	The TEST lamp on the aid box should light in addition to the lamps lighted in step 2 above.	Either a break in the circuit is present between t of P2 and L of P5, or switch S6C in the control unit is defective.	If a break in the circuit is present between t of P2 and L of P5, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11-5826-226-35.
4	Set the power switch on the control unit to PWR. Set the megacycle and kilocycle selectors to 108.05.	*Note.* The 1.0 FREQ SELECT (MC) lamps A and D should remain lighted in step 4 through 22 below. The 0.1 FREQ SELECT (MC) lamps B and E should light.	If either one, or both, of the lamps do not light, the kilocycle selector on the control unit is defective.	Troubleshoot the control unit as described in TM 11-5826-226-36.
5	Set the megacycle and kilocycle selectors to 108.10.	The 0.1 FREQ SELECT (MC) lamps A and B should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.	a. If 0.1 FREQ SELECT (MC) lamp A does not light, either a break in the circuit is present between f of P2 and C of P5, or the kilocycle selector in the control unit is defective. *b.* If 0.1 FREQ SELECT (MC) lamp B does not light, the kilocycle selector on the control unit is defective. *c.* If GS/LOC ON lamp does not light, either a break in the circuit is present between k of P2 and Y or P5, or the kilocycle selector in the control unit is defective.	*a.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11-5826-226-35. *b.* Troubleshoot the control unit as described in TM 11-5826-226-35. *c.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11-5826-226-35.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
6	Set the megacycle and kilocycle selectors to 108.15.	The 0.1 FREQ SELECT (MC) lamps A and B should light.	If either one, or both, of the lamps do not light, the kilocycle selector on the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
7	Set the megacycle and kilocycle selectors to 108.20.	The 0.1 FREQ SELECT (MC) lamps A and C should light. The 0.01 FREQ SELECT (MC) lamp B should light.	*a.* If 0.1 FREQ SELECT (MC) lamp A does not light, the kilocycle selector on the control unit is defective. *b.* If 0.1 FREQ SELECT (MC) lamp C does not light, either a break in the circuit is present between h of P2 and E of P5, or the kilocycle selector in the control unit is defective. *c.* If 0.01 FREQ SELECT (MC) lamp B does not light, the kilocycle selector in the control unit is defective.	*a.* Troubleshoot the control unit as described in TM 11–5826–226–35. *b.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present troubleshoot the control unit as described in TM 11–5826–226–35. *c.* Troubleshoot the control unit as described in TM 11–5826–226–35.
8	Set the megacycle and kilocycle selectors to 108.25.	The 0.1 FREQ SELECT (MC) lamps A and C should light.	If either one, or both, of the lamps do not light, the kilocycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
9	Set the megacycle and kilocycle selectors to 108.30.	The 0.1 FREQ SELECT (MC) lamps B and C should light. The 0.01 FREQ SELECT (MC) lamp B should light, The GS/LOC ON lamp should light.	If any one of these lamps does not light, the kilocycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
10	Set the megacycle and kilocycle selectors to 108.35.	The 0.1 FREQ SELECT (MC) lamps B and C should light.	If either of the lamps does not light, the kilocycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
11	Set the megacycle and kilocycle selectors to 108.40.	The 0.1 FREQ SELECT (MC) lamps B and D should light. The 0.01 FREQ SELECT (MC) lamp B should light.	*a.* If the 0.1 FREQ SELECT (MC) lamp B does not light, the kilocycle selector in the control unit is defective.	*a.* Troubleshoot the control unit as described in TM 11–5826–226–35.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
			b. If the 0.1 FREQ SELECT (MC) lamp D does not light, either a break in the circuit is present between i of P2 and f of P5, or the kilocycle selector in the control unit is defective. *c.* If 0.01 FREQ SELECT (MC) lamp B does not light, the kilocycle selector in the control unit is defective.	*b.* If a break in the control circuit is not present, make resistance measurements to find the break. If no break is present troubleshoot the control unit as described in TM 11-5826-226-35. *c.* Troubleshoot the control unit as described in TM 11-5826-226-35.
12	Set the megacycle and kilocycle selectors to 108.45.	The 0.1 FREQ SELECT (MC) lamps B and D should light.	The kilocycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11-5826-226-35.
13	Set the megacycle and kilocycle selectors to 108.50.	The 0.1 FREQ SELECT (MC) lamps C and D should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.	Same as step 12 above.	Same as step 12 above.
14	Set the megacycle and kilocycle selectors to 108.55.	The 0.1 FREQ SELECT (MC) lamps C and D should light.	Same as step 12 above.	Same as step 12 above.
15	Set the megacycle and kilocycle selectors to 108.60.	The 0.1 FREQ SELECT (MC) lamps C and E should light. The 0.01 FREQ SELECT (MC) lamp B should light.	Same as step 12 above.	Same as step 12 above.
16	Set the megacycle and kilocycle selectors to 108.65.	The 0.1 FREQ SELECT (MC) lamps C and E should light.	Same as step 12 above.	Same as step 12 above.
17	Set the megacycle and kilocycle selectors to 108.70.	The 0.1 FREQ SELECT (MC) lamps D and E should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.	Same as step 12 above.	Same as step 12 above.
18	Set the megacycle and kilocycle selectors to 108.75.	The 0.1 FREQ SELECT (MC) lamps D and E should light.	Same as step 12 above.	Same as step 12 above.
19	Set the megacycle and kilocycle selectors to 108.80.	The 0.1 FREQ SELECT (MC) lamps A and D should light. The 0.01 FREQ SELECT (MC) lamp B should light.	Same as step 12 above.	Same as step 12 above.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
20	Set the megacycle and kilocycle selectors to 108.85.	The 0.1 FREQ SELECT (MC) lamps A and D should light.	Same as step 12 above.	Same as step 12 above.
21	Set the megacycle and kilocycle selectors to 108.90.	The 0.1 FREQ SELECT (MC) lamps A and E should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.	Same as step 12 above.	Same as step 12 above.
22	Set the megacycle and kilocycle selectors to 108.95.	The 0.1 FREQ SELECT (MC) lamps A and E should light.	Same as step 12 above.	Same as step 12 above.
23	Set the megacycle and kilocycle selectors to 109.00.	*Note.* The 1.0 FREQ SELECT (MC) lamps B and E, and the 0.01 FREQ SELECT (MC) lamp B should remain lit in steps 23 through 40 below. The 1.0 FREQ SELECT (MC) lamps A and E should light.	*a.* If 1.0 FREQ SELECT (MC) lamp A does not light, the megacycle selector in the control unit is defective.	*a.* Troubleshoot the control unit as described in TM 11–5826–226–35.
			b. If 1.0 FREQ SELECT (MC) lamp E does not light, either a break in the circuit is present between S of P2 and W of P5, or the megacycle selector in the control unit is defective.	*b.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
24	Set the megacycle and kilocycle selectors to 110.00.	The 1.0 FREQ SELECT (MC) lamps B and E should light.	*a.* If 1.0 FREQ SELECT (MC) lamp B does not light, either a break in the circuit is present between V of P2 and X of P5, or the megacycle selector in the unit is defective.	*a.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
			b. If 1.0 FREQ SELECT (MC) lamp E does not light, the megacycle selector in the control unit is defective.	*b.* Troubleshoot the control unit as described in TM 11–5826–226–35.
25	Set the megacycle and kilocycle selectors to 111.00.	The 1.0 FREQ SELECT (MC) lamps A and B should light.	The megacycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
26	Set the megacycle and kilocycle selectors to 112.00.	The 1.0 FREQ SELECT (MC) lamps A and C should light.	*a.* If 1.0 FREQ SELECT (MC) lamp A does not light, the megacycle selector in the control unit is defective.	*a.* Troubleshoot the control unit as described in TM 11–5826–226–35.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
			b. If 1.0 FREQ SELECT (MC) lamp C does not light, either a break in the circuit is present between U of P2 and G of P5, or the megacycle selector in the control unit is defective.	*b.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
27	Set the megacycle and kilocycle selectors to 113.00.	The 1.0 FREQ SELECT (MC) lamps B and C should light.	The megacycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
28	Set the megacycle and kilocycle selectors to 114.00.	The 1.0 FREQ SELECT (MC) lamps B and D should light.	Same as step 27 above.	Same as step 27 above.
29	Set the megacycle and kilocycle selectors to 115.00.	The 1.0 FREQ SELECT (MC) lamps C and D should light.	Same as step 27 above.	Same as step 27 above.
30	Set the megacycle and kilocycle selectors to 116.00.	The 1.0 FREQ SELECT (MC) lamps C and E should light.	Same as step 27 above.	Same as step 27 above.
31	Set the megacycle and kilocycle selectors to 117.00.	The 1.0 FREQ SELECT (MC) lamps D and E should light.	Same as step 27 above.	Same as step 27 above.
32	Set the megacycle and kilocycle selector to 118.00.	The 1.0 FREQ SELECT (MC) lamps A and D should light. COMM lamp should light.	*a.* If either one, or both, of the 1.0 FREQ SELECT (MC) lamps A or D do not light, the megacycle selector in the control unit is defective. *b.* If the COMM lamp does not light, either a break in the circuit is present between K of P2 and a of P5, or the megacycle selector in the control unit is defective.	*a.* Troubleshoot the control unit as described in TM 11–5826–226–35. *b.* If a break in the circuit is present, make resistance measurements to find the break. If no break is present, troubleshoot the control unit as described in TM 11–5826–226–35.
33	Set the megacyyle and kilocycle selectors to 119.00.	The 1.0 FREQ SELECT (MC) lamps A and E should light. COMM lamp should light.	The megacycle selector in the control unit is defective.	Troubleshoot the control unit as described in TM 11–5826–226–35.
34	Set the megacycle and kilocycle selectors to 120.00.	The 1.0 FREQ SELECT (MC) lamps B and E should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
35	Set the megacycle and kilocycle selectors to 121.00.	The 1.0 FREQ SELECT (MC) lamps A and B should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
36	Set the megacycle and kilocycle selectors to 122.00.	The 1.0 FREQ SELECT (MC) lamps A and C should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
37	Set the megacycle and kilocycle selectors to 123.00.	The 1.0 FREQ SELECT (MC) lamps B and C should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
38	Set the megacycle and kilocycle selectors to 124.00.	The 1.0 FREQ SELECT (MC) lamps B and D should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
39	Set the megacycle and kilocycle selectors to 125.00.	The 1.0 FREQ SELECT (MC) lamps C and D should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
40	Set the megacycle and kilocycle selectors to 126.00.	The 1.0 FREQ SELECT (MC) lamps C and E should light. COMM lamp should light.	Same as step 33 above.	Same as step 33 above.
41	Rotate the COMPASS SIMULATOR from N (0°) to E (90°).	The RMI card should follow the rotation of the COMPASS SIMULATOR. The RMI card should indicate within 1° of the COMPASS SIMULATOR when the RMI is tapped lightly on the bezel.	*a.* COMPASS SIMULATOR out of alignment. *b.* Defective RMI. *c.* Defective RMI circuitry in the test set.	*a.* Align the COMPASS SIMULATOR as described in paragraph 3-10. *b.* Troubleshoot the RMI as described in TM 11-5826-211-50. *c.* Refer to figure 4-9 or 4-9.1 and make continuity checks on the RMI circuitry in test set.
42	Rotate the COMPASS SIMULATOR needle one complete revolution (360°).	The RMI needle number 1 should indicate 180° ±2, and stay at this position as the COMPASS SIMULATOR is rotated.	Defective RMI.	Troubleshoot the RMI as described in TM 11-5826-211-50.
43	Connect the equipment as shown in figure 2-9. Indicator, Course ID-1347/ARN-82 must be used. On Test Set, Radio TS-2500A/ARN-82, RECEIVER MODEL switch must be in A position.	Minimum null should appear on the oscilloscope with the OBS indicator set to 300°.	Indicator, Course ID-1347/ARN-82 is defective or misaligned.	Troubleshoot the OBS indicator as described in TM 11-5826-226-35.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
	A schematic diagram of the fabricated cable is shown in figure 4-1. Calibrate the resolver test set. (Refer to TM 11-6625-492-12 for calibration of the resolver test set.) Disconnect the MOD OUTPUT of the VOR modulator from the VAR connector on the resolver test set. Connect the INPUT lead of the vtvm to the VOLTMETER connector on the resolver test set. Set the function switch on the resolver test set to ORZ. Adjust the INPUT LEVEL control on the resolver test set for a 4.25-volt indication on the vtvm. Remove the INPUT lead of the vtvm from the VOLTMETER connector, and connect it to the OUTPUT connector on the resolver test set. Set the test set BRG-OBS switch to OBS. Set the SWEEP TIME on the oscilloscope to 20 milliseconds. Adjust the oscilloscope vertical gain until the pattern fills the grid. Rotate the OBS control on the test set and the AMP BAL control on the resolver test set until the least possible signal amplitude (minimum null) is observed on the oscilloscope. *Note.* As the null is approached, increase the oscilloscope vertical gain.			

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
44	Set the BRG-OBS switch on the test set to BRG.	The indication of the oscilloscope should not change from the indication obtained in step 43 above.	*a.* Resistor R1 out of adjustment. *b.* The precision bearing circuit in the test set is defective.	*a.* Adjust resistor R1 (Para 3-9). *b.* Refer to figures 4-9 and 4-9.1. Make continuity checks on the precision bearing circuit. Refer to paragraph 2-9 for the resistance of the transformer winding for T2.
45 (This test for Test Set, Radio TS-2500A/ARM-92 only.)	*a.* Connect test set pendant cable P2 to indicator test set jack J2 using cable fabricated per instructions in paragraph 4-4 (fig. 4-1.1). Use Indicator, Course ID-1347A/ARN-82 with test set. Set SYNCHRO SELECTOR switch on indicator test set to EZ. Set the test set BRG-OBS switch to OBS. Set the test set RECEIVER MODEL switch to B position. Adjust course index on course indicator around 300 degrees for zero reading on indicator test set SYNCHRO METER.	*a.* Course index on course indicator should read 300 ±3 degrees when indicator test set SYNCHRO METER reads zero.	*a.* Indicator, Course ID-1347A/ARN-82 is defective or misaligned.	*a.* Troubleshoot the OBS indicator as described in TM 11-5826-226-35.
	b. Rotate course index on course selector counterclockwise.	*b.* Indicator test set SYNCHRO METER deflects to the right.	*b.* Same as step a above.	*b.* Same as step a above.
	c. Set SYNCHRO SELECTOR switch on indicator test set to RW2. Adjust course index on course indicator around 30 degrees for zero reading on indicator test set SYNCHRO METER.	*c.* Course index on course indicator should read 30 ±3 degrees when degrees when indicator test set SYNCHRO METER reads zero.	*c.* Same as step a above.	*c.* Same as step a above.

Step	Procedure	Proper indication	Probable trouble for improper indication	Correction
	d. Rotate course index on course indicator counterclockwise.	*d.* Indicator test set SYNCHRO METER deflects to the left.	*d.* Same as step a above.	*d.* Same as step a above.
46 (This test for Test Set, Radio TS-2500A/ARM-92 only.)	Connect test set pendant cable plugs P2 and P3 to the cable fabricated per instructions in paragraph 4-4 (fig. 4-1.2). Set test set controls as follows: BRG-OBS: BRG BEARING: 300 RECEIVER MODEL: B Measure the ac voltage from J1 to J2 on the fabricated cable. This voltage is V1 max. Set test set BEARING switch to 30. Measure the ac voltage from J3 to J4 on the fabricated cable. This voltage is V2 max. Measure the ac voltage from J1 to J2 and J3 to J4 for each setting of the test set BEARING switch.	Bearing / J1 to J2 / J3 to J4 300 / V1 max / 0 330 / .86(V1 max) / .5(V2 max) 0 / .5(V1 max) / .86(V2 max) 30 / 0 / V2 max 60 / .5(V1 max) / .86(V2 max) 90 / .86(V1 max) / .5(V2 max) 120 / V1 max / 0 150 / .86(V1 max) / .5(V2 max) 180 / .5(V1 max) / .86(V2 max) 210 / 0 / V2 max 240 / .5(V1 max) / .86(V2 max) 270 / .86(V1 max) / .5(V2 max) (Tolerance of 10% is allowed on readings above)	Broken part or connection. Defective transformer T2 or T3.	Check for defective parts or connections.

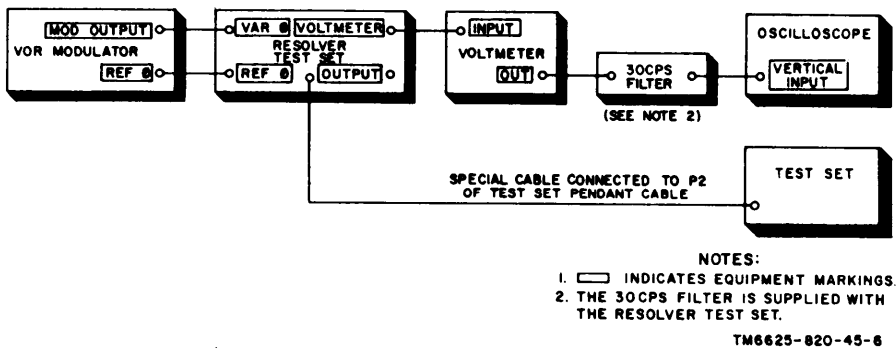


Figure 2-9. Equipment setup to test precision BEARING circuit.

2–9. Dc Resistances of Transformers and Relay Coils

Transformer or relay coil	Terminals	Ohms
T2 in Test Set, Radio TS-2500/ ARM-92	11 to 12	13 ±3
	11 to 10	36 ±7
	10 to 9	51 ±10
	9 to 8	0
	8 to 7	52 ±10
	7 to 6	36 ±7
	6 to 5	12 ±2
	1 to 2	30 ±6
	3 to 4	195 ±39
T2 and T3 in Test Set, Radio TS-2500A/ ARM-92	11 to 12	13 ±3
	11 to 10	36 ±7
	10 to 9	51 ±10
	8 to 7	52 ±10
	7 to 6	36 ±7
	6 to 5	12 ±2
	1 to 2	30 ±6
	3 to 4	195 ±39
T1	3 to 2	9 ±2
	2 to 1	1
K1	1 to 6	280 ±28
K2	1 to 8	280 ±28

CHAPTER 3

REPAIR AND ALIGNMENT

Section I. REPAIRS

3-1. General Parts Replacement Techniques

The following general precautions should be observed when replacing parts in this equipment.

a. When soldering or unsoldering components, solder quickly to allow as little heat conduction as possible, Whenever wiring permits, use a heat sink (such as a long-nosed pliers) between the solder joint and the component. Use approximately the same length and dress of leads as used originally.

b. Use a pencil-type iron with a 25-watt maximum capacity. If the iron must be used with ac, use an isolation transformer between the iron and the line. Check soldering irons for shorts to the iron tip before using.

c. Whenever an electrical part such as a resistor or diode is to be removed, note the exact position of the component before removing it. Replace the component in the same position.

3-2. Removal and Replacement Techniques

The procedures for removal and disassembly of the units in the test set are described in paragraph 3-3. The corresponding replacement, reassembly, and lubrication techniques are described in paragraph 3-4. The procedures for disassembly of the aid box are described in paragraph 3-5. The corresponding reassembly techniques are described in paragraph 3-6.

3-3. Removal and Disassembly Techniques for Test Sets, Radio TS-2500/ARM-92 and TS-2500A/ARM-92

a. Removal of Test Set Front Panel

(1) Remove the 13 screws from the perimeter of the front panel.

(2) Lift the front panel away from the test set.

(3) Disconnect the power cable from the chassis.

Note. To allow enough slack to conveniently work on the test set, the pendant cables may be pulled through the porthole in the bottom of test set.

b. Removal of Control Unit.

(1) Loosen the four Dzus fasteners.

(2) Pull the control unit away from the front panel of the test set.

(3) Disconnect the cable attached to the control unit.

c. Disassembly of Control Unit. Refer to TM 11–5826-226-35 for disassembly procedures of Control, Radio Set C-6873/ARN–82.

d. Removal of OBS Indicator.

(1) Remove the four screws that hold the OBS indicator to the front panel of the test set.

(2) Pull the OBS indicator away from the front panel of the test set.

(3) Disconnect the cable attached to the OBS indicator.

e. Disassembly of OBS Indicator. Refer to TM 11–5826-226-35 for disassembly procedures of Indicator, Course ID-1347/ARN-82, or ID-1347A/ARN-82.

f. Removal of RMI

(1) Remove the four screws that hold the RMI to the front panel of the test set.

(2) Pull the RMI away from the front panel of the test set.

(3) Disconnect the cable attached to the RMI

g. Disassembly of RMI. Refer to TM 11–5826-211-50 for disassembly procedures for Indicator, Course ID-250A/ARN.

h. Removal of COMPASS SIMULATOR indicator.

(1) Remove the test set front panel (a above).
(2) Remove the three screws that hold the COMPASS SIMULATOR indicator to the front panel of the test set.
(3) Pull the COMPASS SIMULATOR indicator away from the front panel.
(4) Disconnect the cable attached to the COMPASS SIMULATOR indicator.

i. Disassembly of COMPASS SIMULATOR indicator (fig. 3-1).

(1) Remove four screws (30) and four lockwashers (29) from connector P1 (28).
(2) Pull connector P1 (28) away from rear housing (23) to allow enough space to unsolder leads attached to connector. Label these leads to identify them for reassembly. Remove gasket (27).
(3) Set COMPASS SIMULATOR indicator down on a flat surface.
(4) Remove eight screws (25) and eight lockwashers (24).
(5) Pull front cover (5) away from rear housing (23).
(6) Remove gasket (22).
(7) Separate front cover (5) from synchro housing (17).

Note. To remove dial window (9), push carefully on front side of dial window (9) to remove it from front cover (5) and windowseal (8).

(8) Loosen two setscrews (2 and 3). Remove knob (1) and spring washer (4).
(9) Pull out drive gear (7). Remove shaft sleeve (6).
(10) Pull needle (11) straight off shaft of synchro B1 (21).
(11) Rotate synchro gear (13) until setscrew (14) lines up with hole in smaller rim of synchro housing (17). Loosen this setscrew.
(12) Repeat step in (11) above to loosen setscrew (14).
(13) Remove dial retainer (10) and dial (12).
(14) Remove synchro gear (13) and idler gear (16).
(15) Remove three screws (20), three lockwashers (19), and three synchro clamps (18).
(16) Pull synchro B1 (21) off synchro housing (17).

j. Removal of FLAG Meter.

(1) Remove the test set front panel (*a* above).
(2) Disconnect the two wires attached to the meter. Label these wires for identification when replacing the meter.
(3) Remove the four nuts that hold the meter to the test set.
(4) Pull the meter out of the front panel.

k. Removal of DEVIATION Meter.

(1) Remove the test set front panel (*a* above).
(2) Disconnect the two wires attached to the meter. Label these wires for identification when replacing the meter.
(3) Remove the four nuts that hold the meter to the test set.
(4) Pull the meter out of the front panel.

l. Removal of TO-FROM Meter.

(1) Remove the test set front panel (*a* above).
(2) Disconnect the two wires attached to the meter. Label these wires for identification when replacing the meter.
(3) Remove the four nuts that hold the meter to the test set.
(4) Pull the meter out of the front panel.

3-4. Replacement, Reassembly, and Lubrication Techniques for Test Sets, Radio TS-2500/ARM-92 and TS-2500A/ARM-92

a. Replacement of TO-FROM Meter.

(1) Place the meter back in the front panel.
(2) Replace the four nuts to hold the meter to the front panel.
(3) Connect the two wires to their proper terminal on the meter.
(4) Replace the test set front panel (*l* below).

b. Replacement of Deviation Meter.

(1) Place the meter back in the front panel.
(2) Replace the four nuts to hold the meter to the front panel.
(3) Connect the two wires to their proper terminal on the meter.
(4) Replace the test set front panel (*l* above).

c. Replacement of FLAG Meter.

(1) Place the meter back in the front panel.
(2) Replace the four nuts to hold the meter to the front panel.
(3) Connect the two wires to their proper terminals on the meter.
(4) Replace the test set front panel (*l* above).

d. Reassembly of COMPASS SIMULATOR Indicator (fig. 3-l).

(1) Replace synchro B1 (21) to synchro housing (17).
(2) Replace three synchro clamps (18), three lockwashers (19), and three screws (20).
(3) Replace synchro gear (13).
(4) Rotate synchro gear (13) until the setscrew (15) lines up with the hole in the smaller rim of synchro housing (17). Tighten this setscrew.
(5) Repeat step in (4) above to tighten setscrew (14).
(6) Replace idler gear (16).
(7) Replace dial (12) and retainer (10).
(8) Push needle (11) straight on the shaft of synchro B1 (21) until it is properly in place. Align the COMPASS SIMULATOR indicator (para 3-10).
(9) Replace shaft sleeve (6). Lubricate inside of shaft sleeve (6) with Dow Corning Stopcock grease Replace drive gear (7).
(lo) Replace spring washer (4). Replace knob (1) and tighten two setscrews (2 and 3).
(11) Replace front cover (5) to synchro housing (17).

Note. If dial window (9) has been removed, replace the window by very carefully pushing it back into the front cover (5) before replacing the front cover.

(12) Replace gasket (22) to rear housing (23).
(13) Replace front cover (5) to rear housing (23).
(14) Replace eight lockwashers (24) and tighten eight screws (25).
(15) Replace gasket (27).
(16) Solder the leads to the proper points on connector P1 (28).
(17) Replace four lockwashers (29) and tighten four screws (30).

e. Replacement of COMPASS SIMULATOR Indicator.

(1) Connect P1 to the COMPASS SIMULATOR Indicator.
(2) Replace the COMPASS SIMULATOR Indicator in the front panel.
(3) Replace the three screws and nuts, to hold the COMPASS SIMULATOR Indicator to the front panel.
(4) Replace the test set front panel (*1* below) .

f. Reassembly and Lubrication of RMI. Refer to TM 11–5826-211-50 for reassembly and lubrication procedures for Indicator, Course ID-250A/ARN.

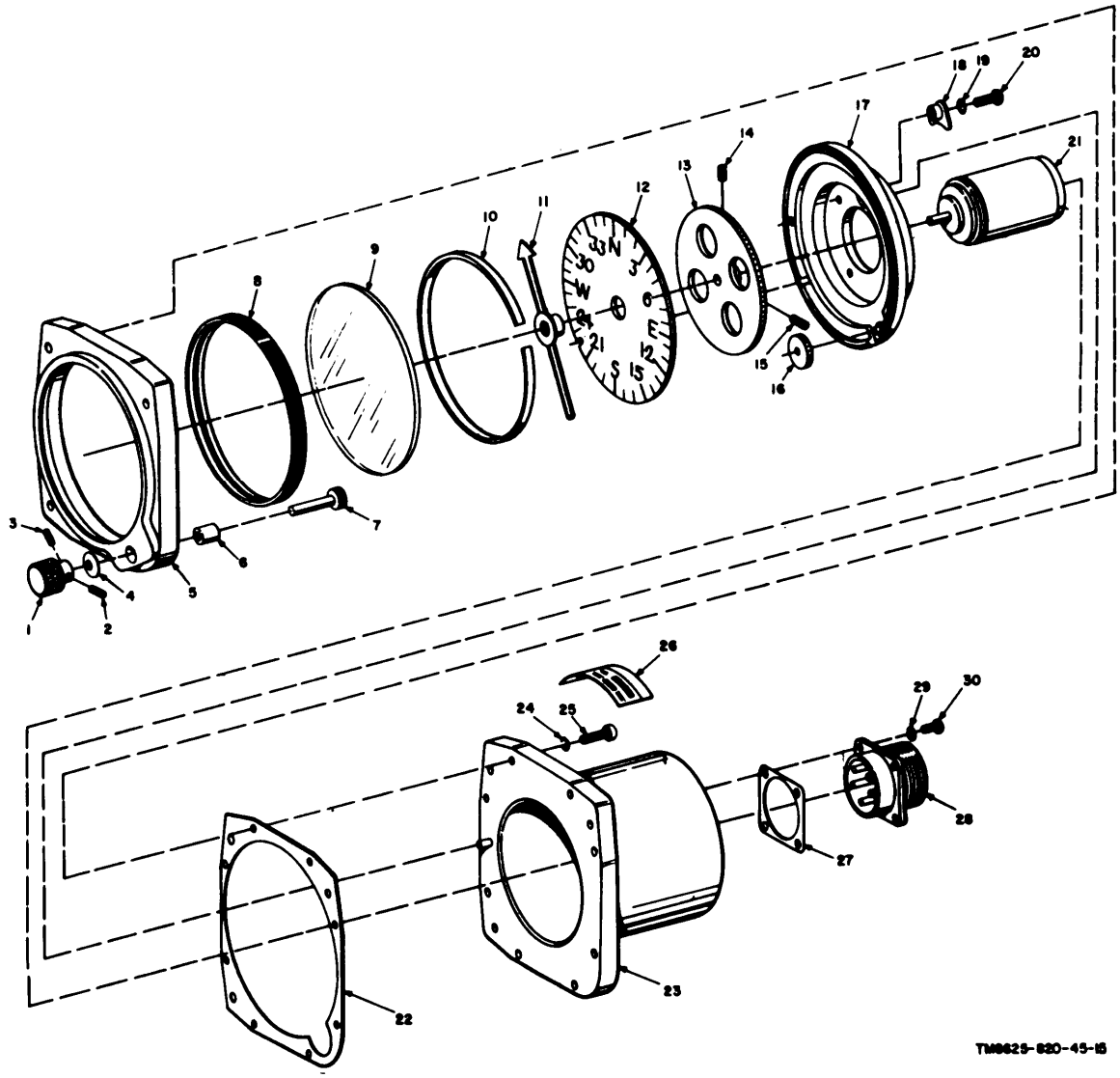
g. Replacement of RMI.

(1) Connect P4 to the RMI connector.
(2) Replace the RMI in the front panel.
(3) Replace the four screws to hold the RMI to the front panel.
(4) Replace the test set front panel (*l* below) .

h. Reassembly and Lubrication of OBS Indicator. Refer to TM 11-5826-226-35 for reassembly and lubrication procedures for Indicator, Course ID-1347/ARN-82 or ID-1347A/ARN-82.

i. Replacenwnt of OBS Indicator.

(1) Connect P6 to the OBS connector.
(2) Replace the OBS indicator in the front panel.
(3) Replace the four screws, to hold the OBS indicator to the front panel.
(4) Replace the test set front panel (*l* below).



1	Knob	11	Needle	21	Synchro B1
2	Setscrew, No. 2	12	Dial	22	Gasket
3	Setscrew, No. 2	13	Gear, synchro	23	Housing, rear
4	Washer, spring	14	Setscrew, No. 2	24	Lockwasher
5	Cover, front	15	Setscrew, No. 2	25	Screw, machine, No. 2, 5/16 in. lg
6	Sleeve, shaft	16	Gear, idler	26	Plate, identification
7	Gear, drive	17	Housing, synchro	27	Gasket
8	Seal, window	18	Clamp, synchro	28	Connector P1
9	Window, dial	19	Lockwasher	29	Lockwasher
10	Retainer, dial	20	Screw, machine, No. 4, 5/16 in. long	30	Screw, machine, No. 4, 5/16 in. long

Figure 3-1. COMPASS SIMULATOR Indicator, exploded view.

j. Reassembly and Lubrication of Control Unit. Refer to TM 11-5826-226-35 for reassembly and lubrication procedures for Control, Radio Set C-6873/ARN-82.

k. Replacement of Control Unit.

(1) Connect P5 to the control unit connector.

(2) Replace the control unit in the front panel.

(3) Tighten the four Dzus fasteners.

l. Replacement of Front Panel.

(1) Connect the power cable to J5.

(2) Place the front panel back in the lower carrying case. Be sure no cables are pinched between the chassis and the carrying case.

(3) Replace the 13 screws in the perimeter of the front panel.

3-5. Disassembly Techniques for Test Set, Wiring Harness, Aircraft TS-2501/ARM-92

Remove the bottom panel of the aid box as follows:

a. Remove the six screws that hold the bottom panel in place.

b. Lift the bottom panel away.

3-6. Reassembly Techniques for Test Set, Wiring Harness, Aircraft TS-2501/ARM-92

Replace the bottom panel of the aid box as follows :

a. Place the bottom panel on the aid box.

b. Replace the six screws, to hold the bottom panel in place.

Section II. ALIGNMENT

3-7. General

Alignment procedures for Test Sets, Radio AN/ARM-92 and AN/ARM-92A are given in paragraphs 3-9 through 3-13. The precision bearing alignment is given in paragraph 3-9. Alignment of the COMPASS SIMULATOR indicator is given in paragraph 3-10. References to the alignment procedures are given for the OBS indicator, RMI and control unit in paragraphs 3-11 through 3-13. References to the test equipment required are given in paragraph 3-8.

3-8. Test Equipment Required for Alignment

Refer to paragraph 2-3 for a list of the test equipment required for alignment procedures.

3-9. Precision Bearing Alignment

a. Remove the test set front panel (para 3-3(a).

b. A special cable is required for precision bearing alignment. Refer to paragraph 4-4 for construction details of this cable.

c. Connect the equipment as shown in figure 2–9, and calibrate the resolver test set. (Refer to TM 11–6625-492-12 for calibration of Test Set, Resolver AN/ARM-101.)

d. Disconnect the MOD OUTPUT connector of the vor modulator from the VAR connector of the resolver test set.

e. Connect the INPUT of the vacuum-tube voltmeter (vtvm) to the VOLTMETER connector on the resolver test set.

f. Set the function switch on the resolver test set to SET ORZ.

g. Adjust the INPUT LEVEL control on the resolver test set for 4.25-volt indication of the vtvm.

h. Remove the INPUT of the vtvm from the VOLTMETER connector, and connect it to the OUTPUT connector on the resolver test set.

i. Set the VOR/LOC-GLIDE SLOPE switch on the test set the VOR/LOC.

j. Set the BEARING selector switch on the test set to 300.

k. Unlock potentiometer R1 located behind the front panel of the test set.

l. Alternately adjust the AMP.BAL. control on the resolver test set and potentiometer R1 in the test set to obtain the least possible signal amplitude (minimum null) as observed on the oscilloscope.

Note. As the null is approached, increase the vertical gain of the oscilloscope.

m. Lock potentiometer R1 shaft.

n. If aligning Test Set, Radio TS-2500/ ARM-92, disconnect the equipment and replace the test set front panel. Omit steps *o* through *z.*

o. Disconnect the test set from the resolver test setup (fig. 2-9). Connect the test set and the resolver bridge as shown in figure 3-2. Use the cable fabricated in paragraph 4-4 (fig. 4-1.2).

p. Disconnect the wire to the wiper connection of wafer H of switch S3 (fig. 3-3).

q. Connect jack J7 of the fabricated cable to the pin from which the wire was removed in step p.

r. Set the test set BEARING switch to 300 and the resolver bridge angle switch to 0 degree.

s. Adjust the oscilloscope gain controls to obtain a line of approximately 20 degrees slope from the horizontal (disregard any ballooning).

t. With grease pencil or equivalent, draw the slope line on the oscilloscope face; this is the maximum negative angle. Draw a line of the same slope but the opposite direction from the horizontal line; this is the maximum positive angle.

u. Disconnect the jumper from J7 of the fabricated cable to the test set.

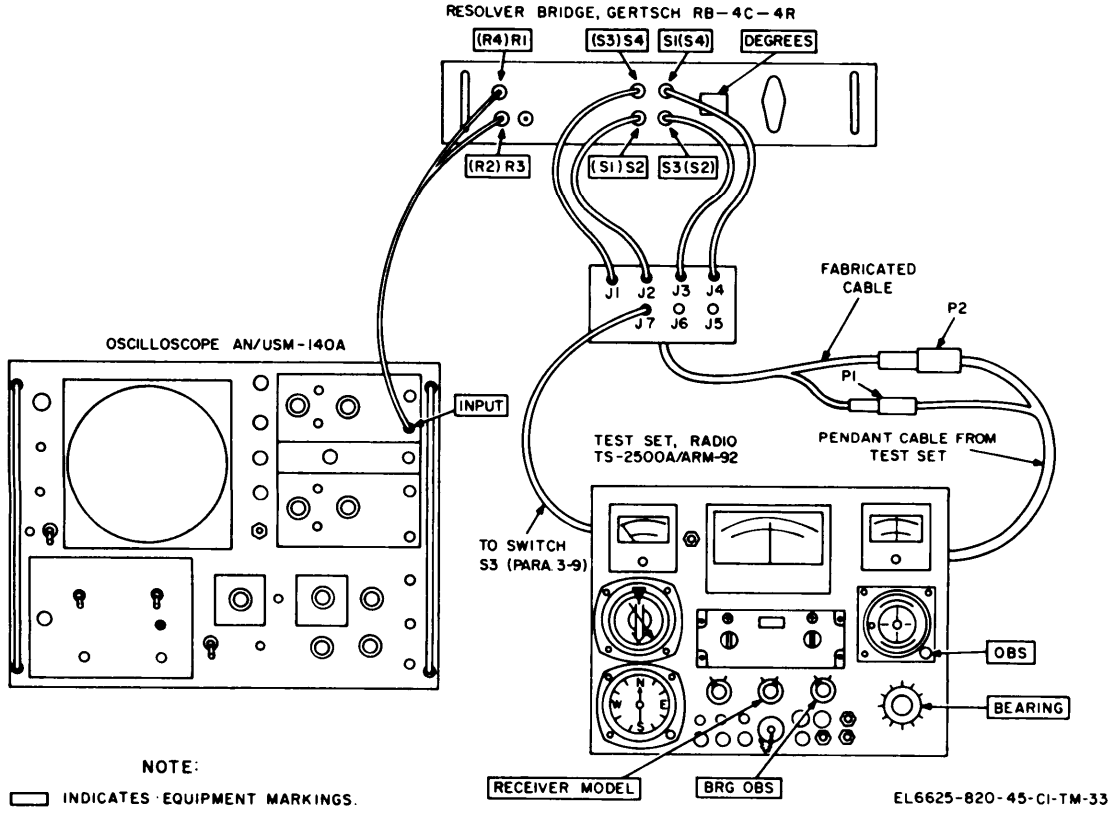


Figure 3-2. TS-2500A/ARM-92 precision BEARING alignment.

v. Reconnect the wire disconnected in step *p*.

w. Rotate the test set BEARING switch and the resolver bridge angle switch simultaneously in 30-degree steps and note the amount of error and the direction the line on the oscilloscope slopes.

x. If the error exceeds the limit set in step *t*, refer to the transformer error correction chart in paragraph 3-9.1.

y. Repeat steps *c* through *y* until all error limits are met.

z. Disconnect the equipment and replace the front panel.

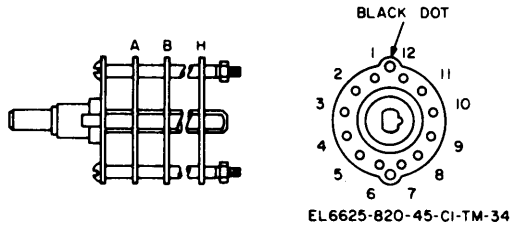


Figure 3-3. TS-2500A/ARM-92 switch S3 wafer and pin designation.

3-9.1. Transformer Error Correction Chart

Symptom	Corrective action
Positive error at 90 degrees	
Positive error at 60 degrees greater than error at 90 degrees.	Add resistance between terminals 9 and 10 of T2 to reduce error at 60 degrees; then add resistance between terminals 10 and 11 of T2 to reduce error at 90 degrees.
Positive error at 60 degrees less than error at 90 degrees.	Add resistance between terminals 10 and 11 of T2 to reduce error at 90 degrees; then add resistance between terminals 9 and 10 of T2 to reduce error at 60 degrees.
No or small negative error at 60 degrees.	Add resistance between terminals 10 and 11 of T2 to reduce error at 90 degrees; then add resistance between terminals 10 and 11 of T1 to reduce error at 60 degrees.
Negative error at 60 degrees greater than error at 90 degrees.	Add resistance between terminals 10 and 11 of T1 to reduce error at 60 degrees; then add resistance between terminals 10 and 11 of T2 to reduce error at 90 degrees.
Negative error at 90 degrees	
Negative error at 60 degrees greater than error at 90 degrees.	Add resistance between terminals 10 and 11 of T1 to reduce error at 60 degrees; then add resistance between terminals 9 and 10 of T1 to reduce error at 90 degrees.
Negative error at 60 degrees less than error at 90 degrees.	Add resistance between terminals 9 and 10 of T1 to reduce error at 90 degrees; then add resistance between terminals 10 and 11 of T1 to reduce error at 60 degrees.

Symptom	Corrective action
No or small positive error at 60 degrees.	Add resistance between terminals 9 and 10 of T1 to reduce error at 90 degrees: then add resistance between terminals 9 and 10 of T2 to reduce error at 60 degrees.
Positive error at 60 degrees greater than error at 90 degrees.	Add resistance between terminals 9 and 10 of T2 to reduce error at 60 degrees; then add resistance between terminals 9 and 10 of T1 to reduce error at 90 degrees.
No error at 90 degrees	
Positive error at 60 degrees.	Add resistance between terminals 9 and 10 of T2 to reduce error at 60 degrces: then add resistance between terminals 9 and 10 of T1 to correct error induced at 90 degrees.
Negative error at 60 degrees.	Add resistance between terminals 10 and 11 of T2 to reduce error at 60 degrees: then add resistance between terminals 10 and 11 of Tl to correct error induced at 90 degrees.

3-10. COMPASS SIMULATOR Indicator Alignment

a. Remove the test set front panel (para 3-3a).

b. Connect the test set to a 27.5-volt dc power source, and a 115-volt, 400-cps power source.

c. Set the power switch on the control unit to PWR. (All other controls and switches on the control unit and test set may be in any position.)

Caution: **In the following steps, remove the vtvm power cord from ground to eliminate the possibility of shorting across the external power source.**

d. Connect the vtvm between pins C and D of connector P3 of the test set pendant cable.

e. With the compass simulator control, rotate the COMPASS SIMULATOR indicator for a null indication on the vtvm.

Note. A 360° rotation of the COMPASS SIMULATOR indicator will produce two nulls on the vtvm. To determine the correct null, measure the ac voltage between pins C and G of connector P3. This ac voltage will be less than 26 volts ac when the correct null is found.

f. With the COMPASS SIMULATOR indicator set to the correct null, perform the following procedure to zero the COMPASS SIMULATOR indicator needle.

(1) Remove the rear housing of the COMPASS SIMULATOR indicator.
(2) Loosen the three screws that hold synchro B1 to the housing.
(3) Rotate the entire synchro until the COMPASS SIMULATOR indicator needle points exactly to N.
(4) Tighten the three screws that hold synchro B1 to the housing.
(5) Set the power switch on the control unit to OFF.
(6) Replace the rear housing of the COMPASS SIMULATOR indicator.

g. Disconnect the equipment, and replace the front panel on the test set.

3-11. OBS Indicator Alignment

Refer to TM 11–5826-226-35 for alignment procedures of Indicator, Course ID-1347/ARN-82, and ID-1347A/ARN-82.

3-12. RMI Alignment

Refer to TM 11–5826-211-50 for alignment procedures of Course Indicator ID–250A/ARN.

CHAPTER 4

GENERAL SUPPORT TESTING PROCEDURES AND DEPOT OVERHAUL STANDARDS

4-1. General

a. Testing procedures are prepared for use by general support and depot maintenance shops responsible for general support and depot maintenance of electronic equipment to determine the acceptability of repaired electronic equipment. These procedures set forth specific requirements that repaired electronic equipment must meet before it is returned to the using organization. The testing procedures are to be used for both general support testing procedures and depot overhaul standards. Applicable procedures of the Army depots performing these tests and the general standards for repaired electronic equipment given in TB SIG 355-1, TB SIG 355-2, and TB SIG 355-3 form a part of the requirements for testing this equipment. A summary of the performance standards is given in paragraph 4-16.

b. Comply with the instructions preceding the body of each chart before proceding to the chart. Perform each test in sequence. Do not vary the sequence. For each step, perform all the actions required in the *Control settings* columns; then perform each specific test procedure, and verify it against its performance standard.

4-2. Test Equipment, Tools, and Materials

All test equipment, tools, materials, and other equipment required to perform the testing procedures given in this section are listed in the following charts and are authorized under TA–11–17, Signal Field Maintenance Shops, and TA–11–100(11–17), Allowances of Signal Corps Expendable Supplies for Field Maintenance Shop, Continental United States.

Nomenclature	Federal stock number	Technical manual
Modulator MD-83A/ARN	6625-539-8563	TM 11-6625-588-15
Output Meter TS–585(*)/U	6625–244-0501	TM 11-5017
Voltmeter, Meter ME–30A/U and Voltmeter, Electronic ME-30(*)/U	6625-669-0742	TM 11-6625-320-12
Multimeter ME-26(*)/U	6625-542-6407	TM 11-6625-200-12
Test Set, Resolver AN AN/ASM-101	6625-086-7844	TM 11-6625-492-12
Oscilloscope AN/USM-140A	6625-987-6603	TM 11-6625-535-15
Meter Test Set TS–682A/GSM-1	6625-669-0747	TM 11-2535B

b. Tools. All tools required are contained in Tool Kit, Electronic Equipment TK–105/G, Federal Stock No. 5180-610-8177.

c. Materials.

(1) 1/4-inch barrel diameter.
(2) Telephone plug (1/4-inch diameter barrel).
(3) Wire, copper, insulated, stranded # 22 AWG (40 feet long).
(4) Connectors (3), Bendix PTOlA-20-40P(SR).
(5) Connector, Bendix PTO1A-12-10P (SR).
(6) Clamp MS3057-10A.
(7) Connector MS3106A-18S-1S.
(8) Connector MS3116A-18-32SW.
(9) Binding posts (7) Superior Electric Company DF 30RC.
(10) Spaghetti, 3/4-inch diameter (5.5 feet long).
(11) Small enclosed metal box 3 x 4 x 5 inches.

4-3. Test Facilities

Primary power requirements are 27.5 volts dc at 33 watts and 115 volts, 400 cps at 92 watts. Temperature, humidity, and atmospheric pressure are not critical.

4-4. Fabricated Cable Construction Details

Fabricated cables are required to connect the test set to Test Set, Resolver AN/ASM-101 and Test Set, Indicator, Course AN/ASM-110. Refer to figures 4-1, 4-1.1, and 4-1.2 and construct the cables as described below.

a. Resolver Test Set and Indicator Test Set Cables.

(1) Solder six 2-foot lengths of # 22 AWG stranded, insulated wire to pins C, D, E, F, G, and H of each male connector P1.
(2) Label the loose ends of the six wires with the pin number to which each wire is connected.
(3) Slip a 2-inch length of spaghetti over the loose ends of the six wires.
(4) Place clamp MS3057-10A over the end of the spaghetti on the resolver test set cable.
(5) Connect the loose ends of the six wires to the pins of the J1 female connectors as shown in figures 4-1 and 4-1.1.

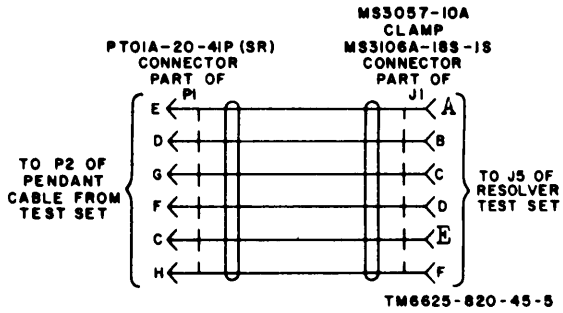


Figure 4-1. Fabricated cable to resolver test set, construction details.

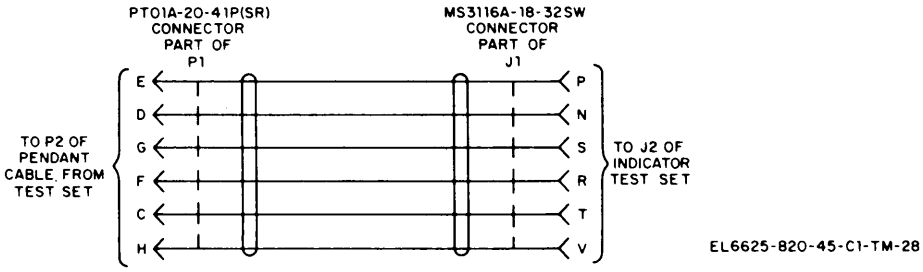


Figure 4-1.1. Fabricated cable to indicator test set, construction details.

(6) Tighten the clamps around the J1 connectors on each cable.

b. Resolver Bridge Cable.

(1) Solder six 2-foot lengths of # 22 AWG stranded insulated wire to pins C, D, E, F, G, and H of male connector P1.

(2) Solder two 2-foot lengths of # 22 AWG stranded insulated wire to pins G and E of male connector P2.

(3) Label the loose ends of the six wires with the pin number to which each wire is connected.

(4) Slip a 2-inch length of spaghetti over the loose end of the eight wires.

(5) Mount and label seven binding posts on a small enclosed metal box (fig. 3-2).

(6) Connect a 21.5-kilohm, ±1%, 1/2-watt resistor from binding post J6 to binding post J7.

(7) Connect a 21.5-ohm, ±1%, 1/2-watt resistor from binding post J5 to binding post J7.

(8) Connect the loose ends of the eight wires to the binding posts as shown in figure 4-1.2.

4-5. Modification Work Orders

The performance standards listed in the tests (paras 4–6 through 4-15) assume that the modification work orders, if any, have been performed. A listing of current modification work orders will be found in DA Pam 310-4.

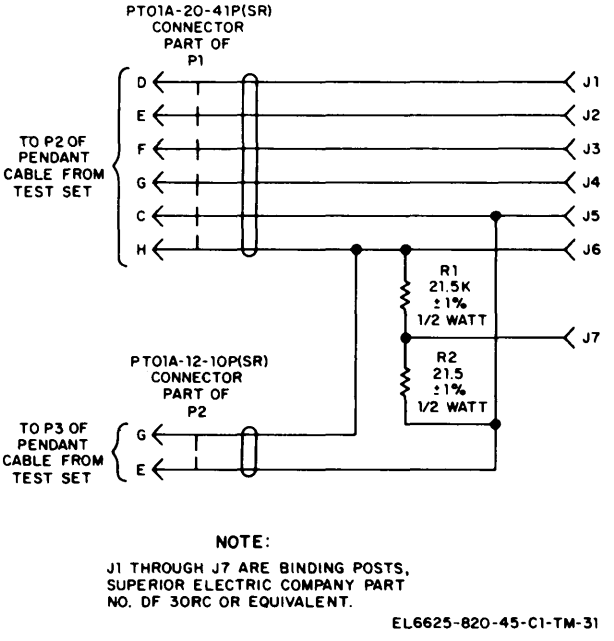


Figure 4-1.2. Fabricated cable to resolver bridge, construction details.

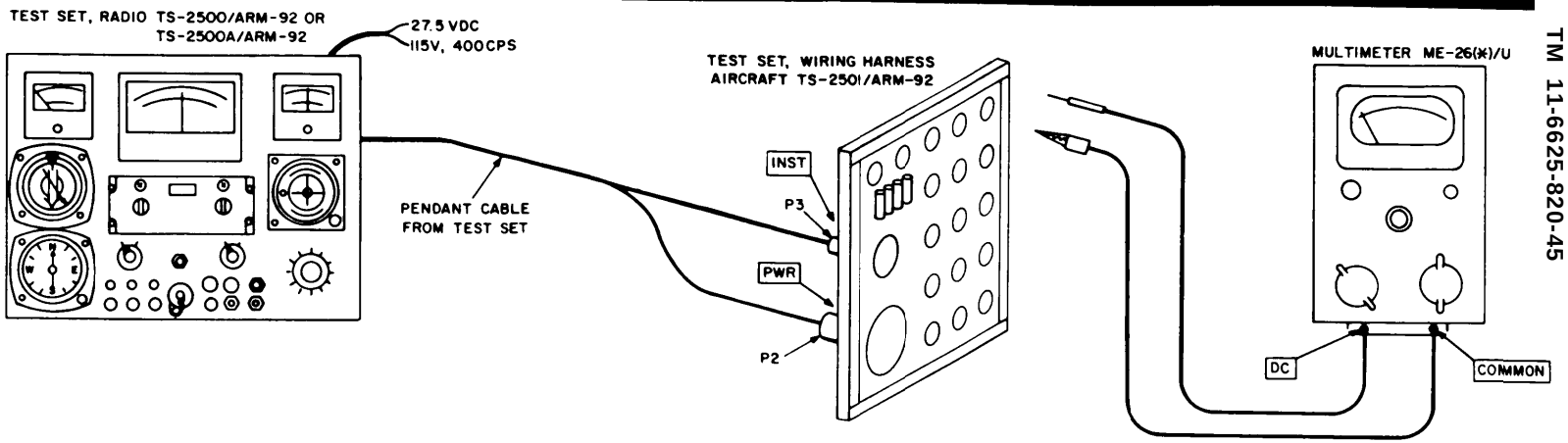
4–6. Test Set, Wiring Harness, Aircraft TS–2501/ARM–92 Physical Tests and Inspection

a. Test Equipment and Materials. None required.

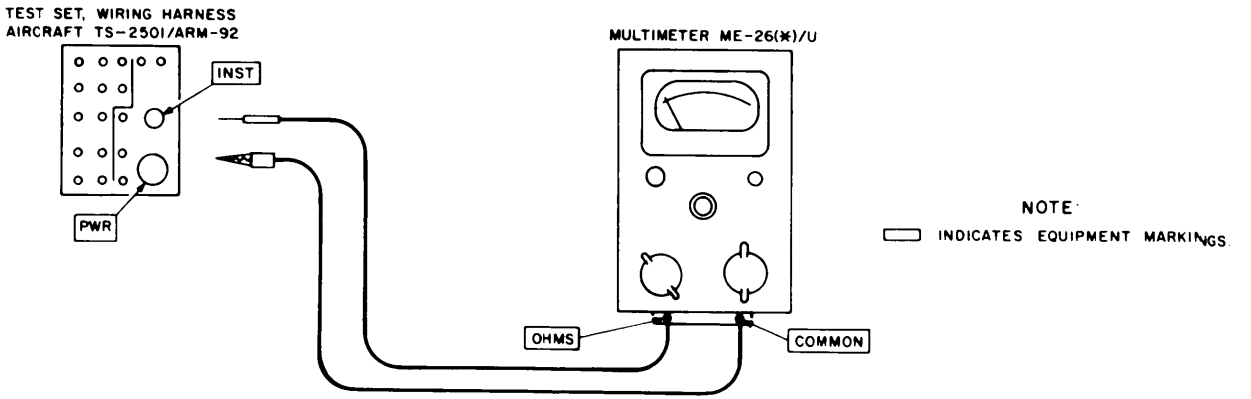
b. Test Connections and Conditions. Remove the cover from the bottom of the aid box.

c. Procedure.

Step	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	N/A	N/A	a. Inspect for loose or missing screws, nuts, or bolts. *b.* Inspect insulation of wiring for cuts, pinches, and signs of burning. *c.* Check resistors for cracks and signs of burning. *d.* Inspect connector for bent pins and cracked insulation material. *e.* Inspect for cold-soldered connections. *f.* Check for loose or missing lamps. *g.* Inspect the chassis for the condition of the finish and panel lettering. *Note.* Touchup painting is recommended instead of refinishing whenever practicable. Screwheads, binding posts, connectors, and plated fastener parts will not be painted or polished with abrasives. Check the aid box for applicable modification work orders (para 4–5).	*a.* Screws, nuts, and bolts will be tight; none missing. *b.* No cuts, pinches, or signs of burning evident. *c.* No signs of cracks or burning evident. *d.* No bent pins or cracked insulation evident. *e.* No cold-soldered connections evident. *f.* Lamps should be tight; none missing. *g.* External surfaces intended to be painted will not show bare metal. Panel lettering will be legible.
2	N/A	N/A	Check the aid box for applicable modification work orders (para 4–5).	



A. VOLTAGE MEASUREMENTS TEST CONNECTIONS.



B. RESISTANCE MEASUREMENTS TEST CONNECTIONS.

EL6625-820-45-CI-TM-19

Figure 4-2. Aid box test.

4–8. Control, Radio Set C–6873/ARN–82 Physical Tests and Inspection

a. Test Equipment and Materials. None required.

b. Test Connections and Conditions. Remove the control unit from the test set, and remove the rear cover from the control unit.

c. Procedure.

Step	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	N/A	Controls may be set to any position.	*a.* Inspect all controls and mechanical assemblies for loose or missing screws, bolts, or nuts.	*a.* Screws, bolts, and nuts will be tight; none missing.
			b. Inspect dial lights and rear connector for looseness and damage.	*b.* No looseness or damage evident.
			c. Inspect cover and chassis for damage, missing parts, and condition of finish. Inspect condition of finish and lettering on front panel.	*c.* No damage or missing parts evident. External surfaces intended to be painted will not show bare metal Panel lettering will be legible.
			Note. Touchup painting is recommended instead of refinishing whenever practicable. Screwheads, binding posts, and plated fastener parts will not be painted or polished with abrasives.	
2	N/A	Controls may be set to any position.	*a.* Rotate the VOL control through its limits of travel.	*a.* Control will rotate freely without binding or excessive looseness.
			b. Rotate the power switch from OFF to PWR, then to TEST.	*b.* Operates freely without binding and rubbing against the panel. Switch should have positive detent action.
			c. Rotate the kilocycle selector through its 20 positions.	*c.* Operates freely without binding or excessive looseness. Switch should have positive detent action.
			d. Rotate the megacycle selector through its 19 position.	*d.* Same as *c* above.
3	N/A	N/A	Check the control unit for applicable modification work orders (para 4–5).	None.

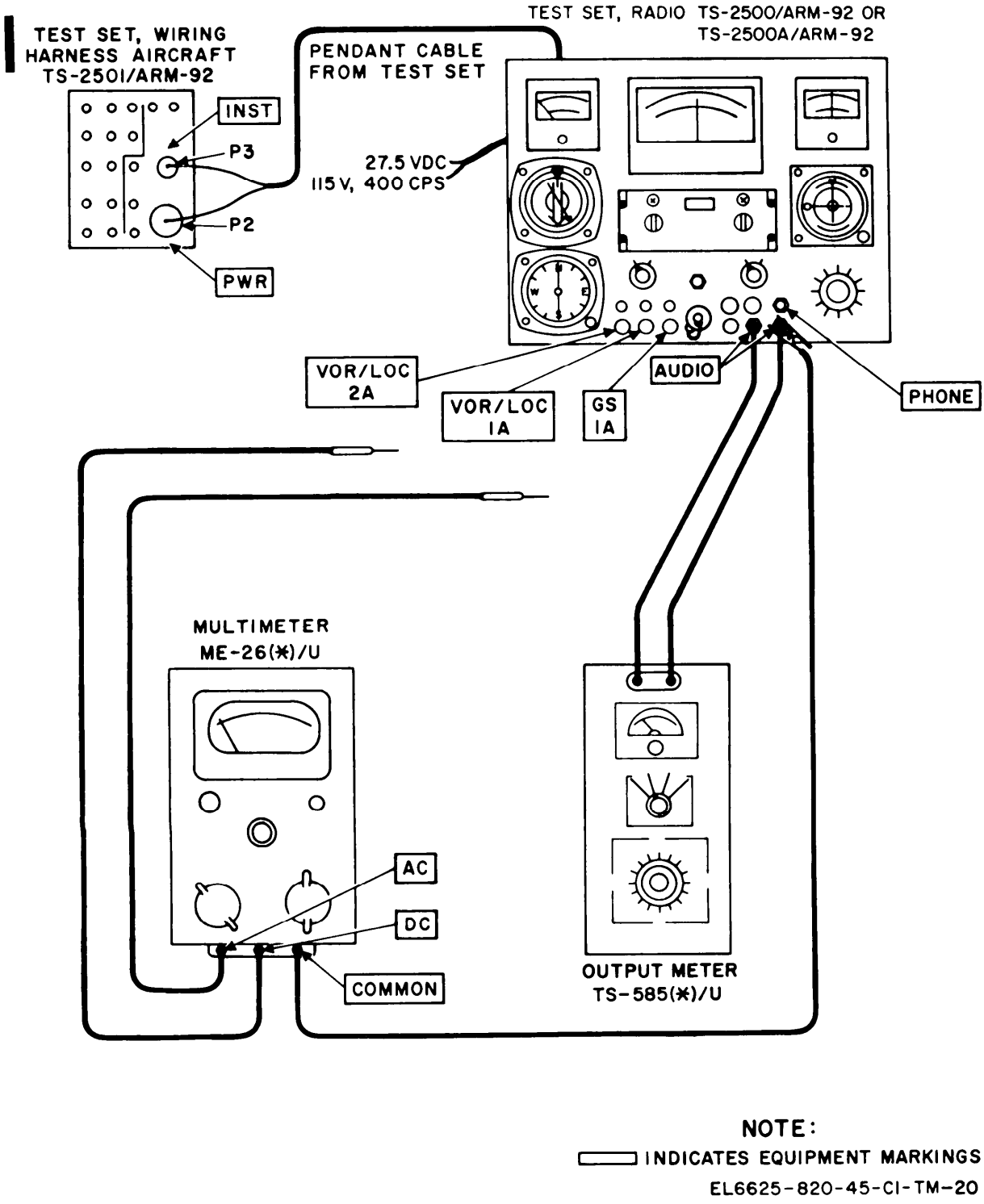


Figure 4-3. Control unit test.

4–10. Course Indicator ID–1347/ARN–82 Physical Tests and Inspection

a. Equipment and Materials. Not required.

b. Test Connections and Conditions. Remove the OBS indicator from the test set. Disconnect P6 from the OBS indicator

c. Procedure.

Step	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	N/A	The OBS indicator may be set to any position.	*a.* Inspect the connector for bent pins and cracked insulation. *b.* Inspect the meter glass for cracks or scratches. *c.* Inspect the meter housing for the condition of the finish. Inspect the condition of the lettering on the front knob. *d.* Rotate the OBS indicator knob.	*a.* No bent pins or cracked insulation evident. *b.* No. cracks or scratches evident. *c.* Surfaces intended to be painted will not show bare metal. Lettering will be legible. *d.* Knob operates freely without binding or excessive looseness.
2	N/A	N/A	Check the OBS indicator for applicable modification work orders (para 4–5).	

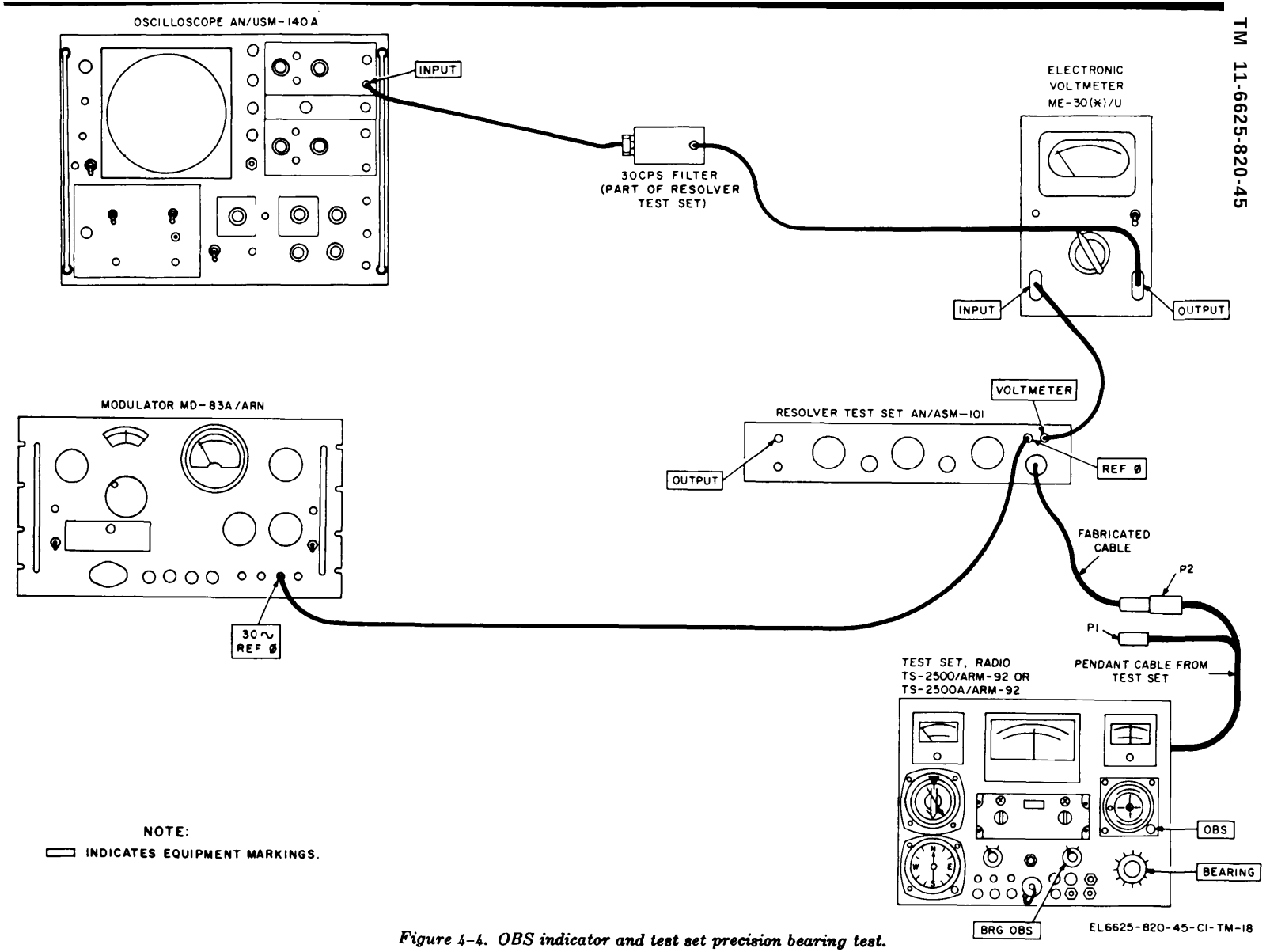


Figure 4-4. OBS indicator and test set precision bearing test.

4-12. Test Set, Radio TS-2500/ARM-92 and TS-2500A/ARM-92 Physical Tests and Inspection

a. Test Equipment and Materials. None required.

b. Test Connections and Conditions. Remove the test set front panel.

c. Procedure.

Control settings			Test procedure	Performance standard
Step	Test equipment	Equipment under test		
1	N/A	Controls may be set in any position.	*a.* Inspect all controls and switches for loose or missing screws, bolts, or nuts.	*a.* Screws, bolts, and nuts will be tight; none missing.
			b. Inspect insulation of wiring for cuts or pinches.	*b.* No cuts or pinches evident.
			c. Inspect soldered connections for cold-soldered connections.	*c.* No soldered connections evident.
			d. Inspect terminal board for cracks.	*d.* No cracks evident.
			e. Inspect all connectors for pins and cracked insulation.	*e.* No bent pins or cracked insulation evident.
			f. Inspect the case and chassis for damage, missing parts, and condition of finish. Inspect the condition of the lettering on the front panel.	*f.* No damage or missing parts evident. External surfaces intended to be painted will not show bare metal. Panel lettering will be legible.
2	N/A	Controls may be in any position.	*a.* Set the VOR/LOC-GLIDE SLOPE switch to VOR/LOC and to GLIDE SLOPE.	*a.* Switch operates freely without binding or excessive looseness Switch should have positive detent action.
			b. Set the BRG-OBS switch to BRG and to OBS.	*b.* Same as a above.
			c. Set the BEARING switch to each of its 12 positions.	*c.* Same as a above.
			d. Rotate the compass simulator control on the COMPASS SIMULATOR.	*d.* Control operates freely without binding and rubbing against the panel. Operates with no excessive looseness.
			e. On Test Set, Radio TS-2500A/ARM-92 only, set the RECEIVER MODEL switch to A and B positions.	*e.* Same as a above.
3	N/A	N/A	Check test set for applicable modification work orders (para 4-5)	None.

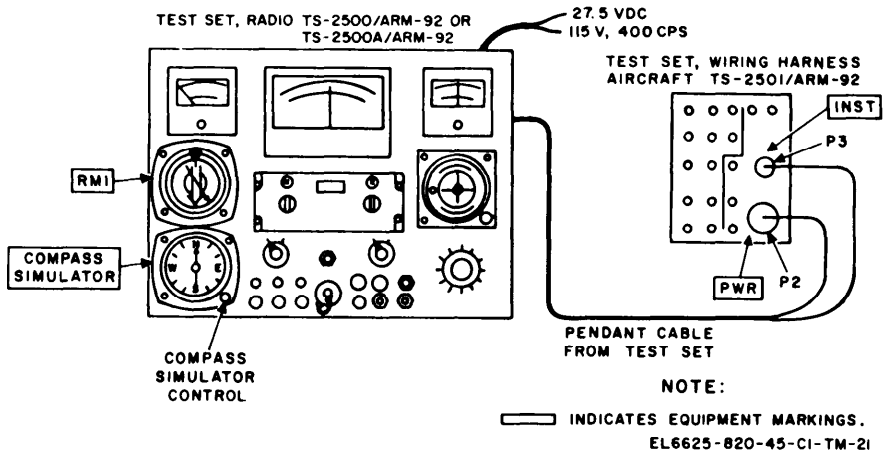


Figure 4-5. Test set compass simulator and Indicator, RMI ID-250A/ARN test.

4–14. Glide-Slope Frequency Information Test

a. Test Equipment and Materials. Multimeter ME–26(*)/U is required for the following procedure.

b. Test Connections and Conditions. Remove all power from the test set. Connect the equipment as shown in figure 4–6 with the COMMON lead of the ME–26(*)/U connected to pin J of P2.

c. Procedure.

Step	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
	ME–26(*)/U SELECTOR switch: OHMS RANGE switch: RX10	*C–6873/ARN–82* Power switch: OFF Megacycle and kilocycle selectors: 108.00	*a.* Connect the OHMS lead of ME–26(*)/U to pin P of GLIDE SLOPE connector J4 on the test set.	*a.* ME–26(*)/U should indicate 0 ohm.
			b. Connect the OHMS lead of ME–26(*)/U to pin G of J4.	*b.* ME–26(*)/U should indicate 0 ohm.
			c. Connect the OHMS lead of ME–26(*)/U to pin D of J4.	*c.* ME–26(*)/U should indicate *0 ohm.*
			d. Connect the OHMS lead of ME–26(*)/U to pin A of J4.	*d.* ME–26(*)/U should indicate 0 ohm.
			e. Set the megacycle and kilocycle selectors on the control unit to 110.20. Connect the OHMS lead of ME–26(*)/U to pin B of J4.	*e.* ME–26(*)/U should indicate 0 ohm.
			f. Connect the OHMS lead of ME–26(*)/U to pin E of J4.	*f.* ME–26(*)/U should indicate 0 ohm.
			g. Connect the OHMS lead of ME–26(*)/U to pin F of J4.	*g.* ME–26(*)/U should indicate 0 ohm.
			h. Connect the OHMS lead of ME–26(*)/U to pin S of J4.	*h.* ME–26(*)/U should indicate 0 ohm.
			i. Set the megacycle and kilocycle selectors on the control unit to 110.40. Connect the OHMS lead of ME–26(*)/U to pin R of J4.	*i.* ME–26(*)/U should indicate 0 ohm.

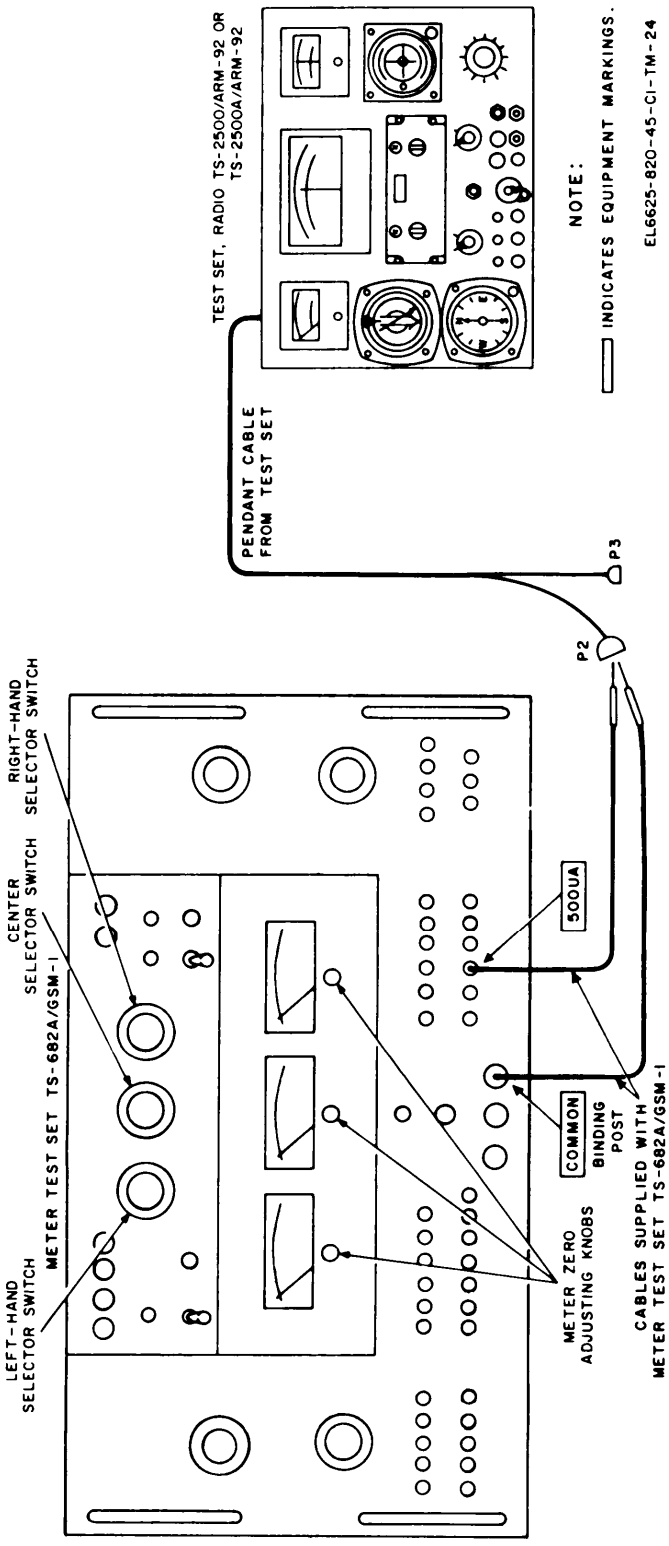


Figure 4-7. Meter movement accuracy test.

Checkpoint	Performance standard
kilocycle selectors to 108.00 VOL control on control unit set fully clockwise.	light. The 26 VAC PWR and LOC PWR lamps on the aid box light. The control unit panel lamps light. The 1.0 FREQ SELECT (MC) lamps A and D on the aid box light. The 0.1 FREQ SELECT (MC) lamps B and E on the aid box light. The 0.01 FREQ SELECT (MC) lamp B on the aid box lights. The FLAG meter indicates 250 microamperes ±15. The DEVIATION meter indicates 75 microamperes ±5 to the right of 0. The TO-FROM meter indicates 500 microamperes ±25 to the left of 0. TS-585A/U indicates 100 milliwatts ±15.
(3) Megacycle and kilocycle selectors set to 109.05.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and E, and 0.1 FREQ SELECT (MC) lamps B and E light.
(4) Megacycle and kilocycle selectors set to 110.10.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps B and E, 0.1 FREQ SELECT (MC) lamps A and B, and 0.01 FREQ SELECT (MC) lamp B light.
(6) Megacycle and kilocycle selectors set to 111.15.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and B, and 0.1 FREQ SELECT (MC) lamps A and B light.
(6) Megacycle and kilocycle selectors set to 112.20.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and C, 0.1 FREQ SELECT lamps (MC) A and C, and 0.01 FREQ SELECT lamp (MC) B light.
(7) Megacycle and kilocycle selectors set to 113.25.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps B and C, 0.1 FREQ SELECT lamps (MC) A and C light.
(8) Megacycle and kilocycle selectors set to 114.30.	The LOC PWR, 26 VAC PFR, 1.0 FREQ SELECT (MC) lamps B and D, 0.1 FREQ SELECT lamps (MC) B and C, and 0.01 FREQ SELECT (MC) lamp B, and lamp lights.
(9) Megacycle and kilocycle selectors set to 115.36.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps C and D, 0.1 FREQ SELECT (MC) lamps B and C light.
(10) Megacycle and kilo cycle selectors se to 116.40.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps C and E, 0.1 FREQ SELECT (MC) lamps B and D, and 0.01 FREQ SELECT (MC) lamp B light.
(11) Megacycle and kilocycle selectors set to 117.45.	The LOC PWR, 1.0 FREQ SELECT (MC) lamps D and E, and 0.1 FREQ SELECT (MC) lamps B and D. light.
(12) Megacycle and kilocycle selectors set to 118.50.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and D, 0.1 FREQ SELECT (MC) lamps B, C, and D, 0.01 lamp B, and COMM lamp light.
(13) Megacycle and kilocycle selectors set to 119.56.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and E, 0.1 FREQ SELECT (MC) lamps C and D, and COMM lamp light.
(14) Megacycle and kilocycle selectors set to 120.60.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps B and E, 0.1 FREQ SELECT (MC) lamps C and E, 0.01 FREQ SELECT (MC) lamp B, and COMM lamp light.
(15) Megacycle and kilocycle selectors set to 121.65.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and B, 0.1 FREQ SELECT (MC) lamps C and E, and COMM lamp light.

Checkpoint	Performance standard
(16) Megacycle and kilocycle selectors set to 122.70.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps A and C, 0.1 FREQ SELECT (MC) lamps D and E, 0.01 FREQ SELECT (MC) lamp B, GS/LOC ON lamp, and COMM lamp light.
(17) Megacycle and kilocycle selectors set to 123.76.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps B and C, 0.1 FREQ SELECT (MC) lamps D and E, and COMM lamp light.
(18) Megacycle and kilocycle selectors set to 124.80.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps B and D, 0.1 FREQ SELECT (MC) lamps A and D, 0.01 FREQ SELECT (MC) lamp B, and COMM lamp light.
(19) Megacycle and kilocycle selectors set to 125.86.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps C and D, 0.1 FREQ SELECT (MC) lamps A and D, and COMM lamp light.
(20) Megacycle and kilocycle selectors set to 126.90.	The LOC PWR, 26 VAC PWR, 1.0 FREQ SELECT (MC) lamps C and E, 0.1 FREQ SELECT (MC) lamps A and E, 0.01 FREQ SELECT (MC) lamp B, GS/LOC ON lamp, and COMM lamp light.
(21) Megacycle and kilocycle selectors set to 126.95.	The LOC PWR, 26 VAC, PWR, 1.0 FREQ SELECT (MC) lamps C and E, 0.1 FREQ SELECT (MC) lamps A and E, and COMM lamp light.
(22) TS-585A/U connected to the AUDIO terminals on the test ret.	No less than 25 milliwatts indicated on TS–585A/U.
(23) VOL control on the control unit set fully counterclockwise	Zero Milliwatts indicated on TS-585A/U.
(24) Power switch on the control unit set to TEST.	TEST lamp on the aid box lights.

c. OBS Indicator and Test Set Precision BEARING Test.

Checkpoint	Performance standard
(1) OBS indicator adjusted for a null indication on AN/USM-140A.	300° should be indicated on the OBS indicator.
(2) BRG-OBS switch set to BRG, and the BEARING switch set to 300.	The null indication on AN/USM-140 will not change.
(3) TS-2500A/ARM-92 only.	
(a) Indicator test set SYNCHRO SELECTOR on EZ SYNCHRO METER zeroed.	*(a)* 297 to 300° indicated on the OBS indicator.
(b) OBS course index rotated counterclockwise.	*(b)* Indicator test set SYNCHRO METER deflects to the right.
(c) Indicator test set SYNCHRO SELECTOR on EZ, SYNCHRO METER zeroed.	*(c)* 27 to 33° indicated on OBS indicator.
(d) OBS course index rotated counterclockwise.	*(d)* Indicator test set SYNCHRO METER deflects to the left
(4) TS-2500A/ARM-92 only.	
(a) AC voltages read for each setting of test set BEARING switch.	Voltage within limits set in test procedure,

d. Test Set COMPASS SIMULATOR and Indicator, RMI ID-250A/ARN Test.

Checkpoint	Performance standard
(1) VOR/LOC-GLIDE SLOPE switch set to VOR/LOC, megacycle and kilocycle selectors set to 108.00, and the power	The VOR/LOC DC, VOR/LOC AC, and GS DS lamps on the test set light. The 26 VAC PWR, LOC PWR, 1.0 FREQ SELECT (MC) lamps A and D, 0.1 FREQ SE-

Checkpoint	Performance standard
switch set to PWR.	LECT (MC) lamps B and E, and 0.1 FREQ SELECT (MC) lamp B on the aid box light. The FLAG meter indicates 250 microamperes ±15. The DEVIATION meter indicates 75 microamperes ±5 to the right of 0. The TO–FROM meter indicates 500 microamperes ±25 to the left of 0.
(2) Rotate the COMPASS SIMULATOR.	RMI card follows the COMPASS SIMULATOR within 2°.
(3) Set the COMPASS SIMULATOR to N.	RMI needle number 1 indicates 180° ±1. RMI card indicates 0° ±1.
(4) Press, and then release, the SERVO AMP TEST pushbutton switch.	The FLAG meter indicates 0 with the SERVO AMP TEST pushbutton switch pressed, and 250 microampere ±15 with the SERVO AMP TEST pushbutton released.

e. Glide-Slope Frequency Information Test.

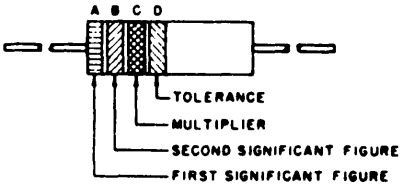
Checkpoint	Performance standard
(1) Power switch set to OFF. Megacycle and kilocycle selectors set to 108.00. Resistance between J of P2 and P of J4.	0 ohm.
(2) Resistance between J of P2 and G of J4.	0 ohm.
(3) Resistance between J of P2 and D of J4.	0 ohm.
(4) Resistance between J of P2 and A of J4.	0 ohm.
(5) Megacycle and kilocycle selectors set to 110.20. Resistance between J of P2 and B of J4.	0 ohm.
(6) Resistance between J of P2 and E of J4.	0 ohm.
(7) Resistance between J of P2 and F of J4.	0 ohm.
(8) Resistance between J of P2 and S of J4.	0 ohm.
(9) Megacycle and kilocycle selectors set to 110.40. Resistance between J of P2 and R of J4.	0 ohm.

f. Meter Movement Accuracy Tests.

Checkpoint	Performance standard
(1) The COMMON post of TS–682A/ GSM-1 connected to b of P2, and the 500 UA current jack connected to a of P2. Output of the TS-682A/ GSM-1 set to 500 microampere.	The FLAG meter indicates 500 microamperes ±10.
(2) The COMMON post of TS-682A/ GSM-1 connected to Z of P2, and the 1MA current jack connected to Y of P2. output of the TS-682A/ GSM–1 is set to 1 milliampere.	The TO-FROM meter indicates 1,000 microarnperes ±20.
(3) The COMMON post of TS-682A/ GSM-1 connected to m of P2, and the 200 UA current pack connected to n of P2. Output of the TS-682A/ GSM-1 set to 150 microamperes.	The DEVIATION meter indicates 150 microamperes ±3 to the left of 0.
(4) The COMMON post of TS-682A/ GSM-1 connected to n of P2 and the 200 UA current jack connected to m of P2. Output of the TS-682A/ GSM-1 set to 150 microamperes.	The DEVIATION meter indicates 150 microamperes ±3 to the right of 0.

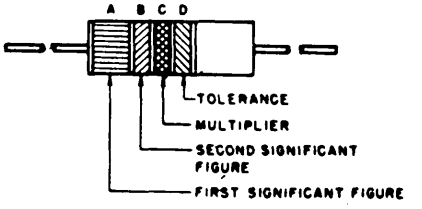
COLOR CODE MARKING FOR MILITARY STANDARD RESISTORS

COMPOSITION-TYPE RESISTORS



BAND A— Equal Width Band Signifies Composition-Type

WIREWOUND-TYPE RESISTORS

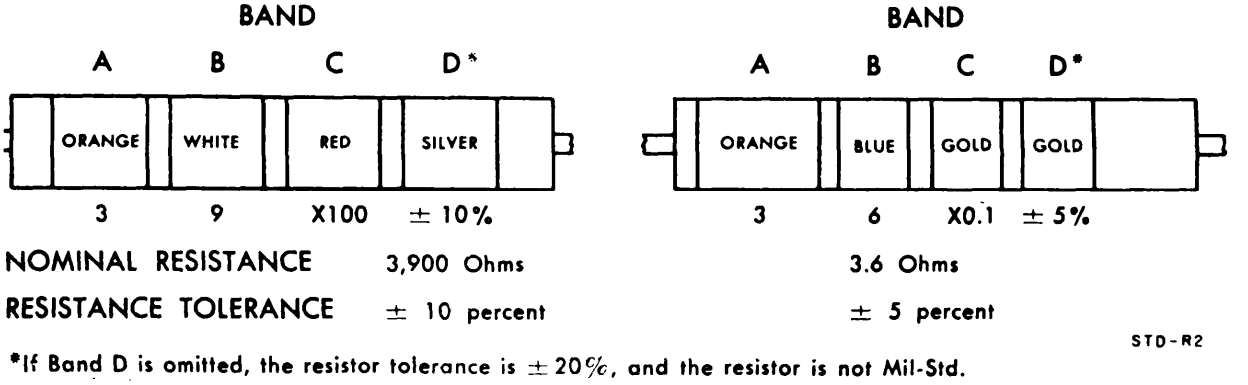


BAND A— Double Width Signifies Wire-wound Resistor

COLOR CODE TABLE

BAND A		BAND B		BAND C		BAND D*	
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)
BLACK	0	BLACK	0	BLACK	1		
BROWN	1	BROWN	1	BROWN	10		
RED	2	RED	2	RED	100		
ORANGE	3	ORANGE	3	ORANGE	1,000		
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	± 10
GREEN	5	GREEN	5	GREEN	100,000	GOLD	± 5
BLUE	6	BLUE	6	BLUE	1,000,000		
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7				
GRAY	8	GRAY	8	SILVER	0.01		
WHITE	9	WHITE	9	GOLD	0.1		

EXAMPLES OF COLOR CODING



*If Band D is omitted, the resistor tolerance is ± 20%, and the resistor is not Mil-Std.

Figure 4-8. Color-code marking for MIL-STD resistors.

APPENDIX

REFERENCES

Following is a list of applicable references available to general support and depot maintenance personnel of Test Set, Radio AN/ARM-92 and AN/ARM-92A.

TB Sig 355-1	Depot Inspection Standard for Repaired Signal Equipment.
TB Sig 355–2	Depot Inspection Standard for Refinishing Repaired Signal Equipment.
TB Sig 355-3	Depot Inspection Standard for Moisture and Fungus Resistant Treatment.
TM 11-2535B	Meter Test Set TS-682A/GSM-1.
TM 11-5017	Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.
TM 11-5826-211-50	Depot Maintenance Manual: Radio Magnetic Indicator ID-250A/ARN.
TM 11-5826–226-35	Direct Support, General Support, and Depot Maintenance Manual: Radio Receiving Sets AN/ARN-82 and AN/ARN-82A.
TM 11-6625–200–12	Operator and Organizational Maintenance Manual: Multimeters ME-26A/U, ME-26B/U, and ME-26C/U.
TM 11-6625-320-12	Organizational Maintenance Manual: Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U, ME-30C/U, and ME-30E/U.
TM 11-6625-492-12	Operator and Organizational Maintenance Manual: Test Set, Resolver AN/ASM-101.
TM 11-6625-535-15	Organizational, DS, GS, and Depot Maintenance Manual: Oscilloscope AN/USM-140A.
TM 11-6625–588–15	Organizational, DS, GS, and Depot Maintenance Manual: Modulator MD–83A/ARN, Including Repair Parts and Special Tool Lists.
TM 11-6625-820-12	Organizational Maintenance Manual: Test Set, Radio AN/ARM–92 and AN/ARM-92A.

APPENDIX B

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT REPAIR PARTS

Section I. INTRODUCTION

B-1. General

This appendix lists the quantities of repair parts, Section II, for general support and depot maintenance and is a basis for requisitioning authorized parts. It is also a guide for depot maintenance in establishing initial categories of spare parts.

Note. No special tools, test, and support equipment are required.

B-2. Explanation of Columns

An explanation of the columns is given below.

a. Sequence Number Column. This column is for sequential line item control, commencing with the first line item on the first page of the list, and continuing numerically to the last item on the page of the list.

b. For Authorized Allowance See Sequence Number Column. This column lists the numerical sequence number for items that have more than one occurrence throughout the list and refers to the first occurrence for authorized allowances.

c. Source, Maintenance, and Recoverability Code Column. Source, maintenance, and recoverability codes indicate the commodity command responsible for supply, the maintenance category at which an item is stocked, categories at which an item is installed or repaired, and whether an item is repairable or salvageable. The source code column is divided into four parts.

(1) *Column A.* This column indicates the materiel code and designates the area of responsiblity for supply. AR 310-1 defines the basic numbers used to identify the materiel code. If the part is electronic materiel responsibility, the column is left blank.

(2) *Column B.* This column indicates the point within the maintenance system where the part is available. Source codes and their explanations are as follows:

Code	Explanation
P —	Applies to repair parts that are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
X1 —	Applies to repair parts that are not procured or stocked, the requirement for which will be supplied by the use of next higher assembly or component.
X2 —	Applies to repair parts that are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.

Note. "AH" and "MD" applies to parts that require manufacture or assembly at a category higher than that authorized for installation will indicate in the source code column the higher category.

(3) *Column C.* This column indicates the lowest maintenance category authorized to install the part.

Code	Explanation
O	Organizational Maintenance
H	General Support Maintenance

(4) *Column D.* The symbol in this column indicates whether the item is repairable or salvageable. Recoverability code and its explanation is as follows:

Code	Explanation
R —	Applies to repair parts and assemblies that are economically repairable at DSU and GSU activities and normally are furnished on an exchange basis.

d. Federal Stock Number Column. This column lists the 11-digit Federal stock number.

e. Indent Code Column. This column indicates the breakdown of each given part or assembly. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies which are part of a component are listed immediately below that component, and the subassemblies which are part of an assembly are listed immediately below that assembly.

f. Description Column. The Federal item name, a five-digit manufacturer's code, and a part number are included in this column.

g. Unit of Issue Column. The unit of issue is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

h. Expendability Column. Nonexpendable items are indicated by NX. Expendable items are not annotated.

i. Quantity in Use Column. This column lists the quantity of each part found in a given assembly or component. "A/R" indicates that the item may be requisitioned "as required"; however, estimated minimum quantities may be stocked to cover immediate needs.

j. Quantity Per Equipment Column. This column lists the total quantity of each part, assembly, or component required for use in the overall equipment. Subsequent appearances of the same item in the same assembly are indicated by the letters "REF". "A/R" indicates that the item may be requisitioned "as required"; however, estimated minimum quantities may be stocked to cover immediate needs.

k. Direct Support Column. No parts authorized for stockage at this category.

l. General Support Column. This column indicates quantities of repair parts authorized for initial stockage for use in general support maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

m. Depot Column. The numbers in this column indicate quantities of repair parts authorized for depot maintenance and for initial stockage for maintenance, and for supply support to lower categories. The entries are based on the quantity required for rebuild of 100 equipments.

n. Illustrations Column.

(1) *Figure number.* This column lists the figure number used for the identification of the items in the illustration or text of the technical manual.

(2) *Item Number.* This column lists the item number used for the identification of the items in the illustration or text of the technial manual.

(3) *Reference symbol.* This column lists the reference symbols used for the identification of the items in the illustration or text of the technical manual.

B-3. Parts for Maintenance

When this equipment is used for electronic service organizations organic to the theater headquarters or communication zones to provide theater communications, those repair parts authorized up to and including general support are authorized for stockage by the organization operating this equipment

B-4. Requisitioning Information

a. The allowance factors are based on 100 equipments. In order to determine the number of parts authorized for initial stockage for the specific number of equipments supported, the following formula will be used and carried out to two decimal places.

$$\text{Specific number of equipments supported} \times \frac{\text{allowance factor}}{100} = \text{Number of parts authorized for initial dockage.}$$

b. Fractional values obtained from above computation will be rounded to whole numbers as follows :

(1) When the total number of parts authorized is less than 0.5, the quantity authorized will be zero.

(2) When the total number of parts authorized is between 0.5 and 1.0, the quantity authorized will be one.

(3) For all values above one, fractional values below 0.5 will revert to the next lower whole number and fractional value 0.5 and above will advance to the next higher whole number.

c. The quantities determined in accordance with the above computation represent the initial stockage for a 15-day period.

B-5. Location of Repair Parts

Follow the procedures given in a through c below.

a. Use the table of contents to locate the appropriate appendix of the repair parts list.

b. If the figure number, item number and/or reference designation is available, locate the item by scrutiny of columns 14, 15, and/or 16 of the repair parts list.

c. If the figure number, item number and/or reference designation is not known, check the description column (column 6) in the repair parts list to locate the part.

SECTION II. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A001						6625-999-5118	A	TEST SET, RAD AN/ARM-92 13499: 522-4459-001 (This item is nonexpendable)			-					2-2		
A002			AH	H	R	6625-944-9750	B	CASE ASSY, TOP CW-878/ARM-92 13499: 762-1492-001	EA	NX	1	1						
A003			X2	H			C	CASE, TOP 74284: 021-0381-020	EA		1	1						
A004			AH	O	R	6625-930-8064	C	WIRING HARNESS AIRCFT TS-2501/ARM-92 13499: 758-5434-001	EA	NX	1	1						
A005			X2	H			D	PANEL ASSY 13499: 758-5434-003	EA		1	1				2-6		
A006			X2	H			E	PANEL 13499: 762-1663-003	EA		1	1				2-6		
A007			P	O		6240-155-7836	E	LAMP 96906: MS25237-327	EA		17	26		5.6	300.0	2-6		DS1 thru DS17
A008			P	H		6210-995-4297	E	HOLDER, LAMP 72619: 162-8430-9	EA		17	20		4.6	60.0	2-7		XDS1 thru XDS17
A009			P	O		6210-892-4386	E	LENS, RED 72619: 162-931	EA		17	20		1.4	60.0	2-6		
A010			P	H		5935-685-9861	E	CONNECTOR 77820: PT02A12-10P	EA		1	1		0.5	3.0	2-6		J1
A011			P	H		5935-617-5387	E	CONNECTOR 09922: BT02A20-41P	EA		1	2		0.8	6.0	2-6		J2
A012			X2	H			E	VARNISH, OIL-BLUE 08800: 7526	GA		AR	AR						
A013			MD	H			E	BOARD ASSY, WIRED 13499: 758-5434-004	EA		1	1				2-7		
A014			P	H		5961-079-1698	F	DIODE 07688: 1N961B	EA		1	1		0.5	3.0	2-7		CR1
A015			P	H		5905-965-5558NJ	F	RESISTOR 81349: RN55D1962F	EA		1	1		0.5	3.0	2-7		R2

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A016			P	H		5905-965-9116	F	RESISTOR 81349; RN55D3322F	EA		1	1		0.5	3.0	2-7		R5
A017			P	H		5905-965-9052AU	F	RESISTOR 81349; RN55D1002F	EA		1	1		0.5	3.0	2-7		R6
A018			P	H		5905-681-9969	E	RESISTOR 81349; RC07GF332J	EA		1	1		0.5	3.0	2-7		R8
A019			X2	H		5940-204-8298	F	TERMINAL BOARD 88245; 1180	EA		1	2				2-7		TB1
A020			MD	H			E	BOARD ASSY, WIRED 13499; 758-5434-005	EA		1	1				2-7		
A021			P	H		5905-988-2317	F	RESISTOR 81349: RN60D1001F	EA		2	2		0.8	6.0	2-7		R1, R4
A022			P	H		5905-965-9118AU	F	RESISTOR 81349; RN55D5110F	EA		1	1		0.5	3.0	2-7		R3
A023			P	H		5905-279-1757	F	RESISTOR 81349; RC20GF152J	EA		1	1		0.5	3.0	2-7		R7
A024	A019					5940-204-8298	F	TERMINAL BOARD 88245; 1180	EA		1	Ref				2-7		TB2
A025			X2	H		5305-054-5648	E	SCREW 96906; MS51957-14	EA		8	20				2-6		
A026			X2	H		5310-042-9609	E	WASHER, LOCK 96906; MS35338-78	EA		8	16				2-7		
A027			X2	H			E	SCREW 77250; P343-0386-00	EA		4	6				2-6		
A028			X2	H		5310-685-2791	E	NUT 77250; P313-0132-00	EA		8	33				2-7		
A029			X2	H		4020-656-1257	E	TAPE 82110; 18H	FT		AR	AR				2-7		
A030			X2	H		5970-729-3351	E	TUBING, ELEC 81851: TEFTW22B	FT		1	1				2-7		
A031			X2	H		6145-623-7224	E	WIRE, ELEC 90484; WTE730A2	FT		2	38				2-7		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A032			X2	H			E	WIRE, ELEC 90484; WTE730A915	FT		1	20				2-7		
A033			X2	H		6145-754-8057	E	WIRE, ELEC 90484; WTE730A0	FT		2	41				2-7		
A034			X2	H			E	WIRE, ELEC 90484; WTE730A902	FT		1	18				2-7		
A035			X2	H			E	WIRE, ELEC 90484; WTE730A926	FT		1	10				2-7		
A036			X2	H			E	WIRE, ELEC 90484; WTE730A916	FT		1	10				2-7		
A037			X2	H			E	WIRE, ELEC 90484; WTE730A93	FT		1	18				2-7		
A038			X2	H			E	WIRE, ELEC 90484; WTE730A92	FT		1	18				2-7		
A039			X2	H			E	WIRE, ELEC 90484; WTE730A91	FT		1	19				2-7		
A040			X2	H			E	WIRE, ELEC 90484; WTE730A90	FT		1	19				2-7		
A041			X2	H		6145-548-0969	E	WIRE, ELEC 90484; WTE730A9	FT		1	16				2-7		
A042			X2	H			E	WIRE, ELEC 90484; WTE730A905	FT		1	18				2-7		
A043			X2	H			E	WIRE, ELEC 90484; WTE730A925	FT		1	10				2-7		
A044			X2	H			E	WIRE, ELEC 90484; WTE730A913	FT		1	21				2-7		
A045			X2	H			E	WIRE, ELEC 90484; WTE730A906	FT		1	15				2-7		
A046			X2	H			E	WIRE, ELEC 90484; WTE730A912	FT		1	20				2-7		
A047			X2	H		6145-754-8058	E	WIRE, ELEC 90484; WTE730A3	FT		1	23				2-7		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A048			X2	H		6145-557-3591	E	WIRE, ELEC 90484; WTE730A4	FT		1	18				2-7		
A049			X2	H		6145-623-7225	E	WIRE, ELEC 90484; WTE730A5	FT		1	18				2-7		
A050			X2	H		6145-578-6824	E	WIRE, ELEC 90484; WTE730A6	FT		1	18				2-7		
A051			X2	H		6145-578-6975	E	WIRE, ELEC 90484; WTE730A7	FT		1	18				2-7		
A052			X2	H			E	WIRE, ELEC 90484; WTE730A95	FT		1	18				2-7		
A053			X2	H			E	WIRE, ELEC 90484; WTE730A923	FT		1	10				2-7		
A054			X2	H			E	WIRE, ELEC 90484; WTE730A903	FT		1	18				2-7		
A055			X2	H		6145-581-9324	E	WIRE, ELEC 90484; WTE730A1	FT		1	21				2-7		
A056			X2	H			E	WIRE, ELEC 90484; WTE730A96	FT		1	17				2-7		
A057			X2	H			E	WIRE, ELEC 90484; WTE730A935	FT		1	10				2-7		
A058			X2	H			E	WIRE, ELEC 90484; WTE730A936	FT		1	10				2-7		
A059			X2	H		6145-578-6978	E	WIRE, ELEC 90484; WTE730A8	FT		1	25				2-7		
A060			X2	H		6145-160-4775	E	WIRE, ELEC 70567; 00702-1322	FT		2	3				2-7		
A062			X2	H			D	BOX, MOD 13499; 762-1663-001	EA		1	1				2-6		
A067			X2	H			D	COVER, MOD 13499; 762-1663-002	EA		1	1						
A072	A026					5310-042-9609	D	WASHER, LOCK 96909; MS35338-78	EA		6	Ref				2-6		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A073			MD	H			D	PLATE, IDENT 13499; 762-1711-002	EA		1	1				2-6		
A074			X2	H		5305-054-5635	D	SCREW 96906; MS51957-1	EA		2	4				2-6		
A075			X2	H		5340-264-7182	D	BUMPER, RUBBER 75543; 747R	EA		4	4						
A076			X2	H		5305-054-6653	D	SCREW 96906; MS51957-29	EA		4	4						
A077			X2	H		5310-262-6105	D	NUT, HEX 77250; P313-0045-00	EA		4	16						
A078			X2	H		5310-616-3555	D	WASHER, LOCK 96906; MS35333-71	EA		4	9						
A081			X2	H		5305-054-5647	D	SCREW 96906; MS51957-13	EA		6	14				2-6		
A084			X2	H			C	HOLDER 13499; 762-1559-001	EA		1	1						
A100			X2	H			C	ADHESIVE 71984; RTV732TRANSLUCENT	EA		AR	AR						
A101			MD	H			C	NAMEPLATE 13499; 762-1712-001	EA		1	1						
A102			MD	H			C	NAMEPLATE 13499; 762-1711-001	EA		1	1						
A103			X2	H		5320-817-0728	C	RIVET, TUBULAR 96906; MS16535-53	EA		4	4						
A104			X2	H			B	CASE ASSY, BOTTOM 13499; 762-1555-001	EA		1	1				2-2		
A105			X2	H			C	BRACKET 13499; 762-1553-001	EA		1	2				2-2		
A109	A100						C	ADHESIVE 71984, RTV732 TRANSLUCENT	EA		AR	Ref						
A110			X2	H			C	CASE, BOTTOM 13499; 762-1555-004	EA		1	1				2-2		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A111			X2	H			C	COVER, STOWAGE 13499; 762-1565-002	EA		1	1				2-2		
A118			X2	H			C	BRACKET DIVIDER 13499; 762-1564-002	EA		1	1				2-2		
A119			X2	H			D	BRACKET 13499; 762-1564-001	EA		1	1				2-2		
A120			X2	H		5325-587-8476	D	GROMMET 96906; MS21266-2N	EA		AR	AR				2-2		
A121			P	H		5325-171-4365	C	RECEPTACLE 71286; 212-12N	EA		1	1		0.4	2.0	2-2		
A122			X2	H		5320-584-0672	C	RIVET 96906; MS20426AD3-6	EA		2	2				2-2		
A123			X2	H		5310-857-5547	C	NUT 96906; MS21044D06	EA		11	11				2-2		
A124			X2	H		5305-054-6652	C	SCREW 96906; MS51957-28	EA		11	11				2-2		
A126			AH	O	R	6625-926-4420	B	TEST SET TS-2500/ARM-92 13499; 762-1676-001	EA	NX	1	1				2-3		
A127			X2	H			C	PANEL 13499; 762-1554-002	EA		1	1				2-3		
A129			P	H		5325-937-4382	D	RECEPTACLE 13499; 762-1556-001	EA		2	2		0.8	6.0	2-3		
A130	A106					5310-866-3506	D	NUT, CLINCH 72962; F12NCFMA2-62	EA		8	Ref				2-3		
A131			AH	O	R	6625-944-9758	C	CABLE ASSY CX-11568 ARM-92 13499; 762-1493-001	EA	NX	1	1				2-3		
A132			P	H		5935-539-2659	D	CONNECTOR 96906; MS3106A14S5S	EA		1	2		0.8	6.0	2-3		P1
A133			X2	H		5935-666-4860	D	CLAMP 96906; MS3057-6	EA		1	1				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A134			X2	H		5970-840-4813	D	TUBING, ELEC 75037; 3003TEMFLEX105CLR12	FT		1	1				2-3		
A135			X2	H		5970-856-1463	D	SLEEVING, ELEC 81851; VS3-0	FT		8	8				2-3		
A136	A134						D	TUBING, ELEC 75037; 3003TEMFLEX105CLR12	FT		1	Ref				2-3		
A137			X2	H			D	WIRE, ELEC 90484; BUB728N8	FT		9	9				2-3		
A138			X2	H		6145-542-6194	D	WIRE, ELEC 90484; BUB728N0	FT		9	9				2-3		
A139			X2	H		6145-669-6710	D	WIRE, ELEC 90484; BUB728N9	FT		9	9				2-3		
A140			X2	H		6145-803-0663	D	WIRE, ELEC 90484; BUB728N2	FT		9	9				2-3		
A144			X2	H			C	BRACKET ASSY 13499; 762-1707-001	EA		1	1				2-3		
A145			X2	H		5305-054-6651	D	SCREW, MACH 96906; MS51957-27	EA		1	8				2-3		
A146			MD	H			D	BRACKET 13499; 762-1661-000	EA		1	1				2-3		
A147			P	H		5935-149-3427	D	CONNECTOR 96906; MS3102A14S5P	EA		1	1		0.5	3.0	2-3		J5
A148			X2	H		5305-054-5649	D	SCREW, MACH 96906; MS51957-15	EA		4	4				2-3		
A149	A028					5310-685-2791	D	NUT, HEX 77250; P313-0132-00	EA		14	Ref				2-3		
A150			X2	H		5310-208-4662	D	NUT, HEX 77250; P313-0062-00	EA		1	6				2-3		
A151			X2	H		5310-595-7154	D	WASHER, LOCK 78189; 1720-02	EA		1	7				2-3		
A152	A027						D	SCREW, MACH 77250; P343-0386-00	EA		2	Ref				2-4		

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SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A153	A077					5310-262-6105	D	NUT, HEX 77250; P313-0045-00	EA		5	Ref				2-3		
A154			X2	H		5310-167-0874	D	WASHER, LOCK 81350; AN936A3	EA		2	2				2-4		
A155			X2	H			D	POST, AL 13499; 540-9041-000	EA		2	2				2-4		
A156	A081					5305-054-5647	D	SCREW, MACH 96906; MS51957-13	EA		5	Ref				2-4		
A157			X2	H			D	WASHER, LOCK 96906; MS35333-70	EA		17	28				2-4		
A158			X2	H		5940-061-0050	D	STANDOFF 91663; RTMT16M	EA		1	1				2-4		
A159			P	H		5950-903-4357	D	TRANSFORMER 97315; BC3258	EA		1	1		0.5	3.0	2-3		T1
A160			P	H		5950-738-9448	D	TRANSFORMER 73386; 36747	EA		1	1		0.5	3.0	2-3		T2
A161			P	H		5945-500-7924	D	RELAY 77523; 22700-20	EA		1	1		0.5	3.0	2-3		K1
A162			P	H		5945-685-9205	D	RELAY 77523; 22700-19	EA		1	1		0.5	3.0	2-3		K2
A163			X2	H		5940-171-0156	D	TERMINAL BOARD 71785; 1513	EA		1	1				2-4		TB2
A164			X2	H			D	TERMINAL BOARD 13499; 762-1677-000	EA		1	1				2-4		TB1
A165			X2	H			E	TERMINAL STRIP 13499; 762-1677-001	EA		1	1				2-4		
A166			X2	H			E	TERMINAL 95264; 45503	EA		26	26				2-4		
A167			P	H		5905-681-1197	D	RESISTOR, VAR 81349; RA20LASB102A	EA		1	1		0.5	3.0	2-4		R1
A168			P	H		5905-577-7504	D	RESISTOR 81349; RN60D1211F	EA		1	1		0.5	3.0	2-4		R2

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SEQUENCE NUMBER	PER AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A169			P	H		5905-[illegible]-0897	D	RESISTOR 81349; RN60D3740F	EA		1	1		0.5	3.0	2-4		R3
A170			P	H		5905-683-2238	D	RESISTOR 81349; RC07GF103J	EA		1	1		0.5	3.0	2-4		R4
A171			P	H		5905-905-9356	D	RESISTOR 81349; RL32S271G	EA		1	1		0.5	3.0	2-5		R5
A172			P	H		5905-573-1489	D	RESISTOR 81349; RL07S472J	EA		2	2		0.8	6.0	2-5		R6, R7
A173A			P	H		5961-892-0889	D	DIODE 81349; JAN-1N938	EA		1	1		0.5	3.0	2-5		CR1
A174			P	H		5961-617-4347	D	DIODE 07688; 1N645	EA		1	1		0.5	3.0	2-4		CR2
A175			X2	H		5340-598-0296	D	CLAMP 09922; HP7N	EA		1	1				2-3		
A177	A078					5310-616-3555	D	WASHER, LOCK 96906; MS35333-71	EA		5	Ref				2-3		
A178			X2	H			D	TERMINAL LUG 78189; 2104-04-01-2520N	EA		2	2				2-3		
A179	A029					4020-656-1257	C	TAPE 82110; 18H	FT		AR	Ref				2-4		
A180			AH	O	R	5826-920-7107	C	CONTROL C-6873/ARN-82 13499; 522-4408-001	EA	NX	1	1				2-2		
A186			P	H		3020-944-8084	D	PLATE, GEAR-FR 13499; 761-8803-001	EA		1	1		0.4	2.0	5-8		
A187			X1				E	PLATE, GEAR-FR 13499; 763-6120-001	EA		1	1				5-8	33	
A188			X1			5325-281-6331	E	STUD 72794; PF3 1-2CADPL	EA		4	4				5-8		
A189			X1			5340-201-0272	E	SPRING, HEL. 72794; PS3 1-2CADPL	EA		4	4				5-8		
A190			X1			5325-291-9360	E	CUP 72794; PC3 1-2CADPL	EA		4	4				5-8		

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SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A191			X1				E	BEARING, BALL 13499; 553-8762-002	EA		2	2				5-8		
A192			X2	H		5310-894-0226	E	NUT, SELF-LKG 72962; F22NCFMA2-40	EA		1	3				5-8		
A193			P	H		5355-926-5294	D	KNOB ASSY 13499; 553-8755-002	EA		2	2		0.5	6.0	5-8		
A194			X1				E	KNOB-COAXIAL 13499; 553-8748-002	EA		1	2				5-8	4, 12	
A195			X1				E	SKIRT, KNOB 13499; 553-8754-002	EA		1	2				5-8		
A196			X1			8040-877-9872	E	ADHESIVE 71984; SILASTICRTV731-50Z	EA		AR	AR				5-8		
A197			X2	H			D	PLATE 13499; 761-8804-001	EA		1	1				5-8		
A198			X2	H			E	PLATE, RETAINING 13499; 763-6118-001	EA		1	1				5-8	181	
A199	A192					5310-894-0226	E	NUT, SELF-LKG 72962; F22NCFMA2-40	EA		2	REF				5-8		
A200			P	H		3020-945-0022	D	GEAR, SPUR 13499; 761-8805-001	EA		2	2		0.5	6.0	5-8		
A201			X1				E	SHAFT, GEAR 13499; 761-0217-002	EA		1	2				5-8	126, 127	
A202			X1				E	GEAR, SPUR 13499; 763-6104-001	EA		1	2				5-8		
A203			P	H		5930-947-6156	D	SWITCH, ROTARY 15909; 38KM3C500M	EA		1	1		0.7	5.0	5-8	38	
A204	A007					6240-155-7836	D	LAMP, INCAND 96906; MS25237	EA		2	REF				5-8	8, 18	DS1, 2
A205			P	H		6210-083-8503	D	LAMPHOLDER 08817; 855029-0	EA		2	2		0.8	6.0	5-8	6, 16	XDS1, 2

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A206			P	H			D	LIGHT, INDICATOR 08817; 855890R	EA		2	2		0.8	6.0	5-8	191	
A207			X2	H		5940-682-9416ZX	D	TERMINAL LUG 77147; SPL4040-4HOTTINNED	EA		1	1				5-8	192	
A208			X2	H		5310-261-7549	D	WASHER, LOCK 79807; 310-3340-000	EA		12	12				5-8	193	
A209			X2	H		5310-622-1724	D	NUT, SELF-LKG 72962; 68-1660-26	EA		1	1				5-8	48	
A210			X2	H		5310-840-2658	D	NUT, SELF-LKG 72962; 68-1660-40	EA		4	10				5-8	134, 174	
A211			X2	H			D	NUT, HEX 77250; P334-0257-00	EA		2	2				5-8	41, 52	
A212			X2	H			D	SETSCREW 08664; 335-0021-00	EA		8	8				5-8	2, 3, 5, 11, 13, 15	
A213			X2	H		5305-705-3934	D	SETSCREW 96906; MS51053-412	EA		4	4				5-8	42, 43, 49, 50	
A214			X2	H		5305-770-2533	D	SCREW, MACH 96906; MS51959-13	EA		4	5						
A215			X2	H		5305-764-2966	D	SCREW, MACH 96906; MS51959-2	EA		1	1				5-8	26	
A216			X2	H			D	SCREW, MACH 77250; P343-0020-00	EA		1	1				5-8	9	
A217	A025					5305-054-5648	D	SCREW, MACH 96906; MS51957-14	EA		6	REF						
A218			X2	H		5305-879-2366	D	SCREW, MACH 77250; P347-0006-00	EA		8	8						
A219			X2	H		5305-687-6267	D	SCREW, MACH 77250; P347-0020-00	EA		6	6				5-8	21	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A220			X2	H		5305-802-2456	D	SCREW, MACH 77250; P347-0033-00	EA		4	4				5-8	27, 29	
A221	A151					5310-595-7154	D	WASHER, LOCK 78189; 1720-02	EA		2	REF				5-8	46, 60	
A222			X2	H			D	WASHER, LOCK 78189; 1214-05	EA		2	2				5-8	40, 53	
A223			P	H		5905-933-3471	D	RESISTOR, VAR 01121; GA2G032S501TZ	EA		1	1		0.2	3.0	5-8	55	R1
A224			X2	H		5310-684-9760	D	POST, ELEC-MECH 13499; 540-9041-003	EA		4	4				5-8	35, 58	
A225			X2	H			D	POST, ELEC-MECH 13499; 544-3428-002	EA		4	4				5-8	34, 61	
A226			X2	H			D	WASHER 13499; 548-9537-003	EA		1	1				5-8	10	
A227			X2	H			D	KNOB-BAR 13499; 549-3468-002	EA		2	2				5-8	1, 14	
A228			X2	H			D	GEAR, SPUR-POT 13499; 553-8749-002	EA		2	2				5-8	44, 51	
A229			X2	H			D	MASK, DIAL 13499; 553-9588-002	EA		1	1				5-8	23	
A230			X2	H			D	SHIELD, MASK 13499; 553-9605-002	EA		1	1				5-8	47	
A231			X2	H			D	PANEL, LIGHTING 13499; 763-6101-001	EA		1	1				5-8	19	
A232			X2	H			D	PLATE, GEAR 13499; 763-6109-001	EA		2	2				5-8	39, 54	
A233			X2	H			D	COVER, CONTROL 13499; 763-6119-001	EA		1	1				5-8	189	
A234	A012						D	VARNISH 08800; 7526	GA		AR	REF				5-8		
A235			AH	H	R		D	CONTROL SUBASSY 13499; 761-8806-001	EA		1	1				5-8		

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SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A236			P	H		5355-944-8081	E	DIAL, CONTROL 13499; 761-8807-001	EA		1	1		0.2	2.0	5-8		
A237			X1				F	DIAL, CONTROL 13499; 756-2431-002	EA		1	1				5-8		
A238			X1				G	GEAR, SPUR 13499; 553-9616-003	EA		1	1				5-8	101	
A239			X1				G	DRUM, LT-DIAL 13499; 756-2449-005	EA		1	1				5-8	93	
A240			X1				G	PLATE, DRIVE 13499; 757-4536-001	EA		1	6				5-8	92	
A241			X1				F	DIAL, CONTROL 13499; 756-2433-002	EA		1	1				5-8		
A242			X1				G	BUSHING, SLV 13499; 553-9581-002	EA		1	1				5-8	90	
A243			X1				G	DRUM, LTD DIAL 13499; 756-2471-005	EA		1	1				5-8	89	
A244	A240						G	PLATE, DRIVE 13499; 757-4536-001	EA		2	REF				5-8	84, 87	
A245			X1				F	GEAR, CLUSTER 13499; 761-8808-001	EA		1	1				5-8		
A246			X1				G	GEAR, SPUR 13499; 763-6107-001	EA		1	1				5-8	104	
A247			X1				G	GEAR, SPUR 13499; 549-3430-002	EA		1	1				5-8	102	
A248			X1				G	PLATE, LKG 13499; 549-3431-002	EA		1	1				5-8	103	
A249			X2	H			E	PLATE, GEAR-LEFT 13499; 761-8809-001	EA		1	1				5-8		
A250			X2	H			F	PLATE, GEAR-LEFT 13499; 763-6116-001	EA		1	1				5-8	107	
A251			X2	H			F	PIN, SHOULDERED 13499; 549-3471-002	EA		1	1				5-8		

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SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A252			X2	H			F	STRAP, DIAL 13499; 549-3475-002	EA		1	1				5-8		
A253			X2	H		5320-828-3304	F	RIVET, TUBULAR 96906; MS16535-56	EA		1	1				5-8		
A254			X2	H			E	PLATE, GEAR-R 13499; 761-8810-001	EA		1	1				5-8		
A255			X2	H			F	PLATE, GEAR 13499; 763-6115-001	EA		1	1				5-8	70	
A256			X2	H			F	PIN, SHOULDERED 13499; 549-3470-002	EA		1	1				5-8		
A257			P	H		5355-944-9935	E	DIAL, CONTROL 13499; 761-8811-001	EA		1	1		0.2	2.0	5-8		
A258			X1				F	GEAR, SPUR-DIAL 13499; 549-3443-002	EA		1	1				5-8	77	
A259			X1				F	DIAL, CONTROL 13499; 761-8812-001	EA		1	1				5-8		
A260			X1				G	GEAR, CLUSTER 13499; 761-8813-001	EA		1	1				5-8		
A261			X1				H	GEAR, SPUR 13499; 549-3438-002	EA		1	1				5-8	78	
A262			X1				H	GEAR, SPUR 13499; 763-6105-001	EA		1	1				5-8	80	
A263			X1				H	PLATE, LOCKING 13499; 549-3439-002	EA		1	1				5-8	79	
A264			X1				G	DRUM, LT. DIAL 13499; 756-2473-005	EA		1	1				5-8	82	
A265			X1				G	SPACER, SLV. 13499; 757-4536-001	EA		1	1				5-8		
A266			X1				G	WASHER, SPRING 13499; 757-4537-001	EA		1	1				5-8	81	
A267	A240						G	PLATE, DRIVE 13499; 757-4538-001	EA		1	REF				5-8	83	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A268			X1				F	DIAL, CONTROL 13499; 756-2435-002	EA		1	1				5-8		
A269			X1				G	BUSHING, SLV 13499; 756-2436-002	EA		1	1				5-8	86	
A270			X1				G	DRUM, LT. DIAL 13499; 756-2470-005	EA		1	1				5-8	85	
A271	A240						G	PLATE, DRIVE 13499; 757-4536-001	EA		2	REF				5-8	88, 91	
A272			X2	H			E	PLATE, GEAR 13499; 761-8814-001	EA		1	1				5-8	135	
A273			X2	H			F	EYELET 90030; SE38CADPL	EA		2	2				5-8		
A274			X2	H			F	WASHER, FLAT 13499; 543-5613-003	EA		4	4				5-8		
A275			X2	H			F	BEARING 13499; 549-3482-002	EA		2	2				5-8		
A276			X2	H			F	PLATE, GEAR 13499; 763-6121-001	EA		1	1				5-8		
A277			X2	H			F	INSULATOR, BUSH 13499; 549-3484-002	EA		4	4				5-8		
A278			X2	H			F	CLIP, ELEC-LAMP 13499; 549-3483-002	EA		2	2				5-8		
A279			X2	H			F	PIN, STOP 13499; 763-6108-001	EA		1	2				5-8		
A280			X2	H			E	WHEEL, DETENT 13499; 761-8815-001	EA		1	1				5-8	141	
A281			X2	H			F	WHEEL, DETENT 13499; 763-6114-001	EA		1	1				5-8		
A282	A279						F	PIN, STOP 13499; 763-6108-001	EA		1	REF				5-8		
A283			X2	H			E	LUB. OIL 54527; 4254	EA		AR	AR				5-8		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A284	A012						E	VARNISH 08800; 7526	GA		AR	REF				5-8		
A285			X2	H			E	GREASE 80805; BCN325	EA		AR	AR				5-8		
A286			P	O		6240-272-8601	E	LAMP, INCAND. 96906; MS25237-327R	EA		2	2		2.1	100.0	5-8	138, 166	DS5, 6
A287			P	H		5930-945-0020	E	SWITCH SECTION 82104; 96804-720LR	EA		1	1		0.7	5.0	5-8	147	S2A
A288			P	H		5930-945-0019	E	SWITCH SECTION 13499; 269-2452-00	EA		1	1		0.7	5.0	5-8	160	S1
A289			P	H		5930-945-7585	E	SWITCH SECTION 76854; 253330RK	EA		1	1		0.7	5.0	5-8	149	S2B
A290			P	H		5930-945-7586	E	SWITCH SECTION 76854; 253331RK	EA		1	1		0.7	5.0	5-8	156	S1B
A291	A081					5305-054-5647	E	SCREW, MACH 96906; MS51957-13	EA		3	REF				5-8	137, 171	
A292			P	H		5930-945-0079	E	SWITCH SECTION 76854; 253341RK	EA		1	1		0.7	5.0	5-8	151	S2C
A293			P	H		5930-945-0080	E	SWITCH SECTION 76854; 253342RK	EA		1	1		0.7	5.0	5-8	158	S1A
A294			P	H		3110-100-6176	E	BALL, BEARING 43991; 309-5200-00	EA		2	2		0.8	6.0	5-8	144, 163	
A295			X2	H			E	WASHER, LOCK 96906; MS35338-77	EA		6	6				5-8	31, 119, 66	
A296	A026					5310-042-9609	E	WASHER, LOCK 96906; MS35338-78	EA		2	REF				5-8		
A297			X2	H		5310-966-5689	E	WASHER, FLAT 79807; 310-6340-00	EA		4	4				5-8		
A298	A210					5310-840-2658	E	NUT, SELF-LKG 72962; 68-1660-40	EA		6	REF				5-8	133, 179, 180	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A299			X2	H			E	NUT, HEX 95548: 334-1124-00	EA		2	2				5-8	96, 100	
A300			X2	H			E	SETSCREW 08664; 335-0010-00	EA		4	4				5-8	142, 167	
A301			X2	H		5305-638-5629	E	SETSCREW 08664; 335-0033-00	EA		4	4				5-8	123, 124, 128, 129	
A302			X2	H			E	RING, RETAINING 96906; MS16624-12	EA		4	4				5-8	74, 105, 122, 131	
A303			X2	H		5340-282-0782	E	RING, RETAINING 89462: 5100-25C	EA		2	2				5-8	62, 111	
A304			X2	H		5340-663-1245	E	RING, RETAINING 96906; MS16632-1031	EA		4	4				5-8	69, 71, 95, 108	
A305	A214					5305-770-2533	E	SCREW, MACH 96906: MS51959-13	EA		1	REF				5-8		
A306			X2	H		5305-054-5636	E	SCREW, MACH 96906: MS51957-2	EA		4	4				5-8	120, 65	
A307			X2	H			E	SCREW, MACH 77250: P343-0439-00	EA		4	4				5-8	153, 154	
A308			X2	H		5305-515-7087	E	SCREW, MACH 88044: AN500C2-10	EA		1	1				5-8	113	
A309	A025					5305-054-5648	E	SCREW, MACH 96906; MS51957-14	EA		2	REF				5-8	190	
A310			X2	H			E	SCREW, MACH 13499: 347-0267-00	EA		1	1				5-8	110	
A311			X2	H		5310-540-8275	E	SLEEVE, SPACING 13499: 541-5983-002	EA		8	8				5-8	148, 150, 157, 159	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A312			X2	H			E	SLEEVE, SPACING 13499; 541-5985-002	EA		4	4				5-8	146, 161	
A313			X2	H			E	WASHER, FLAT 13499; 545-7536-003	EA		4	8				5-8	118, 67	
A314			X2	H			E	WASHER, FLAT 13499; 545-7548-003	EA		3	3				5-8	63, 76, 112	
A315			P	H		5820-941-6838	E	GEAR, SPUR 13499; 549-3436-002	EA		2	2		0.8	6.0	5-8	106, 75	
A316			X2	H			E	SHAFT, STRAIGHT 13499; 549-3437-002	EA		1	1				5-8	64	
A317			P	H		5930-917-9866	E	DETENT, COUNTER 13499; 768-1027-001	EA		1	1		0.4	2.0	5-8	68	
A318			P	H		5826-944-8083	E	DETENT, DIAL 13499; 549-3498-003	EA		1	1		0.4	2.0	5-8	115	
A319			X2	H			E	DIAL, SCALE 13499; 553-9345-003	EA		1	1				5-8	97	
A320			X2	H			E	SPACER, SLEEVE 13499; 553-9598-002	EA		2	2				5-8	98, 99	
A321			X2	H			E	SHAFT, STRAIGHT 13499, 763-6112-001	EA		1	1				5-8	73	
A322			P	H		3020-944-9940	E	GEAR, SPUR 13499, 763-6103-001	EA		2	2		0.8	6.0	5-8	125, 130	
A323			X2	H			E	HOUSING, DETENT 13499; 763-6110-001	EA		1	1				5-8	165	
A324			X2	H			E	SHAFT, SHOULDERED 13499; 763-6117-001	EA		2	2				5-8	145, 162	
A325			X2	H			E	SPRING, HEL 13499; 763-6113-001	EA		1	1				5-8	143	
A326			P	H		5826-945-7587	E	WHEEL, DETENT 13499; 763-6114-002	EA		1	1		0.4	2.0	5-8	168	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A327			P	H		3020-852-6414	E	GEAR, CLUSTER 13499; 761-8816-001	EA		1	1		0.4	2.0	5-8	72	
A328			X1				F	GEAR 13499; 763-6102-001	EA		1	2				5-8		
A329			X1				F	BUSHING, SLV 13499; 763-6111-001	EA		1	2				5-8		
A330			X1				F	GEAR, SPUR 13499; 763-6106-001	EA		1	2				5-8		
A331			X2	H			F	WASHER, FLAT 13499; 761-5316-007	EA		1	2				5-8		
A332			P	H		3020-944-8087	E	GEAR, CLUSTER 13499; 761-8817-001	EA		1	1		0.4	2.0	5-8	94	
A333	A328						F	GEAR 13499; 763-6102-001	EA		1	REF				5-8		
A334	A329						F	BUSHING, SLV 13499; 763-6111-001	EA		1	REF				5-8		
A335	A331						F	WASHER, FLAT 13499; 761-5316-007	EA		1	REF				5-8		
A336	A330						F	GEAR, SPUR 13499; 763-6106-001	EA		1	REF				5-8		
A337			MD	H			D	WIRING HARNESS 13499; 761-8818-001	EA		1	1				5-8		
A338	A011					5935-617-5387	E	CONNECTOR 09922; BT02A20-41P	EA		1	REF				5-8	187	J1
A339			X2	H			E	WIRE, ELEC 90484; LTE734ACW0	FT		1	1						
A340			X2	H			E	WIRE; ELEC 90484; LTE734ACW1	FT		2	2						
A341			X2	H			E	WIRE, ELEC 90484; LTE734ACW2	FT		1	1						

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A342			X2	H			E	WIRE, ELEC 90484; LTE734ACW3	FT		1	1						
A343			X2	H			E	WIRE, ELEC 90484; LTE734ACW4	FT		1	1						
A344			X2	H			E	WIRE, ELEC 90484; LTE734ACW5	FT		1	1						
A345			X2	H			E	WIRE, ELEC 90484; LTE734ACW6	FT		1	1						
A346			X2	H			E	WIRE, ELEC 90484; LTE734ACW9	FT		1	1						
A347			X2	H			E	WIRE, ELEC 90484; LTE734ACW90	FT		1	1						
A348			X2	H			E	WIRE, ELEC 90484; LTE734ACW91	FT		1	1						
A349			X2	H			E	WIRE, ELEC 90484; LTE734ACW92	FT		1	1						
A350			X2	H			E	WIRE, ELEC 90484; LTE734ACW93	FT		1	1						
A351			X2	H			E	WIRE, ELEC 90484; LTE734ACW95	FT		1	1						
A352			X2	H			E	WIRE, ELEC 90484; LTE734ACW96	FT		1	1						
A353			X2	H			E	WIRE, ELEC 90484; LTE734ACW902	FT		1	1						
A354			X2	H			E	WIRE, ELEC 90484; LTE734ACW903	FT		1	1						
A355			X2	H			E	WIRE, ELEC 90484; LTE734ACW905	FT		1	1						
A356			X2	H			E	WIRE, ELEC 90484; LTE734ACW906	FT		1	1						

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A357			X2	H			E	WIRE, ELEC 90484; LTE734ACW912	FT		1	1						
A358			X2	H			E	WIRE, ELEC 90484; LTE734ACW913	FT		1	1						
A359			X2	H			E	WIRE, ELEC 90484; LTE734ACW915	FT		1	1						
A360			X2	H			E	WIRE, ELEC 90484; LTE734ACW916	FT		1	1						
A361			X2	H			E	WIRE, ELEC 90484; LTE734ACW923	FT		1	1						
A362			X2	H			E	WIRE, ELEC 90484; LTE734ACW925	FT		1	1						
A363			X2	H			E	WIRE, ELEC 90484; LTE734ACW926	FT		1	1						
A364			X2	H			E	WIRE, ELEC 90484; LTE734ACW935	FT		1	1						
A365			X2	H			E	WIRE, ELEC 90484; LTE734ACW936	FT		1	1						
A366			X2	H			E	WIRE, ELEC 90484; LTE734ACW956	FT		1	1						
A367			X2	H			E	WIRE, ELEC 90484; LTE734ACW7	FT		1	1						
A368			X2	H			E	WIRE, ELEC 90484; LTE734ACW8	FT		1	1						
A369			X2	H		6145-822-3481	E	WIRE, ELEC 90484; WTE22A	FT		1	1						
A370	A029					4020-656-1257	E	TAPE 82110; 18H	FT		12	REF						
A371			X2	H			D	WASHER 13499; 553-5130-003	EA		2	2				5-8	7, 17	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A372	A313						D	WASHER, FLAT 13499, 545-7536-003	EA		4	REF				5-8		
A373			P	H		5826-985-9171	C	INDICATOR, ID-1347/ARN-82 13499; 522-4414-001	EA		1	1		0.7	5.0	2-2		
A378			X1				D	COURSE, SEL IND 65092; 253528	EA		1	1				2-2		
A379			X1				D	FILLER, ENGRAV 08854; LAQSTIKBLK	EA		AR	AR				2-2		
A380			X1				D	PLATE, INSTR 13499; 280-3441-00	EA		1	1				2-2		
A381			X2	H			D	RIVET, BLIND 07707; AD32AB5	EA		2	2				2-2		
A382			MD	H			D	PLATE, IDENT 13499; 767-0556-00	EA		1	1				5-8	184	
A383			P	H		5826-305-3094	C	INDICATOR, ID-250A/ARN 19315; 36109-1L11A2	EA		1	1		0.7	5.0	2-2		
A384			P	H		6625-966-1958	C	SIMULATOR, COMP 24363; EI-1001-1	EA		1	1		0.7	5.0	2-2		DS4
A385			X1				D	SYNCHRO 24363; 100121	EA		1	1				3-1	21	B1
A386			X1				D	HOUSING, REAR 24363; 100102	EA		1	1				3-1	23	
A387			X2	H			D	SCREW 24363; 110104-4	EA		7	7				3-1	20, 30	
A388			X2	H			D	LOCK WASHER 24363; 210104-4	EA		7	7				3-1	19, 29	
A389			X2	H			D	CLAMP, SYNCHRO 24363; 100122	EA		3	3				3-1	18	
A390			X1				D	DIAL 24363;100118	EA		1	1				3-1	12	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A391			X2	H			D	SCREW 24363; 110102-2	EA		8	8				3-1	25	
A392			X2	H			D	LOCK WASHER 24363; 210102	EA		8	8				3-1	24	
A393			X2	H			D	GREASE 24363; 100137	EA		AR	AR				3-1		
A394			X1				D	GASKET 24363; 100127	EA		1	1				3-1	22	
A395			X1				D	COVER, FRONT 24363; 100104	EA		1	1				3-1	5	
A396			X1				D	SEAL, WINDOW 24363; 100116	EA		1	1				3-1	8	
A397			X1				D	GLASS 24363; 100123	EA		1	1				3-1	9	
A398			X2	H			D	SETSCREW 24363; 100108	EA		4	4				3-1	2, 3, 14, 15	
A399			X1				D	POINTER 24363, 100126	EA		1	1				3-1	11	
A400			X1				D	RETAINER, DIAL 24363; 100124	EA		1	1				3-1	10	
A401			X2	H			D	WASHER, SPRING 24363; 100114	EA		1	1				3-1	4	
A402			X1				D	KNOB 24363; 100113	EA		1	1				3-1	1	
A403			X1				D	SLEEVE, SHAFT 24363; 100125	EA		1	1				3-1	6	
A404			X1				D	GEAR, DRIVE 24363; 100110	EA		1	1				3-1	7	
A405			X1				D	GEAR, IDLER 24363, 100109	EA		1	1				3-1	16	

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A406			X2	H			D	STUD GEAR 24363; 100115	EA		1	1				3-1		
A407			X1				D	GASKET 24363; 100106	EA		1	1				3-1	27	
A408			X2	H			D	SLEEVING 24363; 500100-3	EA		AR	AR						
A409			X1				D	CONNECTOR 24363; 100105	EA		1	1				3-1	28	P1
A410			X2	H			D	SOLDER 24363; G00100-1	EA		AR	AR						
A411			X1				D	HOUSING, SYNCHRO 24363; 100103-1	EA		1	1				3-1	17	
A412			X1				D	GEAR, SYNCHRO 24363; 100107	EA		1	1				3-1	13	
A413			MD	H			D	NAMEPLATE 24363; 100120-1	EA		1	1				3-1	26	
A414			X2	H		5305-637-1125	C	SCREW, MACHINE 96906; MS35214-29	EA		11	11				2-2		
A415	A077					5310-262-6105	C	NUT, HEX 77250; P313-0045-00	EA		4	REF				2-2		
A416			X2	H		5305-763-7822	C	SCREW, MACH 96906; MS51959-14	EA		3	3				2-2		
A417			X2	H		5305-770-2579	C	SCREW, MACH 96906; MS51959-15	EA		4	4				2-2		
A418			P	H		6625-842-9720	C	METER 13499; 458-0572-00	EA		1	1		0.6	4.0	2-2		M1

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A419			P	H		6625-966-1933	C	METER 55026; 8185	EA		1	1		0.6	4.0	2-2		M2
A420			P	H		6625-966-1932	C	METER 55026; 8186	EA		1	1		0.6	4.0	2-2		M3
A421			P	H		5930-966-0859	C	SWITCH 76854; 164680H2	EA		1	1		0.7	5.0	2-2		S3
A422			P	H		5930-615-1383	C	SWITCH 81073; 30-1	EA		1	1		0.7	5.0	2-2		S4
A423			P	H		5930-966-0846	C	SWITCH 81073; 440001-4-2N	EA		2	2		0.7	5.0	2-2		S1, 2
A424	A009					6210-892-4386	C	LENS, RED 72619; 162-931	EA		3	REF				2-2		
A425	A008					6210-995-4297	C	HOLDER, LAMP 72619; 162-8430-9	EA		3	REF				2-2		XDS1-3
A426			P	H		5920-284-7144	C	FUSE HOLDER 71400; HKPH	EA		6	6		2.0	20.0	2-2		XF1-6
A427			P	H		5935-815-4623	C	JACK, PHONE 70674; D3649-4	EA		1	1		0.5	3.0	2-2		J3
A428			P	H			C	BINDING POST 58474; DF30BC	EA		1	1		0.5	3.0	2-2		J2
A429			P	H		5940-615-9110	C	BINDING POST 58474; DF30RC	EA		1	1		0.5	3.0	2-2		J1
A430			MD	H			C	PLATE, IDENT 13499; 762-1713-001	EA		1	1				2-2		
A431	A074					5305-054-5635	C	SCREW, MACH 96906; MS51957-1	EA		2	REF				2-2		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A432			P	H		5935-617-5388	C	CONNECTOR 08051; KPT02A14-19P	EA		1	1		0.5	3.0	2-2		J4
A433	A025					5305-054-5648	C	SCREW, MACH 96906; MS51957-14	EA		4	REF				2-2		
A434	A028					5310-685-2791	C	NUT, HEX 77250; P313-0132-00	EA		11	REF				2-2		
A437			X2	H			C	LUG, TERMINAL 77147; 4012HOTTINNED	EA		2	4						
A438			X2	H		5305-763-6963	C	SCREW, MACH 96906; MS51959-28	EA		1	1						
A439			P	H		5905-988-2314	C	RESISTOR 81349; RN60D200F	EA		1	1		0.5	3.0	2-3		R8
A440	A007					6240-155-7836	C	LAMP 96906; MS25237-327	EA		3	REF				2-2		DS1-3
A441			P	O		5920-280-4960	C	FUSE 81349; F02A250V2AS	EA		2	7		5.2	280.0	2-2		F1, 4
A442			P	O		5920-280-8342	C	FUSE 81349; F02A250V1AS	EA		4	14		8.9	560.0	2-2		F2, 3, 5, 6
A443			P	O		5355-680-1357	C	KNOB 96906; MS91528-1F2B	EA		2	2		0.8	6.0	2-2		O2 and O3
A444			P	O		5355-579-6390	C	KNOB 96906; MS91528-3F2B	EA		1	1		0.5	3.0	2-2		O4
A445			X2	H			C	CAD, DUST 77820; 10-101960-143	EA		1	1				2-2		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A446			AH	H	R		C	CABLE ASSY 13499: 762-1708-001	EA		1	1				2-3		
A447			P	H		5935-866-2255	D	CONNECTOR 77820: PT06A20-41SSR	EA		1	2		0.8	6.0	2-3		P5
A448			X2	H		5970-828-6411	D	TUBING, ELEC 81851: TEFTW24B	FT		1	4				2-3		
A449			X2	H			D	SLEEVING, ELEC 81851: VSO-O	FT		3	3				2-3		
A450	A029					4020-656-1257	D	TAPE 82110: 18H	FT		AR	REF				2-3		
A452	A051					6145-578-6975	D	WIRE, ELEC 90484: WTE730A7	FT		5	REF				2-3		
A453	A038						D	WIRE, ELEC 90484: WTE730A92	FT		5	REF				2-3		
A454			X2	H			D	WIRE, ELEC 90484: WTE730A9126	FT		5	23				2-3		
A455	A041					6145-548-0969	D	WIRE, ELEC 90484: WTE730A9	FT		5	REF				2-3		
A456	A040						D	WIRE, ELEC 90484: WTE730A90	FT		5	REF				2-3		
A457	A034						D	WIRE, ELEC 90484: WTE730A902	FT		5	REF				2-3		
A458	A056						D	WIRE, ELEC 90484: WTE730A96	FT		5	REF				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A459	A031					6145-623-7224	D	WIRE, ELEC 90484; WTE730A2	FT		10	REF				2-3		
A460	A049					6145-623-7225	D	WIRE, ELEC 90484; WTE730A5	FT		5	REF				2-3		
A461	A042						D	WIRE, ELEC 90484; WTE730A905	FT		5	REF				2-3		
A462	A037						D	WIRE, ELEC 90484; WTE730A93	FT		5	REF				2-3		
A463	A054						D	WIRE, ELEC 90484; WTE730A903	FT		5	REF				2-3		
A464	A052						D	WIRE, ELEC 90484; WTE730A95	FT		5	REF				2-3		
A465	A047					6145-754-8058	D	WIRE, ELEC 90484; WTE730A3	FT		5	REF				2-3		
A466	A032						D	WIRE, ELEC 90484; WTE730A915	FT		5	REF				2-3		
A467	A055					6145-581-9324	D	WIRE, ELEC 90484; WTE730A1	FT		5	REF				2-3		
A468	A046						D	WIRE, ELEC 90484; WTE730A912	FT		5	REF				2-3		
A469	A044						D	WIRE, ELEC 90484; WTE730A913	FT		5	REF				2-3		
A470	A039						D	WIRE, ELEC 90484; WTE730A91	FT		5	REF				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A471	A050					6145-578-6824	D	WIRE, ELEC 90484; WTE730A6	FT		5	Ref				2-3		
A472	A033					6145-754-8057	D	WIRE, ELEC 90484; WTE730A0	FT		5	Ref				2-3		
A473			X2	H			D	WIRE, ELEC 90484; STE730A9023	FT		5	22				2-3		
A476			AH	H	R		C	CABLE ASSY 13499; 762-1708-002	EA		1	1				2-3		
A477	A448					5970-828-6411	D	TUBING, ELEC 81851; TEFTW24B	FT		1	Ref				2-3		
A478	A029					4020-656-1257	D	TAPE 82110; 18H	FT		AR	Ref				2-3		
A480			P	H		5935-729-8683	D	CONNECTOR 77820; PT06A14-19SSR	EA		1	1		0.5	3.0	2-3		P6
A481			X2	H			D	SLEEVING, ELEC 81851; VS2-0	FT		3	3				2-3		
A482	A047					6145-754-8058	D	WIRE, ELEC 90484; WTE730A3	FT		5	Ref				2-3		
A483	A055					6145-581-9324	D	WIRE, ELEC 90484; WTE730A1	FT		5	Ref				2-3		
A484			X2	H			D	WIRE, ELEC 90484; WTE730A956	FT		5	14				2-3		
A485	A473						D	WIRE, ELEC 90484; WTE730A9023	FT		5	Ref				2-3		
A486	A048					6145-557-3591	D	WIRE, ELEC 90484; WTE730A4	FT		5	Ref				2-3		
A487			X2	H			D	WIRE, ELEC 90484; WTE730A9025	FT		5	14				2-3		
A490			AH	O	R		C	CABLE ASSY 13499; 762-1664-001	EA		1	1				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A491	A447					5935-866-2255	D	CONNECTOR 77820; PT06A20-41SSR	EA		1	Ref				2-3		P2
A492	A448					5970-828-6411	D	TUBING, ELEC 81851; TEFTW24B	FT		2	Ref				2-3		
A493			P	H		5935-729-8688	D	CONNECTOR 77820; PT06A12-10SSR	EA		1	1		0.5	3.0	2-3		P3
A494			X2	H		5970-284-9770	D	SLEEVING, ELEC 81851; VS7-160	FT		1	1				2-3		
A495			X2	H		5970-543-1136	D	SLEEVING, ELEC 81851; SVHC2-20-1	FT		1	1				2-3		
A496	A029					4020-656-1257	D	TAPE 82110; 18H	FT		AR	Ref				2-3		
A497			X2	H			D	TUBING 08795; RNF100-1BLK	EA		1	1				2-3		
A498			X2	H			D	SLEEVING, ELEC 81851; VS1-20	FT		7	7				2-3		
A499	A031					6145-623-7224	D	WIRE, ELEC 90484; WTE730A2	FT		18	Ref				2-3		
A500	A036						D	WIRE, ELEC 90484; WTE730A916	FT		9	Ref				2-3		
A501	A484						D	WIRE, ELEC 90484; WTE730A956	FT		9	Ref				2-3		
A502			X2	H			D	WIRE, ELEC 90484; WTE730A9123	FT		9	9				2-3		
A503	A473						D	WIRE, ELEC 90484; WTE730A9023	FT		9	Ref				2-3		
A504			X2	H			D	WIRE, ELEC 90484; WTE730A9125	FT		9	9				2-3		
A505	A487						D	WIRE, ELEC 90484; WTE730A9025	FT		9	Ref				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A506			X2	H			D	WIRE, ELEC 90484; WTE730A9026	FT		9	9				2-3		
A507	A042						D	WIRE, ELEC 90484; WTE730A905	FT		9	Ref				2-3		
A508	A047					6145-754-8058	D	WIRE, ELEC 90484; WTE730A3	FT		9	Ref				2-3		
A509	A454						D	WIRE, ELEC 90484; WTE730A9126	FT		18	Ref				2-3		
A510	A055					6145-581-9324	D	WIRE, ELEC 90484; WTE730A1	FT		9	Ref				2-3		
A511	A054						D	WIRE, ELEC 90484; WTE730A903	FT		9	Ref				2-3		
A512	A034						D	WIRE, ELEC 90484; WTE730A902	FT		9	Ref				2-3		
A513	A056						D	WIRE, ELEC 90484; WTE730A96	FT		9	Ref				2-3		
A514	A052						D	WIRE, ELEC 90484; WTE730A95	FT		9	Ref				2-3		
A515	A037						D	WIRE, ELEC 90484; WTE730A93	FT		9	Ref				2-3		
A516	A033					6145-754-8057	D	WIRE, ELEC 90484; WTE730A0	FT		18	Ref				2-3		
A517	A058						D	WIRE, ELEC 90484; WTE730A936	FT		9	Ref				2-3		
A518	A057						D	WIRE, ELEC 90484; WTE730A935	FT		9	Ref				2-3		
A519	A043						D	WIRE, ELEC 90484; WTE730A925	FT		9	Ref				2-3		
A520	A035						D	WIRE, ELEC 90484; WTE730A926	FT		9	Ref				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A521	A051					6145-578-6975	D	WIRE, ELEC 90484; WTE730A7	FT		9	Ref				2-3		
A522			X2	H			D	WIRE, ELEC 90484; WTE730A9256	FT		18	18				2-3		
A523			X2	H			D	WIRE, ELEC 90484; WTE730A9236	FT		9	9				2-3		
A524	A044						D	WIRE, ELEC 90484; WTE730A913	FT		9	Ref				2-3		
A525	A041					6145-548-0969	D	WIRE, ELEC 90484; WTE730A9	FT		9	Ref				2-3		
A526	A040						D	WIRE, ELEC 90484; WTE730A90	FT		9	Ref				2-3		
A527	A039						D	WIRE, ELEC 90484; WTE730A91	FT		9	Ref				2-3		
A528	A038						D	WIRE, ELEC 90484; WTE730A92	FT		9	Ref				2-3		
A529	A048					6145-557-3591	D	WIRE, ELEC 90484; WTE730A4	FT		9	Ref				2-3		
A530	A059					6145-578-6978	D	WIRE, ELEC 90484; WTE730A8	FT		9	Ref				2-3		
A531	A053						D	WIRE, ELEC 90484; WTE730A923	FT		9	Ref				2-3		
A532	A050					6145-578-6824	D	WIRE, ELEC 90484; WTE730A6	FT		9	Ref				2-3		
A533	A049					6145-623-7225	D	WIRE, ELEC 90484; WTE730A5	FT		9	Ref				2-3		
A534	A046						D	WIRE, ELEC 90484; WTE730A912	FT		9	Ref				2-3		
A535	A045						D	WIRE, ELEC 90484; WTE730A906	FT		9	Ref				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A536	A032						D	WIRE, ELEC 90484; WTE730A915	FT		9	Ref				2-3		
A537			X2	H			D	WIRE, ELEC 90484; WTE730A9235	FT		9	9				2-3		
A541			P	H		5935-201-7018	C	CONNECTOR 96906; MS3106A22-14S	EA		1	1		0.5	3.0	2-3		P4
A542			X2	H		5935-280-2352AU	C	CLAMP 96906; MS3057-12A	EA		1	1				2-3		
A543	A150					5310-208-4662	C	NUT, HEX 77250; P313-0062-00	EA		5	Ref						
A544	A151					5310-595-7154	C	WASHER, LOCK 78189; 1720-02	EA		4	Ref						
A546	A077					5310-262-6105	C	WASHER, LOCK 77250; P313-0045-00	EA		3	Ref						
A547	A157						C	WASHER, LOCK 96906; MS35333-70	EA		11	Ref						
A549	A132					5935-539-2659	C	CONNECTOR 96906; MS3106A14S5S	EA		1	Ref				2-3		P1
A550			X2	H		5935-280-2195	C	CLAMP 96906; MS3057-6A	EA		1	1				2-3		
A551	A037						C	WIRE, ELEC 90484; WTE730A93	FT		3	Ref				2-3		
A552	A052						C	WIRE, ELEC 90484; WTE730A95	FT		3	Ref				2-3		
A553	A034						C	WIRE, ELEC 90484; WTE730A902	FT		3	Ref				2-3		
A554	A054						C	WIRE, ELEC 90484; WTE730A903	FT		3	Ref				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A555	A059					6145-578-6978	C	WIRE, ELEC 90484; WTE730A8	FT		15	Ref				2-3		
A556	A041					6145-548-0969	C	WIRE, ELEC 90484; WTE730A9	FT		1	Ref				2-3		
A557	A044						C	WIRE, ELEC 90484; WTE730A913	FT		6	Ref				2-3		
A558	A033					6145-754-8057	C	WIRE, ELEC 90484; WTE730A0	FT		16	Ref				2-3		
A559	A031					6145-623-7224	C	WIRE, ELEC 90484; WTE730A2	FT		8	Ref				2-3		
A560	A038						C	WIRE, ELEC 90484; WTE730A92	FT		3	Ref				2-3		
A561	A039						C	WIRE, ELEC 90484; WTE730A91	FT		4	Ref				2-3		
A562	A040						C	WIRE, ELEC 90484; WTE730A90	FT		4	Ref				2-3		
A563	A045						C	WIRE, ELEC 90484, WTE730A906	FT		5	Ref				2-3		
A564	A046						C	WIRE, ELEC 90484; WTE730A912	FT		5	Ref				2-3		
A565	A042						C	WIRE, ELEC 90484; WTE730A905	FT		1	Ref				2-3		
A566	A032						C	WIRE, ELEC 90484; WTE730A915	FT		5	Ref				2-3		
A567	A060					6145-160-4775	C	WIRE, ELEC 70567; 00702-1322	FT		1	Ref				2-3		
A568	A056						C	WIRE, ELEC 90484; WTE730A96	FT		2	Ref				2-3		
A569	A042						C	WIRE, ELEC 90484; WTE730A905	FT		2	Ref				2-3		

1	2	3				4	5	6	7	8	9	10	11	12	13	14	15	16
SEQUENCE NUMBER	FOR AUTHORIZED ALLOWANCE SEE SEQUENCE NUMBER	SOURCE MAINTENANCE AND REC CODE				FEDERAL STOCK NUMBER	IDENT CODE	DESCRIPTION	UNIT OF ISSUE	EXPENDABILITY	QTY IN USE	QTY PER EQUIP	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATIONS		
		A	B	C	D											FIGURE NUMBER	ITEM NUMBER	REFERENCE SYMBOL
A570			X2	H			C	WIRE, ELEC 90484; WTE730A9356	FT		1	1				2-3		
A571	A055					6145-581-9324	C	WIRE, ELEC 90484; WTE730A1	FT		1	Ref				2-3		
A572	A047					6145-754-8058	C	WIRE, ELEC 90484; WTE730A3	FT		3	Ref				2-3		
A573	A048					6145-557-3591	C	WIRE, ELEC 90484; WTE730A4	FT		3	Ref				2-3		
A574	A049					6145-623-7225	C	WIRE, ELEC 90484; WTE730A5	FT		3	Ref				2-3		
A575	A050					6145-578-6824	C	WIRE, ELEC 90484; WTE730A6	FT		3	Ref				2-3		
A576	A051					6145-578-6975	C	WIRE, ELEC 90484; WTE730A7	FT		3	Ref				2-3		
A577	A473						C	WIRE, ELEC 90484; WTE730A9023	FT		3	Ref				2-3		
A578			X2	H		6145-838-9444	C	WIRE, ELEC 70567; 00702-1326	FT		2	2				2-3		
A579	A012						C	VARNISH 08800, 7526	GA		AR	Ref				2-3		
A580	A437						C	TERMINAL LUG 77147; 4012 HOTTINNED	EA		2	Ref				2-3		
A581	A145					5305-054-6651	B	SCREW, MACH 96906; MS51957-27	EA		7	Ref						
A582	A007					6240-155-7836	B	LAMP 96906; MS25237-327	EA		4	Ref						
A583	A441					5920-280-4960	B	FUSE 81349; F02A250V2AS	EA		5	Ref						
A584	A442					5920-280-8342	B	FUSE 81349; F02A250V1AS	EA		10	Ref						

4–7. Aid Box Test

a. Test Equipment and Materials. Multimeter ME–26(*)/U is required for the following procedure.
b. Test Connections and Conditions. Connect the equipment as shown in A, figure 4–2.
c. Procedure.

Step	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	*ME–26(*)/U* SELECTOR switch: + RANGE switch: 30 v	*TS–2500/ARM–82* VOR/LOC-GLIDE SLOPE: VOR/LOC BRG-OBS: OBS BEARING: *C–6873/ARN–82* Megacycle and kilocycle selectors: 108.00 VOL control: maximum ccw Power switch: PWR	Connect the COMMON lead of ME–26(*)/U to the anode of CR1 in the aid box. Connect the dc lead of ME–26(*)/U to the cathode of CR1.	ME–26(*)/U should indicate 10 volts dc ±0.05.
2	*ME–26(*)/U* SELECTOR switch: ohms RANGE switch: As required	*C–6873/ARN–82* Power switch: OFF	*a.* Connect the equipment as shown in figure 4–2. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin a of J2.	*a.* ME–26(*)/U should indicate 22,900 ohms ±2,290.
			b. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin X of J2.	*b.* ME–26(*)/U should indicate 0 ohm.
			c. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin n of J2.	*c.* ME–26(*)/U should indicate 0 ohm.
			d. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin Y of J2.	*d.* None.
			e. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin b of J2.	*e.* ME–26(*)/U should indicate 0 ohm.
			f. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin c of J2.	*f.* ME–26(*)/U should indicate 1,000 ohms ±100.
			g. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin B of J2.	*g.* ME–26(*)/U should indicate 511 ohms ±51.
			h. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin P of J2.	*h.* ME–26(*)/U should indicate 1,000 ohms ±100.
			i. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin N of J2.	*i.* ME–26(*)/U should indicate 0 ohm.
			j. Connect the COMMON lead of ME–26(*)/U to pin J of J2 and the OHMS lead to pin E of J2.	*j.* ME–26(*)/U should indicate 0 ohm.
			k. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin M of J2.	*k.* ME–26(*)/U should indicate 36,500 ohms ±3,650.
			l. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin Z of J2.	*l.* ME–26(*)/U should indicate 42,500 ohms ±4,250.
			m. Connect the COMMON lead of ME–26(*)/U to pin L of J2 and the OHMS lead to pin G of J1.	*m.* ME–26(*)/U should indicate 1,500 ohms ±150.
			n. Connect the COMMON lead of ME–26(*)/U to pin D of J1 and the OHMS lead to pin H of J1.	*n.* ME–26(*)/U should indicate 0 ohm.
			o. Connect the COMMON lead of ME–26(*)/U to pin C of J1 and the OHMS lead to pin K of J1.	*o.* ME–26(*)/U should indicate 0 ohm.
			p. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin t of J2.	*p.* ME–26(*)/U should indicate 160 ohms ±20.
			q. Connect the COMMON lead of ME–26(*)/U to pin of J2 and the OHMS lead to pin k of J2.	*q.* ME–26(*)/U should indicate 160 ohms ±20.
			r. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin p of J2.	*r.* ME–26(*)/U should indicate 160 ohms ±20.
			s. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin f of J2.	*s.* ME–26(*)/U should indicate 160 ohms ±20.
			t. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin W of J2.	*t.* ME–26(*)/U should indicate 160 ohms ±20.
			u. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin g of J2.	*u.* ME–26(*)/U should indicate 160 ohms ±20.
			v. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin V of J2.	*v.* ME–26(*)/U should indicate 160 ohms ±20.
			w. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin h of J2.	*w.* ME–26(*)/U should indicate 160 ohms ±20.
			x. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin U of J2.	*x.* ME–26(*)/U should indicate 160 ohms ±20.
			y. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin i of J2.	*y.* ME–26(*)/U should indicate 160 ohms ±20.
			z. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin T of J2.	*z.* ME–26(*)/U should indicate 160 ohms ±20.
			aa. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin j of J2.	*aa.* ME–26(*)/U should indicate 160 ohms ±20.
			ab. Connect the COMMON lead ME–26(*)/U to pin A of J2 and the OHMS lead to pin S of J2.	*ab.* ME–26(*)/U should indicate 160 ohms ±20.
			ac. Connect the COMMON lead of ME–26(*)/U to pin A of J2 and the OHMS lead to pin X of J2.	*ac.* ME–26(*)/U should indicate 160 ohms ±20.
			ad. Connect the COMMON lead of ME–26(*)/U to pin K of J2 and the OHMS lead to pin X of J2.	*ad.* ME–26(*)/U should indicate 160 ohms ±20.
			ae. Connect the COMMON lead of ME–26(*)/U to pin G of J1 and the OHMS lead to pin E of J1.	*ae.* ME–26(*)/U should indicate 160 ohms ±20.
			af. Connect the COMMON lead of ME–26(*)/U to pin R of J2 and the OHMS lead to pin X of J1.	*af.* ME–26(*)/U should indicate 160 ohms ±20.

4–9. Control Unit Test

a. Test Equipment and Materials.
(1) Multimeter ME–26(*)/U.
(2) Output Meter TS–585(*)/U.
(3) Telephone plug.

b. Test Connections and Conditions. Connect the equipment as shown in figure 4–3.

c. Procedure.

Step	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	*ME–26(*)/U* SELECTOR switch: + RANGE switch: 30 V *TS–585(*)/U* Impedance control: X10, 50 MULTIPLY BY: 1	*C–6873/ARN–82* Power switch: OFF Megacycle and kilocycle selectors: 108.00 VOL: Fully clockwise *TS–2500/ARM–92* VOR/LOC-GLIDE SLOPE switch: VOR/LOC BRG-OBS: BRG BEARING: 0	*a.* Observe all the lamps on the test set and on the aid box.	*a.* No lamps should light.
			b. Set the power switch on the control unit to PWR.	*b.* The following lamps should light, and the following indications should be observed: (1) VOR/LOC DC lamp on the test set. (2) VOR/LOC AC lamp on the test set. (3) GS DC lamp on the test set. (4) Control unit panel lamps. (5) 26 VAC PWR lamp on the aid box. (6) LOC-PWR lamp on the aid box. (7) 1.0 FREQ SELECT (MC) lamp A on the aid box. (8) 1.0 FREQ SELECT (MC) lamp D on the aid box. (9) 0.1 FREQ SELECT (MC) lamp B on the aid box. (10) 0.1FREQ SELECT (MC) lamp E on the aid box. (11) 0.01 FREQ SELECT (MC) lamp B on the aid box. (12) The FLAG meter on the test set should indicate 250 microamperes ±15. (13) The DEVIATION meter on the test set should indicate 75 microamperes ±5 to the right of 0. (14) The TO-FROM meter on the test set should indicate 500 microamperes ±25 to the left of 0. (15) TS–585(*)/U indicates 100 milliwatts ±15.
				Note. In *c* through *u* below, the LOC PWR and 26 VAC PWR lamps on the aid box should remain lighted.
			c. Set the megacycle and kilocycle selectors on the control unit to 109.06.	*c.* The 1.0 FREQ SELECT (MC) lamps A and E should light. The 0.1 FREQ SELECT (MC) lamps B and E should light.
			d. Set the megacycle and kilocycle selectors on the control unit to 110.10.	*d.* The 1.0 FREQ SELECT (MC) lamps B and E should light. The 0.1 FREQ SELECT (MC) lamps A and B should light. the 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.
			e. Set the megacycle and kilocycle selectors on the control unit to 111.15.	*e.* The 1.0 FREQ SELECT (MC) lamps A and B should light. The 0.1 FREQ SELECT (MC) lamps A and B should light.
			f. Set the megacycle and kilocycle selectors on the control unit to 112.20.	*f.* The 1.0 FREQ SELEC T(MC) lamps A and C should light. The 0.1 FREQ SELECT (MC) lamps A and C should light. The 0.01 FREQ SELECT (MC) lamp B should light.
			g. Set the megacycle and kilocycle selectors on the control unit to 113.25.	*g.* The 1.0 FREQ SELECT (MC) lamps B and C should light. The 0.1 FREQ SELECT (MC) lamps A and B should light.
			h. Set the megacycle and kilocycle selectors on the control unit to 114.30.	*h.* The 1.0 FREQ SELECT (MC) lamps B and D should light. The 0.1 FREQ SELECT (MC) lamps B and C should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.
			i. Set the megacycle and kilocycle selectors on the control unit to 115.35.	*i.* The 1.0 FREQ SELEC T(MC) lamps C and D should light. The 0.1 FREQ SELECT (MC) lamps B and C should light.
			j. Set the megacycle and kilocycle selectors on the control unit to 116.40.	*j.* The 1.0 FREQ SELECT (MC) lamps C and E should light. The 0.1 FREQ SELECT (MC) lamps B and D should light. The 0.1 FREQ SELECT (MC) lamp B should light.
			k. Set the megacycle and kilocycle selectors on the control unit to 117.45.	*k.* The 1.0 FREQ SELECT (MC) lamps D and E should light. The 0.1 FREQ SELECT (MC) lamps B and E should light.
			l. Set the megacycle and kilocycle selectors on the control unit to 118.50.	*l.* The 1.0 FREQ SELECT (MC) lamps A and D should light. The 0.1 FREQ SELECT (MC) lamps C and D should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light. The COMM lamp should light.
				Note. In *m* through *u* below, the COMM lamp shall remain lighted.
			m. Set the megacycle and kilocycle selectors on the control unit to 119.55.	*m.* The 1.0 FREQ SELECT (MC) lamps A and E should light. The 0.1 FREQ SELECT (MC) lamps C and D should light.
			n. Set the megacycle and kilocycle selectors on the control unit to 120.60.	*n.* The 1.0 FREQ SELECT (MC) lamps B and E should light. The 0.1 FREQ SELECT (MC) lamps C and E should light. The 0.01 FREQ SELECT (MC) lamp B should light.
			o. Set the megacycle and kilocycle selectors on the control unit to 121.65.	*o.* The 1.0 FREQ SELECT (MC) lamps A and B should light. The 0.01 FREQ SELECT (MC) lamps C and E should light.
			p. Set the megacycle and kilocycle selectors on the control unit to 122.70.	*p.* The 1.0 FREQ SELECT (MC) lamps A and C should light. The 0.1 FREQ SELECT (MC) lamps D and E should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.
			q. Set the megacycle and kilocycle selectors on the control unit to 123.75.	*q.* The 1.0 FREQ SELECT (MC) lamps B and C should light. The 0.1 FREQ (MC) lamps D and E should light.
			r. Set the megacycle and kilocycle selectors on the control unit to 124.80.	*r.* The 1.0 FREQ SELECT (MC) lamps B and D should light. The 0.1 FREQ SELECT (MC) lamps A and D should light. The 0.01 FREQ SELECT lamp B should light.
			s. Set the megacycle and kilocycle selectors on the control unit to 125.85.	*s.* The 1.0 FREQ SELECT (MC) lamps C and D should light. The 0.1 FREQ SELECT (MC) lamps A and D should light.
			t. Set the megacycle and kilocycle selectors on the control unit to 126.90.	*t.* The 1.0 FREQ SELECT (MC) lamps C and E should light. The 0.1 FREQ SELECT (MC) lamps A and E should light. The 0.01 FREQ SELECT (MC) lamp B should light. The GS/LOC ON lamp should light.
			u. Set the megacycle and kilocycle selectors on the control unit to 126.95.	*u.* The 1.0 FREQ SELECT (MC) lamps C and E should light. The 0.1 FREQ SELECT (MC) lamps A and E should light.
			v. Disconnect the leads of TS–585(*)/U from the AUDIO terminals on the test set. Plug the telephone plug into the PHONE jack on the test set. Connect the leads of TS–585(*)/U to the telephone plug.	*v.* TS–585(*)/U should indicate no less than 25 milliwatts.
			w. Turn the VOL control on the control unit fully counterclockwise.	*w.* TS–585(*)/U should indicate 0 milliwatt.
			x. Set the power switch on the control unit to TEST.	*x.* The TEST lamp on the aid box should light in addition to the lamps already lighted.

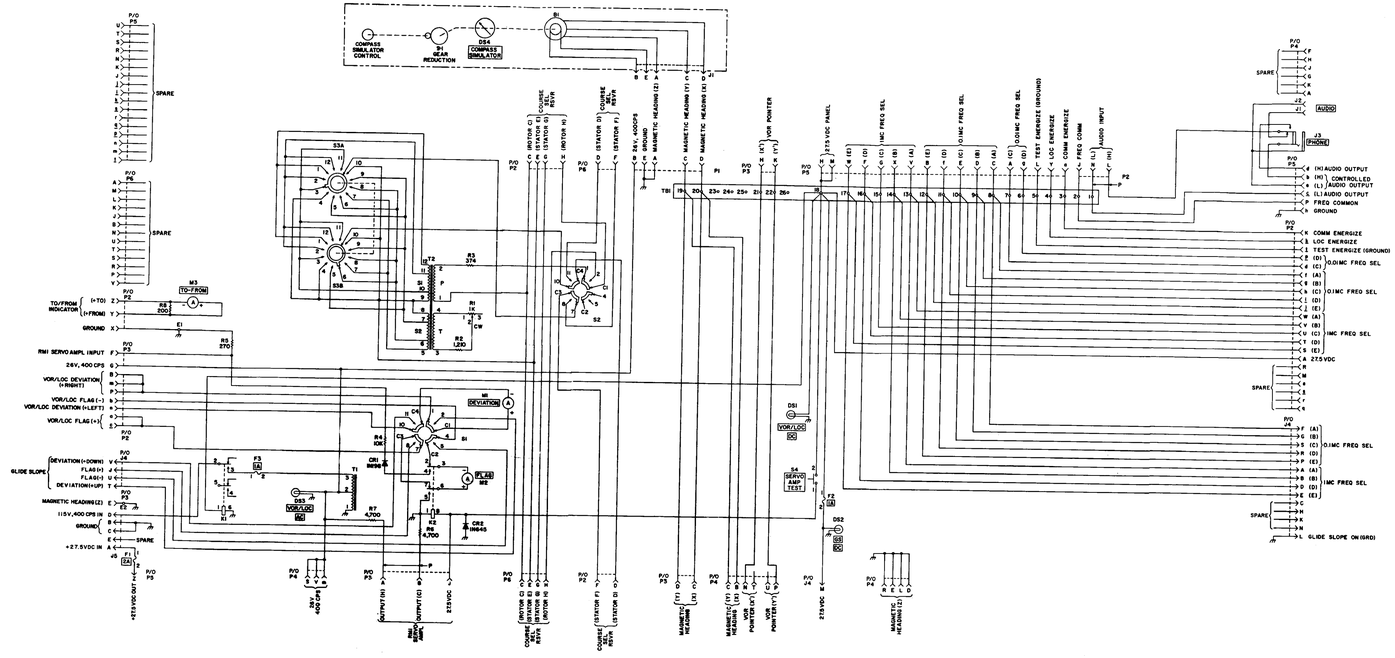
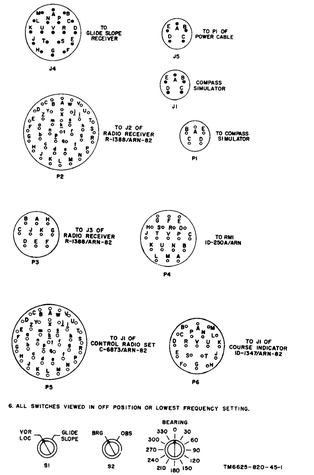


Figure 4–9. Test Set, Radio TS–2500/ARM–92, schematic diagram.

NOTES:
1. UNLESS OTHERWISE INDICATED, RESISTANCES ARE IN OHMS.
2. ROTARY SWITCH VIEWED FROM DRIVEN END.
3. CHASSIS GROUNDS ARE CONNECTED TO TERMINALS E1 AND E2.
4. ⟨ INDICATES EQUIPMENT MARKINGS.
5. RECEPTACLE VIEWED FROM PIN OR RECEPTACLE SIDE.



6. ALL SWITCHES VIEWED IN OFF POSITION OR LOWEST FREQUENCY SETTING.

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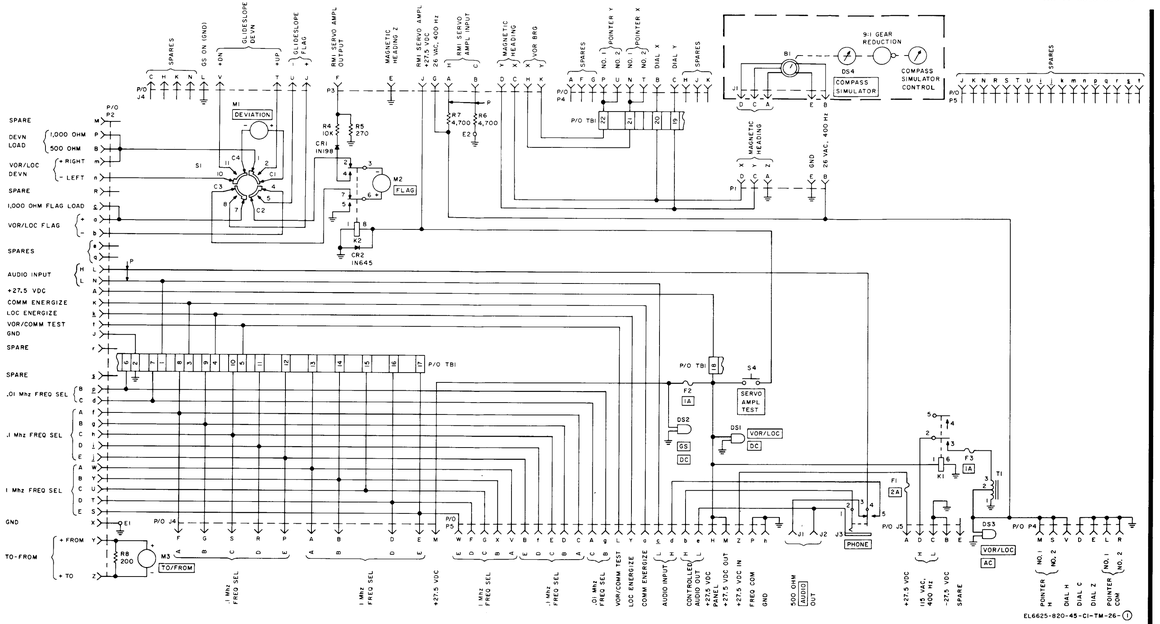


Figure 4-9.1. Test Set, Radio TS-2500A/ARM-92, schematic diagram (Sheet 1 of 2).

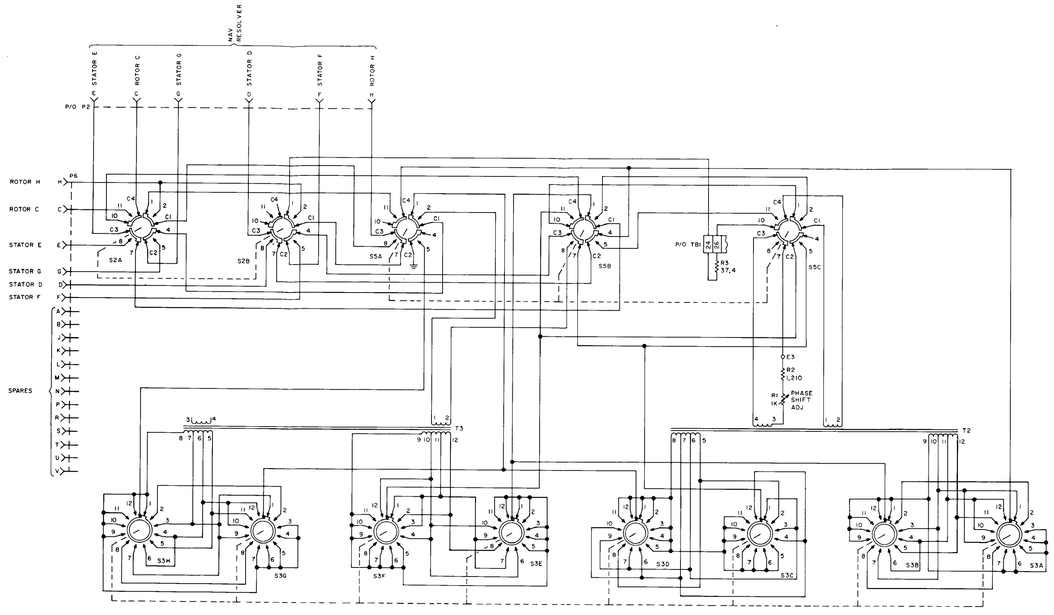
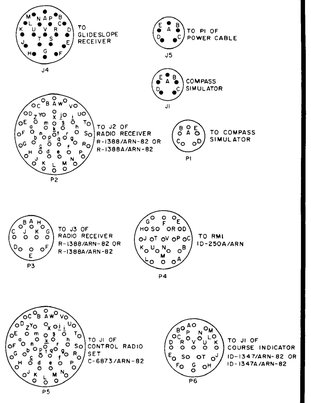


*Figure 4-9.1. Test Set, Radio TS-2500A/ARM-92, **schematic diagram** (Sheet 2 of 2).*

NOTES:
1. UNLESS OTHERWISE INDICATED, RESISTANCES ARE IN OHMS.
2. CHASSIS GROUNDS ARE CONNECTED TO TERMINALS E1 AND E2.
3. ▭ INDICATES EQUIPMENT MARKINGS.
4. RECEPTACLE VIEWED FROM PIN OR RECEPTACLE SIDE.



5. ROTARY SWITCHES VIEWED FROM DRIVEN END.

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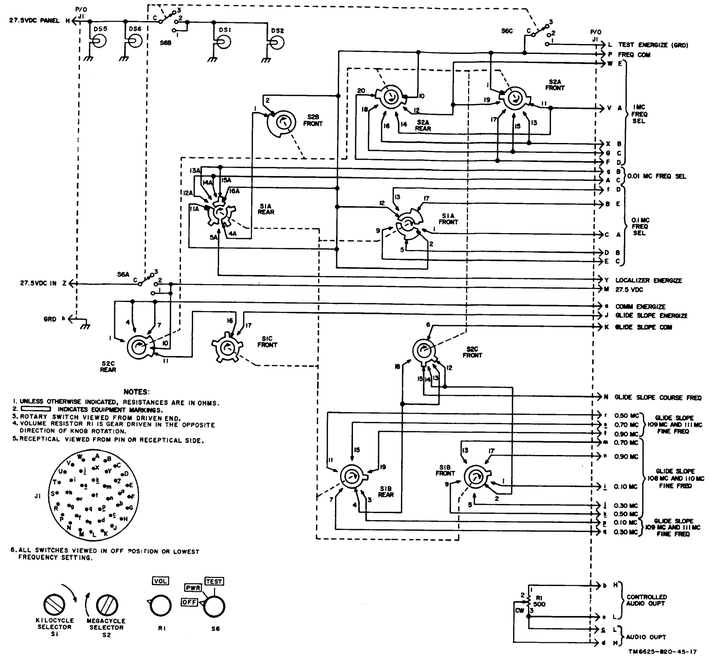


Figure 4-10. Control, Radio Set C-6873/ARN-82, schematic diagram.

4–11. OBS Indicator and Test Set, Precision Bearing Test

a. Test Equipment and Materials.
(1) Modulator MD–83A/ARN.
(2) Voltmeter, Meter ME–30(*)/U.
(3) Test Set, Resolver AN/ASM–101.
(4) Test Set, Indicator
(5) Oscilloscope AN/USM-140A.
(6) Fabricated cables.

b. Test Connections and Conditions. Remove all power from the test set. In steps 1 and 2, connect the equipment as shown in figure 4-4. In step 3, connect the indicator test set jack J2 to test set plug P2 using cable fabricated in paragraph 4-4 (fig. 4-1.1). In step 4, apply power to test set and connect cable fabricated in paragraph 4-4 (fig. 4-1.2) to test set pendant cable plugs P2 and P3

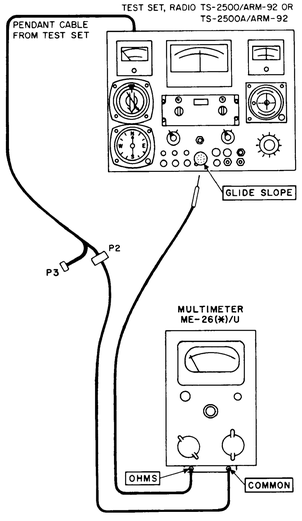
c. Procedure.

Step	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	*MD-83A/ARN* POWER: ON 1000: OFF TONE LOCALIZER: 0 FUNCTION SELECTOR: SPECIFIC SIGNAL SPECIFIC SIGNAL SELECTOR: 30 VAR MASTER ATTENUATOR: midrange *AN/ASM-101* Function switch: SET ORZ *ME-30(*)/U* Range: 10 v Power: ON *AN/USM-140A* POWER: ON Vertical selector: CHANNEL A Vertical AC-DC selector: AC calibrated SENSITIVITY: 5 VERNIER SENSITIVITY: maximum clockwise POLARITY: +UP VERTICAL POSITION: midrange Horizontal AC-DC selector: AC SWEEP TIME: 20 milliseconds/cm VERNIER SWEEP TIME: maximum clockwise INTENSITY MODULATION: NORMAL SWEEP OCCURENCE: NORMAL HORIZONTAL DISPLAY: INTERNAL SWEEP X1 SWEEP MODE: FREE RUN TRIGGER SOURCE: INT TRIGGER LEVEL: midrange TRIGGER SLOPE: midrange HORIZONTAL POSITION: midrange	*C-6873/ARN-82* Power switch: OFF *TS-2500/ARM-92* BRG-OBS: OBS BEARING: 300 *TS-2500A/ARM-92* BRG-OBS: OBS BEARING: 300 RECEIVER MODEL: A	*a.* Adjust the INPUT LEVEL control on AN/ASM-101 for a 4.25-volt indication on ME-30(*)/U. Disconnect the ME-30(*)/U INPUT lead from the VOLTMETER connector on AN/ASM-101, and connect it to the OUTPUT connector on AN/ASM-101. Rotate the knob on the OBS indicator and the AMP BAL control on AN/ASM-101 until a minimum null is obtained on AN/USM-140A. *Note.* For easier observation of the minimum null, increase the AN/USM-140A vertical gain as the null is approached.	*a.* The OBS indicator should be set to 300° with a minimum null indicated on AN/USM-140A.
2	No change from step 1.	No change from step 1.	Set the BRG-OBS switch on the test set to BRG.	The indications on the AN/USM-140A should not change.
3 (This step for Test Set, Radio TS-2500A/ARM-92 only.)	*AN/ASM-110* POWER: ON SYNCHRO SELECTOR: EZ	*C-6873/ARN-82* Power switch: OFF *TS-2500/ARM-92* BRG-OBS: OBS BEARING: 300 RECEIVER MODEL: B	*Note.* Use Indicator, Course ID-1347A/ARN-82. *a.* Adjust course index card on course indicator around 300 degrees for zero reading on indicator test set SYNCHRO METER. *b.* Rotate course indicator course index card counterclockwise. *c.* Set indicator test set SYNCHRO SELECTOR to RW2. Adjust course indicator course index card around 30 degrees for zero reading on indicator test set SYNCHRO METER. *d.* Rotate course indicator course index card counterclockwise.	*a.* Course indicator course index card reads 297 to 303 degrees. *b.* Indicator test set SYNCHRO METER deflects to the right. *c.* Course indicator course index card reads 27 to 33 degrees. *d.* Indicator test set SYNCHRO METER deflects to the left.
4 (This test for Test Set, Radio TS-2500A/ARM-92 only.)	N/A	*C-6873/ARN-82* Power switch: ON *TS-2500/ARM-92* BRG-OBS: BRG BEARING: 300 RECEIVER MODEL: B	*a.* Measure ac voltage from J1 to J2 on fabricated cable. This voltage is V1 max. Set test set BEARING switch to 30. Measure ac voltage from J3 to J4 on fabricated cable. This voltage is V2 max. *b.* Measure the ac voltages from J1 to J2 and from J3 to J4 for each setting of the test set BEARING switch.	*b.* Bearing — J1 to J2 — J3 to J4 300 — V1 max — 0 330 — .86(V1 max) — .5(V2 max) 0 — .5(V1 max) — .86(V2 max) 30 — 0 — V2 max 60 — .5(V1 max) — .86(V2 max) 90 — .86(V1 max) — .5(V2 max) 120 — V1 max — 0 150 — .86(V1 max) — .5(V2 max) 180 — .5(V1 max) — .86(V2 max) 210 — 0 — V2 max 240 — .5(V1 max) — .86(V2 max) 270 — .86(V1 max) — .5(V2 max) Voltage tolerance ±10%.

4–13. Test Set, Compass Simulator and Indicator, RMI ID–250A/ARN Test

a. Test Equipment and Materials. None required.
b. Test Connections and Conditions. Connect the equipment as shown in figure 4–5.
c. Procedure.

Step	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
	N/A	*TS–2500/ARM–92 or TS–2500A/ARM–92* VOR/LOC-GLIDE SLOPE. VOR/LOC *C–6873/ARN–82* Power switch: OFF Megacycle and kilocycle selectors: 108.00.	*a.* Set the power switch on the control unit to PWR.	*a.* The following lamps should light, and the following indications should be observed: (1) VOR/LOC DC, VOR/LOC AC, and GS DC lamps on the test set should light. (2) 26 VAC PWR and LOC PWR lamps on the aid box should light. (3) The 1.0 FREQ SELECT (MC) lamps A and D on the aid box should light. (4) The 0.1 FREQ SELECT (MC) lamps B and E on the aid box should light. (5) The 0.01 FREQ SELECT (MC) lamp B on the aid box should light. (6) The FLAG meter on the test set should indicate 250 microamperes ± 15. (7) The DEVIATION meter on the test set should indicate 75 microamperes ±5 to the right of 0. (8) The TO-FROM meter on the test set should indicate 500 microamperes ± 25 to the left of 0.
			b. Rotate the COMPASS SIMULATOR with the compass simulator control. *c.* Set the COMPASS SIMULATOR needle to N (0°).	*b.* The RMI card should follow COMPASS SIMULATOR needle within 2°. *c.* RMI needle number 1 should indicate 180° ± 1. The RMI card should indicate 0° ± 1.
			d. Press the SERVO AMP TEST pushbutton switch, and then release it.	*d.* The FLAG meter on the test set should indicate 0 microampere with the SERVO AMP TEST pushbutton switch pressed, and 250 microamperes ± 15 with the SERVO AMP TEST pushbutton switch released.



NOTE:

▭ INDICATES EQUIPMENT MARKINGS.

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Figure 4-6. Glide-slope frequency information test.

4–15. Meter Movement Accuracy Tests

a. Test Equipment and Material. Meter Test Set TS–682A/GSM–1 is required for the following procedure.

b. Test Connections and Conditions. Remove all power from the test set. Set the AC LINE and BATTERY switches on TS–682A/GSM–1 to OFF. Connect the equipment as shown in figure 4–7 with the COMMON binding post of the TS–682A/GSM–1 connected to b of P2, and the 500 UA current jack connected to a of P2. Rotate the DIRECT CURRENT COURSE control and the DIRECT CURRENT FINE control to their fully counterclockwise positions. Set the AC LINE switch to ON, and allow a 1-minute warmup period.

c. Procedure.

Step	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	*TS–682A/GSM–1* Set the BATTERY switch to ON. Adjust the meter zero-adjusting knobs until the AC MILLIAMPERES, DC MICROAMPERES, and DC MILLIVOLTS meters all indicate 0. Set the left-hand selector switch to ALL OTHER AC & DC SCALES. Set the center selector switch to DC MA & UA. Set the right-hand selector switch to AC & DC MA & UA.	*C–6873/ARN–82* Power switch: OFF *TS–2590/ARM–92 or* *TS–2590A/ARM–92* VOR/LOC-GLIDE SLOPE: VOR/LOC	Rotate the DIRECT CURRENT COURSE control cw until the DC MICROAMPERE meter indicates 500 microamperes. Press and hold the BUZZER switch while adjusting the DIRECT CURRENT FINE control for a 500-microampere indication on the DC MICROAMPERE meter. Release the BUZZER switch.	The FLAG meter on the test set should indicate 500 microamperes ±10.
2	No change from step 1.	No change from step 1.	Rotate the DIRECT CURRENT COURSE control and the DIRECT CURRENT FINE control fully cw. Connect the COMMON binding post of TS–682A/GSM–1 to Z of P2, and the 1 ma current jack to Y of P2. Rotate the DIRECT CURRENT COURSE control cw until the DC MICROAMPERE meter indicates 1 milliampere. Press and and hold the BUZZER switch while adjusting the DIRECT CURRENT FINE control for a 1-milliampere indication on the DC MICROAMPERE meter. Release the BUZZER switch.	The TO-FROM meter on the test set should indicate 1,000 microamperes ±20 on the left side of 0.
3	No change from step 1.		Rotate the DIRECT CURRENT COURSE control and the DIRECT CURRENT FINE control fully ccw. Connect the COMMON binding post of TS–682A/GSM–1 to m of P2. Disconnect the cable from the 1-ma current jack and plug it into the 200 UA current jack. Connect the other end of this cable to n of P2. Rotate the DIRECT CURRENT COURSE control cw until the DC MICROAMPERE meter indicates 150 microamperes. Press and hold the BUZZER switch while adjusting the DIRECT CURRENT FINE control for a 150-microampere indication on the DC MICROAMPERE meter. Release the BUZZER switch.	The DEVIATION meter on the test set should indicate 150 microamperes ±3 on the left side of 0.
4	No change from step 1.	No change from step 1.	Rotate the DIRECT CURRENT COURSE control and the DIRECT CURRENT FINE control fully ccw. Connect the COMMON binding post of TS–682A/GSM–1 to n of P2, and the 200 UA current jack to m of P2. Rotate the DIRECT CURRENT COURSE control cw until the DC MICROAMPERE meter indicates 150 microamperes. Press and hold the BUZZER switch while adjusting the DIRECT CURRENT FINE control for a 150-microampere indication on the DC MICROAMPERE meter. Release the BUZZER switch.	The DEVIATION meter on the test set should indicate 150 microamperes ±3 on the right side of 0.

4-16. Summary of GS and Depot Overhaul Standards Test Data

Personnel may find it convenient to arrange a checklist in a manner similar to that shown below:

a. Test Set, Wiring Harness, Aircraft TS-2501/ARM-92 Test.

Checkpoint	Performance standard
(1) Voltage across CR1	10 volts dc ±0.5
(2) Resistance between A of J2 and a of J2	22,900 ohms ±2,290
(3) Resistance between J of J2 and X of J2	0 ohm
(4) Resistance between J of J2 and n of J2	0 ohm
(5) Resistance between J of J2 and Y of J2	0 ohm
(6) Resistance between J of J2 and b of J2	0 ohm
(7) Resistance between J of J2 and c of J2	1,000 ohms ±100
(8) Resistance between J of J2 and B of J2	511 ohms ±51
(9) Resistance between J of J2 and P of J2	1,000 ohms ±100
(10) Resistance between J of J2 and N of J2	0 ohm
(11) Resistance between J of J2 and E of J2	0 ohm
(12) Resistance between A of J2 and M of J2	36,500 ohms ±3,650
(13) Resistance between A of J2 and Z of J2	42,500 ohms ±4,250
(14) Resistance between L of J2 and G of J1	1,500 ohms ±150
(15) Resistance between D of J1 and H of J1	0 ohm
(16) Resistance between C of J1 and K of J1	0 ohm
(17) Resistance between A of J2 and t of J2	160 ohms ±20
(18) Resistance between A of J2 and k of J2	160 ohms ±20
(19) Resistance between A of J2 and p of J2	160 ohms ±20
(20) Resistance between A of J2 and f of J2	160 ohms ±20
(21) Resistance between A of J2 and W of J2	160 ohms ±20
(22) Resistance between A of J2 and g of J2	160 ohms ±20
(23) Resistance between A of J2 and V of J2	160 ohms ±20
(24) Resistance between A of J2 and h of J2	160 ohms ±20
(25) Resistance between A of J2 and U of J2	160 ohms ±20
(26) Resistance between A of J2 and i of J2	160 ohms ±20
(27) Resistance between A of J2 and T of J2	160 ohms ±20
(28) Resistance between A of J2 and j of J2	160 ohms ±20
(29) Resistance between A of J2 and S of J2	160 ohms ±20
(30) Resistance between A of J2 and X of J2	160 ohms ±20
(31) Resistance between K of J2 and X of J2	160 ohms ±20
(32) Resistance between G of J1 and E of J1	160 ohms ±20
(33) Resistance between R of J2 and X of J2	160 ohms ±20

b. Control, Radio Set C-6873/ARN-82 Test.

Checkpoint	Performance standard
(1) Control unit power switch to OFF.	No lamps light.
(2) Control unit power switch to PWR. Megacycle and	The VOR/LOC AC, VOR/LOC DC, and GS DC lamps on the test set

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