TM 9-1430-526-12-1

TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

IMPROVED GUIDED MISSILE BATTERY CONTROL CENTRAL AN/TSW-8 (XO-1)

IMPROVED HAWK AIR DEFENSE GUIDED MISSILE SYSTEM

This copy is a reprint which includes current pages from Changes 1 through 11.

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1972

WARNING

DANGEROUS VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

may result if personnel fail to observe safety precautions

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through the vital organs of the body.

WARNING

Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions.

For artificial respiration, refer to FM 21–11.

EXTREMELY DANGEROUS POTENTIALS

greater than 500 volts exist in the following units:

Tactical control console tube mount
14-kv power supply
Azimuth and speed indicator (CWTDC) tube mount
10-kv power supply
Range/speed indicator (A)
Firing console tube mount (A)
14-kv power supply (A)
Range/speed indicator (B)
Firing console tube mount (B)
14-kv power supply (B)

WARNING

RADIATION HAZARD

This equipment contains the following radioactive items:

Nomenclature	*FSN*	*Isotope*	*Amount (Microcuries)*
Electron tube 5651WA	5960-262-0286	*	*
Electron tube OB2WA	5960-262-3763	U02	0.10
Electron tube OB2WA	5960-624-4718	RA226	0.005
Electron tube OB2/OB2WA	5960-624-4718	C060	0.20
Electron tube 6627/OB2WA	5960-624-4718	NI63	0.05

*Isotope and level of activity varies among manufacturers. Refer to TB 750—237.

Refer to TM 3—261, TM 38—250, and TB 750—237 for information relative to shipping, storage, handling, and disposal of radioactive material.

FIRST AID FOR RADIOACTIVE CONTACT

The following first aid procedure for wounds caused by anything coated with a radioactive particle material represent the only reasonable first aid treatment which would possibly be available:

a. Stimulation of mild bleeding by normal pressure about the wound and by use of suction cups.

WARNING

Do not suck the wound by mouth. The wound must be washed with soap and flushed with plenty of clear water.

b. If the wound is of the puncture type, or the opening is quite small, an incision should be made to promote free bleeding and to facilitate cleaning and flushing of the wound.

c. Evacuate patient to a medical facility where monitoring of the wound can be accomplished. All such wounds should be examined by a medical officer.

d. For wounds involving the extremities, pending medical attention, place a lightly constricting band (tourniquet) 2 to 4 inches closer to the heart than the site of the wound. The band should be tight enough to halt the flow of blood in superficial blood vessels but not tight enough to stop the pulse (arterial flow).

CLEANING SURFACES ON WHICH TUBES HAVE BEEN BROKEN

Wet Method. Put on rubber or plastic gloves. Pick up large fragments with forceps then, using a wet cloth, wipe across the area. Make one wipe at a time and fold cloth in half, using the clean side for wiping each time. When cloth becomes too small, discard and start again with a clean piece of cloth. Care must be taken not to rub the radioactive particles into the surface being cleaned by using a back and forth motion. All debris and cloths used for cleaning should be sealed in a container such as a plastic bag, heavy waxed paper, ice cream carton, or glass jar for disposal.

WARNING FOR RADIO-FREQUENCY RADIATION HAZARD

Radio-frequency (rf) radiation from radar antennas and associated equipment is a potential hazard to personnel. Rf radiation is not cumulative but it can be hazardous. It heats the body tissues, and, if the radiation intensity is sufficiently high, will permanently damage the tissue. This damage is not immediately apparent.

Precautions should be taken to insure that personnel are not exposed to rf radiations of hazardous intensity levels. Personnel who must be within the hazardous distances for the below listed radars should be instructed not to place themselves on the radiating side of the antenna, and to never look into a transmitting horn or open waveguide which is connected to an energized transmitter.

Personnel are prohibited from entering areas where they may be exposed to levels of rf radiation above 0.01 watt per square centimeter. This level, though not considered hazardous, is stipulated by AR 40-583 as the maximum permissible exposure level for personnel.

A power intensity of at least 0.01 watt per square centimeter is present along the axis of each radar's transmitted beam, for the distances listed below. These distances are based on calculations and actual measurements and may be used as a guide to prevent radio-frequency radiation damage. In each instance, radiation intensity rapidly diminishes as the distance is increased.

ANTENNA	DISTANCE
Improved High-powered Illuminator Radar	366 feet (111.5 meters)
Improved Cw Acquisition Radar	60 feet (18.3 meters)
Improved Pulse Acquisition Radar	50 feet (15.2 meters)
Improved Range-only Radar	148 feet (45.1 meters)

No radiation hazard exists at radar ground level *within* the distance stated if the radars are not depressed below zero degrees elevation. When at all possible during maintenance, however, place the antenna at a high elevation. Personnel are restricted from the area atop the radars in front of the antennas when radiating.

NOTE

Potentially hazardous power density levels do not exist in the radiation field of the improved pulse and cw acquisition radars when scanning.

The above information is applicable to typical Hawk sites. The services of the U.S. Army Environmental Hygiene Agency are available, in accordance with the provisions of AR 40-583 for the evaluation of potential radio-frequency hazards at sites where unusual operating or site conditions may exist.

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No. 9-1430-526-12-1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 12 September 1972

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
IMPROVED GUIDED MISSILE BATTERY CONTROL CENTRAL AN/TSW-8 (XO-1)

TABLE OF CONTENTS

[1]Refer to appendix E for serial number effectivity.

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CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This technical manual (TM) contains instructions for operator and organizational maintenance of improved guided missile battery control central AN/TSW–8 (XO-1) (IBCC).

b. This TM is one of a series of TM's on operation, assembly and emplacement, organizational maintenance, direct and general support, and depot maintenance of the improved HAWK air-defense guided-missile system.

c. Destruction of materiel to prevent enemy use will be undertaken by the user upon order of the unit commander. His decision will be based upon orders and policies established by the Army Commander. Procedures for destruction of the IBCC and related materiel are contained in TM 750–244–4–3.

1-2. Reporting of Equipment Publications Improvements

Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to: Commander, U.S. Army Missile Command, ATTN: AMSMI-NPM, Redstone Arsenal, Alabama 35809.

1-3. Service upon Receipt and Emplacement

Complete instructions for service upon receipt, emplacement, orientation and alinement, and preparation for travel of the IBCC are contained in TM 9–1425–525–12–1.

1-4. Forms, Records, and Reports

Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38–750.

1-5. Differences Among Models

Any differences among models that exist in this equipment are indicated in the text and on diagrams by the use of the serial number effectivity code. This code is given in appendix E.

Section II. DESCRIPTION AND DATA

1-6. Physical Description

a. General. The IBCC is housed in a lightweight shelter which can be transported by helicopter, cargo plane, or truck. The electronic equipment in the IBCC is shown in figures 1-1 and 1-2.

b. Tactical Control Console. The tactical control console (TCC) (fig. 1-3) consists of a cathode-ray tube (CRT), operating panels, and plug-in electronic chassis.

c. Continuous-Wave Target Detection Console. The continuous-wave target detection console (CWTDC) (fig. 1-4) consists of a CRT, operating panels, and plug-in electronic chassis.

d. Firing Consoles. There are two identical firing consoles (FC A and B) (fig. 1-5). Each consists of two CRT's, operating panels, and plug-in electronic chassis.

e. Indicator Control Group. The indicator control group (ICG) (fig. 1-6) contains 24 plug-in electronic chassis.

f. Fire Control Group. The fire control group (FCG) (fig. 1-7) contains 20 plug-in electronic chassis and two fan assemblies.

1-7. Functional Description

a. The IBCC is the control central for the improved HAWK air-defense guided-missile system. It displays and provides control of data from the trailer-mounted information and coordination central (ICC/TM), improved pulse acquisition radar (IPAR), improved cw acquisition radar (ICWAR), improved high-powered illuminator radars (IHIPIR's), improved range-only radar (IROR), and improved launchers (ILCHR's) and

missiles. The IBCC evaluates target data, automatically or manually transfers it to one of the two firing sections, and fires the missiles.

b. The IBCC receives target range and azimuth data from the IPAR, and approaching or receding target velocity and azimuth data from the ICWAR. Identification friend or foe (IFF) information and data concerning the two most threatening targets to the battery are received from the ICC/TM automatic data processor (ADP).

c. This information, plus army air-defense command post (AADCP) data, is presented on the CRT displays in the IBCC. It is evaluated and assigned to one of the firing sections to enable correct positioning of the IHIPIR for target engagement.

d. When the IHIPIR acquires lock on a target, a doppler tone and target range, elevation, and speed information are received from the IHIPIR. The ILCHR furnishes the IBCC with missile status information.

e. When a fire command is sent to the ILCHR, the ILCHR slews to the azimuth of the IHIPIR and fires one missile. The IBCC then utilizes information from the IHIPIR to evaluate the target engagement.

1-8. Data

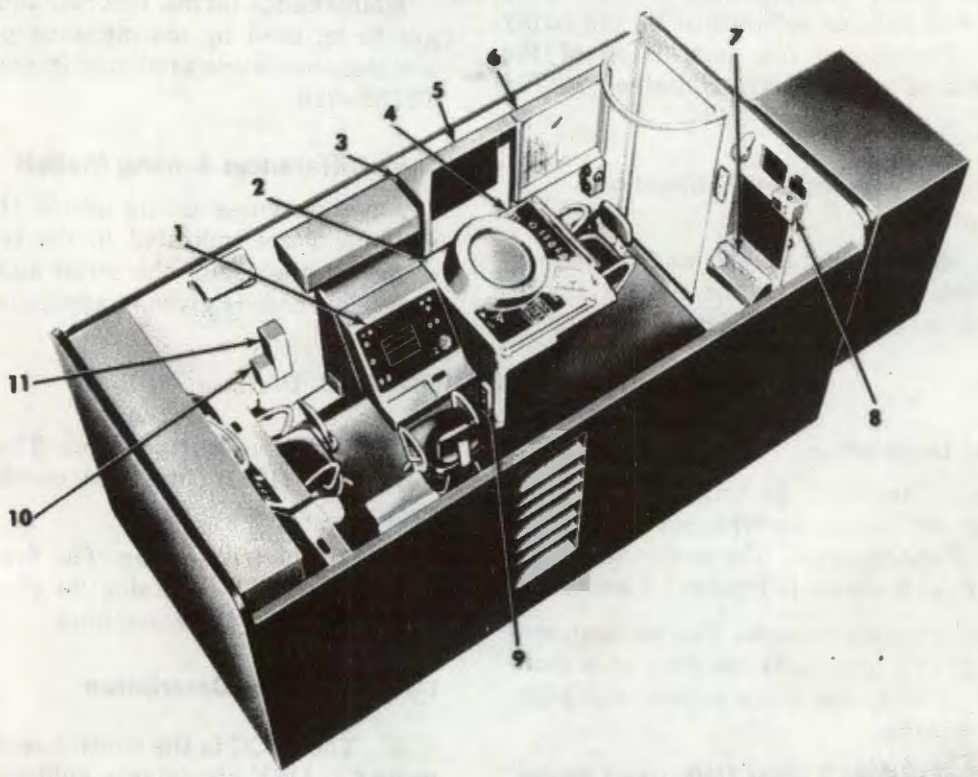
Data concerning the IBCC is given in table 1-1. For additional operating data, refer to TM 9–1425–525.

1-9. Modification Work Orders

Table 1-2 lists all modification work orders (MWO's) affecting the IBCC. The table includes the MWO number, description, and effectivity.

NOTE

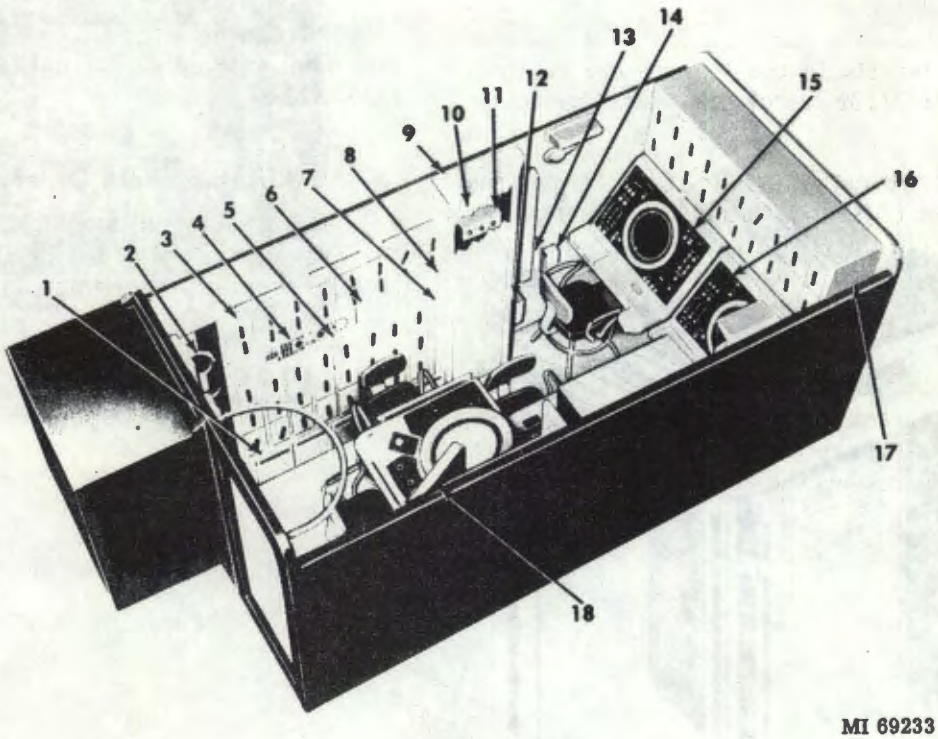
MWO's are listed in this manual only. This manual is not an authority for requisitioning kits. The published MWO, or a change thereto, is the only authority for requisitioning MWO kits.



MI 69232

1–CWTDC
2–IPAR frequency control
3–IBCC status indicator
4–TCC
5–Plotting board control panel
6–Plotting board
7–Power distribution control
8–Collective protection system control
9–CWTDC communication unit
10–FC B communication station
11–Doppler voice terminal

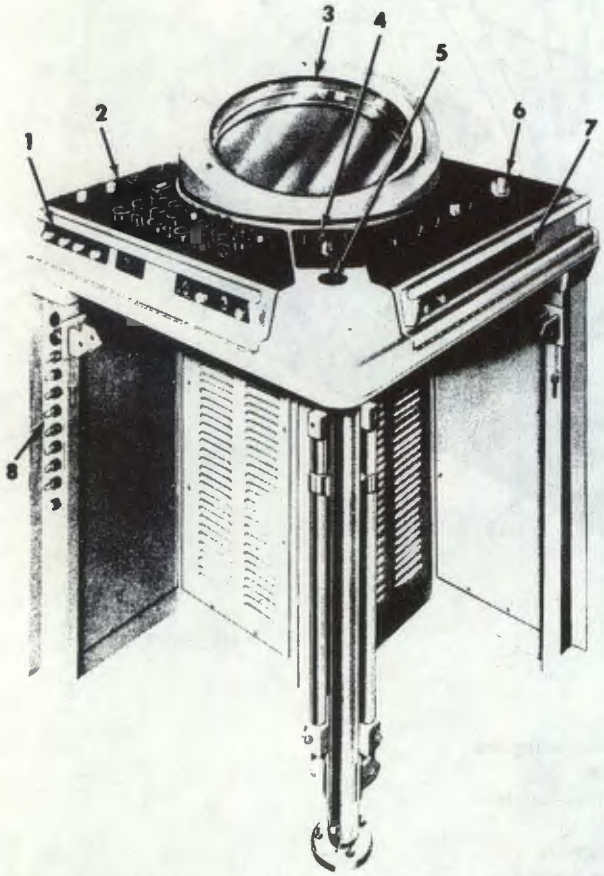
Figure 1-1. IBCC—right side cutaway view.



MI 69233

1–Miscellaneous power supplies
2–Equipment blower
3–Voltage regulator assembly
4–Power supply control
5–Indicator control group
6–Reference voltage regulator
7–Power distribution panel
8–20-Vdc power supply
9–Cable entry enclosure
10–Maintenance monitor panel
11–Telephone set and relay assembly
12–AADCP local-remote switch
13–Headset storage
14–FC A communication station
15–Firing console A
16–Firing console B
17–Fire control group
18–TCO/TCA communication unit

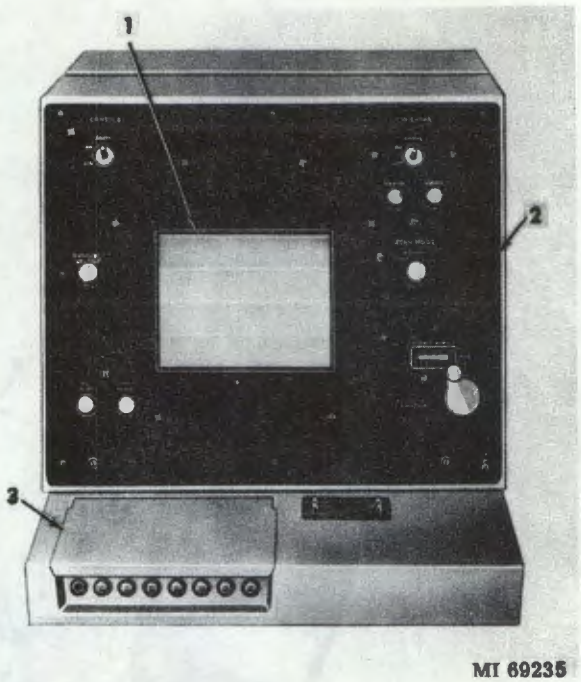
Figure 1-2. IBCC—left side cutaway view.



MI 139253

1–TCO control panel
2–TCO panel assembly
3–CRT indicator
4–Video control panel
5–Tracking lever
6–TCA panel assembly
7–TCA control panel
8–Delay fuses and indicators

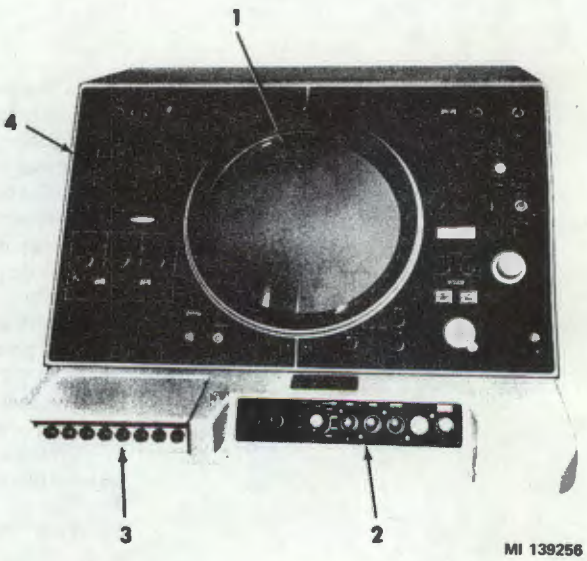
Figure 1-3. TCC.



MI 69235

1– Indicator
2–CWTDC cover assembly
3–CWTDC control shelf

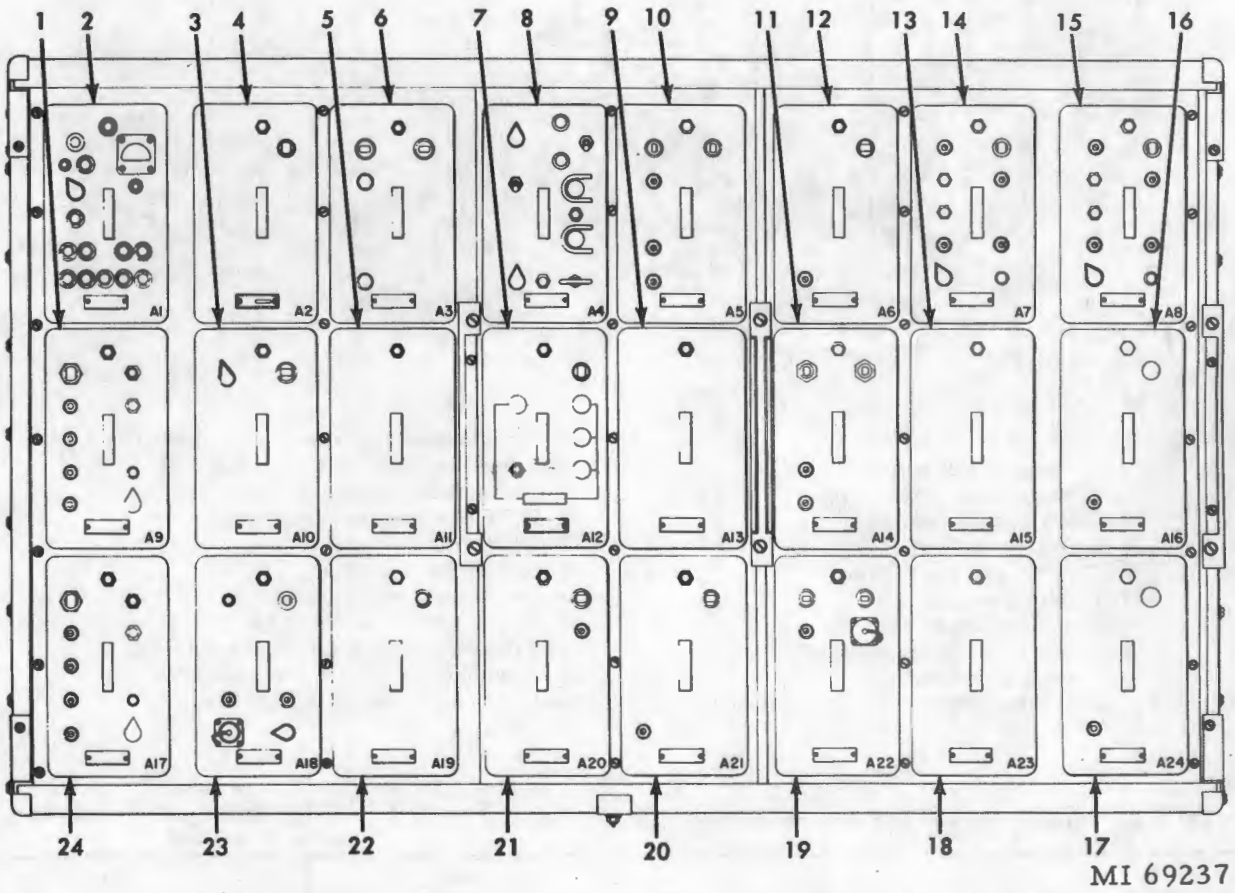
Figure 1-4. CWTDC.



MI 139256

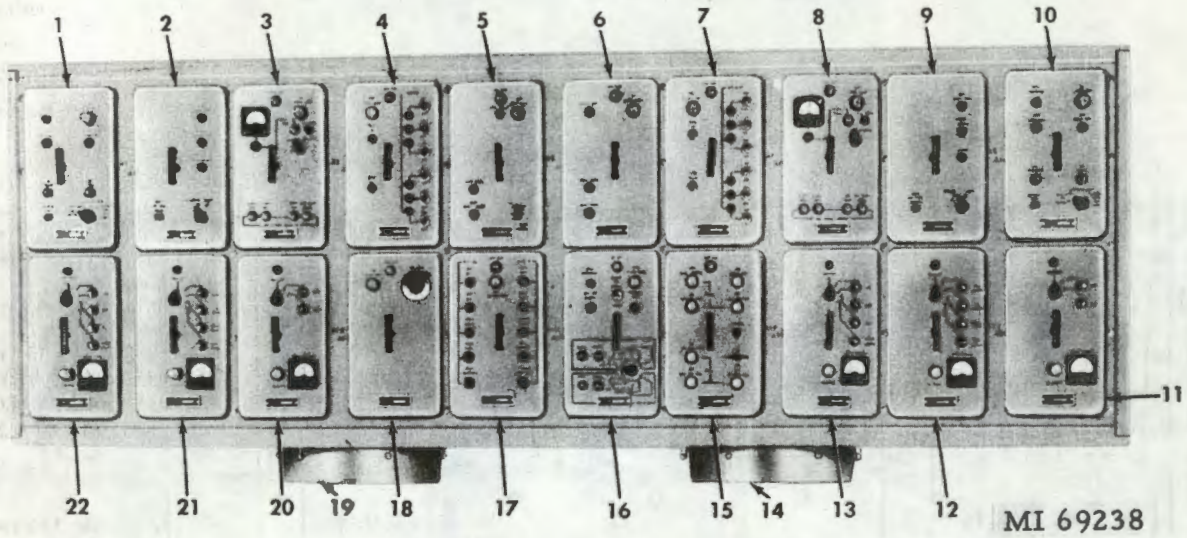
1–CRT
2–FC control shelf
3–FC control panel
4–FC cover assembly

Figure 1-5. FC.



1–FC A marker generator
2–General test set
3–Symbol intensity electronic gate assembly
4–Automatic test set
5–Scale-of-18 multivibrator
6–FC cursor generator
7–Test set control
8–IPAR set control
9–TCC/FC video mixer
10–TCC cursor generator
11–FC short sweep generator
12–FC Y-electronic clamp assembly
13–FC clamp gate generator
14–Predicted intercept marker generator (A)
15–Predicted intercept marker generator (B)
16–FC X-electronic clamp assembly
17–TCC X-electronic clamp assembly
18–TCC clamp gate generator
19–TCC long sweep generator
20–TCC Y-electronic clamp assembly
21–PSI video gate
22–Symbol multivibrator
23–Symbol generator
24–FC B marker generator

Figure 1-6. ICG.



1—Intercept computer (A)
2—Firing interlock assembly (A)
3—Firing circuits test set (A)
4—Display generator (A)
5—Scan servo amplifier
6—CWTDC sweep generator
7—Display generator (B)
8—Firing circuits test set (B)
9—Firing interlock assembly (B)
10—Intercept computer (B)
11—Azimuth electronic control amplifier (B)
12—Elevation electronic control amplifier (B)
13—Range electronic control amplifier (B)
14—Blower motor assembly (B)
15—IROR electronic control amplifier
16—IROR sweep generator
17—IROR video amplifier
18—Height signal comparator
19—Blower motor assembly (A)
20—Azimuth electronic control amplifier (A)
21—Elevation electronic control amplifier (A)
22—Range electronic control amplifier (A)

Figure 1-7. FCG.

Table 1-1. IBCC Physical and Operating Data

Item	Data
IBCC	
Weight	5200 lb
Height	6 ft, 8 in.
Width	6 ft, 10 in.
Depth	15 ft, 8 in.
TCC	
Type of display	Plan-position indicator (PPI), and plan-speed indicator (PSI)
Size of display	16-in. CRT
Operating voltages	115 vac, 250 vdc, 100 vdc, 28 vdc, —100 vdc, —250 vdc
FC	
Type of displays	PPI, PSI, range indicator, and speed tracking indicator
Size of displays	16-in. CRT and 3-in. CRT
Operating voltages	115 vac, 250 vdc, 100 vdc, 28 vdc, —100 vdc, —250 vdc, 20 vdc
CWTDC	
Type of display	Azimuth-speed indicator (ASI)
Size of display	12-in. CRT
Operating voltages	115 vac, 250 vdc, 100 vdc, 28 vdc, —100 vdc, —250 vdc

Table 1-1. IBCC Physical and Operating Data—Continued

Item	Data
Protective entrance	
Type	E24R4
Height	80 in.
Width	36 in.
Length	52 in.
Air filter unit	
Type	E46R7
Height	16 in.
Width	40 in.
Depth	24 in.
Filtered air supply	300 cfm
Pressure in IBCC	0.8 to 1.2 in. water
Pressure in protective entrance	0.3 in. water
Electrical requirement	416 vac, 3 phase, 400 Hz
Air conditioner	
Type	VEA 4-3
Weight	361 lb
Height	59 in.
Width	40 in.
Depth	25 in.
Refrigerant	Freon 12
Refrigerant capacity	11 lb
Cooling capacity	38,000 to 50,000 Btu/hr
Heating capacity	35,800 Btu/hr
Conditioned air supply	1,100 to 1,300 cfm

Table 1-1. IBCC Physical and Operating Data—Continued

Item	Data
Flow temperature range	60° to 90° F
Electrical requirement	416/240 vac, 3 phase, 400 Hz
ICG	
Operating voltages	115 vac, 250 vdc, 100 vdc, 28 vdc, −100 vdc, −250 vdc, 20 vdc, −20 vdc
FCG	
Operating voltages	115 vac, 250 vdc, 100 vdc, 28 vdc, −100 vdc, −250 vdc, 20 vdc, −20 vdc
Ac lighting power supply	
Operating voltage	416 vac, 3 phase
Output voltage	208 vac, 3 phase
DC lighting power supply	
Operating voltage	416 vac, 3 phase
Output voltages	330 vdc, 180 vdc
Ac filament power supply	
Operating voltage	416 vac, 3 phase
Output voltage	108 vac, 3 phase
Dc power supply	
Operating voltage	416 vac, 3 phase
Output voltages	250 vdc, 330 vdc, 180 vdc, 100 vdc
28-Vdc power supply	
Operating voltage	416 vac, 3 phase
Output voltage	28 vdc
20-Vdc power supply	
Operating voltage	208 vac, 3 phase
Output voltage	20 vdc

Table 1-1. IBCC Physical and Operating Data—Continued

Item	Data
IBCC status indicator	
Operating voltage	28 vdc
Power supply control	
Operating voltages	416 vac, 115 vac, 250 vdc, 100 vdc, 28 vdc, −100 vdc, −250 vdc
Power distribution panel	
Operating voltages	416 vac, 115 vac, 350 vdc, 330 vdc, 250 vdc, 180 vdc, 100 vdc, 28 vdc, −100 vdc, −250 vdc, 20 vdc, −20 vdc
Reference voltage regulator	
Operating voltages	350 vdc, 28 vdc, 115 vac
Output voltages	250 vdc, −250 vdc
Voltage regulators	
Operating voltages	115 vac, 330 vdc, 250 vdc, 180 vdc, 100 vdc, −100 vdc, −250 vdc
IBCC temperature	
Operating range	−25°F (minimum exposure of three days without benefit of solar radiation) 120°F (maximum exposure of four hours with full impact of solar radiation or 360 Btu/sq. ft./hr.)
Storage range	−65°F for periods of three days duration to 160°F for periods as long as six hours per day.

Table 1-2. Modification Work Orders

MWO	Description	Effectivity
9—1425—525—50—1	This MWO makes changes in the communications units and in the doppler-voice terminal to eliminate switching transients in the communication system.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 300001 through 380000.
9—1430—526—50—1	Adds a resistor and makes wiring changes in the PSI video gate. This MWO increases operational reliability of the circuit.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 340000.

Table 1-2. Modification Work Orders—Continued

MWO	Description	Effectivity
9–1430–526–50–2	Makes wiring changes in the display generator to improve signal-to-noise ratio on the IHIPIR video and trigger line. Improves reliability against targets having low signal strength characteristics.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 300000.
9–1430–526–50–3	Adds diode and makes wiring changes to the FC cover assembly to permit engagement of IHIPIR slow speed targets when the IROR is not operating. Changes diode in the FC relay assembly to relieve current drain on the diode when the IROR is utilized. Makes wiring changes to the TCC panel assembly so that only one refuse function per ADP request can be performed. Incorporates new relay and diodes in the FC relay assembly to prevent possible generation of fire pulse command when the IHIPIR switches from the test mode to the operational mode. Makes wiring changes to the FC cover assembly and FC relay assembly to prevent termination of an auto assignment when a manual speed command is designated. Makes wiring changes to the FC relay assembly by firing interlock assembly to make the autopilot command available during IHIPIR memory tracking in the casualty mode of operation.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 380000.
9–1430–526–50–4	Adds capacitor to TCC/FC video mixer to reduce voltage variations on the 100-vdc line.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 275011, and 300001 through 300015.
9–1430–526–50–5	Makes wiring changes to the IPAR set control and the FC short sweep generator to provide synchronism between the IFF and pulse repetition rate generated in the IBCC when the IPAR is not operating.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 340000.
9–1430–526–50–6	Makes wiring changes and adds one capacitor to TCO/TCA communications unit. Removes two capacitors from power supply interconnecting boards A1 and A2. Improves intrabattery communications.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 300001 through 380000.
9–1430–526–50–8	Adds relay and diode to firing interlock assemblies (A) and (B), and makes wiring changes to the fire control group and shelter harnesses. This MWO improves the firing capability and effectiveness of multiple firing sections.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 340000.
9–1430–526–50–9	Makes wiring changes to firing interlock assemblies (A) and (B) to inhibit missile firing commands to ILCHR's 2 and 3 when the IBCC is in the local firing circuit test mode.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 380000.

Table 1-2. Modification Work Orders—Continued

MWO	Description	Effectivity
9-1430-526-50-10	Makes wiring changes to prevent intra-battery telephone communications from being switched onto the hot line and IRR network radio circuits. Provides continuous hot line receive to the TCO left earpiece, and selected IRR network or hot line receive to the TCA left earpiece. Two new pushbutton switches are added to the front panel to facilitate ringing and transmitting over the hot line and IRR network radio circuits. Hot and IRR call lamps are also provided, including two other lamps which illuminate when the hot and IRR secondary radio circuits have been selected at the ICC/TM. This modification also includes a switch behind the front panel which allows for manual selection of an external 12-vdc battery source should the IBCC normal operating power fail or become interrupted.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 300001 through 380000.
9-1430-526-50-11	Makes wiring changes to the TCA panel assembly so that the ICWAR FAIL, ADP FAIL, FSA FAIL, and FSB FAIL lamps on the video control panel remain functional when the TCC console is deenergized.	Improved battery control central AN/TSW-8 (XO-1) with serial number 275001 through 380000.
9-1430-527-50-14	Adds capacitors to TCO/TCA communications unit for dc isolation.	Improved battery control central AN/TSW-8 (XO-1) with serial numbers 275001 through 275008, 300001 through 300015, and 345001 through 345025.

CHAPTER 2
OPERATING INSTRUCTIONS

Section I. CONTROLS AND INDICATORS

2-1. General

This section locates, describes, and illustrates the controls and indicators used in the operation of the IBCC.

2-2. Controls and Indicators

a. TCC. The controls and indicators of the TCC are located on the TCO panel assembly, the TCO control panel, the TCA panel assembly, the TCA control panel, and the video control panel. The controls and indicators for these assemblies and panels are illustrated in figures 2-1 through 2-5, and described in tables 2-1 through 2-5.

(1) The tracking lever (5, fig. 1-3) is used to position the tracking symbol (4, fig. 3-14) over a target on the display when assigning the target to one of the firing consoles during a manual engagement. There is a ratio control pushbutton on top of the tracking lever. It must be pressed whenever a target to be assigned appears in the PSI portion of the display.

(2) A DEFOG HEAT ON indicator lamp and a DEFOG RECYCLE switch (fig. 2-6) are located on the right side of the TCC, and described in table 2-6.

(3) A communications selector switch (1, fig. 2-7) is located on the left side of the TCC, and described in table 2-7.

b. CWTDC. The controls and indicators of the CWTDC are located on the CWTDC cover assembly and control shelf. They are illustrated in figures 2-8 and 2-9, and described in tables 2-8 and 2-9.

c. FC. The controls and indicators of the FC are located on the FC cover assembly, the FC control shelf, and the FC control panel. The controls and indicators of the two FC's are identical, and are illustrated in figures 2-10 through 2-13 and described in tables 2-10 through 2-13.

d. IBCC Status Indicator. The controls and indicators on the IBCC status indicator are illustrated in figure 2-14 and described in table 2-14.

e. Power Distribution Control. The controls and indicators on the power distribution control are illustrated in figure 2-15 and are described in table 2-15.

f. Total Time Elapsed Meter. A TOTAL TIME elapsed meter is provided to record the number of hours the IBCC has operated. It is illustrated in figure 2-16 and described in table 2-16.

g. ICG. The controls and indicators of the ICG are located only on the IPAR set control. They are illustrated in figure 2-17 and described in table 2-17.

h. IPAR Frequency Control. The controls and indicators of the IPAR frequency control are illustrated in figure 2-18 and described in table 2-18.

i. FCG. The controls and indicators of the FCG are located only on the IROR electronic control amplifier. They are illustrated in figure 2-19 and described in table 2-19.

j. Communications Equipment. The controls and indicators of the TCO/TCA communications unit and the FC or CWTDC communication unit are illustrated in figures 2-20 and 2-21, and described in tables 2-20 and 2-21, respectively.

k. Collective Protection System Control. The controls and indicators of the collective protection system control are located on the wall by the air conditioner. They are illustrated in figure 2-22 and described in table 2-22.

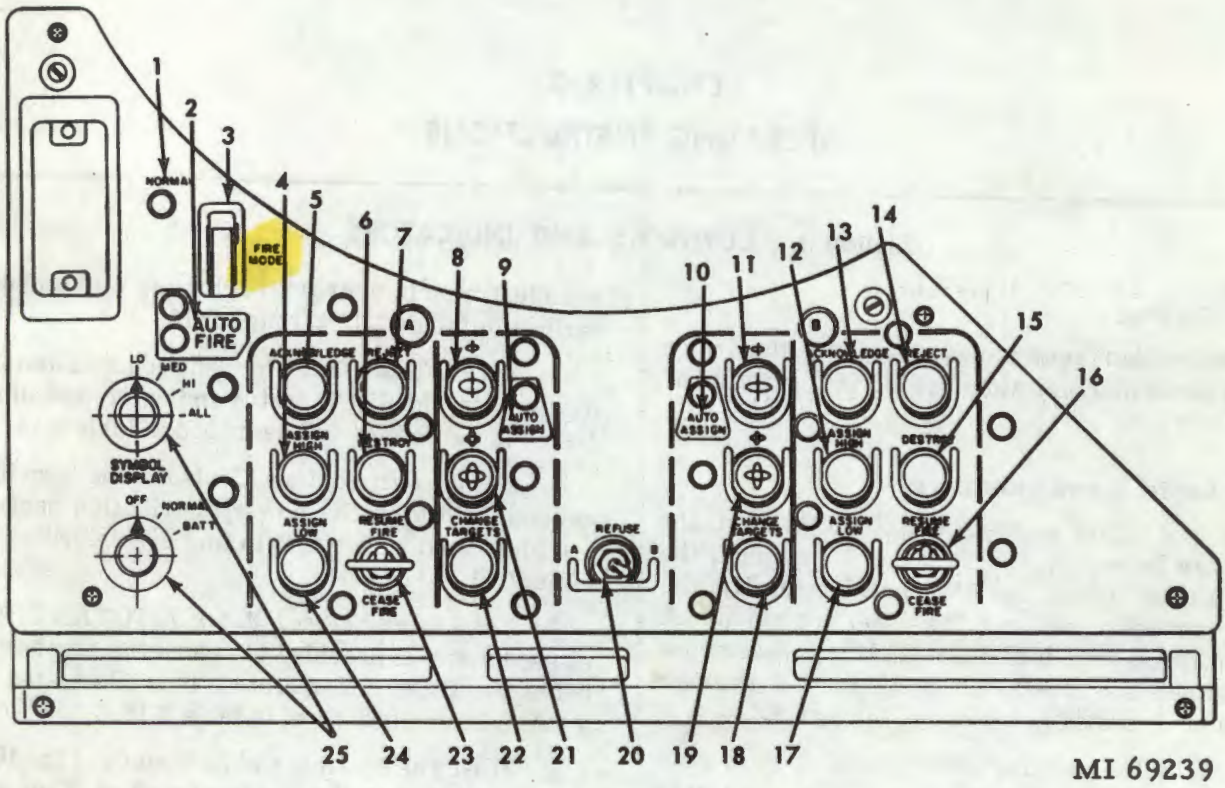


Figure 2-1. TCO panel assembly—controls and indicators.

Table 2-1. TCO Panel Assembly—Controls and Indicators (Fig. 2-1)

Key	Control or indicator	Function
1	NORMAL label	Continuously illuminated. Indicates the direction to press the FIRE MODE switch for normal operation.
2	AUTO FIRE label	Illuminates when the FIRE MODE switch is set to this position.
3	FIRE MODE switch	AUTO FIRE (down)—Conditions the battery for a completely automatic firing engagement on battery threat targets. NORMAL (up)—Conditions the battery for a normal firing engagement. This mode is identical to the automatic mode except that the missile is not fired until the TCO assigns one of the firing consoles by pressing the flashing category I or II pushbutton.
4	ASSIGN HIGH (A) pushbutton	Assigns a high-altitude target to FC A (manual mode).
5	ACKNOWLEDGE (A) pushbutton	Sends an acknowledge (A) signal to the AADCP.
6	DESTROY (A) pushbutton	Destroys any missile in flight launched by FC A.
7	REJECT pushbutton (A)	Sends a no kill (A) signal to the AADCP to signify that the assigned target cannot be engaged by FC A.
8	Category I (A) pushbutton	Flashes when the ADP assigns the first target in its file to FC A. Engagement is accepted when pressed.
9	AUTO ASSIGN (A) label	Illuminates when the ADP has assigned a target to FC A.
10	AUTO ASSIGN (B) label	Illuminates when the ADP has assigned a target to FC B.

Table 2-1. TCO Panel Assembly—Controls and Indicators (Fig. 2-1)—Continued

Key	Control or indicator	Function
11	Category I (B) pushbutton	Flashes when the ADP assigns the first target in its file to FC B. Engagement is accepted when pushbutton is pressed.
12	ASSIGN HIGH (B) pushbutton	Assigns a high-altitude target to FC B (manual mode).
13	ACKNOWLEDGE (B) pushbutton	Sends an acknowledge (B) signal to the AADCP.
14	REJECT (B) pushbutton	Sends a no kill (B) signal to the AADCP to signify that the assigned target cannot be engaged by FC B.
15	DESTROY (B) pushbutton	Destroys any missile in flight launched by FC B.
16	RESUME FIRE/CEASE FIRE (B) switch	CEASE FIRE—Commands FC B to discontinue firing on the target and interrupts firing circuits. RESUME FIRE—Commands FC B to resume firing on the target and enables firing circuits.
17	ASSIGN LOW (B) pushbutton	Assigns a low-altitude target to FC B (manual mode).
18	CHANGE TARGETS (B) pushbutton	Commands FC B to break lock on the present target and track the newly assigned target.
19	Category II (B) pushbutton	Flashes when the ADP assigns the second target in its file to FC B.
20	REFUSE switch	A—Cancels the ADP request for target assignment to FC A. B—Cancels the ADP request for target assignment to FC B.
21	Category II (A) pushbutton	Flashes when the ADP assigns the second target in its file to FC A.
22	CHANGE TARGETS (A) pushbutton	Commands FC A to break lock on the present target and track the newly assigned target.
23	RESUME FIRE/CEASE FIRE (A) switch	CEASE FIRE—Commands FC A to discontinue firing on the target, and interrupts the firing circuits. RESUME FIRE—Commands FC A to resume firing on the target, and enables the firing circuits.
24	ASSIGN LOW (A) pushbutton	Assigns a low-altitude target to FC A (manual mode).
25	SYMBOL DISPLAY switches	LO—Allows all friendly, other battery tracks, and hostile symbols that are in low altitude to appear on the TCC CRT display. MED—Allows all friendly, other battery tracks, and hostile symbols that are in medium altitude to appear. HI—Allows all friendly, other battery tracks, and hostile symbols that are in high altitude to appear. ALL—Allows all friendly, other battery tracks, and hostile symbols at every altitude to appear. OFF—Removes all AADCP symbols from the display. NORMAL—Permits all symbols to be seen on the display. BATT—Restores all symbols blanked out by the AADCP assignment.

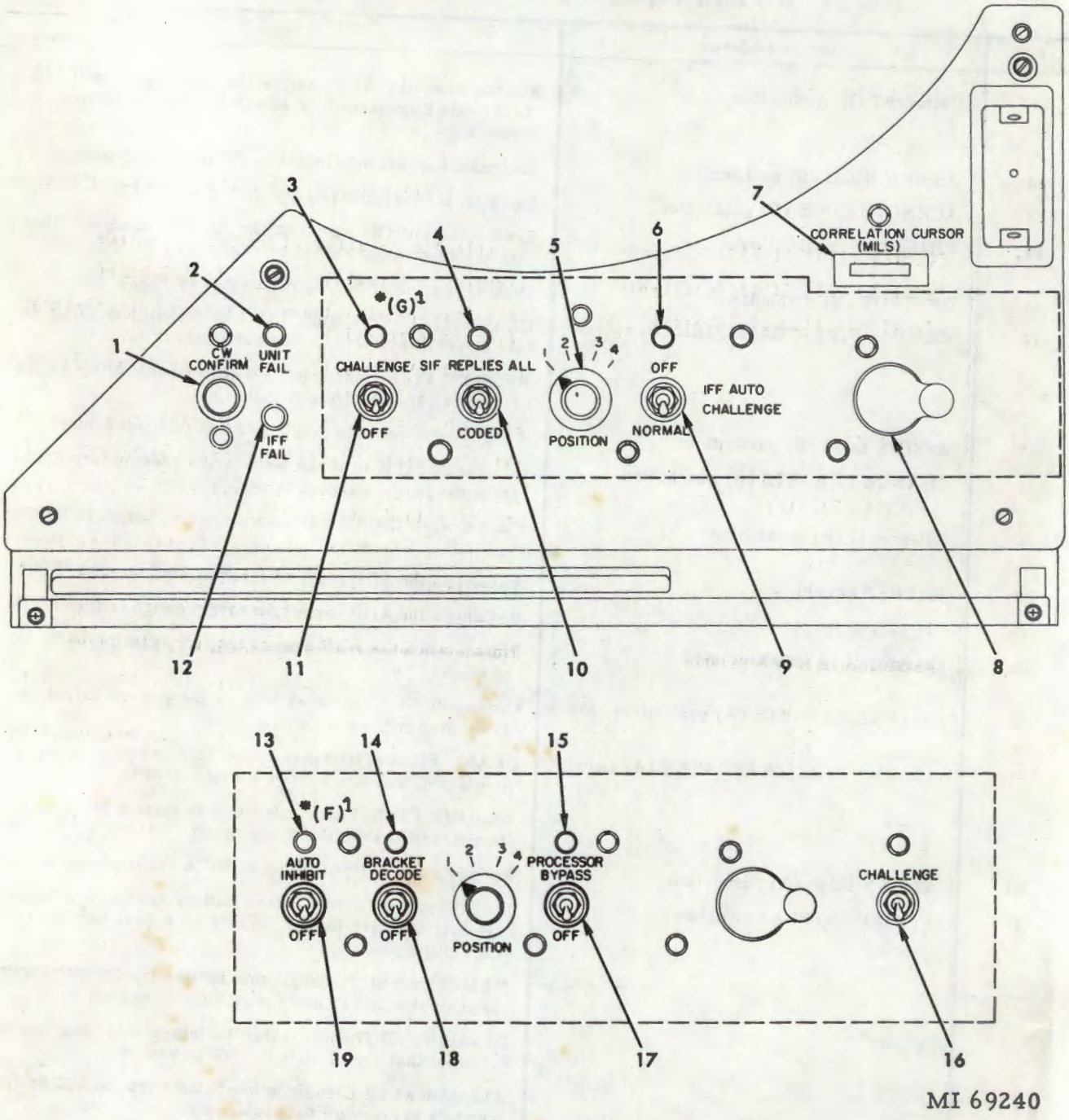


Figure 2-2. TCA panel assembly—controls and indicators.

Table 2-2. TCA Panel Assembly—Controls and Indicators (Fig. 2-2)

Key	Control or indicator	Function
1	CW CONFIRM pushbutton	Flashes to alert the TCC of a newly detected PSI target. When pressed, indicates acceptance of the target.
2	UNIT FAIL lamp	Illuminates when a failure is detected in one of the IBCC electronic modules.
3	CHALLENGE lamp	Illuminates if the IFF transmitter operates properly when the CHALLENGE switch is set to CHALLENGE.

[1] Refer to appendix E for serial number effectivity

Table 2-2. TCA Panel Assembly—Controls and Indicators (Fig. 2-2)—Continued

Key	Control or Indicator.	Function
4	SIF REPLIES ALL lamp	Illuminates when the code switch is set to SIF REPLIES ALL.
5	POSITION switch	Selects one of the interrogation modes to which specific aircraft transponders are coded.
6	OFF lamp	Flashes when the IFF AUTO CHALLENGE switch is set to OFF.
7	CORRELATION CURSOR counter	Indicates the correlation cursor azimuth in mils.
8	CORRELATION CURSOR handwheel	Positions the correlation cursor on the TCC display.
9	IFF AUTO CHALLENGE switch	OFF—Prevents selected interrogation signals from being automatically transmitted.
		NORMAL—Permits selected interrogation signals to be automatically transmitted.
10	Code switch	SIF REPLIES ALL—Permits all IFF replies to be displayed.
		CODED—Permits only the coded IFF replies to be displayed.
11	CHALLENGE switch	Allows selected interrogation signals to be manually transmitted by the TCA.
12	IFF FAIL lamp	Illuminates when a failure is detected in the IFF equipment.
13	AUTO INHIBIT lamp	Illuminates when the AUTO INHIBIT switch is on.
14	BRACKET DECODE lamp	Illuminates when the BRACKET DECODE switch is on.
15	PROCESSOR BYPASS lamp	Illuminates when the PROCESSOR BYPASS switch is on.
16	CHALLENGE switch	Allows selected interrogation signals to be manually transmitted.
17	PROCESSOR BYPASS switch	On (up)—Permits IFF video to bypass a malfunctioning IFF processor in the IFF equipment.
		OFF—Permits normal IFF video processing.
18	BRACKET DECODE switch	On (up)—Decodes bracket pulses in response to an IFF interrogation.
		OFF—Disables decoding function.
19	AUTO INHIBIT switch	On (up)—Disables automatic challenging by the ADP.
		OFF—Enables automatic challenging by the ADP.

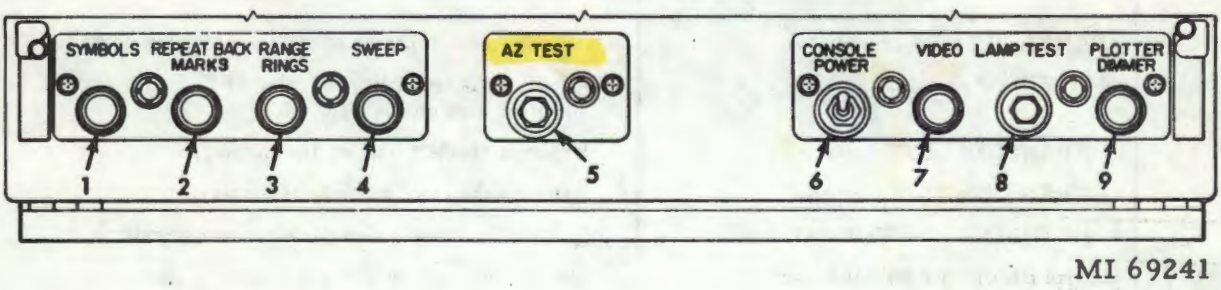


Figure 2-3. TCO control panel—controls and indicators.

Table 2-3. TCO Control Panel—Controls and Indicators (Fig. 2-3)

Key	Control or indicator	Function
1	SYMBOLS control	Simultaneously adjusts the intensity of the tracking symbol, AADCP symbols, correlation cursor, and PSI cursor on the TCC CRT display.
2	REPEAT BACK MARKS control	Adjusts the intensity of the IHIPIR azimuth and range repeatback marks on the TCC CRT display.
3	RANGE RINGS control	Adjusts the intensity of the PPI range rings and the PSI speed rings on the TCC CRT display.
4	SWEEP control	Adjusts the intensity of the sweep on the TCC CRT display.
5	AZ TEST switch[1]	Commands the ADP to display sector of coverage on the TCC.
6	CONSOLE POWER switch	Applies 28-vdc power to the TCC circuits and high-voltage power to the TCC CRT.
7	VIDEO control	Adjusts the PPI and PSI mixed video intensity on the TCC CRT mixed video.
8	LAMP TEST pushbutton	With console power on, illuminates all lamps on the TCC and status panel except the edge lighting lamps.
9	PLOTTER DIMMER control	Adjusts the brightness of the reflection plotter.

[1]For periodic checks and adjustments, refer to chapter 3.

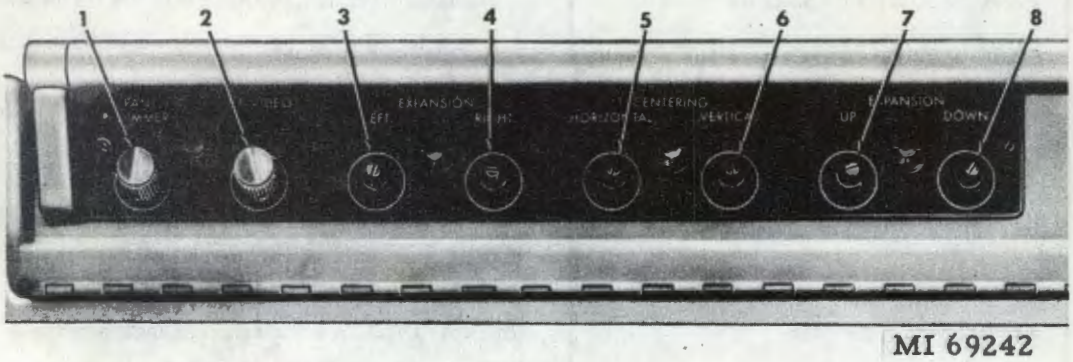


Figure 2-4. TCA control panel—controls and indicators.

Table 2-4. TCA Control Panel—Controls and Indicators (Fig. 2-4)—Continued

Key	Control or indicator	Function
1	PANEL DIMMER control	Adjusts the brightness of the indicator lamps on the TCC.
2	IFF VIDEO control	Adjusts the intensity of the IFF video and sector-of-interest arcs on the TCC CRT.
3	EXPANSION LEFT control[1]	Expands the left half of the display.
4	EXPANSION RIGHT control[1]	Expands the right half of the display.
5	CENTERING HORIZONTAL control[1]	Centers the display along the horizontal axis.
6	CENTERING VERTICAL control[1]	Centers the display along the vertical axis.
7	EXPANSION UP control[1]	Expands the top half of the display.
8	EXPANSION DOWN control[1]	Expands the lower half of the display.

[1]For periodic checks and adjustments, refer to chapter 3.

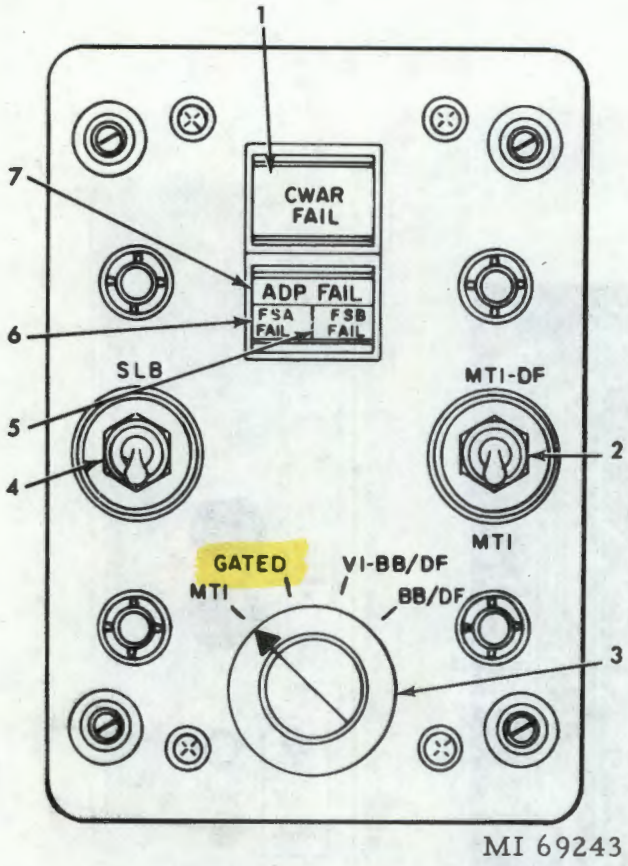


Figure 2-5. Video control panel—controls and indicators.

Table 2-5. Video Control Panel—Controls and Indicators (Fig. 2-5)

Key	Control or indicator	Function
1	CWAR FAIL lamp	Illuminates if a catastrophic failure occurs at the ICWAR.
2	MTI-DF-MTI switch	MTI-DF—Conditions the IPAR for dicke fix moving target indicator (MTI) video operation. MTI—Conditions the IPAR for only MTI video operation.
3	Video selector switch	MTI—Selects MTI video for display on the TCC and FC CRT's. GATED—Selects gated MTI video for display on the TCC and FC CRT's. VI-BB/DF—Selects integrated video which has been back biased or dicke fixed for display on the TCC and FC CRT's. BB/DF—Selects normal video which has been back biased or dicke fixed for display on the TCC and FC CRT's.
4	SLB switch	Activates side-lobe blanking in the IPAR.
5	FSB FAIL lamp	All lamps illuminate if a failure occurs at any of the corresponding units. The lamps also illuminate if the ADP BCC A/D switch is in the TEST position.
6	FSA FAIL lamp	
7	ADP FAIL lamp	

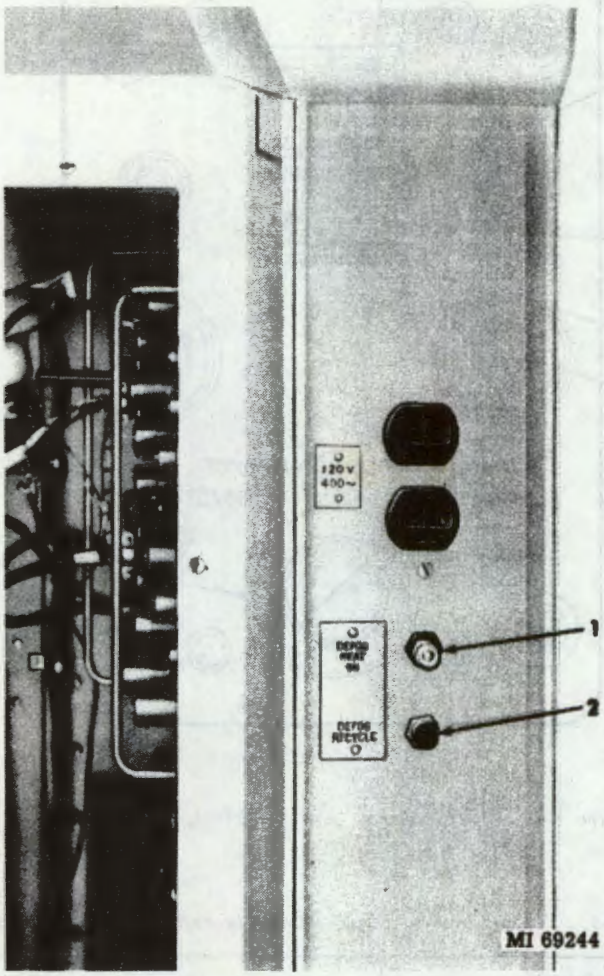


Figure 2-6. Defog—controls and indicators.

Table 2-6. Defog—Controls and Indicators (Fig. 2-6)

Key	Control or indicator	Function
1	DEFOG HEAT ON lamp	Indicates defog circuit is energized.
2	DEFOG RECYCLE switch	Recycles defog circuit through a 15-minute interval.

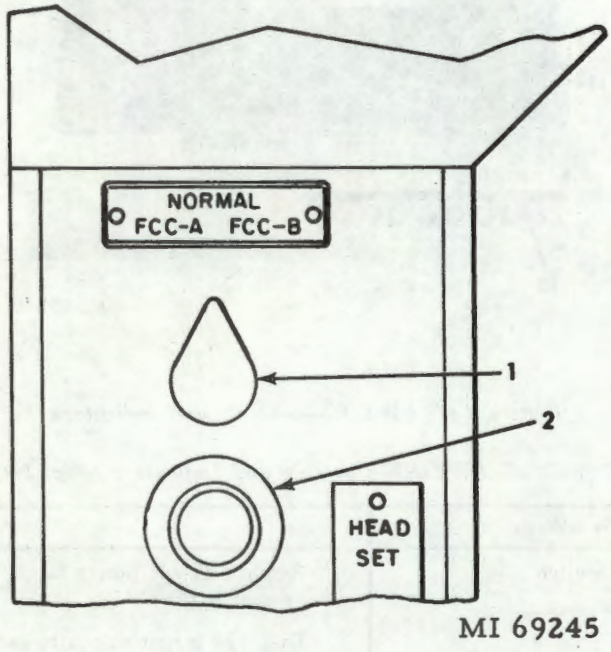


Figure 2-7. Headset—controls and indicators.

Table 2-7. Headset—Controls and Indicators (Fig. 2-7)

Key	Control or indicator	Function
1	Communications selector switch	FCC-A—Connects TCO headset to FC A *(AF) *(D)[2]. NORMAL—Connects TCO headset to operational control line. FCC-B—Connects TCO headset to FC B *(AF) *(D)[2].
2	HEADSET connector[1]	Connects to TCO headset.

[1]For periodic checks and adjustments, refer to chapter 3.

[2]Refer to appendix E for serial number effectivity.

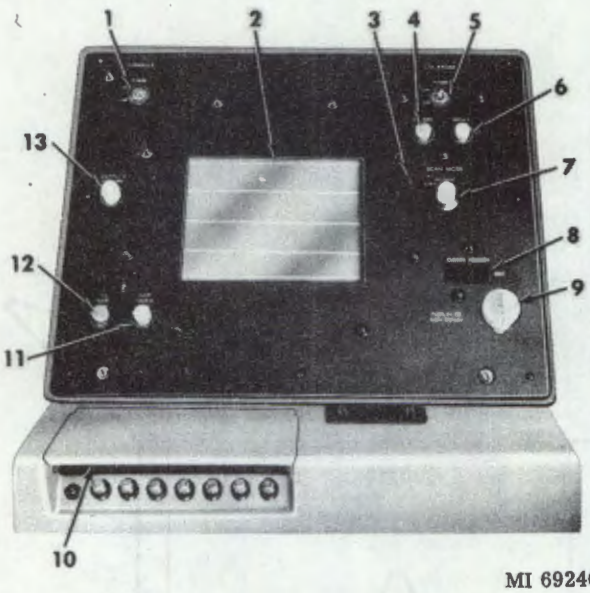


Figure 2-8. CWTDC—controls and indicators.

Table 2-8. CWTDC—Controls and Indicators (Fig. 2-8)

Key	Control or indicator	Function
1	CONSOLE POWER switch	Applies 28-vdc power to the ASI circuits and high-voltage power to the CRT.
2	Indicator	Displays target azimuth, range, and speed information derived from the ICWAR.
3	Cw lamp	Indicates SCAN MODE switch is in the CW position.
4	CW RADAR STANDBY pushbutton	Places the ICWAR in the standby mode.
5	CW RADAR POWER switch	Places the ICWAR to off or from off to standby.
6	CW RADAR RADIATE pushbutton	Places the ICWAR in the radiate mode provided standby has been activated for 30 seconds.
7	SCAN MODE switch	CW—Commands the ICWAR to rotate independently of the IPAR.
		NORMAL—Permits the ICWAR to rotate in synchronism with the IPAR.
8	CURSOR AZIMUTH counter	Indicates the azimuth of the cursor in mils.
9	Cw cursor handwheel	Normal—Moves the cursor in azimuth and activates the CURSOR AZIMUTH counter.
		Depressed—Moves the CRT display right or left.
10	CWTDC control shelf[1]	Adjustments to the CWTDC controls and indicators.
11	ALERT CANCEL pushbutton	Cancels the alert of a detected PSI target made to the TCC.
12	TCC ALERT pushbutton	Alerts the TCC of a newly detected PSI target, and enables the PSI cursor.
13	DOPPLER VOLUME control	Varies the volume of the doppler audio.

[1]For periodic checks and adjustments, refer to chapter 3.

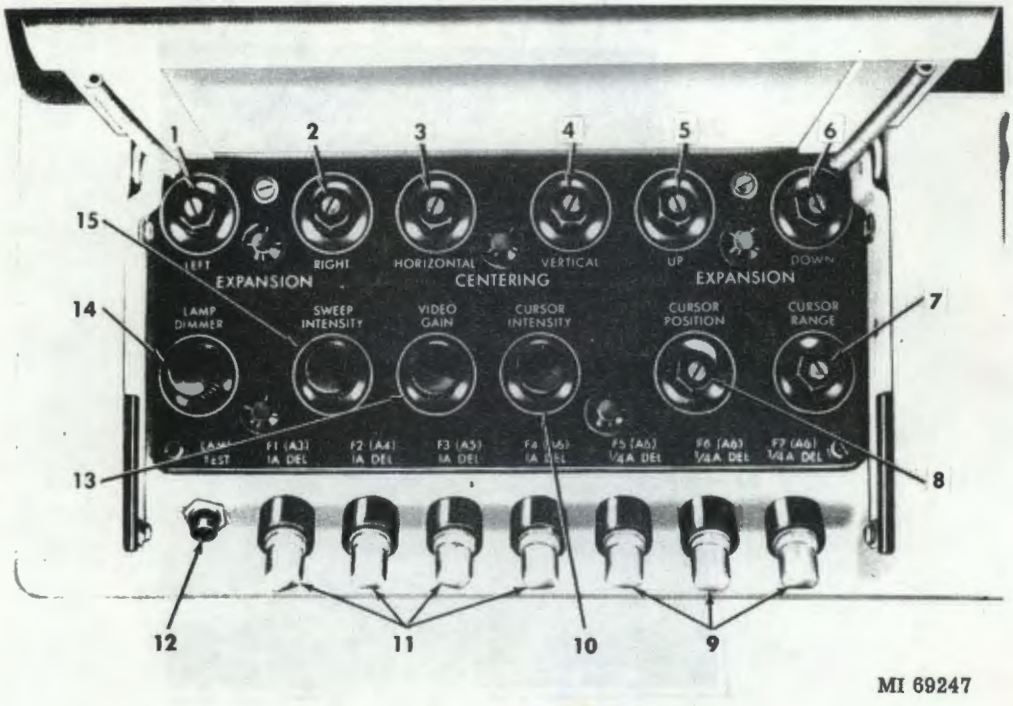


Figure 2-9. CWTDC control shelf—controls and indicators.

Table 2-9. CWTDC Control Shelf—Controls and Indicators (Fig. 2-9)

Key	Control or indicator	Function
1	EXPANSION LEFT control[1]	Expands the horizontal sweep at the left side of the CRT.
2	EXPANSION RIGHT control[1]	Expands the horizontal sweep at the right side of the CRT.
3	CENTERING HORIZONTAL control[1]	Horizontally positions the CRT display.
4	CENTERING VERTICAL control[1]	Vertically positions the CRT display.
5	EXPANSION UP control[1]	Expands the vertical sweep at the upper area of the CRT.
6	EXPANSION DOWN control[1]	Expands the vertical sweep at the lower area of the CRT.
7	CURSOR RANGE control[1]	Positions the cw cursor over the range covered by the CRT sweep.
8	CURSOR POSITION control[1]	Positions the cw cursor on the CRT.
9	F5, F6, F7 (A6) 1/4A DEL delay fuses	Fuses 115-vac, 3-phase, 400-Hz input power to the 10-kv power supply to prevent circuit overload. Indicator lamps illuminate when fuses are open.
10	CURSOR INTENSITY control	Adjusts the intensity of the cursor on the CRT display.
11	F1 (A3), F2 (A4), F3 (A5), F4 (A6) 1A DEL delay fuses	Prevents equipment damage due to circuit overload. Indicator lamps illuminate when fuses are open.
12	LAMP TEST pushbutton	With console power on, illuminates all lamps on the CWTDC except edge lighting lamps.
13	VIDEO GAIN control	Adjusts the intensity of the video on the CRT display.
14	LAMP DIMMER control	Adjusts the brightness of the lamps in the TCC ALERT and the CW RADAR STANDBY and RADIATE pushbuttons on the CWTDC.
15	SWEEP INTENSITY control	Adjusts the intensity of the sweep on the CRT.

[1]For periodic checks and adjustments, refer to chapter 3

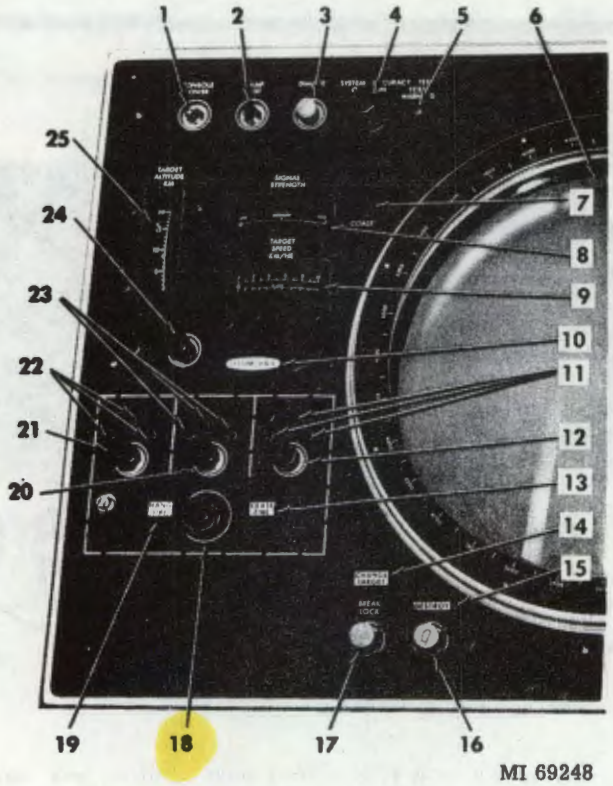


Figure 2-10. FC cover assembly, left side—controls and indicators.

Table 2-10. FC Cover Assembly, Left Side—Controls and Indicators (Fig. 2-10)

Key	Control or indicator	Function
1	CONSOLE POWER switch	Applies 28-vdc power to the FC circuits and high-voltage power to the CRT.
2	LAMP TEST pushbutton	Illuminates all indicator lamps and pushbutton switches except edge lighting lamps.
3	DIMMER control	Adjusts the brightness of some of the indicator lamps.
4	SYSTEM ACCURACY TEST switch	ON—Simulates IHIPIR repeatback mark for checking alinement accuracy of the IHIPIR. OFF—Permits normal operation of firing console.
5	TEST WARNING lamp	Flashes when SYSTEM ACCURACY TEST switch is on.
6	PPI and PSI display CRT	PPI—Presents azimuth and range of targets. PSI—Presents azimuth and speed of targets.
7	COAST label	Flashes when the IHIPIR has temporarily lost lock on the target.
8	SIGNAL STRENGTH meter	Indicates the doppler signal strength of the target being tracked.
9	TARGET SPEED meter	Indicates in kilometers per hour the ground speed of the target on which the IHIPIR is locked.
10	ILLUM FAIL label	Flashes if the IHIPIR test sequence was not successful.
11	Launcher 3 missile present lamps	Total number of illuminated lamps indicates the total number of missiles present on launcher 3.
12	Launcher 3 select pushbutton	Overrides the automatic launcher selection function, and permits the firing of a missile from launcher 3.

Table 2-10. FC Cover Assembly, Left Side—Controls and Indicators (Fig. 2-10)—Continued

Key	Control or indicator	Function
13	CEASE FIRE label	Illuminates when a cease fire command is given.
14	CHANGE TARGET label	Flashes when a change target command is given.
15	DESTROY label	Illuminates when a destruct command is being transmitted to a missile in flight.
16	Destroy (D) pushbutton	Commands self-destruct to a missile in flight.
17	BREAK LOCK pushbutton	Breaks IHIPIR lock on a target. Illuminates if ICC TM causes breaklock. Also terminates manual range and speed, AFC hold, and missile code commands.
18	Fire (F) pushbutton	Fires the second and subsequent missiles from a selected launcher in the normal or automatic mode. Fires all missiles in a manual engagement.
19	HANG FIRE label	Illuminates if the missile has not left the launcher after a fire command has been given.
20	Launcher 2 select pushbutton	Overrides the automatic launcher selection function, and permits the firing of a missile from launcher 2.
21	Launcher 1 select pushbutton	Overrides the automatic launcher selection function, and permits the firing of a missile from launcher 1.
22	Launcher 1 missile present lamps	Total number of illuminated lamps indicates total number of missiles present on launcher 1.
23	Launcher 2 missile present lamps	Total number of illuminated lamps indicates total number of missiles present on launcher 2.
24	IHIPIR test pushbutton	Furnishes 28 vdc to the IHIPIR to initiate the test sequence.
25	TARGET ALTITUDE meter	Indicates altitude in kilometers of the target on which the IHIPIR is locked.

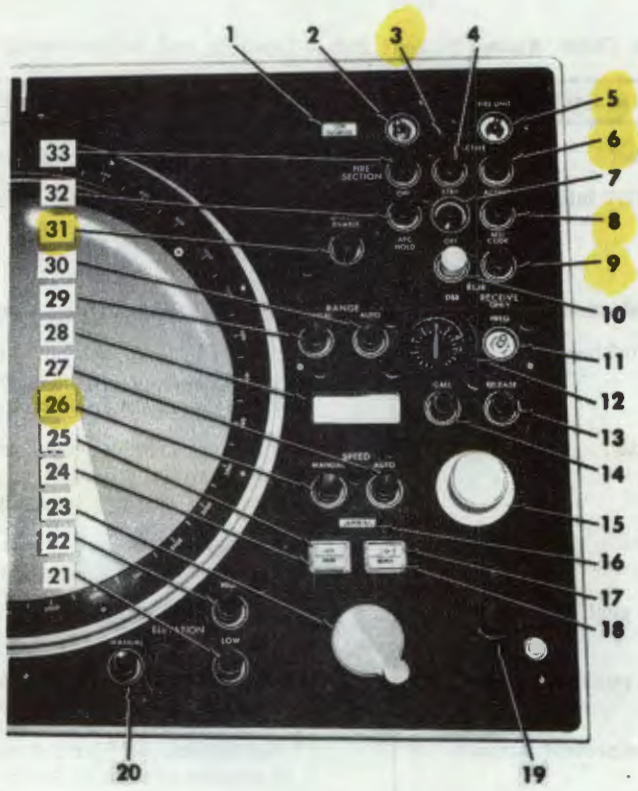


Figure 2-11. FC cover assembly, right side—controls and indicators.

Table 2-11. FC Cover Assembly, Right Side—Controls and Indicators (Fig. 2-11)

Key	Control or indicator	Function
1	CCM OVERRIDE label	Illuminates when the CCM OVERRIDE switch is activated.
2	CCM OVERRIDE switch	Prevents the IHIPIR from going into the CCM mode of operation.
3	FIRE UNIT ACTIVE lamp	Illuminates when the FIRE UNIT switch is pressed.
4	FIRE SECTION STBY pushbutton	Places the ILCHR and IHIPIR in the standby mode.
5	FIRE UNIT switch	ACTIVE—Provides a fire section available signal to the ADP. Indicates to the AADCP that the firing section is activated with the IHIPIR in remote-standby or activate, and that the ADP mode has been selected at the firing interlock assembly. OFF—Indicates to the ADP and AADCP that the firing section is out of action.
6	FIRE SECTION ACTIVE pushbutton	Places the IHIPIR in the radiate mode.
7	OFF pushbutton	Deactivates the AFC HOLD and MSL CODE pushbutton functions.
8	MSL CODE pushbutton	Conditions the missile for the special mode of operation, provided that the SPEED MANUAL pushbutton has been activated.
9	ROR RECEIVE ONLY pushbutton	Activates the IROR receiver, but not the transmitter.
10	ROR DBB pushbutton	Removes the IROR from the detector back bias video mode.

Table 2-11. FC Cover Assembly, Right Side—Controls and Indicators (Fig. 2-11)—Continued

Key	Control or indicator	Function
11	FREQ switch	Increases or decreases the IROR frequency.
12	Frequency meter	Indicates the IROR frequency.
13	RELEASE pushbutton	Releases the IROR tracking circuits.
14	CALL pushbutton	Activates the IROR transmitter and receiver circuits when the IROR is available.
15	Range and rate control handwheel	Normal–Moves the IROR range pedestal on the range/speed indicator.
		Depressed–Expands the range display on the range/speed indicator and permits setting up a range rate.
		Released–Changes the range display on the range/speed indicator back to normal and permits sending of range information to the IHIPIR.
16	JAMMING label	Flashes when the IHIPIR is being jammed. Remains continuously illuminated when range rate has been established.
17	LOCK lamp	Illuminates when the IHIPIR is locked on a target.
18	SEARCH lamp	Illuminates when the IHIPIR is in boxsearch for a target.
19	Speed control	Simultaneously positions the IHIPIR speed display on the range/speed indicator and adjusts the speed output to the IHIPIR.
20	ELEVATION MANUAL pushbutton	Allows manual positioning of the IHIPIR antenna from 0 to 1600 mils in elevation.
21	ELEVATION LOW pushbutton	Places the IHIPIR antenna in the low elevation search mode.
22	ELEVATION HIGH pushbutton	Places the IHIPIR antenna in the high elevation search mode.
23	Azimuth handwheel	Simultaneously positions the cursor on the FC CRT display and commands the IHIPIR antenna to the same azimuth provided the IHIPIR is not locked on a target.
24	ASSIGN lamp	Illuminates during a manual engagement.
25	AUTO lamp	Illuminates during an automatic engagement by the ADP.
26	SPEED MANUAL pushbutton	Commands the IHIPIR to receive manual speed information from the IBCC. Enables the MSL CODE pushbutton and the AFC HOLD pushbutton.
27	SPEED AUTO pushbutton	Permits the IHIPIR to determine speed information.
28	Range/speed indicator	Displays IROR target video or IHIPIR doppler spectrum.
29	RANGE MANUAL pushbutton	Commands the IHIPIR to receive manual ranging information from the IBCC.
30	RANGE AUTO pushbutton	Permits the IHIPIR to determine range information.
31	DISPLAY ENABLE pushbutton	Displays IHIPIR doppler spectrum on the rangespeed indicator even if the IHIPIR is not assigned.
32	AFC HOLD pushbutton	Conditions certain CCM circuits in the IHIPIR.
33	FIRE SECTION OFF pushbutton	Deenergizes the firing section.

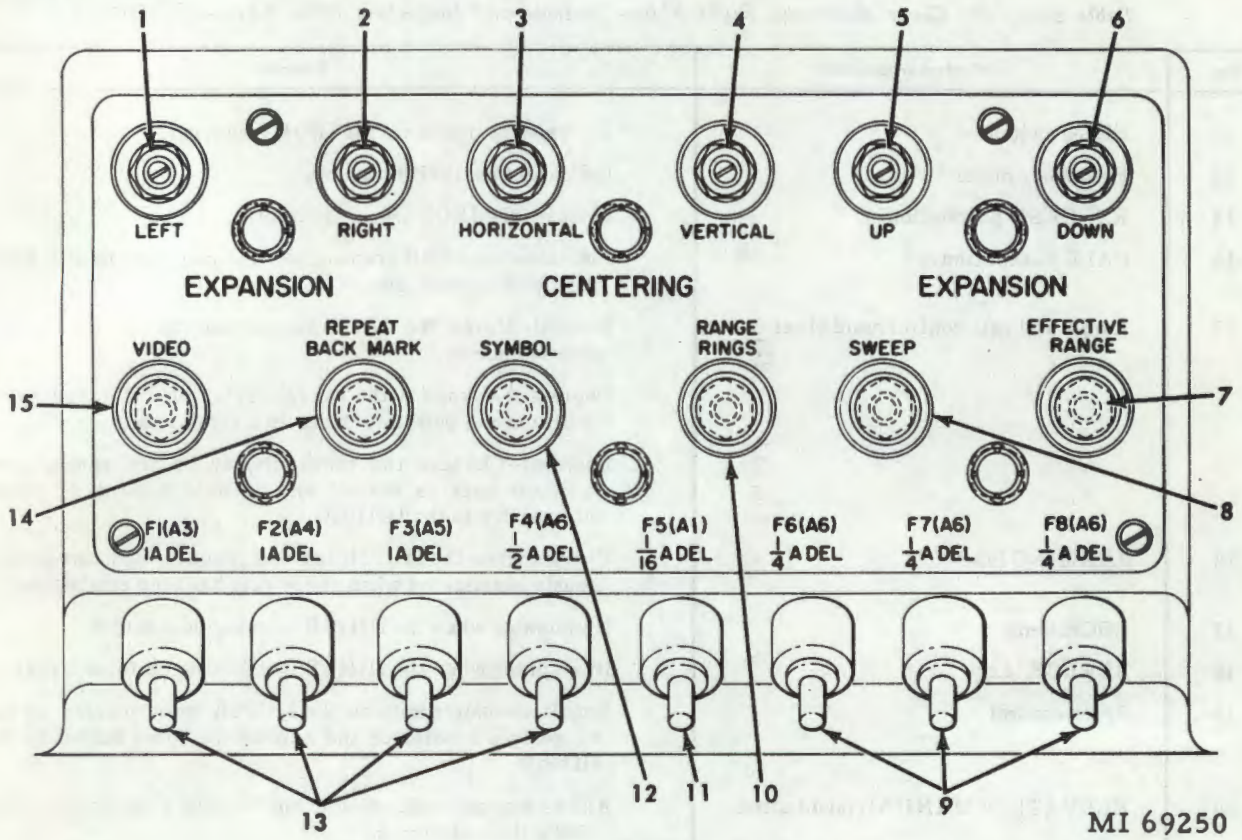


Figure 2-12. FC control shelf—controls and indicators.

Table 2-12. FC Control Shelf—Controls and Indicators (Fig. 2-12)

Key	Control or indicator	Function
1	EXPANSION LEFT control[1]	Expands the left half of the display.
2	EXPANSION RIGHT control[1]	Expands the right half of the display.
3	CENTERING HORIZONTAL control[1]	Centers the display along the horizontal axis.
4	CENTERING VERTICAL control[1]	Centers the display along the vertical axis.
5	EXPANSION UP control[1]	Expands the top half of the display.
6	EXPANSION DOWN control[1]	Expands the lower half of the display.
7	EFFECTIVE RANGE control	Not used.
8	SWEEP control	Adjusts the intensity of the sweep.
9	F6, F7, F8 (A6) 1/4A DEL fuses	Prevent damage due to circuit overload. Indicator lamps illuminate when the fuses are open.
10	RANGE RINGS control	Adjusts the intensity of the range and PSI rings.
11	F5 (A1) 1/16A DEL fuse	Prevents damage due to circuit overload. Indicator lamp illuminates when the fuse is open.
12	SYMBOL control	Adjusts the intensity of the tracking symbol and cursor.
13	F1 (A3), F2 (A4), F3 (A5), F4 (A6) DEL fuses	Prevent damage due to circuit overload. Indicator lamps illuminate when the fuses are open.
14	REPEAT BACK MARK control	Adjusts the intensity of the azimuth and range repeatback marks.
15	VIDEO control	Adjusts the intensity of the PPI and PSI video display.

[1]For periodic check and adjustments, refer to chapter 3.

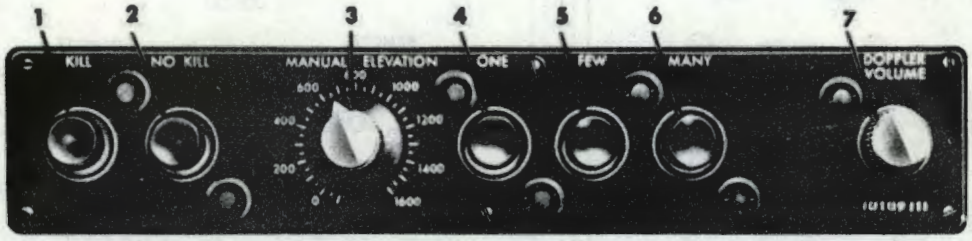


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Figure 2-13. FC control panel—controls and indicators.

Table 2-13. FC Control Panel—Controls and Indicators (Fig. 2-13)

Key	Control or indicator	Function
1	KILL pushbutton	Indicates on the status indicator that the target engagement was effective, transmits his information on the AADCP, and terminates the engagement.
2	NO KILL pushbutton	Indicates on the status indicator that the target engagement was ineffective, transmits this information to the AADCP, and terminates the engagement.
3	MANUAL ELEVATION control	Manually positions the IHIPIR antenna from 0 to 1600 mils in elevation.
4	ONE pushbutton	Indicates on the status indicator the estimated size of the raid as one and transmits this information to the AADCP.
5	FEW pushbutton	Indicates on the status indicator the estimated size of the raid as few, and transmits this information to the AADCP.
6	MANY pushbutton	Indicates on the status indicator the estimated size of the raid as many, and transmits this information to the AADCP.
7	DOPPLER VOLUME control	Adjusts the doppler volume from the IHIPIR.

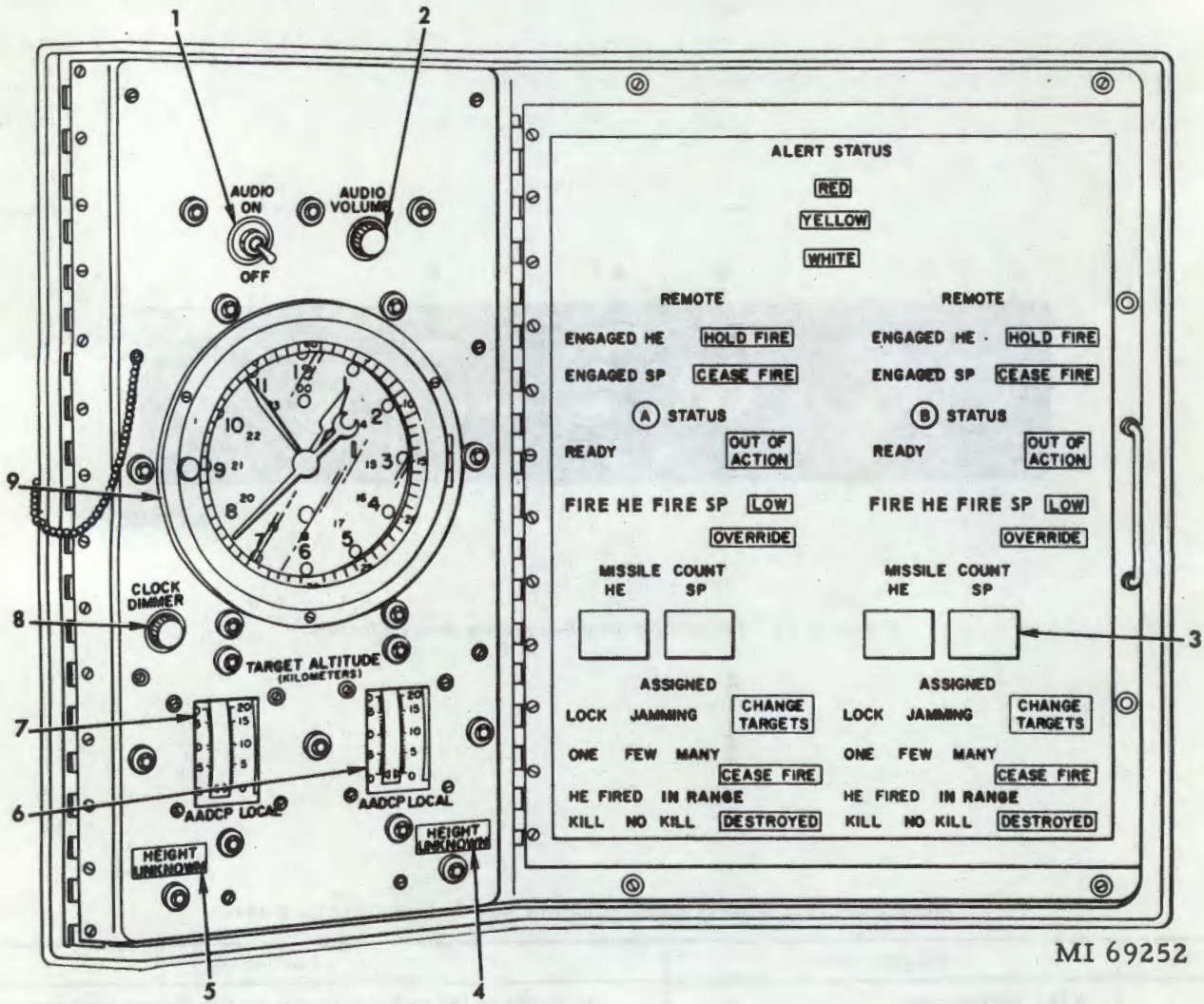

Figure 2-14. IBCC status indicator—controls and indicators.

Table 2-14. IBCC Status Indicator—Controls and Indicators (Fig. 2-14)

Key	Control or indicator	Function
1	AUDIO switch	Energizes the loudspeaker.
2	AUDIO VOLUME control	Adjusts the volume of the loudspeaker.
3	MISSILE COUNT deactron tubes	Indicates the number of missiles available at each firing section.
4	HEIGHT UNKNOWN (B) lamp	Illuminates when the altitude of the AADCP target for FC B is unknown.
5	HEIGHT UNKNOWN (A) lamp	Illuminates when the altitude of the AADCP target for FC A is unknown.
6	TARGET ALTITUDE (B) meter	AADCP—Indicates the height of aircraft as designated by the AADCP for FC B.
		LOCAL—Indicates the height of aircraft being tracked by IHIPIR B.
7	TARGET ALTITUDE (A) meter	AADCP—Indicates the height of aircraft as designated by the AADCP for FC A.
		LOCAL—Indicates the height of aircraft being tracked by IHIPIR A.

Table 2-14. IBCC Status Indicator—Controls and Indicators (Fig. 2-14)—Continued

Key	Control or indicator	Function
8	CLOCK DIMMER control	Varies the brightness of the lamps illuminating the face of the clock.
9	Clock (manual wind)	Indicates the time.

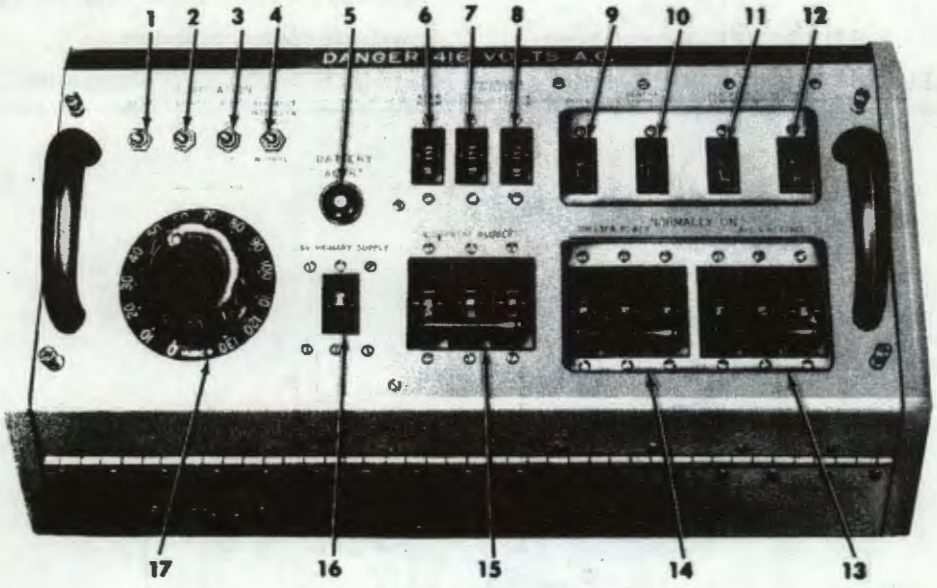

Figure 2-15. Power distribution control—controls and indicators.

Table 2-15. Power Distribution Control—Controls and Indicators (Fig. 2-15)

Key	Control or indicator	Function
1	ILLUMINATION CONSOLES switch	Illuminates all console floor lamps.
2	ILLUMINATION OVERHEAD switch	Illuminates the overhead lamps.
3	ILLUMINATION BLUE switch	Illuminates the blue ceiling lamps.
4	ILLUMINATION BLACKOUT INTERLOCK switch	NORMAL—Prevents the floor and overhead lamps from illuminating when the IBCC access door is open.
		OVERRIDE—Allows the floor and overhead lamps to illuminate when the IBCC access door is either open or closed.
5	BATTERY ALERT switch	Energizes the siren.
6	EMER ILLUM circuit breaker	Illuminates the emergency lamps.
7	CONVENIENCE OUTLETS TCC CWTDC circuit breaker	Applies power to the TCC and the CWTDC convenience outlets, and the TCC defog circuit.
8	CONVENIENCE OUTLETS FCC-A FCC-B circuit breaker	Applies power to the convenience outlets of FC A and FC B.
9	SIREN circuit breaker	Applies power to the BATTERY ALERT switch.
10	GENERAL ILLUMINATION circuit breaker	Applies power to the ILLUMINATION CONSOLE and ILLUMINATION OVERHEAD switches.
11	BLACKOUT ILLUMINATION circuit breaker	Applies power to the ILLUMINATION BLUE switch.
12	PLOTTING BOARD circuit breaker	Applies power to the plotting board control.

Table 2-15. Power Distribution Control—Controls and Indicators (Fig. 2-15)—Continued

Key	Control or indicator	Function
13	A/C & HEATING circuit breaker	Applies power to the air conditioner, heater, and collective protection system control.
14	SHELTER POWER circuit breaker	Applies 416-vac, 400-Hz, 3-phase power to the ac lighting power supply.
15	EQUIPMENT BLOWERS circuit breaker	Applies power to the blower motors of the consoles (TCC, FC's, and CWTDC), shelter, ICG, and FCG.
16	28V LIGHTING SUPPLY circuit breaker	Provides 28 vdc for the shelter.
17	ILLUMINATION DIMMER control	Controls the brightness of illumination lamps.

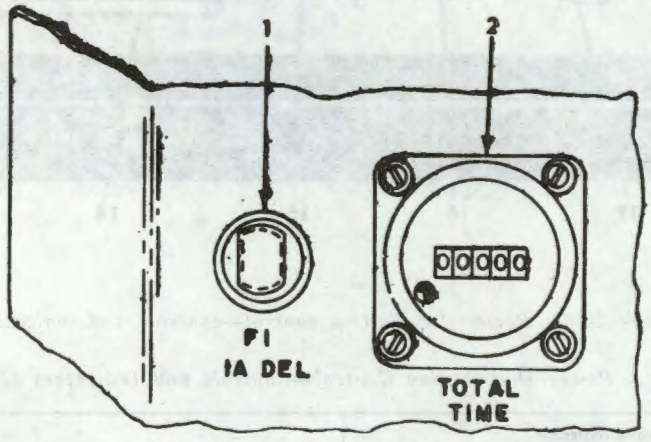

Figure 2-16. Total time elapsed meter—controls and indicators.

Table 2-16. Total Time Elapsed Meter—Controls and Indicators (Fig. 2-16)

Key	Control or indicator	Function
1	F1 1A DEL fuse	Fuses 115-vac, 400-Hz, phase C power to synchro relay assembly A12.
2	TOTAL TIME elapsed meter	Records the accumulated total number of hours the IBCC has operated.

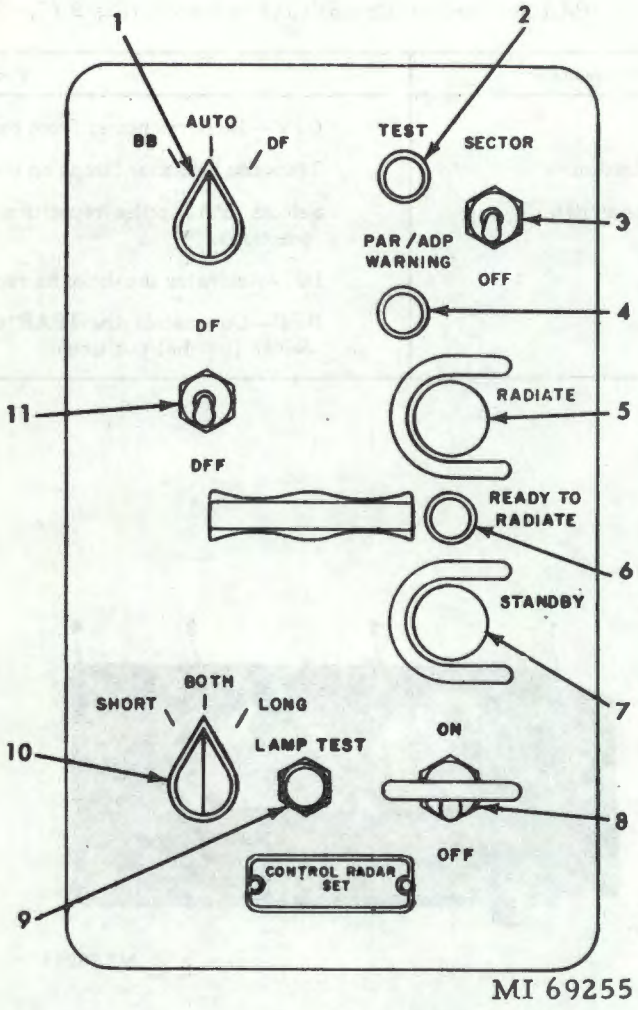

Figure 2-17. IPAR set control—controls and indicators.

Table 2-17. IPAR Set Control—Controls and Indicators (Fig. 2-17)

Key	Control or indicator	Function
1	Receiver mode switch	AUTO—Permits the IPAR to automatically select either the back bias or dicke fix receiver (normal position).
		BB—Commands the IPAR to select the back bias receiver.
		DF–Commands the IPAR to select the dicke fix receiver.
2	TEST lamp	Illuminates when the IPAR is in a test condition.
3	SECTOR switch	Displays normal MTI video outside, and gated and integrated MTI video inside, the ADP sector of coverage on the TCC and FC CRT's.
4	PAR/ADP WARNING lamp	Illuminates when the receiver mode, DF/DFF, or pulse repetition rate switches are not in their normal positions for system operation with the IPAR and ADP.
5	RADIATE pushbutton	Places the IPAR in the radiate mode.
6	READY TO RADIATE lamp	Illuminates when the IPAR is ready to radiate.
7	STANDBY pushbutton	Places the IPAR in the standby mode.
8	Pulse radar power switch	ON—Provides power to the IPAR.

Table 2-17. IPAR Set Control—Controls and Indicators (Fig. 2-17)—Continued

Key	Control or indicator	Function
		OFF—Removes power from the IPAR.
9	LAMP TEST pushbutton	Tests the indicator lamps on the front panel.
10	Pulse repetition rate switch	Selects IPAR pulse repetition rates (BOTH is the normal position).
11	DF/DFF switch	DF—Activates the dicke fix receiver in the IPAR.
		DFF—Commands the IPAR to select the dicke fix-fix receiver (normal position).

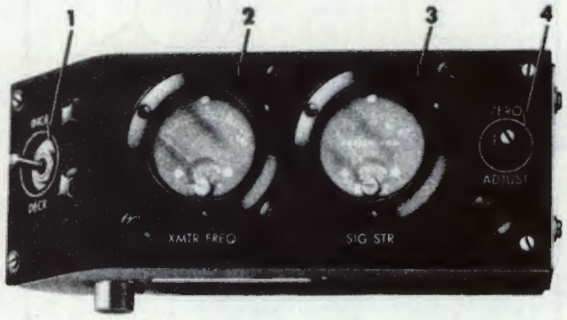

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Figure 2-18. IPAR frequency control—controls and indicators.

Table 2-18. IPAR Frequency Control—Controls and Indicators (Fig. 2-18)

Key	Control or indicator	Function
1	INCR/DECR switch	Increases or decreases the IPAR transmitter frequency.
2	XMTR FREQ meter	Indicates the frequency of the IPAR.
3	SIG STR meter	Indicates the amount of jamming being received by the IPAR circuitry.
4	ZERO ADJUST control	Zeros the SIG STR meter at fixed location (no targets present).

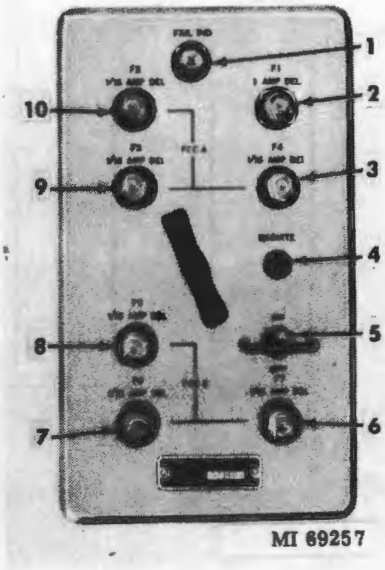


Figure 2-19. IROR electronic control amplifier—controls and indicators.

Table 2-19. IROR Electronic Control Amplifier—Controls and Indicators (Fig. 2-19)

Key	Control or indicator	Function
1	FAIL IND lamp	Flashes when a failure is present in the IROR electronic control amplifier.
2	F1 1 AMP DEL fuse	Fuses 115-vac 400-Hz input voltage. Light illuminates when fuse is open.
3	F4 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-C input voltage to FC A. Light illuminates when fuse is open.
4	RADIATE lamp	When illuminated, indicates IROR is enabled. When flashing, indicates IROR is overheated.
5	Power switch	Energizes the IROR.
6	F7 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-C input voltage to FC B. Light illuminates when fuse is open.
7	F6 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-B input voltage to FC B. Light illuminates when fuse is open.
8	F5 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-A input voltage to FC B. Light illuminates when fuse is open.
9	F3 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-B input voltage to FC A. Light illuminates when fuse is open.
10	F2 1/16 AMP DEL fuse	Fuses 115-vac, 400-Hz, phase-A input voltage to FC A. Light illuminates when fuse is open.

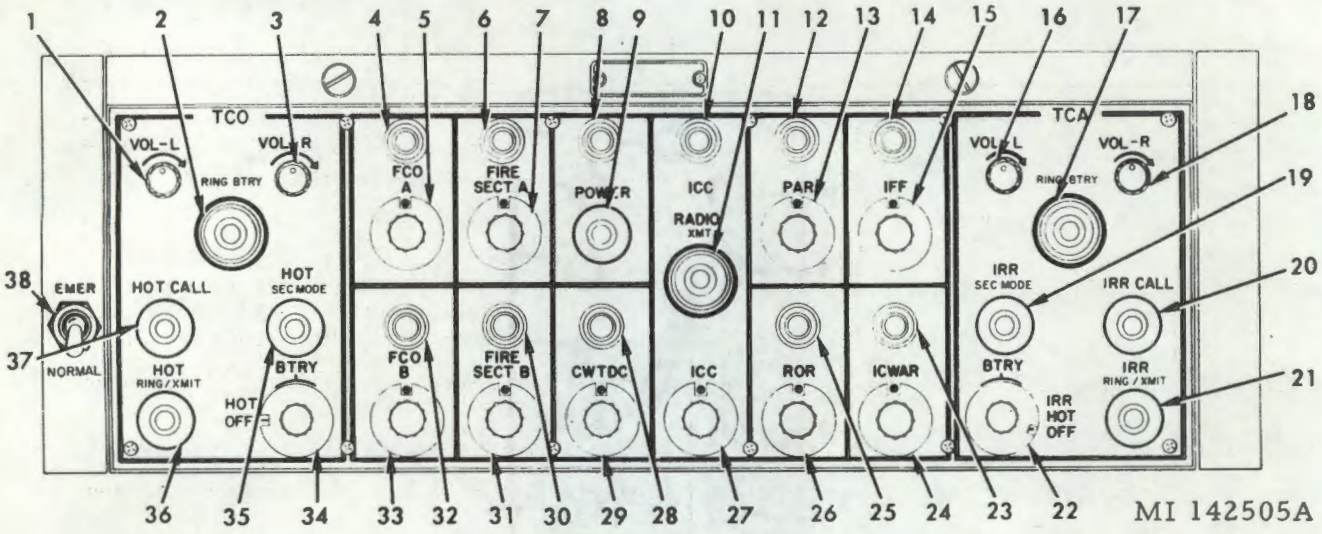


*Figure 2-19.1. TCO/TCA communications unit *(AG)[1]—controls and indicators.*

*Table 2-19.1. TCO/TCA Communications Unit *(AG)[1]—Controls and Indicators (Fig. 2-19.1)*

Key	Control or indicator	Function
1	TCO VOL-L control	Adjusts the volume level of hot line communications heard continuously in the TCO headset's left earpiece.
2	TCO RING BTRY pushbutton	Initiates the TCO ringing signal to any selected interbattery communication station.
3	TCO VOL-R control	Adjusts the volume level of interbattery communications heard in the TCO headset's right earpiece.
4	FCO A lamp	Indicates a call from the FC A.
5	FCO A bus switch	Connects the FC A to one of three communication bus lines.
6	FIRE SECT A lamp	Indicates a call from firing section A.
7	FIRE SECT A bus switch	Connects firing section A to one of three communication bus lines.
8	Lamp	Spare call lamp.
9	POWER pushbutton	Illuminates when presed and provides power to the unit.
10	ICC lamp	Indicates a call from ICC/TM.
11	RADIO XMT pushbutton	Activates the radio transmitter in the ICC/TM when cross-patched over the switchboard.
12	PAR lamp	Indicates a call from the IPAR.
13	PAR bus switch	Connects the IPAR to one of three communication bus lines.
14	IFF lamp	Indicates a call from the IFF antenna pedestal.
15	IFF bus switch	Connects the IFF antenna pedestal to one of three communication bus lines.
16	TCA VOL-L control	Adjusts the volume level of the intelligence radar reporting (IRR) network communications or hot line communications in the TCA headset's left earpiece.
17	TCA RING BTRY pushbutton	Initiates the TCA ringing signal to any selected interbattery communication station.
18	TCA VOL-R control	Adjust the volume level of interbattery communications heard in the TCA headset's right earpiece.

[1]Refer to appendix E for serial number effectivity.

*Table 2-19.1. TCO/TCA Communications Unit *(AG)[1]—Controls and Indicators (Fig. 2-19.1)—Continued*

Key	Control or indicator	Function
19	IRR SEC MODE lamp	When illuminated, indicates that IRR communications are provided over the IRR secondary network.
20	TCA IRR CALL lamp	Illuminates when the AADCP calls the Battery over the IRR primary network.
21	TCA IRR RING/XMIT pushbutton	When pressed, provides an IRR call in the primary mode; or keys the remote AN/GRC-106 transmitter (push-to-talk, release to-listen) in the IRR secondary mode.
22	TCA bus switch	Connects the TCA microphone to one of five communication bus lines.
23	ICWAR lamp	Indicates a call from the ICWAR.
24	ICWAR bus switch	Connects the ICWAR to one of three communication bus lines.
25	ROR lamp	Indicates a call from the IROR.
26	ROR bus switch	Connects the IROR to one of three communication bus lines.
27	ICC bus switch	Connects the ICC/TM to one of three communication bus lines.
28	CWTDC lamp	Indicates a call from the CWTDC.
29	CWTDC bus switch	Connects the CWTDC to one of three communication bus lines.
30	FIRE SECT B lamp	Indicates a call from firing section B.
31	FIRE SECT B bus switch	Connects firing section B to one of three communication bus lines.
32	FCO B lamp	Indicates a call from FC B.
33	FCO B bus switch	Connects FC B to one of three communication bus lines.
34	TCO bus switch	Connects the TCO to one of four communication bus lines.
35	TCO HOT SEC MODE lamp	When illuminated, indicates that HOT communications are provided over the HOT secondary network.
36	TCO HOT RING/XMIT pushbutton	When pressed, provides a HOT call in the primary mode or keys the remote AN/GRC-106 transmitter (push-to-talk, release-to-listen) in the HOT secondary mode.
37	TCO HOT CALL lamp	Illuminates when the AADCP calls the Battery over the HOT primary network.
38	EMER/NORMAL switch	Selects either normal operating power or emergency power from the 12-vdc batteries in the TCO/TCA communications unit.

[1]Refer to appendix E for serial number effectivity.

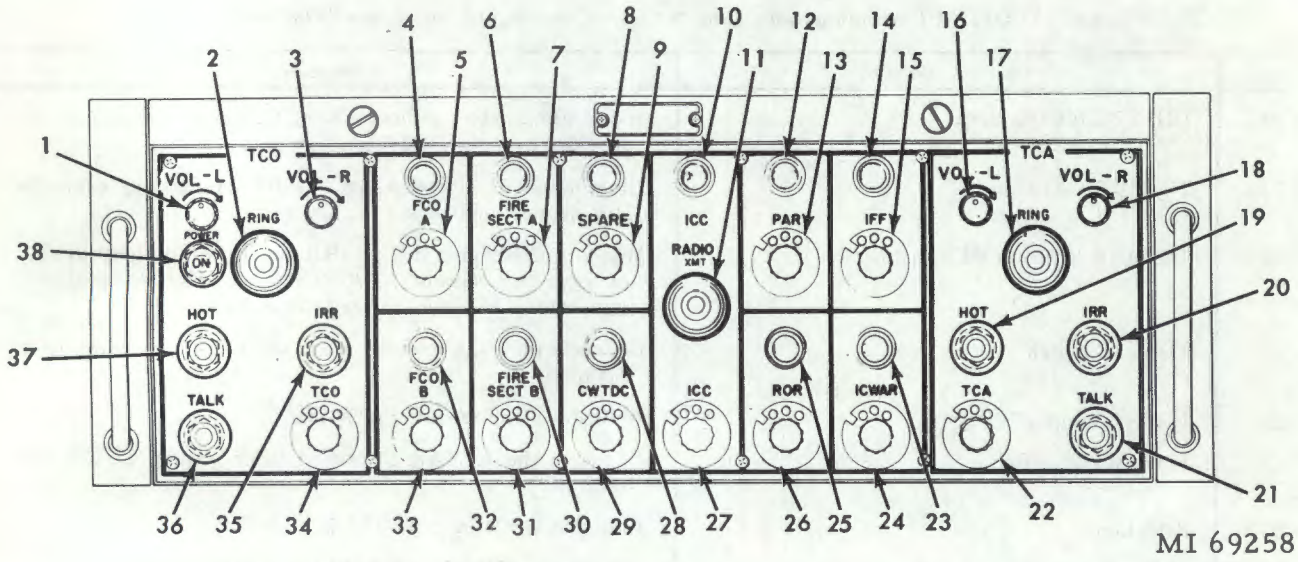


*Figure 2-20. TCO/TCA communications unit *(AF) *(D)[1]—controls and indicators.*

*Table 2-20. TCO/TCA Communications Unit *(AF) *(D)[1]—Controls and Indicators (Fig. 2-20)*

Key	Control or indicator	Function
1	TCO VOL-L control	Adjusts the volume level of hot line communications heard continuously in the TCO headset.
2	TCO RING pushbutton	Initiates the TCO ringing signal to any selected interbattery communication station.
3	TCO VOL-R control	Adjusts the volume level of interbattery communications heard in the TCO headset.
4	FCO A lamp	Indicates a call from the FC A.
5	FCO A bus switch	Connects the FC A to one of three communication bus lines.
6	FIRE SECT A lamp	Indicates a call from firing section A.
7	FIRE SECT A bus switch	Connects firing section A to one of three communication bus lines.
8	Lamp	Spare call lamp.
9	Switch	Spare bus switch.
10	ICC lamp	Indicates a call from ICC/TM.
11	RADIO XMT pushbutton	Activates the radio transmitter in the ICC/TM when cross-patched over the switchboard.
12	PAR lamp	Indicates a call from the IPAR.
13	PAR bus switch	Connects the IPAR to one of three communication bus lines.
14	IFF lamp	Indicates a call from the IFF.
15	IFF bus switch	Connects the IFF to one of three communication bus lines.
16	TCA VOL-L control	Adjusts the volume level of interbattery communications heard in the TCA headset.
17	TCA RING pushbutton	Initiates the TCA ringing signal to any selected interbattery communication station.
18	TCA VOL-R control	Adjusts the volume level of the intelligence radar reporting (IRR) network communications heard continuously in the TCA headset.

[1]Refer to appendix E for serial number effectivity.

*Table 2-20. TCO/TCA Communications Unit *(AF) *(D)[1]—Controls and Indicators (Fig. 2-20)—Continued*

Key	Control or indicator	Function
19	TCA HOT pushbutton	Illuminates when pressed and provides TCA communication over the hot line.
20	TCA IRR pushbutton	Illuminates when pressed and provides TCA communication over the IRR network.
21	TCA TALK pushbutton	Illuminates when pressed and energizes the TCA microphone.
22	TCA bus switch	Connects the TCA to one of three communication bus lines.
23	ICWAR lamp	Indicates a call from the ICWAR.
24	ICWAR bus switch	Connects the ICWAR to one of three communication bus lines.
25	ROR lamp	Indicates a call from the IROR.
26	ROR bus switch	Connects the IROR to one of three communication bus lines.
27	ICC bus switch	Connects the ICC/TM to one of three communication bus lines.
28	CWTDC lamp	Indicates a call from the CWTDC.
29	CWTDC bus switch	Connects the CWTDC to one of three communication bus lines.
30	FIRE SECT B lamp	Indicates a call from firing section B.
31	FIRE SECT B bus switch	Connects firing section B to one of three communication bus lines.
32	FCO B lamp	Indicates a call from FC B.
33	FCO B bus switch	Connects FC B to one of three communication bus lines.
34	TCO bus switch	Connects the TCO to one of three communication bus lines.
35	TCO IRR pushbutton	Illuminates when pressed and provides TCO communication over the IRR network.
36	TCO TALK pushbutton	Energizes the TCO microphone.
37	TCO HOT pushbutton	Illuminates when pressed and provides TCO communication over the hot line.
38	POWER pushbutton	Illuminates when pressed and provides power to the unit.

[1]Refer to appendix E for serial number effectivity.

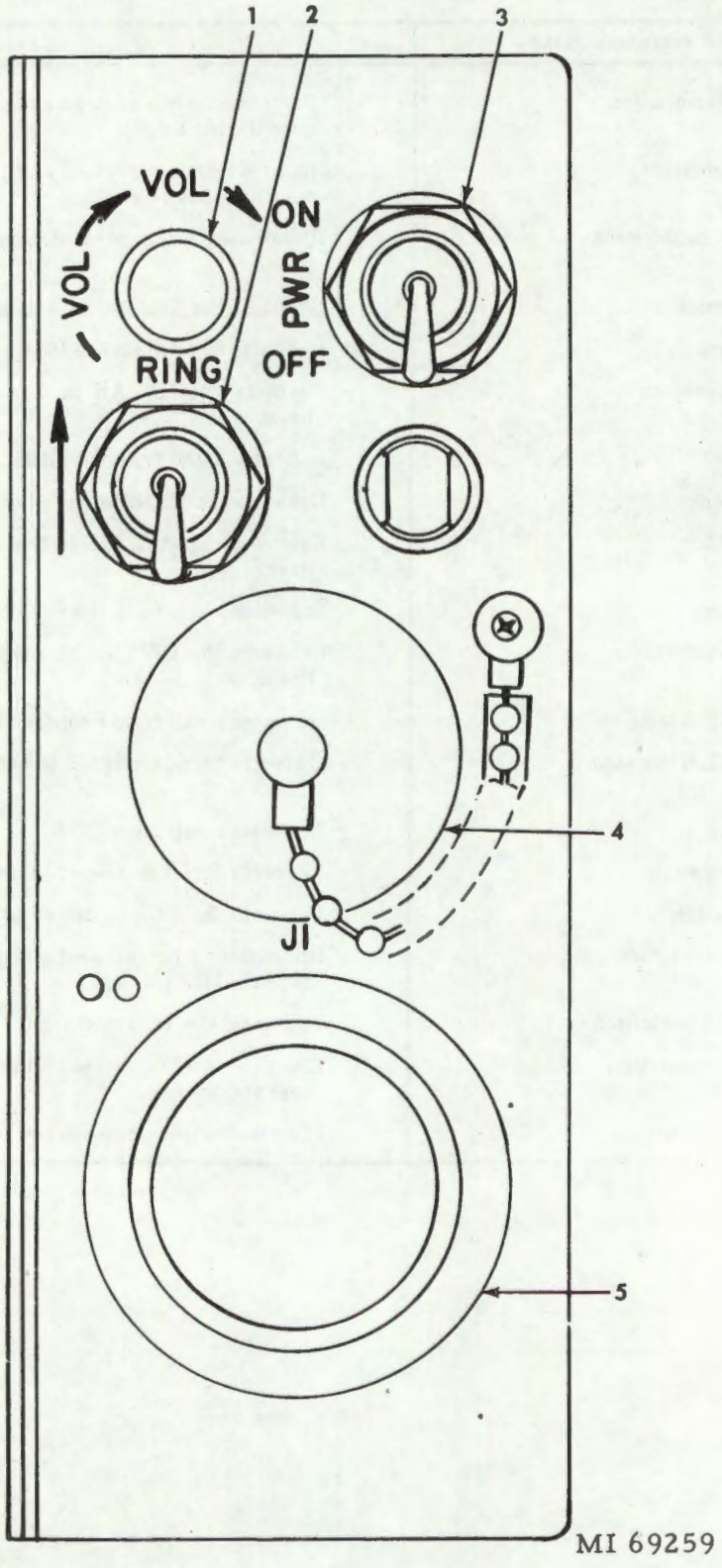


Figure 2-21. FC or CWTDC communication unit—controls and indicators.

Table 2-21. FC or CWTDC Communication Unit—Controls and Indicators (Fig. 2-21)

Key	Control or indicator	Function
1	VOL control	Adjusts the volume level in the headset.
2	RING switch	Initiates a ring signal to any interbattery communications unit(s) selected by the TCO/TCA communications unit.
3	PWR switch	Applies 28 vdc to the unit.
4	Connector J1	Provides connection for a headset.
5	Audible buzzer	Provides an audible tone to alert the unit operator.

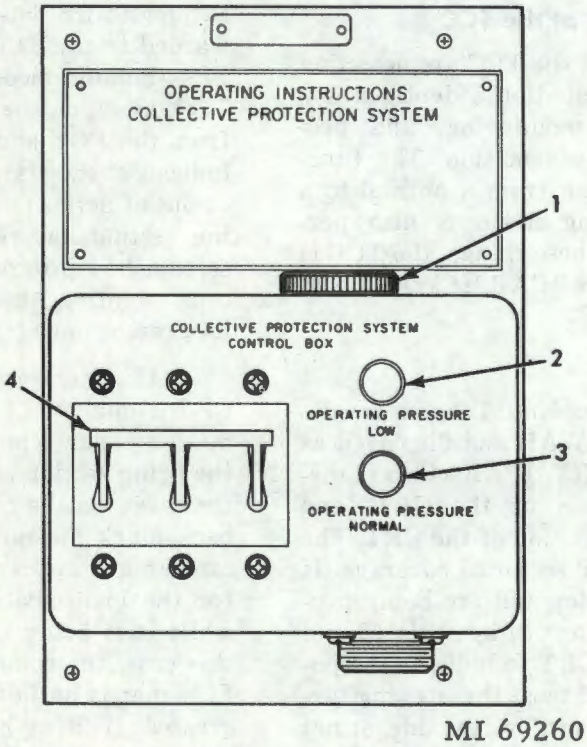


Figure 2-22. Collective protection system control—controls and indicators.

Table 2-22. Collective Protection System Control—Controls and Indicators (Fig. 2-22)

Key	Control or indicator	Function
1	Audible buzzer	Activates when the IBCC internal pressure is at a dangerously low level.
2	OPERATING PRESSURE LOW lamp	Illuminates when the IBCC internal pressure is at a dangerously low level.
3	OPERATING PRESSURE NORMAL lamp	Illuminates when the IBCC internal pressure is normal.
4	Circuit breaker	Applies 416 vac, 3 phase, 400 Hz and 28 vdc to the decontamination unit.

Section II. OPERATION UNDER USUAL CONDITIONS

2-3. General

This section describes the procedures used during the IBCC normal and automatic modes of operation. These procedures apply to the TCC, FC A and B, and the CWTDC. In the normal mode of operation, the ADP furnishes target data to the IBCC, but the task of assigning targets and firing missiles is left to the discretion of the TCO. In the automatic mode, however, for a specific class of target, the operators monitor while the ADP takes complete control in detecting, identifying, and assigning targets, and firing missiles.

2-4. Functions Performed at the TCC

The primary functions of the TCC are detection and tracking, threat evaluation, identification, assignment, engagement monitoring, and processing of early-warning information. The function of switching the system from a normal to a completely automatic firing mode is also performed at the TCC. To do these things, the TCC is supplied with data from the IPAR, ICWAR, IHIPIR, ICC/TM, and AADCP.

a. Normal Mode.

(1) *Detecting and tracking.* Targets are detected by the IPAR and ICWAR and displayed as target video on the TCC CRT. IPAR video is displayed on the PPI portion of the CRT, and ICWAR video on the PSI portion of the CRT. The CRT also indicates the ADP sector of coverage. If targets fall within this sector and are being processed by the ADP, two category symbols (2 and 3, fig. 3-14) appear on the CRT to indicate the position of the first and second most threatening targets in the ADP file. Targets falling outside, or not engaged while in, the ADP sector of coverage are handled manually. In either case, the targets must be tracked until destroyed or out of range of the ICWAR or IPAR. A grease pencil is used to mark target course and position on the reflection plotter mounted over the CRT.

(2) *Identifying targets.* Targets identified by the AADCP are displayed on the TCC CRT as symbols. The symbols identify a target as friendly or hostile, show the altitude of the target (low, medium, high, or unknown), and indicate whether the target is being tracked by another battery. A SAM (surface-to-air missile) symbol may also be displayed. In addition, targets are tentatively identified as friendly or unknown by the IFF equipment contained in the ICC/TM.

CAUTION

During tactical operation do not set the CHALLENGE switch in the ICC/TM to TEST as this will alter the program file and require several scans to re-establish the file.

(3) *Assigning targets.* The most threatening target is normally assigned first. Since assignments can be made to either of the two FC's, it must be decided which can best handle the engagement. For ADP processed targets, the decision is automatically determined by the ADP and forwarded to the TCC. For non-ADP processed targets (manual mode), the decision is made by the TCO, based on the following information received from the FC's and displayed on the IBCC status indicator: the status of each firing section (ready or out of action); the number of missiles each firing section has remaining; how far each firing section has progressed in its engagements; and, consequently, which firing section can complete its present engagement first.

(4) *Monitoring engagements.* The TCC CRT display, with its IHIPIR azimuth repeatback mark and range marks, is observed to determine if the firing section is engaging the correct target. If the target is the correct one, the azimuth repeatback mark appears through the target, and the range mark appears over the target. It is possible for the identification of a target to be changed while it is being engaged by a firing section. In this case, the command given by the TCC to the FC depends on how far the engagement has progressed. If firing has not taken place, a cease-fire command to the FC will disable the fire pushbutton, or a change targets command to the FC will result in IHIPIR break lock. If firing has occurred, a destruct command is given to the FC, and the missile is automatically destroyed in the air.

(5) *Processing early-warning information.* The AADCP supplies early warning information (target course, speed, altitude, and identification) to the battery on those targets expected to enter the defended area. This information is transmitted to the battery by telephone and is plotted on the early-warning plotting board and the reflection plotter (when applicable). When a target appears on one of the CRT displays, the AADCP data is correlated with the CRT display. If the two targets are the same, the early-warning information

is removed from the plotting board and tracking is continued on the reflection plotter.

b. Automatic Mode. In this mode of operation, the engagement sequence from target detection to missile firing is completely automatic using the ADP. The TCC, however, does contain the controls which may be operated to pre-empt or terminate any engagement before or after a missile is fired.

c. Operating Procedures. A series of operating procedures at the TCC during a sample engagement is given in table 2-23. For a normal engagement, only the procedures printed on gray and those which are unshaded are performed. If an automatic engagement is preferred, only the procedures printed on black and those which are unshaded are performed. It is assumed that the IBCC has been properly emplaced, energized, and adjusted, and is ready for operation.

NOTE

These procedures are for information only and are not to be considered as indicative of tactical doctrine.

2-5. Functions Performed at the FC's

The basic functions performed at the FC's are engaging targets and firing missiles to destroy targets. Target engagement includes monitoring, tracking of the designated target, and estimating the size of the raid. Firing, although automatic for the first missile, includes the evaluation of target intercept.

a. Tracking of Designated Targets.

(1) *ADP mode.* Following acceptance by the TCO, the target is automatically assigned by the ADP to an FC for engagement. The IHIPIR then automatically positions itself in azimuth toward the target as observed on the CRT. The target is accepted in one of three modes: high, medium, or low. The FC continues to monitor the IHIPIR as the target is automatically tracked.

(2) *Manual mode.* The TCO assigns the target to the FC for engagement. The IHIPIR is then positioned in azimuth by rotating the azimuth handwheel until the cursor line is positioned over the tracking symbol on the CRT. Unlike the ADP mode, the target is accepted in one of only two modes: high or low.

b. Estimating Size of Raid. Once the IHIPIR is locked on the target, it sends a doppler-audio tone which is heard on the headset at the FC. By using the audio signal from the headset in conjunction with the displayed video of the target on the FC CRT, the FC operator estimates the number of aircraft in the target being engaged, and whether they are propeller-driven or jet-powered. The estimated number of aircraft (one, few, or many) is displayed on the IBCC status indicator and is automatically transmitted to the AADCP when the operator presses the appropriate pushbutton on the FC.

c. ILCHR Selection. ILCHR selection is automatic and requires no operator function. However, if desired, the operator may make the selection. The selected ILCHR should preferably be one from which a missile has previously been fired so that it may be ready for reloading at the earliest possible time.

d. Firing. As soon as the tracked target enters the effective range of the missile, an ILCHR is activated, and a single missile is automatically fired. The interception is evaluated by the operator; if this shows that the engagement was ineffective, a second missile (and more if necessary) is fired manually until the target is destroyed, out of range, or enters an area where firing is impossible. When more than one target is being engaged, one missile is fired for each target. In a manual engagement, the FC operator waits until the fire pushbutton illuminates before firing the first missile.

d.1. Targets Maneuvering Through Zero Doppler. A target maneuvering into the zero doppler region requires the operator to manually track the IHIPIR speedgate utilizing the FC speed control. As the target audio doppler tone decreases in frequency, the operator observes the target video displayed on the FC range/speed indicator. By manipulating the speed control he maintains the speed cursor on the target video. The target video will move to the left with respect to the speed cursor if the cursor is allowed to remain stationary. The manual speed mode is then selected, and the operator manually tracks the target into the zero doppler region. When the target reappears, the operator again tracks it with the speed control until the doppler frequency increases to a point where the IHIPIR can achieve and maintain normal lock. The operator then selects the automatic speed mode in order to restore lock and automatic speed tracking to the IHIPIR.

e. Evaluation of Target Intercept. After the missile is fired and intercept occurs, the operator evaluates the result of the engagement and reports the results. Since target speed, altitude, signal strength, and doppler are monitored continually at the FC, any significant change in these three readings and the doppler audio may indicate a kill.

There are also indicators on the FC which indicate when the IHIPIR loses lock. If none of these indications is noted, the engagement was probably ineffective. The engagement result is displayed on the IBCC status indicator when the operator presses either the KILL or NO KILL pushbutton. At the same time, the information is automatically transmitted to the AADCP.

f. Detailed Operating Procedures. A series of operating procedures performed at the FC during a sample engagement is given in table 2-24. It is assumed that the IBCC has been properly emplaced, energized, and adjusted, and is ready for operation.

NOTE

These procedures are for information only and are not to be considered as indicative of tactical doctrine.

Table 2-23 Operating Procedures Performed at the TCC

Step	Operation / Normal indication
	WARNING Make certain that the system is operating in the cease fire mode (TCC RESUME FIRE/CEASE FIRE switches momentarily set to CEASE FIRE for both firing sections. Firing consoles and IBCC status indicator CEASE FIRE labels illuminate.)
1.	Set the FIRE MODE switch to AUTO FIRE. **The AUTO FIRE label illuminates.**
2.	When a target is detected: **The AUTO ASSIGN (A) or (B) label illuminates.** **The IHIPIR A or B azimuth repeatback mark slews toward the designated target.** **The IBCC status indicator LOCK (A) or (B) label illuminates when the IHIPIR acquires lock on the target.** **Unless the target is a battery threat, proceed to step 8.**
3.	Mark the target position on the reflection plotter, then proceed to step 21.
4.	**Set the FIRE MODE switch to NORMAL.**
5.	When targets are detected by the IPAR: **Target video (blip) is displayed on the PPI portion of the CRT.**
6.	**For targets falling within the ADP sector of coverage and being processed by the ADP, perform steps 8 through 11, and 20 through 24 below.**
7.	**For targets falling outside the ADP sector of coverage that must be handled manually, perform steps 12 through 24 below.**

Table 2-23. Operating Procedures Performed at the TCC—Continued

Step	Operation / Normal indication
8.	When a target is processed by the ADP: **The category I or II symbol appears on the PPI portion of the CRT to indicate the designated target.** **For a battery threat target, not automatically engaged, the symbol flashes.** For a category I target, the category I (A) or (B) pushbutton flashes. **For a category II target, only the category II (A) or (B) pushbutton flashes.** **IFF target reply marks and AADCP symbols identify the targets.**
9.	For ADP friendly targets:
a.	Set the REFUSE switch to either A or B (the firing section calling for the assignment). **The flashing category I or II pushbutton extinguishes.**
b.	Mark the target as friendly on the reflection plotter and resume search activities.
10.	For ADP hostile targets:
a.	Press the flashing category pushbutton. **The flashing category I or II pushbutton extinguishes.** **The AUTO ASSIGN (A) or (B) label illuminates.** **The IHIPIR A or B azimuth repeatback mark slews toward the designated target.** **The IBCC status indicator LOCK (A) or (B) label illuminates when the IHIPIR acquires lock on the target. (Refer to step 11.1 if lock is not obtained.** **The range arcs appear on the azimuth repeatback mark when the IHIPIR acquires lock.** **NOTE** Pressing the category I or II pushbutton in the above step initiates the command to automatically fire a missile. If the firing section selected is presently tracking the target to be destroyed, a missile may be fired immediately. However, if the firing section must change targets for priority reasons, there is a delay before a missile is fired.
b.	Proceed to step 21.
11.	For ADP unknown targets:
a.	Set the RESUME FIRE/CEASE FIRE switch for the assigned firing section to CEASE FIRE, and then press the flashing category I or II pushbutton. **The category I or II pushbutton extinguishes.** **The corresponding AUTO ASSIGN label illuminates.**

Table 2-23. Operating Procedures Performed at the TCC—Continued

Step	Operation / Normal indication
11*a*. Cont.	**The corresponding CEASE FIRE label on the IBCC status indicator illuminates.** **The IHIPIR A or B azimuth repeatback mark slews toward the designated target.** **The IBCC status indicator LOCK (A) or (B) label illuminates when the IHIPIR acquires lock on the target. (Refer to step 11.1 if lock is not obtained.)** **The range arcs appear on the azimuth repeatback mark when the IHIPIR acquires lock.**
b.	Proceed to step 20.
11.1.	If IHIPIR lock is not obtained at the azimuth of the designate symbol, it is quite possible that the target is maneuvering at speeds low enough to require manual tracking with the IHIPIR. Low-speed targets are determined by checking the CRT for IPAR and/or ICWAR video at the azimuth of the designate symbol. If IPAR video is present, it will probably be displayed at a range greater than that of the designate symbol. If the IHIPIR does not lock on the low-speed target, position the tracking symbol over the designated target, proceed to step 15, and assign the target manually.
12.	For targets falling outside the ADP sector of coverage (non-ADP) designated by the CWTDC: **The CW CONFIRM pushbutton flashes.** **The PSI cursor appears at the designated azimuth in the PSI portion of the CRT.**
a.	Position the correlation cursor over the PSI target using the CORRELATION CURSOR handwheel.
b.	Momentarily press the CW CONFIRM pushbutton to acknowledge the CWTDC. **The CW CONFIRM pushbutton extinguishes.** **The PSI cursor disappears from the CRT.**
13.	When identifying non-ADP targets: **CAUTION** **During tactical operation do not set the CHALLENGE switch in the ICC/TM to TEST as this will alter the program track file and require several scans to re-establish the file.**
a.	**Correlate the target designated by the CWTDC with the PPI targets and aug[illegible] warning and tactical flight data.**

Table 2-23. Operating Procedures Performed at the TCC—Continued

Step	Operation / Normal Indication
13b. Cont.	Observe the CRT.
	If the AADCP is being used, identification of other battery track symbols are displayed over the targets.
c.	Set the POSITION switch to 1.
d.	Set the TEST/OPERATE switch on the decoder to TEST.
e.	When the sweep on the CRT approaches the designated target, press the CHALLENGE switch.
	IFF video response appears at the azimuth of the target.
f.	Decode the video response and enter the code into the decoder dials.
g.	Set the decoder TEST/OPERATE switch to OPERATE.
h.	Press the CHALLENGE switch again when the sweep approaches the designated target.
	IFF video response appears at the azimuth of the target. If the reply is negative, continue with modes 2 and 3 interrogation until target intercept.
14.	For non-ADP friendly targets:
	Mark the target as friendly on the reflection plotter and resume search activities.
15.	For non-ADP hostile targets:
a.	Evaluate the threat of the target as compared to all other unengaged targets.
	Course and range of target on PPI.
	Closing velocity and azimuth of target on PSI.
b.	Mark less threatening targets for subsequent engagements.
c.	Observe the results from the first IFF interrogation and continue to monitor the CRT and communications for changes in classification from the AADCP.
d.	For a target appearing only in the PPI rings, press the ASSIGN HIGH pushbutton for the selected firing section.
	The ASSIGN HIGH pushbutton illuminates.
	The corresponding ASSIGNED label on the IBCC status indicator illuminates.
	The tracking symbol appears in the designated position over the target on the firing console CRT display.
e.	For a target appearing only in the PSI rings, press the tracking lever switch and place the tracking symbol on the target. Then press the ASSIGN LOW pushbutton for the selected firing section.
	The ASSIGN LOW pushbutton illuminates.

Table 2-23. Operating Procedures Performed at the TCC—Continued

Step	Operation / Normal indication
	The corresponding ASSIGNED label on the IBCC status indicator illuminates.
	The tracking symbol appears over the target at the firing console.
f.	For a target appearing in both the PPI and PSI rings, place the tracking symbol over the PPI target and press the ASSIGN LOW pushbutton for the selected firing section.
	The ASSIGN LOW pushbutton illuminates.
	The corresponding ASSIGNED label on the IBCC status indicator illuminates.
	The tracking symbol appears in the designated position over the target on the firing console CRT display.
16.	If the firing section is currently engaged on a lower priority target:
a.	Press and hold the appropriate CHANGE TARGETS pushbutton for three seconds.
	The CHANGE TARGETS pushbutton illuminates.
	The corresponding CHANGE TARGETS and NO KILL labels illuminate, and the corresponding LOCK label extinguishes (on the IBCC status indicator).
	The IBCC status indicator shows that a missile has not been fired.
b.	Perform step 15 above to make the new assignment.
17.	If the non-ADP target is unknown during assignment in steps 15 and 16 above:
	Set the appropriate RESUME FIRE/CEASE FIRE switch to CEASE FIRE.
	The corresponding CEASE FIRE label on the IBCC status indicator illuminates.
	The firing console CEASE FIRE label illuminates and the fire pushbutton is disabled.
18.	Continue to track the target with the tracking symbol until the firing section acquires lock.
	The IBCC status indicator shows when lock on the target occurs.
	The tracking symbol appears over the target of the firing console.
19.	If cease-fire is in effect, continue; otherwise, proceed to step 23.
20.	When the target is locked and being tracked (cease-fire in effect):
a.	Evaluate IHIPIR data regarding target parameters.
	Target threat is evaluated on the CRT and IBCC status indicator.
b.	Observe the FCO's estimation of the raid size.
	The IBCC status indicator ONE, FEW or MANY label is illuminated.

Table 2-23. Operating Procedures Performed at the TCC—Continued

Step	Operation / Normal indication
c.	Observe latest target classification. **IFF marks and/or AADCP symbols and communications indicate target classification.**
d.	Notify the FCO of latest IFF information. If the replies are negative, continue with subsequent modes of interrogation.
	WARNING Make certain that the target designated for engagement is a valid target and not possibly a system false alarm before resuming fire. Refer to paragraph 2-7.1 for a description of ADP symbol display on the TCC CRT.
21.	If the target is determined hostile : Set the appropriate RESUME FIRE/CEASE FIRE switch to RESUME FIRE. **The corresponding CEASE FIRE label on the IBCC status indicator extinguishes.** **The firing console CEASE FIRE label extinguishes.**
22.	If the target is determined friendly :
a.	Press and hold the appropriate CHANGE TARGETS pushbutton for three seconds. **The CHANGE TARGETS pushbutton illuminates.** **The corresponding CHANGE TARGETS label illuminates and the corresponding LOCK label extinguishes (on the IBCC status indicator).** **The IBCC status indicator shows that a missile has not been fired.**
b.	Mark the target as friendly and resume search activities.
23.	When a missile is fired (either automatically by the ADP or manually by the FCO) : **The IBCC status indicator HE FIRED label for the appropriate firing section illuminates.**
24.	If the engagement continues : Observe the FCO's evaluation of intercept. **The IBCC status indicator KILL or NO KILL label for the appropriate firing section illuminates.**

Table 2-24. Operating Procedures Performed at the FC

Step	Operation / Normal indication
1.	For targets being processed by the ADP for both normal and automatic modes of operation, continue with step 2; otherwise proceed to step 6 and handle the target manually.
2.	For a target being processed by the ADP : **The SEARCH lamp is illuminated.** **The IHIPIR repeatback mark is observed slewing toward the designated target.**

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation / Normal indication
2. Cont.	**When IHIPIR locks on the target, the LOCK lamp illuminates and the SEARCH lamp extinguishes. (Refer to step 3 if lock is not obtained.)** **The TARGET ALTITUDE, TARGET SPEED, and SIGNAL STRENGTH meters register.** **Doppler tone is audible and the range mark moves along the IHIPIR azimuth repeatback mark to the correct range of the target.** **WARNING** If it is suspected that the IHIPIR is locked on a false target or specter (par. 2-7.1), notify the TCO immediately.
3*a*.	If the IHIPIR does not lock on the designated target, it is possible that the target is maneuvering at speeds low enough to require manual IHIPIR tracking. Examine the CRT display for a low-speed target (as described for the TCO in table 2-23, step 11.1) and concur with the TCO. The TCO at this time may assign the target manually. If he does, proceed to step 6 and continue with a manual engagement.
b.	If lock is not obtained on the target, check to see that the IHIPIR has not returned to standby (FIRE SECTION ACTIVE lamp extinguished). If it has, it is possible that an arc has occurred in the radar during radiate operation, thereby returning the radar to standby. Perform (1) through (3) below to return the radar to full radiate operation.
(1)	Advise the IHIPIR operator to press the RADIATE INTLK RESET SWITCH on the ferrite switch control and power supply, and observe that the RADIATE INTLK OPEN IND lamp extinguishes. Relay K3 may have been energized by the arc-detection circuitry. After allowing enough time for the counter circuit to discharge, the RADIATE INTLK OPEN IND lamp will extinguish. At this time four attempts to purge the system should be made in the following manner.
(2)	Press and hold the IBCC firing console FIRE SECTION ACTIVE pushbutton. If after one minute the radar returns to radiate and remains there, proceed with the operating procedure. If it returns to standby, make three additional attempts to purge the system before repairing the radar. If the radar does not return to radiate at all, repair the radar.
(3)	For non-ADP targets, press the ELEVATION HIGH (or LOW) pushbutton.
4.	If the target is assigned: **The AUTO lamp illuminates.** Proceed to step 14.
5.	For ADP unknown targets: **The CEASE FIRE label illuminates.** **NOTE** **Here the TCO initiates a cease-fire command to allow more time to evaluate the unknown target before making the final engagement decision.** Proceed to step 12.

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation / Normal indication
6.	Tracking non-ADP targets with the firing section unengaged: When the ASSIGN lamp illuminates, locate the target by observing the position of the tracking symbol. **For a PPI target, the tracking symbol is positioned over the assigned target, and the ELEVATION HIGH pushbutton is flashing.** **For a PSI target, the tracking symbol is displayed over the target in the PSI rings, and the ELEVATION LOW pushbutton is flashing.** **For both PPI and PSI targets, the tracking symbol is positioned over the assigned target in the PPI area, and the ELEVATION LOW pushbutton is flashing.**
7.	If the TCO changes targets with the firing section engaged: **The CHANGE TARGET label flashes and the DESTROY label illuminates for three seconds.** **The LOCK lamp extinguishes.** Repeat step 6 to make the new assignment.
8.	For non-ADP unknown target: **The CEASE FIRE label illuminates.** **NOTE** Here, the TCO initiates a cease-fire command to allow more time to evaluate the unknown target before making the final engagement decision.
9.	To obtain lock on target:
a.	Position the cursor over the assigned target using the azimuth handwheel.
b.	Press the flashing ELEVATION HIGH (or LOW) pushbutton. **The ELEVATION HIGH (or LOW) lamp is steadily illuminated.** **The SEARCH lamp illuminates.** **When the IHIPIR locks on the target, the LOCK lamp illuminates and the SEARCH lamp extinguishes (refer to step 3 if lock is not obtained).** **The TARGET ALTITUDE, TARGET SPEED, and SIGNAL STRENGTH meters register.** **Doppler tone is audible and the range mark moves along the IHIPIR azimuth repeatback mark to the correct range of the target.** **The fire (F) pushbutton illuminates if the target is within the effective range of the missile.**

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation / Normal indication
10.	Observe which loaded ILCHR contains the least number of missiles and press the associated launcher 1, 2, or 3 select pushbutton. **The launcher 1, 2, or 3 select pushbutton illuminates.**
11.	If cease fire is in effect, continue; otherwise proceed to step 15. **The CEASE FIRE label is illuminated.**
12*a*.	When estimating raid size after lock, determine the number of targets in an assignment by monitoring the doppler audio and PPI video. Report the number by pressing either the ONE, FEW, or MANY pushbutton using the criteria in *b* through *e* below.
b.	When only one target is heard in the doppler audio tone, and the target video on the PPI is unbroken, press the ONE pushbutton. **The ONE pushbutton on the firing console and the ONE label on the IBCC status indicator illuminate.**
c.	When there is more than one target heard in the doppler audio tone, and the target video on the PPI is unbroken, press the FEW pushbutton. **The FEW pushbutton on the firing console and the FEW label on the IBCC status indicator illuminate.**
d.	When there are many targets heard in the doppler audio tone, and the target video on the PPI is broken into many targets, press the MANY pushbutton. **The MANY pushbutton on the firing console and the MANY label on the IBCC status indicator illuminate.**
e.	Continue to monitor the status of the engagement by observing that the doppler audio tone remains steady and the COAST label extinguishes. Report any irregular indications.
13.	If the target is determined hostile or remains unknown: **A resume fire command is forwarded from the TCC, and the CEASE FIRE label extinguishes.** **The fire (F) pushbutton illuminates if the target is within range.**
14.	If the target is determined friendly: **A change targets command is forwarded from the TCC, the CHANGE TARGET label flashes, and the DESTROY label illuminates for as long as the command is present (three seconds).** **The LOCK lamp and all other IHIPIR target data extinguish when the IHIPIR loses lock on the target.**
15.	Firing missiles:
a.	For ADP processed targets, the first missile is automatically fired when the target enters the effective range of the missile. **The fire (F) pushbutton illuminates when the system is ready for another firing.**

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation Normal indication
15*b*. Cont.	For non-ADP targets, press the fire (F) pushbutton when it illuminates, or at some specified firing point as directed. **The fire (F) pushbutton illuminates when the system is ready for another firing.**
c.	Fire the second and subsequent missiles only as directed by the TCO.
16.	After a missile is fired:
a.	Monitor the engagement status. **The doppler audio tone remains steady and the COAST label remains extinguished.**
b.	Continue to monitor the IHIPIR target data for signal strength, speed, altitude, and its effective range status.
c.	Determine and report the raid size as described in step 12.
16.1*a*.	If the target maneuvers toward zero doppler: **The audible doppler tone decreases in frequency.** **The target video observed on the range/speed indicator approaches the extreme left edge of the display.** **The rate with which the speed control must be adjusted to keep the speed cursor centered on the target video increases considerably.**
b.	When the left speed marker disappears from the range/speed indicator display, make certain that the cursor is centered on the target video and then press and release the SPEED MANUAL pushbutton. **NOTE** **Pressing the SPEED MANUAL pushbutton conditions the IHIPIR for tracking in a forced lock mode. The IHIPIR lock indication observed in the IBCC must not be regarded as a positive target lock at this time.**
c.	Continue adjusting the speed control to keep the target video positioned between the speed markers while maintaining maximum deflection on the SIGNAL STRENGTH meter.
d.	Once the doppler signal decreases to a point below the audible region, or when the video displayed on the range/speed indicator degenerates from a single target pip to a number of rapidly fluctuating pips, allow the speed control to remain set at the last position where a maximum indication was obtained on the SIGNAL STRENGTH meter. *Do not attempt to maintain maximum signal strength once the target is in the zero doppler region.*
e.	During target maneuver through zero doppler: **The audible doppler indication is observed as a low buzz without tone.** **The IHIPIR continues to track in azimuth and elevation without any indication of doppler being present.** **The display observed on the range/speed indicator consists of several rapidly fluctuating target pips displaced from each other in frequency.** **NOTE** **Notify the TCO if tracking in the zero doppler region extends beyond 30 seconds.**

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation / Normal indication
16.1*f.* Cont.	After target maneuver through zero doppler: **An audible doppler tone, increasing in frequency, reappears.** **A distinct target pip reappears on the range/speed indicator.**
g.	When the audible doppler tone is again present, maintain the SIGNAL STRENGTH meter indication at maximum by continuously adjusting the speed control.
h.	When the doppler tone has increased to a point where both speed markers are visible, press and release the SPEED AUTO pushbutton. **The IHIPIR locks on the target.**
i.	If the IHIPIR does not maintain lock on the target, press and release the SPEED MANUAL pushbutton, and readjust for maximum indication on the SIGNAL STRENGTH meter. Press and release the SPEED AUTO pushbutton again.
j.	Once the IHIPIR achieves lock on the target, immediately adjust the speed control to keep the speed cursor centered on the target video and be prepared to repeat the procedure (switching between manual speed and auto speed) in order to maintain lock on the target in the auto speed mode.
k.	If the video does not reappear, continue tracking the target manually as long as an audible doppler tone is present. And remember, do not attempt to track with the SIGNAL STRENGTH meter if the doppler tone is not present.
17.	If the engagement is terminated: **A change targets command is forwarded from the TCC, the CHANGE TARGET label flashes, and the DESTROY label illuminates for as long as the command is present (three seconds).** **Missile(s) in flight are destroyed.** **The LOCK lamp and all other IHIPIR target data extinguish when the IHIPIR loses lock on the target.**
18.	If the engagement continues:
a.	Evaluate target intercept. **An audible tone burst is heard just prior to target intercept.** **If effective, a drop in doppler tone is heard; the target speed, altitude, and signal strength indications decrease; and the LOCK lamp extinguishes.** **NOTE** If the IHIPIR remains locked on target debris, press and hold the **BREAK LOCK** pushbutton as required.
b.	Press the KILL pushbutton (if the engagement was effective). **The KILL pushbutton on the firing console and the KILL label on the IBCC status indicator illuminate.** **The ASSIGN lamp extinguishes.** **The elevation search mode returns to manual.**

Table 2-24. Operating Procedures Performed at the FC—Continued

Step	Operation / Normal indication
18*c*. Cont.	If the intercept was ineffective, fire more missiles as directed until the target is destroyed, beyond the effective range, or in a position where firing is impossible. If still ineffective, press the NO KILL pushbutton. **The NO KILL pushbutton on the firing console and the NO KILL label on the IBCC status indicator illuminate.** **The ASSIGN lamp extinguishes.** **The elevation search mode returns to manual.**

2-6. Functions Performed at the CWTDC

a. Detection of ICWAR Targets. ICWAR targets are detected and displayed on the CWTDC. Targets appear on the CRT as azimuth versus speed. A target must be distinguished from noise, the cw cursor positioned over the target, and the TCC alerted by pressing the TCC ALERT pushbutton. This automatically positions the PSI cursor at the TCC CRT display. The information is then processed by the TCC as described in paragraph 2-4. No operator functions are performed at the CWTDC during the automatic mode of operation except low-speed target observation. If low-speed targets are detected, notify the TCO immediately and be prepared to designate the target manually.

b. Operating Procedures. A series of operating procedures performed at the CWTDC during a sample engagement is given in table 2-25. It is assumed that the IBCC had been properly emplaced, energized, and adjusted, and is ready for operation.

NOTE

The procedures in the following table are for information purposes only and are not to be considered indicative of tactical doctrine.

Table 2-25. Operating Procedures Performed at the CWTDC—Normal Mode

Step	Operation / Normal indication
1*a*.	Observe the CRT for target video (blip). **ICWAR target video is displayed on the CRT.** **Target doppler is heard in the headset.**
b.	If the target is within the ADP sector of coverage as determined by the TCC, no further action is required other than to resume monitoring the CRT for new targets or low-speed targets. **NOTE** If low-speed targets are detected, notify the TCO immediately and proceed to step 3 for a manual engagement.
c.	If the target is not within the ADP sector of coverage, proceed to step 2.
2.	Establish target priority in case two or more targets are detected. Report the most threatening target first based on velocity, range, and azimuth sector. **NOTE** Target range may be approximated by observing the vertical separation of the target video on alternate scans. The greater the separation, the greater the range.

Table 2-25. Operating Procedures Performed at the CWTDC—Normal Mode—Continued

Step	Operation / Normal indication
3a.	Position the cw cursor handwheel until:
	The cw cursor is positioned over the target video.
b.	Push the handwheel in, and slew the CRT display until:
	The CRT display moves horizontally to the desired position for viewing.
4.	Press the TCC ALERT pushbutton.
	The TCC ALERT pushbutton illuminates.
	At the TCC, the CW CONFIRM pushbutton flashes, and the cw cursor appears at the azimuth of the designated target on the PSI portion of the TCC CRT display.
5.	Continue to track the target until the TCC confirms acceptance of the target.
	The TCC ALERT pushbutton extinguishes when the target is accepted.
6a.	Observe the CRT for a new target of higher priority.
b.	If a target of higher priority appears, and the previous target has been confirmed by the TCC, perform step 7.
c.	If the target has not been confirmed, proceed to step 8.
7a.	Position the cw cursor over the new target video, and press the TCC ALERT pushbutton.
	The indications are the same as for step 4.
b.	Proceed to step 9.
8a.	Request permission from the TCC to pre-empt the current alert before proceeding.
	NOTE
	This is the general rule to follow in order to avoid possible interference with the in-process assignment of the existing target to the firing section.
b.	Press the ALERT CANCEL pushbutton.
	The TCC ALERT pushbutton extinguishes.
	At the TCC, the cw cursor is removed from the PSI portion of the TCC CRT display, and the flashing CW CONFORM pushbutton extinguishes.
c.	Position the cw cursor over the new target and press the TCC ALERT pushbutton.
	The indications are the same as for step 4.
9a.	When the target has been accepted by the TCC and the TCC ALERT pushbutton extinguishes, mark the target with a grease pencil on the CRT to identify it as being designated.
b.	Resume search.

2-7. Tactical Firing Operations

a. Summary of Activities During Engagement of Target. Figure 2-23 summarizes target engagement, from the initial detection of a target to interception. Target engagement is divided into two groups: a normally automatic engagement utilizing the ADP, and a manual engagement performed entirely by the IBCC operators without the ADP.

(1) *Normal engagement.* Targets falling within the ADP sector of coverage are automatically processed by the ADP which, in turn, furnishes the IBCC with data concerning the two most threatening targets. Without any TCO assistance, the ADP automatically selects and assigns the firing section to engage the most threatening target. The IHIPIR then automatically slews toward the target, searches in azimuth and elevation, and locks. After lock, the raid size can be estimated at the IBCC by listening to the target doppler and monitoring the target video on the CRT. When the target enters the effective range area of the missile, the ADP forwards a fire command to the IBCC. When the decision to fire is made by the TCO, the fire command is forwarded to the firing section requesting the engagement. Although the TCO normally makes the decision to fire and forwards the fire command to the firing section, he may select a completely automatic engagement mode by which the fire command from the ADP goes directly to the firing section without interruption at the IBCC. The ILCHR, which is automatically selected for the engagement, becomes fully activated and slews to the azimuth and elevation of the IHIPIR. Simultaneously, a missile is armed, activated both electrically and hydraulically, and acquires rear-signal lock on the IHIPIR. The

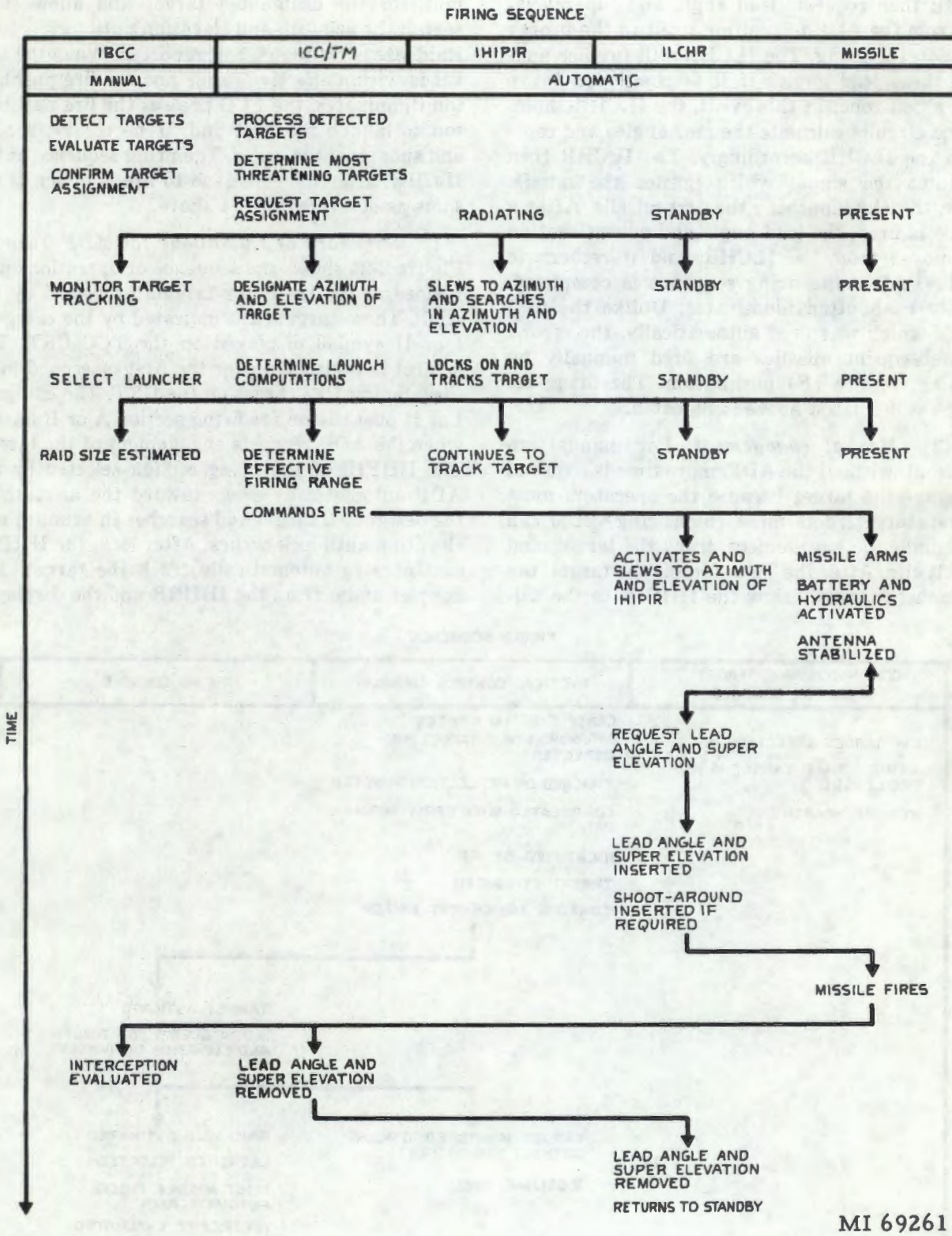


Figure 2-23. Typical firing sequence—normal mode.

ILCHR then requests lead angle and superelevation from the ADP to position itself in the proper direction for firing. The ILCHR will further augment these lead angles if it is positioned in an obstruction zone. In this event, the ILCHR shoot-around circuits calculate the new angles and reposition the ILCHR accordingly. The ILCHR then generates the signal which ignites the missile motor, thereby launching the first missile. After a missile is fired, the lead angle and superelevation is removed from the ILCHR, and it returns to standby. After the firing sequence is completed, the fire pushbutton illuminates. Unlike the first missile which was fired automatically, the second and subsequent missiles are fired manually by pressing the fire (F) pushbutton. The firing sequence as described above is repeated.

(2) *Manual engagement.* For manual engagement, without the ADP, more time is required to engage the target because the operators must evaluate targets, determine which firing section can best handle the engagement, track the target, and fire missiles. After the TCO assigns the target, the FCO must manually slew the IHIPIR to the azimuth of the designated target and allow it to search the azimuth and elevation until lock occurs. Raid size is estimated and reported. When the target is within effective range and the fire pushbutton illuminates, the FCO presses the fire pushbutton to launch the first and, if necessary, second and subsequent missiles. The firing sequence at the ILCHR, after the command to fire is given, is the same as described in (1) above.

b. Summary of Operations for ADP Targets. Figure 2-24 shows the sequence of operations performed at the IBCC for targets processed by the ADP. These targets are indicated by the category I or II symbol displayed on the TCC CRT. The symbol is positioned over the first or second most threatening PPI target on the CRT. The category I or II pushbutton for firing section A or B flashes when the ADP requests engagement of the target. The IHIPIR of the firing section selected by the ADP automatically slews toward the azimuth of the designated target and searches in azimuth and elevation until lock occurs. After lock, the IHIPIR continues to automatically track the target. The doppler audio from the IHIPIR and the displayed

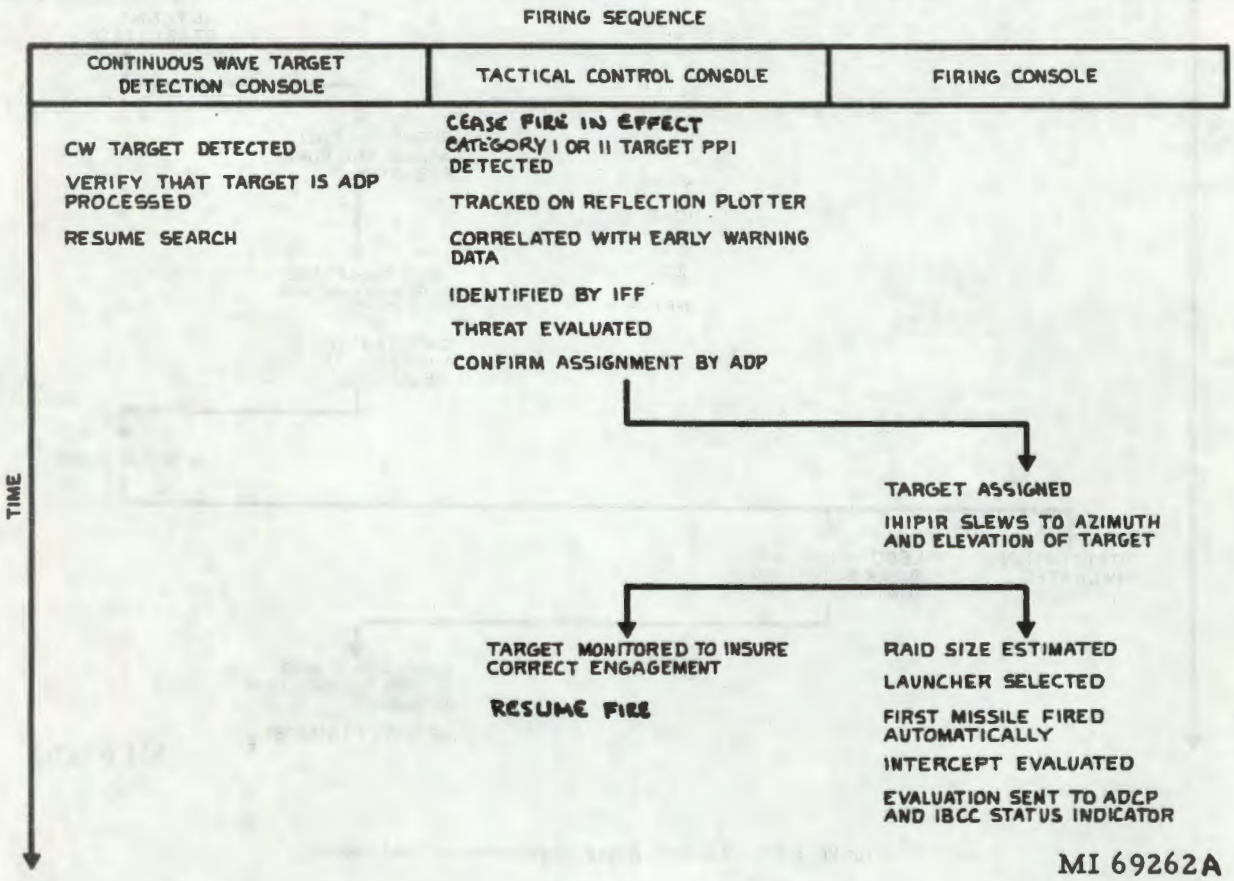


Figure 2-24. Sequence of operations for ADP-processed targets.

PPI video are checked in order to estimate the number of targets the IHIPIR is tracking. The CRT data is correlated with the data on the early-warning plotting board. Target identification is attempted from either the AADCP data or the IFF equipment in the ICC/TM. If the target is evaluated as friendly, the procedure stops. If the target is identified as hostile, the target threat is evaluated. To make the final assignment, the TCO presses the flashing category I or II pushbutton for the appropriate firing section. When the target enters the zone of effectiveness, a fire command is forwarded from the ADP to the firing section. Automatically, an ILCHR is selected and activated, and a missile is fired. As the missile nears the target, a tone burst is produced in the headset at the FC. The tone burst prepares the FCO to monitor target intercept. Intercept evaluation is then sent to the AADCP and IBCC status indicator. This description of operations is typical of a normal engagement. The TCO, however, has the option of placing the system in a completely automatic mode by setting the FIRE MODE switch to AUTO FIRE, which allows the ADP to complete the engagement of a battery threat target without interruption. In this mode, the TCO is not required to press the flashing category I or II pushbutton in order to make the final assignment.

c. Summary of IBCC Operations for IPAR Targets. Figure 2-25 shows the sequence of operations performed at the IBCC for a target detected by the IPAR. The target is detected in the PPI portion of the TCC CRT display. The CRT data is correlated with data on the early-warning plotting board. Target identification is attempted from either the AADCP data or the IFF equipment in the ICC/TM. If the target is identified as friendly, the procedure stops. If it is identified as hostile, target threat is evaluated. If the target is not processed by the ADP, it must be tracked manually. The tracking lever is used to track the target by keeping the tracking symbol over the target video. The

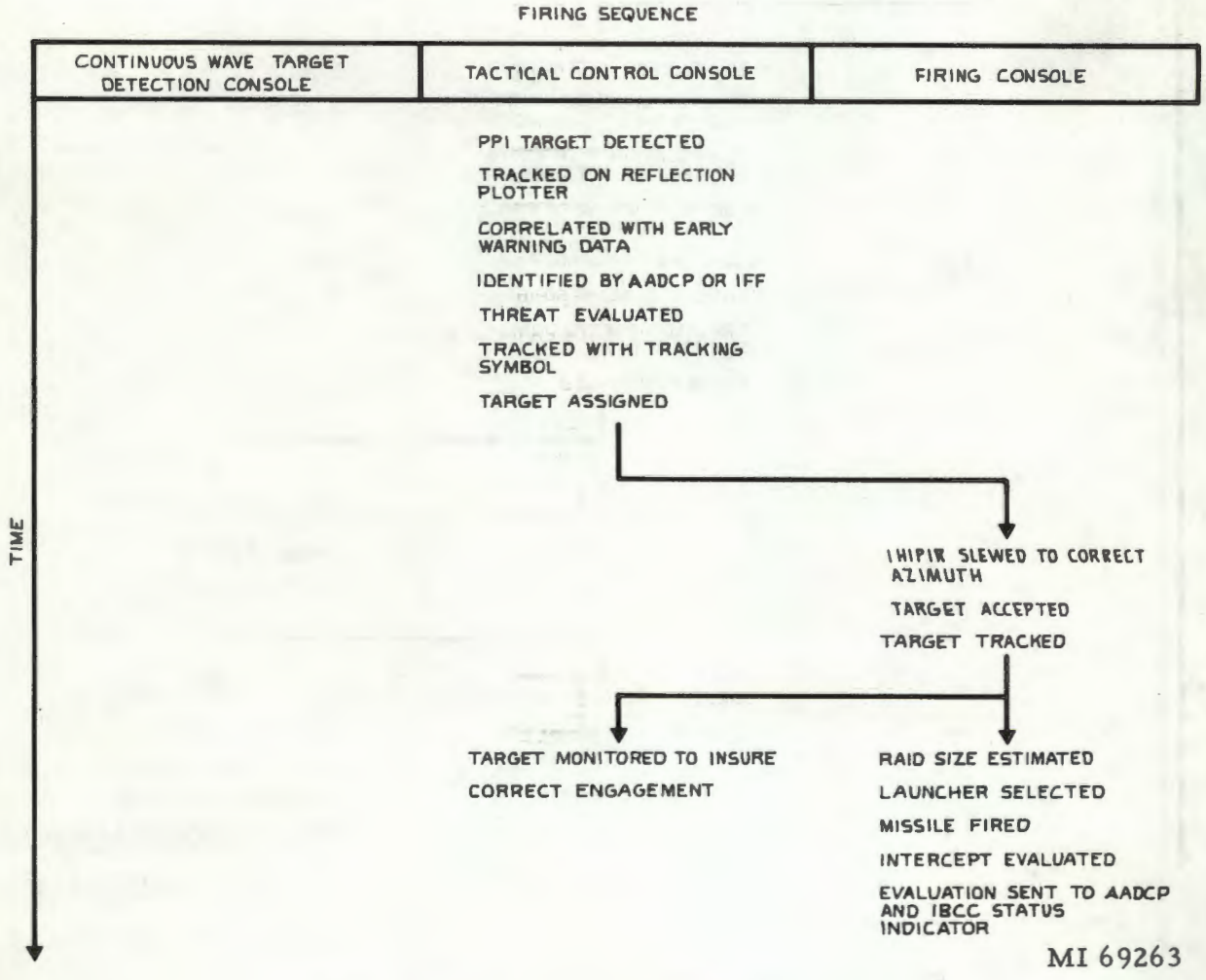


Figure 2-25. Sequence of operations for non-ADP IPAR targets.

TCC assigns the target to one of the FC's. At the FC, the handwheel is used to position the azimuth cursor over the target. The target is tracked until the IHIPIR attains lock. The target is then tracked automatically by the IHIPIR. The doppler audio from the IHIPIR and the displayed PPI video are checked in order to estimate the number of targets the IHIPIR is tracking. The ILCHR to be used during the engagement is selected. When the target enters the zone of effectiveness, the fire pushbutton is pressed, firing a missile. As the missile nears the target, a tone burst is produced in the headset at the FC. The tone burst prepares the FC operator to monitor target intercept. Intercept evaluation information is then sent to the AADCP and the IBCC status indicator.

d. Summary of IBCC Operation for ICWAR Targets. Figure 2-26 shows the sequence of operations performed at the IBCC for a target detected by the ICWAR. The video from this radar is presented on the azimuth and speed indicator. When a

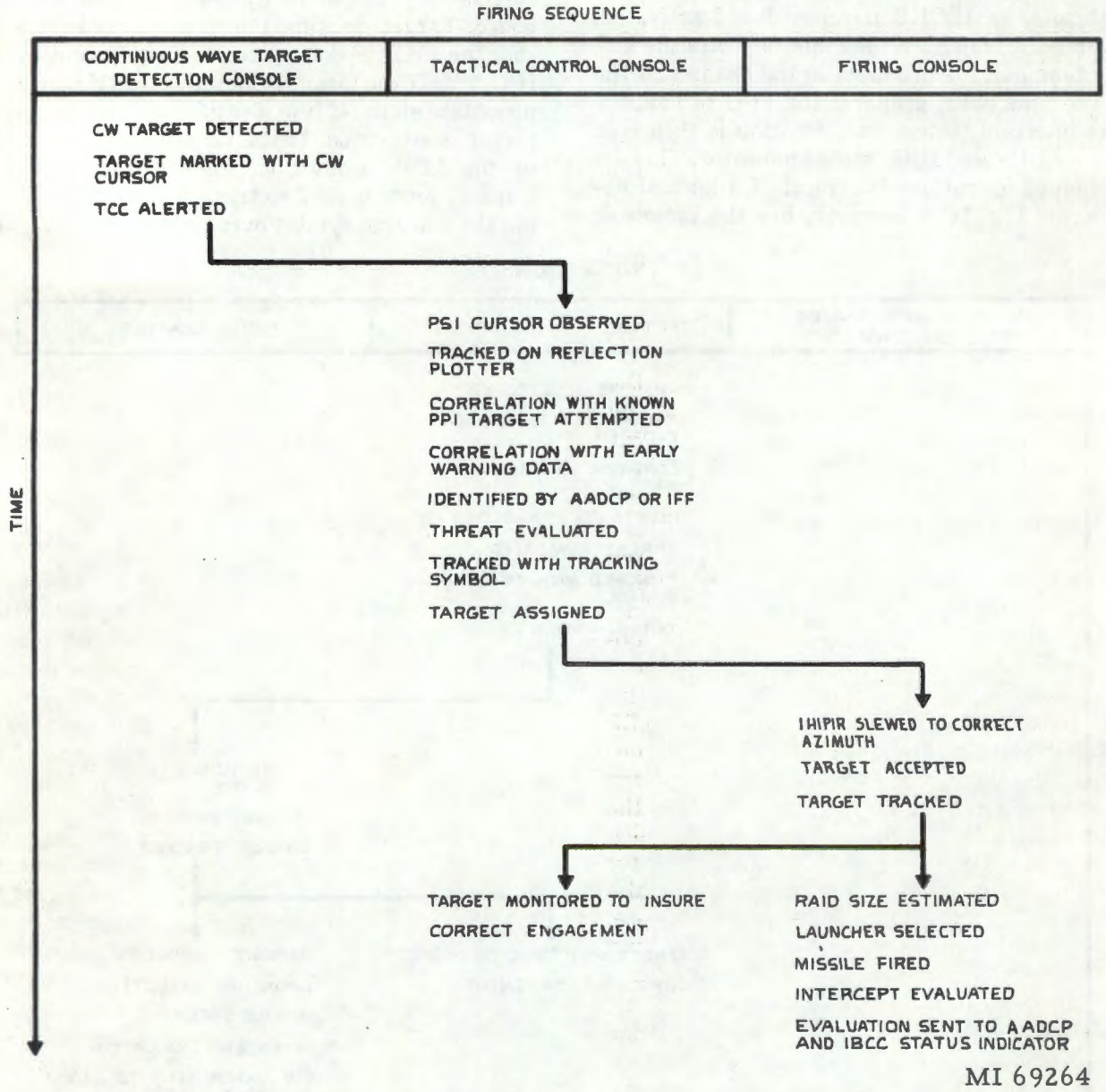


Figure 2-26. Sequence of operations for non-ADP ICWAR targets.

target is detected, the operator checks with the TCO to see if it falls within the ADP sector of coverage. If it does, no further action is required other than to continue searching for new targets. If the target is not within the ADP sector of coverage, it must be handled manually. Therefore, the cw cursor is placed over the target, and the TCC is alerted. The cw cursor appears in the PSI portion of the TCC CRT display. The target is marked unknown and plotted on the reflection plotter. The correlation cursor is used to correlate the PSI target with a known PPI target. If the correlation is successful, the target is handled as described in *c* above. If the correlation is not successful, the target is assigned to one of the firing consoles by pressing the button on the top of the tracking lever. This allows for difference in the range of the TCC CRT and FC CRT, and puts the tracking symbol in the PSI portion of the FC display. The remainder of the procedure is exactly as described in *c* above.

2-7.1. ADP Symbol Display During Normal Engagements

The following information is provided since it is possible for system false alarms or specters to appear as valid targets. In some instances, all of the conditions required for firing can be satisfied by these false targets, and missile firing could occur automatically. This information will enable the TCO and FCO to recognize these conditions and take appropriate actions to preclude firing.

a. ADP Symbol Display. ADP symbols displayed on the TCC CRT result from automatic detection processing by the ADP. The ADP symbols are generally stable during an engagement, but will periodically appear erratic due to multiple targets, atmospheric conditions, and local site disturbances. Inherent radar noise, combined with the ADP detection process, will produce system false alarms. A system false alarm is characterized by the sudden appearance of a symbol on the TCC CRT, and the subsequent IHIPIR designation to a target which does not exist. The *average* rate of occurrence for the display of erratic symbols and system false alarms is about one every half-hour. This rate, however, varies with local air traffic density and weather conditions. Short term increases with a rate of three per half-hour can be expected. Long term increases in rate, however, are most likely due to increased false alarm rates at either the ICWAR or IPAR, or an ADP failure (par. (3)). In this case, maintenance action is required. Proper siting of the ICWAR, relative to the other major items and sector-of-interest, will help eliminate problems from specter sources (generators, vehicles, etc.) and false jam strobes. The following subparagraphs describe and illustrate the various forms of ADP symbol display on the TCC CRT, and provide operating procedures necessary to cope with them.

(1) *Stable ADP symbols.* These symbols are displayed steadily on the PPI for at least three scans, and move in azimuth and range consistent with detected target position (fig. 2-27).

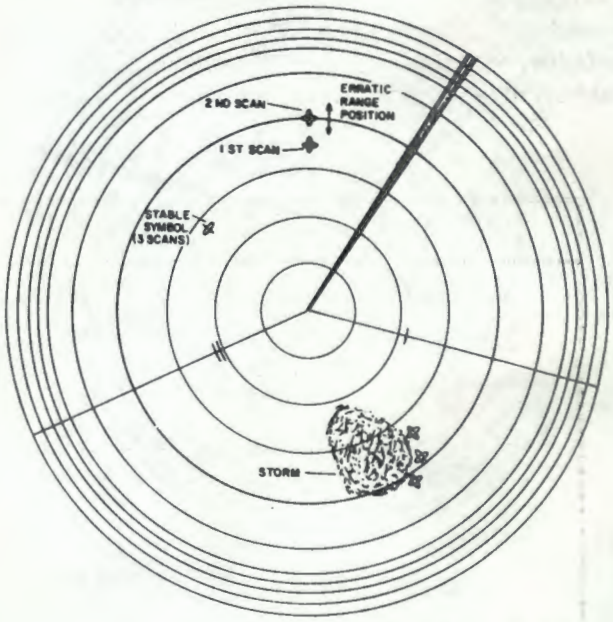


Figure 2-27. Target and storm detection.

(2) *Erratic ADP symbols.*

(*a*) *Valid targets.* Erratic symbol display of a valid detected target occurs when an ADP track file correlation is made between the detected target and a second target, radar false alarm, specter, or clutter. This type of detection is normally indicated by range jumps at approximately the same azimuth by the symbol on each scan (fig. 2-27). The range jumps may be either inbound or outbound.

(*b*) *Weather.* Intense storms, such as hailstorms and tornadoes, can produce almost continuous erratic detections. The range of the storm is usually correct, but the symbol updates with each scan are generally erratic in range and azimuth about the edges of the storm (fig. 2-27).

(*c*) *Specters.* Specter returns are those emitted from rotating or vibrating objects near the ICWAR. These sources are generally in the site area, and can come from generators, air conditioners, and moving vehicles. They may produce erratic ADP symbols, or more likely, jam strobes with the attendant 100-km symbol (fig. 2-28). Fixed objects, such as radio tower or other radars emitting electromagnetic energy, can cause the

IPAR jam strobe and attendant 110-km symbol to be displayed on the PPI. The length of the jam strobe indicates the strength of the electromagnetic source.

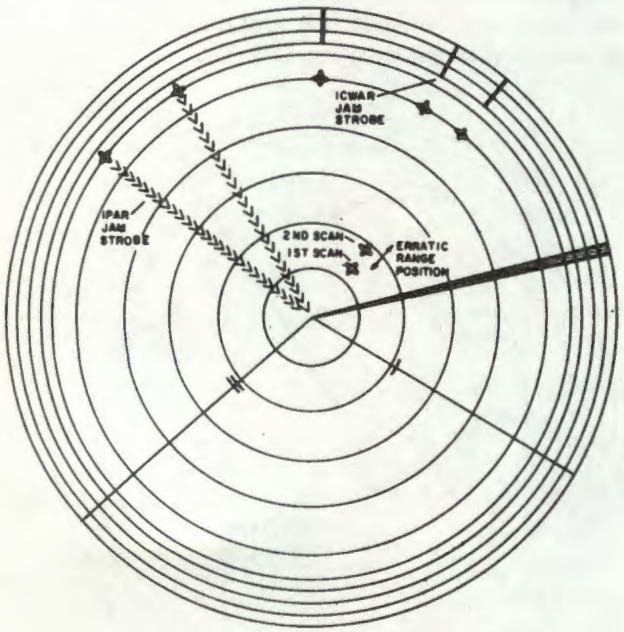


Figure 2-28. Specter detection.

(3) *False Alarms.* The inherent normal false alarm rate of the ICWAR and IPAR, combined with the ADP scan-to-scan detection process will produce system false alarms. The normal system *average* false alarm rate is one every half-hour at which time a symbol is displayed on the PPI for approximately three scans. An abnormally high system false alarm rate is assumed if one or more system alarms occur within a 10-minute average period. Conversely, an abnormally low system false alarm rate is assumed if one or less than one system alarm occurs within an eight-hour average period.

b. Operating procedures. Table 2-26 provides an operating procedure for erratic ADP symbol detections on the TCC CRT.

WARNING

Operate the system in the cease fire mode (TCC RESUME FIRE/CEASE FIRE switch set to CEASE FIRE for appropriate firing section) until final target assessment has been made and the IHIPIR has obtained proper lock on the target.

Table 2-26. Operating Procedures For Erratic ADP Symbol Detections

ADP symbol display	Operator action
One or more symbols jumping in range at approximately the same azimuth.	TCO observes display. If ADP symbol lasts more than three scans, accept ADP assignment in the CEASE FIRE mode and manually engage if IHIPIR cannot lock. Return to RESUME FIRE mode only if the IHIPIR achieves valid lock on the target.
Symbols at 100-km repeatedly occurring at azimuth of ICWAR jam strobe.	Resite or shield the offending item.
Erratic symbols and/or false jam strobe (100 km) suddenly appear at a high rate of occurrence, usually moving rapidly in azimuth.	Refuse any ADP assignment. Clear vehicle from area if situation persists.
Erratic symbol jumping about a bright spot on PPI display.	Refuse any ADP assignment until storm ends, or moves out of IPAR window. Change window if permissible.

Table 2-26. Operating Procedures For Erratic ADP Symbol Detections—Continued

ADP symbol display	Operator action
One or more symbols jumping in range at approximately the same azimuth. Heavier than normal long range clutter.	Change IPAR window or accept ADP assignments in CEASE FIRE. Return to RESUME FIRE only if the IHIPIR achieves valid lock on the target. Manually engage if the IHIPIR does not lock.
Symbols (false alarms) with higher or lower than normal occurrence rate for extended periods of time in the IPAR window.	Perform IPAR daily checks. Perform ADP DTO diagnostic check and ADP IPAR radar data coupler adjustment.
Erratic symbols and/or jam strobe symbols (100-km) at the same azimuth repeatedly with higher than normal occurrence rate for extended periods of time. No symbols, or symbols at lower than normal occurrence rate.	Perform ICWAR daily checks. Perform ADP DTO diagnostic check and ADP ICWAR radar data coupler adjustment.
Erratic symbols and/or false jam strobes at specific azimuths occurring at a high rate. Horizontal lines visible on PSI. One or more PSI rings with many detections.	Perform ICWAR daily checks.

2-7.2. Changing Modes of Operation

The following procedures are required to change the local/remote status of the IPAR and/or ICWAR.

a. Integrated Battery Mode to Maintenance or Emergency Mode.

(1) If only the IPAR is to be placed in local:

(*a*) Set the CWTDC SCAN MODE switch to CW.

(*b*) Request that the IPAR be placed in local.

(2) If only the ICWAR is to be placed in local:

(*a*) Set the CWTDC SCAN MODE switch to NORMAL.

(*b*) Request that the ICWAR be placed in local.

(3) If both the IPAR and ICWAR are to be placed in local:

(*a*) Request that the ICC/TM ANT SYNC switch be set to INT and CW.

(*b*) Set the CWTDC SCAN MODE switch to CW.

(*c*) Request that the IPAR and ICWAR be placed in local.

b. Maintenance Mode to Integrated Battery Mode.

(1) If only the IPAR has been in local:

(*a*) Verify that the IPAR antenna is rotating.

(*b*) Request that the IPAR be placed in remote.

(*c*) Set the CWTDC SCAN MODE switch to NORMAL.

(2) If only the ICWAR has been in local:

(*a*) Request that the ICWAR antenna mode switch be set to PULSE SLAVE.

(*b*) Request that the ICWAR be placed in remote.

(3) If both the IPAR and ICWAR have been in local:

(*a*) Verify that the IPAR antenna is rotating.

(*b*) Request that the IPAR be placed in remote.

(*c*) Set the CWTDC SCAN MODE switch to NORMAL.

(*d*) Request that the ICWAR antenna mode switch be set to PULSE SLAVE.

(*e*) Request that the ICWAR be placed in remote.

(*f*) Request that the ICC/TM IFF ANT SYNC switch be set to EXT.

Section III. OPERATION OF MATERIEL USED IN CONJUNCTION WITH THE IBCC

2-8. Battery Communications

The battery communications consist of an acquisition loop, two firing section loops, an operational control line, an intelligence line, and an administrative and maintenance line. The end instruments are headsets, telephones, and speakers. A central communications unit, located above the TCC, is operated by the TCO and TCA, and contains the controls necessary to interface all battery communication links. All telephone lines, except field lines, are carried in the battery data cables. The field lines are laid separately using standard Signal Corps field wire. A more detailed explanation of the lines and their hookup is given in TM 9–1425–525.

2-9. Acquisition Loop

The acquisition loop is completed by designating the IPAR, ICWAR, IROR, and IFF (located at the ICC/TM) to a common bus line at the TCO/TCA communications unit. Since the radars are unattended during tactical operations, the loop is provided for use during emplacement and maintenance operations.

2-10. Firing Section Loop

Similarly, the firing section loops are completed by designating firing section A to a bus line with FC A, and firing section B to a second bus line with FC B. Since the firing section ILCHR's and IHIPIR's are unattended during tactical operations, the loop is provided for use during emplacement and maintenance operations. Each firing section's improved launching section control box (ILSCB) is manned by the crew chief who reports tactical operations information directly to the FC.

2-11. Operational Control Line

The operational control line (hot line) connects the IBCC with the AADCP. This line is continuously monitored by the TCO since it is used during tactical operations.

2-12. Intelligence Line

a. The intelligence line (IRR) connects the IBCC with the AADCP. This line is monitored by the TCA since it also is used during tactical operations.

b. In models *(AF) *(D)[1], a switch is provided so that the IRR line can be switched from the TCA's headset to the TCO's headset. During quiet operations, when the IBCC is manned at reduced strength, the line is monitored without having to use the TCA's headset.

2-13. Early Warning Line *(D)[1]

The early-warning information is furnished from a radio receiver in the ICC/TM and heard over a loudspeaker in the IBCC.

2-14. Administrative and Maintenance Line

A battery administrative and maintenance line is provided by a single telephone set in the IBCC. This line is connected to a switchboard in the ICC/TM by means of field wire. It is intended for administrative and maintenance purposes and does not interfere with tactical operations.

2-15. Internal Lines

Internal communications between the IBCC operators is obtained by assigning to each operator a common bus line at the TCO/TCA communications unit.

Section IV. OPERATION UNDER EMERGENCY CONDITIONS

2-16. General

In an emergency situation when the ADP or one or both acquisition radars are not functioning, the IBCC is capable of limited operation. A target may be detected and engaged by a crippled battery by using operating procedures described in paragraphs 2-17 through 2-20. Procedures may be revised at the discretion of the tactical commander to conform with varying tactical situations.

NOTE

For operating instructions for the counter-countermeasure (CCM) facilities of the improved HAWK air-defense guided-missile system, refer to TM 9–1425–525–12–3.

[1]Refer to appendix E for serial number effectivity.

2-17. IPAR Inoperative

CAUTION

In the event of failure of the IPAR, insure that the proper procedures for changing battery modes of operation as outlined in paragraph 2-7.2, are followed.

a. General. With the IPAR inoperative, the operation is similar to engagement procedures for low-altitude targets where only the PSI CRT display is available. Target range information is not available at the TCC until after IHIPIR lock, except for friendly targets detected by the IFF. To provide an effective defense against medium or high-altitude aircraft, use either or both IHIPIR's to search the sectors above the ICWAR coverage.

b. Procedures. Set the SCAN MODE switch on the CWTDC to the CW position. Detect and evaluate the targets as described in the operating procedures for low-altitude aircraft (par. 2-6). Use one firing section to determine target range. Engage all high-priority threat targets immediately (those near or within effective range). For low-priority targets, mark the target range on the reflection plotter, break lock, and determine the range of another existing target.

2-18. ICWAR Inoperative

CAUTION

In the event of failure of the ICWAR, insure that the proper procedures for changing battery modes of operation, as outlined in paragraph 2-7.2, are followed.

a. General. With the ICWAR inoperative, the operation is similar to engagement procedures for high-altitude targets where only the PPI CRT display is available. To provide an effective defense against low-altitude aircraft, use either or both IHIPIR's to search the sector beneath the IPAR coverage.

b. Procedures. Detect and evaluate targets as described in the operating procedures for high-altitude targets (par. 2-4). Search the horizon with the IHIPIR of an unengaged firing section. Press the ELEVATION LOW pushbutton at the FC. Rotate the azimuth cursor handwheel in increments of approximately 25 mils within the assigned sector. Leave the knob at each azimuth position for at least three seconds to allow time for search. Mark the azimuth, range, and speed of IHIPIR-detected, low-altitude targets at the TCC. Order the firing console to engage the target, or order break lock and continue the search for other targets, depending on the threat to the defended area.

2-19. IPAR and ICWAR Radars Inoperative

a. General. With both the ICWAR and IPAR inoperative, the IHIPIR may be used to detect targets. A synthetic PPI CRT display is marked on the reflection plotter of the TCC.

b. Procedures. Switch from the OPERATE to the TEST ROTATE position at the scan servo amplifier. Assign a search sector to each firing section. Press the ELEVATION LOW pushbutton at each FC. Position the tracking symbol at the assigned azimuth from the TCC, and move the FC azimuth cursor to the same azimuth. Allow the IHIPIR to search in low elevation for at least three seconds. Then press the ELEVATION HIGH pushbutton and allow the IHIPIR to search in high elevation for approximately seven seconds. Move the azimuth of the IHIPIR approximately 25 mils and repeat. Monitor the IHIPIR azimuth repeatback mark on the TCC CRT display. This manner of searching is continued until the IHIPIR locks on a target, or the assigned sector is searched. Mark the approximate azimuth, speed, range, and elevation of detected targets at the TCC. Engage all high-priority threat targets at the FC's.

2-20. ADP Inoperative

a. General. With the ADP inoperative, the operation is similar to engagement procedures for manually detected targets that do not meet the criteria for automatic processing in the automatic or normal modes. Target data is still available from the acquisition radars and displayed accordingly at the CWTDC and/or TCC. The IHIPIR, however, must be conditioned to furnish in-range information to the IBCC and lead angle information to the ILCHR's.

b. Procedures. Set the firing interlock assemblies (A) and (B) test switches to HPI. Detect, evaluate, and engage targets as described in the operating procedures for manual targets (par. 2-4).

2-21. Removing a Defective Missile

Refer to TM 9–1440–531–12–1 for removal procedures.

Section V. OPERATION UNDER UNUSUAL CONDITIONS

2-22. Chemical, Biological, and Radiological (CBR) Environment

The IBCC collective protection equipment provides uncontaminated air for IBCC personnel working in a CBR environment. It also furnishes a means whereby personnel can enter and leave the IBCC without admitting contaminated air to the interior. An antibackdraft valve is installed in the door of the IBCC. Indicating lights and a buzzer which indicate whether the pressure in the system is correct, are mounted inside the IBCC on a control panel. For further operation and maintenance, refer to TM 3-4240-229-12 and TM 3-220; for check procedures, refer to chapter 3.

2-23. High Velocity Winds

The IBCC can be operated in gusts of wind up to 75 miles (121 km) per hour, and steady winds up to 50 miles (80 km) per hour. At winds in excess of this, deenergize the IBCC (chapter 3) and perform the following steps, or evacuate the IBCC to a protected area.

a. Stow all loose equipment.

b. Close all vents and access doors.

c. Cover the siren with cotton sateen cloth (8305-261-7949) and secure with nylon tape (PN7619712).

2-24. Extreme Cold and Hot Weather Operation

The IBCC can be operated satisfactorily at temperatures as low as −25°F (−32°C) for at least three days, and as high as 125°F (52°C) for at least four days.

2-25. Barometric Pressure

The IBCC can be operated satisfactorily at atmospheric pressures from sea level up to 10,000 feet (3.04) km above sea level.

2-26. Humidity

The IBCC can be operated satisfactorily at a relative humidity of 100 percent provided the temperature does not exceed 90°F (32°C).

CHAPTER 3
PERIODIC CHECKS AND ADJUSTMENTS

Section I. PREVENTIVE MAINTENANCE SERVICES

3-1. General

The purpose of preventive maintenance services is to detect the first signs of electrical and mechanical failures, and to insure that appropriate corrective action is taken before expensive and time-consuming repairs or replacements are required. This system is based on frequent inspections and services accomplished by operators or maintenance personnel under active supervision by all commanders and leaders.

3-2. Responsibility

Operators and crew chiefs are personally responsible for assigned materiel. Section and platoon leaders are charged with supervisory responsibility for materiel pertaining to their commands. Unit and organization commanders are required to insure that materiel issued or assigned to their commands is properly maintained in a serviceable condition and is properly cared for and used.

3-3. Intervals

The principal criteria for determining the frequency of preventive maintenance services are operating hours and road movement. Since these cannot be accurately predicted, a weekly interval will be used. Operation under adverse conditions such as extreme temperature or inclement weather may require that preventive maintenance services be performed more frequently. Reduce the intervals when environmental conditions indicate the need. Do not exceed the intervals unless authorized to do so.

3-4. General Procedures for all Services and Inspections

a. The following general procedures apply to preventive maintenance services and to all inspections, and are just as important as the specific procedures.

b. Inspections to see if items are in good condition, correctly assembled or stored, secure, not excessively worn, not leaking, and adequately lubricated apply to most items in the preventive maintenance and inspection procedures. Any or all of these checks that are pertinent to any item (including supporting, attaching, or connecting members) will be performed automatically, as general procedures, in addition to any specific procedures given.

(1) Inspection for good condition is usually an external visual inspection to determine whether the unit is damaged beyond safe or serviceable limits. Good condition is explained further as meaning not bent or twisted, not chafed or burred, not broken or cracked, not bare or frayed, not dented or collapsed, not torn or cut, not deteriorated.

(2) Inspection of a unit to see that it is correctly assembled or stowed is usually a visual inspection to see if the unit is in its normal position in the materiel and if all its parts are present and in their correct relative position.

(3) Inspection of a unit to determine if it is secure is usually an external visual examination or a check by hand or wrench for looseness. Such an inspection must include any brackets, lockwashers, locknuts, locking wires, or cotter pins as well as any connecting tubes, hoses, or electrical cables.

(4) Excessively worn means worn beyond serviceable limits, or to a point likely to result in failure if the unit is not replaced before the next scheduled inspection. Excessive wear of mating parts or linkage connection is usually evidenced by too much play (lash or lost motion). It includes illegibility as applied to markings, data and caution plates, and printed matter.

(5) Such expressions as "adjust if necessary" or "replace if necessary" are not used in the specific procedures. It is understood that whenever inspection reveals the need of adjustment, repair, or replacement, the necessary action will be taken.

3-5. Daily Preventive Maintenance Services

The daily preventive maintenance service is a systematic inspection of the IBCC each day it is

operated and after each time it is emplaced so that defects may be discovered and corrected before they result in serious damage or failure. This service is performed by the operator. Any defects noted, beyond the scope of the operator to correct, will be reported immediately to the maintenance supervisor. Detailed instructions are contained in table 3-1.

3-6. Weekly Preventive Maintenance Services

These services are to be performed by the organizational maintenance mechanic and the operator. Only those procedures beyond the responsibility of the operator will be performed by the mechanic. The battery maintenance supervisor will determine the specific areas of responsibility. Detailed instructions are contained in table 3-2.

3-7. Quarterly Preventive Maintenance Services

Quarterly preventive maintenance services are to be performed by the operator, organizational, and direct support maintenance personnel. The procedures are listed in table 3-3.

3-8. Annual Preventive Maintenance Services

Annual preventive maintenance services are to be performed by the direct and general support maintenance personnel on the IBCC panel meters per TM 9–4935–548–14.

Table 3-1. Daily Preventive Maintenance Services

Step	Procedure	Reference
1.	Ground Rod. Check the ground rod to see that it is properly installed and that the strap is securely fastened to both the rod and the IBCC.	TM 9–1425–525–12–1
2.	Power and Data Cables. Check cable connectors for tightness.	TM 9–1425–525–12–1
3.	Equipment Cabinets. If the equipment has been deenergized for 24 hours or more, check the cabinets for moisture before energizing. Dry as required.	
4.	Air Filters. Inspect for dirt and corrosion, and clean as required.	
5.	Exterior Surfaces. Remove accumulations of sand, snow, ice or mud. If extensive washing is necessary after a road march, insure that the access door and the door vent are securely closed. *Do not use high-pressure water streams for cleaning exterior surfaces of the IBCC.*	
6.	Inspect exterior surfaces for rust, chipped paint, breaks or cracks. Clean, paint, and repair as required.	TM 9–1425–525–12–4
7.	External battery supply. Check cable connections and electrolyte level.	TM 9–6140–200-15

Table 3-2. Weekly Preventive Maintenance Services

Step	Procedure	Reference
1.	Equipment Cabinets. Inspect gaskets for deterioration. Check for missing or damaged hardware items, dirt, corrosion, chipped paint, and illegible name plates.	
2.	Electrical Equipment Drawers and Racks, Terminal Boards, Switches, Control Knobs, Meters and Connectors. Check for damage, loose or missing hardware, or loose assemblies. Inspect equipment drawers for ease of movement and physical condition. Check meter faces for broken or cracked glass or evidence of moisture.	
3.	Cable Assemblies and Wiring Harnesses. Inspect weekly or after road movement for loose connections and defective insulation	
4.	Indicator Scales. Inspect for legibility, dirt, corrosion, or damage.	
5.	Air Filters. Inspect for dirt, corrosion, and damage. Clean or replace as required.	
6.	Air Conditioner. Check to see that the sight glass shows no visible signs of air bubbles, and that the moisture indicator color is green.	TM 5–4120–210–15 TM 9–4935–502–14

Table 3-2. Weekly Preventive Maintenance Services —Continued

Step	Procedure	Reference
7.	Collective Protection System. **CAUTION** If the M10 collective protection equipment is to be used, the Fairchild Stratos Model VEA4-3A (FSN 4120-926-4280) air conditioner must be installed on the IBCC.	TM 3–4240–229–12 TM 3–220
a.	Gas Particulate Filter Unit. Inspect the prefilter to be sure it is free from dirt and dust. Make sure the dampers are properly adjusted and undamaged. Check flexible hose and hose clamps to see if they are damaged. Check the housing for dents or loose hardware. Turn on the filter unit and listen for unusual noises or excessive vibration.	
b.	Protective Entrance. Inspect the mounting frame to see that it is fastened tightly to the door of the IBCC. Inspect the fabric of the enclosure for damage. Make sure all straps are firmly attached and that the snap fasteners function properly. Inspect framework for bent members and loose or missing hardware. Separate and release the door panels several times to make sure the closing device operates smoothly.	
c.	Indicator Lights and Buzzer. With the collective protection system unit in operation, make sure that the white and red indicator lights and the buzzer are functioning properly.	
8.	Batteries. Check batteries in telephones and communications modules. Replace as required.	

Table 3-3. Quarterly Preventive Maintenance Services

Step	Procedure	Reference
1.	Synchros. Check and aline if necessary.	TM 9–1425–525–12–2
2.	Fuse Holders. Check fuse holders for proper type and rating of fuses.	
3.	CRT. Check that the CRT has no burned spots beyond 5 km that are larger than ⅛ inch in diameter. Replace as required.	Chapter 5

Section II. OPERATIONAL CHECKS

3-9. General

This section contains the energizing, deenergizing, and organizational check procedures in tabular form, and all the information necessary to prepare the IBCC for performance of the check procedures.

3-10. External Test Equipment Required

Table 3-4 lists the external test equipment required for performing the daily, integrated daily, weekly, and integrated weekly check procedures.

Table 3-4. External Test Equipment Required

Test equipment	Procedures	
	Daily	Weekly
Multimeter TS-505 D/U	X	X
Miniature guided-missile simulators (3)	X	X
IPAR alinement telescope		X

3-11. Procedure Prior to the Application of Power

WARNING

Make certain that the improved HAWK battery is properly emplaced, and that the ground rod and connecting cable are correctly installed (TM 9–1425–525–12–1).

WARNING

Make certain that all umbilical cables are disconnected from ILCHR's with missiles, and that the umbilical shorting plugs have been installed to prevent accidental firing or injury to personnel while applying power. Set the SAFE/ARM lever to SAFE prior to initial power application.

a. Check that all plug-in chassis are properly seated and locked in position.

b. Check that all panels are in place and fastened so that the interlock circuits are closed.

CAUTION

Make certain that the power switches on the communication modules are set to off before connecting the headsets.

c. Connect the communications headsets to their respective console connectors.

d. Insure that the emergency power cable is connected to the prime mover battery and the IBCC.

3-12. Position of Controls Prior to Application of Power

a. Before applying power to the IBCC, set the controls to the positions given in table 3-5. Controls not listed in table 3-5 may be set to any position because they do not directly affect the check procedure. Make certain that the controls are correctly set before the check procedures are performed.

b. During extreme weather conditions (heat, humidity or cold) the A/C & HEATING, SHELTER POWER, and EQUIPMENT BLOWERS circuit breakers (13, 14, and 15, fig. 2-15) may be left on and powered for protection of equipment.

c. For operation of the air conditioner, refer to TM 5–4120–210–15.

Table 3-5. Position of Controls Prior to Application of Power

Illustration		Location	Control	Control setting
Figure	Key			
1-1	7	Power distribution control		
2-15	1		ILLUMINATION CONSOLES switch	OFF
	2		ILLUMINATION OVERHEAD switch	OFF
	3		ILLUMINATION BLUE switch	OFF
	4		ILLUMINATION BLACKOUT INTERLOCK switch	NORMAL
	6		EMER ILLUM circuit breaker	OFF
	7		CONVENIENCE OUTLETS TCC CWTDC circuit breaker	ON
	8		CONVENIENCE OUTLETS FCC-A FCC-B circuit breaker	ON
	9		SIREN circuit breaker	OFF
	10		GENERAL ILLUMINATION circuit breaker	OFF
	11		BLACKOUT ILLUMINATION circuit breaker	ON
	12		PLOTTING BOARD circuit breaker	OFF
	13		A/C & HEATING circuit breaker	OFF
	14		SHELTER POWER circuit breaker	OFF
	15		EQUIPMENT BLOWERS circuit breaker	OFF
	16		28V LIGHTING SUPPLY circuit breaker	OFF
	17		ILLUMINATION DIMMER control	Fully counterclockwise
1-2	4	Power supply control		

Table 3-5. Position of Controls Prior to Application of Power—Continued

Illustration		Location	Control	Control setting
Figure	Key			
3-2	1		POWER circuit breaker	OFF (down)
	4		BALANCE SELECTOR switch	OFF
1-2	8	20-Vdc power supply		
3-4	3		METER SELECT switch	OFF
1-1	3	IBCC status indicator		
2-14	8		CLOCK DIMMER control	Fully counter-clockwise
1-1	4	TACTICAL CONTROL CONSOLE (TCC)		
2-1	25	TCO panel assembly	SYMBOL DISPLAY switches	NORMAL and ALL
2-3	1	TCO control panel	SYMBOLS control	Fully counter-clockwise
	2		REPEAT BACK MARKS control	Fully counter-clockwise
	3		RANGE RINGS control	Fully counter-clockwise
	4		SWEEP control	Fully counter-clockwise
	6		CONSOLE POWER switch	Off (down)
	7		VIDEO control	Fully counter-clockwise
	9		PLOTTER DIMMER control	Fully counter-clockwise
2-2	5	TCA panel assembly	POSITION switch	2
	9		IFF AUTO CHALLENGE switch *(G)[1]	OFF
	17		PROCESSOR BYPASS switch *(F)[1]	OFF
	18		BRACKET DECODE switch *(F)[1]	OFF
	19		AUTO INHIBIT switch *(F)[1]	OFF
2-4	1	TCA control panel	PANEL DIMMER control	Fully counter-clockwise
	2		IFF VIDEO control	Fully counter-clockwise
2-5	2	Video control panel	MTI-DF/MTI switch	MTI-DF
	3		Video selector switch	VI-BB/DF
1-1	5	Plotting board control panel	Plotting board dimmer control	Fully counter-clockwise
1-2	15 and 16	Firing consoles (FC's) A and B		
2-10	1	FC cover assembly (left side)	CONSOLE POWER switch	Off (down)

[1]Refer to appendix E for serial number effectivity.

Table 3-5. Position of Controls Prior to Application of Power—Continued

Illustration		Location	Control	Control setting
Figure	Key			
	3		DIMMER CONTROL	Fully counter-clockwise
	4		SYSTEM ACCURACY TEST switch	OFF
2-11	2	(right side)	CCM OVERRIDE switch	Off (right)
2-13	7	FC control panel	DOPPLER VOLUME control	Fully counter-clockwise
2-12	8	FC control shelf	SWEEP control	Fully counter-clockwise
	10		RANGE RINGS control	Fully counter-clockwise
	12		SYMBOL control	Fully counter-clockwise
	14		REPEAT BACK MARK control	Fully counter-clockwise
	15		VIDEO control	Fully counter-clockwise
1-1	1	CWTDC		
2-8	1		CONSOLE POWER switch	OFF
	7		SCAN MODE switch	NORMAL
	13		DOPPLER VOLUME control	Fully counter-clockwise
2-9	10	CWTDC control shelf	CURSOR INTENSITY control	Fully counter-clockwise
	13		VIDEO GAIN control	Fully counter-clockwise
	14		LAMP DIMMER control	Fully counter-clockwise
	15		SWEEP INTENSITY control	Fully counter-clockwise
1-2	5	INDICATOR CONTROL GROUP (ICG)		
1-6	1 and 24	FC A and B marker generator		
3-27	5		RANGE TEST switch	NORM
1-6	3	Symbol intensity electronic gate assembly		
3-21	1		ADP SYMBOL TEST switch	OFF
1-6	2	General test set		
3-8	14		Test switch	OPERATE
1-6	8	IPAR set control		
2-17	1		Receiver mode switch	AUTO
	3		SECTOR switch	OFF
	10		Pulse repetition rate switch	BOTH
	11		DF/DFF switch	DF

Table 3-5. Position of Controls Prior to Application of Power—Continued

Illustration		Location	Control	Control setting
Figure	Key			
1-6	14 and 15	Predicted intercept marker generator (A) and (B)		
3-28	5		Test switch	NORMAL
1-6	23	Symbol generator		
3-19	3		SYMBOL TEST switch	NORMAL
1-2	17	FIRE CONTROL GROUP (FCG)		
1-7	1 and 10	Intercept computer (A) and (B)		
3-26	3		Test switch	NORMAL
1-7	2 and 9	Firing interlock assembly (A) and (B)		
3-29	4		Test switch	ADP
1-7	3 and 8	Firing circuits test set (A) and (B)		
3-11	4		Test switch	OPERATE
1-7	4 and 7	Display generator (A) and (B)		
3-34	3		Test switch	OP
1-7	5	Scan servo amplifier		
3-12	3		Test switch	OPERATE
1-7	20 and 11	Azimuth electronic control amplifier (A) and (B)		
3-36	5		Test switch	OPERATE
1-7	21 and 12	Elevation electronic control amplifier (A) and (B)		
3-37	7		Test switch	OPERATE
1-7	22 and 13	Range electronic control amplifier (A) and (B)		
3-35	7		Test switch	OPERATE
1-7	15	IROR electronic control amplifier		
2-19	5		Power switch	OFF
1-7	16	IROR sweep generator		
3-30	2		RANGE CAL switch	LONG
	4		Test switch	NORMAL

Table 3-5. Position of Controls Prior to Application of Power—Continued

Illustration		Location	Control	Control setting
Figure	Key			
1-7	17	IROR video amplifier		
3-13	8 and 7		FCC-A and FCC-B SWEEP INTENSITY controls	Mid-position.
	9 and 6		FCC-A and FCC-B VIDEO GAIN controls	Fully counter-clockwise
1-2	9	Cable entry enclosure		
3-9	4		REMOTE/LOCAL switch	LOCAL
1-2	18	TCO/TCA communications unit		
2-19.1 *(AG)[1] or 2-20 *(AF), *(D)[1]	1		TCO VOL-L control	Fully counter-clockwise
	3		TCO VOL-R control	Fully counter-clockwise
	16		TCA VOL-L control	Fully counter-clockwise
	18		TCA VOL-R control	Fully counter-clockwise
	9 (fig. 2-19.1) 38 (fig. 2-20)		POWER pushbutton	Off (extinguished)
1-1 and 1-2	9, 10 14	CWTDC and two FC communication stations		
2-21	1		VOL control	Fully counter-clockwise
	3		PWR switch	OFF
1-1	8	Collective protection system control		
2-22	4		Circuit breaker	Off (down)

3-13. Energizing Procedures

The energizing procedures for a system-integrated IBCC are contained in tables 3-6 and 3-7. When performing the check procedures, tables 3-6 and 3-7 may be omitted as the procedures are included as integral parts of the check procedures.

NOTE

All references to meter-colored areas are for colors as seen during daylight conditions. Figure 3-1 illustrates the meters and their colored areas.

[1]Refer to appendix E for serial number effectivity.

Table 3-6. Energizing Procedure—Shutdown to Standby

Step	Procedure	Normal Indication
	NOTE If a normal indication is not obtained during the performance of the energizing procedures, immediately perform the fault isolation procedures in TM 9–1430–526–12–2.	
	WARNING Disconnect all missile umbilicals and clear all personnel from radars and ILCHR's before performing energizing procedures.	
	CAUTION Insure that the AC LINE meter (2, fig. 3-2) indicates in the yellow or green area.	
1.	Set the power distribution control AC & HEATING circuit breaker (13, fig. 2-15) to ON.	The air conditioning or heating system operates when associated switches are activated on the control box.
2.	Set the SHELTER POWER circuit breaker (14, fig. 2-15) to ON.	
3.	Set the GENERAL ILLUMINATION circuit breaker (10, fig. 2-15) to ON.	
4.	Set the ILLUMINATION OVERHEAD and CONSOLES switches (2 and 1, fig. 2-15) to ON.	
5.	Rotate the ILLUMINATION DIMMER control (17, fig. 2-15) clockwise.	
6.	Close the shelter door.	The overhead lamps and console lamps illuminate.
7.	Set the EQUIPMENT BLOWERS circuit breaker (15, fig. 2-15) to ON.	The equipment and console blowers operate.
8.	Set the SIREN circuit breaker (9, fig. 2-15) to ON.	
9.	Set the PLOTTING BOARD circuit breaker (12, fig. 2-15) to ON.	
10.	Set the power supply control POWER circuit breaker (1, fig. 3-2) to ON.	Refer to table 3-11, step 1.
11.	Set the TCO control panel CONSOLE POWER switch (6, fig. 2-3,) to the on (up) position.	The TCC and IBCC status indicator edge lamps illuminate.
12.	Set the FC A and B cover assembly CONSOLE POWER switches (1, fig. 2-10) to the on (up) position.	The FC A and B edge lamps illuminate.
13.	Press and release the FIRE SECTION STBY pushbutton (4, fig. 2-11).	The FIRE SECTION STBY pushbutton illuminates.
14.	Set the CWTDC CONSOLE POWER switch (1, fig. 2-8) to ON.	The CWTDC edge lamps illuminate.
15.	Momentarily set the CW RADAR POWER switch (5, fig. 2-8) to ON.	The CW RADAR STANDBY pushbutton (4, fig. 2-8) illuminates.
16.	Momentarily set the pulse radar power switch (8, fig. 2-17) to ON.	The STANDBY pushbutton (7, fig. 2-17) illuminates. After 5 minutes the READY TO RADIATE lamp (6, fig. 2-17) illuminates.
17.	Set the IROR electronic control amplifier power switch (5, fig. 2-19) to ON.	After 5 minutes the RADIATE lamp (4, fig. 2-19) illuminates.

Table 3-7. Energizing Procedure—Standby to Operate

Step	Procedure	Normal indication
	NOTE If a normal indication is not obtained during the performance of the energizing procedures, immediately perform the fault isolation procedures in TM 9–1430–526–12–2.	
	WARNING Insure that all personnel remain clear of the ILCHR boom, the radar antenna rotation radius, and transmitted beam.	
	WARNING Make certain that the system is operating in the cease fire mode (TCC RESUME FIRE/CEASE FIRE switches momentarily set to CEASE FIRE for both firing sections. Firing consoles and IBCC status indicator CEASE FIRE labels illuminate.)	
1.	Press and release the CWTDC CW RADAR RADIATE pushbutton (6, fig. 2-8).	The CW RADAR STANDBY pushbutton (4, fig. 2-8) remains illuminated. The CW RADAR RADIATE pushbutton illuminates.
2.	Press and release the FC A and B cover assembly FIRE SECTION ACTIVE pushbuttons (6, fig. 2-11).	The FIRE SECTION ACTIVE pushbuttons illuminate.
3.	Set the CWTDC SCAN MODE switch (7, fig. 2-8) to NORMAL.	
	NOTE Make certain that the READY TO RADIATE lamp (6, fig. 2-17) on the IPAR set control is illuminated before proceeding.	
4.	Press and release the RADIATE pushbutton (5, fig. 2-17).	The READY TO RADIATE lamp extinguishes and the RADIATE pushbutton illuminates.
5.	Adjust the presentation controls on all four consoles.	Normal presentations are obtained on the CRT's.
6.	Press and release the FC A and B IHIPIR test pushbuttons (24, fig. 2-10).	The IHIPIR test pushbuttons illuminate. The ILLUM FAIL labels (10, fig. 2-10) flash for a maximum of 15 seconds. If they continue to flash, refer to table 3-17, step 40.
7.	Press and release the IHIPIR test pushbuttons.	The IHIPIR test pushbuttons extinguish.
8.	If desired, set the ILLUMINATION OVERHEAD switch (2, fig. 2-15) to OFF to extinguish the overhead lighting.	

3-14. Deenergizing Procedure

a. The system major items may be deenergized locally.

b. Necessary control and switch positioning for deenergizing the system from the IBCC from operate to standby is given in table 3-8. Refer to table 3-9 when deenergizing from standby to shutdown. Follow the order given in the tables.

Table 3-8. Deenergizing Procedure—Operate to Standby

Step	Procedure	Normal indication
1.	Press and release the FC A and B cover assembly FIRE SECTION STBY pushbuttons (4, fig. 2-11).	The FIRE SECTION ACTIVE pushbuttons (6, fig. 2-11) extinguish and the FIRE SECTION STBY pushbuttons illuminate.
2.	Press and release the IPAR set control STANDBY pushbutton (7, fig. 2-17).	The RADIATE pushbutton (5, fig. 2-17) extinguishes. The STANDBY pushbutton and READY TO RADIATE lamp (6, fig. 2-17) illuminate.
3.	Press and release the CWTDC CW RADAR STANDBY pushbutton (4, fig. 2-8).	The CW RADAR RADIATE pushbutton (6, fig. 2-8) extinguishes and the CW RADAR STANDBY pushbutton remains illuminated.
4.	Set the IROR electronic control amplifier power switch (5, fig. 2-19) to OFF.	The RADIATE lamp (4, fig. 2-19) extinguishes.
5.	Rotate the presentation controls of the consoles fully counterclockwise.	The normal presentations are removed from the CRT's.
6.	Direct the ICC/TM operator to stop the operational program.	

Table 3-9. Deenergizing Procedure—Standby to Shutdown

Step	Procedure	Normal indication
1.	Press and release the FC A and B cover assembly FIRE SECTION OFF pushbuttons (33, fig. 2-11).	The FIRE SECTION STBY pushbuttons (4, fig. 2-11) extinguish and the FIRE SECTION OFF pushbuttons illuminate.
2.	Momentarily set the FC A and B cover assembly CONSOLE POWER switches (1, fig. 2-10) to the off (down) position.	The FC A and B edge lamps extinguish.
3.	Set the CWTDC CW RADAR POWER switch (5, fig. 2-8) to OFF.	The CW RADAR STANDBY pushbutton (4, fig. 2-8) extinguishes.
4.	Set the CWTDC CONSOLE POWER switch (1, fig. 2-8) to OFF.	The CWTDC edge lamps extinguish.
5.	Set the TCO control panel CONSOLE POWER switch (6, fig. 2-3) to the off (down) position.	The TCC and IBCC status indicator edge lamps extinguish.
6.	Momentarily set the pulse radar power switch (8, fig. 2-17) to OFF.	The STANDBY pushbutton (7, fig. 2-17) extinguishes.
7.	Set the power supply control POWER circuit breaker (1, fig. 3-2) to OFF.	
8.	On the power distribution control (fig. 2-15):	
a.	Set the PLOTTING BOARD circuit breaker (12) to OFF.	
b.	Set the SIREN circuit breaker (9) to OFF.	
c.	Set the EQUIPMENT BLOWERS circuit breaker (15) to OFF.	The equipment and console blowers stop operating.
d.	Set the A/C & HEATING circuit breaker (13) to OFF.	The air conditioning system stops operating.
e.	Set the SHELTER POWER circuit breaker (14) to OFF.	
9.	Set the PWR switch (3, fig. 2-21) on the FC and CWTDC communications units to OFF.	
10.	Press and release the POWER pushbutton on the TCO/TCA communications unit (pushbutton extinguishes).	

3-15. Check Procedures

a. The check procedures are to be performed on a daily and weekly basis to make certain that the IBCC and the improved HAWK systems are operating correctly. If a normal indication is not obtained when performing the checks as listed, make certain that the correct procedure is being used and that the external test equipment and radar system being used are operating correctly before troubleshooting for defective units in the IBCC.

b. The following sample table explains the use and layout of the check procedure tables. Notice that the operations, normal indications, and corrective procedures are alined with their respective headings, as indicated in this sample by the vertical arrowed lines.

c. Tables 3-10 through 3-17 contain the daily and weekly check procedures. To perform the daily checks, follow only those procedures shaded in gray. If there are no daily checks on the following page, the last daily check on a page will have a notation "proceed to step ( )" or "proceed to table ( )" on the right-hand side of the page. Weekly checks consist of all the steps in the tables, shaded and unshaded. All check procedure steps must be performed in the sequence given. When the corrective procedure indicates the performance of another check, make sure all controls are correctly set for the corrective check as well as when returning to the original check.

d. Although operational tolerances are specified in many cases during the weekly checks, the mechanic should attempt to adjust for optimum operation within these tolerances. "Peaking" within tolerances will provide reasonable assurance that equipment will operate satisfactorily between maintenance services. Operator personnel must be able to recognize less-than-optimum performance during normal operation and the performance of operator checks. When the corrective action for this performance is beyond their capability, they will report it to maintenance personnel. Adjustments are a normal part of the checks and do not necessarily indicate equipment malfunctions.

Table Sample Table

Step	Operation / Normal indication / Corrective procedure
1.	Check (Step Name) Sequence and step name of the check.
a.	(OPERATION) Sequential operations required to obtain a normal indication.
	(Normal INDICATION) Normal system or circuit responses.
	(CORRECTIVE PROCEDURE)
	Adjustment listing if applicable.

Table 3-10. Shelter Check

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9–1430–526–12–2. **WARNING** Before removing or installing any unit, deenergize the associated console(s) and/or set the POWER circuit breaker (1, fig. 3-2) to OFF.
1.	**Check Line Voltage.** **The AC LINE meter (2, fig. 3-2) on the power supply control (4, fig. 1-2) indicates in the yellow/green zone.** Direct the generator operator to adjust the power generator.
2.	**Check Shelter Illumination.** **NOTE** When the IBCC is left in the deenergized condition as shown in table 3-5, set the A/C & HEATING and SHELTER POWER circuit breakers (13 and 14, fig. 2-15) to ON.
a.	Set the GENERAL ILLUMINATION circuit breaker (10, fig. 2-15) on the power distribution control (7, fig. 1-1) to ON.
b.	Set the ILLUMINATION BLACKOUT INTERLOCK switch (4, fig. 2-15) to OVERRIDE.
c.	Set the ILLUMINATION OVERHEAD switch (2, fig. 2-15) to ON.
d.	Rotate the ILLUMINATION DIMMER control (17, fig. 2-15) clockwise and then counterclockwise. **The intensity of the overhead lamps increases and then decreases.** Power distribution control (6A13). Ac lighting power supply (6A19).
e.	Adjust the ILLUMINATION DIMMER control for the desired illumination intensity.
f.	Close the shelter door.
g.	Set the ILLUMINATION BLACKOUT INTERLOCK switch to NORMAL. **The overhead lamps remain illuminated.**
h.	Open the shelter door. **The overhead lamps extinguish.** Power distribution control (6A13). Shelter door interlock switch (A11S1).

Table 3-10. Shelter Check — Continued

Step	Operation / Normal indication / Corrective procedure
2c Cont.	Set the ILLUMINATION BLUE switch (3, fig. 2-15) to ON.
	The overhead blackout (blue) lamps illuminate.
	Same as step *d* above.
j.	Set the ILLUMINATION CONSOLES switch (1, fig. 2-15) to ON.
	The console floor lamps do not illuminate.
	Same as step *d* above.
k.	Close the shelter door.
	The overhead blackout (blue) lamps extinguish, the overhead lamps illuminate, and the console floor lamps illuminate.
	Same as step *h* above.
l.	If the shelter door is to be left open, set the ILLUMINATION BLACKOUT INTERLOCK switch to OVERRIDE.
l.1.	**Perform steps *m* through 3*b* only if an external 24 vdc is connected to J11 of the cable entry enclosure. Otherwise proceed to step 4.**
m.	Set the EMER ILLUM circuit breaker (6, fig. 2-15) to ON.
	The emergency lamps illuminate.
	Power distribution control (6A13).
	28 vdc power supply (6A18).
	External dc source.
n.	Set the EMER ILLUM circuit breaker to OFF.
	The emergency lamps extinguish.
o.	Set the PLOTTING BOARD circuit breaker (12, fig. 2-15) to ON.
p.	Rotate the plotting board dimmer control on the plotting board control panel (5, fig. 1-1) clockwise from OFF.
	The illumination intensity of the plotting board (6, fig. 1-1) increases.
	Power distribution control (6A13).
	Plotting board control (6A22).
3.	**Check Siren.**
a.	Set the SIREN circuit breaker (9, fig. 2-15) to ON.
b.	Press and release the BATTERY ALERT pushbutton (5, fig. 2-15).
	The siren operates.
	Power distribution control (6A13).
	Siren.

Table 3-10. Shelter Check — Continued

Step	Operation / Normal indication / Corrective procedure
4.	**Check Equipment Blowers.** Set the EQUIPMENT BLOWERS circuit breaker (15, fig. 2-15) to ON. **The equipment blower (2, fig. 1-2), fan assemblies A and B (19 and 14, fig. 1-7), and fans in the fan and dimmer assembly in FC A, FC B, TCC, and CWTDC operate. Air flow is properly circulated in through the intake ports and exhausted through the exhaust ports.** Power distribution control (6A13). Blower motor assembly (A) (6A5A21). Blower motor assembly (B) (6A5A22). ICG equipment blowers. FC A fan and dimmer assembly (6A6A8). FC B fan and dimmer assembly (6A7A8). TCC fan and dimmer assembly (6A1A8). CWTDC fan and dimmer assembly (6A4A8).
5.	**Check Collective Protection System Control.** **CAUTION** If the M10 collective protection equipment is to be used, the Fairchild Stratos Model VEA4-3A (FSN 4120-926-4280) air conditioner must be installed on the IBCC.
a.	Prepare the IBCC for collective protection system operation (TM 3—4240—229—12).
b.	Set the power distribution control A/C & HEATING circuit breaker (13, fig. 2-15) to the on (up) position.
c.	Energize the air conditioner for normal operation (TM 5—4120—210—15). **CAUTION** If the air conditioner unit is removed for service and replaced with a unit having a different FSN, make certain that the associated control box and cables are also replaced. This will prevent improper operation and/or damage to the replacement air conditioner unit.
d.	Set the collective protection system control (8, fig. 1-1) circuit breaker (4, fig. 2-22) to the on (up) position. **The filter unit is activated.** **The collective protection system control OPERATING PRESSURE LOW lamp and audible buzzer (2 and 1, fig. 2-22) illuminate and activate. Sufficient positive pressure in the IBCC should be reached within 5 minutes. When this occurs, the lamp and buzzer extinguish and deactivate, and the OPERATING PRESSURE NORMAL lamp (3, fig. 2-22) illuminates.** Collective protection system control (6A25). Filter unit (refer to TM 3—4240—229—12).

Table 3-10. Shelter Check—Continued

Step	Operation / Normal indication / Corrective procedure
e.	Open the shelter door. **The OPERATING PRESSURE NORMAL lamp extinguishes, and the OPERATING PRESSURE LOW lamp and audible buzzer illuminate and activate.** Filter unit (refer to TM 3—4240—229—12).
f.	Set the collective protection system control circuit breaker to the off (down) position.

Table 3-11. Power Supply Group Check

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9—1430—526—12—2.
1.	**Check B+ Voltage Delay.**
	CAUTION Make certain that all CONSOLE POWER switches are set to OFF (down).
	Set the POWER circuit breaker (1, fig. 3-2) on the power supply control to ON.
	The lamps on the IPAR frequency control (fig. 2-18) illuminate immediately. Power supply control (6A9). 28-vdc power supply (6A18).
	The MISSILE COUNT indicators on the IBCC status indicator (3, fig. 2-14) illuminate within 25 to 35 seconds. Power supply control (6A9). Time delay relay (6A8K1).
	The DEFOG HEAT ON lamp (1, fig. 2-6) on the TCC illuminates immediately and remains illuminated for 15 minutes. **The temperature of the reflection plotter glass on the TCC increases.** Defogging relay assembly (6A1A14).
2.	**Adjust – 250-Vdc Reference Regulator.**
a.	Remove the reference voltage regulator cover (6, fig. 1-2).
b.	Condition multimeter TS-505D/U to measure – 500 vdc.

Table 3-11. Power Supply Group Check—Continued

Step	Operation / Normal indication / Corrective procedure
2*c*. Cont.	Insert the COMMON test lead into test jack J2 (red) (6, fig. 3-3) and the D.C. PROBE into test jack J7 (black) (7, fig. 3-3) on the reference voltage regulator.
d.	Adjust the —250V ADJUST control (8, fig. 3-3) until **Multimeter TS-505D/U indicates –250 vdc.** Reference voltage regulator (6A14).
e.	Remove the test leads.
3.	**Adjust 250-Vdc Reference Regulator.**
a.	Condition multimeter TS-505D/U to measure +500 vdc.
b.	Insert the COMMON test lead into test jack J4 (black) (4, fig. 3-3) and the D.C. PROBE lead into test jack J5 (red) (3, fig. 3-3) on the reference voltage regulator.

Table 3-11. Power Supply Group Check — Continued

Step	Operation / Normal indication / Corrective procedure
3*c*. Cont.	Adjust the +250V ADJUST control (1, fig. 3-3) until **Multimeter TS-505D/U indicates 250 vdc.** Reference voltage regulator (6A14).
d.	Remove the test leads.
e.	Replace the reference voltage regulator cover.
f.	Set the 28V LIGHTING SUPPLY circuit breaker to ON (up).
g.	**Perform steps 2*m* through 3*b* of table 3-10 before proceeding further.**
4.	**Check Regulated Outputs.**
a.	Set the CONSOLE POWER switch (6, fig. 2-3) on the TCO control panel (1, fig. 1-3) to on (up). **All edge lamps on the TCC illuminate. The OUT OF ACTION labels (A and B) and all edge lamps on the IBCC status indicator illuminate.** TCO panel assembly (6A1A11).
b.	Set the CONSOLE POWER switch (1, fig. 2-8) on the CWTDC to ON. **All edge lamps on the CWTDC illuminate.** CWTDC cover assembly (6A4A1).
c.	Set the CONSOLE POWER switch (1, fig. 2-10) on firing consoles FC(A) and (B) to on (up). **All edge lamps on FC A and FC B illuminate.** **NOTE** Disregard the pushbutton lamps. **FC cover assembly (6A6A1/6A7A1).** **FC relay assembly (6A6A7/6A7A7).**

WARNING

Exercise extreme care to prevent contact with high voltages inside the power supply control when performing voltage checks or corrective procedure. Failure to observe proper precautions may result in death or injury.

NOTE

In the following step, have organizational maintenance check the reference voltage at BALANCE SELECTOR switch SIA-9 (5, fig. 3-2) (+ 100v ref) or SIA-12 (6, fig. 3-2) (– 100v ref) as appropriate, before adjusting the respective regulator(s) if either of the following conditions exist:

(1) **A specific regulator consistently gives an incorrect indication on the front panel meter.**
(2) **More than one incorrect indication is obtained when the BALANCE SELECTOR switch is set to positions A9, A10, A11 or A12, A13 and A14.**

Table 3-11. Power Supply Group Check — Continued

Step	Operation / Normal indication / Corrective procedure
4*d*. Cont.	Set the BALANCE SELECTOR switch (4, fig. 3-2) on the power supply control (4, fig. 1-2) to positions A1 through A16 and adjust the respective controls until **The BALANCE meter (3, fig. 3-2) indicates white line in all positions.** Power supply control (6A9). Voltage regulators (6A8A1 through 6A8A16).
e.	Set the BALANCE SELECTOR switch to OFF.
f.	Perform the push-to-test function for each lamp on the maintenance monitor panel (10, fig. 1-2). **Each lamp illuminates.**
5.	**Check 20-Vdc Power Supply.**
a.	Observe the 20 and – 20-vdc lamps (2 and 1, fig. 3-4) on the 20-vdc power supply (8, fig. 1-2). **The 20 and – 20-vdc lamps are illuminated.** 20-vdc power supply (6A25).
b.	Observe the balance meter (6, fig. 3-4) indication for reference.
c.	Set the METER SELECT switch (3, fig. 3-4) to +20V. **The balance meter indicates the same as in *b* above.** Adjust the +20V REG control (4, fig. 3-4). 20-vdc power supply (6A25).
d.	Set the METER SELECT switch to – 20V. **The balance meter indicates the same as in *b* above.** Adjust the – 20V REG control (5, fig. 3-4). 20-vdc power supply (6A25).
e.	Set the METER SELECT switch to OFF. **NOTE** If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9–1430–526–12–2.

Table 3-12. Test Sets Check

Step	Operation / Normal indication / Corrective procedure
1.	**Check Automatic Test Set Operation.**
	NOTE
	For IBCC's "(D)" set the SCAN MODE switch (7, fig. 2-8) to NORMAL.
a.	Observe the UNIT FAIL lamp (2, fig. 2-2) on the TCA panel assembly (6, fig. 1-3), the UNIT FAILURE lamp (5, fig. 3-5) on the test set control (7, fig. 1-6), and the FAIL IND lamp (1, fig. 3-6) on the automatic test set (4, fig. 1-6).
	The FAIL IND and UNIT FAILURE lamps are not flashing.
	Perform the procedure in step *b* below.
	NOTE
	If the normal indication is obtained, omit step *b* below and proceed to step 2 for the daily check and 1c for the weekly check.
b.	Observe the units listed below for a flashing FAIL IND lamp.
	NOTE
	The failure instructions in parentheses pertain to *b* below.
	NOTE
	It is not necessary to deenergize the equipment when causing the directed failures.
(1)	FC short sweep generator 6A10A14 (11, fig. 1-6). (Remove F2 for failure).
(2)	TCC cursor generator 6A10A5 (10, fig. 1-6). (Remove F1 for failure.)
(3)	FC cursor generator 6A10A3 (6, fig. 1-6). (Remove F1 for failure.)
(4)	Scale-of-18 multivibrator 6A10A11 (5, fig. 1-6). (Remove V1 for failure.)
(5)	FC X-electronic clamp assembly 6A10A16 (16, fig. 1-6). (Remove V5 for failure.)
(6)	TCC X-electronic clamp assembly 6A10A24 (17, fig. 1-6). (Remove V5 for failure.)
(7)	Symbol multivibrator 6A10A19 (22, fig. 1-6). (Remove F1 for failure.)
(8)	PSI video gate 6A10A20 (21, fig. 1-6). (Remove V10 for failure.)
(9)	TCC long sweep generator 6A10A22 (19, fig. 1-6). (Remove F1 for failure.)
(10)	FC Y-electronic clamp assembly 6A10A6 (12, fig. 1-6). (Remove V5 for failure.)
(11)	TCC Y-electronic clamp assembly 6A10A21 (20, fig. 1-6). (Remove V5 for failure.)
(12)	FC clamp gate generator 6A10A15 (13, fig. 1-6). (Remove V1 for failure.)
(13)	TCC clamp gate generator 6A10A23 (18, fig. 1-6). (Remove V1 for failure.)
(14)	TCC/FC video mixer 6A10A13 (9, fig. 1-6). (Remove A20 for failure.)
(15)	Symbol generator 6A10A18 (23, fig. 1-6). (Remove F1 for failure.)
(16)	Symbol intensity electronic gate assembly 6A10A10 (3, fig. 1-6). (Remove F1 for failure.)
	Unit(s) with flashing FAIL IND lamps is/are defective.

[1] Refer to appendix E for serial number effectivity.

Table 3-12. Test Sets Check — Continued

Step	Operation / Normal indication / Corrective procedure
c.	Remove 1 AMP DEL fuse F1 (2, fig. 3-6) from the automatic test set. **The FAIL IND lamp on the automatic test set, and the UNIT FAILURE lamps on the TCC and test set control illuminate or flicker.** Automatic test set (6A10A2).
d.	Replace fuse F1 on the automatic test set.
e.	Press and release the GENERAL pushbutton (2, fig. 3-5) on the test set control. **The UNIT FAILURE and FAIL IND lamps extinguish.** Automatic test set (6A10A2).
f.	Remove V14 from FC short sweep generator 6A10A14 (11, fig. 1-6). **The automatic test set operates until the FAIL IND lamp (1, fig. 3-7) on the FC short sweep generator flashes and the UNIT FAILURE lamps flash.** Automatic test set (6A102).
g.	Replace V14 in the FC short sweep generator. **The FAIL IND and UNIT FAILURE lamps extinguish and the automatic test set steps to home and stops.** Automatic test set (6A10A2).
h.	Repeat the procedures in steps *f* and *g* for all the other units listed in *b* above by removing fuses, tubes, and comparators as indicated. Automatic test set (6A10A2).
2.	**Check General Test Set Operation.**
a.	Set the test switch (14, fig. 3-8) on the general test set (2, fig. 1-6) to the CALIBRATE position. **The TEST WARN lamp (2, fig. 3-11) flashes and the BALANCE SET meter (10, fig. 3-11) indicates black line.** Adjust the BALANCE SET variable resistor (3, fig. 3-8) on the general test set. General test set (6A10A1).
b.	Set the test switch to the OPERATE position.
c.	Press and release the GENERAL pushbutton (2, fig. 3-5) on the test set control (7, fig. 1-6). **The GENERAL pushbutton illuminates for the duration of the test, then extinguishes, the UNIT FAILURE lamps stop flashing, and the FAIL IND lamp (1, fig. 3-8) on the general test set is extinguished.** Unit(s) with flashing FAIL IND lamp(s) is/are defective.

Table 3-12. Test Sets Check — Continued

Step	Operation / Normal indication / Corrective procedure
3.	**Check Test Set Priority.**
a.	Remove F1 1 AMP DEL fuse (2, fig. 3-9) from the cable entry enclosure (9, fig. 1-2).
b.	Press and release the GENERAL pushbutton.
	The general test set operates and stops, the UNIT FAILURE lamps flash, the SCAN SERVO GEAR TRAIN CWTDC lamp (10, fig. 3-8) on the general test set flashes, and the GENERAL pushbutton illuminates.
	General test set (6A10A1).
c.	Press and release the RESET pushbutton (6, fig. 3-5).
	The RESET pushbutton is illuminated while the test set operates and extinguishes when the test set stops, the UNIT FAILURE lamps extinguish, the SCAN SERVO GEAR TRAIN CWTDC lamp extinguishes, and the GENERAL pushbutton extinguishes.
	General test set (6A10A1).
d.	Press and release the GENERAL pushbutton.
	The general test set operates and stops, the UNIT FAILURE lamps flash, the SCAN SERVO GEAR TRAIN CWTDC lamp on the general test set flashes, and the GENERAL pushbutton illuminates.
	General test set (6A10A1).
e.	Remove F2 1/16 AMP DEL fuse (5, fig. 3-10) from the TCC cursor generator (10, fig. 1-6).
	The automatic test set operates and stops, the SCAN SERVO GEAR TRAIN CWTDC lamp on the general test set extinguishes, the UNIT FAILURE lamps continue to flash, and the FAIL IND lamp (1, fig. 3-10) on the TCC cursor generator flashes.
	Automatic test set (6A10A2).
f.	Replace the fuses in the TCC cursor generator and the cable entry enclosure.
g.	Press and release the GENERAL pushbutton.
	The GENERAL pushbutton illuminates, while the test set operates and then extinguishes, and the FAIL IND and UNIT FAILURE lamps do not illuminate or flash.
	General test set (6A10A1).
4.	**Check Firing Unit A Programmed Test.**
a.	Set the test switch (4, fig. 3-11) on firing circuits test set (A) (3, fig. 1-7) to TEST.
	The TEST WARN lamp (2, fig. 3-11) flashes and the BALANCE SET meter (10, fig. 3-11) indicates black line.
	Adjust the BALANCE SET control (9, fig. 3-11) on firing circuits test set (A).
	Firing circuits test set (A) (6A5A3).
b.	Set the test switch to OPERATE.
c.	Press and release the ASSIGN LOW (A) pushbutton (24, fig. 2-1) on the TCC.

Table 3-12. Test Sets Check — Continued

Step	Operation / Normal indication / Corrective procedure
d.	Press and release the FU-A pushbutton (3, fig. 3-5) on the test set control.
	The FU-A pushbutton illuminates for the duration of the firing unit A test, then extinguishes.
	Firing circuits test set (A) (6A5A3).
	The UNIT FAILURE lamps are not flashing.
	Perform the procedure in step *e* below.
	NOTE
	If a normal indication is obtained in *d* above, omit step *e* below and proceed to step 5 for a daily check and step 4*f* for a weekly check.
e.	Observe the following units for a flashing FAIL IND lamp.
	NOTE
	The ROR RANGE CONT lamp (5, fig. 3-11) may temporarily provide a false fail indication. If this indication is present, wait 2 minutes before performing corrective procedure.
(1)	Firing circuits test set (A) 6A5A3 (3, fig. 1-7).
(a)	X DEFL AMPL (8, fig. 3-11).
(b)	Y DEFL AMPL (7, fig. 3-11).
(c)	VIDEO AMPL (6, fig. 3-11).
(d)	ROR RANGE CONT (5, fig. 3-11).
(2)	IROR electronic control amplifier 6A5A17 (15, fig. 1-7).
(3)	CWTDC sweep generator 6A5A6 (6, fig. 1-7).
(4)	Scan servo amplifier 6A5A5 (5, fig. 1-7).
(5)	Height signal comparator 6A5A14 (18, fig. 1-7).
	Unit(s) with flashing FAIL IND lamp(s) is/are defective.
f.	Remove F1 1 AMP DEL fuse (2, fig. 3-12) from the scan servo amplifier (5, fig. 1-7).
g.	Press and release the FU-A pushbutton on the test set control.
	The FU-A pushbutton illuminates, the test set operates and stops, the UNIT FAILURE lamps flash, and the FAIL IND lamp (1, fig. 3-12) on the scan servo amplifier flashes.
	Firing circuits test set (A) (6A5A3).
h.	Replace fuse F1 on the scan servo amplifier.
	The test set completes its cycle, the FU-A pushbutton extinguishes, and the FAIL IND and UNIT FAILURE lamps extinguish.
	Firing circuits test set (A) (6A5A3).
5.	**Check Firing Unit B Programmed Test.**
a.	Set the test switch (4, fig. 3-11) on firing circuits test set (B) (8, fig. 1-7) to TEST.
	The TEST WARN lamp (2, fig. 3-11) flashes and the BALANCE SET meter (10, fig. 3-11) indicates black line.

Table 3-12. Test Sets Check — Continued

Step	Operation / Normal indication / Corrective procedure
5*a*. Cont.	Adjust the BALANCE SET control (9, fig. 3-11) on firing circuits test set (B).
	Firing circuits test set (B) (6A5A8).
b.	Set the test switch to OPERATE.
c.	Press and release the ASSIGN LOW (B) pushbutton (17, fig. 2-1) on the TCC.
d.	Press and release the FU-B pushbutton (4, fig. 3-5) on the test control.
	The FU-B pushbutton illuminates for the duration of the firing unit B test then extinguishes.
	Firing circuits test set (B) (6A5A8).
	The UNIT FAILURE lamps are not flashing.
	Perform the procedure in step *e* below.
	NOTE
	If a normal indication is obtained in *d* above, omit step *e* below and proceed to step 5*f* for a weekly check.
e.	Observe the following units listed below for a flashing FAIL IND lamp.
	NOTE
	The ROR RANGE CONT lamp may temporarily provide a false fail indication. If this indication is present, wait 2 minutes before performing corrective procedure.
(1)	Firing circuits test set (B) (8, fig. 1-7).
(a)	X DEFL AMPL (8, fig. 3-11).
(b)	Y DEFL AMPL (7, fig. 3-11).
(c)	VIDEO AMPL (6, fig. 3-11).
(d)	ROR RANGE CONT (5, fig. 3-11).
(2)	IROR video amplifier (17, fig. 1-7).
(3)	IROR sweep generator (16, fig. 1-7).
(4)	IROR electronic control amplifier (15, fig. 1-7).
(5)	Height signal comparator (18, fig. 1-7).
	Unit(s) with flashing FAIL IND lamp(s) is/are defective.
f.	Remove F1 1 AMP DEL fuse (2, fig. 3-13) from the IROR video amplifier (17, fig. 1-7).
g.	Press and release the FU-B pushbutton.
	The FU-B pushbutton illuminates, the test set operates and stops, the UNIT FAILURE lamps flash, and the FAIL IND lamp (1, fig. 3-13) on the ROR video amplifier flashes.
	Firing circuits test set (B) (6A5A8).
h.	Replace fuse F1 on the IROR video amplifier.
	The test set completes its cycle, the FU-B pushbutton extinguishes, and the FAIL IND and UNIT FAILURE lamps extinguish.
	Firing circuits test set (B) (6A5A8).

Table 3-12. Test Sets Check — Continued

Step	Operation / Normal indication / Corrective procedure
5i. Cont.	Press and release the ELEVATION LOW and MANUAL pushbuttons (21 and 20, fig. 2-11) on both the FC A and FC B cover assemblies, and the KILL pushbutton (1, fig. 2-13) on the FC control shelf.

Table 3-13. TCC Check

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9–1430–526–12–2.
1.	**Check Console Panel Lamp Illumination.**
	NOTE Make certain that the CONSOLE POWER switch (6, fig. 2-3) is set to on (up).
a. *(G)[1]	Set the IFF AUTO CHALLENGE switch (9, fig. 2-2) to NORMAL.
b.	Press and hold the LAMP TEST pushbutton (8, fig. 2-3) on the TCC. **All lamps and pushbuttons on the TCC and the IBCC status indicator illuminate except the UNIT FAIL lamp (2, fig. 2-2) on the TCC. The CW CONFIRM pushbutton (1, fig. 2-2), IFF FAIL lamp (12, fig. 2-2), CWAR FAIL lamp (1, fig. 2-5), ADP FAIL lamp (7, fig. 2-5), category I lamps (8 and 11, fig. 2-1), and category II lamps (19 and 21, fig. 2-1) flash.** **The IFF AUTO CHALLENGE OFF lamp *(G)[1] (6, fig. 2-2) flashes.**
	NOTE The REJECT pushbutton (7 and 14, fig. 2-1) on the TCC are not illuminated pushbuttons.
c.	Release the LAMP TEST pushbutton.
d. *(G)[1]	Set the IFF AUTO CHALLENGE switch to OFF. **The IFF AUTO CHALLENGE OFF lamp flashes continuously.**
2.	**Check Panel Dimmer Operation.**
a.	Press and hold the LAMP TEST pushbutton on the TCC.
b.	Rotate the PANEL DIMMER control (1, fig. 2-4) on the TCC clockwise. **The illumination level of only the CHANGE TARGETS (18 and 22, fig. 2-1), ASSIGN HIGH (4 and 12, fig. 2-1), ASSIGN LOW (17 and 24, fig. 2-1), and DESTROY (6 and 15, fig. 2-1) pushbuttons increases.** Fan and dimmer assembly (6A1A8). TCA control panel (6A1A12).
c.	Release the LAMP TEST pushbutton.
3.	**Check Reflection Plotter Illumination.**
	Rotate the PLOTTER DIMMER control (9, fig. 2-3) on the TCC clockwise.

[1]Refer to appendix E for serial number effectivity.

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	The illumination level of the reflection plotter increases. TCA panel assembly (6A1A12).
4.	**Check Sweep Intensity.** **WARNING** Exercise extreme care to prevent contact with high voltage inside the TCC pedestal when performing the corrective procedure in steps 4 and 5. Failure to observe proper precautions may result in death or injury. Rotate the SWEEP control (4, fig. 2-3) on the TCC until **The sweep (1, fig. 3-14) is just visible on the TCC CRT.** **NOTE** Organizational maintenance personnel will perform the corrective procedure in steps 4 and 5. Rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the TCC pedestal front cover, press and lock the interlock switch (2, fig. 3-15). Set the TCC CONSOLE POWER switch to on (up) and the SWEEP CONTROL fully clockwise. Adjust INTENSITY SET control R29 (1, fig. 3-16) on the video amplifier for a sharply defined sweep and then readjust the SWEEP control until the sweep is just visible. 14-kv power supply (6A1A6). TCO panel assembly (6A1A11). TCC tube mount (6A1A2).
5.	**Check Sweep Focus.** The TCC CRT sweep is sharply focused (see note below). **NOTE** If the corrective procedure was performed in step 4 but corrective procedure is not necessary in this step, perform *c* and *d* of the corrective procedure below. *a.* If the corrective procedure was not performed in step 4, rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the TCC pedestal front cover, press and lock the interlock switch (2, fig. 3-15).

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication	Corrective procedure
		b. Set the TCC CONSOLE POWER switch to on (up). Rotate the SWEEP control clockwise until the sweep is visible. Adjust the FOCUS ADJ control (2, fig. 3-17) on the 14-kv power supply (7, fig. 3-15) for a sharply focused sweep.
		c. Rotate the SWEEP control fully counterclockwise. Set the TCC CONSOLE POWER switch to off (down).
		d. Replace the TCC pedestal front cover. Set all CONSOLE POWER switches to on (up). Adjust controls for normal presentations.
		14-kv power supply (6A1A6).
6.	**Check Test Rotation.**	
	Set the test switch (3, fig. 3-12) on the scan servo amplifier (5, fig. 1-7) to TEST ROTATE.	
	The TEST WARNING lamp (6, fig. 3-12) flashes and the sweep (1, fig. 3-14) on the TCC CRT rotates in a clockwise direction between 18 and 22 rpm.	
		Adjust the TEST ROTATE SPEED control (4, fig. 3-12) on the scan servo amplifier.
		Scan servo amplifier (6A5A5).
7.	**Check Range Rings and Symbol Intensity.**	
a.	Rotate the RANGE RINGS control (3, fig. 2-3) on the TCC clockwise until	
	The range rings (10, fig. 3-14) and the PSI rings (11, fig. 3-14) are displayed on the TCC CRT.	
		TCO panel assembly (6A1A11).
	All range and PSI rings are present. Starting from the center of the CRT, five of the range rings are equally spaced, and the sixth is one-half the distance from the fifth. The fourth range ring is intensified more than the other five. Four equally spaced PSI rings are displayed in the PSI portion of the TCC CRT.	
	The TCC sweep starts at the center of the CRT and extends to the fourth PSI ring.	
		All possible defective units checked during general test.
	The display is centered on the CRT.	
		Adjust the CENTERING VERTICAL and HORIZONTAL controls (6 and 5, fig. 2-4) on the TCC.
		TCA panel assembly (6A1A12).
b.	Rotate the SYMBOLS control (1, fig. 2-3) on the TCC clockwise until	
	The tracking symbol (4, fig. 3-14) and the correlation cursor (12, fig. 3-14) are displayed on the TCC CRT.	
		TCO panel assembly (6A1A11).

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	NOTE If adjustments are made in step 7c below, repeat step 7a above.
c.	Observe the range rings. **The range rings on the TCC CRT form a circle as the sweep rotates and the fourth PSI ring is within one-quarter inch of the CRT edge.** Adjust the appropriate controls to expand the sweep as follows: EXPANSION UP (7, fig. 2-4) to the 0-mils area. EXPANSION DOWN (8, fig. 2-4) to the 3200-mil area. EXPANSION RIGHT (4, fig. 2-4) to the 1600-mil area. EXPANSION LEFT (3, fig. 2-4) to the 4800-mil area. TCA panel assembly (6A1A12).
8.	**Check Correlation Cursor.** Rotate the CORRELATION CURSOR handwheel (8, fig. 2-2) on the TCC in a clockwise direction until the CORRELATION CURSOR counter (7, fig. 2-2) indicates 0 mils. **The correlation cursor (12, fig. 3-14) follows the handwheel movement in a clockwise direction and remains a straight line through 360 degrees of movement.** **The correlation cursor begins at the center of the CRT and extends just to the fourth PSI ring at the zero azimuth scribe mark.** Adjust the CORR CURSOR LENGTH control (4, fig. 3-10) on the TCC cursor generator (10, fig. 1-6). TCC cursor generator (6A10A5). 14-Kv power supply (6A1A6). Cursor resolver (6A1A12A1). Deflection coil (6A1A2L1).
9.	**Check PSI Cursor.**
a.	Press and release the TCC ALERT pushbutton (12, fig. 2-8) on the CWTDC. **The TCC ALERT pushbutton on the CWTDC illuminates and the CW CONFIRM pushbutton (1, fig. 2-2) on the TCC flashes.** **The PSI cursor (5, fig. 3-14) extends from the sixth range ring to the fourth PSI ring on the TCC CRT.** Adjust CW CURSOR POSITION control (2, fig. 3-10) on the TCC cursor generator (10, fig. 1-6) until the cursor is centered between the sixth range ring and the fourth PSI ring. Adjust the CW CURSOR LENGTH control (3, fig. 3-10). Alternately adjust both until the proper indication is obtained. CWTDC cover assembly (6A4A1).

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication / Corrective procedure
9*b*. Cont.	Rotate the cw cursor handwheel (9, fig. 2-8) on the CWTDC to 0 mils. **The PSI cursor is coincident with the TCC correlation cursor.** Scan servo assembly (6A4A1A1).
c.	Press the CW CONFIRM pushbutton on the TCC. **The CW CONFIRM and the TCC ALERT pushbuttons extinguish, and the PSI cursor disappears from the TCC CRT.** TCA panel assembly (6A1A12).
10.	**Check Tracking Symbol.**
a.	Observe the tracking symbol. **The tracking symbol is displayed as a circle approximately one-half inch in diameter with a dot in the center.** Adjust the CIRCLE ALIGN and SYMBOL PHASE controls (5 and 2, fig. 3-19) on the symbol generator (23, fig. 1-6), and the SYMBOL AMPLITUDE control (2, fig. 3-20) on the TCC X and Y electronic clamp assemblies (17 and 20, fig. 1-6).
b.	Using the tracking lever (5, fig. 1-3) on the TCC, position the tracking symbol dot on the fourth range ring (intensified) and press down and hold the tracking lever handle. **The tracking symbol moves to the sixth range ring.**
c.	Release the tracking lever handle. **The tracking symbol returns to the fourth range ring.**
11.	**Check AADCP Symbols.**
a.	Set the SYMBOL DISPLAY switches (25, fig. 2-1) on the TCO panel assembly to ALL and NORMAL.
b.	Set the SYMBOL TEST switch (3, fig. 3-19) on the symbol generator (23, fig. 1-6) to the following positions.
(1)	FRIEND ⌒
(2)	FOE ○
(3)	FOE LOW ○
(4)	FOE MED ○
(5)	FOE HIGH ○
(6)	BDL +
	The TEST WARNING lamp (6, fig. 3-19) flashes and the illuminated symbol appears at the azimuth of 0 mils and a range of approximately 100 km on the TCC CRT.

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	NOTE Final adjustment of the TCC SWEEP AMPLITUDE control is made during the integrated system procedures. Adjust the TCC SWEEP AMPLITUDE control (3, fig. 3-18) on the TCC long sweep generator (19, fig. 1-6) (see note below). **NOTE** If adjustment was required, repeat step 7. TCC long sweep generator (6A10A22). Remote-local switch (6A21).
c.	Set the SYMBOL TEST switch to NORMAL.
12.	**Check Category Symbols.**
a.	Set the ADP SYMBOL TEST switch (1, fig. 3-21) on the symbol intensity electronic gate assembly (3, fig. 1-6) to ADP I. **The category I symbol (3, fig. 3-14) appears on the TCC CRT.** Symbol intensity electronic gate assembly (6A10A10).
b.	Set the ADP SYMBOL TEST switch to ADP II. **The category II symbol (2, fig. 3-14) appears on the TCC CRT.** Symbol intensity electronic gate assembly (6A10A10).
c.	Set the ADP SYMBOL TEST switch to OFF.
13.	**Check AADCP Target Altitude Meters.** **WARNING** Exercise extreme care to prevent contact with high voltage inside the TCC pedestal and the cable entry enclosure when performing corrective procedure in this step. Failure to observe proper precautions may result in death or injury.
a.	Disconnect the ICC/TM cable at J15 on the cable entry enclosure.
b.	Connect a jumper between TB14-11 (3, fig. 3-9) in the cable entry enclosure and ground. **The AADCP TARGET ALTITUDE meters (6 and 7, fig. 2-14) on the IBCC status indicator indicate 0 kilometers.** Rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the TCC pedestal front cover. Set power switch S1 (4, fig. 3-17) on the 14-kv power supply to OFF. Press and lock the interlock switch (1, fig. 3-22). Set the TCC CONSOLE POWER switch to on (up). Adjust the ZERO ADJUST A and B controls (2 and 3, fig. 3-22) on the TCC relay assembly for a 0-kilometer in-

Table 3-13. TCC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	dication on AADCP TARGET ALTITUDE meters A and B (7 and 6, fig. 2-14). Unlock the interlock switch. Set power switch S1 on the 14-kv power supply to ON. Set the TCC CONSOLE POWER switch to off (down). Replace the TCC pedestal front cover. Set all CONSOLE POWER switches to on (up). Adjust controls for normal presentations.
c.	Transfer the jumper from ground to TB2-19 (28 vdc) (1, fig. 3-9).
	The AADCP TARGET ALTITUDE meters indicate maximum scale.
	TCC relay assembly (6A1A7).
d.	Remove the jumper.
e.	Reconnect cable to J15.
14.	**Check Clock Illumination.**
	Rotate the CLOCK DIMMER control (8, fig. 2-14) on the IBCC status indicator clockwise.
	The clock illumination level increases.
	IBCC status indicator (6A3).
15.	**Check Defogging Unit Manual Operation.**
a.	Make certain that the DEFOG HEAT ON lamp (1, fig. 2-6) on the TCC is extinguished.
b.	Press and release the DEFOG RECYCLE pushbutton (2, fig. 2-6) on the TCC.
	The DEFOG HEAT ON lamp illuminates and then extinguishes in 15 minutes.
	Defogging relay assembly (6A1A14).

Table 3-14. FC Check

Step	Operation / Normal indication / Corrective procedure
	NOTE
	If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9–1430–526–12–2.
	NOTE
	This table pertains to FC A and B. The procedures may be performed at both firing consoles simultaneously using the appropriate controls and indicators if desired.
1.	**Check Console Panel Lamp Illumination.**
a.	Press and hold the LAMP TEST pushbutton (2, fig. 2-10) on the FC.
	The lamps and labels listed below flash. All other lamps on the FC illuminate continuously.

Table 3-14. FC Check — Continued

Step	Operation Normal indication Corrective procedure
	NOTE The BREAK LOCK pushbutton (17, fig. 2-10) and ROR DBB pushbutton (10, fig. 2-11) are not illuminated.
	(1) TEST WARNING lamp (5, fig. 2-10). **(2) SEARCH label (18, fig. 2-11).** **(3) CCM OVERRIDE label (1, fig. 2-11).** **(4) CHANGE TARGET label (14, fig. 2-10).** **(5) HANG FIRE label (19, fig. 2-10).** **(6) COAST label (7, fig. 2-10).** **(7) IHIPIR test pushbutton (24, fig. 2-10).** **(8) ILLUM FAIL label (10, fig. 2-10).** FC cover assembly (6A6A1/6A7A1).
b.	Release the LAMP TEST pushbutton.
2.	**Check Panel Dimmer Operation.**
a.	Press and hold the LAMP TEST switch.
b.	Rotate the DIMMER control (3, fig. 2-10) on the FC clockwise. **The illumination level of all the lamps, labels, and pushbuttons listed below increases.** **(1) Launcher missile present lamps (11, 22, and 23, fig. 2-10).** **(2) Launcher select pushbuttons (12, 20, and 21, fig. 2-10).** **(3) FIRE UNIT ACTIVE lamp (3, fig. 2-11).** **(4) FIRE SECTION STBY pushbutton (4, fig. 2-11).** **(5) FIRE SECTION ACTIVE pushbutton (6, fig. 2-11).** **(6) MSL CODE pushbutton (8, fig. 2-11).** **(7) ROR RECEIVE ONLY pushbutton (9, fig. 2-11).** **(8) RELEASE pushbutton (13, fig. 2-11).** **(9) CALL pushbutton (14, fig. 2-11).** **(10) ELEVATION MANUAL pushbutton (20, fig. 2-11).** **(11) ASSIGN lamp (24, fig. 2-11).** **(12) AUTO lamp (25, fig. 2-11).** **(13) SPEED MANUAL pushbutton (26, fig. 2-11).** **(14) SPEED AUTO pushbutton (27, fig. 2-11).** **(15) RANGE MANUAL pushbutton (29, fig. 2-11).** **(16) RANGE AUTO pushbutton (30, fig. 2-11).**

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	(17) DISPLAY ENABLE pushbutton (31, fig. 2-11). **(18) AFC HOLD pushbutton (32, fig. 2-11).** **(19) FIRE SECTION OFF pushbutton (33, fig. 2-11).** Fan and dimmer assembly (6A6A8/6A7A8).
c.	Release the LAMP TEST switch.
3.	**Check Sweep Intensity.** **WARNING** Exercise extreme care to prevent contact with high voltages inside the firing console when performing the corrective procedure in steps 3 and 4. Failure to observe proper precautions may result in death or injury. Rotate the SWEEP control (8, fig. 2-12) on the FC until **The sweep is just visible on the FC CRT.** **NOTE** Maintenance personnel will perform the corrective procedure in steps 3 and 4. Rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the lower FC cover, and press and lock the interlock switch (5, fig. 3-23) located on the right side of the chassis. Set the FC CONSOLE POWER switch to on (up). Set the SWEEP control fully clockwise and adjust the INTENSITY SET control (1, fig. 3-16) on the video amplifier for a sharply defined sweep. Readjust the SWEEP control until the sweep is just visible. FC tube mount (6A6A2/6A7A2).
4.	**Check Sweep Focus.** Set the test switch (3, fig. 3-12) on the scan servo amplifier (5, fig. 1-7) to OPERATE. **The sweep is sharply focused (see note below).** **NOTE** If the corrective procedure was performed in step 3 but it is not necessary in this step, perform *e* of the corrective procedure. *a.* If the corrective procedure was not performed in step 3, rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the lower FC cover, and press and lock the interlock switch (5, fig. 3-23) located on the right side of the chassis. Set the FC CONSOLE POWER switch to on (up). *b.* Adjust the FOCUS ADJ control (2, fig. 3-17) on the 14-kv power supply (8, fig. 3-23) for a sharply focused sweep.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	c. Set the FC CONSOLE POWER switch to off (down). Replace the lower FC cover. Set all CONSOLE POWER switches to on (up). Adjust the controls for normal presentation.
5.	**Check Azimuth Cursor Intensity.** Rotate the SYMBOL control (12, fig. 2-12) on the FC clockwise until **The azimuth cursor (5, fig. 3-24) is just visible on the FC CRT.** FC control shelf (6A6A9/6A7A9).
6.	**Check Range Rings.**
a.	Set the test switch on the scan servo amplifier to TEST ROTATE.
b.	Rotate the RANGE RINGS control (10, fig. 2-12) on the FC until **Four equally-spaced range rings (2, fig. 3-24) and four equally-spaced PSI rings (6, fig. 3-24) are visible on the FC CRT.** **The display is centered on the FC CRT.** Alternately adjust the CENTERING VERTICAL and HORIZONTAL controls (4 and 3, fig. 2-12) on the FC control shelf. **The range rings on the FC CRT form a circle as the sweep rotates, and the fourth PSI ring is within one-quarter inch of the CRT edge.** Adjust the appropriate control(s) to expand the sweep as follows: EXPANSION UP (5, fig. 2-12) to the 0-mils area. EXPANSION DOWN (6, fig. 2-12) to the 3200-mil area. EXPANSION RIGHT (2, fig. 2-12) to the 1600-mil area. EXPANSION LEFT (1, fig. 2-12) to the 4800-mil area. FC control shelf (6A6A9/6A7A9).
7.	**Check Assign Functions.**
a.	Position the tracking symbol on the fourth range ring on the TCC CRT.
b.	Press and release the appropriate ASSIGN LOW pushbutton (17 or 24, fig. 2-1) on the TCC. **On the FC the ASSIGN label illuminates, the ELEVATION LOW pushbutton (21, fig. 2-11) on the FC flashes.** **The assigned label on the IBCC status indicator illuminates.** **The ASSIGN LOW pushbutton on the TCC illuminates.** **The appropriate MAN ASSIGN (A) or (B) lamp on the maintenance monitor panel (17 or 25, fig. 3-44) illuminates.** TCO panel assembly (6A1A11).

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	FC relay assembly (6A6A7/6A7A7).
	FC cover assembly (6A6A1/6A7A1).
	The tracking symbol appears at the fourth range ring on the FC CRT.
	Adjust the FCC SWEEP AMPLITUDE control (3, fig. 3-7) on the FC short sweep generator (11, fig. 1-6).
	The tracking symbol appears as a circle approximately one-half inch in diameter with a dot in the center.
	Adjust the SYMBOL AMPLITUDE control (2, fig. 3-20) on the FC X- and Y-electronic clamp assemblies (16 and 12, fig. 1-6).
c.	Press and release the ELEVATION LOW pushbutton on the FC cover assembly.
	The ASSIGN LOW pushbutton on the TCC extinguishes, the ELEVATION LOW, RANGE AUTO, and SPEED AUTO pushbuttons on the FC illuminate continuously, the tracking symbol disappears from the FC CRT, and the ELEVATION MANUAL pushbutton (20, fig. 2-11) is extinguished. The EL SEARCH lamp on the maintenance monitor panel illuminates.
	FC cover assembly (6A6A1/6A7A1).
d.	Press and release the ELEVATION MANUAL pushbutton.
	The ELEVATION LOW pushbutton extinguishes and the ELEVATION MANUAL pushbutton illuminates.
	The EL SEARCH lamp extinguishes.
	FC cover assembly (6A6A1/6A7A1).
e.	Press and release the appropriate ASSIGN HIGH pushbutton (4 or 12, fig. 2-2) on the TCC.
	The ELEVATION HIGH pushbutton (22, fig. 2-11) on the FC flashes.
	The ASSIGN HIGH pushbutton on the TCC illuminates.
	The tracking symbol appears on the FC CRT.
f.	Press and release the ELEVATION HIGH pushbutton on the FC.
	The ELEVATION HIGH pushbutton on the FC illuminates continuously.
	The ELEVATION MANUAL pushbutton extinguishes.
	The ASSIGN HIGH pushbutton on the TCC extinguishes.
	The EL SEARCH and HI SEARCH lamps on the maintenance monitor panel illuminate.
	The tracking symbol disappears from the FC CRT.
g.	Press and release the ELEVATION MANUAL pushbutton.
	The ELEVATION HIGH pushbutton extinguishes.
	The ELEVATION MANUAL pushbutton illuminates.
	The EL SEARCH and HI SEARCH lamps extinguish.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
8.	**Check Azimuth Cursor.** Rotate the azimuth handwheel (23, fig. 2-11) clockwise through 360 degrees of cursor movement. **The azimuth cursor (5, fig. 3-24) follows the handwheel movement in a clockwise direction and remains a straight line through 360 degrees of movement, and extends from the center of the CRT to the fourth pai ring.** Adjust the FCC A or FCC B CURSOR LENGTH control (3 or 2, fig. 3-25) on the FC cursor generator (6, fig. 1-6). FC control shelf (6A6A9/6A7A9).
9.	**Check Intercept Computer Operation.** **NOTE** Intercept computers (A) and (B) (1 and 10, fig. 1-7) are associated with FC A and FC B, respectively.
a.	Set the test switch to T1 ZERO SET. **The TEST WARNING lamp (1, fig. 3-26) flashes.**
b.	Rotate the T1 ZERO SET control (5, fig. 3-26) counterclockwise until a tone burst is heard in the headset. Adjust the DOPPLER VOLUME control (7, fig. 2-13) as required.
c.	Slowly rotate the T1 ZERO SET variable resistor clockwise until the tone burst is no longer audible.
d.	Set the test switch to T1 CAL.
e.	Press and release T1 TEST CAL pushbutton (4, fig. 3-26). **The tone burst will be heard in the headset 81 to 95 seconds after the switch is pressed.** Adjust the T1 CAL control (2, fig. 3-26) on the intercept computer.
f.	Set the test switch to NORMAL.
10.	**Check IHIPIR Range Repeatback Marks.** **NOTE** FC marker generators (A) and (B) (1 and 24, fig. 1-6) are associated with FC A and FC B, respectively.
a.	Set the RANGE TEST switch (5, fig. 3-27) to ZERO TEST. **The TEST WARNING lamp (4, fig. 3-27) flashes.**
b.	Rotate the REPEAT BACK MARKS control (2, fig. 2-3) on the TCC until an intensified ring appears on the TCC CRT.
b.1.	Rotate the REPEAT BACK MARK control (14, fig. 2-12) on the FC control shelf until an intensified ring appears on the FC CRT.

Table 3-14. FC Check — Continued

Step	Operation Normal indication Corrective procedure
10*b*. Cont.	**NOTE** The intensified ring appears as a double ring on the TCC indicator when performing this procedure for FC B.
	The intensified ring (first ring for FC B) is coincident with the first ring on the TCC and FC.
	Adjust the RANGE ZERO control (6, fig. 3-27) on the FC marker generator (see note in step *c* below).
c.	Set the RANGE TEST switch to SLOPE TEST.
	The intensified ring coincides with the sixth range ring on the TCC CRT.
	Adjust the RANGE SLOPE control (7, fig. 3-27) on the FC marker generator (see note below).
	NOTE If the corrective procedure is performed in steps *b* or *c* above, alternately repeat the steps until the proper indications are obtained.
d.	Set the RANGE TEST switch to NORM.
11.	**Check System Accuracy.**
a.	Set the SYSTEM ACCURACY TEST switch (4, fig. 2-10) on the FC to ON.
b.	**Deleted.**
c.	**Rotate the azimuth handwheel on the FC in slow increments through 360 degrees of cursor movement.**
	The TEST WARNING lamp (5, fig. 2-10) flashes.
	The azimuth repeatback mark (4, fig. 3-24) is positioned over the azimuth cursor throughout 360 degrees.
	Press and hold the MARK TEST pushbutton (3, fig. 3-27) on the FC marker generator. Rotate the MARK ZERO CONTROL (9, fig. 3-27) clockwise until the MARK TEST lamp (2, fig. 3-27) extinguishes. Slowly rotate the MARK ZERO control counterclockwise until the MARK TEST lamp just illuminates. Release the MARK TEST pushbutton. Adjust the MARK ZERO control to position the repeatback mark over the cursor. IHIPIR azimuth geartrain (6A6A1A3) (6A7A1A3). Scan servo assembly (6A4A1A1).
	The range and azimuth repeatback marks are displayed at the same range and azimuth on the TCC CRT.
	Scan servo assembly (6A4A1A1).
	The range repeatback mark (3, fig. 3-24) is displayed between the third and fourth range ring and is centered on the azimuth repeatback mark.
	Adjust the X HAIR CENTER control (8, fig. 3-27) on the FC marker generator.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
11*d*. Cont.	Set the SYSTEM ACCURACY TEST switch to OFF.
11.1.	**Check Missile Count Circuits.** **NOTE** Display generators (A) and (B) (4 and 7, fig. 1-7) are associated with FC A and FC B, respectively. Rotate the test switch on the display generator to positions 0 through 9. **The total number of illuminated missile present lamps (11, 22, and 23, fig. 2-10) on the FC is equal to the number selected by the test switch for each position.** **The MISSILE COUNT HE indicator on the IBCC status panel displays a number identical to the number selected by the test switch for each position.**
11.2.	**Check ILCHR Selection Circuits.**
a.	Set the test switch to position 1.
b.	Press and hold the FIRE SECTION STBY pushbutton (4, fig. 2-11). **The launcher 1 select pushbutton (21, fig. 2-10) illuminates and launcher 2 and 3 select pushbuttons (20 and 12, fig. 2-10) remain extinguished.**
c.	Press and release, in turn, launchers 2 and 3 select pushbuttons. **The launcher 1 select pushbutton remains illuminated and the launchers 2 and 3 select pushbuttons remain extinguished.**
d.	Set the test switch to position 4.
e.	Press and release the launcher 2 select pushbutton. **The launcher 1 select pushbutton extinguishes and the launcher 2 select pushbutton illuminates. Launcher 3 select pushbutton remains extinguished.**
f.	Set the test switch to position 7.
g.	Press and release the launcher 3 select pushbutton. **The launcher 2 select pushbutton extinguishes and the launcher 3 select pushbutton illuminates. Launcher 1 select pushbutton remains extinguished.**
h.	Set the test switch to position 0. **The launcher 3 select pushbutton extinguishes and the launcher 1 select pushbutton illuminates. The launcher 2 select pushbutton remains extinguished.**
i.	Release the FIRE SECTION STBY pushbutton.
12.	**Check Fire and Destroy Circuits.** **NOTE** Firing interlock assemblies (A) and (B) (2 and 9, fig. 1-7) are associated with FC A and FC B, respectively.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
12. Cont.	**WARNING** Make certain the the firing section A and B ILSCB's are in SAFE and that all ILCHR's are in the LOCAL mode.
a.	Make certain that the firing interlock assembly test switch (4, fig. 3-29) is set to HPI or ADP, and then press and hold the LAMP/AUTO FIRE TEST pushbutton (5, fig. 3-29). **The TEST WARNING lamp (3, fig. 3-29) flashes and the FIRE CIRCUIT O.K. lamp and the DESTROY CIRCUIT O.K. lamp (1 and 2, fig. 3-29) illuminate.** Firing interlock assembly (6A5A2/6A5A9).
b.	Release the LAMP/AUTO FIRE TEST pushbutton.
c.	Set the test switch (4, fig. 3-29) to TEST. **The TEST WARNING lamp flashes.** **The IN RANGE label illuminates at the IBCC status indicator.** Firing interlock assembly (6A5A2/6A5A9).
d.	Momentarily set the appropriate RESUME FIRE/CEASE FIRE switch (16 or 23, fig. 2-1) to RESUME FIRE.
e.	Press and release the appropriate ASSIGN LOW pushbutton on the TCC. **The ASSIGN LOW pushbutton on the TCC remains illuminated and the ELEVATION LOW pushbutton on the FC flashes.** **The ASSIGN label and FIRE pushbutton on the FC illuminate.**
f.	Press and release the ELEVATION LOW pushbutton on the FC. **The ELEVATION LOW pushbutton stops flashing and remains steadily illuminated and the ASSIGN LOW pushbutton on the TCC extinguishes.**
g.	Press and hold the FIRE SECTION STBY pushbutton, and then the fire (F) pushbutton (18, fig. 2-10), on the FC. **The MSL FIRED lamp (21, fig. 3-44) on the maintenance monitor panel, and the HE FIRED label on the IBCC status indicator illuminate.**
h.	Release the FIRE SECTION STBY and FIRE (F) pushbuttons.
i.	Press and hold the LAMP/AUTO FIRE TEST pushbutton on the firing interlock assembly. **The MSL FIRED lamp on the maintenance monitor panel, the HE FIRED label on the IBCC status indicator, and the FIRE CIRCUIT O.K. lamp on the firing interlock assembly illuminate.**

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
j.	Release the LAMP/AUTO FIRE TEST pushbutton.
	NOTE Perform steps *k* through *u* for IBCC's *(AE)[1], otherwise proceed to step *v*.
k.	Set the test switch on the display generator to 9.
l.	Press and hold the FIRE SECTION STBY pushbutton on the FC.
m.	Press and release the launcher 2 select pushbutton. **The launcher 2 select pushbutton illuminates.**
n.	Press and hold the fire (F) pushbutton on the FC. **The FIRE CIRCUIT O.K. lamp on the firing interlock assembly illuminates.**
o.	Release the fire (F) pushbutton.
p.	Press and hold the LAMP/AUTO FIRE TEST pushbutton on the firing interlock assembly. **The FIRE CIRCUIT O.K. lamp on the firing interlock assembly illuminates.**
q.	Release the LAMP/AUTO FIRE TEST pushbutton.
r.	Press and release the launcher 3 select pushbutton on the FC. **The launcher 3 select pushbutton illuminates.**
s.	Repeat steps *n* through *q* above.
t.	Release the FIRE SECTION STBY pushbutton.
u.	Set the test switch on the display generator to OP.
v.	Press and hold the destroy (D) pushbutton (16, fig. 2-10) on the FC. **The DESTROY CIRCUIT OK lamp on the firing interlock assembly, the DESTROY label (15, fig. 2-10) on the FC, and the DESTROYED label on the IBCC status indicator illuminate, the appropriate DESTROY pushbutton (6 or 15, fig. 2-1) on the TCC illuminates, and the F pushbutton on the FC extinguishes.** FC cover assembly (6A6A1/6A7A1). FC relay assembly (6A6A7/6A7A7). Firing interlock assembly (6A5A2/6A5A9).
w.	Release the destroy (D) pushbutton.
x.	Press and hold the appropriate DESTROY pushbutton on the TCC. **The normal indications are identical to those in step *v* above.**
y.	Release the DESTROY pushbutton.

[1] Refer to appendix E for serial number effectivity.

Table 3-14. FC Check — Continued

Step	Operation Normal indication Corrective procedure
z.	Press and hold the CHANGE TARGETS (A) pushbutton on the TCC. **The CHANGE TARGETS and DESTROY (A) pushbuttons on the TCC illuminate.** **The CHANGE TARGETS and DESTROYED (A) labels on the IBCC status indicator illuminate.** **The DESTROY label illuminates, the CHANGE TARGET label flashes, and the AUTO RANGE, AUTO SPEED, and F pushbuttons on FC A extinguish.** **The DESTROY CIRCUIT O.K. lamp on the firing interlock assembly illuminates.**
aa.	Release the CHANGE TARGETS pushbutton and repeat *z* above for FC B.
ab.	Momentarily set the appropriate RESUME FIRE/CEASE FIRE switch to CEASE FIRE. **The CEASE FIRE label (13, fig. 2-10) on the FC and IBCC status indicator illuminate, and the fire (F) pushbutton on the FC extinguishes.**
ac.	Set the test switch on the firing interlock assembly to HPI or ADP.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
13.	**Check Engagement Evaluation Indicators.**
	NOTE Insure that the LOCAL/REMOTE switch (4, fig. 3-9) is set to LOCAL.
a.	Press and release the ONE pushbutton (4, fig. 2-13) on the FC.
	The ONE pushbutton on the FC and the appropriate ONE label on the IBCC status indicator illuminate.
	FC shelf assembly (6A6A9/6A7A9).
	FC relay assembly (6A6A7/6A7A7).
b.	Press and release the FEW pushbutton (5, fig. 2-13) on the FC.
	The ONE pushbutton on the FC and the ONE label on the IBCC status indicator extinguish.
	The FEW pushbutton on the FC and the appropriate FEW label on the IBCC status indicator illuminate.
	Same as step *a* above.
c.	Press and release the MANY pushbutton (6, fig. 2-13) on the FC.
	The FEW pushbutton on the FC and the FEW label on the IBCC status indicator extinguish.
	The MANY pushbutton on the FC and the appropriate MANY label on the IBCC status indicator illuminate.
	Same as step *a* above.
d.	Press and release the KILL pushbutton (1, fig. 2-13) on the FC.
	The MANY pushbutton and ASSIGN lamp on the FC, the MANY and ASSIGNED labels on the IBCC status indicator extinguish, the KILL pushbutton on the FC and appropriate KILL label on the IBCC status indicator illuminate immediately and then extinguish in 8 to 12 seconds.
	The MAN ASSIGN lamp on the maintenance monitor panel extinguishes.
e.	Momentarily set the appropriate RESUME FIRE/CEASE FIRE switch to RESUME FIRE.
	The CEASE FIRE labels on the FC and the IBCC status indicator extinguish.
	Same as step *a* above.
f.	Press and release the NO KILL pushbutton (2, fig. 2-13) on the FC.
	The NO KILL pushbutton on the FC and the appropriate NO KILL label on the IBCC status indicator illuminate immediately and then extinguish in 8 to 12 seconds.
	Same as step *a* above.
g.	If the battery is connected to an AADCP, set the REMOTE/LOCAL switch (4, fig. 3-9) to REMOTE.
h.	Momentarily set the appropriate RESUME FIRE/CEASE FIRE switch to CEASE FIRE.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
14.	**Check Range/Speed Indicator Calibration.**

NOTE

The IROR must not be in radiate while performing all of the checks in step 14.

WARNING

High voltages are present inside the firing console.

NOTE

This step must be performed at both FC A and B. Complete the checks at FC A before beginning FC B. Use appropriate controls for FC B.

a. Set the RANGE CAL switch (2, fig. 3-30) on the IROR sweep generator (16, fig. 1-7) to LONG.

b. Rotate the FCC-A and FCC-B VIDEO GAIN controls (9 and 6, fig. 3-13) on the IROR video amplifier (17, fig. 1-7) fully counterclockwise.

c. Rotate the FCC-A and FCC-B SWEEP INTENSITY controls (8 and 7, fig. 3-13) on the IROR video amplifier fully counterclockwise.

d. Set the test switch (4, fig. 3-30) on the IROR sweep generator to FCC-A PED ZERO.

The TEST WARNING lamp (10, fig. 3-30) flashes.

e. Momentarily press the DISPLAY ENABLE pushbutton (31, fig. 2-11) on the FCA if illuminated.

The DISPLAY ENABLE pushbutton extinguishes.

f. Momentarily press the RANGE MANUAL pushbutton (29, fig. 2-11) on FC A.

The RANGE AUTO pushbutton extinguishes.

g. Rotate the FCC-A SWEEP INTENSITY control until

A normal (long) sharply focused sweep and pedestal (3 and 2, fig. 3-45) appear on the FC A range/speed indicator (28, fig. 2-11).

Adjust the FCC-A VERT POS control (11, fig. 3-13) and the FCC-A HOR POS control (12, fig. 3-13) on the IROR video amplifier.

Rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Lift the FC cover, and press and lock the interlock switch (2, fig. 3-31). Set the FC CONSOLE POWER switch to on (up). Adjust FOCUS control R7 (2, fig. 3-32) and ASTIG control R11 (1, fig. 3-32) on the range/speed indicator (2, fig. 3-33). Set the FC CONSOLE POWER switch to off (down). Close the FC cover. Set all CONSOLE POWER switches to on (up). Adjust controls for normal presentations.

Table 3-14. FC Check — Continued

Step	Operation Normal indication Corrective procedure
h.	Rotate the FCC-A VIDEO GAIN control until
	The range marks (1, fig. 3-45) extend to the top of the display, and the desirable noise (3, fig. 3-45) (grass) level and nine equally spaced range marks appear on the FC A range/speed indicator.
	If all nine range marks are not present, adjust the LONG SW. LENGTH control (9, fig. 3-30) on the IROR sweep generator.
	The base line of the sweep is within one-quarter inch of the bottom of the range/speed indicator.
	Adjust the FCC-A VERT POS control (11, fig. 3-13) on the IROR video amplifier.
	The first range mark appears under the scribe mark on the left side of the range/speed indicator.
	Adjust the FCC-A HOR POS control (12, fig. 3-13) on the IROR video amplifier.
	If necessary, readjust the LONG SW. LENGTH control to obtain the nine range marks.
	The left edge of the pedestal coincides with the second range mark.
	Adjust the FCC-A ZERO control.
i.	Set the test switch on the IROR sweep generator to FCC-A PED SLOPE, and adjust the FCC-A SLOPE control (5, fig. 3-30) on the IROR sweep generator until
	The left edge of the pedestal coincides with the eighth range mark.
j.	Set the test switch on the IROR sweep generator to FCC-A PED WITDH.
	The right edge of the pedestal coincides with the second range mark.
	Adjust the PEDESTAL WIDTH control (3, fig. 3-30) on the IROR sweep generator.
k.	Set the test switch on the IROR sweep generator to FCC-A RANGE ZERO.
	The right edge of the pedestal coincides with the second range mark.
	Adjust the FCC-A ZERO control (6, fig. 3-30) on the IROR sweep generator and repeat step *j*. Alternately perform steps *j* and *k* until the proper indications are obtained.
l.	Set the test switch on the IROR sweep generator to FCC-A RANGE SLOPE.
	The ninth range mark appears in the center of the pedestal. The sweep terminates at the right edge of the pedestal.
	Adjust the LONG SW. LENGTH control (9, fig. 3-30) on the IROR sweep generator.
	The sweep extends to the right scribe mark on the range/speed indicator.
	Adjust the FCC-A SWEEP LENGTH control (10, fig. 3-13) on the IROR video amplifier.
m.	Set the RANGE CAL switch (2, fig. 3-30) on the IROR sweep generator to SHORT.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
n.	Adjust FCC-A SLOPE control (5, fig. 3-30) on the IROR sweep generator until
	The sweep on the range/speed indicator contains only one range mark which appears under the center scribe line.
o.	Set the test switch on the IROR sweep generator to NORMAL.
	The range/speed indicator range marks disappear and the TEST WARNING lamp extinguishes.
p.	Set the RANGE CAL switch on the IROR sweep generaotr to LONG.
q.	Press and release the DISPLAY ENABLE pushbutton (31, fig. 2-11) on FC A.
r.	Press and release the RANGE AUTO pushbutton (30, fig. 2-11) on FC A.
s.	Press and release the SPEED AUTO pushbutton (27, fig. 2-11) on FC A.
	NOTE
	Display generators (A) and (B) (4 and 7, fig. 1-7) are associated with FC A and FC B, respectively.
t.	Adjust the SWEEP INTENSITY control (6, fig. 3-34) on the display generator until
	A sweep (4, fig. 3-46) extending from the left to right edges appears on the FC A range/speed indicator.
	Adjust the SWEEP LENGTH control (8, fig. 3-34) on the display generator.
	Rotate all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Lift the FC cover, and press and lock the interlock switch (2, fig. 3-31). Adjust HOR POS control R23 (3, fig. 3-32) on the range/speed indicator. Set the FC CONSOLE POWER switch to off (down). Close the FC cover. Set all CONSOLE POWER switches to on (up). Adjust controls for normal presentations.
	Display generator (A) (6A5A4).
u.	Adjust the INT MARK INTENSITY control (5, fig. 3-34) until
	The cursor (5, fig. 3-46) appears on the range/speed indicator.
v.	Rotate the speed control (19, fig. 2-11) on the FC clockwise and counterclockwise.
	The cursor position is adjustable on the range/speed indicator.
w.	Press and release the SPEED MANUAL pushbutton (26, fig. 2-11) on the FC.
	The cursor disappears on the range/speed indicator.
	The SPEED AUTO pushbutton extinguishes and the SPEED MANUAL pushbutton illuminates.
x.	Press and release the BREAK LOCK pushbutton (17, fig. 2-10) on the FC.
	The cursor reappears on the range/speed indicator.
	The SPEED AUTO pushbutton illuminates and the SPEED MANUAL pushbutton extinguishes.

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
15.	**Check Missile Message C.**
	NOTE
	MISSILE MESSAGE A, B and C lamps (1, 2 and 3, fig. 3-44) refer to FC A, and MISSILE MESSAGE A, B and C lamps (7, 8 and 9, fig. 3-44) refer to FC B.
a.	Press and release the SPEED MANUAL pushbutton if extinguished.
b.	Press and release the MSL CODE pushbutton (8, fig. 2-11) on the FC.
	The MSL CODE pushbutton illuminates.
	The maintenance monitor panel MISSILE MESSAGE A and B lamps (1 and 2, fig. 3-44) remain extinguished and MISSILE MESSAGE C lamp (3, fig. 3-44) illuminates.
c.	Press and release the OFF pushbutton (7, fig. 2-11).
	The MISSILE MESSAGE C lamp extinguishes.
	The MSL CODE pushbutton extinugishes.
16.	**Check Azimuth Electronic Control Amplifier.**
	NOTE
	Azimuth electronic control amplifiers A and B (20 and 11, fig. 1-7) are associated with FC A and FC B, respectively.
a.	Set the test switch (7, fig. 3-35) on the range electronic control amplifier (22 or 13, fig. 1-7) to R+.
	The test warning lamp (1, fig. 3-35) flashes.
b.	Set the test switch (5, fig. 3-36) on the azimuth electronic control amplifier to V3.
	The test warning lamp (1, fig. 3-36) on the azimuth electronic control amplifier flashes.
c.	Adjust the V3 control (2, fig. 3-36) on the azimuth electronic control amplifier (20 or 11, fig. 1-7) until
	The ZERO ADJUST meter (4, fig. 3-36) indicates black line (center).
d.	Set the test switch to V4.
e.	Adjust the V4 control (3, fig. 3-36) on the azimuth electronic control amplifier until
	The ZERO ADJUST meter indicates black line (center).
f.	Set the test switch on the azimuth electronic control amplifier to OPERATE.
17.	**Check Elevation Electronic Control Amplifier.**
	NOTE
	Elevation electronic control amplifiers A and B (21 and 12, fig. 1-7) are associated with FC A, and FC B, respectively.
a.	Set the test switch (7, fig. 3-37) on the elevation electronic control amplifier to – RANGE.
	The test warning lamp (1, fig. 3-37) on the elevation electronic control amplifier flashes.

Table 3-14. FC Check — Continued

Step	Operation Normal indication Corrective procedure
b.	Adjust the – RANGE control (2, fig. 3-37) on the elevation control amplifier until **The ZERO ADJUST meter (6, fig. 3-37) on the elevation electronic control amplifier indicates black line (center).**
c.	Set the test switch to +RANGE.
d.	Adjust the + RANGE control (3, fig. 3-37) on the elevation electronic control amplifier until **The ZERO ADJUST meter indicates black line (center).**
e.	Set the test switch to RANGE AADCP.
f.	Adjust the RANGE AADCP control (4, fig. 3-37) on the elevation electronic control amplifier until **The ZERO ADJUST meter indicates black line (center).**
g.	Set the test switch to DC AMPL.
h.	Adjust the DC AMPL control (5, fig. 3-37) on the elevation electronic control amplifier until **The ZERO ADJUST meter indicates black line (center).**
i.	Set the test switch on the elevation electronic control amplifier to OPERATE.
j.	Set the test switch on the range electronic control amplifier (22 or 13, fig. 1-7) to OPERATE.
18.	**Check Range Electronic Control Amplifier.** **NOTE** Range electronic control amplifiers A and B (22 and 13, fig. 1-7) are associated with FC A and FC B, respectively.
a.	Observe the ZERO ADJUST meter (6, fig. 3-35) on the range electronic control amplifier. **The ZERO ADJUST meter indicates black line (center).** Adjust zero adjust control R51 (1, fig. 3-38) on the range electronic control amplifier.
b.	Set the test switch (7, fig. 3-35) on the range electronic control amplifier to +X. **The test warning lamp (1, fig. 3-35) on the range electronic control amplifier flashes.**
c.	Adjust the +X control (2, fig. 3-35) on the range electronic control amplifier until **The ZERO ADJUST meter on the range electronic control amplifier indicates black line (center).**
d.	Set the test switch on the range electronic control amplifier to – X.
e.	Adjust the – X control (3, fig. 3-35) on the range electronic control amplifier until **The ZERO ADJUST meter indicates black line (center).**
f.	Set the test switch on the range electronic control amplifier to R_T.
g.	Adjust the R_T control (4, fig. 3-35) on the range electronic control amplifier until **The ZERO ADJUST meter indicates black line (center).** **The indication is constant and does not fluctuate.**

Table 3-14. FC Check — Continued

Step	Operation / Normal indication / Corrective procedure
k.	Set the test switch on the range electronic control amplifier to OPERATE.

Table 3-15. CWTDC Check

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9–1430–526–12–2.
1.	**Check Console Illumination.**
a.	Press and hold the LAMP TEST pushbutton (12, fig. 2-9) on the CWTDC. **All lamps and pushbuttons on the CWTDC illuminate.** **NOTE** The ALERT CANCEL pushbutton (11, fig. 2-8) is not an illuminated pushbutton. CWTDC control shelf (6A4A7). CWTDC cover assembly (6A4A1).
b.	Release the LAMP TEST pushbutton.
2.	**Check Panel Dimmer Operation.**
a.	Press and hold the LAMP TEST pushbutton and rotate the LAMP DIMMER control (14, fig. 2-9) on the CWTDC clockwise. **The illumination of all lamps and pushbuttons on the CWTDC increases.** Fan and dimmer assembly (6A4A8).
b.	Release the LAMP TEST pushbutton.
3.	**Check Sweep Intensity.** **WARNING** Exercise extreme care to prevent contact with high voltage inside the CWTDC when performing corrective procedure in steps 3 and 4. Failure to observe proper precautions may result in death or injury. Rotate the SWEEP INTENSITY control (15, fig. 2-9) on the CWTDC until **The sweep (1, fig. 3-39) is just visible on the indicator.** **NOTE** Maintenance personnel will perform the corrective procedure in steps 3 and 4. Turn all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the lower CWTDC cover, and press and lock the interlock switch (1, fig. 3-40). Set the CONSOLE POWER switch on the CWTDC to ON

Table 3-15. CWTDC Check — Continued

Step	Operation / Normal indication / Corrective procedure
	and the SWEEP INTENSITY control (15, fig. 2-9) fully clockwise. Adjust the COARSE INT control (2, fig. 3-40) on the CWTDC video amplifier (3, fig. 3-40) for a sharply defined sweep, and then readjust the SWEEP INTENSITY control until the sweep is just visible. Proceed to step 4 below. 10-Kv power supply (6A4A6). CWTDC tube mount (6A4A2).
4.	**Check Sweep Focus.** **The sweep on the indicator is sharply focused (see note below).** **NOTE** If corrective procedure was performed in step 3 but it is not necessary in this step, perform *c* of the corrective procedure. a. Turn all presentation controls fully counterclockwise. Set all CONSOLE POWER switches to off (down). Remove the lower CWTDC cover, and press and lock the interlock switch (1, fig. 3-40). Set the CONSOLE POWER switch on the CWTDC to ON. b. Adjust the FOCUS ADJ control (2, fig. 3-17) on the 10-kv power supply (4, fig. 3-40). c. Replace the CWTDC lower cover, and set all CONSOLE POWER switches to on. Adjust controls for normal presentations. 10-Kv power supply (6A4A6).
5.	**Check Sweep Centering.**
a.	Set test switch (3, fig. 3-12) on the scan servo amplifier (5, fig. 1-7) to TEST ROTATE.
	The sweep extends to within one-fourth inch of the top and bottom scribe lines of the indicator.
	Rotate the EXPANSION UP control (5, fig. 2-9) on the CWTDC fully counterclockwise. Adjust the CENTERING VERTICAL control (4, fig. 2-9) until the sweep extends the same distance from the top and bottom of the indicator. Alternately adjust the UP and DOWN controls until the normal indication is obtained. CWTDC control shelf (6A4A7).
	The sweep travels from the left edge to the right edge of the indicator.
	Rotate the EXPANSION RIGHT and LEFT controls (2 and 1, fig. 2-9) fully counterclockwise. Adjust the CENTERING HORIZONTAL control (3, fig. 2-9) until the sweep is centered horizontally on the indicator. Alternately adjust the RIGHT AND LEFT controls until the proper indication is obtained. Scan servo assembly (6A4A1A1).
b.	Set the test switch to OPERATE.

Table 3-15. CWTDC Check — Continued

Step	Operation / Normal indication / Corrective procedure
6.	**Check Cursor.**
a.	Rotate the CURSOR INTENSITY control (10, fig. 2-9) on the CWTDC until **The CW cursor (2, fig. 3-39) is present on the indicator.** CWTDC control shelf (6A4A7). **The CW cursor is the same length as the sweep.** Adjust the CURSOR AMP control (4, fig. 3-41) on the CWTDC sweep generator (6, fig. 1-7).
b.	Set the test switch on the scan servo assembly to OPERATE.
c.	Using the CORRELATION CURSOR handwheel (9, fig. 2-2) on the TCC, position the correlation cursor (12, fig. 3-14) directly over the sweep on the TCC CRT.
d.	Press and release the TCC ALERT pushbutton (12, fig. 2-8). **The PSI cursor (5, fig. 3-14) appears on the TCC CRT and the CW CONFIRM pushbutton (1, fig. 2-2) on the TCC flashes.** CWTDC cover assembly (6A4A1). TCA panel assembly (6A1A12).
e.	Rotate the cw cursor handwheel on the CWTDC until the PSI cursor on the TCC is coincident with the correlation cursor and the TCC sweep on the CRT. **The azimuth mils counters on TCC and CWTDC agree within ± 3 mils.**
f.	Push in and rotate the cw cursor handwheel on the CWTDC until the sweep is within one-half inch of the left edge of the indicator. **The CW cursor coincides with the sweep on the indicator.** Adjust the CURSOR POSITION control (8, fig. 2-9) on the CWTDC (see note in *g* below).
g.	Push in and rotate the cw cursor handwheel on the CWTDC cover assembly until the sweep is within one-half inch of the right edge of the indicator. **The CW cursor is within one-sixteenth inch of the sweep.** Adjust the CURSOR RANGE control (7, fig. 2-9) on the CWTDC (see note below). **NOTE** If the corrective procedure was performed in steps *f* and *g* above, repeat both steps until the proper indications are obtained.
7.	**Check Alert Cancel.** Press the ALERT CANCEL pushbutton (11, fig. 2-8) on the CWTDC. **The PSI cursor disappears from the TCC CRT, and the CW CONFIRM and TCC ALERT pushbuttons extinguish.** Proceed to table 3-17, step 1 for the next daily.

*Table 3-15.1. Communications Check *(AG)*[1]

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9—1430—526—12—2.
	NOTE The key numbers in parentheses in this table refer to figure 2-19.1 unless otherwise specified.
1.	**Check TCO/TCA Loop.**
	CAUTION Do not connect or disconnect the headsets from the console connectors unless the communications equipment power is shut off.
	NOTE Do not attempt to use any of the major item monaural headsets in the IBCC. Use only the binaural headsets (10673294-1) issued with the IBCC.
a.	Press and release the TCO/TCA communications unit (18, fig. 1-2) POWER pushbutton (9). **The POWER pushbutton illuminates.** TCO/TCA communications unit (6A30).
b.	Set the TCO and TCA bus switches (34 and 22) to the BTRY blue color positions.
c.	Adjust the TCA VOL-R control (18) to midposition.
d.	Press and hold the TCO push-to-talk switch on the headset cable assembly. **TCO voice is heard in the TCA right earpiece. Adjust the TCA VOL-R control as desired.** TCO/TCA communications unit (6A30). Headsets.
e.	Adjust the TCO VOL-R control (3) to midposition.
f.	Press and hold the TCA push-to-talk switch on the headset cable assembly. **TCA voice is heard in the TCO right earpiece. Adjust the TCO VOL-R control as desired.** TCO/TCA communications unit (6A30). Headsets.
g.	Set the TCO VOL-L control (1) and TCA VOL-L control (16) to midposition.
h.	Set the TCO and TCA bus switches to the HOT position. **TCO voice is heard in the TCA left earpiece. Adjust the TCA VOL-L control as desired.** **TCA voice is heard in the TCO left earpiece. Adjust the TCO VOL-L control as desired.**
i.	Set the TCO and TCA bus switches to the BTRY blue color positions.

[1]Refer to appendix E for serial number effectivity.

*Table 3-15.1. Communications Check *(AG)[1]—Continued*

Step	Operation / Normal indication / Corrective procedure
1*j*.	Release the TCO and TCA push-to-talk switches.
	NOTE Utilize the headset push-to-talk switches as required to perform the various communications checks which follow. Maintain the switches in their off positions whenever possible.
2.	**Check FC A Loop.**
a.	Set the FCO A bus switch (5) to the off (counterclockwise) position.
b.	Set the FC A communications unit (14, fig. 1-2) PWR switch (3, fig. 2-21) to ON.
c.	Momentarily set the FC A communications unit RING switch (2, fig. 2-21) to RING.
	The TCO/TCA communications unit FCO A lamp (4) illuminates and the audible buzzer activates continuously.
	An audible tone is heard in the TCO and TCA headset.
	FC A communications unit (6A32).
	TCO/TCA communications unit (6A30).
d.	Set the FCO A bus switch to the BTRY blue color position.
	The FCO A lamp and audible tone extinguish and the audible buzzer deactivates.
	Communication is established between FC A and the TCO.
	FC A communications unit (6A32).
	TCO/TCA communications unit (6A30).
e.	Momentarily set the FC A communications unit RING switch to RING.
	The TCO/TCA communications unit FCO A lamp illuminates and the audible buzzer activates momentarily.
	TCO/TCA communications unit (6A30).
f.	In turn, press and release the TCO and TCA RING BTRY pushbuttons (2 and 17).
	The FC A communications unit audible buzzer is momentarily activated by each RING BTRY pushbutton.
	TCO/TCA communications unit (6A30).
	FC A communications unit (6A32).
g.	Set the FCO A bus switch to the off position.
3.	**Check FC B Loop.**
a.	Repeat step 2, substituting the FC B communications unit (10, fig. 1-1) and FCO B bus switch and lamp (33 and 32).
b.	After test, set the FCO B bus switch to the off position.

[1]Refer to appendix E for serial number effectivity.

*Table 3-15.1. Communications Check *(AG)[1]—Continued*

Step	Operation / Normal indication / Corrective procedure
4.	**Check CWTDC Loop.** Repeat step 2, substituting the CWTDC communications unit (9, fig. 1-1) and CWTDC bus switch and lamp (29 and 28).
5.	**Check Common Bus Function.**
a.	Set the TCO, TCA, CWTDC, FCO A, and FCO B bus switches to the BTRY blue color positions. **Communication is established between all operators.**
b.	Reset the bus switches, in turn, to their BTRY green and amber colored positions. **Communication is maintained between all operators in each position.** TCO/TCA communications unit (6A30).
c.	Set the NORMAL/EMER switch (38, fig. 2-19.1) to EMER. **Communication is still maintained between the operators.** Batteries 6A30BT1, BT2.
d.	Set the NORMAL/EMER switch to NORMAL. Set all bus switches to the off position. **CAUTION** Make certain that the TCO/TCA communications unit, CWTDC, FC A and FC B communications units power switches are set to the OFF position when not in use or whenever the IBCC is to be shut down.

[1]Refer to appendix E for serial number effectivity.

*Table 3-16. Communications Check *(AF) *(D)[1]*

Step	Operation / Normal indication / Corrective procedure
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9-1430-526-12-2.
	NOTE The key numbers in parentheses in this table refer to figure 2-20 unless otherwise specified.
1.	**Check TCO/TCA Loop.**
	CAUTION Do not connect or disconnect the headsets from the console connectors unless the communications equipment power is shut off.
	NOTE Do not attempt to use any of the major item monaural headsets in the IBCC. Use only the binaural headsets (10673294-1) issued with the IBCC.
a.	Press and release the TCO/TCA communications unit (18, fig. 1-2) POWER pushbutton (38). **The POWER pushbutton illuminates.** TCO/TCA communications unit (6A30).
b.	Set the TCO and TCA bus switches (34 and 22) to common colored positions.
c.	Press and release the TCO TALK pushbutton (36). **The TCO TALK pushbutton illuminates.**
c.1.	Adjust the TCA VOL-L control (16) to midposition.
c.2.	Press and hold the TCO push-to-talk switch on the headset cable assembly. **TCO voice is heard in the TCA headset. Adjust the TCA VOL-L control as desired.** TCO/TCA communications unit (6A30). Headsets.
c.3.	Release the TCO push-to-talk switch.
d.	Press and release the TCA TALK pushbutton (21). **The TCA TALK pushbutton illuminates.**
e.	Adjust the TCO VOL-R control (3) to midposition.
f.	Press and hold the TCA push-to-talk switch on the headset cable assembly. **TCA voice is heard in the TCO headset. Adjust the TCO VOL-R control as desired.** TCO/TCA communications unit (6A30). Headsets.
g.	Release the TCA push-to-talk switch.
	NOTE Utilize the headset push-to-talk switches as required to perform the various communications checks which follow. Maintain the switches in their off positions whenever possible.

[1]Refer to appendix E for serial number effectivity.

*Table 3-16. Communications Check *(AF) *(D)[1]—Continued*

Step	Operation / Normal indication / Corrective procedure
2.	**Check FC A Loop.**
a.	Set the FCO A bus switch (5) to the off (counterclockwise) position.
b.	Set the FC A communications unit (14, fig. 1-2) PWR switch (3, fig. 2-21) to ON.
c.	Momentarily set the FC A communications unit RING switch (2, fig. 2-21) to RING.
	The TCO/TCA communications unit FCO A lamp (4) illuminates and the audible buzzer activates continuously.
	An audible tone is heard in the TCO and TCA headset.
	FC A communications unit (6A32).
	TCO/TCA communications unit (6A30).
d.	Set the FCO A bus switch to the same colored position as that of the TCO bus switch.
	The FCO A lamp and audible tone extinguish and the audible buzzer deactivates.
	Communication is established between FC A and the TCO.
	FC A communications unit (6A32).
	TCO/TCA communications unit (6A30).
e.	Momentarily set the FC A communications unit RING switch to RING.
	The TCO/TCA communications unit FCO A lamp illuminates and the audible buzzer activates momentarily.
	TCO/TCA communications unit (6A30).
f.	In turn, press and release the TCO and TCA RING switches (2 and 17).
	The FC A communications unit audible buzzer is momentarily activated by each RING switch.
	TCO/TCA communications unit (6A30).
	FC A communications unit (6A32).
g.	Set the FCO A bus switch to the off position.
3.	**Check FC B Loop.**
a.	Repeat step 2, substituting the FC B communications unit (10, fig. 1-1) and FCO B bus switch and lamp (33 and 32).
b.	Set the FCO B bus switch to the off position.
4.	**Check CWTDC Loop.**
	Repeat step 2, substituting the CWTDC communications unit (9, fig. 1-1) and CWTDC bus switch and lamp (29 and 28).

[1]Refer to appendix E for serial number effectivity.

*Table 3-16. Communications Check *(AF) *(D)[1]—Continued*

Step	Operation / Normal indication / Corrective procedure
5.	**Check Common Bus Function.**
a.	Set the TCO, TCA, CWTDC, FCO A and FCO B bus switches to common colored positions. **Communication is established between all operators.**
b.	Reset the bus switches, in turn, to their second and third common positions. **Communication is maintained between all operators in each position.** TCO/TCA communications unit (6A30).
c.	Set all bus switches to the off position. **CAUTION** Make certain that the TCO/TCA communications unit, CWTDC, FC A and FC B communications units power switches are set to the OFF position when not in use or whenever the IBCC is to be shut down.
6.	**Check TCC/FC Communications.**
a.	Set and hold the communications selector switch (1, fig. 2-7) to FCC A. **Communication is established between the TCO and FC A.** Tactical control console (6A1).
b.	Set and hold the communications selector switch to FCC B. **Communication is established between the TCO and FC B.** Tactical control console (6A1).
c.	Release the selector switch.
d.	Press and release the TCO and TCA TALK pushbuttons to off (extinguished).

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check

Step	Operation / Normal indication / Corrective procedure
	WARNING Set all SAFE/OPERATE switches at the ILSCB to SAFE. Set all missile SAFE/ARM levers to SAFE, and disconnect all missile umbilical cables and install shorting plugs on all umbilicals.
	WARNING Make certain that the TCO panel assembly FIRE MODE switch (3, fig. 2-1) is set to NORMAL.
	NOTE If the check procedures in tables 3-10 through 3-16 have not been completed immediately prior to this check, the IBCC must be completely energized. All radars and the ICC/TM must be energized to standby and local, all SAFE-OPERATE switches at the ILSCB's set to SAFE, and all ILCHR's in LOCAL with MAIN POWER on. Set both firing interlock assemblies (A) and (B) (2 and 9, fig. 1-7) test switches (4, fig. 3-29) to HPI.
	NOTE If an abnormal indication is obtained when performing the following check procedures, and the stated corrective procedure, if any, does not correct the fault, perform the fault isolation procedures in TM 9-1430-526-12-2.
1.	**Check Firing Section A Communications *(AG)[1].**
	NOTE The key numbers shown in parentheses in steps 1 through 1.8 and step 11 refer to the TCO/TCA communications unit (fig. 2-19.1).
a.	Press and release the TCO/TCA communications unit POWER pushbutton (9).
b.	Set only the FIRE SECT A bus switch (7) to the same BTRY color position as the TCO bus switch (34).
c.	Press and release the TCO RING BTRY pushbutton (2). **Firing section A acknowledges the call (crew chief, IHIPIR, and three ILCHR personnel).**
d.	Direct the firing section personnel, in turn, to ring the IBCC. **While ringing is in effect, the FIRE SECT A lamp (6) illuminates, the audible buzzer activates, and an audible tone is heard in the TCO and TCA headset.**
e.	Direct one of the firing section personnel to wait 5 seconds and again, momentarily, ring the IBCC, and then immediately set the FIRE SECT A bus switch to the off (ccw) position. **The FIRE SECT A lamp illuminates and the audible buzzer activates continuously, and an audible tone is heard in the headsets.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
1*f*. Cont.	Set the FIRE SECT A bus switch to its previous position. **The FIRE SECT A lamp extinguishes, the audible buzzer deactivates, and the audible tone heard in the headsets stops.**
g.	Set the FIRE SECT A bus switch to the off position.
1.1.	**Check Firing Section B Communications *(AG)[1].** Repeat step 1 for firing section B substituting the FIRE SECT B bus switch (31) and lamp (30). **Same as for step 1.**
1.2.	**Check IROR Communications *(AG)[1].** Repeat step 1 for the IROR, substituting the ROR bus switch (26) and lamp (25). **Same as for step 1.**
1.3.	**Check ICWAR Communications *(AG)[1].** Repeat step 1 for the ICWAR, substituting the ICWAR bus switch (24) and lamp (23). **Same as for step 1.**
1.4.	**Check IPAR Communications (AG)[1].** Repeat step 1 for the IPAR, substituting the IPAR bus switch (13) and lamp (12). **Same as for step 1.**
1.5.	**Check IFF Communications *(AG)[1].** Repeat step 1 for the IFF, substituting the IFF bus switch (15) and lamp (14). **Same as for step 1.**
1.6.	**Check ICC/TM Communications *(AG)[1].**
a.	Set the TCO bus switch to the BTRY blue color position.
b.	Set the ICC bus switch to the BTRY blue color position.
c.	Momentarily press the TCO RING BTRY pushbutton. **The ICC lamp (10) illuminates and the audible buzzer activates.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
1.6*d*. Cont.	When the ICC/TM operator patches the operators cord into the switchboard IBB line pack
	Communications are established between the TCO and ICC/TM operator.
	The ICC/TM operator confirms that the IBCC line pack signal flag (white) and the switchboard buzzer were activated while ringing was in effect from the IBCC.
	The auxiliary control unit SWBD TALK/HOT TALK switch must be set to SWBD TALK and the switchboard alarm switch set to AUD.
e.	Direct the ICC/TM operator to set the ringing switch on the operators line pack to RING BACK and turn the ring crank several times.
	The audible buzzer activates and the ICC lamp illuminates momentarily.
f.	Direct the ICC/TM operator to wait 5 seconds and again ring the IBCC.
g.	Before the ICC/TM operator rings the IBCC, set the ICC bus switch to OFF.
h.	When the ICC/TM operator rings the IBCC
	The audible buzzer activates and ICC lamp illuminates.
i.	Set the ICC bus switch back to the BTRY blue color position.
	The audible buzzer deactivates and the ICC lamp extinguishes.
	Communications are again established between the IBCC and ICC/TM operator.
1.7.	Check Hot and IRR Communications—Primary Mode *(AG)[1].
a.	Direct the ICC/TM operator to:
(1)	Set the HOT selector switch to HOT PRIM.
	The HOT SEC MODE lamp (35) is extinguished.
(2)	Set the IRR selector switch to IRR PRIM.
	The IRR SEC MODE lamp (19) is extinguished.
b.	Contact the BOC per SOP and request communications check with the battery.
c.	Set the TCO bus switch to HOT.
d.	Set the TCA bus switch to HOT.
	NOTE Communications in steps *e* and *f* will be heard on the hot line.
e.	Press and hold the TCO HOT RING/XMIT pushbutton (36) for 10 seconds.
	The BOC receives a ring indication on the hot line.
f.	Direct the BOC to ring the battery on the hot line.
	At the IBCC, the HOT CALL lamp (37) illuminates and the audible buzzer is activated. An audible tone is heard in the TCO headset.

[1] Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
1.7*g.* Cont.	Set the TCA bus switch to IRR.
h.	Contact the BOC per SOP and request communications check with the battery.
i.	Press and hold the TCA IRR RING/XMIT pushbutton (21) for 10 seconds. **The BOC receives a ring indication on the IRR line.** **IRR communications are established between the TCA and BOC.**
j.	Direct the BOC to ring the battery on the IRR line. **The IRR CALL lamp (20) illuminates and the audible buzzer activates. An audible tone is heard in the TCA headset.** **IRR communications are still maintained between the TCA and BOC.**
	NOTE **All communications in this step will be heard on the IRR network or hot line loops.**
1.8.	**Check Hot and IRR Secondary Communications *(AG)[1].**
a.	Set the TCO bus switch to the BTRY blue color position.
b.	Momentarily press the TCO RING BTRY pushbutton and establish communications with the ICC/TM operator.
c.	Direct the ICC/TM operator to set the HOT selector switch to HOT SEC. **The HOT SEC MODE lamp illuminates.**
d.	Direct the ICC/TM operator to set the IRR selector switch to IRR SEC. **The IRR SEC MODE lamp illuminates.**
e.	Set the TCO bus switch to HOT.
f.	Press (to talk) and release (to listen) the HOT RING/XMIT pushbutton as required to communicate with the remote AN/GRC-106 radio operator. **Communications are established between the remote AN/GRC-106 radio operator and TCO on the hot secondary loop.**
g.	Press (to talk) and release (to listen) the IRR RING/XMIT pushbutton as required to communicate with the remote AN/GRC-106 radio operator. **Communications are established between the remote AN/GRC-106 radio operator and TCA on the hot secondary loop.**
h.	Set the TCO and TCA bus switches to the BTRY blue color position.
i.	Direct the ICC/TM operator to set the HOT and IRR selector switches to HOT PRIM and IRR PRIM respectively. **The HOT SEC MODE and IRR SEC MODE lamps extinguish.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check–Continued

Step	Operation / Normal indication / Corrective procedure
1.9.	**Check Firing Section A Communications *(AF), *(D)[1].**
	NOTE The key numbers shown in parentheses in steps 1.9 through 9, and step 11, refer to the TCO/TCA communications unit (fig. 2-20).
a.	Press and release the TCO/TCA communications unit POWER pushbutton (38).
b.	Press and release the TCO TALK pushbutton (36).
c.	Set only the FIRE SECT A bus switch (7) to the same position as that of the TCO bus switch.
d.	Press and release the TCO RING pushbutton (2). **Firing section A acknowledges the call (crew chief, IHIPIR, and three ILCHR personnel).**
e.	Direct the firing section personnel, in turn, to ring the IBCC. **While ringing is in effect, the FIRE SECT A lamp (6) illuminates, the audible buzzer activates, and an audible tone is heard in the TCO and TCA headset.**
f.	Direct one of the firing section personnel to wait 5 seconds and again, momentarily, ring the IBCC, and then immediately set the FIRE SECT A bus switch to the off (ccw) position. **The FIRE SECT A lamp illuminates and the audible buzzer activates continuously, and an audible tone is heard in the headsets.**
g.	Set the FIRE SECT A bus switch to its previous position. **The FIRE SECT A lamp extinguishes, the audible buzzer deactivates, and the audible tone heard in the headsets stops.**
2.	**Check Firing Section B Communications *(AF), *(D)[1].** Repeat step 1.9 for firing section B, substituting the FIRE SECT B bus switch (31) and lamp (30). **Same as for step 1.9.**
3.	**Check IROR Communications. *(AF), *(D)[1].** Repeat step 1.9 for the IROR, substituting the ROR bus switch (26) and lamp (25). **Same as for step 1.9.**
4.	**Check ICWAR Communications. *(AF), *(D)[1].** Repeat step 1.9 for the ICWAR, substituting the ICWAR bus switch (24) and lamp (23). **Same as for step 1.9.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check–Continued

Step	Operation / Normal indication / Corrective procedure
5.	**Check IPAR Communications. *(AF), *(D)[1].**
	Repeat step 1.9 for the IPAR, substituting the IPAR bus switch (13) and lamp (12).
	Same as for step 1.9.
6.	**Check IFF Communications *(AF), *(D)[1].**
	Repeat step 1.9 for the IFF, substituting the IFF bus switch (15) and lamp (14).
	Same as for step 1.9.
6.1.	**Check ICC/TM Communications *(AF), *(D), *(T)[1].**
a.	Set the TCO and ICC bus switches (34 and 27) to common colored positions.
b.	Set all other bus switches to the off (counterclockwise) position.
c.	Press and release the TCO TALK and TCA TALK pushbuttons to on (illuminated).
d.	Press and release the TCO HOT (37) and TCA HOT (19) pushbuttons if illuminated.
	The TCO and TCA HOT pushbuttons extinguish.
e.	Press and release the TCO IRR (35) and TCA IRR (20) pushbuttons if illuminated.
	The TCO and TCA IRR pushbuttons extinguish.
f.	Momentarily press the TCO RING pushbutton.
	The ICC lamp (10) illuminates.
	NOTE
	At the ICC/TM, the SWBD TALK/HOT TALK switch must be set to SWBD TALK, and the switchboard alarm switch set to AUD for the following check.
g.	When the switchboard operator patches the operators line cord into the IBCC line pack.
	Communications are established between the TCO and ICC/TM operator.
	The ICC/TM operator confirms that the switchboard IBCC Line pack signal flag (white) and the audible buzzer were activated while ringing was in effect from the IBCC.
6.2.	**Check Hot and IRR Primary Mode Communications *(AF), *(D), *(T)[1].**
a.	Direct the ICC/TM operator to:
(1)	Set the HOT LISTEN/OFF switch to HOT LISTEN.
(2)	Set the HOT selector switch to HOT PRIM.
(3)	Set the IRR selector switch to IRR PRIM.
b.	Press and release the TCO and TCA HOT pushbuttons.
	The TCO and TCA HOT pushbuttons illuminate.

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check–Continued

Step	Operation / Normal indication / Corrective procedure
b.1.	Contact the BOC per SOP and request communications check with the battery.
	NOTE All communications from steps *c* through *e* will be heard on the hot line.
c.	Direct the ICC/TM operator to:
(1)	Inform the BOC of the following ring-up check.
(2)	Press the RING HOT pushbutton on the auxiliary control unit for approximately 10 seconds and then set the SWBD TALK/HOT TALK switch to HOT TALK.
(3)	Transfer the operators line cord from the IBCC line pack to the operators line pack.
	Hot line communications is established between the BOC, ICC/TM operator, TCO, and the TCA.
d.	Request the BOC operator to ring the ICC/TM on the hot line.
	The BOC line pack signal flag on the switchboard is activated (white) and the switchboard buzzer sounds.
e.	Direct the ICC/TM operator to:
(1)	Patch the operator's line cord into the BOC line pack.
	The BOC line pack signal flag deactivates (black) and the buzzer stops.
	Hot line communications is again established between the BOC, ICC/TM operator, TCO, and TCA.
(2)	Transfer the operator's line cord from the BOC line pack to the operator's line pack.
(3)	Set the HOT LISTEN/OFF switch on the auxiliary control unit to OFF.
	Hot line communications is disconnected from the ICC/TM operator.
f.	Press and release the TCO and TCA HOT pushbuttons.
	The TCO and TCA HOT pushbuttons extinguish.
g.	Press and release the TCO and TCA IRR pushbuttons.
	The TCO and TCA IRR pushbuttons illuminate.
h.	Contact the BOC per SOP and request communications with the battery.
	Communications is established between the TCO, TCA, and the BOC operator on the IRR net.
i.	Press and release the TCO and TCA IRR pushbuttons.
	The TCO and TCA IRR pushbuttons extinguish.
	IRR communications is disconnected from the TCO and TCA.
j.	Momentarily press the TCO RING pushbutton and establish communications with the ICC/TM operator.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
	NOTE All communications from steps 6.3 through 9*d* will be heard on the IRR network or hot line loops
6.3.	**Check Hot and IRR Secondary Mode Communications *(AF), *(D), *(T)[1].**
a.	Direct the ICC/TM operator to:
(1)	Set the HOT selector switch to HOT SEC.
(2)	Patch the switchboard operator's line cord into the HOT secondary line pack.
(3)	Set the SWBD TALK/HOT TALK switch to SWBD TALK.
(4)	Set the ringing switch on the switchboard operator's line pack to the RING BACK position and turn the ring crank several times. **Communications is established between the ICC/TM operator and the remote AN/GRC-106 operator on the hot secondary net.**
b.	Direct the AN/GRC-106 operator to wait approximately 30 seconds and then ring the ICC/TM.
c.	Before the AN/GRC-106 operator rings the ICC/TM, direct the ICC/TM operator to transfer the operator line cord to the operators line pack. **The hot secondary line pack signal flag is activated (white) and the buzzer sounds.**
d.	When the ICC/TM operator patches the operators line cord into the hot secondary line pack **The hot secondary line pack signal flag deactivates (black) and the buzzer stops.** **Communications is again established between the ICC/TM operator and the remote AN/GRC-106 operator.**
e.	Direct the ICC/TM operator to:
(1)	Set the IRR selector switch to IRR SEC.
(2)	Patch the switchboard operator's line cord into the IRR secondary line pack.
(3)	Set the ringing switch on the switchboard operator's line pack to the RING BACK position and turn the ring crank several times. **Communications is established between the ICC/TM operator and the remote AN/GRC-106 operator on the IRR secondary net.**
f.	Direct the AN/GRC-106 operator to wait approximately 30 seconds and then ring the ICC/TM.
g.	Before the AN/GRC-106 operator rings the ICC/TM, direct the ICC/TM operator to transfer the operators line cord into the operators line pack. **The IRR secondary line pack signal flag is activated (white) and the buzzer sounds.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
h.	When the ICC/TM operator patches the operators line cord into the IRR secondary line pack **The IRR secondary line pack signal flag deactivates (black) and the buzzer stops.**
7.	**Check ICC Communications *(AF), *(D), *(R)[1].** Repeat step 1.9 for the ICC/TM, substituting the ICC bus switch (27) and lamp (10). **Same as for step 1.9.**
8.	**Check Hot Line Communications *(AF), *(D), *(R)[1].**
a.	Set only the TCO, TCA, and ICC bus switches to their common positions.
b.	Adjust the VOL-L control (1) until **AADCP hot line communication is heard in the TCO headset.**
c.	Press and release the TCO HOT pushbutton (37). **The TCO HOT pushbutton illuminates.** **TCO communication with the AADCP is established over the hot line.**
d.	Press and release the TCA TALK (21) and HOT (19) pushbuttons. **The TCA TALK and HOT pushbuttons illuminate.** **TCA communication with the AADCP is established over the hot line, and monitored by the TCO.**
e.	Press and release the TCO and TCA HOT pushbuttons. **The TCO and TCA pushbuttons extinguish and hot-line communication is removed from only the TCA headset.**
9.	**Check IRR Network Communications *(AF), *(D), *(R)[1].**
a.	Adjust the TCA VOL-R control (18) until **AADCP IRR network communication is heard in the TCA headset.**
b.	Press and release the TCA IRR pushbutton (20). **The TCA IRR lamp illuminates.** **TCA verbal communication with the AADCP is established over the IRR network.**
c.	Press and release the TCO IRR pushbutton (35). **The TCO IRR pushbutton illuminates.** **TCO communication with the AADCP is established over the IRR network, and monitored by the TCA.**

[1]Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
9*d.*	Press and release the TCA and TCO IRR pushbuttons. **The TCA and TCO IRR pushbuttons extinguish and IRR communication is removed only from the TCO headset.**
10.	**Check Early Warning Radio Reception *(D)[1]** Direct the ICC operator to energize the R-392/URR radio set. **Early warning radio reception is heard over the IBCC speaker.**
11.	**Check Battery Command Network.**
	NOTE **Make certain that only the TCO, TCA, and ICC bus switches are set to common bus positions for this check. All other bus switches must be set to other positions, or completely off.**
a.	Direct the ICC operator to:
(1)	Cross patch the IBCC and AN/GSA-7 line packs.
(2)	Energize the AN/VRC-47 radio set group.
b.	Press (to talk) and release (to listen) the RADIO XMT pushbutton (11). **The ICC radio set group transmitter (RT-524/VRC) is keyed.** **TCO verbal communication is established with a remote AN/VRC-47.**
	NOTE **If normal indications are not obtained during steps 12 through 16, the orientation and alinement procedures in TM 9–1425–525–12–1 must be performed.**
12.	**Check IPAR Preparation.**
	Direct the IPAR operator to:
a.	Set the antenna SAFE-OPERATE switch to SAFE.
b.	Install the alinement telescope on the IPAR antenna.
c.	Manually rotate the antenna until the telescope is alined with the designated known reference point. **The azimuth mil vernier ring indicates the azimuth of the designated known reference point.**
d.	Remove the alinement telescope.
e.	Manually position the antenna to 800 as indicated on the azimuth mil vernier ring, and secure the antenna at this position with the azimuth stow lock.
f.	Set the LOCAL-REMOTE switch to REMOTE. **The STANDBY pushbutton (7, fig. 2-17) on the IPAR set control illuminates.**

[1] Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check — Continued

Step	Operation Normal indication Corrective procedure
13.	**Check ICC Preparation.**
a.	Direct the ICC operator to:
(1)	Make certain that the IFF control box switches are set as directed by the TCO.
	WARNING Make certain that all personnel are clear of the IFF antenna.
(2)	Set the ANT SAFE-OPERATE switch to OPERATE.
b.	Set the SCAN MODE switch (7, fig. 2-8) on the CWTDC to NORMAL.
c.	Set the test switch (3, fig. 3-12) on the scan servo amplifier (5, fig. 1-7) to OPERATE.
d.	Direct the ICC operator to insure that the operational program is loaded in memory, and that the ADP is in LOCAL.
14.	**Check ICWAR Preparation.**
	Direct the ICWAR operator to:
a.	Make certain that the AMPLIDYNE circuit breaker is set to ON.
b.	Record the setting of the boresight compensator and set it to indicate 0.
c.	Place the radar in false radiate.
	WARNING In step *c* below, the antenna will slew when placed in REMOTE.
d.	Verify that the antenna SAFETY SWITCH is set to OPERATE, and then set the LOCAL-REMOTE switch to REMOTE. **The CW RADAR STANDBY and RADIATE pushbuttons (4 and 6, fig. 2-8) on the CWTDC illuminate.**
15.	**Check IHIPIR Preparation.**
	Direct the operator at each IHIPIR to:
a.	Place the IHIPIR in false radiate.
b.	Position the antenna to approximately 100 mils in elevation.
c.	Set the antenna PEDESTAL SAFETY switch to SAFE.
d.	Manually position the antenna to 800 mils as indicated on the azimuth mil vernier ring.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
15*e*.	Set the LOCAL-REMOTE switch to REMOTE. **The FIRE SECTION ACTIVE pushbutton (6, fig. 2-11) on the appropriate FC illuminates.**
16.	**Check IROR Preparation.**
a.	Set the power switch (5, fig. 2-19) on the IROR electronic control amplifier to ON.
b.	Direct the IROR operator to:
(1)	Record the settings on both DISTANCE TO ILLUMINATOR indicators, and set the indicators to 0.
(2)	Set the STANDBY/RADIATE switch to RADIATE. **The RADIATE lamp (4, fig. 2-19) illuminates.** **WARNING** The antenna may move when the following step is performed.
(3)	Set the LOCAL-REMOTE switch to REMOTE.
17.	**Check Alinement.** **NOTE** To obtain accurate mil indication from the CORRELATION CURSOR counter, always view the counter from a point directly above the counter window.
a.	Verify that the test switch on the scan servo amplifier is set to OPERATE.
b.	Verify that the SCAN MODE switch on the CWTDC is set to NORMAL.
c.	Position the correlation cursor to a reading of 0800 on the CORRELATION CURSOR counter (7, fig. 2-2) using the correlation cursor handwheel on the TCC. **The sweep on the TCC CRT is stationary and coincident with the correlation cursor at 0800±10 mils as measured on the CORRELATION CURSOR counter.** Adjust the SERVO GAIN control (5, fig. 3-12) for no sweep oscillations.
d.	Set the CURSOR AZIMUTH MILS indicator to 0800 using the CW cursor handwheel on the CWTDC.
e.	Press and release the TCC ALERT pushbutton on the CWTDC. **The PSI cursor appears on the TCC CRT coincident with the correlation cursor at 0800±10 mils as indicated on the CORRELATION CURSOR counter.**
f.	Direct the ICWAR operator to set the antenna SAFETY SWITCH to SAFE, and insure that the antenna does not move from the indicated position.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
17*g.*	Set the scan mode switch on the CWTDC to CW.
	At the ICC, the auxiliary control unit CW ROTATE lamp is illuminated and the CASUALTY label is extinguished.
	At the auxiliary control unit, press the CW CASUALTY/ROTATE switch.
	The sweep on the TCC CRT is stationary and coincident with the correlation cursor at 0800±10 mils as measured on the CORRELATION CURSOR counter.
	The ICWAR antenna is positioned at 800±10 mils as indicated on the azimuth mil vernier ring.
h.	Press and release the ALERT CANCEL pushbutton.
i.	Direct the ICC operator to:
(1)	Set the ANT SYNC switch on the coder-decoder group antenna control to EXT.
	The ICWAR slaves the IFF antenna to 800±10 mils as indicated on the IFF antenna azimuth ring.
(2)	Set the INT ANT SYNC RPM switch on the coder-decoder group antenna control to 0.
(3)	Set the ANT SYNC switch to INT, and insure that the IFF antenna does not move from the indicated position.
(4)	Press the CW CASUALTY/ROTATE switch on the auxiliary control box.
	At the ICC, the auxiliary control unit CASUALTY label illuminates.
	NOTE The additional mil tolerance between the sweep and the correlation cursor below is due to the inherent IFF circuit loading in the ADP.
	The sweep on the TCC CRT is stationary and coincident with the correlation cursor 0800±50 mils as measured on the CORRELATION CURSOR counter.
j.	Set the SCAN MODE switch on the CWTDC to NORMAL.
k.	Direct the IROR operator to set the antenna SAFETY SWITCH to OPERATE.
l.	Position each FC azimuth cursor over the stationary sweep.
m.	Set the test switch on the scan servo amplifier to TEST ROTATE.
n.	Set the SYSTEM ACCURACY TEST switch (4, fig. 2-10) for each FC to ON.
	The IHIPIR azimuth repeatback mark is coincident with the azimuth cursor on each FC.
	Perform the check in table 3-14, step 11.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
17*o*.	Set the SYSTEM ACCURACY TEST switch for each FC to OFF.
	The IHIPIR azimuth repeatback marks on the TCC are coincident with the correlation cursor at 0800±10 mils as measured on the CORRELATION CURSOR counter.
	WARNING
	Notify the IROR operator that the antenna may slew in azimuth and elevation in step *p* below.
	WARNING
	Notify the IHIPIR operator that the antenna may slew in azimuth and elevation in step *p* below.
p.	Set the MANUAL ELEVATION control (3, fig. 2-13) at each FC to 200 mils, and direct each IHIPIR operator to set the antenna PEDESTAL SAFETY switch to OPERATE.
	The indications at the TCC are the same as in step *o* above.
	The IHIPIR remains at 800±10 mils as indicated on the azimuth mil vernier ring.
q.	Press and release the CALL pushbutton (14, fig. 2-11) on FC A.
	The IROR is at 800±10 mils as measured on the azimuth mil vernier ring.
r.	Press and release the RELEASE pushbutton (13, fig. 2-11) on FC A.
s.	Repeat steps *q* and *r* above for FC B.
t.	Notify the IROR operator that alinement checks are completed and direct him to:
(1)	Set the LOCAL-REMOTE switch to LOCAL.
(2)	Set the DISTANCE TO ILLUMINATOR indicators to the recorded readings in step 16*b*(1).
	WARNING
	Advise the ILCHR personnel that the ILCHR will slew in the following step.
u.	Direct the ICC personnel to:
(1)	Set the READER POWER switch to ON.
(2)	Set the INSTRUCTION INPUT dial switches on the CPU panel to 06044042.
(3)	Press the EXECUTE INPUT pushbutton 1 time.
	The tape advances to the battery check routine portion of the tape and stops.
(4)	Set the DATA INPUT dial switches on the CPU panel to 40000101.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
17*u*(5) Cont.	Set the LOCAL-REMOTE switch to REMOTE.
(6)	Press the DTO MANUAL RESET pushbutton.
(7)	Press the CPU RESET pushbutton.
(8)	Press the START/STEP/PULSE pushbutton 2 times.
	The battery check portion of the operational program is loaded and executed.
	The printer readout indicates: ACQ 793 to 807 mils. HPI A 793 to 807 mils. HPI B 793 to 807 mils.
v.	Set the SCAN MODE switch to CW.
w.	Direct the ICC operator to:
(1)	Press the DTO MANUAL RESET pushbutton.
(2)	Press the CPU RESET pushbutton.
(3)	Press the CW CASUALTY/ROTATE switch on the auxiliary control unit.
	The CASUALTY label illuminates.
(4)	Press the START/STEP/PULSE pushbutton 2 times.
	The printer readout indicates: ACQ 793 to 807 mils. HPI A 793 to 807 mils. HPI B 793 to 807 mils.
(5)	Press the DTO MANUAL RESET pushbutton.
(6)	Press the CPU RESET pushbutton.
(7)	Set the printer AUTO switch to OFF (up).
(8)	Set the INSTRUCTION INPUT dial switches on the CPU panel to 06044100.
(9)	Press the EXECUTE INPUT INSTRUCTION pushbutton.
	The tape rewinds to and stops at the block mark at the beginning of the battery routine.
x.	Direct the ICWAR personnel to return the boresight shift compensator adjust knob to the setting recorded in step 14*b*.
y.	Direct the ILCHR personnel to set the MAIN POWER switch to ON, the HYD PRESS switch to HYD PRESS, and the ALIGN switch to ALIGN on the launcher control for the ILCHR being checked.
	The ILCHR slews to the prerecorded zero azimuth +800±25 mils as computed from the ILCHR azimuth vernier ring.
	The ILCHR ELEVATION dial indicates 200±50 mils.
z.	Direct the ILCHR personnel to set the HYD PRESS, ALIGN, and MAIN POWER switches to off.
aa.	Repeat steps *y* and *z* for each of the remaining ILCHR's.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
17*ab*.	Notify the IHIPIR operators that alinement checks are completed and direct them to:
(1)	Set the LOCAL-REMOTE switch to LOCAL.
(2)	Return the radar to STANDBY.
ac.	Direct the IPAR operator to release the antenna azimuth stow lock, and to set the antenna SAFE-OPERATE switch to OPERATE.
18.	**Check Battery Display Alinement and Loop Test.**
a.	Set the REMOTE/LOCAL switch (4, fig. 3-9) on the cable entry enclosure to REMOTE.
b.	Set the SYMBOL DISPLAY switches (25, fig. 2-1) on the TCO panel assembly to ALL and NORMAL.
c.	Direct the ICC operator to energize the battery terminal equipment (BTE), and set the STATIC TEST switch to position 3.
	The FOE symbol (O) appears on the TCC indicator at an azimuth of 1600 mils and a range of 100 km.
	Adjust the TCC SWEEP AMPLITUDE control (3, fig. 3-18).
d.	Direct the ICC operator to set the STATIC TEST switch to position 4.
	The FOE symbol appears on the TCC indicator at an azimuth of 3200 mils and a range of 100 km.
	Adjust the TCC SWEEP AMPLITUDE control (3, fig. 3-18).
	NOTE Repeat steps *c* and *d* until the TCC SWEEP AMPLITUDE control satisfies both normal indications without further adjustment. If adjustments are made, perform that portion of table 3-14, step 7*b*, which adjusts the FCC SWEEP AMPLITUDE control for proper tracking symbol position.
e.	Direct the ICC operator to:
(1)	Set the STATIC TEST switch to NORM.
(2)	Set the AADCP/BTE/BTRY switch on the BTE to BTRY.
(3)	Set the NORM/OVERRIDE/MAN switch on the BTE to MAN.
	Perform steps *f* through *l*.1 for firing section A, and then repeat for firing section B.
f.	Press and release the ASSIGN LOW pushbutton (24, fig. 2-1) on the TCO panel assembly.
	The ASSIGN LOW pushbutton on the TCC illuminates.
	The ELEVATION LOW pushbutton (21, fig. 2-11) on the FC flashes, the ASSIGN lamp (24, fig. 2-11) illuminates, and the tracking symbol appears on the FC CRT.
g.	Press and release the ELEVATION LOW pushbutton on the FC.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
h.	Direct the IHIPIR operator to return the IHIPIR to full radiate and remote.
i.	Set the FIRE UNIT switch (5, fig. 2-11) on the FC A cover assembly to ACTIVE.
j.	Press and release the ELEVATION MANUAL pushbutton (20, fig. 2-11) on the FC and then set the MANUAL ELEVATION control (3, fig. 2-13) to 800 mils.
j.1	Press and hold the BREAKLOCK pushbutton.
	WARNING Do not release the BREAKLOCK pushbutton until IHIPIR personnel are clear of the antenna after the following step.
j.2	Direct the IHIPIR operator to verify that the antenna is positioned at 800 mils elevation, and to then set the elevation brake to ON.
j.3	Confirm that the IHIPIR operator has set the elevation brake to ON, and then release the BREAKLOCK pushbutton.
k.	Remove fuse F1 (2, fig. 2-19) from the IROR electronic control amplifier.
l.	Press and release the MANUAL SPEED and MANUAL RANGE pushbuttons and then adjust the manual range control until the IHIPIR RANGE DIAL indicates 56 km.
l.1	Position the tracking symbol dot at the intersection of the IHIPIR repeatback mark and the 40-km range ring. **The BDL symbol (+) appears on the TCC CRT and is positioned within the tracking symbol circle.**
m.	Repeat steps *f* through *l.1* above for firing section B, substituting the controls as necessary.
n.	Direct the IHIPIR operator to set the LOCAL/REMOTE switch to LOCAL, set the PEDESTAL SAFETY switch to SAFE, release the elevation brake, and then set the PEDESTAL SAFETY switch to OPERATE.
o.	Replace fuse F1 in the IROR electronic control amplifier.
p.	Direct the ICC/TM operator to:
(1)	Set the AADCP/BTE/BTRY switch to BTE.
(2)	Set the NORM/OVERRIDE/MAN switch to NORM.
19.	**Check IPAR Preparation.** Direct the IPAR operator to set the TERMINATE switch on the sweep and video chassis to REMOTE.
20.	**Check IPAR Set Control Panel Lamps.**
a.	Direct the IPAR operator to:
(1)	Release the antenna azimuth stow lock and remove the alinement telescope if present.
(2)	Set the antenna SAFE/OPERATE switch to OPERATE.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
(3)	Set the LOCAL/REMOTE switch to REMOTE.
b.	Press and hold the LAMP TEST pushbutton (9, fig. 2-17) on the IPAR set control (8, fig. 1-6).
	The RADIATE and STANDBY pushbuttons (5 and 7, fig. 2-17), the READY TO RADIATE lamp (6, fig. 2-17), and the PAR/ADP WARNING lamp (4, fig. 2-17) illuminate.
	The TEST lamp (2, fig. 2-17) flashes.
c.	Release the LAMP TEST pushbutton.
21.	**Check IPAR Remote Standby Operation.**
	NOTE
	Omit step *a* below if the IPAR is presently in standby.
a.	Momentarily set the pulse radar power switch (8, fig. 2-17) on the IPAR set control to ON.
	The STANDBY pushbutton (7, fig. 2-17) illuminates and the IPAR operates in standby.
b.	Momentarily set the pulse radar power switch to OFF.
	The STANDBY pushbutton extinguishes and the IPAR deenergizes.
c.	Momentarily set the pulse radar power switch to ON.
	The READY TO RADIATE lamp (6, fig. 2-17) illuminates within 4 to 6 minutes.
22.	**Check IPAR Remote Radiate Operation.**
	WARNING
	Alert the ICC/TM IPAR and ICWAR operators that the IPAR antenna is about to rotate.
a.	Set the test switch on the scan servo amplifier to OPERATE.
b.	Set the SCAN MODE switch on the CWTDC to NORMAL.
c.	Press and release the RADIATE pushbutton (5, fig. 2-17) on the IPAR set control.
	The STANDBY pushbutton extinguishes and the RADIATE pushbutton illuminates.
	The TCC and FC CRT sweeps rotate clockwise.
	The XMTR FREQ meter (2, fig. 2-18) on the IPAR frequency control (2, fig. 1-1) indicates the IPAR transmitter frequency.
	At the IPAR, the STANDBY pushbutton extinguishes, the RADIATE pushbutton illuminates, and the antenna rotates clockwise.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
23.	**Check IPAR Pulse Repetition Rate.** **NOTE** Notify the IPAR operator that the pulse repetition rate is to be checked.
a.	Set the pulse repetition rate selector switch (10, fig. 2-17) to the SHORT, BOTH, and LONG positions. **Verify that normal indications are observed at the IPAR for each position.**
b.	Set the pulse repetition rate selector switch to BOTH.
24.	**Check IPAR Remote Tuning.** **CAUTION** When increasing or decreasing frequency, do not drive to the stops.
a.	Set and hold the INCR-DECR switch (1, fig. 2-18) to INCR until the XMTR FREQ meter indicates +30. **The XMTR FREQ meter indication and the FREQ meter indication at the IPAR indicate within 3 scale divisions.**
b.	Set and hold the INCR-DECR switch to DECR until the XMTR FREQ meter indicates — 30. **The XMTR FREQ meter indication and the FREQ meter indication at the IPAR indicate within 3 scale divisions.**
c.	Set and hold the INCR-DECR switch to INCR until the prescribed numerical indication is obtained.
25.	**Check IPAR Moving Target Indication (MTI) Video.**
a.	Direct the IPAR operator to set the SYSTEM CONTROL switch to LOCAL and then back to REMOTE. **The IPAR remains in the radiate condition.**
b.	Set the video selector switch (3, fig. 2-5) on the video control panel (4, fig. 1-3) to MTI.
c.	Rotate the VIDEO gain control (7, fig. 2-3) on the TCC until **MTI video is present on the TCC CRT and varies in intensity.**
d.	Rotate the FC A and FC B VIDEO gain control (15, fig. 2-12) until **MTI video is present on the FC A and FC B CRT's and varies in intensity.**
e.	Set the MTI-DF/MTI switch (2, fig. 2-5) from MTI-DF to MTI, and then back to MTI-DF. **The MTI portion of the video on the TCC and FC CRT's changes as the switch is actuated.**

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
26.	**Check Sector of Interest.**
a.	Direct the ICC/TM operator to:
(1)	Set the ADP LOCAL/REMOTE switch to REMOTE.
(2)	Note the position of the RANGE WINDOW switch and set the switch to position 1.
b.	Set the SECTOR switch (3, fig. 2-17) to SECTOR.
c.	Press and hold the AZ TEST switch (5, fig. 2-3) on the TCO panel (1, fig. 1-3).
d.	Adjust the IFF VIDEO control (2, fig. 2-4) on the TCA control panel until
	Two intensified ADP sector rings (13, fig. 3-14) appear on the TCC CRT and indicate the azimuth sector of interest selected in the ICC/TM. The first sector ring is positioned at 40 ±1 km, and the second sector ring is positioned at 53 ±1 km.
27.	**Check Gated MTI Video.**
a.	Set the video selector switch to GATED.
	MTI video is displayed on the TCC and FC CRT's except for within the azimuth sector of interest, in which gated MTI video is displayed out to the second azimuth sector ring (53 ±1 km).
b.	Release the AZ TEST switch.
c.	Set the SECTOR switch to OFF.
d.	Direct the ICC/TM operator to set the RANGE WINDOW switch to the original position.
28.	**Check Video Integration.**
a.	Make certain that the video selector switch (4, fig. 2-5) is set to VI-BB/DF.
b.	Set the receiver mode switch (1, fig. 2-17) to BB.
c.	Rotate the VIDEO gain control on the TCC until
	Sufficient integrated back-bias video is displayed on the TCC CRT.
d.	Set the receiver mode switch to DF.
e.	Set the DF/DFF switch (11, fig. 2-17) to DF.
f.	Rotate the VIDEO gain control on the TCC until
	Sufficient integrated dicke-fix video is displayed on the TCC CRT.
g.	Set the DF/DFF switch to DFF.
h.	Rotate the VIDEO gain controls on the TCC and FC's.
	The video intensity is variable on the TCC and FC's.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
29.	**Check BB/DF.**
a.	Set the video selector switch to BB/DF.
b.	Set the DF/DFF switch to DF.
c.	**Rotate the VIDEO GAIN controls on the TCC and FC.**
	Dicke-fix video is displayed on the TCC and FC CRT's.
30.	**Check Side Lobe Blanking (SLB).**
a.	Set the receiver mode switch to AUTO.
b.	Set and hold the SLB switch (4, fig. 2-5) to SLB.
c.	Adjust the ZERO ADJUST control (4, fig. 2-18) until
	The SIG STR meter (3, fig. 2-18) indicates zero.
d.	Release the SLB switch to off (down).
e.	Set the video selector switch to GATED.
31.	**Check IFF Display.**
	NOTE
	The IFF antenna does not radiate during the following check.
a.	Direct the ICC operator to:
(1)	Energize the IFF equipment for normal operation.
(2)	**Make certain that the ANT SYNC switch on the coder-decoder group antenna control is set to EXT.**
(3)	**Make certain that the IFF TRIG SELECT switch on the coder-decoder group electrical synchronizer is set to EXT.**
	The IFF antenna rotates in synchronism with the IPAR antenna.
	After approximately 80 seconds all SELF TEST fault indicators are extinguished.
a.1.	**At the IBCC, set the POSITION switch (5, fig. 2-2) on the TCA panel assembly to position 1.**
a.2.	**Direct the ICC operator to:**
(1)	Set the PROCESSOR switch to BYPASS.
(2)	Set and hold the CHALLENGE switch to TEST.
	At the IBCC, an IFF video test pattern (1, fig. 3-47) is displayed without friend-tails on the TCC CRT.
(3)	Set the PROCESSOR switch to IN.
	The video test pattern is displayed with friend-tails.
(4)	**Repeat steps (1) through (3) above for positions 2 and 3 of the TCA panel POSITION switch.**
(5)	Release the CHALLENGE switch.
a.3.	**Perform the following steps only if the IFF equipment contains the KIR-1A/TSEC computer, otherwise proceed to step 31.1.**

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
31*a*.4.	Set the TCA panel POSITION switch to 4.
a.5.	Direct the ICC operator to:
(1)	Set and hold the CHALLENGE switch to TEST.
	The video test pattern is again displayed.
(2)	Release the CHALLENGE switch.
31.1.	**Check Manual Challenge.**
	NOTE
	The IFF antenna will radiate when the challenge switch (11, fig. 2-2) is actuated in the following check.
a.	Make certain the IFF AUTO CHALLENGE switch (9, fig. 2-2) on the TCA panel assembly is set to OFF.
	The OFF lamp (6, fig. 2-2) on the TCA panel assembly flashes.
b.	Set the POSITION switch (5, fig. 2-2) on the TCA panel assembly to position 1.
c.	Set and hold the code switch (10, fig. 2-2) on the TCA panel assembly to SIF REPLIES ALL.
d.	Set and hold the CHALLENGE switch (11, fig. 2-2) on the TCA panel assembly to CHALLENGE.
	The CHALLENGE lamp (3, fig. 2-2) illuminates.
	All IFF codes of mode 1 are displayed on the TCC CRT from targets of opportunity.
e.	Release the CHALLENGE switch.
f.	Release the code switch.
g.	Set and hold the CHALLENGE switch to CHALLENGE.
	The CHALLENGE lamp illuminates.
	Only the selected code for mode 1 is displayed on the TCC CRT from targets of opportunity.
h.	Release the CHALLENGE switch.
i.	Repeat steps *b* through *h* above for modes 2 and 3A (POSITION switch set to 2 and 3).
j.	Perform steps *b* through *h* above for mode 4 (POSITION switch set to position 4) only if the IFF equipment contains the KIR-1A /TSEC computer.
31.2.	**Check Automatic Challenge.**
	NOTE
	The IFF antenna radiates during the following check.
a.	Direct the ICC operator to:
(1)	Press the DTO MANUAL RESET pushbutton.
(2)	Press the CPU RESET pushbutton.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
31.2 *a.* Cont.	
(3)	Set the DATA INPUT dial switches on the CPU panel to 00000000.
(4)	Press the START/STEP/PULSE pushbutton 2 times.
	NOTE This terminates the battery routine and initiates execution of the operational program.
b.	If the IFF equipment contains the KIR-1A/TSEC computer, set the POSITION switch to 4; otherwise set the switch to position 3.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
31.2c. Cont.	Set the IFF AUTO CHALLENGE switch on the TCA panel assembly to NORMAL.
	The IFF AUTO CHALLENGE OFF lamp (6, fig. 2-2) extinguishes.
d.	Observe the following indications which occur only while inbound targets of opportunity are within the sector window.
	CHALLENGE lamp flashes as sweep passes through the target azimuth on first scan rotation following appearance of category symbol.
	Proper IFF video (friend-tails) is displayed adjacent to target.
	Category symbol disappears immediately following interrogation.
	Unidentified target (incorrect mode/code):
	The CHALLENGE lamp flashes as the sweep passes through the category symbol and will continue to challenge on subsequent scans depending on the category of the target.
	Category symbol remains over target.
e.	Set the IFF AUTO CHALLENGE switch to OFF.
f.	Direct the ICC/TM operator to stop the operational program, press the SINGLE INSTRUCTION and reset the DTO and CPU.
32.	**Check ICWAR Remote Standby Operation.**
a.	Direct the ICWAR operator to:
(1)	Set the antenna SAFETY SWITCH to SAFE.
(2)	Set the LOCAL/REMOTE switch to REMOTE.
b.	At the IBCC, set the SCAN MODE switch on the CWTDC to NORMAL.
c.	Set the test switch on the scan servo amplifier to OPERATE.
	NOTE
	Omit step *d* below if the radar was transferred from local to remote in the standby or radiate mode.
d.	Momentarily set the CWTDC CW RADAR POWER switch (5, fig. 2-8) to ON.
	The ICWAR goes to standby and the CW RADAR-STANDBY pushbutton illuminates.
33.	**Check ICWAR Remote Radiate Operation.**
	NOTE
	Wait 30 seconds before performing the following step. Omit the step, however, if the radar was previously transferred from local to remote in the radiate mode.
	Press and release the CW RADAR RADIATE pushbutton (6, fig. 2-8) on the CWTDC.
	The CW RADAR STANDBY and RADIATE pushbuttons are illuminated.
	The ICWAR goes to false radiate.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
34.	**Check ICWAR Local/Remote Switching.**
	Direct the ICWAR operator to:
a.	Set the LOCAL/REMOTE switch to LOCAL.
	The ICWAR remains in false (or full) radiate.
b.	Set the LOCAL/REMOTE switch to REMOTE.
	The ICWAR remains in false (or full) radiate.
35.	**Check ICWAR Scan.**
	WARNING
	Clear all personnel from the ICWAR antenna radius of rotation.
a.	Direct the ICWAR operator to:
(1)	Set the antenna SAFETY SWITCH to OPERATE.
	The ICWAR and IPAR antenna rotate.
(2)	Open the antenna control and power supply drawer, and connect an ac voltmeter across R1 in the azimuth control amplifier.
(3)	Adjust R36 on the azimuth control amplifier for a null on the ac voltmeter.
	The ac voltmeter indicates 500 mvrms maximum.
	Direct the ICWAR operator to adjust R21 on the azimuth control amplifier 1/4 turn clockwise, and to then readjust R36 for a null. Repeat this procedure until the normal indication above is obtained.
	The ICWAR and IPAR antennas rotate in synchronism.
(4)	Disconnect the ac voltmeter and close the drawer.
b.	Set the SCAN MODE switch on the CWTDC to CW.
c.	Direct the ICC/TM operator to make certain that the auxiliary control unit CASUALTY lamp is extinguished.
	The CW lamp (3, fig. 2-8) illuminates.
	At the ICC/TM, the CW ROTATE lamp on the auxiliary control unit illuminates.
	The TCC, FC A, and FC B sweeps rotate smoothly clockwise, and the CWTDC CRT sweep moves freely from left to right.
	The ICWAR antenna rotates in synchronism with the CRT sweeps.
	The IFF antenna rotates in synchronism with the ICWAR antenna.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
35.1.	**Check Casualty Scan Mode.**
a.	Direct the ICC/TM operator to:
(1)	Set the INT ANT SYNC RPM switch on the coder-decoder group antenna control to 20 CW.
(2)	Set the ANT SYNC SWITCH TO INT.
	The IFF antenna rotates clockwise at 20 rpm.
(3)	Press the CASUALTY/CW ROTATE switch on the auxiliary control unit.
	The auxiliary control unit CASUALTY lamp flashes.
	The TCC, CWTDC, FC A, and FC B CRT sweeps rotate smoothly clockwise.
(4)	Set the INT ANT SYNC RPM switch to 0.
	The IFF antenna and CRT sweeps stop rotating.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
35.1*a*. Cont. (5)	Press the CASUALTY/CW ROTATE switch.
	The CASUALTY lamp extinguishes, and the CRT sweeps rotate in synchronism with the ICWAR antenna.
b.	Set the TEST ROTATE switch on the scan servo amplifier to TEST ROTATE.
c.	Set the SCAN MODE switch to NORMAL.
	The CW lamp extinguishes.
36.	**Check ICWAR Target Video Presentation.**
	Direct the ICWAR operator to:
a.	Set the LOCAL/REMOTE switch to LOCAL.
b.	Set the antenna SAFETY SWITCH to SAFE.
	NOTE If the ICWAR is presently in the radiate mode, proceed to *d* below.
c.	Energize the ICWAR for full radiate condition.
	CAUTION Once the ICWAR magnetron has been activated, do not turn it off except for emergency purposes, or unless it has been operating for at least 15 minutes.
d.	Set all switches on the radar signal processor and memory drawer to OPERATE.
e.	Set the SIGNAL PROCESSOR TEST III switch to ASI 4-NORM.
	At the CWTDC, four bars are displayed on the CRT.
	At the TCC and FC's four bars are displayed in the speed rings on the CRT.
	Adjust the PSI VIDEO GAIN control (2, fig. 3-42).
f.	Set the SIGNAL PROCESSOR TEST III switch to OPERATE.
37.	**Check ICWAR Jamming Strobe.**
	Direct the ICWAR operator to:
a.	Set the LOWER RCVR/BITE TEST switch to RADAR FAIL LIGHTS 1.
	After a delay of 3 seconds, a jamming strobe (4, fig. 3-39) appears once on the CWTDC CRT and in the PSI rings on the TCC CRT (14, fig. 3-14).
	NOTE **If the jamming strobe was not observed, the check can be repeated by requesting the ICWAR operator to set the LOWER RECEIVER/BITE TEST switch to OPERATE and then back to RADAR FAIL LIGHTS 1.**
b.	Set the LOWER RCVR/BITE TEST switch to OPERATE.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
38.	**Check IHIPIR Remote Standby Operation.**
	NOTE Steps 38 through 54.1 must be performed at FC's A and B. Complete the checks at FC A before beginning those for FC B.
a.	Direct the IHIPIR operator to:
(1)	Make certain that the ADP/HPI switch on the control-indicator panel is set to HPI.
(2)	Set the LOCAL/REMOTE switch to REMOTE.
	NOTE Omit steps *b* through *e* below if the IHIPIR is to be transferred from local to remote in radiate.
b.	Direct the IHIPIR operator to make certain that the transmitter console door is closed.
c.	At the IBCC, press and release the FIRE SECTION STBY pushbutton (4, fig. 2-11) on the FC. **The FIRE SECTION STBY pushbutton illuminates and the IHIPIR goes to standby.**
d.	Press and release the FIRE SECTION OFF pushbutton (33, fig. 2-11) on the FC. **The FIRE SECTION STBY pushbutton extinguishes and the OFF pushbutton illuminates.** **The IHIPIR deenergizes.**
e.	Press and release the FIRE SECTION STBY pushbutton. **The IHIPIR goes to standby.** **The IHIPIR azimuth repeatback mark is displayed on the TCC (7, fig. 3-14) and FC (4, fig. 3-24) CRT's.**
39.	**Check IHIPIR Remote Radiate Operation.**
a.	If extinguished, press and release the ELEVATION MANUAL pushbutton (20, fig. 2-11) on the FC. **The ELEVATION MANUAL pushbutton illuminates.** **WARNING** Clear all personnel from the radar transmitted beam. **NOTE** Omit step *b* below if the IHIPIR is already in radiate.
b.	After 5 minutes, press and release the FIRE SECTION ACTIVE pushbutton (6, fig. 2-11) on the FC. **The FIRE SECTION STBY pushbutton extinguishes and the ACTIVE pushbutton illuminates.** **The IHIPIR antenna slews and goes into radiate.**

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
39*b*. Cont.	**The azimuth repeatback mark is coincident with the azimuth cursor (5, fig. 3-24) and the range repeatback mark (3, fig. 3-24) appears at 40 km on the FC CRT.** **NOTE** If the IHIPIR locks, press the BREAK LOCK pushbutton (17, fig. 2-10). Check the IHIPIR range. Adjust the SCOPE ADJUST control (5, fig. 3-35) on the range electronic control amplifier (22 or 13, fig. 1-7).
40.	**Check IHIPIR System Test.** **NOTE** The FC AUTO ASSIGN label must be extinguished for the following checks. Press NO KILL pushbutton if necessary.
a.	Press and release the IHIPIR test pushbutton (24, fig. 2-10) on the FC. **The ILLUM TEST pushbutton flashes.** **The range repeatback mark (3, fig. 3-24) appears within 2 km of the 30-km range point on the FC CRT.** **NOTE** The ILLUM FAIL label (10, fig. 2-10) may flash initially, and should then remain extinguished. If the ILLUM FAIL lamp flashes for more than 15 seconds or the flashing cycles on and off at the lock indication rate, have the IHIPIR operator perform the IHIPIR local system fault isolation procedures (TM 9–1430–533–12–2).
b.	Press and release the IHIPIR test pushbutton. **The IHIPIR test pushbutton extinguishes.**
41.	**Deleted.**
42.	**Check Ground Speed (Elevation).** Direct the IHIPIR operator to:
a.	Set the LOCAL/REMOTE switch to LOCAL.
a.1.	Insure that the test switch is set to LOCAL TEST.
a.2.	Set the auto-manual switch to AUTO TRACK.
a.3.	Set the EXERCISE switch to position 2 (SYSTEMS TEST).
b.	Set the LOCK switch to LOCK DISABLE.
c.	Rotate the MANUAL ELEVATION handwheel on the radar until the antenna elevation indicator ring on the radar elevation head indicates 1066 mils up, and set the elevation brake to ON.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
42*d.* Cont.	Set the lock switch to NORMAL. **The LOCK lamp (17, fig. 2-11) on the FC is illuminated.** **The TARGET SPEED meter (9, fig. 2-10) indicates between 700 and 900 kmph, and within 5 seconds indicates between 1400 and 1800 kmph.** **The SIGNAL STRENGTH meter (8, fig. 2-10) indicates between medium to high.** Direct the IHIPIR operator to check the ground speed computer calibration (TM 9—1430—533—12—1).
43.	**Check Target Altitude Meters.**
	Direct the IHIPIR operator to:
a.	Set the EXERCISE SWITCH to position 3 (RANGE CAL), and set the lock switch to LOCK DISABLE.
b.	Release the antenna elevation brake.
c.	Rotate the MANUAL ELEVATION control on the radar until the antenna elevation indicator ring on the IHIPIR elevation head indicates 533 mils up, and then set the antenna elevation brake to ON.
d.	Set the lock switch to NORMAL, then set the auto-manual switch to AUTO TRACK. **The TARGET ALTITUDE meter (25, fig. 2-10) on the FC and the appropriate TARGET ALTITUDE meter on the IBCC status indicator (6 or 7, fig. 2-14) indicates 14 to 16 km.**
e.	Set the EXERCISE SWITCH to position 1 (OFF).
f.	Set the auto-manual switch to MAN TRACK.
g.	Release the antenna elevation brake.
44.	**Check Destruct and Recycle Functions.**
a.	Direct the IHIPIR operator to set the LOCAL/REMOTE switch to REMOTE.
b.	Set the MANUAL ELEVATION control (3, fig. 2-13) on the FC to 400 mils.
c.	Direct the IHIPIR operator to monitor the coding output by setting the transmitter monitor group function switch to position 19 (coding deviation) and observing that the function meter indicates in the green area.
d.	Press and release the IHIPIR test pushbutton on the FC. **The ILLUM FAIL label extinguishes within 15 seconds.**
e.	Press and hold the destroy (D) pushbutton (16, fig. 2-10) on the FC. **The appropriate DESTROY pushbutton (6 or 15, fig. 2-1) on the TCC, the DESTROY label (15, fig. 2-10) on the FC, and the appropriate DESTROY label on the IBCC status indicator illuminate. The ILLUM FAIL label on the FC flashes.** **The IHIPIR transmitter monitor panel meter indication drops into the blue area.**

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
44*f*. Cont.	Release the destroy (D) pushbutton.
	The ILLUM FAIL label extinguishes within 15 seconds.
g.	Press and hold the appropriate DESTROY pushbutton on the TCC.
	The indications are the same as for e above.
g.1.	Release the DESTROY pushbutton.
h.	Press and hold the appropriate CHANGE TARGETS pushbutton (22 or 18, fig. 2-1) on the TCC. Do not hold for more than 30 seconds.
	The CHANGE TARGETS pushbutton on the TCC and the DESTROYED label on the IBCC status indicator illuminate.
	The TARGET ALTITUDE meter indication increases, the SIGNAL STRENGTH meter indication drops, and the TARGET SPEED meter indication sweeps.
	The DESTROY label on the FC illuminates and the ILLUM FAIL label flashes.
	The CHANGE TARGET label (14, fig. 2-10) on the FC flashes.
	Verify that the IHIPIR transmitter panel monitor meter indication at the IHIPIR drops into the blue area.
i.	Release the CHANGE TARGETS pushbutton.
j.	Press and hold the BREAK LOCK pushbutton (17, fig. 2-10) on the FC.
	The TARGET ALTITUDE meter indication increases, the SIGNAL STRENGTH meter indication drops, and the GROUND SPEED or TARGET SPEED meter indication sweeps. The ILLUM FAIL label flashes.
k.	Release the BREAK LOCK pushbutton.
	The ILLUM FAIL label extinguishes.
l.	Direct the IHIPIR operator to press and hold the S1 (recycle disable) pushbutton in tracking unit one.
	The COAST label (7, fig. 2-10) on the FC flashes for 9 to 11 seconds.
m.	Direct the IHIPIR operator to release the S1 pushbutton.
n.	Press and release the IHIPIR test pushbutton to remove the target.
	WARNING Clear all personnel from the IHIPIR transmitted beam during the performance of steps 45, 46, and 47.
45.	**Check Low Search.**
a.	Press and hold the BREAK LOCK pushbutton on the FC.

Table 3-17. Integrated System Check — Continued

Step	Operation **Normal indication** Corrective procedure
45*b*. Cont.	Press and release the ELEVATION LOW pushbutton on the FC. **The SEARCH lamp (18, fig. 2-11) on the FC flashes.**
c.	Direct the IHIPIR operator to verify that **The IHIPIR is in low search, and the limits are between −10±10 mils to 100±15 mils (or between the tactical setting −10±10 mils to 100±15 mils above the tactical setting).** Perform the adjustment below if the center angle is incorrect. If the limits (total excursion) are incorrect, direct the IHIPIR operator to place the radar in local and to then adjust the low search limits. **WARNING** If corrective procedure is necessary, make certain that the FC cover interlock (2, fig. 3-31) is open (do not bypass this interlock) and that the HI VOLT indicator lamps (1 and 5, fig. 3-17) on the 14-kv power supply are extinguished before adjusting the low search center angle. Return all major items to local operation, turn all presentation controls fully counterclockwise, and turn all CONSOLE POWER switches to off. Raise and secure the FC front cover (do not bypass the interlock). Adjust the center angle adjust control (1, fig. 3-31). Close the console front cover. Turn all CONSOLE POWER switches to ON, and adjust for normal presentation. Return all major items to remote. Repeat the procedure in *b* above.
d.	Release the BREAK LOCK pushbutton.
46.	**Check High Search.**
a.	Press and release the ELEVATION HIGH pushbutton (22, fig. 2-11) on the FC.
b.	Press and hold the BREAK LOCK pushbutton on the FC.
c.	Direct the IHIPIR operator to verify that **The IHIPIR is in high search, and the limits are 0±20 mils to 800±40 mils (or between the tactical setting ±20 mils to 800±40 mils above the tactical setting).** Instruct the IHIPIR operator to adjust limits.
d.	Release the BREAK LOCK pushbutton on the FC.
e.	Press and release the ELEVATION MANUAL pushbutton on the FC.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
47.	**Check Manual Azimuth Positioning.**
	WARNING Clear all personnel from the IHIPIR antenna radius of rotation.
a.	Press and hold the BREAK LOCK pushbutton.
b.	Rotate the azimuth handwheel on the FC 6400 mils clockwise and then counterclockwise. **The azimuth (tracking cursor follows the azimuth handwheel movement.**
c.	Direct the IHIPIR operator to verify that **The antennas followed the azimuth handwheel movement.**
d.	Release the BREAK LOCK pushbutton.
48.	**Check Manual Elevation Positioning.**
a.	Press and release the ELEVATION MANUAL pushbutton on the FC.
b.	Press and hold the BREAK LOCK pushbutton.
	WARNING Do not release the BREAK LOCK pushbutton until IHIPIR personne are clear of the antenna.
c.	Direct the IHIPIR operator to verify that **The antenna is elevated to between 390 and 410 mils.**
d.	Release the BREAK LOCK pushbutton.
48.1.	**Check High Altitude Switching.**
a.	Direct the IHIPIR operator to set the LOCAL/REMOTE switch to LOCAL, set the antenna to 89 mils elevation, set the elevation brake to ON, and then set the LOCAL/REMOTE switch to REMOTE.
b.	Set the firing interlock assembly test switch to HPI.
c.	Press and release the ASSIGN LOW A pushbutton on the TCC.
d.	Press and release the LOW pushbutton on FC A.
e.	Press and release the MANUAL SPEED pushbutton on FCA.
f.	Adjust the speed handwheel on FC A for 1000 km on the TARGET SPEED meter.
g.	Remove fuse F1 (2, fig. 2-19) from the IROR electronic control amplifier.

Table 3-17. Integrated System Check — Continued

Step	Operation Normal indication Corrective procedure
48.1*h.* Cont.	Press and release the RANGE MANUAL pushbutton (29, fig. 2-11) on FCA and adjust the range and rate control handwheel (15, fig. 2-11) until the IHIPIR A RANGE dial indicates 40 KM APPROACH. **The LOCK label on FC A illuminates.** **The IN RANGE label on the IBCC status indicator illuminates.**
	Direct the IHIPIR operator to set the INDICATOR SWITCH to LEAD ANGLE COMMAND TEST, and to then press and hold the CMD TEST pushbutton.
i.	Record the setting of the HEIGHT ABOVE SEA LEVEL dial (2, fig. 3-43) and set the dial to 0.0 feet. **The AUTO PILOT lamp (6, fig. 3-44) on the maintenance monitor panel is extinguished.**
j.	Slowly adjust the HEIGHT ABOVE SEA LEVEL dial until the AUTO PILOT lamp illuminates. **The HEIGHT ABOVE SEA LEVEL dial indicates from 7.5 to 9.5 thousand feet.**
k.	Direct the IHIPIR operator to release the CMD TEST pushbutton and to set the INDICATOR SWITCH to OFF. **The AUTO PILOT lamp extinguishes.**
l.	Replace fuse F1 into the IROR electronic control amplifier.
m.	Set the HEIGHT ABOVE SEA LEVEL dial to the indication recorded in step *i* above.
n.	Direct the IHIPIR operator to:
(1)	Set the LOCAL/REMOTE switch to LOCAL, and the PEDESTAL SAFETY switch to SAFE.
(2)	Release the elevation handbrake, and then set the PEDESTAL SAFETY switch to OPERATE.
o.	Momentarily press the BREAKLOCK pushbutton.
49.	**Check IHIPIR Transmitter Frequency.**
a.	Determine the pair of IHIPIR transmitter frequencies assigned to the battery as listed below.

Assigned Frequencies*

IHIPIR A	IHIPIR B
1	9
2	10
3	11
4	12
5	13
6	14
7	15

*Frequency 8 is a spare.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
49 *b.* Cont.	Direct the IHIPIR operator to:
(1)	Observe the position of the ASSIGNED FREQUENCY switch on transmitter panel no. 2.
	The ASSIGNED FREQUENCY switch is set to one of the assigned positions as determined in *a* above.
	If the ASSIGNED FREQUENCY switch is not set to the proper assigned frequency position, use the wavemeter test set to first check the present IHIPIR frequency. If the frequency is incorrect, return the transmitter to the proper frequency as specified in TM 9—1430—533—12—1. Then set the ASSIGNED FREQUENCY switch to the proper assigned frequency position.
(2)	Press and hold the FREQUENCY COMMAND TEST switch on transmitter panel no. 2.
(3)	Set the OUTPUT TEST switch to positions 1 through 4.
	The OUTPUT TEST lamp remains illuminated with the switch set to each position.
(4)	Release the FREQUENCY COMMAND TEST switch.
(5)	Set the OUTPUT TEST switch on the radar set group to positions 1 through 4 and observe the OUTPUT TEST lamp.
	The OUTPUT TEST lamp illuminates and extinguishes in accordance with the frequency command table shown below. The X's denote when the lamp should illuminate for a given OUTPUT TEST and ASSIGNED FREQUENCY switch position. For example, if the ASSIGNED FREQUENCY switch is set to position 13, the OUTPUT TEST lamp should illuminate when the OUTPUT TEST switch is set to positions 1 and 2, and extinguish when the OUTPUT TEST switch is set to positions 3 and 4.

OUTPUT TEST switch positions	ASSIGNED FREQUENCY switch positions														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	X		X		X		X		X		X		X		X
2	X	X			X	X			X	X			X	X	
3	X	X	X	X					X	X	X	X			
4	X	X	X	X	X	X	X	X							

50.	**Check Manual Range.**
a.	Direct the IHIPIR operator to:
(1)	Set the EXERCISE SWITCH to position 3 (RANGE CAL).
(2)	Set the TEST LOCAL/REMOTE switch on the control-indicator panel to REMOTE.
(3)	Set the auto-manual switch to AUTO TRACK.
	The range repeatback mark appears at approximately 30 km on the FC CRT.
b.	Press and release the RANGE MANUAL pushbutton (29, fig. 2-11) on the FC.
c.	Rotate the range and rate control (15, fig. 2-11) on the FC.
	The range repeatback mark changes in range on the FC CRT.
d.	Press and release the RANGE AUTO pushbutton (30, fig. 2-11) on the FC.

Table 3-17. Integrated System Check — Continued

Step	Operation Normal indication Corrective procedure
51.	**Check Target Doppler Plus Am.** Direct the IHIPIR operator to set the EXERCISE SWITCH to position 5 (EL LEAD ANGLE). **An amplitude-modulated doppler tone is heard on the FC headset.**
52.	**Check Interfering Target.**
a.	Direct the IHIPIR operator to set the EXERCISE switch to position 8 (STRONG TARGET).
b.	Make certain that the DISPLAY ENABLE pushbutton (31, fig. 2-11) is illuminated (press if necessary).
c.	Press and release the AUTO SPEED pushbutton.
d.	Adjust the VIDEO GAIN control (7, fig. 3-34) until **The IHIPIR target video (3, fig. 3-46) is displayed on the range/speed indicator (28, fig. 2-11).** **NOTE** Adjust the BAL ADJ control (2, fig. 3-34) to reduce any video noise.
e.	Set the test switch (3, fig. 3-34) on the display generator to CAL.
f.	Adjust the INT MARK CALIBRATE control (4, fig. 3-34) until **The cursor (5, fig. 3-46) is centered on the IHIPIR target video.**
g.	Set the test switch on the display generator to OP.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
53.	Check Special Lock.
a.	Direct the IHIPIR operator to:
(1)	Set the TOJ ENABLE/DISABLE switch to TOJ ENABLE.
(2)	Set the EXERCISE switch to position 22 (ML2).
b.	Set the CCM OVERRIDE switch (2, fig. 2-11) to the off position (CCM OVERRIDE label extinguished).
	At the IHIPIR, the SPECIAL LOCK lamp illuminates.
	The JAMMING label (16, fig. 2-11) on the FC flashes.
c.	Set the CCM OVERRIDE switch to the on position (CCM OVERRIDE label illuminated).
	At the IHIPIR, the SPECIAL LOCK lamp on the control-indicator panel extinguishes.
	The JAMMING label on the FC extinguishes.
d.	Set the CCM OVERRIDE switch to the off position.
e.	Direct the IHIPIR operator to:
(1)	Set the AUTO-MAN TRACK switch to MAN TRACK.
(2)	Set the EXERCISE SWITCH to position 1 (OFF).
54.	Check AFC HOLD.
a.	Press and release the AFC HOLD pushbutton (32, fig. 2-11).
	The AFC HOLD pushbutton illuminates.
b.	Direct the IHIPIR operator to set the transmitter monitor group function switch to position 20 (% MOD), and observe that the function meter indicates in the green area.
c.	Press and release the OFF pushbutton.
	The function meter at the IHIPIR indicates in the blue area.
d.	Direct the IHIPIR operator to:
(1)	Set the transmitter monitor group function switch to position 1 (off).
(2)	Set the test switch to LOCAL.
54.1.	Check Battery Routine.
a.	Direct the IHIPIR operator to set the LOCAL-REMOTE switch to REMOTE.
b.	Set the firing interlock assembly test switch (4, fig. 3-29) to ADP.
*b.*1.	Momentarily set the FC FIRE UNIT switch (5, fig. 2-11) to ACTIVE.
*b.*2.	Direct the ICC operator to:
(1)	Set the INSTRUCTION INPUT dial switches on the CPU panel to 06044042.
(2)	Set the DATA INPUT dial switches on the CPU panel to 40000301.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
54.1*b*.2. Cont.	
(3)	Press the DTO MANUAL RESET pushbutton.
(4)	Press the CPU RESET pushbutton.
(5)	Press the EXECUTE INPUT INSTRUCTION pushbutton. **The tape moves, loading the battery routine into the computer memory.**
(6)—(9)	(Deleted)
	WARNING Inform the IHIPIR operator that the battery check routine is in progress, and to therefore stand clear of the IHIPIR antenna until otherwise directed.
	WARNING Direct the ICC operator to make absolutely certain not to execute any of the battery check routine functions unless directed by the TCO.
(10)	Press the START/STOP/PULSE pushbutton 5 times. Each time wait for the program to halt before pressing the pushbutton again. **At the IHIPIR, the RANGE DIAL indicates 80±2 km.** Direct the IHIPIR operator to adjust variable resistor A9R25 in tracker 1, and then to perform step 35 in table 3-14 of TM 9–1430–533–12–1.
	NOTE The tactical setting of the IHIPIR elevation center angle search limit must be considered when observing for the elevation indications specified in steps (11) through (21) below.
(11)	Direct the ICC operator to reset the DTO and CPU, then press the START/STOP/PULSE pushbutton 2 times. **At the IBCC, the category I and II symbols (3 and 2, fig. 3-14) are displayed on the TCC CRT at zero ±10 mils azimuth at a range of 20±2 km.** **The IHIPIR azimuth repeatback mark is positioned at 0±10 mils azimuth centered within the azimuth search pattern.**
(12)	Direct the IHIPIR operator to observe for the following indications: **Elevation: Low search −10±10 to 100±15 mils.** **Range: 20±2 km.** **Speed: 1100±100 kmph.** **Azimuth lead angle: 275±50 mils ccw.** **Elevation lead angle: 400±50 mils down.**

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
54.1b.2. Cont.	
(13)	Direct the IHIPIR operator to stand clear of the antenna.
(14)	Direct the ICC/TM operator to press the START/STEP/PULSE pushbutton 1 time.
	At the IBCC, the category I and II symbols are displayed at 800 ± 10 mils azimuth at a range of 40 ± 2 km.
	The IHIPIR repeatback mark is positioned at 800 ± 10 mils azimuth centered within the azimuth search pattern.
(15)	Direct the IHIPIR operator to observe for the following indications.
	Elevation: Low search −10±10 to 100±15 mils.
	Range: 40 ± 2 km.
	Speed: 2200 ± 100 kmph.
	Azimuth lead angle: 175 ± 50 mils ccw.
	Elevation lead angle: 260±50 mils down.
(16)	Direct the IHIPIR operator to stand clear of the antenna.
(17)	Direct the ICC/TM operator to press the START/STEP/PULSE pushbutton 1 time.
	At the IBCC, the category I and II symbols are displayed at 1600 ± 10 mils azimuth at a range of 60 ± 2 km.
	The IHIPIR repeatback mark is positioned 1600 ± 10 mils azimuth centered within the azimuth search pattern.
(18)	Direct the IHIPIR operator to observe for the following indications.
	Elevation: Medium search 0±20 to 360±20 mils.
	Range: 60 ± 2 km.
	Speed: 3290 ± 200 kmph.
	Azimuth lead angle: 100 ± 50 mils ccw.
	Elevation lead angle: 125 ± 50 mils down.
(19)	Direct the IHIPIR operator to stand clear of the antenna.
(20)	Direct the ICC/TM operator to press the START/STEP/PULSE pushbutton 1 time.
	At the IBCC, the category I and II symbols are displayed at 2400 ± 10 mils azimuth at a range of 80 ± 2 km.
	The IHIPIR repeatback mark is positioned at 2400 ± 10 mils azimuth centered within the azimuth search pattern.
(21)	Direct the IHIPIR operator to observe for the following indications.
	Elevation: Medium search 0±20 to 360±20 mils.
	Range: 80 ± 2 km.
	Speed: Above 3700 kmph.
	Azimuth lead angle: 0 ± 50 mils.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
54.1*b*.2. Cont.	**Elevation lead angle: 0±50 mils.**
(22)	Direct the IHIPIR operator to set the LOCAL/REMOTE switch to LOCAL.
(23)	Direct the ICC/TM operator to reset the DTO and CPU and to set the CPU DATA INPUT switch to 0000000. The operational program is ready to start.
55.	**Check IHIPIR B.**
	Repeat steps 38 through 54.1 at FC B, using the appropriate controls and indicators.
55.1.	Check Dual Firing Lock-Through-Launch Function *(N)[1]
a.	Direct IHIPIR operators A and B to:
(1)	Set the PEDESTAL SAFETY switch to SAFE.
(2)	Position the antenna to 200 mils elevation and set the elevation brake.
(3)	Open the antenna group receiver door.
(4)	Set the receiver test set OSC POWER switch to ON, and the TEST FUNCTION switch to position 7.
(5)	Adjust the receiver test set LEVEL ADJ control until the IHIPIR locks with a high signal strength indication.
(6)	Set the LOCAL/REMOTE switch to REMOTE.
(7)	Set the INDICATOR SWITCH to LEAD ANGLE COMMAND TEST.
	The LOCK labels on FC A and FC B are illuminated.
	The SIGNAL STRENGTH meters on FC A and FC B indicate between medium to high.
b.	Direct only IHIPIR A operator to momentarily press the CMD TEST pushbutton.
	On FC A and FC B, the SIGNAL STRENGTH meter indications decrease for approximately 3 seconds from the time the CMD TEST pushbutton is released (duration of IHIPIR's A and B lock-through-launch cycle).
c.	Direct only IHIPIR B operator to momentarily press the CMD TEST pushbutton.
	The indications are the same as for step *b* above.
d.	Direct the IHIPIR operators to:
(1)	Set the INDICATOR SWITCH to OFF.
(2)	Set the OSC POWER switch to OFF.
(3)	Set the TEST FUNCTION switch to position 1.
(4)	Close the antenna group receiver door.
(5)	Release the elevation brake.
(6)	Set the PEDESTAL SAFETY switch to OPERATE.

[1] Refer to appendix E for serial number effectivity.

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
56.	**Check IROR Remote Energizing.**
a.	Direct IROR personnel to prepare the radar for remote operation.
	NOTE
	If the IROR is to be transferred from local to remote in an energized condition, insure that the power switch (5, fig. 2-19) on the IROR electronic control amplifier (15, fig. 1-7), is set to ON.
b.	Upon request of IROR personnel, set the power switch (5, fig. 2-19) to ON.
	CAUTION
	If at any time the RADIATE lamp flashes repeatedly, indicating IROR over-temperature, the radar should be deenergized until the cause of over-temperature can be determined and corrected.
	Within 5 minutes, the RADIATE lamp (4, fig. 2-19) illuminates steadily.
	Proceed to step 63 for the next daily.
57.	**Check Range Calibration.**
	NOTE
	This step must be performed at both FC A and FC B. Complete the checks for FC A before checking FC B.
a.	Press and release the ROR RECEIVE ONLY pushbutton (9, fig. 2-11) on the FC.
	The RELEASE pushbutton (13, fig. 2-11) illuminates and the IROR long sweep appears on the range/speed indicator.
b.	Remove fuse F1 1 AMP DEL (2, fig. 2-19) from the IROR electronic amplifier (15, fig. 1-7).
	NOTE
	Be careful not to press in the range and rate control handwheel (15, fig. 2-11) on the FC while performing steps *c* through *e* below.
c.	Rotate the range and rate control handwheel until
	The pedestal is at maximum range on the range/speed indicator.
	NOTE
	Direct IHIPIR personnel to observe the RANGE dial in steps *d* through *h* below.
d.	Direct the IHIPIR operator to:
(1)	Set the LOCAL/REMOTE switch to LOCAL.
(2)	**Set the EXERCISE SWITCH to position 20 (ML1).**
(3)	Set the auto-manual switch to AUTO TRACK.
	The LOCK lamp illuminates and the JAMMING label flashes on the FC.
	The range repeatback mark appears at 80±10 km on the FC and TCC CRT's, and the IHIPIR RANGE dial indicates 80±4 km within 10 seconds after the JAMMING label starts flashing.
	NOTE
	If the above normal indication cannot be obtained, direct the IHIPIR operator to set the EXERCISE switch to position 22 (ML2).

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
57.1*e.* Cont.	Rotate the range and rate control handwheel counterclockwise. **The range repeatback mark decreases in range on the FC and TCC CRT's, and the range indicated on the IHIPIR RANGE dial decreases.**
f.	Replace fuse F1 in the IROR electronic control amplifier.
g.	Press, hold, and rotate the range and rate control handwheel counterclockwise. **The IHIPIR RANGE dial indicates a receding target.** **NOTE** Do not release the range and rate control handwheel until step *h* has been completed.
h.	Rotate the range and rate control handwheel clockwise. **Verify that the IHIPIR RANGE dial indicates an approaching target.**
i.	Release the range and rate control handwheel. **After approximately 7 seconds, the FC A RELEASE pushbutton extinguishes and the sweep disappears from the range/speed indicator.**
j.	Request the IHIPIR operator to set the EXERCISE SWITCH to position 1 (OFF). **The LOCK lamp extinguishes.**
58.	**Check IROR Remote Tuning Frequency Control.**
a.	Direct the IHIPIR operator to set the LOCAL/REMOTE switch to REMOTE.
b.	Observe the frequency meters (12, fig. 2-11) on FC A and FC B. **Both meters display the same numerical indication.** **Verify that the frequency meter indication at the IROR is identical to the FC A and FC B meters.** If normal indication is not obtained, notify IROR personnel.
c.	Press and release the FC A CALL pushbutton (14, fig. 2-11). **NOTE** **If the IHIPIR acquires lock, press and release the BREAKLOCK pushbutton and then press and release the RANGE MANUAL pushbutton.**
d.	Adjust the MANUAL ELEVATION control and the azimuth handwheel to observe ground clutter on the FC A IROR indicator. **NOTE** Release the FC A FREQ switch when the meters stop in steps *e* and *f*.
e.	Set and hold the FC A FREQ switch (11, fig. 2-11) to increase (up). **The FC A and FC B frequency meters track smoothly and then stop at +5.** **The video will disappear during tuning but returns within 6 seconds after the frequency meters stop tracking.**
f.	Set and hold the FC A FREQ switch to decrease (down). **The frequency meters track smoothly and then stop at − 5.**

Table 3-17. Integrated System Check — Continued

Step	Operation / Normal indication / Corrective procedure
58*f*. Cont.	**The video disappears during tuning but returns within 6 seconds after the frequency meters stop tracking.**
g.	Return the frequency indication to zero.
h.	Press and release the FC A RELEASE pushbutton (13, fig. 2-11).
i.	Press and release the FC B CALL pushbutton.
j.	Repeat steps *d* through *g* above using the FC B FREQ switch and observe that the same indications occur.
k.	Set and hold the FC B FREQ switch until the frequency meters indicate the prescribed numerical indication.
l.	Press and release the FC B RELEASE pushbutton.
59.	**Check Detector Back Bias (DBB).**
	WARNING Clear all personnel from the IHIPIR transmitted beam during the performance of this step.
	NOTE This step must be performed at both FC A and FC B. Complete the check at FC A before checking FC B.
a.	Press and release the CALL pushbutton.
	The RELEASE pushbutton illuminates and the IROR long sweep with receiver noise appears on the range/speed indicator.
b.	Press and release the ELEVATION MANUAL pushbutton.
c.	Using the MANUAL ELEVATION control and the azimuth handwheel, position the IHIPIR antenna until ground clutter is observed on the IROR indicator.
	NOTE When performing steps *d* and *e* below, it may be necessary to alternately press and release the ROR DBB pushbutton switch while observing the ground clutter level on the IROR indicator for a definite change.
d.	Press and hold the ROR DBB pushbutton (10, fig. 2-11).
	The ground clutter level on the range/speed indicator changes.
e.	Release the ROR DBB pushbutton.
	The ground clutter level on the range/speed indicator changes.
f.	Press and release the RELEASE pushbutton.
	The RELEASE pushbutton extinguishes and the IROR long sweep disappears from the range/speed indicator.
g.	Return the IHIPIR antenna to 200 mils elevation.
h.	Repeat steps *a* through *g* above at FC B using the appropriate controls and indicators.
i.	Press and release the FC A CALL pushbutton.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
60.	**Check IROR Assignment Termination.**
	NOTE This step must be performed at both FC A and FC B. Complete the check at FC A before checking FC B.
a.	Press and release the KILL pushbutton (1, fig. 2-13) on the FC control panel.
	The RELEASE pushbutton extinguishes and the IROR long sweep disappears from the range/speed indicator.
	The KILL pushbutton illuminates immediately and then extinguishes in 8 to 12 seconds.
b.	Press and release the CALL pushbutton.
	The RELEASE pushbutton illuminates and the IROR long sweep appears on the range/speed indicator.
c.	Press and release the NO KILL pushbutton (2, fig. 2-13) on the FC control panel.
	The RELEASE pushbutton extinguishes and the IROR long sweep disappears from the range/speed indicator.
	The NO KILL pushbutton illuminates immediately and then extinguishes in 8 to 12 seconds.
d.	Press and release the CALL pushbutton.
	The RELEASE pushbutton illuminates and the IROR long sweep appears on the range/speed indicator.
e.	Press and hold the BREAK LOCK pushbutton.
	The RELEASE pushbutton extinguishes and the IROR long sweep disappears from the range/speed indicator.
f.	Release the BREAK LOCK pushbutton.
g.	Press and release the CALL pushbutton.
	The RELEASE pushbutton illuminates and the IROR long sweep appears on the range/speed indicator.
h.	Press and hold the appropriate CHANGE TARGETS pushbutton on the TCC.
	The RELEASE pushbutton extinguishes and the IROR long sweep disappears from the range/speed indicator.
i.	Release the CHANGE TARGETS pushbutton.
j.	Press and release the FC B CALL pushbutton.
k.	Repeat steps *a* through *i* above at FC B using the appropriate controls and indicators.
61.	**Check Automatic Priority Selection.**
a.	Direct IHIPIR operators A and B to set the LOCAL/REMOTE switch to LOCAL.
b.	Press and release the FC A ELEVATION MANUAL pushbutton.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
61*c*. Cont.	Press and release the A-ASSIGN HIGH pushbutton on the TCC. **The ASSIGN HIGH pushbutton on the TCC illuminates. The ELEVATION HIGH pushbutton on the FC A is flashing.**
d.	Press and release the ELEVATION HIGH pushbutton on FC A.
e.	Request the IHIPIR A operator to set the EXERCISE switch to position 22 (ML2) and to set the auto-manual switch to AUTO TRACK. **After approximately 2 seconds, a normal sweep appears on the FC A range/speed indicator. The RELEASE pushbutton and LOCK label illuminate and the FC A JAMMING label flashes. The range repeatback mark indicates the position of the IROR long sweep pedestal.**
f.	Press and release the FC B ELEVATION MANUAL pushbutton.
g.	Press and release the B-ASSIGN HIGH pushbutton on the TCC. **The ASSIGN HIGH pushbutton on the TCC illuminates. The FC B ELEVATION HIGH pushbutton illuminates.**
g.1.	Press and release the FC B ELEVATION HIGH pushbutton.
h.	Request the IHIPIR B operator to set the EXERCISE switch to position 22 (ML2) and the auto-manual switch to AUTO TRACK. **The IROR remains slaved to IHIPIR A.**
i.	Press and release the FC B CALL pushbutton. **The IROR antenna remains slaved to IHIPIR A.**
j.	Direct the IHIPIR A operator to set the auto-manual switch to MAN TRACK. **The LOCK and JAMMING labels extinguish.**
k.	Press and release the FC A BREAK LOCK pushbutton. **The IROR long sweep disappears from the FC A range/speed indicator. The RELEASE pushbutton extinguishes.** **A IROR long sweep appears on the FC B range/speed indicator.** **The RELEASE pushbutton illuminates.** **The IROR is slaved to IHIPIR B.**
l.	Request the IHIPIR A operator to set the EXERCISE switch to position 1 (off).
m.	Press and release the FC A CALL pushbutton. **The FC A CALL pushbutton illuminates, but the IROR does not switch over to the FC A.**
n.	Direct the IHIPIR B operator to set the auto-manual switch to MAN TRACK. **The LOCK and JAMMING labels extinguish.**
o.	Press and release the FC B BREAK LOCK pushbutton. **The IROR long sweep disappears from the FC B range/speed indicator. The RELEASE pushbutton extinguishes.**

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
61*o.* Cont.	**A IROR long sweep appears on the FC A range/speed indicator. The RELEASE pushbutton illuminates and the CALL pushbutton extinguishes.**
	The IROR is slaved to IHIPIR A.
p.	Press the FC B CALL pushbutton.
	The FC B CALL pushbutton illuminates, but the IROR does not switch over to the FC B.
q.	Press the FC A RELEASE pushbutton.
	The IROR long sweep disappears from the FC A range/speed indicator. The FC A RELEASE pushbutton extinguishes.
	A IROR long sweep appears on the FC B range/speed indicator. The RELEASE pushbutton illuminates and the CALL pushbutton extinguishes.
	The IROR is slaved to IHIPIR B.
r.	Press and release the FC A RECEIVE ONLY pushbutton.
	The FC A RECEIVE ONLY pushbutton illuminates, but the IROR does not switch over to the FC A.
s.	Press the FC B RELEASE pushbutton.
	The FC B RELEASE pushbutton extinguishes and the normal sweep (long) disappears from the FC B range/speed indicator.
	The FC A RELEASE pushbutton illuminates and the RECEIVE ONLY pushbutton extinguishes. The IROR long sweep appears on the FC A range/speed indicator.
	The IROR is slaved to IHIPIR A.
t.	Press the FC B RECEIVE ONLY pushbutton.
	The FC B RECEIVE ONLY pushbutton illuminates, but the IROR does not switch over to the FC B.
u.	Press the FC A RELEASE pushbutton.
	The FC A RELEASE pushbutton extinguishes and the IROR long sweep disappears from the FC A range/speed indicator.
	The FC B RELEASE pushbutton illuminates and the FC B RECEIVE ONLY lamp extinguishes. A IROR long sweep appears on the FC B range/sweep indicator.
	The IROR is slaved to IHIPIR B.
v.	Press the FC B RELEASE pushbutton.
	The FC B RELEASE pushbutton extinguishes and the IROR long sweep disappears from the FC B range/speed indicator.
	The IROR remains slaved to IHIPIR B.
w.	Direct the IHIPIR B operator to set the EXERCISE switch to position 1 (OFF).

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
62.	**Check High Error Sensing.**
a.	Direct the IHIPIR B operator to:
(1)	Rotate the antenna until the IHIPIR B azimuth repeatback mark is displaced 2400 mils from the IHIPIR A azimuth repeatback mark on the TCC CRT.
(2)	Set the LOCAL/REMOTE switch to REMOTE.
b.	Press and release the FC B CALL pushbutton.
	The FC B RELEASE pushbutton illuminates, and the IROR sweep appears on the FC B range/speed indicator.
c.	Press and release the FC B BREAK LOCK pushbutton.
	The FC B RELEASE pushbutton extinguishes.
*c.*1	Rotate the FC A and FC B range and rate control fully clockwise.
d.	Direct the IROR operator to observe the HIGH ERROR lamp on the IROR amplifier computer test set and to immediately notify the IBCC when it illuminates and extinguishes.
	NOTE
	The indications in step *e* occur within 2 seconds and must be observed closely.
e.	Direct the IHIPIR A operator to:
(1)	Set the EXERCISE switch to position 22 (ML2).
(2)	Set the auto-manual switch to AUTO TRACK and, when the sweep appears, press and hold the FC A range and rate control handwheel.
	After approximately 2 seconds, a short sweep appears on the FC A range/speed indicator. The RELEASE pushbutton and LOCK lamp illuminate, and the JAMMING label illuminates.
	When the HIGH ERROR lamp on the IROR amplifier computer test set extinguishes, the range repeatback mark on FC A moves from 40 km to approximately 80 km.
f.	Release the FC A range and rate control handwheel.
	After approximately 7 seconds, the FC A RELEASE pushbutton extinguishes and the sweep disappears on the FC A range/speed indicator.
g.	Direct the IROR operator to observe the HIGH ERROR lamp on the IROR amplifier computer test set and to immediately notify the IBCC personnel when it illuminates and extinguishes.
h.	Direct the IHIPIR A operator to:
(1)	Set the EXERCISE SWITCH to position 1 (OFF).
(2)	Set the AUTO-MAN TRACK switch to MAN TRACK.
i.	Direct the IHIPIR B operator to:
(1)	Set the LOCAL/REMOTE switch to LOCAL.
(2)	Set the EXERCISE switch to position 22.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
(3)	Set the auto-manual switch to AUTO TRACK.
j.	When the sweep appears, press and hold the FC B range and rate control handwheel.
	After approximately 2 seconds, a short sweep appears on the FC B range/speed indicator. The RELEASE pushbutton, LOCK lamp, and JAMMING label illuminate.
	When the HIGH ERROR lamp on the IROR amplifier computer test set extinguishes, the range repeatback mark on FC B moves from 40 km to approximately 80 km.
k.	Release the FC B range and rate control handwheel.
	After approximately 7 seconds, the FC B RELEASE pushbutton extinguishes, and the sweep disappears from the FC B range/speed indicator.
l.	Direct the IHIPIR B operator to set the auto-manual switch to MAN TRACK.
	The FC B JAMMING label extinguishes.
m.	Direct the IHIPIR operator to:
(1)	Set the EXERCISE SWITCH to position 1 (off).
(2)	Set the LOCAL/REMOTE switch to REMOTE.
n.	Press and release the FC A and FC B MANUAL ELEVATION pushbuttons.
63.	**Check Target Acquisition Function — Normal Mode.**
	NOTE
	Perform this step only if targets of opportunity are available.
a.	Make certain that the FIRE MODE switch (3, fig. 2-1) on the TCC is set to NORMAL.
b.	Momentarily set the RESUME FIRE/CEASE FIRE switches (16 and 23, fig. 2-1) to CEASE FIRE.
c.	Make certain the IFF AUTO CHALLENGE switch (9, fig. 2-2) is set to OFF.
d.	Direct the crew chief to set the ILSCB LAUNCHERS 1, 2, and 3 SAFE/OPERATE switches to SAFE.
e.	Set the FIRE UNIT switch (5, fig. 2-11) on FC A to ACTIVE.
f.	Set the test switch (4, fig. 3-29) on firing interlock assembly A (2, fig. 1-7) to ADP.
g.	Direct the IPAR and ICWAR operators to set the LOCAL/REMOTE switches to REMOTE.
h.	Energize the IPAR and ICWAR to full radiate and rotate.
i.	Direct the ICC/TM operator to start the operational program.
	NOTE
	Steps *j* and *k* below must be performed while the category I or II pushbuttons (8 and 21, fig. 2-1) on the TCC are illuminated, which will be for a period of 12 to 15 seconds.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
63*i*.1. Cont.	When a target of opportunity is acquired: **At the IBCC, the category I or II symbol (3 or 2, fig. 3-14) appears on the TCC CRT, and the category I or II pushbutton illuminates.**
j.	Press and release the appropriate illuminated category pushbutton. **The AUTO ASSIGN label (9, fig. 2-1) on the TCC illuminates, and the IHIPIR searches, locks, and tracks the designated target.**
k.	When a target of opportunity is acquired, set the REFUSE switch (20, fig. 2-1) on the TCC toward the firing section displaying the category I or II symbol. **The category I or II symbol disappears from the TCC CRT and the category I or II pushbutton extinguishes.**
l.	Direct the ICC/TM operator to stop the program.
64.	**Check ILCHR Preparation.**
a.	Direct the crew chief to set the ILSCB LAUNCHER 1, 2, and 3 SAFE/OPERATE switches to SAFE.
	NOTE Omit step *b* below if the simulator station is not connected to the system.
b.	Direct the FC A operator to press the SIMULATOR pushbutton on the instructor's control-indicator in order to disconnect the simulator station from the system.
c.	Direct the ILCHR 1 personnel of firing section A to:
(1)	Set the ALIGN switch on the launcher control unit (LCU) to OFF.
(2)	Set the MAIN POWER switch on the LCU to OFF.
(2.1)	Insure that the missile SAFE/ARM levers are set to SAFE on arms A, B, and C.
(3)	Disconnect the umbilical cables from the missiles on arms A, B, and C and install the shorting plugs into the missile.
(4)	Connect three miniature guided-missile simulators to the ILCHR umbilical plugs on arms A, B, and C.
(5)	Set the MAIN POWER switch on the LCU to ON.
(6)	Set the HYD PRESS switch to HYD PRESS.
(7)	Set the LOCAL/REMOTE switch to LOCAL.
d.	Direct the IHIPIR operator to:
(1)	Set the LOCAL/REMOTE switch to LOCAL.
(2)	Set the ADP/HPI switch to HPI.
(3)	Set the auto-manual switch to MAN TRACK.
(4)	Set the TEST LOCAL-REMOTE switch to LOCAL.
(5)	Set the master oscillator and power amplifier BEAM circuit breakers to OFF.
(6)	Insure that the computer ELEVATION indicator dial indicates 0 ± 50 mils.
(7)	Remove the LEAD ANGLE COMPUTER MOTORS fuse from the main fuse panel.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
64*d*. Cont.	
(8)	Set the elevation handwheel to zero mils.
(9)	Set the azimuth handwheel to the azimuth of the ILCHR.
	WARNING
	Clear all personnel from the ILCHR radius of rotation.
d.1.	Direct the ILCHR operator to set the ALIGN switch to ALIGN.
	The ILCHR boom moves to the azimuth of the IHIPIR.
d.2.	Direct the IHIPIR operator to:
(1)	Record the setting of the stowed synchro and set the synchro to 200 mils.
(2)	Set the INDICATOR SWITCH to LEAD ANGLE COMMAND TEST.
(3)	Press and hold the CMD TEST pushbutton.
	The ILCHR 1 boom is positioned at 200 ± 50 mils elevation.
(4)	Slowly rotate the elevation handwheel to 400 mils and then back to zero mils.
	The ILCHR 1 boom follows the elevation handwheel, but does not go below 200 ± 50 mils elevation.
(5)	Set the stowed synchro to 460 mils.
	The ILCHR 1 boom is positioned at 460 ± 50 mils elevation.
(6)	Set the stowed synchro to zero mils.
	The ILCHR boom is positioned at 0 ± 50 mils elevation.
(7)	Release the CMD TEST switch.
(8)	Replace the LEAD ANGLE COMPUTER MOTORS fuse.
(9)	Set the elevation handwheel to 200 mils.
(10)	Set and hold the APPROACH/RECEDE switch to APPROACH (approach test problem).
	The IHIPIR computer AZIMUTH indicator dial indicates between 225 and 275 mils CW, and the ELEVATION dial indicates between — 5 to +75 mils.
(11)	Remove the LEAD ANGLE COMPUTER MOTORS fuse.
(12)	Release the APPROACH/RECEDE switch.
(13)	Make certain that the computer AZIMUTH and ELEVATION dials still indicate as specified in (10) above.
d.3.	Direct the ILCHR operator to record the boom azimuth position.
	WARNING
	Clear all personnel from ILCHR radius of rotation.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
64*d*.4. Cont.	Direct the IHIPIR operator to:
(1)	Press and hold the CMD TEST pushbutton.
	The ILCHR 1 boom moves 250 ± 50 mils clockwise from the recorded position, and elevates to between 195 to 275 mils elevation.
(2)	Release the CMD TEST switch.
(3)	Replace the LEAD ANGLE COMPUTER MOTORS fuse.
d.5.	Direct the ILCHR operator to:
(1)	Set the ALIGN switch to OFF.
(2)	Set the HYD PRESS switch to OFF.
(3)	Set the LOCAL/REMOTE switch to REMOTE.
d.6.	Direct the IHIPIR operator to:
(1)	Set the PEDESTAL SAFETY switch to SAFE.
	NOTE The IHIPIR antenna must be positioned at least 300 mils from any ILCHR azimuth cut-out area.
(2)	Manually position the IHIPIR antenna to 200 mils elevation and in the general direction of the ILCHR azimuth setting of the day.
(3)	Set the elevation brake to BRAKE.
(4)	Set the PEDESTAL SAFETY switch to OPERATE.
(5)	Set the LOCAL/REMOTE switch to REMOTE.
	WARNING Make certain that the system is operating in the cease fire mode (step *e* below) until otherwise directed.
e.	Momentarily set the RESUME FIRE-CEASE FIRE switch (23 or 16, fig. 2-1) on the TCC to CEASE FIRE.
	Appropriate firing console, and IBCC status indicator CEASE FIRE labels illuminate.
f.	Direct the crew chief to:
(1)	Indicate the setting of the ILSCB MSL COUNT DELAY switch.
	NOTE If the switch is set to ABOVE 18°C (65°F), the missile count and missile present indications at the IBCC will be delayed from 2 minutes 25 seconds to 2 minutes 55 seconds after the ILCHR goes to standby. If the switch is set to BELOW 18°C (65°F), the delay is from 4 minutes 15 seconds to 5 minutes 45 seconds.
(2)	Set the ILSCB ILCHR 1 SAFE/OPERATE switch to OPERATE.
	ILCHR 1 goes to standby (launcher 1 select pushbutton (21, fig. 2-10) illuminates).

Table 3-17. Integrated System Check—Continued

Step	Operation Normal indication Corrective procedure
64*f*. Cont.	**At the ILSCB, the STANDBY CMD lamp and MISSILE READY A, B, and C lamps for launcher 1 are illuminated.** **After the required time delay (see (1) above), the appropriate MISSILE COUNT HE indicator on the IBCC status indicator indicates a count of 3, and all three launcher 1 missile present lamps (22, fig. 2-10) on the FC illuminate.**
65.	**Check Frequency and Message Commands.**
	NOTE Perform only steps *a* through *g* if the ADP is connected. If the ADP is not connected perform only steps *h* and *i*.
a.	Direct the ICC/TM operator to:
(1)	Start the operational program.
(2)	Set the ADP LOCAL/REMOTE switch to REMOTE.
	NOTE To reset, direct the ICC/TM operator to stop the program, momentarily press the CPU RESET and DTO MANUAL RESET pushbuttons, and restart the program.
b.	Set the test switch on the firing interlock assembly to ADP.
c.	Set the FIRE UNIT switch on the FC to ACTIVE.
	The FS AVAIL lamp (27, fig. 3-44) is illuminated.
d.	Press and hold the FC BREAK LOCK pushbutton.
e.	Momentarily press the FC NO KILL pushbutton.
	NOTE Neither firing section should be assigned or locked while performing the following step. Press the FC BREAKLOCK and NO KILL pushbuttons as required.
f.	Direct the crew chief to:
(1)	Set and hold the FREQ/MSG CMD TEST switch to the up position.
	The MISSILE MESSAGE A, B, and C lamps (1, 2, and 3 fig. 3-44), LEAD ANGLE lamp (5, fig. 3-44), and AUTO PILOT lamp (6, fig. 3-44) illuminate. **At the ILSCB, the LAUNCHERS FREQ CMD and LAUNCHERS MSG CMD TEST lamps illuminate for ILCHR 1.**
(2)	Release the FREQ/MSG CMD TEST switch.
g.	Release the BREAKLOCK pushbutton.
	NOTE Perform steps *h* and *i* below if the ADP is not connected.
h.	Set the firing interlock assembly test switch to HPI.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
65*i*. Cont.	Direct the crew chief to:
(1)	Set and hold the FREQ/MSG CMD TEST switch to the up position. **The LEAD ANGLE lamp (5, fig. 3-44) and AUTO PILOT lamp (16, fig. 3-44) illuminate.** **At the ILSCB, the LAUNCHERS FREQ CMD TEST lamp illuminates for ILCHR 1.**
(2)	Release the FREQ/MSG CMD TEST switch.
66.	**Check ILCHR 1 Firing Function.**
a.	Press and release the ASSIGN LOW pushbutton (24, fig. 2-1) on the TCO control panel. **The ASSIGN LOW pushbutton on the TCC illuminates.** **The ELEVATION LOW pushbutton (21, fig. 2-11) on the FC flashes, the ASSIGN lamp (24, fig. 2-11) illuminates, and the tracking symbol appears on the FC CRT.**
b.	Press and release the ELEVATION LOW pushbutton on the FC. **The tracking symbol on the FC CRT disappears.**
c.	Press the FC MANUAL SPEED pushbutton and set a target speed of 800 KMPH on the TARGET SPEED meter by turning the speed control (19, fig. 2-11).
d.	Press the MANUAL RANGE pushbutton and then, with the range and rate control, set in a range of less than 80 km with a slow approach rate. **The IBCC status panel IN RANGE label illuminates when approximately 52 km (ADP mode) or 58 km (IHIPIR mode) range is reached.**
	NOTE The IN RANGE label must remain illuminated while the firing functions are being performed. Repeat step *d* as required.
	WARNING Make certain that the missile umbilical cables are disconnected, and shorting plugs are installed, to prevent accidental firing or injury to personnel while performing these checks.
	WARNING Clear all personnel from the ILCHR radius of rotation.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
66. Cont.	**NOTE** In the following step have the ILCHR personnel observe that: the ARM and GYRO lamps on the miniature guided-missile simulator momentarily illuminate, the ILCHR boom moves to the position of the IHIPIR in azimuth and elevation, lead angle (as indicated on the IHIPIR computer AZIMUTH and ELEVATION indicator dials) is observed for approximately 3 seconds, the INITIATE lamp momentarily illuminates, the boom returns to the approximate azimuth and elevation of the IHIPIR, after 25 seconds the boom returns to the azimuth and elevation settings of the LCU. The launcher returns to standby 40 seconds after the fire command is given.
e.	Set the RESUME FIRE-CEASE FIRE switch on the TCC to RESUME FIRE. **The fire (F) pushbutton (18, fig. 2-10) illuminates.**
f.	Give the fire section personnel a 5-second countdown to fire, then press and release the fire (F) pushbutton on the FC. **The fire (F) pushbutton extinguishes.** **One of the 3 missile present lamps on the FC extinguishes and the MISSILE COUNT indicator on the IBCC status panel indicates 2.** **After approximately 5 seconds, the HANG FIRE label (19, fig. 2-10) on the FC starts to flash.** **The fire (F) pushbutton illuminates.**
g.	Receive the report of proper indications from the ILCHR personnel (see note in 66*d* above).
	NOTE Notify the fire section personnel that a ripple fire check for missiles 2 and 3 is to be performed.
h.	Give the fire section personnel a 5-second countdown to fire, then press and hold the fire (F) pushbutton on the FC. **The fire (F) pushbutton and HANG FIRE label extinguish.** **One of the two illuminated missile present lamps on the FC extinguishes and the MISSILE COUNT indicator on the IBCC status indicator displays a count of 1.** **The last illuminated missile present lamp on the FC extinguishes and the MISSILE COUNT indicator displays a count of zero.** **The HANG FIRE label starts flashing.**
i.	Release the fire (F) pushbutton.
j	Receive the report of proper indications from the ILCHR personnel.
k.	Set the RESUME FIRE-CEASE FIRE switch to CEASE FIRE.
l.	Press and release the fire (F) pushbutton on the FC. **The flashing HANG FIRE label extinguishes.**
m.	Press and release the NO KILL pushbutton (2, fig. 2-13) on the FC control panel.

Table 3-17. Integrated System Check—Continued

Step	Operation / Normal indication / Corrective procedure
m.1	If this firing function was performed utilizing the ADP, set the firing interlock assembly test switch to HPI and momentarily press the BREAKLOCK pushbutton.
m.2	Direct the crew chief to set the ILSCB ILCHR 1 SAFE/OPERATE switch to SAFE and then to OPERATE. **After the required time delay, the appropriate MISSILE COUNT HE indicator on the IBCC status panel indicates a count of 3, and all three launcher 1 missile present lamps on the FC illuminate.**
m.3	Repeat step 66.
n.	Direct the crew chief to set the ILSCB ILCHR 1 SAFE/OPERATE switch to SAFE.
67.	**Check ILCHR 2 Firing Function.** Repeat steps 64 through 66 for ILCHR 2.
68.	**Check ILCHR 3 Firing Function.**
a.	Repeat steps 64 through 66 for ILCHR 3.
b.	Direct the crew chief to make certain that the LAUNCHER 1, 2 and 3 SAFE/OPERATE switches are set to SAFE.
c.	Direct the ILCHR personnel to:
(1)	Set the LOCAL/REMOTE switch on the LCU to REMOTE.
(2)	Set the MAIN POWER switch on the LCU to OFF.
(3)	Remove the miniature guided-missile simulators.
(4)	Prepare the ILCHR for normal operation.
d.	Direct the IHIPIR operator to set the stowed synchro to the original setting recorded in step 64*d* 2(1) and to prepare the radar for normal operation.
69.	**Check Firing Section B.**
a.	Repeat steps 64 through 68 for firing section B.
b.	Direct the radar and ILCHR operators to set the PWR switches on their communications stations to OFF.

Section III. ILLUSTRATIONS

3-16. General

This section contains the illustrations necessary for operator and organizational maintenance of the IBCC. The illustrations are presented in a logical order for easy reference to the controls, indicators, test points, and adjustments.

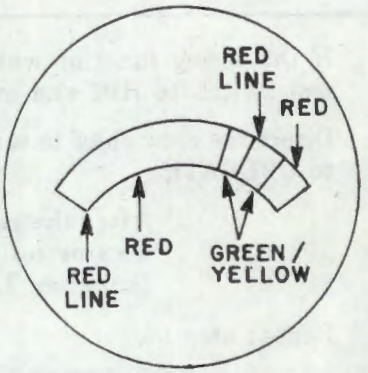
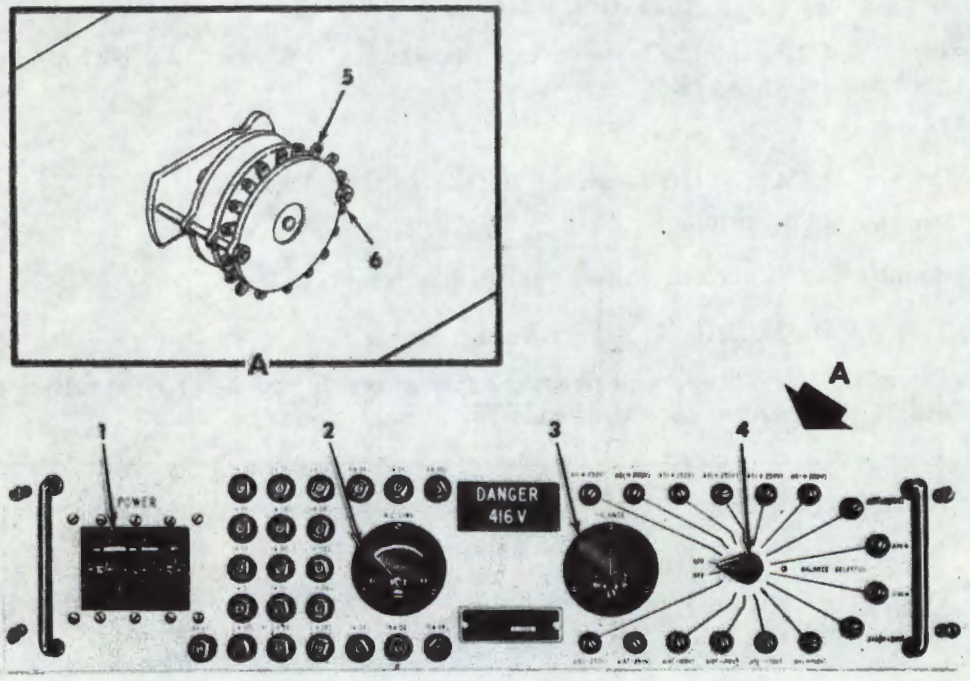
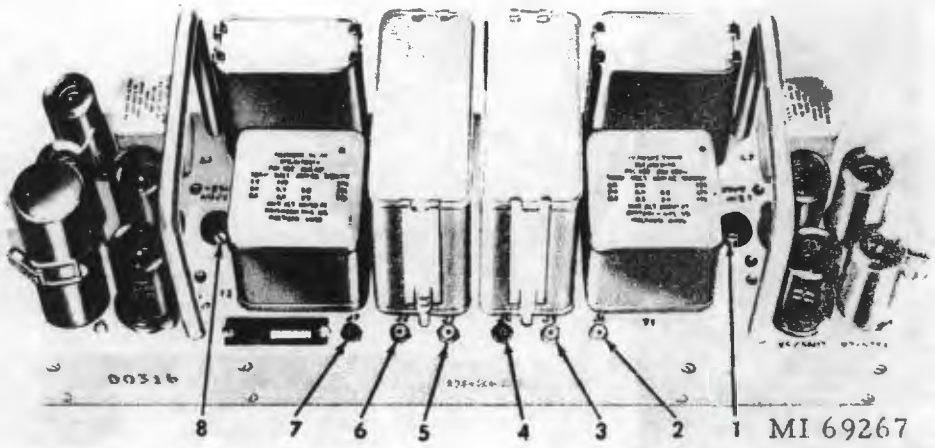


Figure 3-1. Meter colored areas.



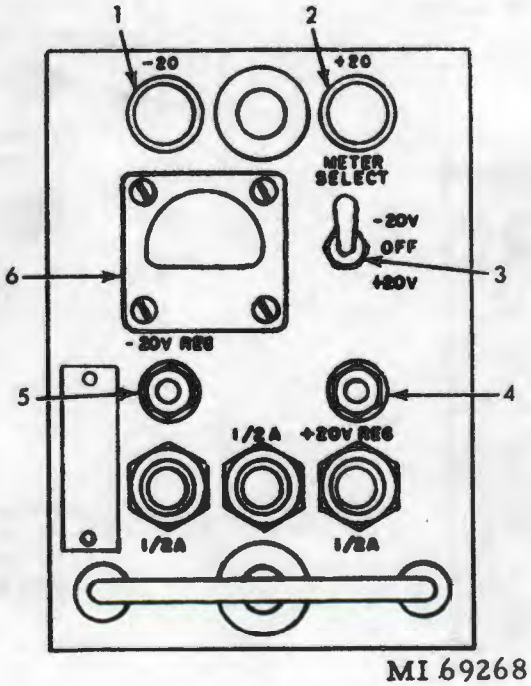
1–POWER circuit breaker
2–AC LINE meter
3–BALANCE meter
4–BALANCE SELECTOR switch
5–SIA, pin 9
6–SIA, pin 12

Figure 3-2. Power supply control.



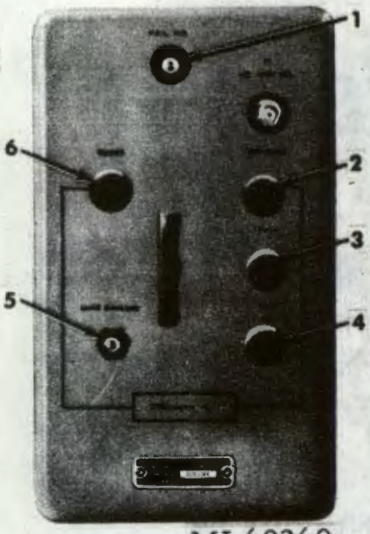
1–+250V ADJUST variable resistor
2–Test jack J6
3–Test jack J5
4–Test jack J4
5–Test jack J3
6–Test jack J2
7–Test jack J7
8––250V ADJUST variable resistor

Figure 3-3. Reference voltage regulator.



1––20 vdc indicator lamp
2–+20 vdc indicator lamp
3–METER SELECT switch
4–+20V REG control
5––20V REG control
6–Balance meter

Figure 3-4. 20-Vdc power supply.



MI 69269

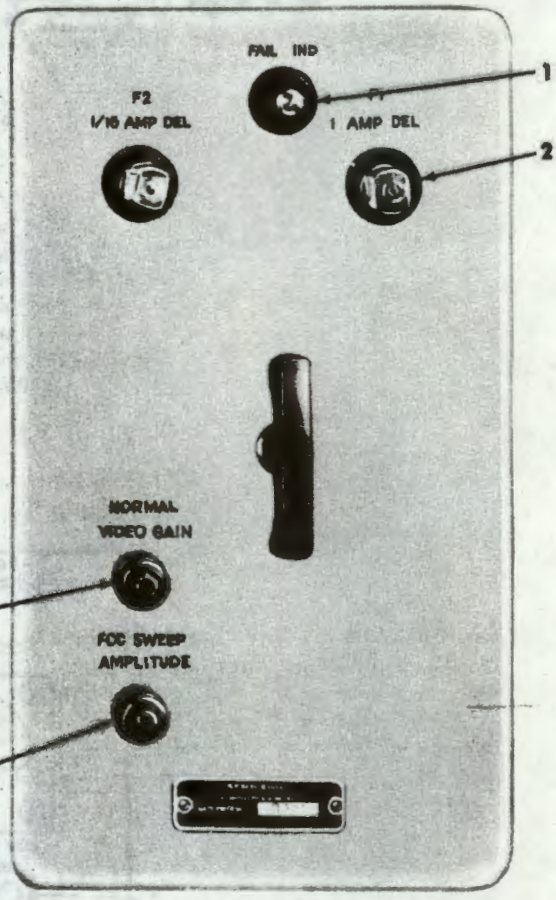
1–FAIL IND lamp
2–GENERAL pushbutton
3–FU-A pushbutton
4–FU-B pushbutton
5–UNIT FAILURE lamp
6–RESET pushbutton

Figure 3-5. Test set control.

MI 69270

1–FAIL IND lamp
2–F1 1 AMP DEL fuse

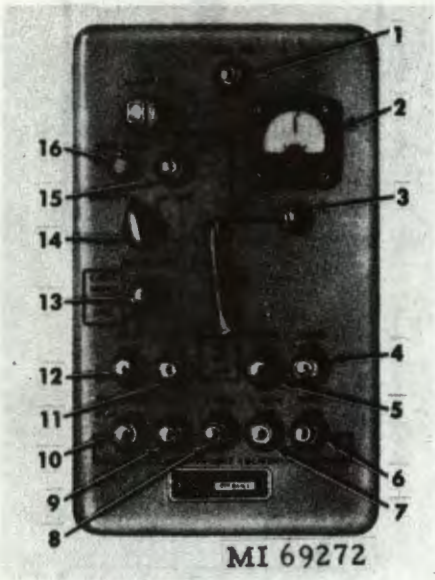
Figure 3-6. Automatic test set.



MI 69271

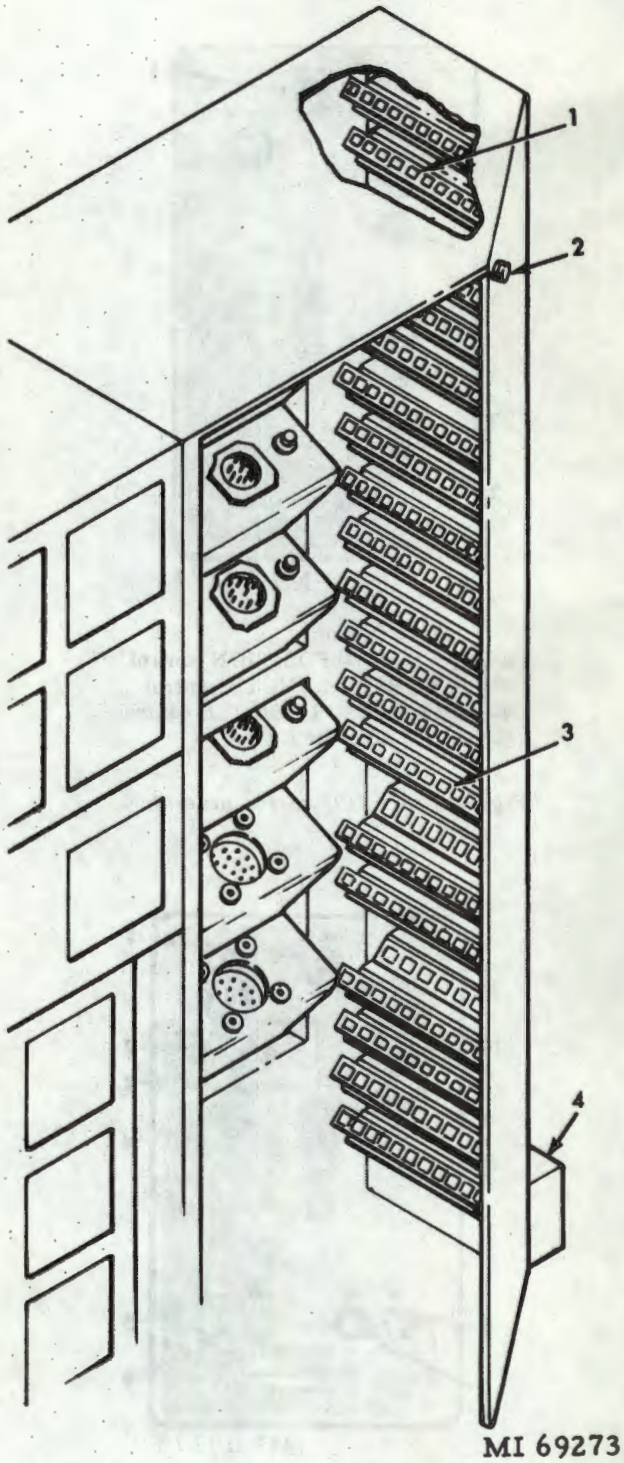
1–FAIL IND lamp
2–F1 1 AMP DEL fuse
3–FCC SWEEP AMPLITUDE control
4–NORMAL VIDEO GAIN control

Figure 3-7. FC short sweep generator.



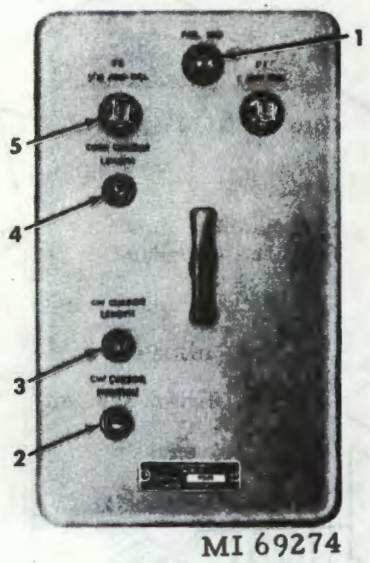
1–FAIL IND lamp
2–BALANCE SET meter
3–BALANCE SET control
4–VIDEO AMPL TCC lamp
5–Y DEFL AMPL TCC lamp
6–VIDEO AMPL CWTDC lamp
7–Y DEFL AMPL CWTDC lamp
8–X DEFL AMPL CWTDC lamp
9–RELAY ASSY CWTDC lamp
10–SCAN SERVO GEAR TRAIN CWTDC lamp
11–X DEFL AMPL TCC lamp
12–RELAY ASSY TCC lamp
13–RELAY ASSY CABLE ENTRY lamp
14–Test switch
15–BALANCE SET lamp
16–TEST WARN lamp

Figure 3-8. General test set.



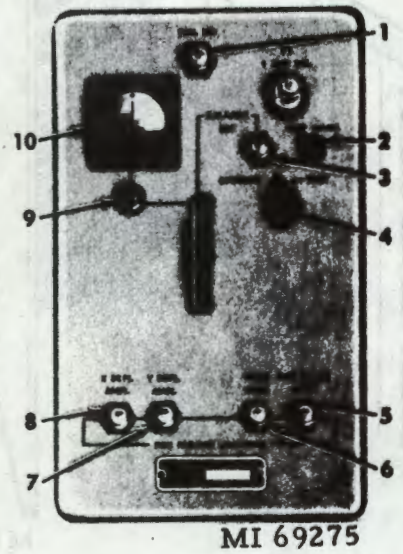
1–TB2
2–F1 1 AMP DEL fuse
3–TB14
4–REMOTE/LOCAL switch

Figure 3-9. Cable entry enclosure.



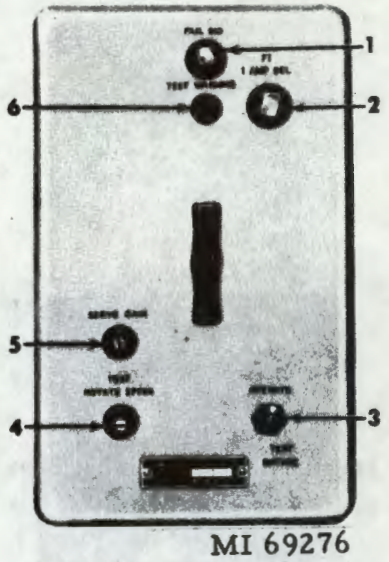
1–FAIL IND lamp
2–CW CURSOR POSITION control
3–CW CURSOR LENGTH control
4–CORR CURSOR LENGTH control
5–F2 1/16 AMP DEL fuse

Figure 3-10. TCC cursor generator.



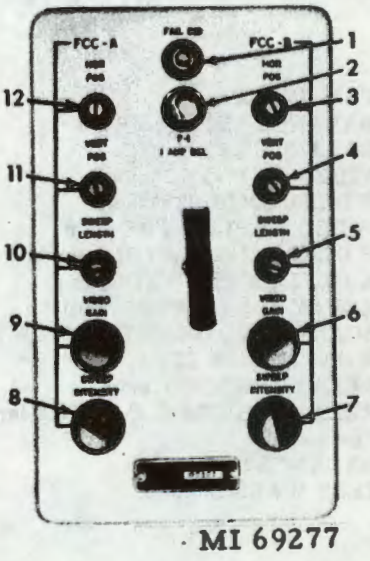
1–FAIL IND lamp
2–TEST WARN lamp
3–BALANCE SET lamp
4–Test switch
5–ROR RANGE CONT lamp
6–VIDEO AMPL lamp
7–Y DEFL AMPL lamp
8–X DEFL AMPL lamp
9–BALANCE SET control
10–BALANCE SET meter

Figure 3-11. Firing circuits test set.



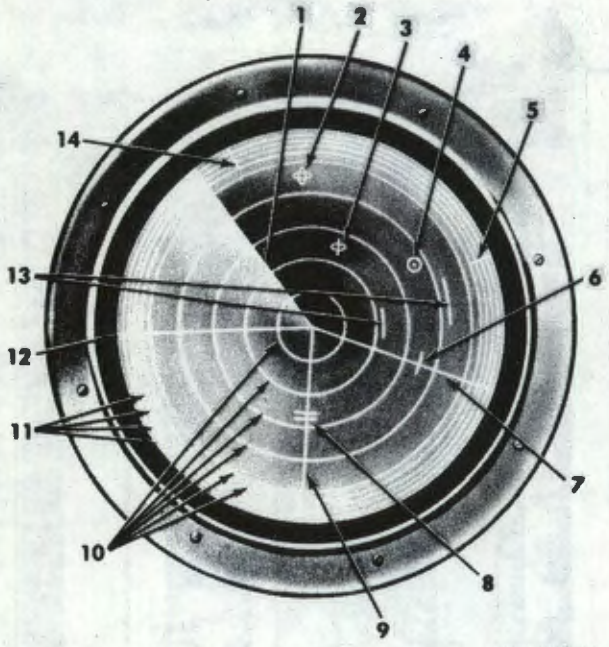
1–FAIL IND lamp
2–F1 1 AMP DEL fuse
3–Test switch
4–TEST ROTATE SPEED control
5–SERVO GAIN control
6–TEST WARNING lamp

Figure 3-12. Scan servo amplifier.



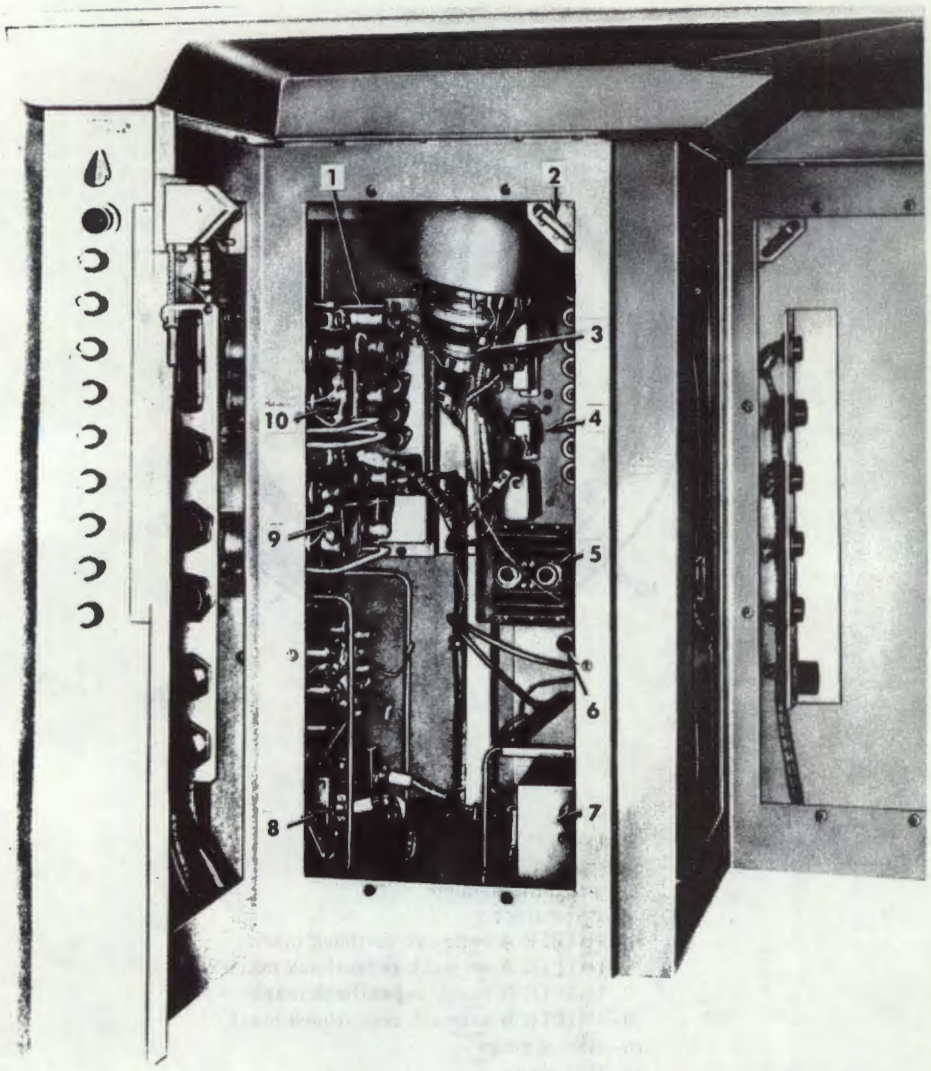
1–FAIL IND lamp
2–F1 1 AMP DEL fuse
3–FCC-B HOR POS control
4–FCC-B VERT POS control
5–FCC-B SWEEP LENGTH control
6–FCC-B VIDEO GAIN control
7–FCC-B SWEEP INTENSITY control
8–FCC-A SWEEP INTENSITY control
9–FCC-A VIDEO GAIN control
10–FCC-A SWEEP LENGTH variable resistor
11–FCC-A VERT POS control
12–FCC-A HOR POS control

Figure 3-13. IROR video amplifier.



1–Sweep
2–Category II symbol
3–Category I symbol
4–Tracking symbol
5–PSI cursor
6–IHIPIR A range repeatback mark
7–IHIPIR A azimuth repeatback mark
8–IHIPIR B range repeatback mark
9–IHIPIR B azimuth repeatback mark
10–Range rings
11–PSI rings
12–Correlation cursor
13–ADP sector rings
14–Jam strobe

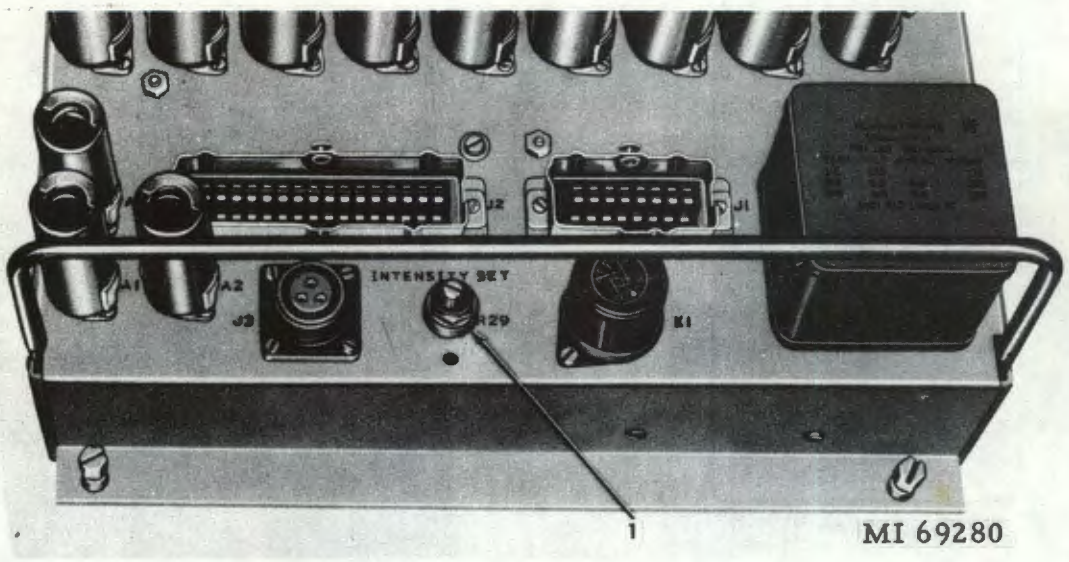
Figure 3-14. TCC CRT presentation.



MI 69279

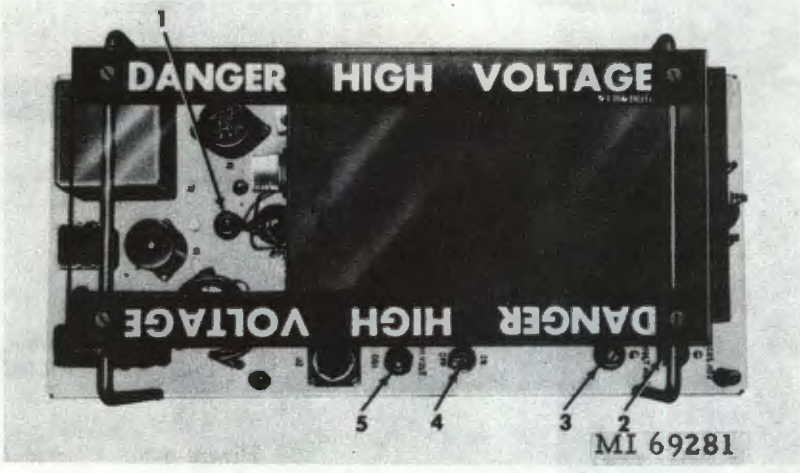
1–TCC relay chassis
2–Interlock switch
3–TCC tube mount
4–Video amplifier
5–Fan and dimmer assembly
6–Defogging relay assembly
7–14-Kv power supply
8–TCC relay assembly
9–X-deflection amplifier
10–Y-deflection amplifier

Figure 3-15. TCC interior view—left side.



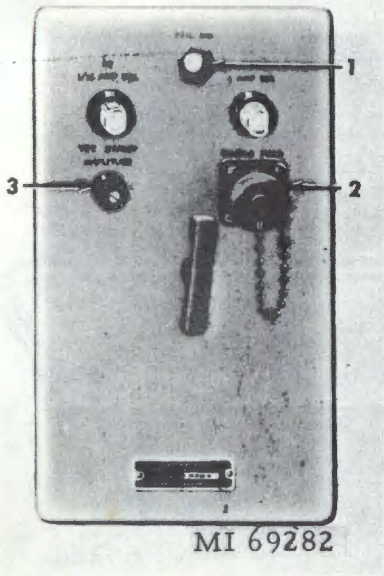
1–INTENSITY SET control

Figure 3-16. Video amplifier (FC and TCC).



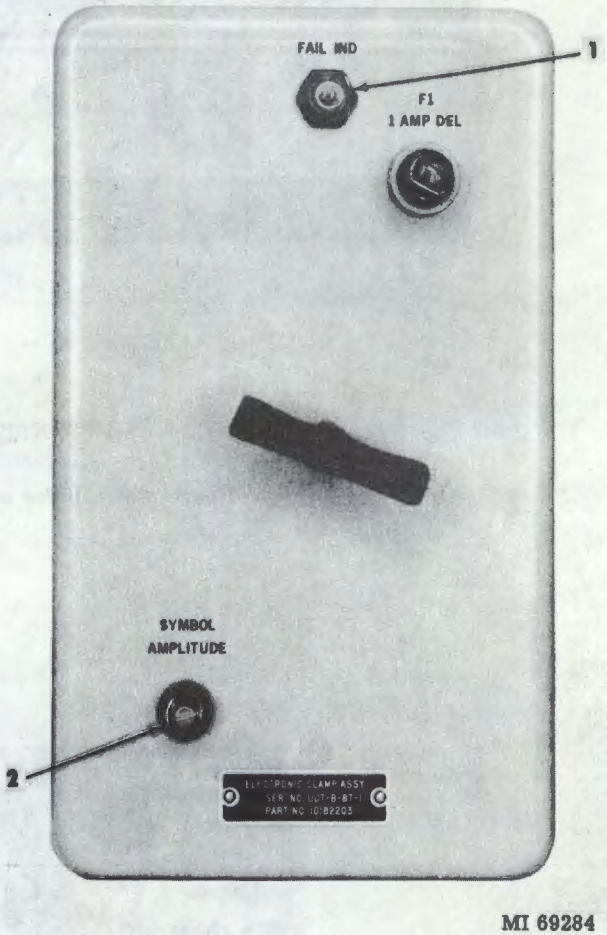
1–HI VOLT lamp DS2
2–FOCUS ADJ control
3–HI VOLT ADJ control
4–Power switch S1
5–HI VOLT lamp DS1

Figure 3-17. 10-Kv and 14-Kv power supply.



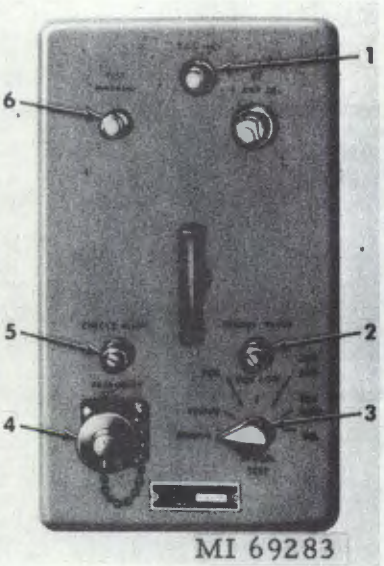
1–FAIL IND lamp
2–MARKS FREQ adjustment
3–TCC SWEEP AMPLITUDE control

Figure 3-18. TCC long sweep generator.



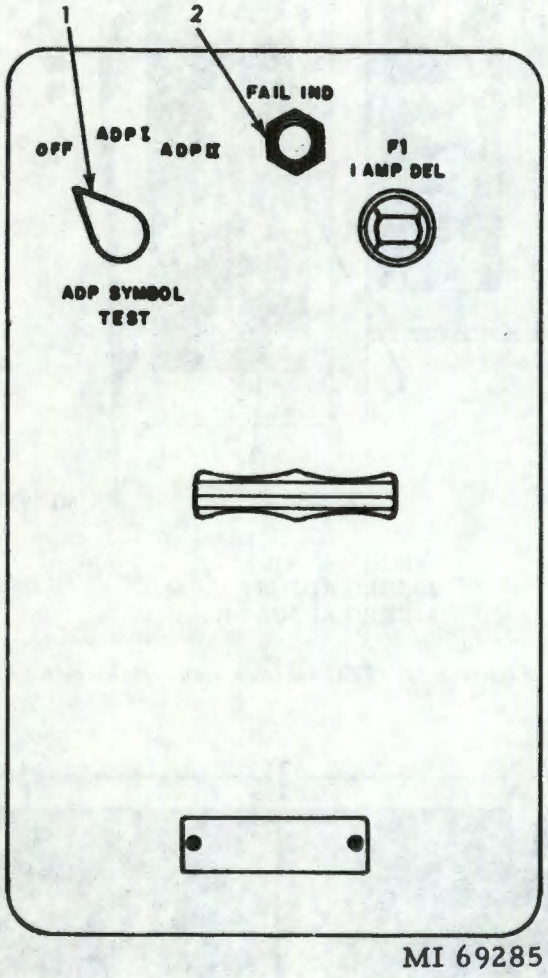
1–FAIL IND lamp
2–SYMBOL AMPLITUDE control

Figure 3-20. Electronic clamp assembly.



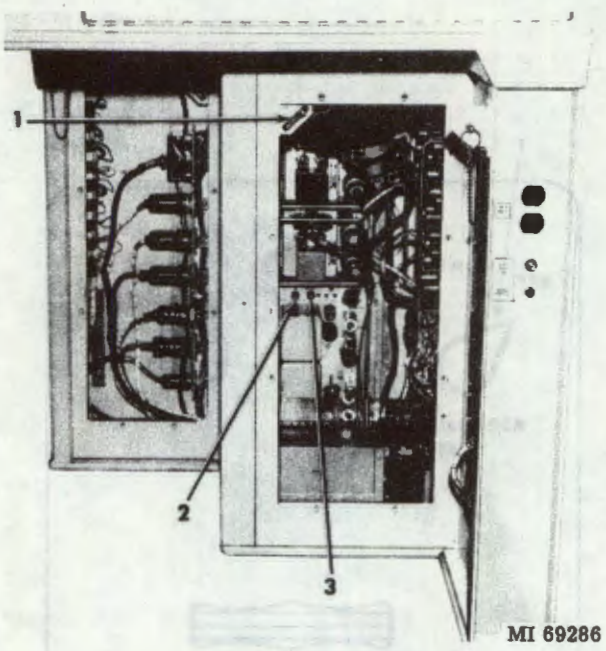
1–FAIL IND lamp
2–SYMBOL PHASE control
3–SYMBOL TEST switch
4–FREQUENCY adjustment
5–CIRCLE ALIGN control
6–TEST WARNING lamp

Figure 3-19. Symbol generator.



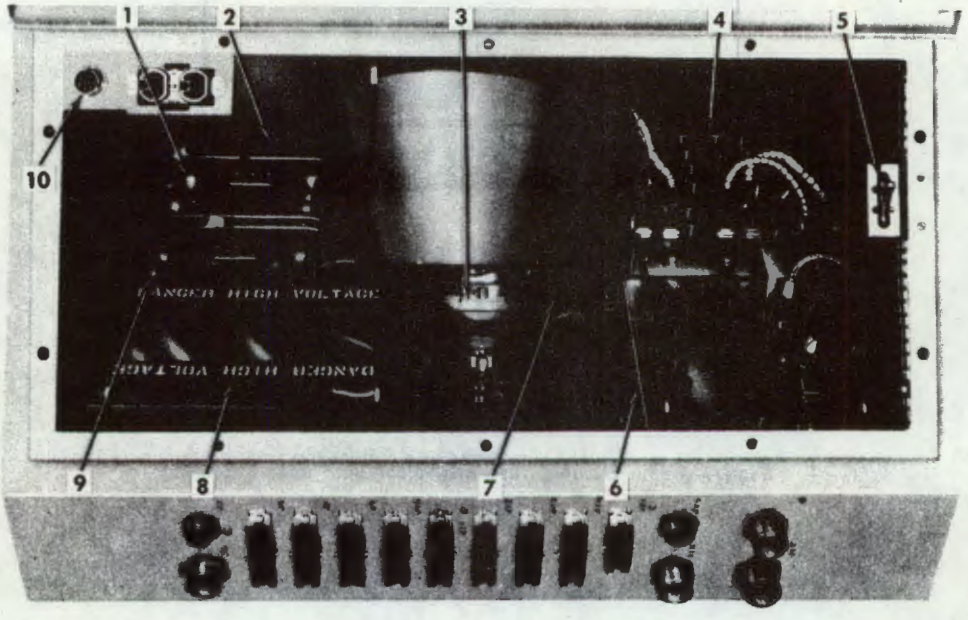
1–ADP SYMBOL TEST switch
2–FAIL IND lamp

Figure 3-21. Symbol intensity electronic gate assembly.



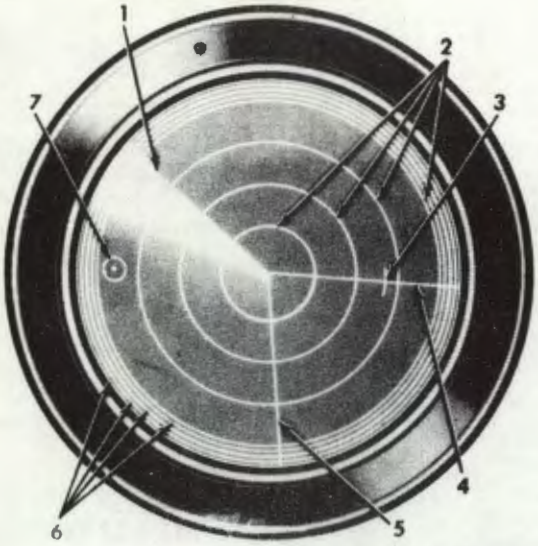
1–Interlock switch
2–ZERO ADJUST A control
3–ZERO ADJUST B control

Figure 3-22. TCC interior view—right side.



1–Y-deflection amplifier
2–Fan and dimmer assembly
3–FC tube mount
4–FC relay assembly
5–Interlock switch
6–Video amplifier
7–Auxiliary relay assembly
8–14-Kv power supply
9–X-deflection amplifier
10–Headset connector

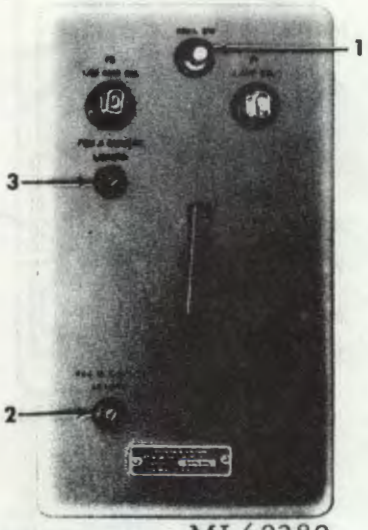
Figure 3-23. FC interior—bottom view.



MI 69288

1–Sweep
2–Range rings
3–Range repeatback mark
4–Azimuth repeatback mark
5–Azimuth cursor
6–PSI rings
7–Tracking symbol

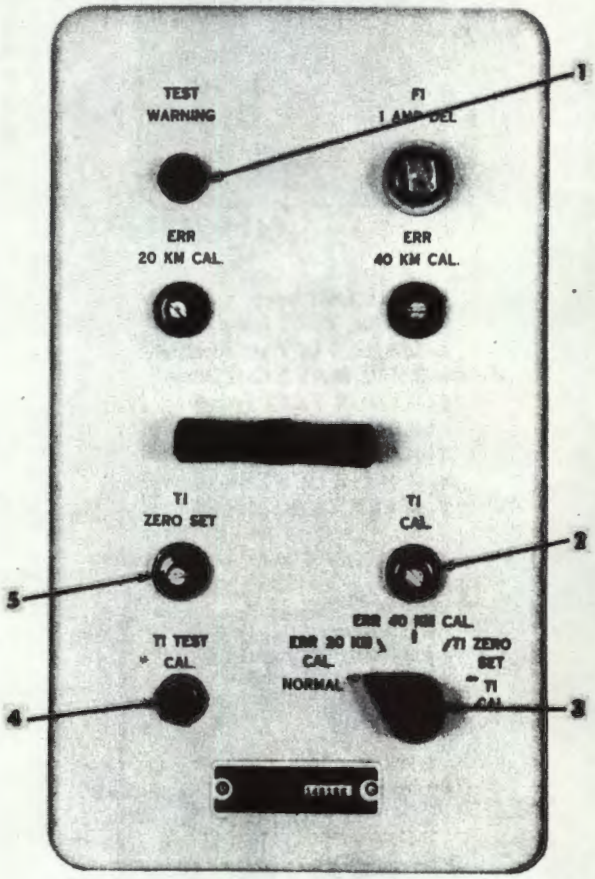
Figure 3-24. FC CRT presentation.



MI 69289

1–FAIL IND lamp
2–FCC B CURSOR LENGTH control
3–FCC A CURSOR LENGTH control

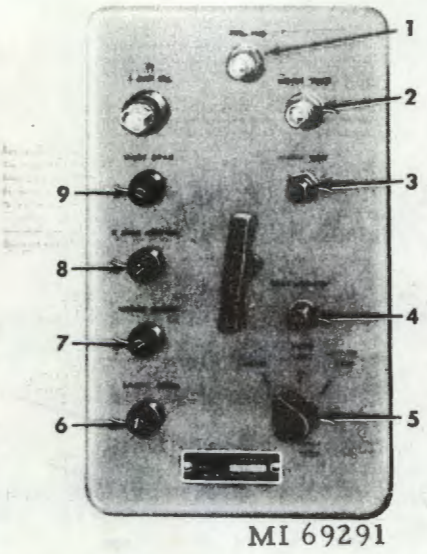
Figure 3-25. FC cursor generator.



MI 69290

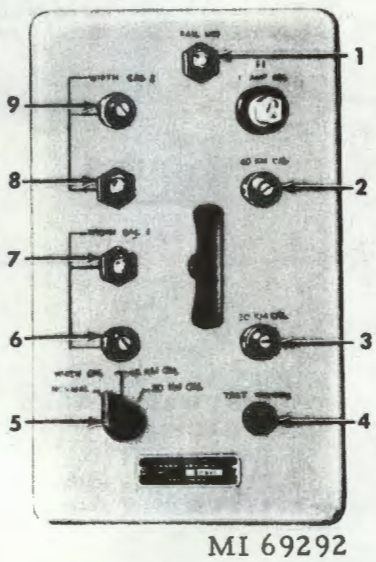
1–TEST WARNING lamp
2–T1 CAL control
3–Test SWITCH
4–T1 TEST CAL pushbutton
5–T1 ZERO SET control

Figure 3-26. Intercept computer.



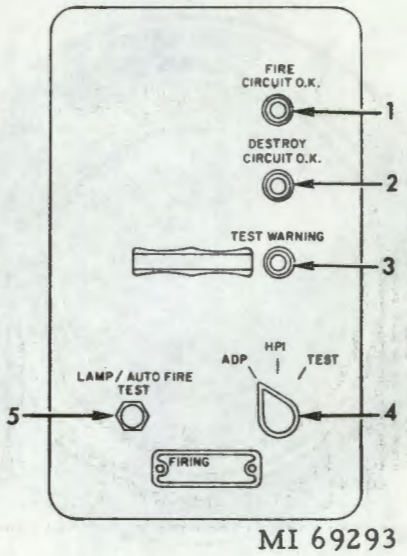
1–FAIL IND lamp
2–MARK TEST lamp
3–MARK TEST pushbutton
4–TEST WARNING lamp
5–RANGE TEST switch
6–RANGE ZERO control
7–RANGE SLOPE control
8–X HAIR CENTER control
9–MARK ZERO control

Figure 3-27. FC marker generator.



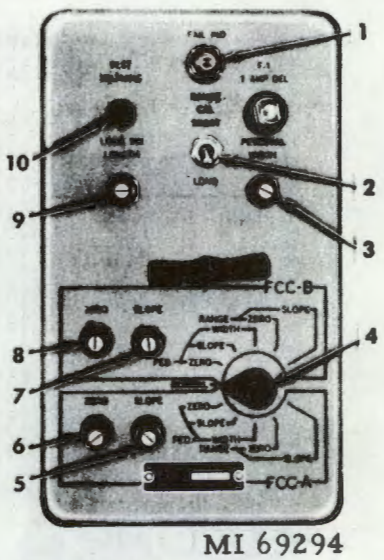
1–FAIL IND lamp
2–40 KM CAL control
3–20 KM CAL control
4–TEST WARNING lamp
5–Test switch
6–WIDTH CAL 1 control
7–WIDTH CAL 1 lamp
8–WIDTH CAL 2 lamp
9–WIDTH CAL 2 control

Figure 3-28. Predicted intercept marker generator.



1–FIRE CIRCUIT O. K. lamp
2–DESTROY CIRCUIT O. K. lamp
3–TEST WARNING lamp
4–Test switch
5–LAMP/AUTO FIRE TEST switch

Figure 3-29. Firing interlock assembly.

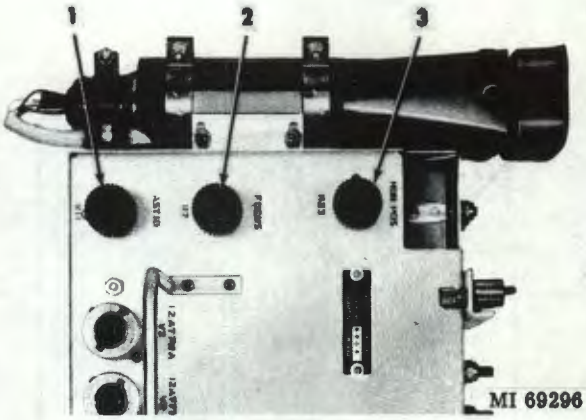


1–FAIL IND lamp
2–RANGE CAL switch
3–PEDESTAL WIDTH control
4–Test switch
5–FCC-A SLOPE control
6–FCC-A ZERO control
7–FCC-B SLOPE control
8–FCC-B ZERO control
9–LONG SW. LENGTH control
10–TEST WARNING lamp

Figure 3-30. IROR sweep generator.

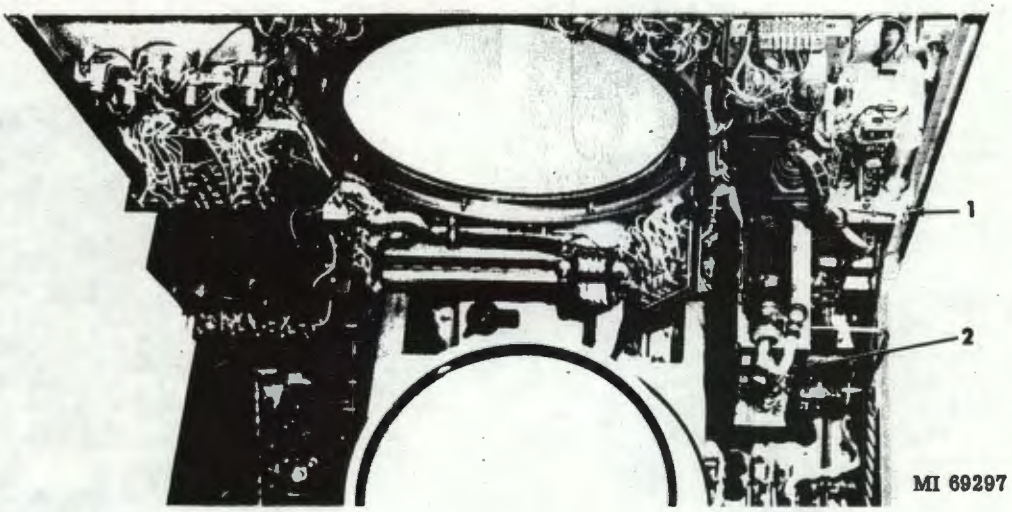
1–Center angle adjust control
2–FC cover assembly interlock switch

Figure 3-31. FC interior—top view.



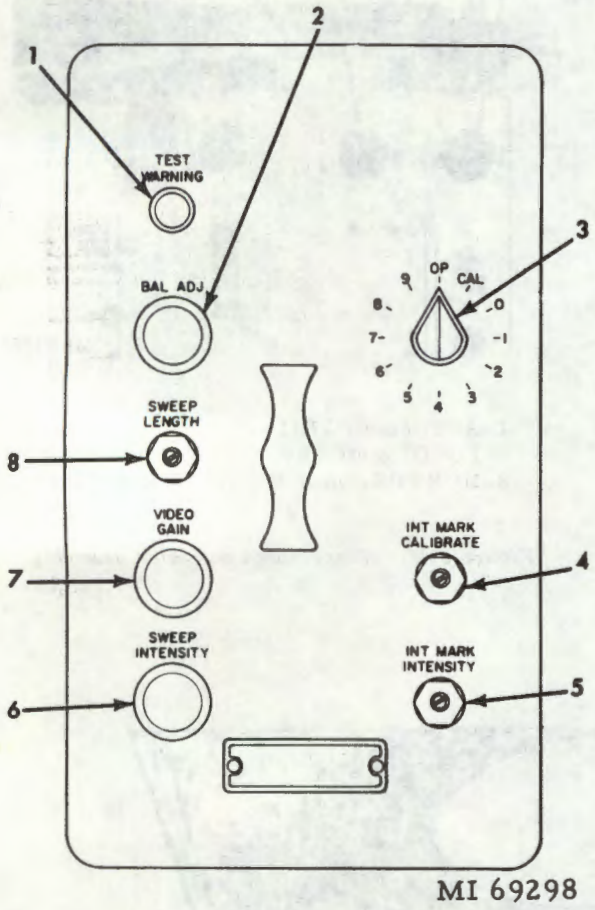
1–ASTIG control R11
2–FOCUS control R7
3–HOR POS control R23 (IHIPIR display)

Figure 3-32. Range/speed indicator assembly.



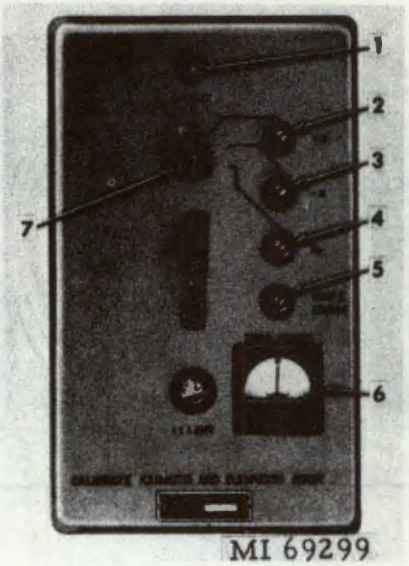
1–Range and rate assembly
2–Range/speed indicator

Figure 3-33. FC cover assembly—underside.



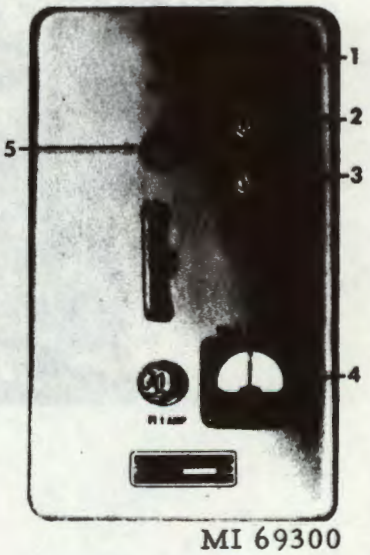
1–TEST WARNING lamp
2–BAL ADJ control
3–Test switch
4–INT MARK CALIBRATE control
5–INT MARK INTENSITY control
6–SWEEP INTENSITY control
7–VIDEO GAIN control
8–SWEEP LENGTH control

Figure 3-34. Display generator.



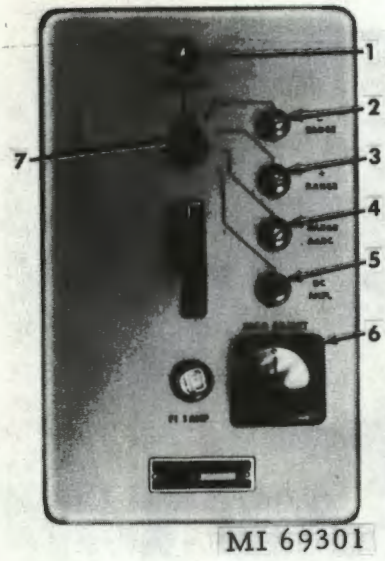
1–Test warning lamp
2–+X control
3––X control
4–R_T control
5–SCOPE ADJUST control
6–ZERO ADJUST meter
7–Test switch

Figure 3-35. Range electronic control amplifier.



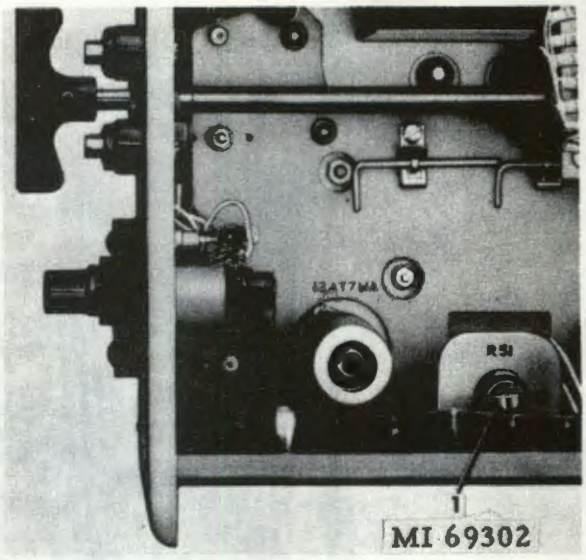
1–Test warning lamp
2–V3 control
3–V4 control
4–ZERO ADJUST meter
5–Test switch

Figure 3-36. Azimuth electronic control amplifier.



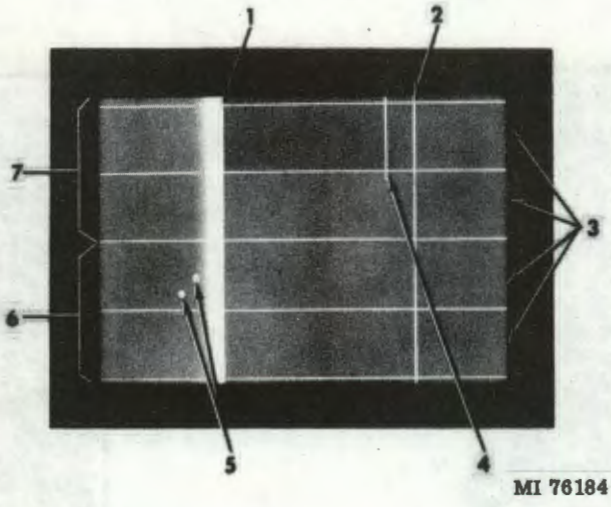
1–Test warning lamp
2––RANGE control
3–+RANGE control
4–RANGE AADCP control
5–DC AMPL control
6–ZERO ADJUST meter
7–Test switch

Figure 3-37. Elevation electronic control amplifier.



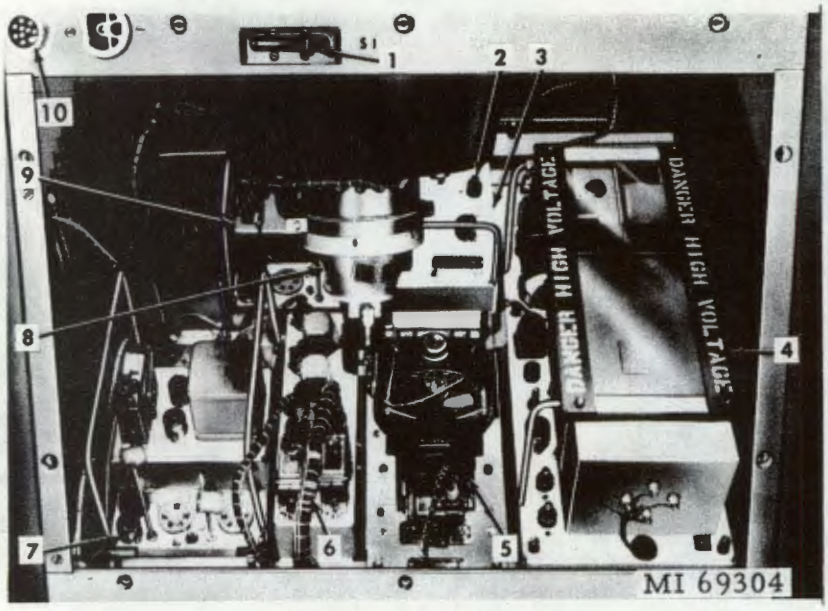
1–Zero adjust control R51

Figure 3-38. Range electronic control amplifier—side view.



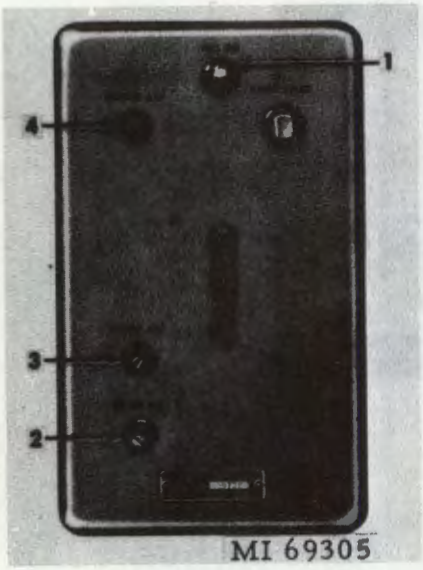
1–Sweep
2–Cw cursor
3–Speed ranges
4–Jamming strobe
5–Target video
6–Recede speed range
7–Approach speed range

Figure 3-39. CWTDC CRT presentation.



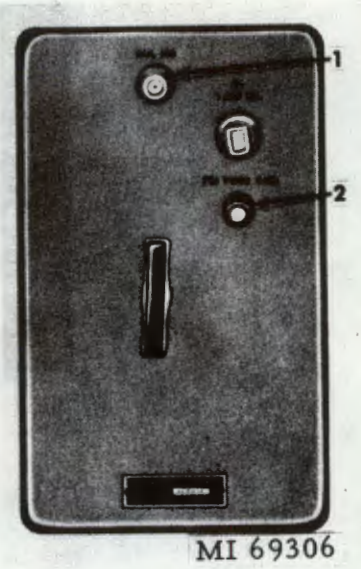
1–Interlock switch
2–COARSE INT control
3–CWTDC video amplifier
4–10-Kv power supply
5–Fan and dimmer assembly
6–CWTDC test relay assembly
7–X-deflection amplifier
8–CWTDC tube mount
9–Y-deflection amplifier
10–Headset connector

Figure 3-40. CWTDC—interior view.



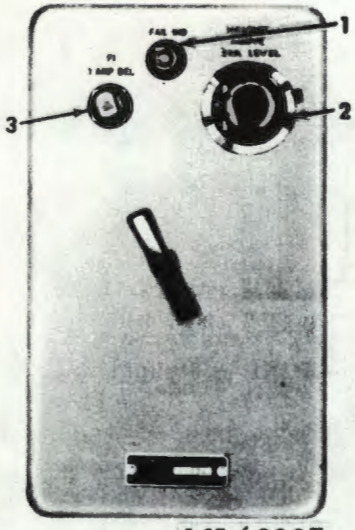
1–FAIL IND lamp
2–DELAY SET control
3–SWEEP AMP control
4–CURSOR AMP control

Figure 3-41. CWTDC sweep generator.



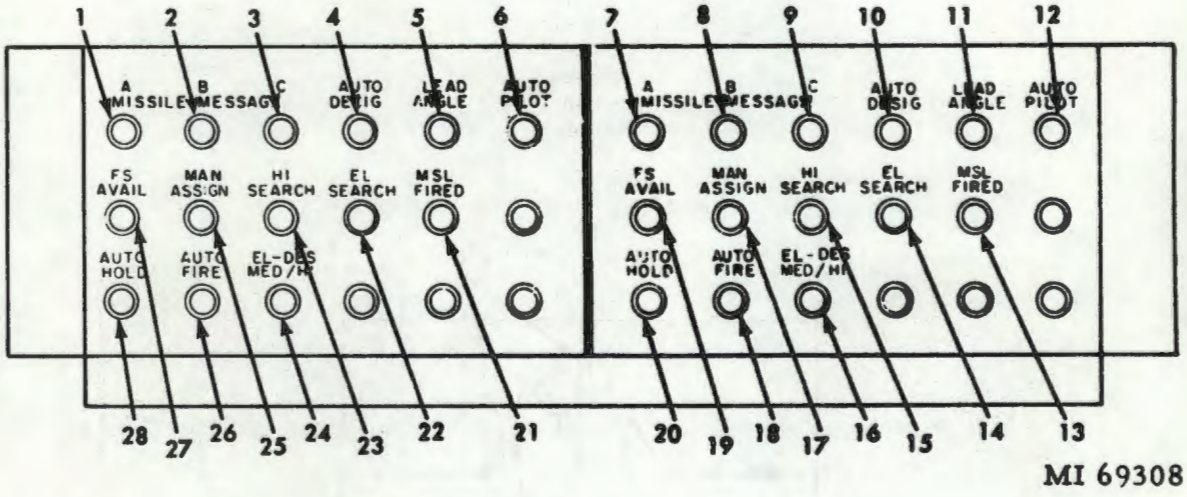
1–FAIL IND lamp
2–PSI VIDEO GAIN control

Figure 3-42. PSI video gate.



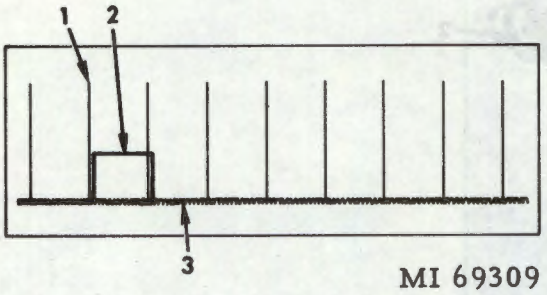
1–FAIL IND lamp
2–HEIGHT ABOVE SEA LEVEL dial
3–F1 1 AMP DEL fuse

Figure 3-43. Height signal comparator.



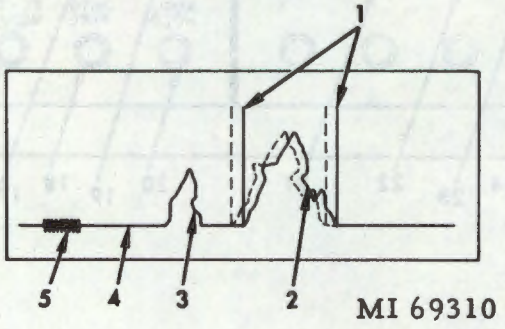
1–MISSILE MESSAGE A (A) lamp
2–MISSILE MESSAGE B (A) lamp
3–MISSILE MESSAGE C (A) lamp
4–AUTO DESIG (A) lamp
5–LEAD ANGLE (A) lamp
6–AUTO PILOT (A) lamp
7–MISSILE MESSAGE A (B) lamp
8–MISSILE MESSAGE B (B) lamp
9–MISSILE MESSAGE C (B) lamp
10–AUTO DESIG (B) lamp
11–LEAD ANGLE (B) lamp
12–AUTO PILOT (B) lamp
13–MSL FIRED (B) lamp
14–EL SEARCH (B) lamp
15–HI SEARCH (B) lamp
16–EL-DES MED/HI (B) lamp
17–MAN ASSIGN (B) lamp
18–AUTO FIRE (B) lamp
19–FS AVAIL (B) lamp
20–AUTO HOLD (B) lamp
21–MSL FIRED (A) lamp
22–EL SEARCH (A) lamp
23–HI SEARCH (A) lamp
24–EL-DES MED/HI (A) lamp
25–MAN ASSIGN (A) lamp
26–AUTO FIRE (A) lamp
27–FS AVAIL (A) lamp
28–AUTO HOLD (A) lamp

Figure 3-44. Maintenance monitor panel.



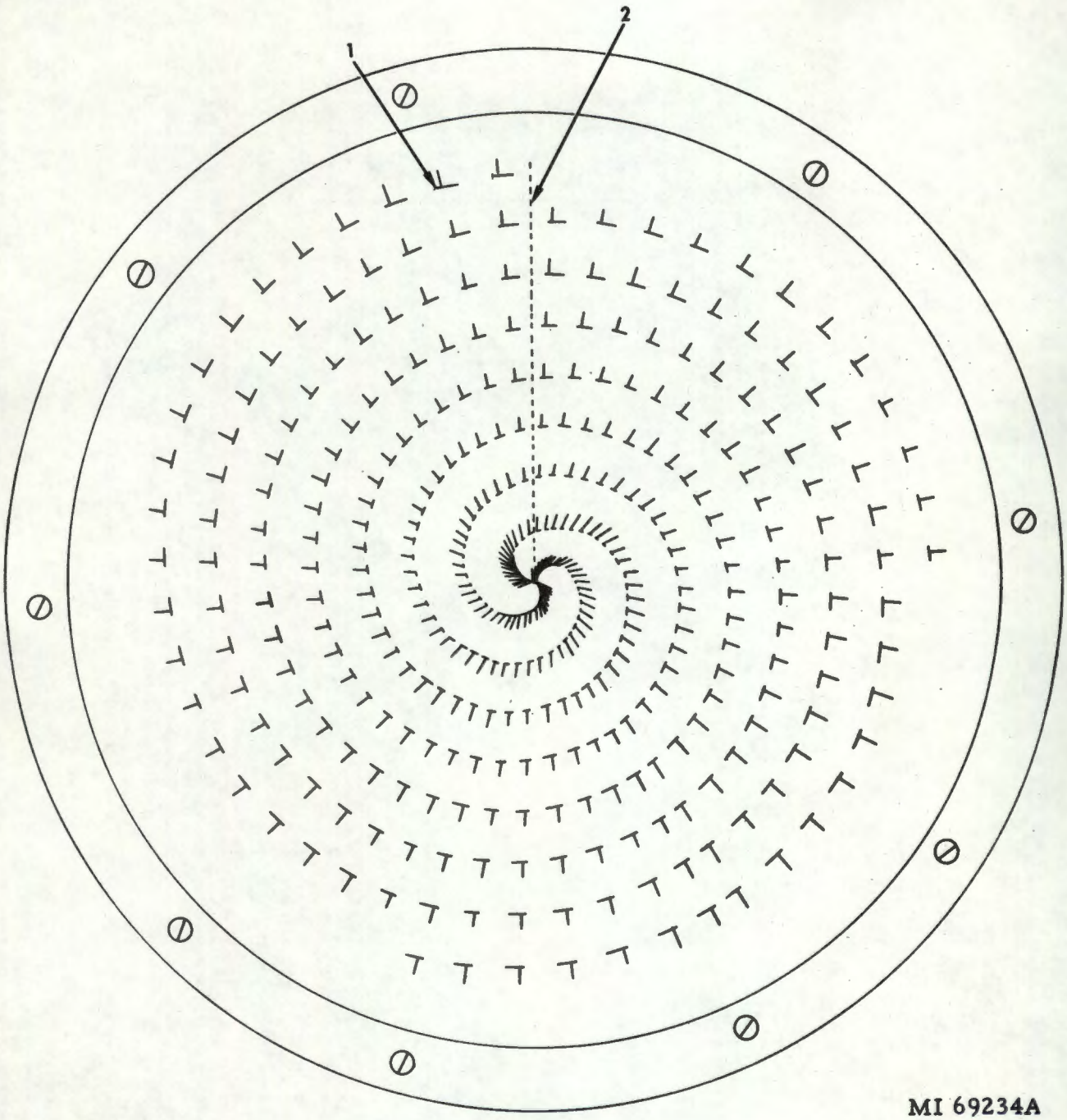
1–Range marks
2–Pedestal
3–Sweep with noise

Figure 3-45. Range/speed indicator, IROR range display.



1–Repeatback marks (IHIPIR speedgate)
2–Sweeping target video
3–Target video
4–Sweep
5–Cursor

Figure 3-46. Range/speed indicator, IHIPIR speed display.



1—IFF video test pattern
2—Azimuth strobe

Figure 3-47. TCC CRT IFF video test pattern.

CHAPTER 4
MAINTENANCE INSTRUCTIONS

4-1. General

Repair parts, special tools, and equipment are issued to the using organization for operating and maintaining the IBCC. Refer to TM 9–1425–525–12–4 for maintenance instructions not contained in this manual.

4-2. Repair Parts

Repair parts are supplied to the using organization for replacement of those parts that become worn, damaged, or otherwise unserviceable, providing replacement of these parts is within the user's scope. TM 9–1430–526–24P is the authority for requisitioning replacement parts for the IBCC.

4-3. Special Tools and Equipment

There are no special tools and equipment required for organizational maintenance of the IBCC.

CHAPTER 5
CORRECTIVE MAINTENANCE

5-1. General

This section provides maintenance instructions for authorized organizational maintenance personnel of the IBCC. Using troops will refer the materiel to direct support maintenance personnel for all other replacements and adjustments.

5-2. Replacement of the TCC CRT

WARNING

The POWER circuit breaker on the power supply control must be OFF during removal and installation procedures, except where otherwise indicated. The TCC CRT must be handled with particular care during removal and installation. Goggles and gloves must be worn as protection against heat and particles of glass in case of breakage.

NOTE

The key numbers shown below in parentheses refer to figure 5-1.

a. Removal.

(1) Remove the shroud assembly (1).

(2) Tag and disconnect all leads from terminal board TB1 on the support assembly (9).

(3) Remove the plotter support assembly (2) with the support ring assembly (3) attached.

(4) Remove the electrical cap (4).

(5) Remove the two access panel assemblies (5).

(6) Disconnect the electron tube socket (6) from the TCC CRT (8).

(7) Slip the tube clip assembly (7) from the rim of the TCC CRT and remove the tube from the support assembly (9).

(8) Remove the permanent magnet assembly (10) from the TCC CRT.

b. Installation.

(1) Install the permanent magnet assembly (10) on the TCC CRT (8).

(2) Install the TCC CRT in the support assembly (9).

(3) Fasten the tube clip assembly (7) on the trim of the TCC CRT.

(4) Connect and secure the electron tube socket (6) on the TCC CRT.

(5) Install the two access panel assemblies (5).

(6) Install the electrical cap (4).

(7) Install the plotter support assembly (2) with the support ring assembly (3) attached.

(8) Connect the leads to terminal board TB1 on the support assembly (9) and remove the tags.

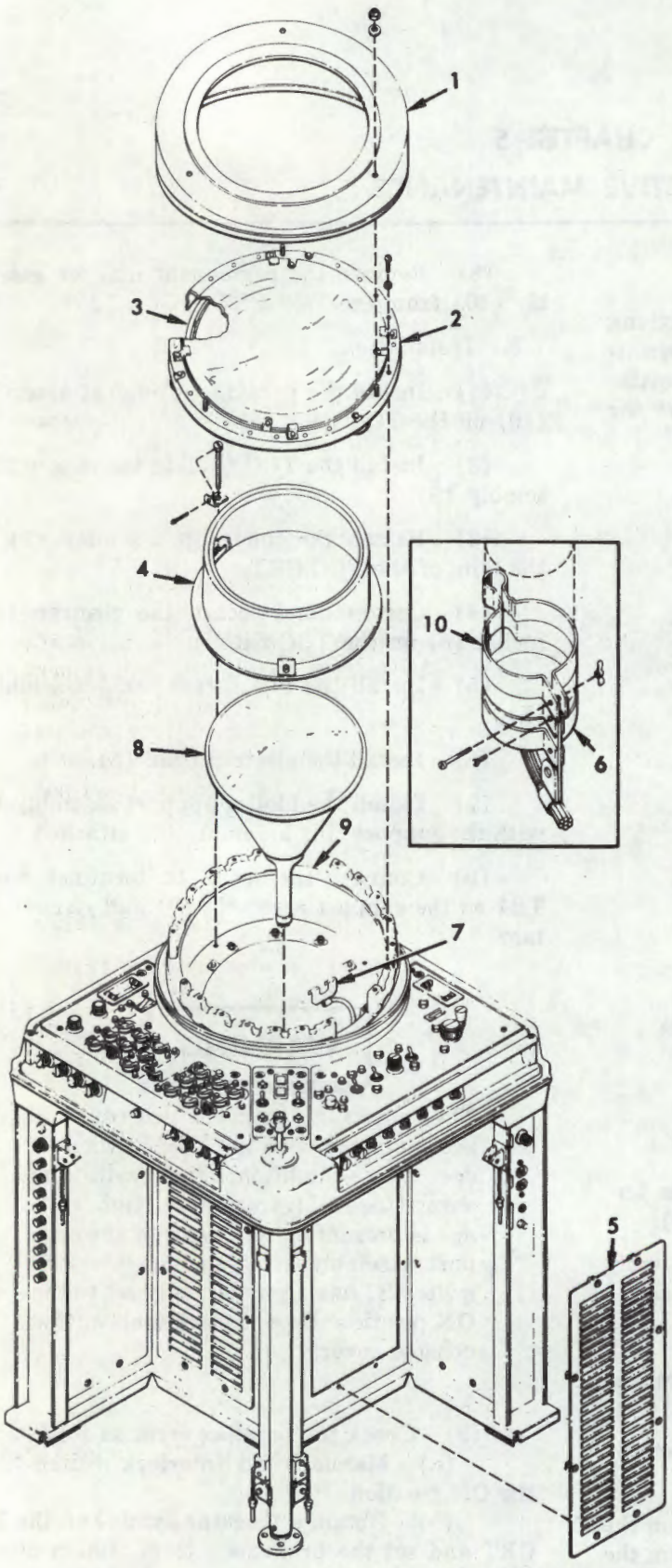
WARNING

The following alinement procedure is accomplished with the TCC in the full operating condition, and with the shroud assembly removed. High voltage is present on the inside of the support assembly after shroud interlock switch S7 has been manually set to the ON position. Do not place tools on the console cover.

(9) Check for parallax error as follows:

(*a*) Manually set interlock switch S7 to the ON position.

(*b*) Obtain a tracking symbol on the TCC CRT and set the brightness to minimum observable intensity (refer to chapter 2).



1–Shroud assembly
2–Plotter support assembly
3–Support ring assembly
4–Electrical cap
5–Access panel assembly
6–Electron tube socket
7–Tube clip assembly
8–TCC CRT
9–Support assembly
10–Permanent magnet assembly

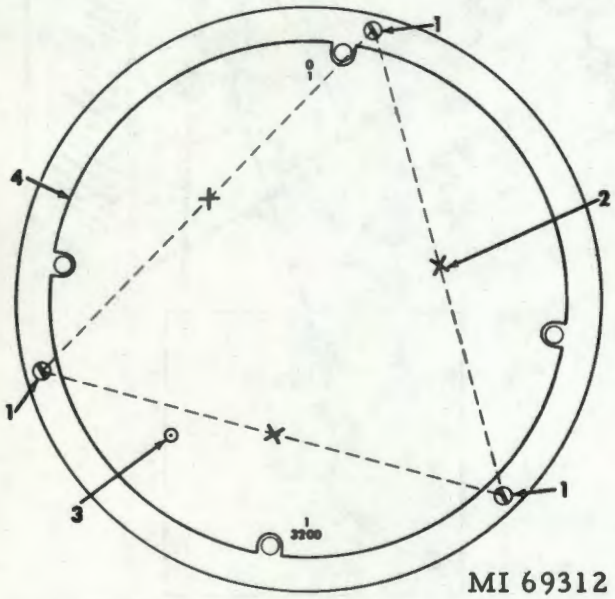
Figure 5-1. Replacement of the TCC CRT.

NOTE

The key numbers shown below in parentheses refer to figure 5-2.

(*c*) Using a grease pencil and a straight edge, draw the three cross marks (2) on the azimuth indicator plotter (4) approximately half the distance between the externally-relieved body screws (1).

(*d*) Viewing the azimuth indicator plotter from the TCO's position, move the tracking lever until the tracking symbol (3) coincides with the cross mark. Moving to the TCA's position, check for parallax error between the tracking symbol and the cross mark. Repeat the check with the tracking symbol set to the remaining cross marks. Perform the alinement procedure in step (*e*) below only if necessary.



1—Externally relieved body screw
2—Cross mark
3—Tracking symbol
4—Azimuth indicator plotter

Figure 5-2. Parallax error adjustment.

(*e*) Loosen the setscrew adjacent to each externally-relieved body screw, and adjust all the screws while alternating between control positions until the parallax error is minimized at each cross mark. Carefully tighten the setscrews, and repeat step (*d*) above. If satisfactory, remove the grease pencil marks from the azimuth indicator plotter.

(*f*) Manually set interlock switch S7 to the off position.

(10) Install the shroud assembly (1, fig. 5-1).

c. Test after Installation. Refer to table 3-13 for check procedures.

5-3. Replacement of the FCC CRT

NOTE

The key numbers shown below in parentheses refer to figure 5-3.

WARNING

The POWER circuit breaker on the power supply control must be in the OFF position during the replacement of the CRT. The CRT must be handled with particular care during replacement, and goggles and gloves must be worn as protection against glass particles in case of breakage.

a. Removal.

(1) Lift up the pedestal cover (1).

(2) Remove the electrical cap (2).

(3) Remove the electron tube socket (3).

(4) Remove the magnet assembly (4).

(5) Remove the tube clip (5).

(6) Remove the FCC CRT (6).

b. Installation.

(1) Install the FCC CRT (6).

(2) Install the tube clip (5).

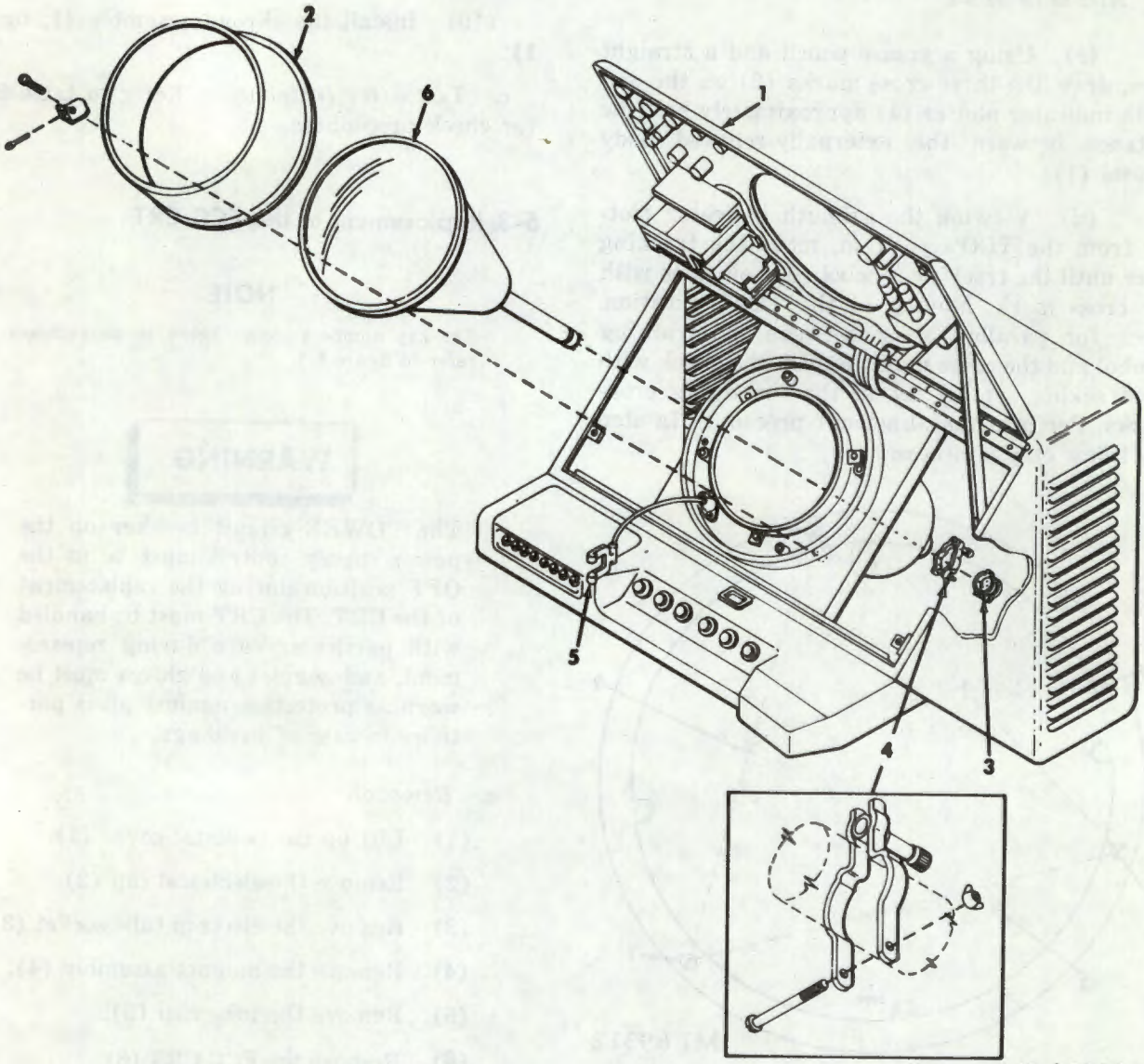
(3) Install the magnet assembly (4).

(4) Install the electron tube socket (3).

(5) Install the electrical cap (2).

(6) Put the pedestal cover (1) back down.

c. Test After Installation. Refer to table 3-14 for check procedures.



1—Pedestal cover
2—Electrical cap
3—Electron tube socket
4—Magnet assembly
5—Tube clip
6—FCC CRT

Figure 5-3. Replacement of the FCC CRT.

5-4. Replacement of the CWTDC CRT

NOTE

The key numbers shown below in parentheses refer to figure 5-4.

WARNING

The POWER circuit breaker on the power supply control must be in the OFF position during the replacement of the CWTDC CRT. The CRT must be handled with particular care during replacement. Goggles and gloves must be worn as protection against flying glass particles in case of breakage.

a. Removal.

(1) Lift up the pedestal cover (1).

(2) Remove the bezel assembly (2).

(3) Remove the electron tube socket (3).

(4) Remove the magnet assembly (4).

(5) Remove the CWTDC CRT (5).

b. Installation.

(1) Install the CWTDC CRT (5).

(2) Install the magnet assembly (4).

(3) Install the electron tube socket (3).

(4) Install the bezel assembly (2).

(5) Put the pedestal cover (1) back down.

c. Test after Installation. Refer to table 3-15 for check procedures.

5-5. Repair or Replacement of Additional Units

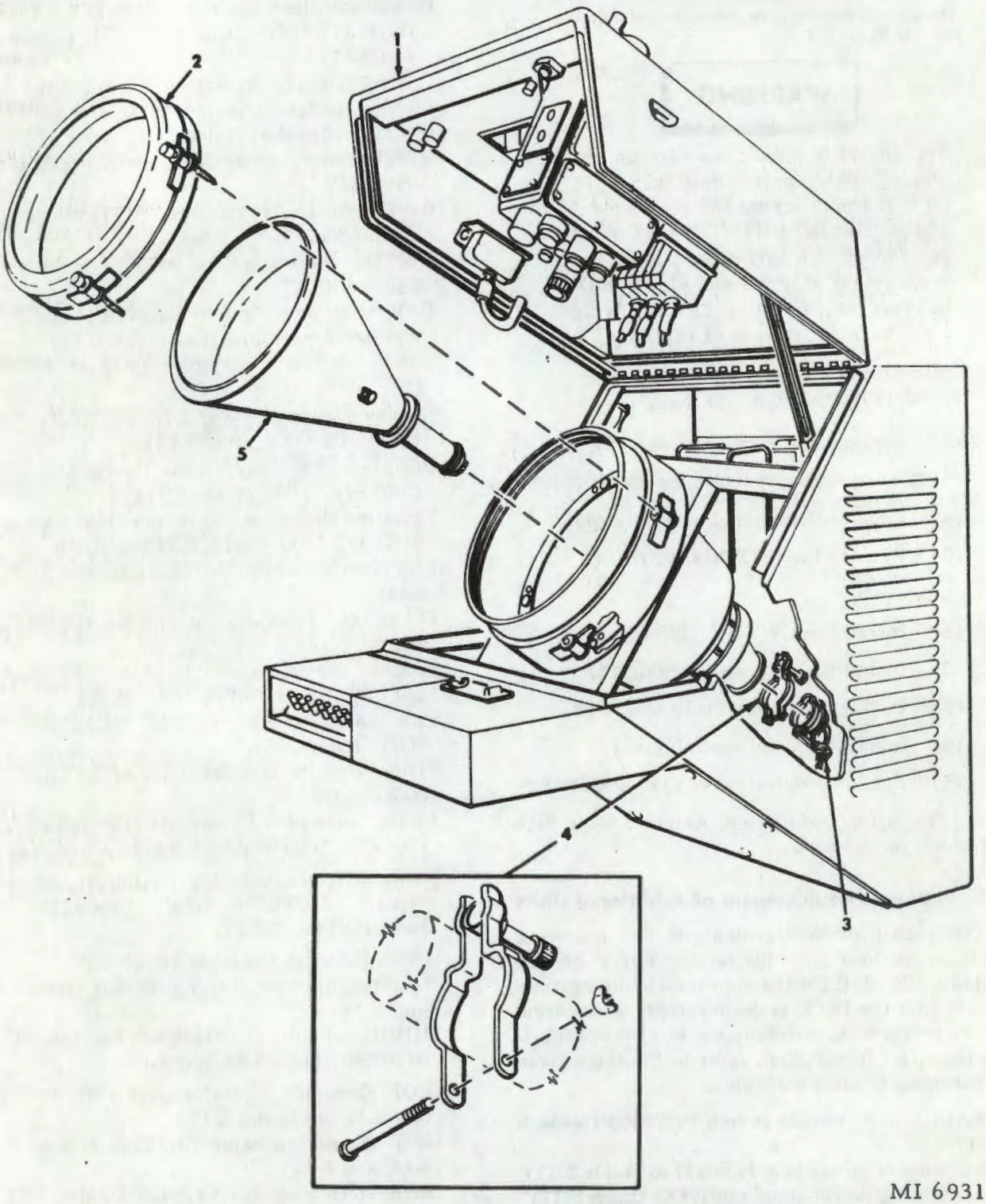
The repair or replacement of the following units is obvious by illustration. Refer to TM 9–1430–526–24P for the appropriate illustration. Insure that the IBCC is deenergized, as required, before performing maintenance. For the appropriate test after installation, refer to the table given in parentheses after each unit.

AADCP local/remote switch 10176000 (table 3-17)
Ac filament power supply 9077736 (table 3-11)
Ac lighting power supply 9077883 (table 3-11)
Audio frequency amplifier 9180133 (table 3-17)
Automatic test set 10670102 (table 3-12)
Azimuth electronic control amplifier (A and B) 10175993 (tables 3-12, 3-14, and 3-17)
Clamp gate generator (FC and TCC) 10670127 (tables 3-12, 3-13 (TCC), and 3-14 (FC))
Communications unit 10288711 *(AC)[1], 10677377 *(E)[1], 10675821 *(D)[1] (tables 3-16 and 3-17)
Control-indicator 10669059 (table 3-13)
Coordinate data control 9180166 (table 3-13)
CWTDC 10669060 (tables 3-12, 3-15, and 3-17)
CWTDC sweep generator 10669133 (tables 3-12 and 3-15)
CWTDC test relay assembly 9177750 (tables 3-12 and 3-15)
CWTDC video amplifier 9079928 (tables 3-12, 3-15, and 3-17)
Dc lighting power supply 9078728 (table 3-10)
Dc power supply 10181905 (table 3-11)
Defogging relay assembly 10043683 (table 3-11)
Display generator (A and B) 10670135 *(X)[1], 10288217 *(Y)[1] (table 3-14)
Doppler-voice terminal 10677380 *(E)[1], 10675847 *(D)[1] (table 3-17)
Elevation electronic control amplifier (A and B) 10175991 (tables 3-12, 3-14 and 3-17)
FC cursor generator 10182171 (tables 3-12 and 3-14)
FC marker generator (A and B) 1012242 (tables 3-12 and 3-14)
Fan and dimmer assembly (FC A, FC B, TCC and CWTDC) 9076275 (table 3-11)
Fire control group 10288356 *(L)[1], 10669151 *(K)[1] (chapter 3)
Firing circuits test set (A and B) 10106560 (table 3-12)
Firing console (A and B) 10288374 *(L), 10669364 *(K)[1] (tables 3-12, 3-14, and 3-17)
Firing interlock assembly (A and B) 10288767 *(AE)[1], 10288355 *(L)[1], 10669210 *(K)[1] (tables 3-14 and 3-17)
General test set 10106555 (table 3-12)
Height signal comparator 10183561 (tables 3-12 and 3-17)
IHIPIR azimuth geartrain (FC A and FC B) 9170530 (tables 3-14 and 3-17)
IROR electronic control amplifier 9170876 (tables 3-12, 3-14, and 3-17)
IROR sweep generator 10112255 (tables 3-12, 3-14, and 3-17)
IROR video amplifier 9170999 (tables 3-12, 3-14, and 3-17)
Indicator-control group 10183666 (chapter 3)
Intercept computer (A and B) 10182752 (tables 3-14 and 3-17)
Long sweep generator (TCC) 9170151 (tables 3-12 and 3-13)

[1]Refer to appendix E for serial number effectivity.

PSI video gate 10669790 *(V)[1], 10288144 *(W)[1] (tables 3-12 and 3-17)

Plotting board 9077234 (tables 3-10)
Plotting board control 9083632 (table 3-10)



1–Pedestal cover
2–Bezel assembly
3–Electron tube socket
4–Magnet assembly
5–CWTDC CRT

Figure 5-4. Replacement of the CWTDC CRT.

[1]Refer to appendix E for serial number effectivity.

Predicted intercept electronic marker generator (A and B) 10670935 (tables 3-12, 3-14, and 3-17)
Pulse radar frequency control 10175804 (tables 3-17)
Pulse radar set control 10288223 *(J)[1], 10670228 *(H)[1] (table 3-17)
Range control assembly (A and B) 9170985 (tables 3-12, 3-14, and 3-17)
Range electronic control amplifier (A and B) 10175992 (tables 3-12, 3-14, and 3-17)
Range/speed indicator (FC A and FC B) 10181934 (tables 3-14 and 3-17)
Relay assembly (FC A and FC B) 10288373 *(L)[1], 10669375 *(K)[1] (tables 3-12, 3-14, and 3-17)
Relay chassis (FC A and FC B) 10173836 (tables 3-14 and 3-17)
Scale-of-18 multivibrator 10670049 (tables 3-12, 3-13, 3-14, and 3-15)
Scan servo amplifier 9084098 (tables 3-12, 3-13)
Scan servo assembly 9179191 (table 3-15)
Shelf assembly 10669088 (table 3-15)
Short sweep generator (FC) 10288183 *(J)[1], 10112246 *(H)[1] (tables 3-12 and 3-14)
Speed control (FC A and FC B) 10109500 (tables 3-14 and 3-17)
Symbol generator 10182159 (tables 3-12 and 3-13)
Symbol intensity electronic gate assembly 10182837 (tables 3-12 and 3-13)
Symbol multivibrator 10112250 (tables 3-12 and 3-13)
Synchro relay assembly 10670105 (tables 3-12 and 3-17)
TCA panel assembly 10288099 *(G)[1], 10671117 *(F)[1] (tables 3-13 and 3-17)
TCC 10183582 (tables 3-12, 3-13, 3-14, 3-15, and 3-17)
TCC cursor generator 10670022 (tables 3-12 and 3-13)
TCC relay assembly 10182152 (tables 3-12, 3-13, 3-17)
TCC relay chassis 10175983 (tables 3-13 and 3-17)
TCO panel assembly 10288358 *(L)[1], 10181957 *(K)[1] (tables 3-13, 3-14, 3-15, and 3-17)
Telephone set and relay assembly 10182144 (table 3-17)
Test set control 10106544 (table 3-12)
Video amplifier (FC A, FC B, and TCC) 10674714 (tables 3-12, 3-13 (TCC), 3-14 (FC), and 3-17)
Video control assembly 10043986 (tables 3-13 and 3-17)
Video mixer (FC/TCC)10288228 (tables 3-12, 3-13, 3-14, and 3-17)
Voltage regulator 9079440 (table 3-11)
Voltage regulator 9179969 (table 3-11)
X-deflection amplifier (FC A, FC B, TCC, and CWTDC) 10108972 (tables 3-12, 3-13 (TCC, 3-14 (FC), and 3-15 (CWTDC))
X-electronic clamp assembly (FC and TCC) 10182203 (tables 3-12, 3-13 (TCC), and 3-14 (FC))
Y-deflection amplifier (FC A, FC B, TCC, and CWTDC) 10108972 (tables 3-12, 3-13 (TCC), 3-14 (FC), and 3-15 (CWTDC))
Y-electronic clamp assembly (FC and TCC) 10182203 (tables 3-12, 3-13 (TCC), and 3-14 (FC)).
10-Kv power supply (CWTDC) 9077263 (table 3-15)
14-Kv power supply (FC A, FC B, and TCC) 9078628 (tables 3-13 (TCC) and 3-14 (FC))
20-Vdc power supply 10670065 (table 3-11)
28-Vdc power supply 10181954 (table 3-11)

[1]Refer to appendix E for serial number effectivity.

APPENDIX A
REFERENCES

Refer to TM 9–1425–525–L for a list of other publications pertinent to this material and associated equipment.

APPENDIX B

MAINTENANCE ALLOCATION CHART

B-1. General

This appendix provides a summary of the maintenance operations covered in the equipment manuals. It authorizes categories of maintenance for specific maintenance functions on repairable items and components, and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. Explanation of Format for MAC Page

a. Group Number. The numbers in this column identify components, assemblies, and modules within the next higher assembly.

b. Functional Group. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Functions. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. Maintenance functions will be limited to and defined as follows:

(1) *Inspect.* To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

(2) *Test.* To verify serviceability and to detect electrical or mechanical failure by use of test equipment.

(3) *Service.* To clean, preserve, to charge, and to add fuel, lubricants, cooling agents, and air.

(4) *Adjust.* To rectify to the extent necessary to bring into proper operating range.

(5) *Aline.* To adjust specified variable elements of an item to bring to optimum performance.

(6) *Calibrate.* To determine the corrections to be made in the readings of instruments of test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.

(7) *Install.* To set up for use in an operational environment such as an emplacement site or vehicle.

(8) *Replace.* To replace unserviceable items with serviceable assemblies, subassemblies, or parts.

(9) *Repair.* To restore an item to serviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.

(10) *Overhaul.* To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards using the Inspect and Repair Only as Necessary (IROAN) technique.

(11) *Rebuild.* To restore an item to a standard as nearly as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

The codes used represent the various maintenance categories as follows:

Code	*Maintenance category*
C	Operator/crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

d. Tools Required. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in the tools required page.

e. Remarks. The letters appearing in this column refer to specific remarks which appear on the remarks page.

B-3. Explanation of Format for Tools Required Pages

a. Tool Code. The numbers in this column correspond to the numbers used in the tool required column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Tool Number. This column lists the Federal stock number.

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

MAC PAGE 1

GROUP NUMBER	FUNCTIONAL GROUP	MAINTENANCE FUNCTIONS											TOOL REQD.	REMARKS
		a INSPECT	b TEST	c SERVICE	d ADJUST	e ALIGN	f CALIBRATE	g INSTALL	h REPLACE	i REPAIR	j OVERHAUL	k REBUILD	l	m
0100	Battery Control Central AN/TSW-8 (BCC)	O	O	O	O	O	F	O	O	O	H	D	1	A
1200	Power Distribution Control	O	O	O					F	O	H	D	2	
1300	Synchro Bus Assembly	O	O	O					O	O	H	D	3	
1400	Tactical Control Console	O	O	O	O	O			F	O	H	D	4	
1410	Relay Chassis	O	O	O					O	O	H	D	5	
1430	Deflection Amplifier XY	O	O	O					O	O	H	D	6	
1470	14 KV Power Supply	O	F	O					O	O	H	D	7	
1500	Fan and Dimmer Assembly	O	O	O					O	O	H	D	8	
1540	Relay Assembly	O	F	O	O				O	O	H	D	9	
1600	Video Amplifier	O	F	O	O				O	O	H	D	10	
1680	Defogging Relay Assembly	O	O	O					O	O	H	D	11	
1700	Indicator Control	O	O	O	O				F	O	H	D	12	
1750	Coordinate Data Control	O	F	O					O	O	H	D	13	
1810	Target Assigning Control	O	O	O	O				F	O	H	D	14	
1910	Interrogator Control	O	F	O	O				F	O	H	D	15	
1945	Correlation Cursor	O	F	O					O	O	H	D	16	
1960	Video Control Panel	O	O	O	O				O	O	H	D	17	
2100	Plotting Board	O	O	O					O	O	H	D	18	
2200	Plotting Board Control	O	O	O	O				O	O	H	D	19	
2300	IFAR Frequency Control	O	O	O					O	O	H	D	20	
2400	Display Panel	O	F	O	O	O			O	O	H	D	21	
2440	Audio Frequency Amplifier	O	O						O	O	H	D	22	
2600	Continuous Wave Target Detection Console (CWTDC)	O	O	O	O	O			F	O	H	D	23	
1430	Deflection Amplifier X Y	O	O	O					O	O	H	D	24	
1500	Fan and Dimmer Assembly	O	O	O					O	O	H	D	25	
2710	10 KV Power Supply	O	O	O					O	O	H	D	26	
2760	Video Amplifier	O	O	O					O	O	H	D	27	
2810	Test Relay Assembly	O	O	O					O	O	H	D	28	
2870	Control Shelf	O	O	O	O				F	O	H	D	29	
2930	Cover Assembly	O	O	O	O	O			F	O	H	D	30	
2985	Scan Servo Assembly	O	F	O	O	O			O	O	H	D	31	
3200	CWTDC Communications Unit	O	O	O					O	O	H	D	32	
3300	Doppler-Voice Terminal	O	F	O					O	O	H	D	33	

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MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

MAC PAGE 2

GROUP NUMBER	FUNCTIONAL GROUP	MAINTENANCE FUNCTIONS											TOOL REQD.	REMARKS
		a INSPECT	b TEST	c SERVICE	d ADJUST	e ALIGN	f CALIBRATE	g INSTALL	h REPLACE	i REPAIR	j OVERHAUL	k REBUILD	l	m
3400	Voltage Regulator Assembly	O	O	O					F	O	H	D	34	
3465	Voltage Regulator	O	F	O					O	O	H	D	35	
3500	Reference Voltage Regulator	O	F	O	F				O	O	H	D	36	
3600	Power Supply Control	O	O	O	O				F	O	H	D	37	
3700	20 VDC Power Supply	O	O	O	O				O	O	H	D	38	
3800	Power Distribution Panel	O	O	O					F	O	H	D	39	
3900	ADCP Local/Remote Switch	O	F	O					O	O	H	D	40	
4200	Indicator Control Group (ICG)	O	O	O	O		F		F	O	H	D	41	
4210	General Test Set	O	O	O	O		F		O	O	H	D	42	
4260	Automatic Test Set	O	O	O					O	O	H	D	43	
4310	FC Cursor Generator	O	O	O					O	O	H	D	44	
4380	IPAR Set Control	O	F	O					O	O	H	D	45	
4410	TCC Cursor Generator	O	O	O					O	O	H	D	46	
4510	FC X,Y Electronic Clamp Assembly	O	O	O					O	O	H	D	47	
4610	Predicted Intercept Marker Generator A, B	O	O	O					O	O	H	D	48	
4730	FCA Marker Generator	O	O	O					O	O	H	D	49	
4830	Symbol Intensity Electronic Gate Assembly	O	O	O					O	O	H	D	50	
4930	Scale of 18 Multivibrator	O	O	O					O	O	H	D	51	
4970	Test Set Control	O	O	O					O	O	H	D	52	
5010	FC Video Mixer	O	O	O					O	O	H	D	53	
5050	FC Short Sweep Generator	O	O	O					O	O	H	D	54	
5150	FC Clamp Gate Generator	O	O	O					O	O	H	D	55	
5190	Symbol Generator	O	O	O					O	O	H	D	56	
5310	Symbol Multivibrator	O	O	O					O	O	H	D	57	
5410	PSI Video Gate	O	O	O					O	O	H	D	58	
5540	TCC Long Sweep Generator	O	O	O					O	O	H	D	59	
5700	Firing Console (FCA, FC B)	O	O	O	O				F	O	H	D	60	
5710	Relay Assembly	O	O	O					O	O	H	D	61	
1600	Video Amplifier	O	O	O	O				O	O	H	D	62	
5830	Relay Chassis	O	O	O	O				O	O	H	D	63	
1470	14 KV Power Supply	O	O	O	O				O	O	H	D	64	
1430	Deflection Amplifier (X, Y)	O	O	O	O				O	O	H	D	65	
1500	Fan and Dimmer Assembly	O	O	O					O	O	H	D	66	

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MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

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MAC PAGE 3

GROUP NUMBER	FUNCTIONAL GROUP	MAINTENANCE FUNCTIONS											TOOL REQD.	REMARKS
		a INSPECT	b TEST	c SERVICE	d ADJUST	e ALIGN	f CALIBRATE	g INSTALL	h REPLACE	i REPAIR	j OVERHAUL	k REBUILD	l	m
6010	Indicator Control	O	O	O					F	O	H	D	67	
6055	Cover Assembly	O	O	O	O				F	O	H	D	68	
6075	Range Control Assembly	O	F	O	F				O	O	H	D	69	
6195	Range/Speed Indicator	O	O	O	O				O	O	H	D	70	
6275	IHIPIR Azimuth Geartrain	O	F	O	O				O	O	H	D	71	
6415	Console Shelf Assembly	O	O	O	O				F	O	H	D	72	
6445	Speed Control	O	F	O	F				F	O	H	D	73	
6600	Fire Control Group (FCG)	O	O	O	O		F		F	O	H	D	74	
6610	Range Electronic Control Amplifier A, B	O	O	O	O		F		O	O	H	D	75	
6710	Elevation Electronic Control Amplifier A, B	O	O	O	O		F		O	O	H	D	76	
6780	Azimuth Electronic Control Amplifier A, B	O	O	O	O		F		O	O	H	D	77	
6840	Height Signal Comparator	O	O	O					O	O	H	D	78	
6930	ROR Video Amplifier	O	O	O	O				O	O	H	D	79	
7010	ROR Sweep Generator	O	O	O	O				O	O	H	D	80	
7110	ROR Electronic Control Amplifier	O	O	O					O	O	H	D	81	
7170	Intercept Computer A, B	O	O	O	O				O	O	H	D	82	
7210	Firing Interlock Assembly A, B	O	O	O					O	O	H	D	83	
7250	Display Generator A, B	O	F	O	O				O	O	H	D	84	
7290	Scan Servo Amplifier	O	F	O	O				O	O	H	D	85	
7360	CWTDC Sweep Generator	O	F	O	O				O	O	H	D	86	
7450	Firing Circuits Test Set A, B	O	O	O	O		F		O	O	H	D	87	
7700	AC Lighting Power Supply	O	O	O					O	O	H	D	88	
7800	AC Filament Power Supply	O	F	O					O	O	H	D	89	
7900	28 VDC Power Supply	O	O	O					O	O	H	D	90	
8100	DC Lighting Power Supply	O	F	O					O	O	H	D	91	
8200	DC Power Supply	O	O	O					O	O	H	D	92	
8300	Synchro Relay Assembly	O	F	O					O	O	H	D	93	
8400	Telephone Set and Relay Assembly	O	O	O					O	O	H	D	94	
8600	TCO/TCA Communications Unit	O	O	O	O				F	O	H	D	95	
9500	Electrical Equipment Shelter	O	O	O				D	O	O	H	D	96	
	Air Conditioner	O	F	O					F	F				B

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MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

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TOOLS REQUIRED PAGE 1

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
1-b	O	Oscilloscope, VSM-50C	6625-532-4288
	O	Multimeter, TS-505/U	6625-243-0562
1-C	C	Cloth, Wiping	7920-205-1711
	C	Brush, Dusting	7920-282-9743
	C	Cleaner, Vacuum Hand	7910-530-6260
2-b	O	Multimeter, AN/PSM-6	6625-957-4374
2-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
2-h	O	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	O	Wrench Box & Open End Comb, Offset 5/16	5120-228-9503
	O	Screwdriver Flat Tip 3/16 inch, 6 Inch Blade	5120-180-0708
	O	Multimeter, AN/PSM-6	6625-957-4374
	O	Pliers Straight Round Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
	O	Wrench Combination Box & Open End 3/4	5120-895-9573
3-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
3-h	O	Sealing Compound Spec Mil-S-22473	8030-081-2339
	O	Fuse Puller Plier Type	5120-224-9453
	O	Wrench Box & Open End Comb Offset 13/16	5120-228-9511
	O	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
4-D	O	Oscilloscope AN/USM-50B/U	6625-532-4288
	O	Multimeter AN/PSM-6B High Z	6625-688-9507
4-B	O	Multimeter, AN/PSM-6	6625-957-4374
4-H	O	Screwdriver Flat Tip 1/4 Inch 4 Inch Blade	5120-278-1282
	O	Pliers 7N	5120-321-4507
	O	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needlenose w/o Cut 6 1/2 Inches Long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 2

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle	5110-268-4224
	O	Screwdriver Flat Tip 3/8 Inches 8 Inch Blade	5120-287-2502
	O	Pliers Long Round Nose w/cutter 6 Inch Size	5120-247-5177
	O	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
	O	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
5-C	C	Cloth, Wiping	7920-205-1711
5-H	O	Screwdriver Flat Tip 3/8 Inch 8 Inch Blade	5120-287-2502
6-C	C	Cloth, Wiping	7920-205-1711
	C	Vacuum Cleaner Hand	7910-530-6260
6-H	O	Screwdriver Flat Tip 9/32	5120-242-5862
	O	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	O	Wrench Open End FXD Dble Hd 1/4 - 9/32	5120-277-1325
	O	Wrench Open End FXD Dble Hd 5/16 - 11/32	5120-277-2341
	O	Screwdriver Flat Tip 9/32 in. 3 In. Blade	5120-242-5862
7-b	O	Multimeter AN/PSM-6	6625-957-4374
7-h	O	Wrench Open End FXD Dble Hd 5/16-- 11/32	5120-277-2341
	O	Screwdriver Flat Tip 9/32 In. 3 In. Blade	5120-242-5862
	O	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
	O	Wrench Open End FXD. Dble Hd 1/4 - 9/32	5120-277-1325
	O	Soldering Gun (10106117-1)	3439-982-1735
	O	Tip Electrical Soldering Gun Chisel	3439-640-2279
	O	Wrench Open End	3439-994-7444
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
8-b	O	Multimeter AN/PSM-6	6625-957-4374
	O	Oscilloscope	6625-532-4288
8-C	C	Cloth, Wiping	7920-205-1711
8-h	O	Screwdriver Flat Tip 3/8 In. 8 In. Blade	5120-287-2502
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253

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MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 3

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Pliers Straight Rd Needlenose w/o cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
9-C	C	Cloth, Wiping	7920-205-1711
9-h	O	Screwdriver Flat Tip 3/8 in. 8 In. Blade	5120-287-2502
10-b	O	Multimeter AN/PSM-6	6625-957-4374
10-C	C	Vacuum Cleaner Hand	7910-530-6260
10-d	C	Screwdriver Flat-Tip 3/16 5 inches long	5120-287-1270
10-h	O	Screwdriver Flat-Tip 1/2 8 inches long	5120-227-7360
	O	Wrench Open End FXD Dble Hd 1/4 - 9/32	5120-277-1325
	O	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	O	Wrench Combination Box & Open End 1/2	5120-895-9569
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cutter 6 1/2 inches long	5120- 293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
11-C	C	Cloth, Wiping	7920-205-1711
11-h	O	Screwdriver Flat Tip 3/8 In. 8 Inch Blade	5120-287-1502
12-b	O	Multimeter AN/PSM-6	6625-957-4374
12-C	C	Cloth, Wiping	7920-205-1711
12-h	O	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
13-b	O	Multimeter AN/PSM-6	6625-957-4374
	O	Multimeter TS-505D/U	6625-376-4937
13-C	C	Cloth, Wiping	7920-205-1711
13-D	O	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
13-H	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 4

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
14-b	0	Multimeter AN/PSM-6	6625-957-4374
14-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
14-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
14-h	0	Wrench Box & Open End Comb. Offset 5/16	5120-228-9203
	0	Screwdriver Flat Tip 7/32 In. 12 Inch Blade	5120-278-1268
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	0	Pliers 7 N	5120-321-4507
15-b	0	Multimeter AN/PSM-6	6625-957-4374
15-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
15-d	C	Screwdriver Flat Tip 3/16 5 Inch Blade	5120-278-1270
15-h	0	Screwdriver Phillips tip 2 4 Inches Long	5120-234-8913
	0	Key Socket Head Screw Hex Drive Size 1/4	5120-242-4659
	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
	0	Screwdriver Cross Tip Phillips Type Tip No. 3	5120-234-8912
	0	Pliers 7 N	5120-321-4507
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
	0	Wrench Combination Box & Open End 1/2	5120-895-9569
16-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
16-h	0	Screwdriver Cross Tip Phillips 2	5120-234-8913

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

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TOOLS REQUIRED PAGE 5

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Key Socket Head Screw Hex Drive Size 5/64	5120-224-2504
17-C	C	Cloth, Wiping	7920-205-1711
17-h	O	Pliers 7 N	5120-321-4507
	O	Key Socket Head Screw Hex Drive Size 1/4	5120-242-4659
18-C	C	Cloth, Wiping	7920-205-1711
18-h	O	Screwdriver Flat Tip 1/4 Inch 4 Inch Blade	5120-278-1282
19-b	O	Multimeter AN/PSM-6	6625-957-4374
19-h	O	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	O	Wrench Combination Box & Open End 1/2	5120-895-9569
	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-203-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
20-b	O	Multimeter AN/PSM-6	6625-957-4374
20-C	C	Cloth, Wiping	7920-205-1711
	C	Vacuum Cleaner Hand	7910-530-6260
20-d	C	Screwdriver Flat Tip 3/16	5120-278-1270
20-h	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needlenose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electrical Soldering Gun Chisel	3439-640-2279
	O	Wrench Open End Fixed	3439-994-7444
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
21-b	O	Multimeter AN/PSM-6	6625-957-4374
	O	Multimeter TS-505D/U	6625-376-4937
21-C	C	Vacuum Cleaner Hand	7910-530-6260
	C	Cloth, Wiping	7920-205-1711
21-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
21-h	O	Pliers 7 N	5120-321-4507

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

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TOOLS REQUIRED PAGE 6

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Wrench Combination Box & Open End 7/16	5120-895-9568
	O	Key Socket Head Screw Hex Drive Size 1/4	5120-242-4659
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Wrench Open End Fixed	3439-994-7444
	O	Wrench Open End Fixed Dble Hd 1/4 - 9/32	5120-277-1325
	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Wrench Combination Box & Open End 1/16	5120-895-9570
	O	Wrench Open End Fxd. Dble Hd 5/16 - 11/32	5120-277-2341
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electric Soldering Gun Chisel	3439-640-2279
		Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
22-C	C	Cloth, Wiping	7920-205-1711
22-h	O	Screwdriver Flat Tip 3/8 In. 8 Inch Blade	5120-287-2502
23-C	C	Vacuum Cleaner Hand	7910-530-6260
23-h	O	Screwdriver Flat Tip 1/2 Inch 8 Inch Blade	5120-227-7360
	O	Pliers 7 N	5120-321-4507
24-C	C	Same as 2-C	
24-h	O	Same as 6-h	
25-b	O	Same as 8-b	
25-c	C	Same as 8-C	
25-h	O	Same as 8-h	
26-C	C	Same as 6-C	
26-d	O	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
26-h	O	Screwdriver Flat Tip 3/8 In. 8 In. Blade	5120-287-2502
27-C	C	Same as 2-C	
27-d	O	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
27-h	O	Screwdriver Flat Tip 3/8 In. 8 In. Blade	5120-287-2502
28-C	C	Same as 2-C	
28-h	O	Screwdriver Flat Tip 3/8 In. 8 In. Blade	5120-287-2502
29-b	O	Same as 7-b	
29-C	C	Same as 2-C	
29-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

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TOOLS REQUIRED PAGE 7

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
29-h	O	Screwdriver Cross Tip Phillips No. 1	5120-240-8716
	O	Key Socket Head Screw Hex Drive Size 1/4	5120-242-4659
	O	Wrench Comb. Box & Open End 1/2	5120-895-9569
	O	Wrench Comb. Box & Open End 9/16	5120-895-9570
	O	Pliers Diagonal Cut 6 In. Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inch Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
30-b	O	Multimeter (TS-505D/U)	6625-376-4937
	O	Multimeter AN/PSM-6	6625-957-4374
30-C	C	Cloth, Wiping	7920-205-1711
30-d	O	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
30-h	O	Wrench Open End Fxd. Dble Hd 3/8 - 7/16	5120-595-9028
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inch Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
31-b	O	Oscilloscope USM-50C	6625-532-4288
	O	Multimeter AN/PSM-6B High Z	6625-688-9507
31-C	C	Same as 2-C	
31-d	O	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
31-e	O	Meter DC VTVM	6625-967-1504
31-h	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Key Socket Head Screw Hex Drive Size 5/64	5120-224-2504
	O	Screwdriver Cross Tip Phillips No. 1	5120-240-8716
	O	Wrench Open End Fxd. Dble Head 3/16 - 7/32	5120-277-1324
32-C	C	Vacuum Cleaner	7910-240-8716
32-h	O	Screwdriver Cross Tip Phillips No. 1	5120-240-8716
	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Key Socket Head Screw Hex Drive Size .050	5120-198-5401

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

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FOR Battery Control Central AM/TSW-8

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TOOLS REQUIRED PAGE 8

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
33-C	C	Cloth, Wiping	7920-205-1711
34-b	O	Multimeter AN/PSM-6	6625-957-4374
34-C	C	Vacuum Cleaner Hand	7910-530-6260
34-h	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Wrench Box & Open End Comb. Offset 5/16	5120-228-9503
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inch Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Autostop	5110-268-4224
35-b	O	Same as 7-b	
35-C	C	Vacuum Cleaner Hand	7910-530-6260
35-h	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electric Soldering Gun Chisel	3439-640-2279
	O	Wrench Open End Fixed	3439-994-7444
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
	O	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
36-b	O	Same as 7-b	
36-C	C	Vacuum Cleaner Hand	7910-530-6260
36-d	C	Screwdriver Flat Tip 3/16 5 Inch Blade	5120-278-1270
36-h	O	Screwdriver Flat Tip 1/2 8 Inch Blade	5120-227-7360
37-b	O	Multimeter AN/PSM-6	6625-957-4374
37-C	C	Same as 2-C	
37-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
37-h	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Screwdriver Flat Tip 1/4 4 Inch Blade	5120-278-1282
	O	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
	O	Fuse Puller Plier Type	5120-224-9453
	O	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	O	Wrench Combination Box & Open End 9/16	5120-895-9570

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

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TOOLS REQUIRED PAGE 9

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Wrench Combination Box & Open End 9/16	5120-895-9570
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Wrench Combination Box & Open End 1/2	5120-895-9569
38-C	C	Vacuum Cleaner Hand	7910-530-6260
38-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
39-C	C	Cloth, Wiping	7920-205-1711
40-h	h	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
41-h	h	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
42-b	O	Multimeter AN/PSM-6	6625-957-4374
42-C	C	Vacuum Cleaner Hand	5910-530-6260
42-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
42-h	O	Screwdriver Cross Tip Phillips No. 2	5120-234-8913
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electrical Soldering Gun Chisel	3439-640-2279
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Wrench Open End Fixed	3439-994-7444
43-b	O	Multimeter AN/PSM-6	6625-957-4374
43-C	C	Same as 2-C	
43-h	O	Fuse Puller Plier Type	5120-224-9453
	O	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
	O	Wrench Combination Box & Open End 5/8	5120-895-9571
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

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TOOLS REQUIRED PAGE 10

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Tip Electric Soldering Gun Chisel	3439-640-2279
	0	Wrench Open End Fixed	3439-994-7444
	0	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
44-C	C	Same as 2-C	
44-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
44-h	0	Wrench Combination Box & Open End 1/2	5120-895-9569
	0	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
45-b	0	Same as 7-b	
45-C	C	Vacuum Cleaner Hand	5910-530-6260
45-h	0	Key Socket Head Screw Hex Drive Size 1/16	5120-198-5398
	0	Screwdriver Cross Tip Phillips No. 1	5120-240-8716
	0	Wrench Open End Fixed	3439-994-7444
	0	Wrench Open End Fxd. Dble Hd 3/16 - 7/32	5120-277-1324
	0	Wrench Combination Box & Open End 9/16	5120-895-9570
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
46-b	0	Multimeter AN/PSM-6	6625-957-4374
46-C	C	Same as 7-b	
46-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
46-h	0	Wrench Open End Fixed	3439-994-7444
	0	Wrench Box & Open End Comb. 13/16	5120-228-9511
	0	Wrench Combination Box & Open End 9/16	5120-895-9570
	0	Wrench Combination Box & Open End 1/2	5120-895-9569
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun	3439-982-1735
	0	Tip Electric Soldering Gun Chisel	3439-640-2279
47-b	0	Multimeter AN/PSM-6	6625-957-4374
47-C	C	Vacuum Cleaner Hand	7910-530-6260

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART
FOR Battery Control Central AN/TSW-8
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TOOLS REQUIRED PAGE 11

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
47-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
47-h	O	Wrench Combination Box & Open End 5/8	5120-895-9571
	O	Wrench Combination Box & Open End 1/2	5120-895-9569
	O	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches	5120-611-7136
48-b	O	Multimeter AN/PSM-6	6625-957-4374
48-C	C	Same as 2-C	
48-d	C	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
48-h	O	Wrench Combination Box & Open End 9/16	5120-895-9570
	O	Wrench Box & Open End Comb. Offset 13/16	5120-228-9511
	O	Wrench Combination Box & Open End 1/2	5120-895-9569
	O	Key Socket Head Screw Hex .050	5120-198-5401
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush 8 Inches Long	5120-611-7136
	O	Wrench Open End Fixed	3439-994-7444
49-b	O	Same as 7-b	
49-C	C	Vacuum Cleaner Hand	7910-530-6260
49-d	C	Screwdriver Flat Tip 3/16 5 Inch Blade	5120-278-1270
49-h	O	Same as 48-h	
50-b	O	Multimeter AN/PSM-6	6625-957-4374
50-C	C	Vacuum Cleaner Hand	7910-530-6260
50-h	O	Hammer Hand Ball Peen 1/2 pound	5120-242-3913
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electric Soldering Gun Chisel	3439-640-2279

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

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TOOLS REQUIRED PAGE 12

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Wrench Open End Fixed	3439-994-7444
	O	Soldering Aid w/Wire Brush 8 Inches	5120-611-7136
51-b	O	Multimeter AN/PSM-6	6625-957-4374
51-C	C	Vacuum Cleaner Hand	7910-530-6260
51-h	O	Wrench Open End	3439-994-7444
	O	Pliers Diagonal Cutting 6 Inches	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	O	Soldering Gun	3439-982-1735
	O	Tip Electric Soldering Gun Chisel	3439-640-2279
	O	Wrench Open End Fixed	3439-994-7444
	O	Soldering Aid w/Wire Brush 8 Inches	5120-611-7136
52-b	O	Same as 7-b	
52-C	O	Same as 2-C	
52-h	O	Same as 35-h	
53-b	O	Multimeter AN/PSM-6	6625-957-4374
	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Solder (SN 60 Wrap 2) Mil-S-6872	3439-273-3722
	O	Soldering Gun (10106117-1)	3439-982-1735
	O	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	O	Wrench Open End Fixed (10106117-3)	3439-994-7444
	O	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
53-h	O	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	O	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	O	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	O	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	O	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
54-C	O	Cloth, Wiping	7920-205-1711
	O	Vacuum Cleaner Hand	7910-530-6260
54-d	O	Screwdriver Flat Tip 3/16	5120-278-1270
54-b	O	Multimeter AN/PSM-6	6625-957-4374

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 13

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
54-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
	0	Wrench Combination Box and Open End 1/2	5120-895-9569
54-b	0	Multimeter AN/PSM-6	6625-957-4374
54-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
54-h	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
55-b	0	Multimeter AN/PSM-6	6625-957-4374
55-C	0	Vacuum Cleaner Hand	7910-530-6260
55-h	0	Pliers Diagonal Cutting 6 Inches Long	5510-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
56-b	0	Multimeter AN/PSM-6	6625-957-4374
56-C	0	Vacuum Hand	7910-530-6260
56-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
56-h	0	Key Socket Head Screw Hex Dr Size .050	5120-198-5401
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 14

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Wrench Open End Fxd. Dble Hd 5/16 - 11/32	5120-277-2341
	0	Wrench Combination Box and Open End 1/2	5120-895-9569
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
57-b	0	Multimeter AN/PSM-6	6625-957-4374
57-C	0	Vacuum Hand	7910-530-6260
57-h	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
57-h	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
58-b	0	See 56-b	
58-C	0	Vacuum Cleaner Hand	7910-530-6260
	0	Rag, Wiping	7920-205-1711
58-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
58-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Wrench Comb. Box and Open End 1/2	5120-895-9569
	0	Wrench Comb. Box and Open End 5/8	5120-895-9571
59-b	0	See 56-b	
59-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
59-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical W/Tips 115V	3439-346-7538

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 15

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	O	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	O	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	O	Soldering Gun (10106117-1)	3439-982-1735
	O	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	O	Wrench Open End Fixed (10106117-5)	3439-994-7444
	O	Screwdriver, Cross Tip Phillips Type Tip No. 1	5120-240-8716
	O	Wrench Comb. Box and Open End 1/2	5120-895-9569
	O	Wrench Comb. Box and Open End 5/8	5120-895-9571
	O	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
60-b	O	Multimeter AN/PSM-6	6625-957-4374
60-h	O	Screwdriver Flat Tip 1/4 In. 4 Inch Blade	5120-278-1282
	O	Screwdriver Flat Tip 3/8 In. 6 Inch Long	5120-227-7349
	O	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	O	Pliers Slip Joint Straight Nose w/Cutter 8 N	5120-240-6217
60-h	O	Pliers Slip Joint Angle Nose 5 Inch Size	5120-278-0350
61-C	O	Vacuum Cleaner Hand	7910-530-6260
61-h	O	Screwdriver Flat-Tip 1/4 In. 4 Inch Blade	5120-278-1282
62-b	O	See 10-b	
62-C	C	See 10-C	
62-d	C	See 10-d	
62-h	O	See 10-h	
63-C	O	Vacuum Cleaner Hand	7910-530-6260
	O	Cloth, Wiping	7920-205-1711
63-h	O	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	O	Screwdriver Flat Tip 1/4 In. 1 1/2 In. Blade	5120-596-8502
64-b	O	See 7-b	
64-h	O	See 7-h	
65-C	C	See 6-C	
65-h	O	See 6-h	
66-b	O	See 8-b	
66-C	C	See 8-C	
66-h	O	See 8-h	
67-h	O	Pliers Long Round Nose w/Cutter 6 In. Size	5120-247-5177
	O	Pliers (For Inserting Turnlock Fasteners) 7 N	5120-321-4507
68-C	O	Vacuum Cleaner Hand	7910-530-6260

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART
FOR Battery Control Central AN/TSW-8
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TOOLS REQUIRED PAGE 16

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Cloth, Wiping	7920-205-1711
68-b	0	Multimeter AN/PSM-6	6625-957-4374
	0	Multimeter (TS-505D/U)	6625-376-4937
68-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
68-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	0	Wrench Box and Open End Comb. Offset 5/16	5120-228-9503
	0	Key Socket Head Screw Hex Drive Size 5/64	5120-224-2504
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Wrench Combination Box and Open End 3/4	5120-895-9573
	0	Wrench Combination Box and Open End 3/8	5120-895-9567
	0	Screwdriver Flat Tip 1/8	5120-236-2140
	0	Wrench Combination Box and Open End 1/2	5120-895-9569
	0	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	0	Screwdriver Cross Tip Phillips Type Tip No. 3	5120-234-8912
68-h	0	Wrench Open End Fxd. Dble Hd 1/4 - 9/32	5120-277-1325
	0	Pliers (For Inserting Turnlock Fasteners) 7 N	5120-321-4507
69-C	0	Rag, Wiping	7920-205-1711
70-C	0	Rag, Wiping	7920-205-1711
70-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
70-h	0	Screwdriver Flat Tip 7/32 In. 12 Inch Blade	5120-278-1268
71-C	0	Vacuum Cleaner Hand	7910-530-6260
71-d	0	Multimeter AN/PSM-6	6625-957-4374
72-b	0	Multimeter (TS-505D/U)	6625-376-4937
	0	Multimeter AN/PSM-6	6625-957-4374
72-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 17

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
72-h	0	Screwdriver Flat Tip 9/64 In. 5 Inch Blade	5120-287-2505
	0	Pliers (For Inserting Turnlock Fasteners) 7 N	5120-321-4507
	0	Pliers Curved, Round Needle Nose 6 Inch Size	5120-239-8250
	0	Knife Pocket 2 3/8 to 2 9/16 Cutting Blade	7340-240-5943
	0	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush on End 8 In. Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
72-h	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Wrench Box and Open End Comb. Offset 5/16	5120-228-9503
	0	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Wrench Comb. Box and Open End 1/2	5120-895-9569
73-h	0	Screwdriver Flat Tip 9/64 In. 5 Inch Blade	5120-287-2505
74-h	0	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	0	Wrench Combination Box and Open End 3/8	5120-895-9567
75-C	0	Vacuum Cleaner Hand	7910-530-6260
75-b	0	Multimeter AN/PSM-6	6625-957-4374
75-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
75-h	0	Key Socket Head Screw Hex Drive Size 1/16	5120-198-5398
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 18

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Wrench Combination Box and Open End 7/16	5120-895-9568
76-b	0	Multimeter AN/PSM-6	6625-957-4374
76-C	0	Vacuum Cleaner Hand	7910-530-6260
76-d	0	Screwdriver, Flat Tip 3/16 5 Inches Long	5120-278-1270
76-h	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel)	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
76-h	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
77-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
77-h	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Fuse Puller Plier Type	5120-224-9453
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
78-0	0	Vacuum Cleaner Hand	7910-530-6260
79-b	0	Multimeter AN/PSM-6	6625-957-4374
79-C	0	Rag, Wiping	7920-205-1511
79-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
79-h	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
80-b	0	Multimeter AN/PSM-6	6625-957-4374
80-C	0	Rag, Wiping	7920-205-1711
	0	Vacuum Cleaner Hand	7910-530-6260
80-d	0	Screwdriver Flat-Tip 3/16 5 Inches Long	5120-278-1270
80-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 19

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1732
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
	0	Wrench Combination Box and Open End 5/8	5120-895-9571
81-b	0	Multimeter AN/PSM-6	6625-957-4374
81-C	0	Rag, Wiping	7920-205-1711
81-h	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
81-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) (10106117-2)	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
82-b	0	Multimeter AN/PSM-6	6625-957-4374
82-C	0	Vacuum Cleaner Hand	7910-530-6260
	0	Cloth, Wiping	7920-205-1711
82-d	0	Screwdriver Flat Tip 3/16	5120-278-1270
82-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Key Socket Head Screw Hex Drive Size 1/4	5120-242-4659
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
	0	Fuse Puller Plier Type	5120-224-9453

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 20

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
83-C	0	Vacuum Cleaner Hand	7910-530-6260
83-h	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
84-C	0	Vacuum Cleaner Hand	7910-530-6260
84-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
84-h	0	Wrench Combination Box and Open End 1/2	5120-895-9569
	0	Screwdriver Flat Tip 1/8 In. 2 inch Blade	5120-236-2140
85-C	0	Vacuum Cleaner Hand	7910-530-6260
85-d	0	Screwdriver Flat Tip 3/16 5 Inches long	5120-278-1270
86-b	0	Multimeter AN/PSM-6	6625-957-4374
86-C	0	Vacuum Cleaner Hand	7910-530-6260
	0	Cloth, Wiping	7920-205-1711
86-d	0	Screwdriver Flat Tip 3/16 5 Inches Long	5120-278-1270
86-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd, Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun 10106117-1	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Wrench Box and Open End Comb, Offset 13/16	5120-228-9511
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
87-b	0	Multimeter AN/PSM-6	6625-957-4374
87-h	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd, Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Wrench Box and Open End Comb, Offset 13/16	5120-228-9511
	0	Wrench Combination Box and Open End 9/16	5120-895-9570
88-C	0	Rag, Wiping	7920-205-1711
89-C	0	Vacuum Cleaner Hand	7910-530-6260

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART
FOR Battery Control Central AN/TSW-8
CHART NUMBER 10182552
TOOLS REQUIRED PAGE 21

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
90-C	0	Same as 89-C	
91-C	0	Same as 89-C	
91-h	0	Screwdriver Cross-Tip Phillips Type Tip No. 2	5120-234-8913
92-C	0	Vacuum Cleaner	7910-530-6260
	0	Rag, Wiping	7920-205-1711
93-C	0	Same as 89-C	
93-h	0	Screwdriver Flat Tip 9/32	5120-242-5862
94-C	0	Same as 89-C	
95-b	0	Multimeter AN/PSM-6	6625-957-4374
95-C	0	Vacuum Cleaner Hand	7910-530-6260
95-h	0	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
95-h	0	Wrench Box and Open End Comb. Offset 5/16	5120-228-9503
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd. Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872 1/16	3439-269-9610
	0	Soldering Iron Electrical w/Tips 115V	3439-346-7538
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224
	0	Key Socket Head Screw Hex Drive Size .050	5120-198-5401
	0	Wrench Combination Box and Open End 1/2	5120-895-9569
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Wrench Box and Open End Comb. Offset 13/16	5120-228-9511
96-b	0	Multimeter AN/PSM-6	6625-957-4374
96-C	0	Vacuum Cleaner Hand	7910-530-6260
96-h	0	Screwdriver Cross Tip Phillips Type Tip No. 1	5120-240-8716
	0	Wrench Comb. Box and Open End 9/16	5120-895-9570
	0	Screwdriver Cross Tip Phillips Type Tip No. 2	5120-234-8913
	0	Wrench Box and Open End Comb. Offset 5/16	5120-228-9503
	0	Screwdriver Cross Tip Phillips Type Tip No. 3	5120-234-8919
	0	Pliers Diagonal Cutting 6 Inches Long	5110-250-8253
	0	Pliers Straight Rd Needle Nose w/o Cut 6 1/2 inches long	5120-293-3481
	0	Stripper Wire Hand Pivot Handle w/Auto Stop	5110-268-4224

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

TOOLS REQUIRED PAGE 22

TOOL CODE	CATEGORY	NOMENCLATURE	TOOL NUMBER
	0	Solder (SN 60 Wrap 2) Of Mil-S-6872	3439-273-3722
	0	Soldering Gun (10106117-1)	3439-982-1735
	0	Tip Electric Soldering Gun (Chisel) 10106117-2	3439-640-2279
	0	Wrench Open End Fixed (10106117-5)	3439-994-7444
	0	Soldering Aid w/Wire Brush on End 8 Inches Long	5120-611-7136

SMI FORM 1134-2, 1 FEB 68 REPLACES AMSMI-S FORM 62-2, WHICH IS OBSOLETE

MAINTENANCE ALLOCATION CHART

FOR Battery Control Central AN/TSW-8

CHART NUMBER 10182552

REMARKS PAGE 1

REMARKS CODE	REMARKS
A	Painting and Marking Information will be found in the Following:
	TM9-1430-526-34/2. lists Paint Required For The IBCC
	TM9-4935-501-15P. lists Paint Supplies
	TB9-337 General Instructions For Corrosion Control
	TB-Sig-355-3 General Instructions For Fungus Control
	TB746-92-2 Instructions For Color and Marking
Ab	Testing will be Performed in Accordance with TM9-1430-526-12/1
B	Maintenance of the Item is in the Responsibility of MECOM

SMI FORM 1134-1, 1 FEB 68 REPLACES AMSMI-S FORM 62-1, WHICH IS OBSOLETE

APPENDIX C
BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

C-1. Scope

This appendix lists basic issue items and items troop-installed or authorized required by the crew/operator for operation of improved battery control central AN/TSW-8 (XO-1) (IBCC).

C-2. General

This appendix is divided into the following sections:

a. Items Troop-Installed or Authorized List — Section II. A list, in alphabetical sequence, of items which, at the discretion of the unit commander, may accompany the end item, but are not subject to be turned in with the end item.

b. Basic Issue Items List — Section III. Not applicable.

c. Illustrations — Section IV. Not applicable.

d. Indexes — Section V. Not applicable.

e. Abbreviations. Not applicable.

C-3. Special Information

For inventory of those loose components and parts which are included in improved battery control central AN/TSW-8 (XO-1) (IBCC) refer to TM 740-525 appendix C.

Section II. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfg. Code — Usable on Code	(4) UNIT OF MEAS.	(5) QTY AUTH
	4240-736-7743M10	Collective protection equipment	ea	1

APPENDIX D

NOMENCLATURE AND REFERENCE DESIGNATIONS

Reference designation	TM nomenclature	Official nomenclature	Part no.
6	Improved battery control central (IBCC)	Guided-missile battery control central AN/TSW-8 (XD-1)	10182552
6A1	Tactical control console (TCC)	Console, Guided Missile Battery Control OJ-147/TSW-8	10183582
6A1A1	Coordinate data control	Control, Coordinate Data	9180166
6A1A2	Tube mount	Control, Cathode Ray Tube	9077754
6A1A3	Y-deflection amplifier	Amplifier, Deflection	10108972
6A1A4	X-deflection amplifier	Amplifier, Deflection	10108972
6A1A5	Video amplifier	Amplifier, Video	10674714
6A1A6	14-Kv power supply	Power Supply, 14 Kv	9078628
6A1A7	Relay assembly	Ampl-Rel assy (TCC)	10182152
6A1A8	Fan and dimmer assembly	Fan and Dimmer Assembly	9076275
6A1A9	Reflection plotter	Reflection Plotter assembly	9076206
6A1A10	Relay chassis	Relay Assembly	10175983
6A1A11	TCO panel assembly	Control, Target Assigning	10288358 *(L)[1] 10181957 *(K)[1]
6A1A12	TCA panel assembly	Control- Interrogator	10288099 *(G)[1] 10671117 *(F)[1]
6A1A13	Video control panel	Panel, Video Control	10670194
6A1A14	Defogging relay assembly	Relay Assembly	10043683
6A2	Plotting board	Plotting Board	9077234
6A3	IBCC status indicator	Display Panel Missile Battery Engagement MX-8538/TSW-8	10673349
6A4	Continuous wave target detection console (CWTDC)	Console, Radar Set	10669060
6A4A1	Cover assembly	Control, Console, Radar Set	10182717
6A4A1A1	Scan servo assembly	Scan Servo Assembly	9179191
6A4A2	Tube mount	Cover, Cathode Ray Tube	9077149
6A4A3	Y-deflection amplifier	Amplifier, Deflection	10108972
6A4A4	X-deflection amplifier	Amplifier, Deflection	10108972
6A4A5	Video amplifier	Amplifier, Video	9079928
6A4A6	10-Kv power supply	Power Supply, 10 Kv	9077263
6A4A7	Control shelf	Shelf Control	10669088
6A4A8	Fan and dimmer assembly	Fan & Dimmer assembly	9076275
6A4A9	Test relay assembly	Test Relay Assembly	9177750
6A5	Fire control group (FCG)	Missile Tracking Console Control Group OJ-148/TSW-8	10288366 *(L)[1] 10669151 *(K)[1]
6A5A1	Intercept computer (A)	Computer, Intercept	10182752
6A5A2	Firing interlock assembly (A)	Firing Interlock Assembly	10288767 *(AE)[1] 10288355 *(L)[1] 10669210 *(K)[1]
6A5A3	Firing circuits test set (A)	Test Set, Fire Control Circuits	10106560
6A5A4	Display generator (A)	Gen. Display, Digital-Video	10670135 *(X)[1] 10288217 *(Y)[1]
6A5A4A1, 6A5A4A2	Count display driver	Circuit Card Assembly (Driver, Count Display) (Dis Gen A1, A2)	10670196
6A5A4A3, 6A5A4A4	Count display driver	Circuit Card Assembly (Driver, Count Display) (Dis Gen A3, A4)	10670401
6A5A4A5	Relay assembly	Circuit Card Assembly (Relay Assembly) (Msl Count) (Dis Gen A5)	10670402
6A5A4A6 thru 6A5A4A8	AD converter	Converter, Analog to Digital (Dis Gen A6, A7, A8	10670403
6A5A4A9	Missile count buffer	Circuit Card Assembly (Buffer, Missile Count) (Dis Gen A9)	10670404
6A5A4A10	Sweep generator	Circuit Card Assembly (Generator, Sweep) (Dis Gen A10)	10670405
6A5A4A11	Video amplifier	Circuit Card Assembly (Amplifier, Video) (Dis Gen A11	10670406

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A5A4A12	Sweep gate generator	Circuit Card Assembly (Generator, Sweep Gate) (Dis Gen A12)	10670407
6A5A4A13	Marker generator	Circuit Card Assembly (Generator, Marker) (Intensity) (Dis Gen A13)	10670408
6A5A4A14	Zero crossing detector	Circuit Card Assembly (Detector, Zero Crossing (Dis Gen A14)	10670409
6A5A4A15	Relay-resistor assembly	Circuit Card Assembly (Relay-Resistor Assy) (Dis Gen A15)	10670410
6A5A4A16	Display selector	Circuit Card Assembly (Selector, Display) (Dis Gen A16)	10670411
6A5A4A17	Intensity gate generator	Circuit Card Assembly (Generator, Intensity Gate) (Dis Gen A17)	10670412
6A5A4A18	Intensity gate amplifier	Circuit Card Assembly (Amplifier, Intensity gate) (Dis Gen A18)	10670413
6A5A4A19	Interconnecting module panel	Panel, Interconnecting Module (Wired)	10670605
6A5A5	Scan servo amplifier	Amplifier, Scan Servo	9084098
6A5A6	CWTDC sweep generator	Generator, Sweep	10669133
6A5A7	Display generator (B)	Gen. Display, Digital-Video	10670135 *(X)[1] 10288217 *(Y)[1]
6A5A7A1, 6A5A7A2	Count display driver	Circuit Card Assembly (Driver, Count Display) (Dis Gen A1, A2)	10670196
6A5A7A3	Count display driver	Circuit Card Assembly (Driver, Count Display) (Dis Gen A3, A4)	10670401
6A5A7A5	Relay assembly	Circuit Card Assembly (Relay Assembly) (Msl Count) (Dis Gen A5)	10670402
6A5A7A6 thru 6A5A7A8	A/D converter	Converter, Analog to Digital (Dis Gen A6, A7, A8)	10670403
6A5A7A9	Missile count buffer	Circuit Card Assembly (Buffer, Missile Count) (Dis Gen A9)	10670404
6A5A7A10	Sweep generator	Circuit Card Assembly (Generator, Sweep) (Dis Gen A10)	10670405
6A5A7A11	Video amplifier	Circuit Card Assembly (Amplifier, Video) (Dis Gen A11)	10670406
6A5A7A12	Sweep gate generator	Circuit Card Assembly (Generator, Sweep Gate) (Dis Gen A12)	10670407
6A5A7A13	Marker generator	Circuit Card Assembly (Generator, Marker) (Intensity) (Dis Gen A13)	10670408
6A5A7A14	Zero crossing detector	Circuit Card Assembly (Detector, Zero Crossing) (Dis Gen A14)	10670409
6A5A7A15	Relay-resistor assembly	Circuit Card Assembly (Relay-Resistor Assy) (Dis Gen A15)	10670410
6A5A7A16	Display selector	Circuit Card Assembly (Selector, Display) (Dis Gen A16)	10670411
6A5A7A17	Intensity gate generator	Circuit Card Assembly (Generator, Intensity Gate) (Dis Gen A17)	10670412
6A5A7A18	Intensity gate amplifier	Circuit Card Assembly (Amplifier, Intensity Gate) (Dis Gen A18)	10670413
6A5A7A19	Module interconnecting panel	Panel, Interconnecting Module (wired)	10670605
6A5A8	Firing circuits test set (B)	Test Set, Fire Control Circuits	10106560
6A5A9	Firing interlock assembly (B)	Firing Interlock Assembly	10288767 *(AE)[1] 10288355 *(L)[1] 10669210 *(K)[1]
6A5A10	Intercept computer (B)	Computer, Intercept	10182752
6A5A11	Range electronic control amplifier (A)	Amplifier, Electronic Control	10175992
6A5A12	Elevation electronic control amplifier	Amplifier, Electronic Control	10175991

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A5A13	Azimuth electronic control amplifier (A)	Amplifier, Electronic Control	10175993
6A5A14	Height signal comparator	Comparator, Signal	10183561
6A5A15	IROR video amplifier	Amplifier, Video	9170999
6A5A16	IROR sweep generator	Generator, Sweep	10112255
6A5A17	IROR electronic control amplifier	Amplifier, Electronic	9170876
6A5A18	Range electronic control amplifier (B)	Amplifier, Electronic Control	10175992
6A5A19	Elevation electronic control amplifier (B)	Amplifier, Electronic Control	10175991
6A5A20	Azimuth electronic control amplifier (B)	Amplifier, Electronic Control	10175993
6A5A21	Blower motor assembly (A)	Fan, Ventilating, Propeller	9079577
6A5A22	Blower motor assembly (B)	Fan, Ventilating, Propeller	9079577
6A6	Firing console A (FC A)	Console, Target Tracking OJ-149/TSW-8	10288374 *(L)[1] 10669364 *(K)[1]
6A6A1	Cover assembly	Panel, Firing, Guided-Missile	10288362 *(L)[1] 10669081 *(K)[1]
6A6A1A1	Range/speed indicator	Indicator, Range	10181934
6A6A1A2	Range control assembly	Control, Range-Rate	9170985
6A6A1A3	IHIPIR azimuth geartrain	Transmission Control	9170530
6A6A2	Tube mount	Support, Cathode Ray Tube	9077528
6A6A3	Y-deflection amplifier	Amplifier, Deflection	10108972
6A6A4	X-deflection amplifier	Amplifier, Deflection	10108972
6A6A5	Video amplifier	Amplifier, Video	10674714
6A6A6	14-Kv power supply	Power Supply, 14 Kv	9078628
6A6A7	Relay assembly	Relay Assembly	10288373 *(L)[1] 10669375 *(K)[1]
6A6A8	Fan and dimmer assembly	Fan & Dimmer Assembly	9076275
6A6A9	Control shelf	Shelf Assembly	10669293
6A6A9A1	Elevation control	Transmission, Control	9177810
6A6A10	Relay chassis	Relay-Cont Assembly	10173836
6A7	Firing console B (FC B)	Console, Target Tracking OJ-149/TSW-8	10288374 *(L)[1] 10669364 *(K)[1]
6A7A1	Cover assembly	Panel, Firing, Guided-Missile	10288362 *(L)[1] 10669081 *(K)[1]
6A7A1A1	Range/speed indicator	Indicator, Range	10181934
6A7A1A2	Range control assembly	Control, Range-Rate	9170985
6A7A1A3	IHIPIR azimuth geartrain	Transmission Control	9170530
6A7A1A4	Speed control	Control, Radar Speedgate	10109500
6A7A2	Tube mount	Support, Cathode Ray Tube	9077528
6A7A3	Y-deflection amplifier	Amplifier, Deflection	10108972
6A7A4	X-deflection amplifier	Amplifier, Deflection	10108972
6A7A5	Video amplifier	Amplifier, Video	10674714
6A7A6	14-Kv power supply	Power supply, 14 Kv	9078628
6A7A7	Relay assembly	Relay Assembly	10288373 *(L)[1] 10669375 *(K)[1]
6A7A8	Fan and dimmer assembly	Fan & Dimmer Assembly	9076275
6A7A9	Control shelf	Shelf Assembly	10669293
6A7A10	Relay chassis	Relay-Cont Assembly	10173836
6A8	Voltage regulator assembly	Regulator Assembly, Voltage	9170556
6A8A1 thru 6A8A16	Voltage regulator	Regulator, Voltage	9179969
6A9	Power supply control	Control, Power Supply	10182737
6A10	Indicator control group (ICG)	Control, Indicator Group OD-33/TSW-8	10183666
6A10A1	General test set	Test Set, Indicator Control Group	10106555
6A10A2	Automatic test set	Test Set, Ind Cont Gp	10670102
6A10A3	FC cursor generator	Gen. Cursor Marker	10182171
6A10A4	IPAR set control	Control, Radar Set	10288233 *(J)[1] 10670228 *(H)[1]
6A10A5	TCC cursor generator	Gen. Cursor Marker	10670022

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A10A6	FC Y-electronic clamp assembly	Electronic Clamp Assembly	10182203
6A10A7	Predicted intercept marker generator (A)	Gen. Electronic Marker	9178589
6A10A8	Predicted intercept marker generator (B)	Gen. Electronic Marker	9178589
6A10A9	FC A marker generator	Gen. Electronic Marker	10112242
6A10A10	Symbol intensity electronic gate assembly	Electronic Gate Assembly	10182837
6A10A11	Scale-of-18 multivibrator	Multivibrator	10670049
6A10A11A1	Failure multivibrator	Circuit Card Assembly (Multivibrator, Failure A1)	10670120
6A10A11A2	Mixer-inverter	Circuit Card Assembly (Mixer-Inverter A2)	10669718
6A10A11A3	Logic gate	Circuit Card Assembly (Gate, Logic A3)	10669719
6A10A11A4	Gating pulse mixer	Circuit Card Assembly (Mixer, Gating Pulse A4)	10669720
6A10A11A5	Gating pulse mixer	Circuit Card Assembly (Mixer, Gating Pulse A5)	10669721
6A10A11A6	Amplifier-mixer	Circuit Card Assembly (Amplifier-Mixer A6)	10669722
6A10A11A7	Gating pulse mixer	Circuit Card Assembly (Mixer, Gating Pulse A7)	10669723
6A10A11A8	Amplifier	Circuit Card Assembly (Amplifier A8)	10669724
6A10A11A9	Mixer-inverter	Circuit Card Assembly (Mixer-Inverter A9)	10669725
6A10A11A10	Pulse generator	Circuit Card Assembly (Generator, Pulse A10)	10669726
6A10A11A11 thru 6A10A11A15	Flip-flop	Circuit Card Assembly (Flip-Flop A11 thru A15)	10669727
6A10A12	Test set control	Control, Test Set	10106544
6A10A13	TCC/FC video mixer	Mixer, Video Signal	10288228
6A10A13A1	Power supply	Power supply (Video Mixer A1, A10)	10182575
6A10A13A2	Failure detector	Circuit Card Assembly (Detector Failure Gate) (Video Mixer A2, A11)	10182576
6A10A13A3	Video mixer	Circuit Card Assembly (Mixer Video) (A3, A12)	10182577
6A10A13A4	Video switch	Circuit Card Assembly (Video Switch) (Video Mixer A4, A13)	10182578
6A10A13A5	Logic gate driver	Circuit Card Assembly (Driver, Logic Gate) (Neg Pos) (A5, A14)	10182579
6A10A13A6	Logic gate	Circuit Card Assembly (Gate, Logic (FCC/TCC) (Video Mixer A6, A15)	10182580
6A10A13A7	Pulse generator	Generator, Pulse (Video Mixer A7, A16)	10182581
6A10A13A8	Logic gate driver	Circuit Card Assembly (Driver, Logic Gate) (Video Mixer A8, A17)	10671292
6A10A13A10	Power supply	Power supply (Video Mixer A1, A10)	10182575
6A10A13A11	Failure detector	Circuit Card Assembly (Detector Failure Gate) (Video Mixer A2, A11)	10182576
6A10A13A12	Video mixer	Circuit Card Assembly (Mixer Video) (A3, A12)	10182577
6A10A13A13	Video switch	Circuit Card Assembly (Video Switch) Video Mixer A4, A13)	10182578
6A10A13A14	Logic gate driver	Circuit Card Assembly (Driver, Logic Gate) (Neg Pos) (A5, A14)	10182579

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A10A13A15	Logic gate	Circuit Card Assembly (Gate 2 Logic) (FCC/TCC) (Video Mixer A6, A15)	10182580
6A10A13A16	Pulse generator	Generator, Pulse (Video Mixer A7, A16)	10182581
6A10A13A17	Logic gate driver	Circuit Card Assembly (Driver, Logic Gate) (Video Mixer A8, A17)	10671292
6A10A13A23	Interconnecting module panel	Panel, Interconnecting Module (Wired)	10288226
6A10A14	FC short-sweep generator	Generator Sweep	10288183 *(J)[1] 10112246 *(H)[1]
6A10A15	FC clamp gate generator	Gen Assy, Clamp Gate	10670127
6A10A15A1	Failure multivibrator	Circuit Card Assembly (Multivibrator, Failure A1)	10670120
6A10A15A2	Gate clamp driver	Circuit Card Assembly (Gate, Logic Clamp Driver A2)	10670121
6A10A15A3 thru 6A10A15A9	Symbol clamp driver	Circuit Card Assembly (Generator, Clamp Gate Symbol Clamp Driver A3-A9)	10670122
6A10A15A10	Sweep clamp driver	Circuit Card Assembly (Generator, Clamp Gate Sweep Clamp Driver A10)	10670123
6A10A15A11	Sweep failure detector	Circuit Card Assembly (Detector, Failure Sweep Clamp Driver A11)	10670124
6A10A15A19	Interconnecting module panel	Panel, Interconnecting Module	10670603
6A10A16	FC X-electronic clamp assembly	Electronic Clamp Assembly	10182203
6A10A17	FC B marker generator	Gen Electronic Mkr	10112242
6A10A18	Symbol generator	Generator Electronic Marker	10182159
6A10A19	Symbol multivibrator	Multivibrator, Symbol	10112250
6A10A20	PSI video gate	Amplifier, Video (PSI)	10669790 *(V)[1] 10288144 *(W)[1]
6A10A21	TCC Y-electronic clamp assembly	Electronic Clamp Assembly	10182203
6A10A22	TCC long-sweep generator	Generator, Sweep	9170151
6A10A23	TCC clamp gate generator	Gen Assy, Clamp Gate	10670127
6A0A23A1	Failure multivibrator	Circuit Card Assembly (Multivibrator, Failure A1)	10670120
6A10A23A2	Gate clamp driver	Circuit Card Assembly (Gate, Logic Clamp Driver A2)	10670121
6A10A23A3 thru 6A10A23A9	Symbol clamp driver	Circuit Card Assembly (Generator, Clamp Gate Symbol Clamp Driver A3-A9)	10670122
6A10A23A10	Sweep clamp driver	Circuit Card Assembly (Generator, Clamp Gate Sweep Clamp Driver A10)	10670123
6A10A23A11	Sweep failure detector	Circuit Card Assembly (Detector, Failure Sweep Clamp Driver A11)	10670124
6A10A23A19	Module interconnecting panel	Panel, Interconnecting Module	10670603
6A10A24	TCC X-electronic clamp assembly	Electronic Clamp Assembly	10182203
6A11	IBCC shelter	Shelter, Electrical Equipment	10671106
6A12	Synchro relay assembly	Relay Assy Group	10670105
6A13	Power distribution control	Control, Power Distribution	10181917
6A14	Reference voltage regulator	Regulator, Voltage	9079440
6A15	Dc power supply	Power Supply Subassembly (HIGH DC)	10181905
6A16	Dc lighting power supply	Power Supply Subassembly	9078728
6A17	Ac filament power supply	Power Supply Subassembly	9077736
6A18	28-Vdc power supply	Power Supply Subassembly	10181954
6A19	Ac lighting power supply	Power Supply Subassembly (AC/Lighting)	9077883
6A20	Power distribution panel	Panel, Power Distribution	10182246
6A21	AADCP local/remote switch	Connector-Switch Assembly	10176000
6A22	Plotting board control	Control, Plotting Board	9083632
6A23	Telephone set and relay assembly	Relay Assembly—Tel Set	10182144
6A24	IPAR frequency control	Meter-Assembly Electrical	10175804

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A25	Collective protection system control	Control-Indicator	10180114
6A28	20-vdc power supply	Power Supply (±20v) Regulator, Voltage +20v or −20v (A1-A2)	10670065
6A28A1, 6A28A2	Voltage regulator		10670066
6A28A3		Circuit Card Assembly (Network, Meter Reference and Protection Power Supply ±20v) (A3)	10670067
6A28A4	Interconnecting module panel	Panel, Interconnecting Module	10670609
6A29	Doppler-voice terminal	Terminal, Doppler-Voice	10288715 *(AA)[1] 10677380 *(E)[1] 10675847 *(D)[1]
6A29A1, 6A29A3	Audio amplifier	Amplifier, Audio Frequency (Headset)	10675622
6A29A4	Amplifier-relay assembly	Amplifier-Relay Assy (A4)	10675848
6A30	TCO/TCA communications unit	Central Communications Unit	10288765 *(AG)[1] 10288405 *(AF)[1] *(Q)[1] 10677382 *(P)[1] 10675840 *(D)[1]
6A30A1, 6A30A2	Power supply interconnecting board	Power Supply-Interconnecting Board	10288423 *(Q)[1] 10677373 *(P)[1] 10675842 *(D)[1]
6A30A3	Relay interconnecting board	Interconnecting Board-Relay (Gating)	10670874
6A30A4	Capacitor-transformer assembly	Capacitor-Transformer Assembly	10288688 *(AG)[1] 10670875 *(AF)[1]
6A30A5	Audio amplifier	Amplifier, Audio Frequency (Headset)	10288745 *(AG)[1] 10675622 *(AF)[1]
6A30A6	Audio regulator	Regulator, Audio Level (AGC)	10288423 *(AG)[1] 10676770 *(AF)[1] 10670436 *(D)[1]
6A30A8, A9	Audio amplifier	Amplifier, Audio Frequency (Headset)	10288745 *(AG)[1] 10675622 *(AF)[1]
6A30A10	Audio regulator	Regulator, Audio Level (AGC)	10288423 *(AG)[1] 10676770 *(AF)[1] 10670436 *(D)[1]
6A30A12	Audio amplifier	Amplifier, Audio Frequency (Headset)	10288745 *(AG)[1] 10675622 *(AF)[1]
6A30A13 thru 6A30A22	Relay assembly	Relay Assembly (gating module)	10670876
6A30A25	Indicator panel	Panel, Indicating Light Transmitting	10670870
6A31	CWTDC communications unit	Communication Station	10288711 *(AC)[1] 10677377 *(E)[1] 10675821 *(D)[1]
6A31A1	Audio amplifier	Amplifier, Audio Frequency (Headset)	10675622
6A31A3	Audio regulator	Regulator, Audio Level (AGC)	10676770 *(E)[1] 10670436 *(D)[1]
6A31A4	Power supply-interconnecting board	Power Supply-Interconnecting Board	10288424 *(Q)[1] 10677367 *(P)[1] 10670431 *(D)[1]
6A32	FC A communications unit	Communications Station	10288711 *(AC)[1] 10677377 *(E)[1] 10675821 *(D)[1]
6A32A1	Audio amplifier	Amplifier, Audio Frequency (Headset)	10675622
6A32A3	Audio regulator	Regulator, Audio Level	10676770 (E)[1] 10670436 (D)[1]
6A32A4	Power supply-interconnecting board	Power Supply-Interconnecting Board	10288424 *(Q)[1] 10677367 *(P)[1] 10670431

[1]Refer to appendix E for serial number effectivity.

Reference designation	TM nomenclature	Official nomenclature	Part no.
6A33	FC B communications unit	Communications Station	10288711 *(AC)[1] 10677377 (D)[1] 10675821 (E)[1]
6A33A1	Audio amplifier	Amplifier, Audio Frequency (Headset)	10675622 (D)[1]
6A33A3	Audio regulator	Regulator, Audio Level (AGC)	10676770 *(E)[1] 10670436 *(D)[1] 10288424 *(Q)[1]
6A33A4	Power supply-interconnecting board	Power Supply-Interconnecting Board	10677367 *(P)[1] 10670431 *(D)[1]
6A34	Synchro bus assembly	Synchro Bus Assembly	10671220
6A35	Indicator panel	Indicator Panel	10674618

[1]Refer to appendix E for serial number effectivity.

APPENDIX E
SERIAL NUMBER EFFECTIVITY CODE

E-1. General

The serial number effectivity code is an alphabetical code used to indicate differences among models.

E-2. Symbols Used

Alphabetical symbols are used in the code. The symbol represents the serialization of the major assembly. An asterisk preceding the symbol indicates that the serialization is not of the major assembly, but instead is of the major item in which the assembly is normally located.

E-3. Symbols Not Used

To avoid possible confusion with classification markings, numerals, and certain units of equipment, the symbols (A), (B), (C), (I), (O), (S), and (U) are not used.

E-4. Serial Number Effectivity Code

The following is a list of the code symbols used in this manual:

*(D) 275001 through 300000.

*(E) 300001 and up.

*(F) 275001 through 340000 with part number 10671117.

*(G) 275001 through 340000 with part number 10288099, and 340001 and up.

*(H) 275001 through 340000 provided MWO 9–1430–527–50–6 has not been applied.

*(J) 275001 through 340000 provided MWO 9–1430–527–50–6 has been applied, and 340001 and up.

*(K) 275001 through 380000 provided MWO 9–1430–526–50–3 has not been applied.

*(L) 275001 through 380000 provided MWO 9–1430–526–50–3 has been applied, and 380001 and up.

*(M) 275001 through 380000 provided MWO 9–1430–526–50–8 has not been applied.

*(N) 275001 through 300000 provided MWO 9–1430–526–50–8 has been applied, and 380001 and up.

*(P) 300001 through 380000 provided MWO 9–1430–526–50–6 has not been applied.

*(Q) 300001 through 380000 provided MWO 9–1430–526–50–6 has been applied, and 380001 and up.

*(R) 275001 through 275008, 300001 through 300015, and 345001 through 345025 provided that MWO 9–1430–527–50–14 has not been applied.

*(T) 275001 through 275008, 300001 through 300015, and 345001 through 345025 provided that MWO 9–1430–527–50–14 has been applied and 380001 and up.

*(V) 275001 through 340000 provided MWO 9–1430–526–50–1 has not been applied.

*(W) 275001 through 340000 provided MWO 9–1430–526–50– 1 has been applied, and 340001 and up.

*(X) 275001 through 340000 provided MWO 9–1430–526–50– 2 has not been applied.

*(Y) 275001 through 340000 provided MWO 9–1430–526–50– 2 has been applied, and 340000 and up.

*(Z) Refer to *(AB).

*(AA) Refer to *(AC).

*(AB) 300001 through 380000 provided MWO 9–1425–525–50–1 has not been applied.

*(AC) 300001 through 380000 provided MWO 9–1425–525–50–1 has been applied, and 380001 and up.

*(AD) 275001 through 380000 provided MWO 9-1430-526-50-9 has not been applied.

*(AE) 275001 through 380000 provided MWO 9-1430-526-50-9 has been applied, and 380001 and up.

*(AF) 300001 through 380000 provided MWO 9-1430-526-50-10 has not been applied.

*(AG) 300001 through 380000 provided MWO 9-1430-526-50-10 has been applied, and 380001 and up.

By Order of the Secretary of the Army:

BRUCE PALMER, JR.,
General, United States Army,
Acting Chief of Staff.

Official:

VERNE L. BOWERS
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The Adjutant General.

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