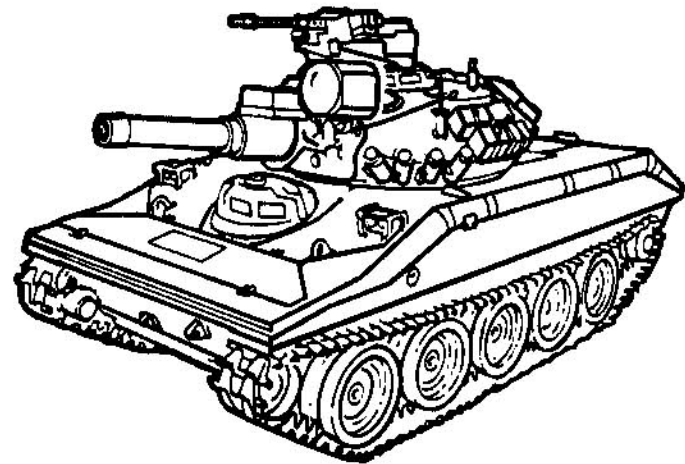
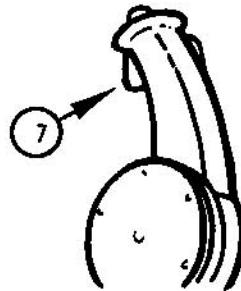
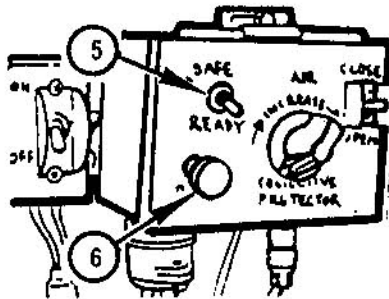


- F. Push SAFE/READY switch down to READY position (5). Ensure that gunner's ready lamp is glowing (6).
- G. Move ALIGN lever to full right and ERROR lever to full left (4). Push up SYSTEM TEST switch (1).
- H. Press firing trigger (7). SYSTEM TEST switch flips down. ALIGN lever moves to full left and tracker motor runs for about 18 seconds. If not, notify organizational maintenance.

## MISSILE SUBSYSTEM CHECKLIST

### AR/AAV M551A1 SHERIDAN



#### STEP 8. DE-ENERGIZING MISSILE SUBSYSTEM

**NOTE.** If going directly into firing mission, DO NOT de-energize subsystem.

- A. Place SAFE/READY switch in SAFE position.
- B. Turn FIRE CONTROL selector to OFF.
- C. Turn TURRET CONTROL switch to down/off position.
- D. Tell driver to turn off engine.
- E. Close transmitter door.
- F. Perform after-operation maintenance checks in operator's manual (TM 9-2350-230-10), page 3-5.

MAY 1987

HEADQUARTERS, DEPARTMENT OF THE ARMY

DISTRIBUTION: U.S. Army training and audiovisual support centers (TASCs)

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## HOW TO USE THIS CHECKLIST FOR PERFORMING THE MISSILE SUBSYSTEM CHECKOUT

1. Read each step completely, then go back and perform the action. Failure to read each step first may cause damage to some components.
2. Before you start, make sure you know where the controls are located; this checklist includes illustrations to assist you in locating the controls.
3. Whenever the subsystem doesn't perform correctly, you should de-energize (see step 8 of the checklist), then notify organizational maintenance.

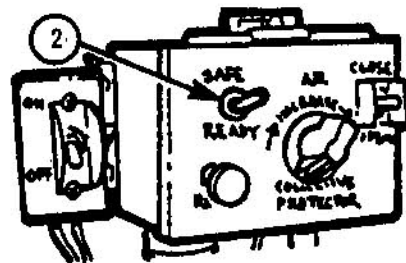
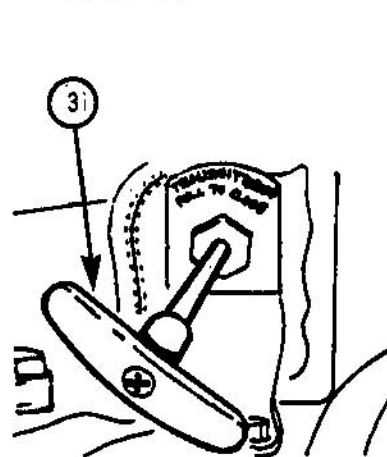
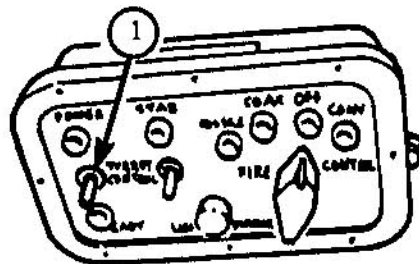
**WARNING:** Before going on, make sure all weapons are clear of live rounds.

## CONTROL LOCATIONS

1. Transmitter Door Handle. This handle is on the turret wall, in front of gunner, about shirt pocket high.
2. Fire Control Selector. This panel is in front of the gunner, just above his head and over the periscope controls.
3. Telescope Filter Lever. Look back along the right side of the telescope until you see a round bulge with the words LASER, NEUT, CLEAR written on it. The lever is on the right side of the bulge. If you can't see it, feel for it; it moves up and down.
4. ALIGN/ERROR Levers. These are hard to find, so don't give up easily! Find the telescope. Look on top of the mount. You should see a white box with two thick wires plugged into it. The ALIGN/ERROR levers are just to the left and slightly above this box. Elevate gun tube near maximum elevation to give you a better view.
5. Missile Horizontal and Vertical Knobs. Under the telescope filter lever are two black knobs. The vertical knob is on the bottom. The horizontal is on the right side.
6. Gunner's Ready Light. The gunner's ready light is a small light located on a square white metal box directly above the telescope headrest.

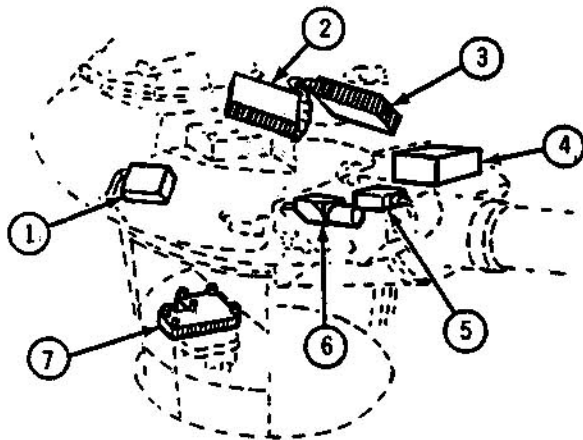
## PRELIMINARY INSTRUCTIONS

1. Ensure telescope has been boresighted. See operator's manual (TM 9-2350-230-10), page 2-70.
2. Check guidance and control system units. Ensure all cables are secure and tight. See Missile Guidance and Control System listing.
3. Ensure TURRET CONTROL switch is OFF (1) and loader's SAFE/READY switch is in SAFE position (2).
4. Open TRANSMITTER door (3).
5. Perform the eight steps for the Missile Subsystem Checkout Procedure in numerical order.



## MISSILE GUIDANCE AND CONTROL SYSTEM

NAME/LOCATION	FUNCTION
1. Remote Control Test Set/right of gunner.	Generates additional control signals for other guidance and control units in vehicle; and checks operation of guidance and control system and identifies malfunctions.
2. Modulator (Infrared)/behind and to right of loader.	Converts SDC signals for use in transmitter.
3. Signal Data Converter (SDC)/left of loader.	Uses signals from tracker and rate sensing unit to keep missile on target.
4. Transmitter (Infrared)/outside, over on top of gun/launcher.	Sends infrared signals from modulator to missile for directional changes.
5. Rate Sensing Unit/left of breech.	"Tells" signal data converter how far gun/launcher moves up/down and right/left.
6. Tracker (Infrared)/on top of and aligned with telescope.	"Eyes" or tracks missiles in flight. If missile is out of line, it tells the SDC unit.
7. Power Supply/under commander's subfloor.	Provides power for missile guidance and control system.



## LAMPS, SWITCHES, AND INDICATORS ON THE REMOTE CONTROL TEST SET PANEL

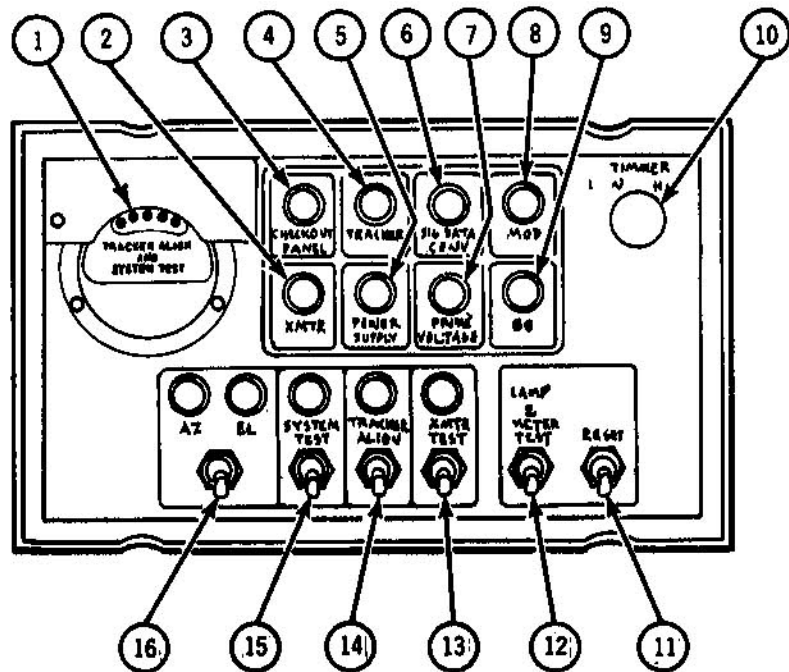
Name	Function
1. Electronic Null Indicator (ENI).	Indicates alignment of checksight source during checksight lamp and tracker alignment test; and indicates operational condition of rate sensing unit.
2. XMTR lamp (red).	Indicates transmitter is not operational during system self-test.
3. CHECKOUT PANEL lamp (red).	Indicates that checkout panel is not operational during system self-test.
4. TRACKER lamp (red).	Indicates that tracker is not operational during system self-test.
5. POWER SUPPLY lamp (red).	Indicates power supply is not operating.
6. SIG DATA CONV lamp (red).	Indicates that signal data converter is not operational during system self-test.
7. PRIME VOLTAGE lamp (amber).	Indicates that vehicle power is low.
8. MODE lamp (red).	Indicates that modulator is not operational during system self-test.
9. GO lamp (green).	Indicates guidance and control system is operating at end of self-test.
10. DIMMER control.	Controls brightness of all but the NO/GO lamps.
11. RESET switch.	Turns off all control signals; and resets guidance and control system.
12. LAMP & METER TEST switch.	Initiates test of all lamps and null meter on this panel.
13. XMTR TEST switch and lamp (white).	Starts transmitter test.
14. TRACKER ALIGN switch and lamp (white).	Starts tracker alignment test.

15. SYSTEM TEST switch and lamp (white).

Starts system self-test.

16. AZ/EL switch and lamps (white).

Selects azimuth and elevation signals from rate sensing unit for test. Also, during tracker alignment test, indicates azimuth and elevation alignment.



## MISSILE SUBSYSTEM CHECKOUT PROCEDURE

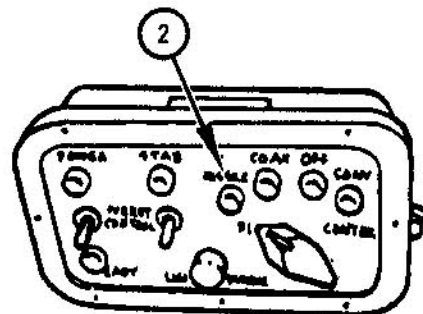
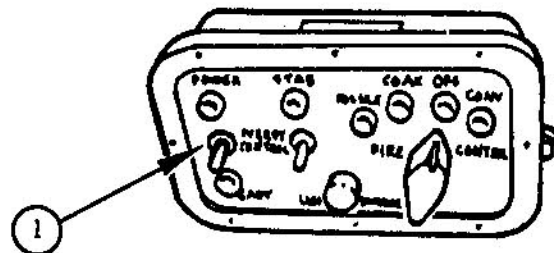
### STEP 1. ENERGIZING THE MISSILE SUBSYSTEM

A. The driver will start engine and idle at 1,000-1,300 rpm.

B. Turn on TURRET CONTROL switch (1).

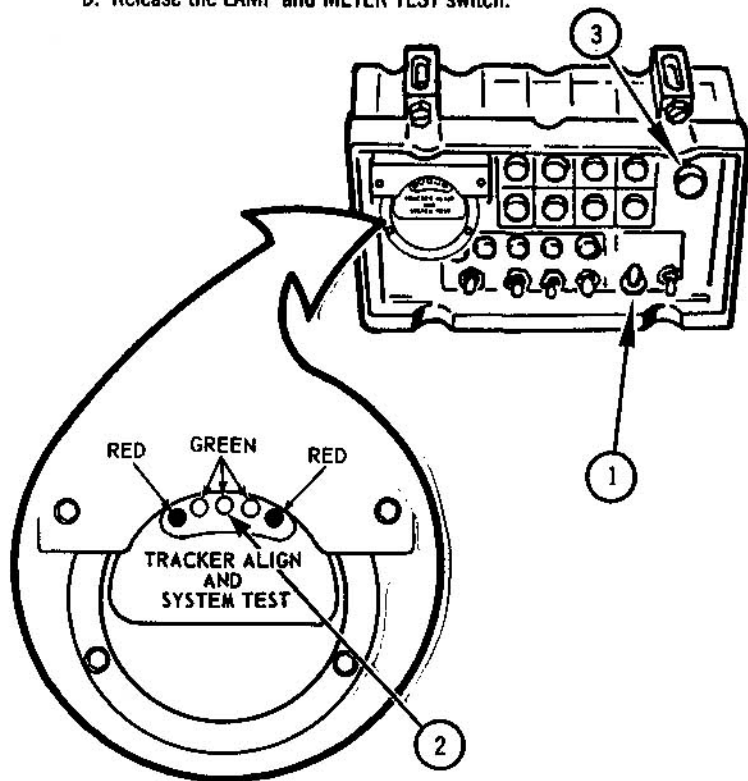
C. Turn FIRE CONTROL selector to MISSILE (2). Missile lamp will light.

**NOTE.** POWER SUPPLY and PRIME VOLTAGE lamps may blink. Once system warms up and missile reticle appears in telescope, the lamps should go out. If lamps stay on, notify organizational maintenance.



## STEP 2. LAMP AND METER TEST

- A. Hold up switch labeled LAMP and METER TEST (1). All lamps should light and only the center green light emitting diode (LED) should be illuminated (2).
- B. While holding up LAMP and METER TEST switch (1), turn DIMMER control knob (3). All lights except the red lights should vary in brightness.
- C. If any of the above lamps failed, notify organizational maintenance.
- D. Release the LAMP and METER TEST switch.

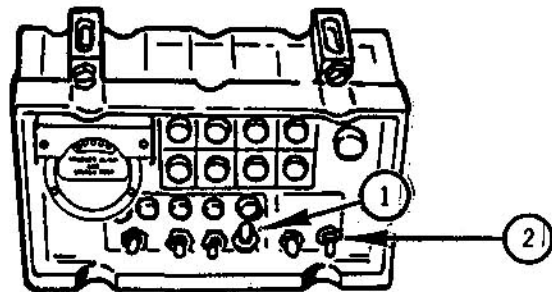


## STEP 3. TRANSMITTER (XMTR) TEST

**WARNING:** Make certain all friendly troops are out of the path of transmitter. Regardless of distance, invisible infrared rays sent out by the transmitter can cause serious eye damage.

**CAUTION:** When testing transmitter, don't leave XMTR TEST switch in up position for more than 60 seconds. Transmitter lamps may be damaged.

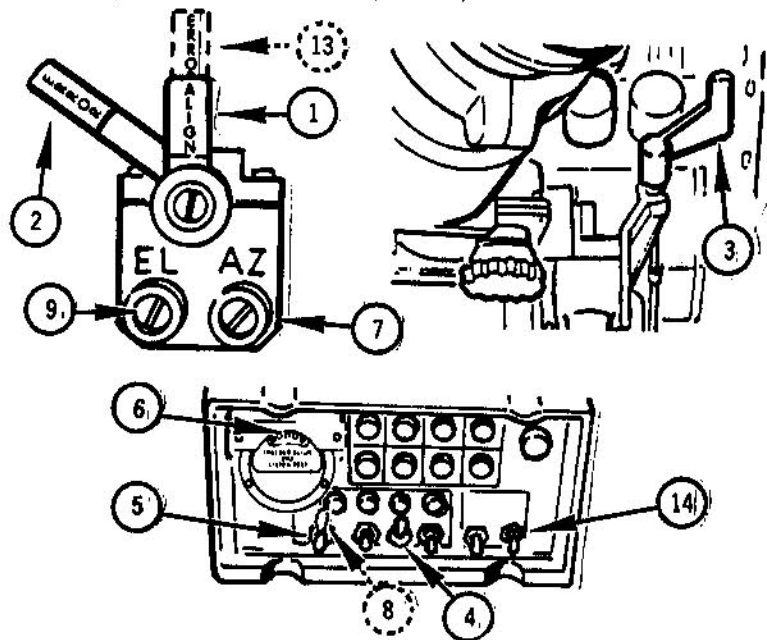
- A. Place XMTR TEST switch up (1). XMTR TEST lamp should light.
- B. If XMTR TEST switch does not turn off (abort) in less than 10 or more than 20 seconds, transmitter is operational.
- C. If the XMTR TEST switch did not abort in less than 30 seconds, move RESET switch up and release (2). XMTR TEST switch should return to off (down) position. The test is OK.



#### STEP 4. CHECKSIGHT LAMP ALIGNMENT AND TRACKER ALIGNMENT TEST

**NOTE.** The ERROR and ALIGN levers are on top of the telescope mount, next to the gun/launcher. You may have to elevate the gun tube to see them clearly.

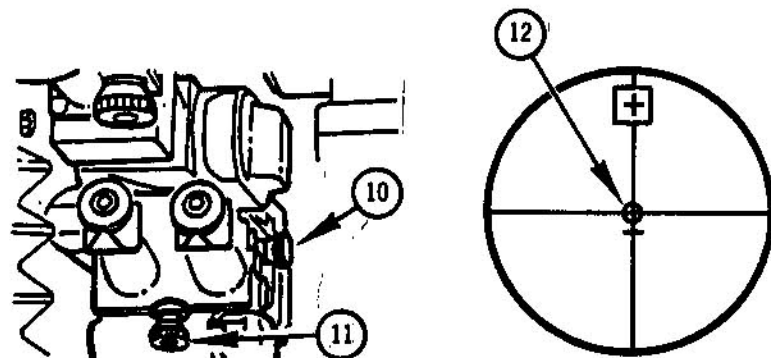
- A. Move the ALIGN lever (short lever) to the right so that it is straight up (1). Ensure ERROR lever (long lever) is to the full left position (2).
- B. Place telescope filter lever to CLEAR position (3).
- C. Place TRACKER ALIGN switch in the up position (4). The TRACKER ALIGN lamp should light. Look through telescope to see if a spot of light appears. If not, go to Troubleshooting Table 3-2, MALFUNCTION 62, in operator's manual (TM 9-2350-230-10).
- D. Push AZ/EL switch to AZ (down) position (5). AZ lamp should light and only the green LEDs of the Electronic Null Indicator (ENI) (6) should be illuminated. If a red LED is illuminated, adjust AZ screw (7) until only the green LEDs are illuminated. (See note.)



**NOTE.** When adjusting the AZ and EL telescope mount adjustments, as the spot of light in the telescope moves from perfect alignment (zero error with only the center green LED illuminated) to an alignment error within the allowable tolerance range, the green LED adjacent to the center LED will first be illuminated dimly, but will increase in intensity as the alignment error tolerance limit is approached. When the alignment tolerance limit is exceeded, the adjacent red LED will become illuminated. If the alignment error is further increased, the red LED intensity will increase to maximum brightness. The direction in which the LEDs illuminate will depend on the direction of the alignment error. If the system is in perfect alignment and the mount adjustment is turned clockwise, the LED illumination will be clockwise. If the mount adjustment is turned counterclockwise, the LED illumination will be counterclockwise.

- E. Push AZ/EL switch to EL (up) position (8). EL lamp should light and only the green LEDs of the ENI (6) should be illuminated. If a red LED is illuminated, adjust EL screw (9) until only the green LEDs are illuminated.
- F. Repeat steps D and E until you get only the center green LED illuminated.
- G. Look into telescope. Using missile horizontal (10) and verticle (11) knobs, center missile reticle circle over spot of light (12).

**NOTE.** Spot of light is dim and may be difficult to see. Adjusting your angle of view can help in detecting it.



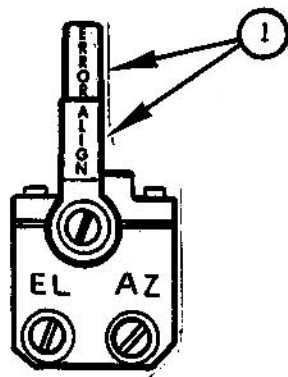
- H. Move ERROR lever to full right position (13). Push AZ/EL switch to EL (up) position (8). ENI LEDs (6) to the left illuminate.
- I. Push AZ/EL switch to AZ (down) position (5). ENI LEDs to the right illuminate (6).
- J. Move ERROR lever to full left position (2). Only green ENI LEDs illuminate (6).
- K. Push AZ/EL switch to EL (up) position (8). Only green ENI LEDs illuminate (6).
- L. Push RESET switch up and release (14). TRACKER ALIGN switch returns to off position.

**NOTE.** Whenever there is a rapid temperature change of 30° F or more, repeat the Checksight Lamp and Tracker Alignment Test.

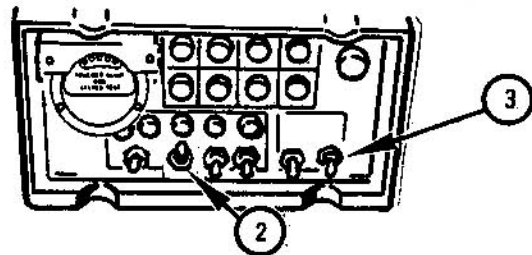
#### STEP 5. SYSTEM SELF-TEST

- A. On telescope mount, move ALIGN and ERROR levers to the right so that they are straight up (1).

**NOTE.** If the ALIGN lever resets at any time during this test, immediately push lever to full right position and continue test.

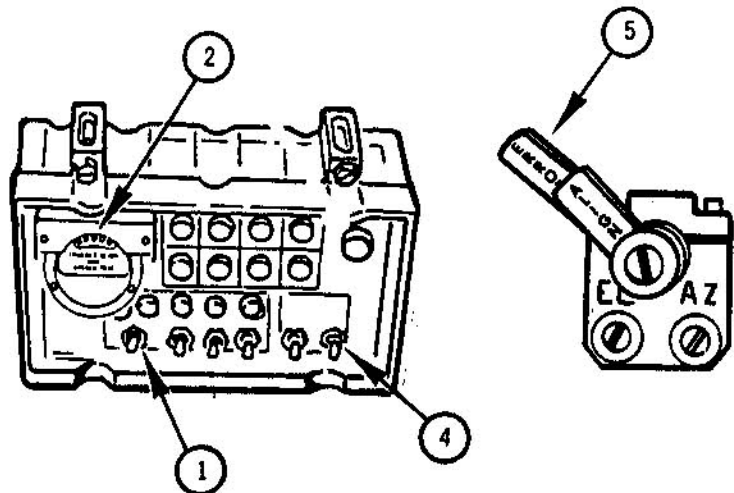


- B. Lift SYSTEM TEST switch to up position (2).
- C. SYSTEM TEST lamp and AZ or EL lamp will light after 30 seconds. GO lamp will illuminate and test is complete.
- D. If a red lamp glows, lift RESET switch (3) and de-energize the system.
- E. Notify organizational maintenance.



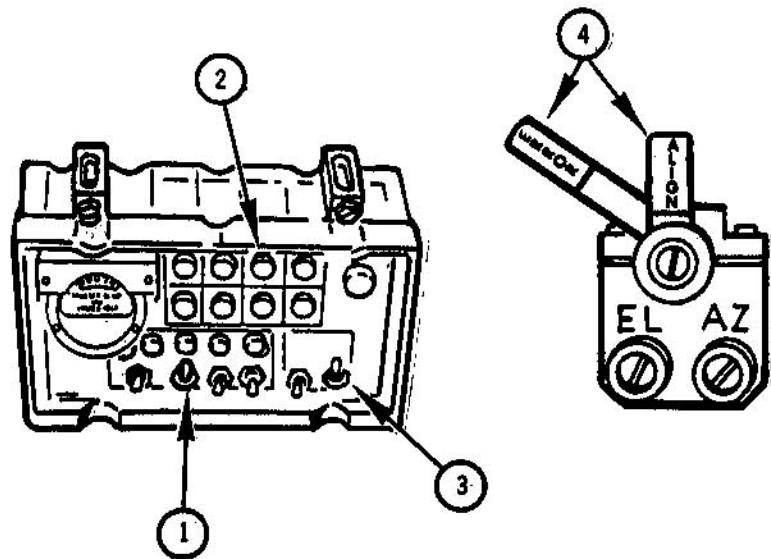
## STEP 6. RATE SENSOR TEST

- A. If all units are still go, push AZ/EL switch to the AZ (down) position (1). AZ lamp should light.
- B. Traverse turret left and right. The ENI LED illumination moves in the same direction as the turret.
- C. When you stop traversing, only the green LEDs should be illuminated (2). If not, notify organizational maintenance.
- D. Push AZ/EL switch to EL (up) position (3); the EL lamp glows. Elevate and depress gun/launcher. The ENI LED illumination moves to the right when gun/launcher is elevated and to the left when gun/launcher is depressed.
- E. When you stop, only the green LEDs should be illuminated (2). If not, notify organizational maintenance.
- F. Lift RESET switch (4). SYSTEM TEST switch turns off, and ALIGN lever moves to left position.
- G. Push ERROR lever to full left position (5).



## STEP 7. SYSTEM SELF-TEST VERIFICATION

- A. Lift up SYSTEM TEST switch (1). After 30 seconds, TRACKER lamp glows (2). If not, notify organizational maintenance.
- B. Lift RESET switch (3).
- C. Move ALIGN lever to full right and ERROR lever to full left (4).
- D. Lift up SYSTEM TEST switch (1). SIG DATA CONV lamp should light after approximately 30 seconds (2). If not, notify organizational maintenance.
- E. Hold RESET switch up and then release (3).



**WARNING:** Before continuing, ensure weapons are clear of live rounds.